Teichert Shifler Mining and Reclamation Project

SCH# 2019089053

Final Environmental Impact Report

Prepared for
Yolo County

October 2021

Prepared by

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20 years
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NOTICE OF AVAILABILITY for the FINAL ENVIRONMENTAL IMPACT REPORT on the TEICHERT SHIFLER MINING AND RECLAMATION PROJECT and NOTICE OF PUBLIC HEARING to Take Action on the Project

DATE: October 15, 2021
TO: Interested Agencies and Individuals
FROM: Yolo County Department of Community Services

The Final Environmental Impact Report (FEIR) (SCH #2019089053) for the Teichert Shifler Mining and Reclamation Project is now available for review. An online public hearing in front of the Planning Commission will be held on Wednesday, November 10, 2021, at 8:30 a.m. to take final action on the project in the form of a recommendation to the Board of Supervisors. More information is provided herein.

Yolo County is the Lead Agency for the preparation and review of a Final EIR for the Teichert Shifler Mining and Reclamation Project. The project site consists of approximately 319.3 acres located three miles west of the City of Woodland in unincorporated Yolo County, California. The project site is bounded by Cache Creek to the north, County Road 94B to the west, County Road 22 to the south, and unpaved dirt access roads to the east. The site contains all, or portions of, the following Assessor's Parcel Numbers (APNs): 025-120-032, 025-120-033, 025-430-001, 025-430-002, 025-430-009, and 025-430-011.

Teichert Aggregates has submitted an application to the County to conduct mining and reclamation activities on 277.1 acres. The proposal provides for setbacks, visual screening, noise and safety berms, aggregate conveyors, access roads, and other project-related uses on an additional 42.2 acres. The key proposed elements of this project are as follows: 1) transfer of tonnage from the Teichert Esparto and Teichert Schwarzgruber operations to the Teichert Shifler operation; 2) continued operation and expansion of the Teichert Woodland Plant facilities (including new equipment and increased processing capacity); 3) excavation at the Shifler site; 4) reclamation at the Shifler site; 5) delayed reclamation at the Woodland Plant site; 6) dedication of various reclaimed properties to the County; and 7) completion of an in-channel gravel bar removal project.

As analyzed in the Draft EIR the application originally included a proposal to relocate a segment of Moore Canal to the northerly portion of the site and modification of Magnolia Canal to align with the relocated Moore Canal. This request is no longer feasible based on information provided by the Yolo County Flood Control and Water

Conservation District, which owns the canal facilities. Therefore, the applicant is proposing approval of the Moore Canal Avoidance Alternative (Alternative 4) of the Draft EIR, which excludes relocation of the Moore Canal and would reduce the area of mining and reclamation from 277.1 acres to 264.0 acres. Pursuant to the Moore Canal Avoidance Alternative, the applicant is proposing to mine 35.4 million tons (30.0 million tons sold) of aggregate resources (sand and gravel) over a requested 30-year period at an annual rate not to exceed 2.6 million tons mined per year (2.2 million tons sold). Mining is proposed in two phases moving from north to south, commencing with Phase A on the north. Reclamation is proposed in three phases, resulting ultimately in approximately 113.2 acres of agricultural land, 90.9 acres of open water lake in the central portion of the proposed mining area, 24.7 acres of riparian habitat along the lake frontage, 32.8 acres in grassland slopes, and 2.5 acres in access roads.

The aggregate excavated from the subject site would be processed at the adjoining Teichert Woodland Plant, which has been operating since the 1950s. The processing plant and associated processing facilities are located on 132.2 acres comprised of three parcels (APNs 025-350-018, 025-350-037, and 025-120-039). Teichert also has a long-term lease agreement with the County for the use of a fourth parcel as a part of their plant operations. This parcel, totaling 6.65 acres, is known as the County Borrow Site (APN 025-120-041). The plant, including associated processing facilities, is considered part of the proposed project; however, no new areas of disturbance at the Woodland Plant site are proposed.

The Draft EIR analyzed the proposed project and six alternatives. Subsequent to release of the Draft EIR, the applicant has requested the County consider approval of CEQA Alternative 4, Moore Canal Avoidance Alternative, rather than the project as originally proposed.

The project requires the following County approvals: General Plan Amendment (GPA) to extend the Mineral Resources Overlay (MRO) land use designation over approximately 212 acres of the 319-acre project site; rezoning to add a Sand and Gravel Overlay (SG-O) over the entire project site; approval of the proposed 30-year Off-Channel Surface Mining Permit for excavation on the Shifler site and to allow continued operation at the Woodland Plant site; approval to transfer permitted tonnage allocation from the Teichert Esparto and Teichert Schwarzgruber operations to the Teichert Shifler operation; approval of the proposed Reclamation Plan; authorization to exceed the maximum annual "base" permitted tonnage by up to 20 percent as provided in Section 10.4-405 of the Yolo County Off-Channel Surface Mining Ordinance (OCSMO); approval to mine closer than 700 feet from the channel bank pursuant to Section 10-4.429(d) of the OCSMO; and approval of a new Development Agreement between Yolo County and Teichert Aggregates.

The Final EIR (which includes the Draft EIR) is now available for public review at the following website: www.yolonaturalresources.org. Printed or electronic copies (via flash drive) may be ordered at cost (including costs for delivery). The Yolo County Community Services Department can also provide a copy of the Final EIR for public review during counter hours, which are currently 8:00 a.m. to 12:00 p.m., Monday through Friday. An electronic copy of the document has been provided to the Woodland Public Library (250 First Street, Woodland, CA 95695) and the Esparto Regional Library (17065 Yolo Avenue, Esparto, CA 95627); however, access to these facilities may be restricted or prohibited due to COVID-19 orders. Please contact Stephanie Cormier, Principal Planner (Planning Division), at (530) 666-8041 or Stephanie.Cormier@yolocounty.org for more information or to request a flash drive of the EIR.

Please note that County offices may have limited or modified hours due to COVID-19 orders. It is recommended to verify hours by visiting: https://www.yolocounty.org/government/general-government-departments/community-services.

An online public hearing in front of the Planning Commission will be held on Wednesday, November 10, 2021, at 8:30 a.m. to take action on the project in the form of a recommendation to the Board of Supervisors. Based on guidance from the California Governor's Office and the California Department of Public Health, in order to minimize the spread of COVID-19, you can participate in the Planning Commission hearing online or by phone.

Participation Information

By Computer:

https://yolocounty.zoom.us/j/97388566818?pwd=OENhdE9LVTVXY0EwNzUxdEhqNWZtdz09

Meeting ID: 973 8856 6818

Passcode: 146225

By Telephone:

1-408-638-0968

Meeting ID: 973 8856 6818#

Meeting agendas, staff reports, and related information will be available at least 72 hours prior to the meeting at the following link:

https://www.yolocounty.org/government/general-government-departments/community-services/planning-division/planning-commission-information/planning-commission-meeting-materials

If you require special accommodations to participate in the public hearing, please contact the Yolo County Department of Community Services at (530) 666-8078. Please make your request as early as possible and at least one-full business day before the start of the meeting.

In compliance with CEQA Guidelines Section 15087(c)(6), the project site (including the plant site) is not identified as a known hazardous waste or disposal site on lists specified under Government Code Section 65962.5.5 (see page 4.7-4 of the DEIR).

Pursuant to California Government Code Section 65009(b)(2) and other provisions of law, any lawsuit challenging the approval of a project described in this notice shall be limited to only those issues raised at the public meeting or described in written correspondence delivered for consideration before the meeting is closed.

For more specific questions about the project, please contact Stephanie Cormier at the phone number or email identified above.

# # #

Teichert Shifler Mining and Reclamation Project

Final Environmental Impact Report

SCH# 2019089053

Lead Agency

Yolo County
Department of Community Services
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Appendix B Teichert Aggregates Letter – Amendment to Project Description, April 27, 2021

Appendix C Teichert Aggregates Letter – Moore Canal Avoidance Alternative Supplemental Application Materials, June 21, 2021:

- Moore Canal Avoidance Alternative Mining and Reclamation Plan Sheets, Cunningham Engineering, June 2021 (18 sheets)
- Moore Canal Avoidance Alternative Reclamation Plan Narrative, Teichert Aggregates, June 2021
- Moore Canal Avoidance Alternative, Applicant Project Description and Figures, Teichert Aggregates, June 2021
- Geotechnical Addendum – Moore Canal Avoidance Alternative, GEOCON, June 16, 2021

Appendix D 2003 Easement Agreement between Teichert and Wild Wings

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Appendix J Cunningham Engineering Corporation – Memorandum: Response to Moore Canal EIR Comment, March 31, 2021

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1. Introduction

1. INTRODUCTION

1.1 INTRODUCTION

This Final Environmental Impact Report (EIR) contains responses to comments received on the Teichert Shifler Mining and Reclamation Project Draft EIR. This document has been prepared by Yolo County, as Lead Agency, in accordance with the California Environmental Quality Act (CEQA) and CEQA Guidelines Section 15132. In addition, this document integrates a request from the applicant to make CEQA Alternative 4 (Moore Canal Avoidance Alternative) the proposed project.

1.2 ACCEPTANCE OF COMMENTS

The County established a 46-day comment period for the Teichert Shifler Draft EIR extending from December 18, 2020, through, and including, February 2, 2021. On January 21, 2021, at the Planning Commission meeting to receive oral comments on the Draft EIR, staff noted that the County migrated to a new website hosting platform, and as a result, several search links were temporarily disabled. In recognition of this, the County indicated that any comments on the Draft EIR received after the deadline would be accepted through February 5, 2021.

1.3 REDEFINED PROJECT

On April 15, 2021, the Yolo County Flood Control and Water Conservation District notified the County and the project applicant, Teichert Aggregates (see Appendix A), of the District Board of Directors' vote on April 6, 2021, to retain the Moore Canal in its existing alignment. This action would preclude the project as described in Chapter 3, Project Description, of the Draft EIR and CEQA Alternative 5, Moore Canal Southern Alignment Alternative. As a result, Teichert Aggregates informed the County on April 27, 2021 of their intent to request approval of the Moore Canal Avoidance Alternative (Alternative 4) rather than the originally proposed project (see Appendix B). On June 21, 2021, the project applicant submitted supplemental information to clarify and provide technical details regarding the Moore Canal Avoidance Alternative (see Appendix C).

The Moore Canal Avoidance Alternative is analyzed in Chapter 6, Alternatives Analysis, of the Draft EIR, on pages 6-20 through 6-26. Appendix N of the Draft EIR included mining and reclamation plans for this alternative. Appendix O of the Draft EIR included a Geotechnical Addendum and Groundwater Memorandum. In addition to this information, the project applicant has supplemented the record with the following (see Appendix C):

- Moore Canal Avoidance Alternative Mining and Reclamation Plan Sheets, Cunningham Engineering, June 2021 (18 sheets): These exhibits update and replace Appendix N of the Draft EIR;
- Moore Canal Avoidance Alternative Reclamation Plan Narrative, Teichert Aggregates, June 2021;
- Moore Canal Avoidance Alternative, Applicant Project Description and Figures, Teichert Aggregates, June 2021; and

- Geotechnical Addendum – Moore Canal Avoidance Alternative, GEOCON, June 16, 2021: This report updates and replaces Appendix O of the Draft EIR.

One of the basic purposes of CEQA is to prevent significant impacts to the environment by requiring changes in projects through the use of alternatives, when the lead agency finds those changes to be feasible (CEQA Guidelines Section 15002[a][3]). In other words, CEQA contemplates choosing an alternative to the project, where feasible, as a way of meeting the same need with less environmental impact (CEQA Guidelines Sections 15002[h][4] and 15021[a][2]). In this case, the project applicant has requested consideration of the Moore Canal Avoidance Alternative, thus demonstrating feasibility, and the alternative is environmentally superior to the proposed project described in Chapter 3, Project Description, of the Draft EIR, as discussed on page 6-31 of the Draft EIR. A lead agency is required to recirculate a Draft EIR if "significant new information" is added after the Draft is EIR is circulated but before certification (CEQA Section 15088.5[a]). A discussion of this obligation is provided in Section 1.4 below. The differences between the project as proposed and the Moore Canal Avoidance Alternative as proposed are as summarized below in Table 1-1. All other features and components of the project are as described in Chapter 3 of the Draft EIR.

Table 1-1
DEIR Project Description Compared to Moore Canal Avoidance Alternative As Proposed

Project Feature	Project Description in DEIR	Moore Canal Avoidance Alternative as Proposed	Differences
Mining and reclamation area	277 acres	264 acres	-13 acres
Total proposed tonnage	41.6 mil tons mined 35.25 mil tons sold	35.4 mil tons mined 30.0 mil tons sold	-6.2 mil tons mined -5.25 mil tons sold
Proposed annual tonnage	2,588,237 tons mined 2,000,000 tons sold	2,588,237 tons mined 2,000,000 tons sold	None
Buffer from Cache Creek	200 feet	250 feet	+50 feet
Modification to Moore and Magnolia Canals	Yes. Relocation of Moore Canal to north and modification of Magnolia Canal to align with relocated Moore Canal	No changes to Moore or Magnolia Canals	Canals will not be modified.
Phase A mining	64.7 acres	61.8 acres	-2.9 acres
Phase B mining	212.4 acres	202.3 acres	-13.1 acres
Phase A reclamation	98.1 acres	61.8 acres	-36.3 acres
Phase B reclamation	142.2 acres	100.5 acres	-41.7 acres
Phase C reclamation	36.8 acres	101.8 acres	-65.0 acres
Agricultural reclamation	116.7 acre	113.2 acres	-3.5 acres
Grassland slopes reclamation	21.3 acres	32.8 acres	-4.0 acres
Lake reclamation	112.9 acres	90.9 acres	-22.0 acres
Riparian Woodland/ Wetland reclamation	23.9 acres	24.7 acres	+0.8 acres
Access Road reclamation	2.3 acres	2.5	+0.2 acres

1.4 CONTENTS OF THE FINAL EIR

Pursuant to CEQA Guidelines Section 15132, this Final EIR consists of the following:

1. The separately published Draft EIR (three volumes);
2. A list of persons, organizations, and public agencies commenting on the Draft EIR (Chapter 2 of this Final EIR);
3. Comments and recommendations received on the Draft EIR (Chapter 3 of this Final EIR);
4. Revisions to the Draft EIR (Chapter 4 of this Final EIR); and
5. The additional information identified in the Appendices to this Final EIR.

Although CEQA requires responses for "significant environmental issues" only, the County has provided responses to all comments received. This is not intended to expand the County's legal obligations under CEQA, but rather, the intention is to maximize opportunities for sharing information and increasing public understanding regarding the project and related review process.

1.5 CERTIFICATION OF THE FINAL EIR

State law requires that the County make several types of CEQA "findings" at the time of final action on the project. Findings describe the conclusions reached regarding particular issues, including specific evidence in support of those conclusions. The Final EIR typically provides much of the substantial evidence to support these findings. The required findings for the project are as follows:

- Certification of the Final EIR (CEQA Guidelines Section 15090) – These findings support the adequacy of the Final EIR for decision-making purposes. The Lead Agency must make the following three determinations in certifying a Final EIR:

    1. The Final EIR has been completed in compliance with CEQA.
    2. The Final EIR was presented to the decision-making body of the Lead Agency, and the decision-making body reviewed and considered the information in the Final EIR prior to approving the project.
    3. The Final EIR reflects the Lead Agency's independent judgment and analysis.

- Findings Regarding Significant Impacts and Project Alternatives (CEQA Guidelines Section 15091) – These findings explain how the County chose to address each identified significant impact, including the mitigation measures adopted or an explanation of why such measures are infeasible. A discussion of the feasibility of project alternatives is also required by this section (see also CEQA Guidelines Section 15126.6[f]).

Pursuant to CEQA Guidelines, Section 15093(b), when a Lead Agency approves a project that would result in significant unavoidable impacts, the agency must state in writing the reasons supporting the action (Statement of Overriding Considerations). The Statement of Overriding Considerations shall be supported by substantial evidence. The Teichert Shifler Mining and Reclamation Project would result in significant and unavoidable impacts related to agricultural resources, cultural and tribal cultural resources, transportation and circulation, and cumulative impacts; thus, a Statement of Overriding Considerations must be adopted if the project is approved.

1.6 ORGANIZATION OF THE FINAL EIR

The Final EIR is organized into the following four chapters.

1. Introduction

Chapter 1 provides an introduction and overview of the document, describes the purposes of the Final EIR, and describes the organization of the Final EIR. This chapter also summarizes a request made by the project applicant to approve CEQA Alternative 4, Moore Canal Avoidance Alternative, rather than the project as proposed.

2. List of Draft EIR Commenters

Chapter 2 provides a list of all parties that commented on the Draft EIR.

3. Responses to Comments

Chapter 3 presents the comment letters received, and responses to each comment. Each comment letter received has been numbered at the top and bracketed to indicate how the letter has been divided into individual comments. Each comment is given a number with the letter number appearing first, followed by the comment number. For example, the first comment in Letter 1 would have the following format: 1-1. The response to each comment will reference the comment number.

The chapter includes several master responses prepared to comprehensively address multiple comments on similar issues. Where relevant, references to master responses are provided for individual comments.

4. Revisions to the Draft EIR Text

Chapter 4 summarizes changes made to the Draft EIR text including corrections, clarifications, and revisions of the analysis. Changes in the text are indicated by ~~strikeout~~ for deleted text and double underline for added text.

A lead agency is required to recirculate a Draft EIR if "significant new information" is added after the Draft EIR is circulated but before certification (CEQA Guidelines Section 15088.5[a]). Significant new information is defined as information that changes the EIR "…in a way that deprives the public of a meaningful opportunity to comment on…" a significant impact, a feasible way to mitigate an impact, or a feasible way to avoid an impact. The following identifies circumstances that would be considered "significant new information" that would trigger a recirculation:

- Information that shows a new significant impact;
- Information that shows an increase in the severity of an impact (unless mitigation measures are identified to reduce it to acceptable levels);
- Information that identifies a feasible new alternative or mitigation measure considerably different from other analyzed would clearly lessen project impacts and the applicant declines to implement the measure; and/or
- Information that demonstrates that the Draft EIR was fundamentally flawed, basically inadequate, and conclusory in nature, thus, precluding meaningful public review and comment.

Recirculation is not required if the information added to an EIR merely clarifies, amplifies, or makes insignificant modifications (CEQA Guidelines Section 15088.5[b]). As demonstrated in this Final

EIR, the revisions identified in Chapter 4 provide additional details regarding implementation of the Moore Canal Avoidance Alternative, and do not fall into any of the four circumstances identified by CEQA as triggering recirculation. The mining and reclamation plan sheets merely update the prior set provided in Appendix N of the Draft EIR to reflect:

- The prior set of mining plans reflected 3:1 mining slopes above the average low groundwater level in areas adjacent to the existing Moore Canal. The revised mining plans submitted in June 2021 have ¾:1 mining slopes consistent with the other mining slopes on the site and as allowed for mining slopes (as opposed to reclaimed slopes) under OCSMO Section 10-4.431;
- The mining setback was increased from 200 feet to 250 feet based on the TAC recommendation; and
- The prior set of reclamation plans inadvertently used different post-mining average high and low groundwater elevations than reflected in the 2016 LSCE groundwater report. This discrepancy has been corrected in the June 2021 submittal, which resulted in minor changes to the acreages of reclamation plan uses.

The Reclamation Plan Narrative submitted by the applicant updates the prior narrative provided in Appendix C of the Draft EIR, to reflect the updated mining and reclamation sheets. The Moore Canal Avoidance Alternative project description submitted by the applicant updates the prior project description, which was received as part of the project application determined to be complete on May 21, 2019 and used to prepare Chapter 3, Project Description, of the Draft EIR. This descriptive information is consistent with the description of the Moore Canal Avoidance Alternative on page 6-20 and 6-21 of the Draft EIR, but provides more details. The Geotechnical Addendum updates the prior geotechnical assessment provided in Appendix O1 of the Draft EIR, to reflect the updated mining and reclamation sheets. In all instances, the additional information clarifies, amplifies, and makes insignificant modifications to the information already provided in and fully analyzed in the Draft EIR.

In addition to the added information described above, this Final EIR includes information in Appendices D through M, and modifications to information in Chapter 3, Project Description, of the Draft EIR, all of which clarifies and amplifies information contained in the Draft EIR, in response to comments received from various parties. The County has determined that the additional information does not meet the thresholds set forth in Section 15088.5 of the CEQA Guidelines, and recirculation of the Draft EIR is not required. A more detailed description and substantiation of this determination will be included in the CEQA Findings of Fact described above.

5. Proposed Project Mitigation Monitoring and Reporting Program

CEQA Guidelines Section 15097 requires lead agencies to adopt a program for monitoring the mitigation measures required to avoid the significant environmental impacts of a project. The intent of the Mitigation Monitoring and Reporting Program (MMRP) is to ensure implementation of the mitigation measures identified within the EIR for the Teichert Shifler Mining and Reclamation Project. Chapter 5 contains an MMRP for the project as originally described in the Draft EIR.

6. Moore Canal Avoidance Alternative Mitigation Monitoring and Reporting Program

CEQA Guidelines Section 15097 requires lead agencies to adopt a program for monitoring the mitigation measures required to avoid the significant environmental impacts of a project. The intent of the Mitigation Monitoring and Reporting Program (MMRP) is to ensure implementation of the mitigation measures identified within the Final EIR for the Moore Canal Avoidance Alternative (Alternative 4). Chapter 6 contains an MMRP for the currently proposed project as described in this Final EIR.

2. List of Draft EIR Commenters

2. LIST OF DRAFT EIR COMMENTERS

2.1 INTRODUCTION

This chapter includes a list of the comment letters received on the Teichert Shifler Mining and Reclamation Project Draft Environmental Impact Report (EIR). The list is organized in chronological order by date the County received each letter. Chapter 3 includes a copy of each letter and responses to each comment.

2.2 LIST OF COMMENTERS

Yolo County received 38 comment letters during the public comment period on the Draft EIR for the proposed project. The comment letters are presented in the order in which they were received.

Letter 1 ..... Angie Louie, Resident, 12/20/20
Letter 2 ..... Lynn Beldner, Resident, 12/23/20
Letter 3 ..... Aaron Johnson, Resident, 1/15/21
Letter 4 ..... Ranse and Joyce Reynolds, Residents, 1/15/21
Letter 5 ..... Robin Zielesch, Resident, 1/18/21
Letter 6 ..... Margaret Walton, Resident, 1/18/21
Letter 7 ..... Pam Van Brocklin, Resident, 1/18/21
Letter 8 ..... Robert Lewis, Resident, 1/19/21
Letter 9 ..... Olga Nevarez, Resident, 1/19/21
Letter 10..... Mark and Kitty Stinson, Residents, 1/19/21
Letter 11..... Ranse and Joyce Reynolds, Residents, 1/20/21
Letter 12..... Margaret Kronenberg, Resident, 1/20/21
Letter 13..... Yolo County Planning Commission Meeting, Yolo County, 1/21/21
Letter 14..... Carol E. Atkins and Claire Meehan, Department of Conservation, 2/1/21
Letter 15..... Lachi Richards, Resident, 2/1/21
Letter 16..... Alex Fong, California Department of Transportation, 2/1/21
Letter 17..... Monique Marin, Resident, 2/1/21
Letter 18..... Julie Payne, Resident, 2/2/21
Letter 19..... Dayle K. Murray, Resident, 2/2/21
Letter 20..... Janet Levers, Resident, 2/2/21
Letter 21..... Lachi Richards, Resident, 2/2/21
Letter 22..... Brent Meyer, City of Woodland, 2/2/21

Comments Received After Close of Comment Period

Letter 23..... Anthony Roberts, Yocha Dehe Wintun Nation, 2/3/21
Letter 24..... Michelle Beltrano, Resident, 2/3/21
Letter 25..... Alan Pryor, Sierra Club Yolano Group, 2/3/21
Letter 26..... Steven Pierce, Resident, 2/4/21
Letter 27..... Scott Bradford, Resident, 2/4/21
Letter 28..... Susan Girimonte, Resident, 2/5/21
Letter 29..... Jesse J. Yang, Taylor & Wiley on behalf of Teichert Materials, 2/5/21
Letter 30..... Jon Huffine, Resident, 2/5/21

Letter 31.....Thomas Wilkop, Resident, 2/5/21
Letter 32..... Max Stevenson, Yolo County Flood Control and Water Conservation District, 2/5/21
Letter 33..... Juliette Beck, Yolo Climate Emergency Coalition, 2/5/21
Letter 34..... Sharon and William Schwarz, Residents, 2/5/21
Letter 35.....Jane Stevens, Resident, 2/5/21
Letter 36.....Michelle Beltrano, Resident, 2/5/21

Comments Received After the Comment Grace Period

Letter 37..... Jim Burau, Resident, 2/11/21
Letter 38.....Tom Hanagan, Resident, 3/10/21

3. Responses to Comments

3. RESPONSES TO COMMENTS

3.1 INTRODUCTION

This chapter contains responses to comments received from agencies and interested persons regarding the Teichert Shifler Mining and Reclamation Project (proposed project) Draft Environmental Impact Report (EIR).

3.2 MASTER RESPONSES

Many of the commenters raised similar concerns. Rather than responding individually, the County has prepared master responses to address these comments comprehensively. A reference to the master response is provided, where relevant, in responses to individual comments. Master Response 1 is referenced as MR-1, Master Response 2 is referenced as MR-2, and so on.

Summary of Master Responses

The following is a summary of the master responses provided below:

- Master Response 1: Comments Regarding the Merits of the Project;
- Master Response 2: Property Value Considerations;
- Master Response 3: Transportation and Circulation;
- Master Response 4: Hydrology and Water Quality; and
- Master Response 5: Agricultural Considerations.

Master Response 1: Comments Regarding the Merits of the Project

The County appreciates the time and effort taken by commenters to express their views and concerns as a part of this process. These views and recommendations will be considered by County staff in developing the staff recommendation, and by the Planning Commission and Board of Supervisors in their deliberations and decision-making regarding certification of the EIR and adoption of the proposed project.

Section 15088(a) of the CEQA Guidelines directs that lead agencies must prepare written responses to those comments received during the Draft EIR comment period that raise "significant environmental issues." The County is not required to respond to comments on non-CEQA issues or to respond to late comments. Nevertheless, the County has chosen to respond to all comments received on the Draft EIR in this Responses to Comments chapter. The County has opted to take this broad approach to facilitate the public process, document the exchange of information, and provide important information about considerations relevant to the proposed project.

Where a comment provides the opinion, preference, or observation of the commenter (e.g., opinions on the merits of the project that are unrelated to its environmental impacts), without substantiation, this is acknowledged for the record, and no further response is provided. All comments, whether substantiated by facts or simply reflecting the position of the commenter, will be considered by the County throughout this process.

Where a comment provides substantial evidence in support of a conclusion different from that reached in the Draft EIR, the County and its expert consultants have considered the evidence and responded accordingly. Section 15151 of the CEQA Guidelines (and related judicial opinions) directs that in situations where there is a disagreement between experts, the EIR should summarize the main points of disagreement for consideration by the Board in reaching its decision. Disagreements between experts do not preclude the process from moving forward, nor do they preclude the Board from considering the evidence and making its decision(s).

Environmental impact analysis that occurs through CEQA is just one factor to be considered during project review. Separate from the CEQA process, pursuant to the Cache Creek Area Plan (CCAP), County code, and State planning and zoning regulations, staff will analyze the "merits" of the project including policy consistency, plan consistency, regulatory compliance, and design and fit relevant to the site and surrounding area. A mining permit is a type of conditional use permit which is a discretionary approval. The County has the ability to approve the project, deny it, or approve it with conditions. Projects that are consistent with relevant/applicable policies, plans, and regulations may be approved because they carry out the adopted vision of the community. Conditions of approval may be attached to reflect site-specific and project-specific circumstances, as well as environmental considerations such as EIR mitigation measures.

Master Response 2: Property Value Considerations

CEQA is an environmental protection statute that is concerned with foreseeable physical changes on the environment from the project. Significant effects on the environment are those that result in a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by implementation of the proposed project, including conditions related to land, air, water, mineral resources, flora, fauna, noise, and objects of historic or aesthetic significance.

In evaluating the environmental impacts of a project, an EIR must evaluate both the direct and indirect physical effects of a project. Direct effects are effects that are caused by a project and occur in the same time and place. An indirect effect is a change in the physical environment that is not immediately related to a project, but that is caused indirectly by a project.

Although economic or social changes may have an indirect effect, they alone, without any associated environmental impacts, are not considered significant effects on the environment. The CEQA Guidelines provide that economic and social changes resulting from a project shall not be treated as significant effects on the environment (see also CEQA Guidelines Sections 15358[b], 15064[e], and 15382). As a result, evidence of social or economic impacts that do not contribute to, or are not caused by, physical impacts on the environment caused by the project, do not provide substantial evidence of a significant impact that requires analysis under CEQA.

Examples of socioeconomic effects that are not evaluated under CEQA include effects on property values, health care, job opportunities, property taxes, and impacts on specific businesses (see *Preserve Poway v. City of Poway* [2016], 245 Cal.App.4th 560 [a change in community character absent an adverse change in the physical environment was not subject to CEQA]; *Saltonstall v. City of Sacramento* [2015], 234 Cal.App.4th 549, 585 [allegations that a proposed basketball stadium would result in post-event impacts on safety by event crowds and the potential for crowd violence raised a social issue rather than an environmental issue that must be reviewed under CEQA]; *Maintain Our Desert Env't v. Town of Apple Valley* [2004], 124 Cal.App.4th 430 [large national retailer need not be identified as end user in EIR's project description because social, economic, and business competition concerns are not relevant under CEQA unless it is

shown that they bear directly in the EIR's analysis of effects on the physical environment]; *Friends of Davis v. City of Davis* [2000], 83 Cal.App.4th1004 [economic effect of a new store on similar stores was not a CEQA issue, absent substantial evidence of an adverse physical change]; *City of Pasadena v. State* [1993], 14 Cal.App.4th 810 [the social effects of locating a parole office in downtown were not subject to CEQA]).

Concerns regarding effects on property values were raised by a number of commenters. In particular, some expressed opinions speculating that property values of residences in proximity to the project site or along roadways serving the project site would be reduced as a result of the proposed project. Changes in property values do not require analysis under CEQA. While reduced property values could affect the resale value of a particular property, this would be considered a socioeconomic effect that, while an important planning consideration, is not directly or indirectly related to physical effects on the environment.

However, while not relevant to the EIR, project effects on property values are nevertheless important policy issues and will be considered by the Planning Commission and Board of Supervisors during their deliberations on the merits of the proposed project. The County recently contracted with BAE Urban Economics to undertake a countywide analysis of the economic contributions of mining to the local economy. This report compares economic outcomes to a similar study conducted in 1996, and also includes an assessment of mining effects on property values[1]. For example, the report references restrictions and conditions placed on the Wild Wings subdivision, which was constructed in proximity of ongoing mining operations, to protect and avoid conflicts with pre-existing mining operations. These conditions and disclosures are included in sales disclosure documents.

The history of aggregate mining along Cache Creek and in this vicinity dates back well over 100 years. The Teichert Woodland Plant has been operating in its current location since the 1950s.

The Wild Wings planned development was originally adopted by Resolution 85-118 in 1985 and a Vesting Tentative Map, dated April 15, 1991, was approved by the Board of Supervisors on May 5, 1992. The original developer of the Wild Wings subdivision was also the owner of the adjoining airport facilities and envisioned the lots adjoining the airport as having airplane parking and direct runway access. The project was subsequently dormant until the early 2000s with various State actions serving to automatically extend the life of the Vesting Tentative Map. On May 13, 2003, the developer received approval for various modifications to enable development, and construction on the subdivision commenced in 2004/2005.

Among the relevant requirements and disclosures related to mining near the Wild Wings subdivision are the following:

- The 1984 Specific Plan for Monument Hills Special Study Area, a component of the Countywide General Plan, anticipated that aggregate mining would be ongoing and the Wild Wings subdivision was found to be consistent with the 1984 Specific Plan (see Section 7.4 Cache Creek Open Space Corridor, pgs. 65 to 69). The Board of Supervisors adopted Ordinance No. 681-141 in 1985 that approved Planned Development (PD) 45, which remains in force for the Wild Wings subdivision;
- 1992 Wild Wings Conditions of Approval:

[1] This report is available online at:
https://www.yolocounty.org/home/showpublisheddocument/70203/637630841412770000

  - Condition C.6 requires notice and disclosure through the Covenants, Conditions, and Restrictions (CCRs) of the rights to conduct airport, agricultural, and aggregate mining operations on adjoining properties; and
  - Condition F.1 required the Final Subdivision Map to show a "Sand and Gravel Mining Operations Extraction Easement" providing for "…noise, vibrations, fumes, smoke, dust, and safety conducted with a sand and gravel mining operation to protect the rights of adjacent mining operations." This condition required execution and recordation of such an easement. The condition also established an 800-foot buffer from aggregate operations for any residential unit, and precluded the subdivision developer from conducting mining within or along Cache Creek.

- 1996 Cache Creek Area Plan and Off-Channel Mining Plan – This document establishes a comprehensive plan (including policies and regulations) governing ongoing aggregate mining in the area, allowing for 30-year mining permits over a 50-year planning horizon. This plan also established a commitment to create a parkway along this section of Cache Creek;
- 2003 Declaration of Covenants, Conditions and Restrictions (CC&Rs) for Wild Wings (recorded against all properties September 12, 2003), Article 4, Use Restrictions, Section 4.19, Sand and Gravel Mining, page 14:

  - Notice Regarding Sand and Gravel Mining – It is the policy of the County of Yolo to protect lands in the vicinity of sand and gravel mining operations that may lead to safety or nuisance hazards near sand and gravel operations and conversely uses that may imperil the continued operation of the sand and gravel mining. Owners within the Wild Wings Development shall recognize the rights of the sand and gravel industry to conduct mining operations and practices in compliance with the sand and gravel overlay zone and their approved state and county permits.
  - Ongoing Operations – Owner acknowledges that sand and gravel mining operations are being conducted to the north of the Development across Cache Creek, currently by Teichert Aggregates ("Teichert"). Declarant has entered into an Easement Agreement (Sand and Gravel Mining Operations) regarding such operations, a copy of which is attached hereto as Exhibit F. Owner is hereby given notice of the content of such Easement Agreement.

- 2003 Easement Agreement between Teichert and Wild Wings (see Appendix D) – In 2003, the developer of Wild Wings and Teichert Aggregates executed an Easement Agreement (as referenced in the CC&Rs) in favor of Teichert, explicitly recognizing and authorizing continued aggregate operations, including the externalities that may accompany the approved mining activities. This easement extends over all the property subsequently subdivided into the various residential lots at Wild Wings. Among the terms of the easement is the requirement to provide notice to all home purchasers. The easement is recorded against the deed for each Wild Wings lot, and is binding on all successive property owners in the subdivision;
- December 2018 Cache Creek Parkway Plan, Open Space Inventory and Baseline Improvements – This plan, accepted by the Board of Supervisors on April 9, 2019, documents the approved components of the Cache Creek Parkway and provides a consolidated plan for linkage and access between the various parkway properties, including the Wild Wings Open Space Park;

- February 2020 Cache Creek Parkway Plan, DRAFT Master Plan and Parkway Vision – This draft plan identifies an overall master plan and vision for future parkway improvements and trail connections beyond the baseline conditions, including facilities at and near the Wild Wings subdivision; and
- December 17, 2019 Cache Creek Area Plan Update – This update extended the long-term plan for aggregate mining along this portion of Cache Creek from 2046 to a new horizon year of 2068 and reinforced the County's long-term commitment to aggregate mining and subsequent parkway development along this portion of Cache Creek.

In summary, the Wild Wings subdivision was developed in an area containing a number of land uses with recognized externalities that could affect residences at that location including State Route (SR) 16, agriculture, airport operations, aggregate mining, Moore Canal, Cache Creek Parkway, public access and uses at the Wild Wings Open Space park, and the public golf course. With the exception of the golf course and the open space park, these land uses have been in place for decades or longer, and preceded both approval and development of the Wild Wings subdivision. At least three of the activities (agriculture, airport operations, and aggregate mining) required explicit disclosure to future owners through deeds and sales disclosure documents, per the conditions of approval for the Wild Wings project and the requirements of the sand and gravel mining easement recorded against the property.

Notwithstanding these surrounding conditions, the subdivision is a popular residential location highly valued by residents and visitors. The BAE Urban Economics study confirms that the effects, if any, of the ongoing operation of these adjoining land uses on the property values at Wild Wings, including aggregate operations, are already reflected in the values of the properties (page v and 12):

> …Given the long-standing presence of gravel mining operators prior to the approval of the Wild Wings development, plus the clear interest of the County to preserve and support the ongoing operation of mining companies according to their approved long-term, off-channel, mining and reclamation permits, the initial sale prices of homes within the Wild Wings subdivision would have accounted for this proximity and potential effect on the desirability of the Wild Wings subdivision. Based on an analysis of the 21 home sales within the Wild Wings subdivision that had multiple sales between 2010 and 2020, all but one unit experienced an increase in property value. Publicly available information does not indicate the reason for the single outlier unit's decline in value; however, it could have been caused by any of multiple factors, such as lack of proper maintenance, damage due to natural or human-caused hazards, circumstances causing a distressed sale, etc., that do not relate to gravel mining operations. Within the group of sales, the average sale price increase was roughly 33 percent over the prior home sale price. All of this indicates that the proximity of the Yolo County gravel mining operations to the residentially-designated property has not negatively impacted the home values…

Master Response 3: Transportation and Circulation

Several commenters raised concerns related to the transportation and circulation analysis, including the congestion of roadways in the vicinity of the project site, enforcement of speed limits, enforcement of haul routes associated with the proposed project, the methods employed in evaluating transportation-related impacts under CEQA, traffic volumes on SR 16, and the lack of potential improvements to SR 16 as part of the proposed project.

Some commenters expressed concerns regarding the potential project-related increase in roadway congestion and traffic volumes, which relate to roadway Level of Service (LOS). LOS is

a general measure of traffic operating conditions whereby a letter grade, from A to F, is assigned. The grades represent the perspective of drivers and are an indication of the comfort and convenience associated with the driving experience, as well as speed, travel time, traffic interruptions, and freedom to maneuver a typical vehicle. However, LOS does not fully describe environmental effects associated with fuel consumption, emissions, and public health.

Previously, many lead agencies used LOS to assess the significance of transportation impacts pursuant to CEQA. However, in 2013, the State Legislature passed Senate Bill (SB) 743 which, among other things, generally eliminated reliance on LOS as a basis for environmental analysis of transportation and circulation impacts under CEQA. Pursuant to SB 743, the Natural Resources Agency promulgated CEQA Guidelines Section 15064.3 in late 2018, and Section 15064.3 became effective in early 2019. Subdivision (a) of Section 15064.3 provides that "[g]enerally, vehicle miles traveled is the most appropriate measure of transportation impacts." Therefore, pursuant to CEQA Guidelines Section 15064.3, a project's effect on automobile delay does not generally constitute a significant environmental transportation or circulation impact under CEQA. Consistent with the aforementioned direction from the State, the Draft EIR does not utilize LOS for determination of transportation or circulation impact significance, but does assess LOS as a component of General Plan consistency related to County General Plan Policy CI-3.1, which establishes LOS thresholds on certain County roads (see Impact 4.12-5 on page 4.12-24 of the Draft EIR).

Draft EIR Chapter 4.12 provides a detailed explanation of how the Draft EIR evaluates existing vehicle miles traveled (VMT) conditions and VMT conditions associated with the proposed project in the Method of Analysis section, which starts on page 4.12-16. As noted on page 4.12-18 of the Draft EIR, the VMT analysis conservatively considered vehicle trips from both haul trucks and employee commutes. Table 4.12-2 on page 4.12-19 provides Existing and Existing Plus Project VMT analysis results. The Draft EIR analyzes VMT impacts under Impact 4.12-2, which begins on page 4.12-20, and concludes that even with incorporation of Mitigation Measure 4.12-2, the impact would remain significant and unavoidable. The existing VMT conditions evaluated in this assessment for the Teichert Woodland Plant and Esparto Plant operations were developed using the average annual production over the 10-year period between 2005 and 2014. The Draft EIR relies on the 10-year average annual production level in order to provide a more realistic representation of existing traffic conditions (given the use of actual data) and a more conservative analysis. The analysis is conservative because the 10-year average annual tonnage is lower than the maximum permitted annual extraction, lower than the actual annual production for the year the NOP was released, and reflects a period of economic recession. The selection of this lower figure as the baseline results in a higher estimate of the project's impact on VMT.

While an analysis of VMT from heavy truck trips is not required pursuant to SB 743 and the CEQA Guidelines, it is not precluded, and therefore, the County has included it in the analysis. The legislative intent of SB 743, and the associated CEQA Guidelines Section 15064.3, is to ensure that lead agencies include an equitable and appropriate analysis of VMT from infill, hence the focus on passenger car and light truck trips related to land use projects. Consistent with the Governor's Office of Planning and Research (OPR) guidance, for urban infill development, it is defensible to exclude heavy truck trips based on this premise. However, for projects such as the subject aggregate mine, where the primary traffic issue concerns truck trips associated with hauling, it is the position of the County that truck trips should be analyzed in the EIR. Hence both VMT and truck haul trips generation are analyzed.

Although LOS is no longer appropriate to analyze traffic impacts under CEQA, the LOS analysis was conducted in order to demonstrate consistency with General Plan Policy CI-3.1. The Traffic Study prepared for the proposed project accounted for probable future growth in the County in the cumulative baseline analyses, which included probable growth associated with Cache Creek Casino Resort expansions. Cumulative baseline conditions intersection delay and LOS were calculated for the study intersections using *Highway Capacity Manual 2010* methodology, as was analysis of cumulative baseline conditions peak hour roadway segments. Cumulative baseline conditions peak hour roadway segment capacity analysis was performed using the Peak Hour Level of Service Thresholds for Roadway Segments in the County's 2030 Countywide General Plan EIR. Therefore, the analysis within the Draft EIR anticipated growth, as well as projected traffic levels, which includes the Cache Creek Casino Resort. The analysis concludes that the addition of project traffic could create a conflict with the County's LOS thresholds at two intersections under Cumulative conditions during the AM peak hour: the SR 16/County Road (CR) 96 and SR 16/CR 94B intersections. The remaining study intersections would operate acceptably under all study scenarios.[2] However, the project's contribution of traffic at the two impacted intersections is minor, the necessary improvements are not planned by the County, and the project's fair-share payment towards improvements would result in a minor contribution towards the required improvements.

More specifically, at the SR 16/CR 96 intersection, the project would contribute 60 AM peak hour trips and six PM peak hour trips (see the trip generation and trip distribution estimates on pages 21-22 of Appendix M1). Between Existing conditions and Cumulative Plus Project conditions, the SR 16/CR 96 intersection traffic volume is projected to increase by 306 AM peak hour vehicles and 229 PM peak hour vehicles. Therefore, the project would contribute 20 percent and three percent of AM and PM peak hour traffic growth, respectively, under Cumulative Plus Project conditions. It should be noted that the LOS inconsistency with General Plan Policy CI-3.1 at this intersection occurs only during the AM peak hour.

At the SR 16/CR 94B intersection, the project would contribute 58 AM peak hour trips and four PM peak hour trips (see the trip generation and trip distribution estimates on pages 21-22 of Appendix M1). Between Existing conditions and Cumulative Plus Project conditions, the SR 16/CR 94B intersection traffic volume is projected to increase by 513 AM peak hour vehicles and 453 PM peak hour vehicles. Therefore, the project would contribute 11 percent and one percent of AM and PM peak hour traffic growth, respectively, under Cumulative Plus Project conditions. Similar to project effects at the SR 16/CR 96 intersection, it should be noted that the General Plan inconsistency with respect to LOS at this intersection occurs only during the AM peak hour.

To address the effects of the project at the SR 16/CR 96 and SR 16/CR 94B intersections, the County has elected to use the equivalent amount of funding for identified alternative improvements that would have a beneficial result. The improvements are not planned County capital projects, and 100 percent of the cost would be funded by the applicant. As detailed on page 4.12-35 of Chapter 4.12, Transportation and Circulation, in the Draft EIR, as part of the project's approval, the project applicant would be required to install shoulders on either side of CR 96, between CR 20 and SR 16. A clarification of this condition of approval is provided in

[2] Some commenters expressed concern that the traffic counts were collected prior to the development of several projects in the project vicinity. The Cumulative scenario evaluated in the Draft EIR considered reasonably foreseeable development projects for calculating the future traffic forecasts. Therefore, given that the only significant impacts were identified under the Cumulative scenario, and the Cumulative scenario included consideration of planned development projects in the region, the year that the traffic counts were taken is not problematic.

Chapter 4 of this Final EIR. Satisfying this requirement would serve as the project's fair-share contribution to address the project's effects on LOS and concerns by the public regarding the lack of shoulders in this area. See also Response to Comment 15-9.

Several commenters raised concerns with respect to enforcement of speed limits and haul routes. Law enforcement, including enforcement of speed limits, is not a CEQA impact area, and therefore, is appropriately not addressed in the Draft EIR. However, consideration of enforcement issues is certainly within the purview of the County in considering the merits of the proposed project. Speeding is defined as driving faster than the posted speed limit or driving too fast for the current roadway conditions. Speeding is a primary crash causation factor and recognized road safety problem. Speed limits are established for the primary purpose of increasing safety, in the context of reasonable mobility. Legally, engineers are required to set speed limits at the level at which the majority of vehicular traffic travels. The State Streets and Highways Code requires that speed limits be established such that 85 percent of the traveling public naturally complies with the law. If a governing body deviates from establishing speed limits in this prescribed manner, the speed limit is unlikely to be upheld in court.

To help ensure that speed limits are enforced, the Yolo County Sheriff's Office has a speed trailer that can be staged to address certain problem areas. The County encourages members of the public with concerns regarding observed and well-documented speeding to contact the Sheriff's Office and request deployment of the speed trailer. While the Sheriff's Office is responsible for deploying the speed trailer, it should be noted that the California Highway Patrol (CHP) is the responsible agency for issuing citations. In other words, enforcement is shared between these two agencies.

There were several comments regarding haul routes. Approved haul routes are required under Section 10-4.419 of the County Mining Ordinance. The haul route for each operator is identified as a condition of their permit approval. Each operator is responsible for ensuring compliance with their haulers, which is typically accomplished through signage, informational handouts, notifications through the scale house, communications with trucking companies, and contract terms. The approved haul route for the Teichert Woodland operations, including this proposed project if approved, is shown in Draft EIR Figure 3-9 (page 3-17) and Exhibit 10 in Appendix C of this Final EIR. The applicant is required to fund required improvements along the haul route on a fair share basis (Section 10-4.408) and assume joint pavement responsibility with the County for CR 20 and CR 96 (Section 10-4.409). Aggregate trucks going to and from the Woodland plant and associated mining sites are required to adhere to the approved haul route with the exception of customer deliveries. Trucks may lawfully haul on non-designated routes to transport to local construction sites and/or other customers.

Several commenters raised concerns regarding applicant use of CR 94B access to and from the site for haul trucks; however, CR 94B is not an approved haul route. The County encourages concerned members of the public to contact operators and the County regarding potential violations at this or any of the approved mining operations. The County is dedicated to ensuring that truck drivers abide by the approved haul routes and has posted signs to aid in compliance. Upon receipt of information demonstrating potential haul route violations, the Natural Resource Division coordinates with County staff in other departments to determine an appropriate response, including contacting the mining operator, contacting the trucking company, consideration of additional signage, coordination with the Sheriff's Office and CHP, and other available enforcement tools. Non-compliant truckers are subject to citation, and non-compliant operations risk issuance of a permit violation.

Several commenters raised concerns regarding traffic operations at the SR 16/Wildwing Drive intersection. Because the CEQA Guidelines prohibit the use of vehicle delay/LOS as a determinant of significant impacts to the environment, an analysis of changes to vehicle delay/LOS at the SR 16/Wildwing Drive intersection and roadways internal to the Wild Wing subdivision is not required in order to comply with the environmental review process for the proposed project. Nevertheless, to address multiple public comments on the subject matter, SR 16/Wildwing Drive intersection traffic operations were estimated under Existing Plus Project and Cumulative Plus Project conditions using data from nearby study intersections on SR 16 and the Institute of Transportation Engineers' *Trip Generation Manual (10th Edition)*. With expanded mining operations, the volume of truck traffic on SR 16 within the vicinity of Wildwing Drive would increase by up to 58 AM peak hour trips, four PM peak hour trips, and 189 daily trips.

Pertaining to traffic safety on SR 16, SR 16 is a State highway on which legally operating trucks may transport goods for the purposes of commerce between Interstate 505 (I-505) and I-5. SR 16 serves existing trucks traveling to and from the project site and other nearby destinations. The proposed project would expand mining operations at an existing mining site resulting in some increase in truck traffic to the existing mix of traffic on SR 16. With expanded mining operations, the increased volume of truck traffic on SR 16 within the vicinity of Wildwing Drive could result in slower travel speeds for automobile and truck traffic alike, but would not reduce speeds to levels where substantial speed differentials, stop-and-go traffic, and other adverse speed-related conditions would exist such that increased potential for collisions would occur. Given the current operational and design characteristics of the roadway, these changes would not cause conditions that would warrant modification of SR 16 due to transportation hazards. Furthermore, based on recent input the County received from Caltrans, the SR 16/Wildwing Drive intersection does not have notable safety issues.

Several commenters suggested improvements at the intersection of SR 16 and Wingwing Drive, such as a left-turn merge lane (Comment 15-8), a flashing yellow light (Comment 21-1), and a traffic signal (Comment 38-9). The Wild Wings Traffic Impact Study, dated September 2001, determined that at project site buildout (identified to occur in 2006), signal warrants would be met at the intersection of SR 16 and Wildwing Drive in both the AM and PM peak hours. Records for the Wild Wings subdivision, from the time of approval, indicate that Caltrans was approached regarding signal installation prior to County approval of the Wild Wings subdivision, and that request was denied by Caltrans due to warrants not being met at the time (2001). When the County approved the subdivision on May 13, 2003, Attachment T of the Board of Supervisors staff report, Public Improvement Plan Mitigation Measure Monitoring and Reporting Program (PIP), Item Q.3 on page 57, reflected that the HOA would be responsible for "fair-share costs of installing the traffic signal." It also indicated that the County Service Area (CSA) would potentially assess each residential lot an assessment to cover the project's pro rata share of the cost to design and construct a traffic signal on SR 16 at the project entrance onto Wildwing Drive, which is a private roadway. Condition of Approval A.3 for the Wild Wings subdivision states:

> 3. The Final Subdivision Map and construction plans shall comply with the approved mitigation measures stated on pages 23 through 84 in the Public Improvement Plan for Wildwing Country Club Mitigation Measure Monitoring and Reporting Program (PIP).

At the request of the County, subsequent analysis was recently conducted to confirm whether a traffic signal is warranted at the Wild Wings subdivision entrance (see Technical Memorandum from Fehr and Peers, dated September 6, 2021, Appendix O). The analysis concluded that a signal or other improvement is merited, and recommended installation of a signal or an eastbound merge lane on the east leg of the intersection, subject to further assessment of feasibility, acquisition of right-of-way, if needed, and approval by Caltrans. A funding source would be necessary, presumably the Wild Wings homeowners, as required in the original approval conditions for the subdivision. Because the subject project would add truck traffic through this intersection, County staff will propose a condition, if the subject project is approved, requiring a fair-share contribution by the applicant to the cost of design and construction of a traffic signal, eastbound merge lane, or other traffic control mechanism or related improvement at SR 16 and Wildwing Drive.

Regarding roadways internal to the Wild Wings subdivision, based on the project trip generation and trip distribution estimates prepared for the Traffic Study, the proposed project would generate a nominal number of new vehicle trips to/from the Wild Wings subdivision, if any. These trips would be related solely to employees that may live in the subdivision or local deliveries of ordered aggregate products. Therefore, the project would not materially change conditions related to transportation hazards for roadways internal to the Wild Wings subdivision.

Master Response 4: Hydrology and Water Quality

Several commenters expressed concerns related to potential impacts to groundwater as a result of project implementation. This master response addresses conditions related to groundwater and surrounding wells in the project vicinity.

The project applicant has a comprehensive history of groundwater data (both quality and quantity) associated with their previous and ongoing activities at the Coors and Storz properties to the west of the Shifler site and the Haller, Muller, and Schwarzgruber properties to the north and northeast of the Shifler site. The cumulative data record, which includes data collection, evaluation, and predictive groundwater modeling documenting over 20 years of mining activities plus pre-mining conditions, substantiates that ongoing mining operations have not caused changes in groundwater levels or quality (see Appendix E, page 2).

As detailed on page 3-20 of the Draft EIR, groundwater levels and quality in the vicinity of the project site have been monitored since 1986, as required by permit conditions. The groundwater monitoring network across the aforementioned properties currently consists of 26 monitoring wells and 13 water supply wells monitored by Teichert Aggregates. In addition, numerous water supply wells near the properties are monitored by the Yolo County Flood Control and Water Conservation District (YCFCWCD). The locations of the wells are shown in Figure 3-11 on page 3-21 of the Draft EIR. In the context of the potential effects of the proposed project on groundwater levels and quality, mining activities proposed for the Shifler site, such as extraction of earthen materials (e.g., soil, overburden, aggregate, and fines such as silt and clay) and the washing of the extracted aggregate, would cause a disturbance to the natural state of the earthen materials, including in the uppermost portion of the shallow aquifer. However, the potential for such disturbance to mobilize naturally occurring metals, including arsenic, was recognized by the applicant, County staff, and various stakeholders well in advance of approval of the first wet pit at the Teichert Woodland site. Comprehensive groundwater quality monitoring activities, including extensive metals analyses, were initiated in the 1990s, approximately 10 years before the first wet pit was created. The data collection has also included monitoring of active mining excavation, and data

collection is required to continue throughout the mining period and for 10 years after active reclamation concludes (e.g., one year after all heavy equipment work has been completed in the vicinity of a mining pit). The ongoing monitoring program and the results are described in annual reports submitted to the County. The most recent of the reports and previous reports demonstrate that the cumulative data record shows no evidence or indication that mining operations have caused changes in groundwater levels or quality (see Appendix N).

Groundwater pumping from unconsolidated aquifer-aquitard systems has caused land subsidence and subsequent arsenic contamination in many parts of the world. In brief, the extraction of groundwater reduces hydraulic pressure and, thus, increases intergranular pressure in aquifers and other underground materials, leading to the compaction of such materials. Clays (e.g., aquitard material) are typically one to two orders of magnitude more compressible than sand (e.g., aquifer material). Therefore, the majority of land subsidence caused by this process is attributed to the compaction of clay material that is interbedded with aquifer materials. During the compaction of clays, water drains from them into adjacent aquifer materials. If the chemical makeup of the water that is drained from the aquitard is sufficiently different from the aquifer, and if drainage occurs in sufficient quantity, water quality changes may manifest in the water extracted from the aquifer.

However, the mechanism of mobilization by way of compaction of interbedded clays has not been a concern in the area surrounding the Shifler site, as the area has not experienced pumping-induced land subsidence. An estimated 90 percent of the groundwater extracted by Teichert is almost immediately returned to groundwater on-site as it is absorbed into the ground. Groundwater and pit-water monitoring activities will continue in the project vicinity in accordance with the Yolo County Surface Mining and Reclamation Ordinance. Additionally, the Sustainable Groundwater Management Act of 2014 (SGMA) provides a robust framework to avoid undesirable impacts in the future associated with land subsidence. Therefore, the proposed project is not anticipated to result in water quality impacts to the aquifer, including, but not limited to, from contaminants such as arsenic.

With respect to wells surrounding the proposed project, the protection of nearby wells and water quality is important to the County and a key component of the CCAP. The County studied this issue extensively prior to approval of the CCAP in 1996 and has undertaken rigorous regular monitoring of water quantity and quality since that time. All mining operators are required to submit regular testing and monitoring results to the County, which reviews this information annually and every 10 years to watch for trends and patterns. The most recent extensive 10-year review was conducted by the CCAP Technical Advisory Committee (TAC) in 2017 and was the basis for the comprehensive update of the CCAP in 2019. Pursuant to Section 10-4.417 of the Mining Ordinance, each mining operator, including Teichert, is required to measure and report on groundwater levels in a minimum of three wells four times per year during mining. In addition, each mining operator, including Teichert, is required to conduct groundwater quality testing for specified constituents, including one well measurement up- and down-gradient of mining, on an annual basis, and water surface measurements in all wet pits two times per year during mining. If results exceed allowable ranges, specified actions are required.

In addition, among the regular monitoring and reports required to be filed as a part of the gravel program are: the annual Cache Creek Status Report prepared by the TAC in February; the annual Off-Channel Mining Compliance Report prepared by staff every spring; the annual Creek Walk creek inspection undertaken by the TAC and staff every summer; the annual mining inspections undertaken by staff, on behalf of the County and the State, in the fall; annual Surface Mining and

Reclamation Act (SMARA) compliance reports filed every fall by the operators; and the annual Operator Compliance Reports required by the CCAP to be filed every November. All of these reports, monitoring, and inspections include consideration of water level and quality issues.

The potential for impacts to groundwater resources due to wet pit mining and reclamation activities at the Shifler property were comprehensively evaluated as part of the Draft EIR under Impact 4.8-2, beginning on page 4.8-36. The analyses concluded the proposed project would result in minor local water level impacts and no impacts to groundwater quality. As explained on page 4.8-38 of the Draft EIR, groundwater and lake levels were analyzed through two main scenarios: Scenario 1, which included the initial wet pit mining planned within the western portion of the Shifler site; and Scenario 2, which included the remaining wet pit mining in the central portion of the project site, with the western portion of the site reclaimed to agricultural land. Groundwater level changes were calculated by comparison of the scenario results (proposed mining and reclamation) to the baseline conditions (no mining or reclamation). As detailed on pages 4.8-38 and 4.8-39 of the Draft EIR, Scenarios 1 and 2 predict the greatest changes in groundwater levels to occur only in shallow groundwater of the uppermost portion of the aquifer as a result of the proposed mining and reclamation of the Shifler site. Given that water supply wells surrounding the Shifler property access the aquifer in the lower portions of the aquifer at a depth well below the level to which the proposed project would be excavated, the water levels of such wells are not projected to be impacted by the proposed mining and reclamation.

Regarding groundwater levels at Wild Wings subdivision wells (Pintail well and Canvas Back well), the Draft EIR on page 4.8-39 notes that as a result of proximity and construction, potential effects from the proposed mining and reclamation activities, were they to occur, would first manifest in the Canvas Back well. Therefore, the model analysis conducted as part of the Draft EIR focused on predicted effects on the Canvas Back well, rather than the Pintail well, as a worst-case analysis. The analysis includes detailed water level, water budget, and particle tracking analyses at the Canvas Back well and concludes the following:

> The results indicate that the proposed mining and reclamation activities at the project site would not cause water levels to decline or water quality impacts at the Canvas Back well associated with the Wild Wings subdivision. Such findings are mainly attributed to the well's upgradient location with respect to the project site and the fact that the well terminates in an aquifer zone that is deeper than the depth of the proposed mining activities. The results were found to not be sensitive to the well's pumping rate; even a 10-fold increase of the pumping rate at the Canvas Back well, up to 1,250 gpm (comparable to daily operation at capacity of approximately 22 hours, every day of the year), would not substantially affect the findings presented in the 2020 Groundwater Memo. Thus, the proposed project would not result in substantial adverse effects to groundwater levels at either of the Wild Wings subdivision wells.

Finally, the Draft EIR, on page 4.8-39, evaluates the proposed project's potential impacts to groundwater quality and includes an assessment of past and proposed mining and reclamation activities at the Teichert off-channel mining properties, as well as the historical water quality monitoring results for the Teichert mining properties. The assessment indicates that mining and reclamation activities are protective of water quality, and impacts to the mining pond, reclaimed seasonal lake, or groundwater quality have not been observed historically. Therefore, the Draft EIR, on pages 4.8-39 and 4.8-40, concludes the following:

> Thus, while topsoil and subsurface material may generally act as filters for groundwater, the removal of material at other nearby Teichert mining properties has not been

> demonstrated to result in negative impacts to water quality, and, similarly, mining of material at the project site would not be anticipated to result in degradation of groundwater quality, particularly at wells in the area. The results of the 2020 Groundwater Memo demonstrated that wells in the Wild Wings subdivision would not be impacted by the project, whether in terms of water level or quality (such as debris and contaminants). Further, the proposed project would include groundwater level and quality monitoring at the project site, as well as mining pit and reclaimed seasonal lake water quality monitoring, in accordance with Yolo County OCSMO Section 10-4.417 requirements. Thus, with past monitoring results as an indication of potential water quality impacts from the proposed project, and the planned water level and quality monitoring program, the proposed setback distance between nearby domestic water supply wells and the reclaimed seasonal lake is considered sufficient for protection of groundwater quality.

Based on the analysis of groundwater levels in the project vicinity, groundwater levels at Wild Wings subdivision wells, and groundwater quality, Impact 4.8-2 concludes the proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the Yolo Subbasin, or conflict with or obstruct implementation of the Yolo Subbasin Groundwater Sustainability Plan, and a less-than-significant impact would occur. Similar conclusions have been reached in prior studies for the Coors and Storz properties to the west of the Shifler site and the Haller, Muller, and Schwarzgruber properties north and northeast of the Shifler site and have been substantiated through the ongoing monitoring program.

Master Response 5: Agricultural Considerations

Several commenters expressed concerns regarding the appropriateness and effectiveness of reclamation to agricultural uses. Consideration of this as a policy matter was resolved in 1996 with adoption of the CCAP and implementing regulations which not only allow for reclamation to agriculture, but identify it as the preferred reclamation end use.

Based on examples of successful long-term off-channel mining throughout the State and elsewhere in the country, the CCAP required cessation of in-channel mining for environmental reasons and established a comprehensive program of off-channel mining along lower Cache Creek. This program has been implemented with beneficial results for the last 25 years. Among other things, the CCAP specifically identifies where future mining can occur, and provides a rigorous regulatory program governing extraction and reclamation. The program encourages excavation to the full depth of the resource in order to minimize loss of agricultural land and maximize resource extraction within any approved mine. After mining activities have concluded, reclamation of the mined land to agriculture is the top priority of the program. Long-time County policy supporting and encouraging reclamation to agriculture is demonstrated in the countywide General Plan, the CCAP (which is an adopted specific plan), and County Code, as substantiated in the following excerpts:

- General Plan Action CO-A47: Ensure that mined areas are reclaimed to a usable condition that is readily adaptable for alternative land uses, such as agriculture, wildlife habitat, recreation, and groundwater management facilities;

- OCMP, Action 5.4-7: Ensure maximum public benefit from reclaimed uses by establishing the following priority to be used to assess the adequacy of proposed reclamation plans:

    1. Reclamation to viable agricultural uses;
    2. Reclamation to native habitat;

3. Reclamation to public recreation/open space uses; and
4. Reclamation to other uses.

- County Reclamation Ordinance Section 10-5.103 (d and e) promote agricultural reclamation as a priority consistent with this policy directive:

  (d) The continued protection of agriculture and open-space uses is essential. As such, all off-channel, prime agricultural land and/or off-channel lands zoned Agricultural Intensive (A-N) and within a Williamson Act contract at the time that mining commences shall be reclaimed to an agriculturally productive state equal to or greater than that which existed before mining commenced. Prime agricultural land that is within the A-N Zone and is not within a Williamson Act contract shall be reclaimed to those uses which are declared by the County to be compatible with agricultural activities. Such uses include, but are not limited to, the following:

  (1) Agriculture and range land;
  (2) Groundwater storage and recharge areas;
  (3) Native fish, wildlife, invertebrate, and plant habitat;
  (4) Watercourses and flood control basins; and,
  (5) Recreational or open space lands.

  (e) Non-prime agricultural land shall be similarly reclaimed to one of the alternate uses described above.

- Section 10-5.511 (Field Drainage), 10-5.512 (Field Leveling), 10-5.516 (Lowered Elevations for Reclaimed Agricultural Fields), 10-5.520.2 (Permanent Easements), 10.5-522 (Phasing Plans), 10-5.531 (Soil Ripping), 10-5.532 (Use of Overburden and Fine Sediments in Reclamation), 10-5.601 (Application: Contents) specifically subsections (a)(8) and (c)(2) all establish performance standards in the form of regulatory requirements for agriculture reclamation;

- Sections 10-5.103 and 10-5.601(c)(2) in particular establish that reclaimed agricultural fields must be at least five feet above the average high groundwater level, and must be reclaimed to "an agriculturally productive state equal to or greater than that which existing before mining, may be no lower than five feet as compared to adjoining surface elevations, and that reclaimed yields shall be compared to the last five years of historic field yields prior to mining to determine adequate results; and

- County Mining Ordinance Section 10-4.701(e) requires every mining operator to submit annually:

  (e) A report describing the previous year's crop yields on any land in the process of being reclaimed to agriculture in accordance with the approved reclamation plan. The report shall include a soil analysis and appropriate remedial measures prepared by a qualified agronomist if crop yields do not meet the production standards set forth in the approved reclamation plan.

As such, established County policy direction on the issue of agricultural reclamation is clear and should guide applicants, County staff, and the Planning Commission in decision-making relevant to the gravel program.

The County gravel program has a history of adaptive management, and in response to comments by individual Planning Commissioners, County staff procured the services of House Agricultural Consultants. This firm is local to the County, and the principal, Greg House, has over 40 years of experience as an expert agronomist, agricultural economist, farm manager, and rural appraiser. House prepared a report titled Assessment of Reclamation of Mined Lands to Agriculture,[3] which provides a review of the existing program, an analysis of reclaimed sites, and overall conclusions and recommendations.

The following is a summary of the conclusions of the report:

- In those limited areas where mining is allowed, the CCAP identifies reclamation to agriculture as the highest priority end use. This is consistent with the County's long-time focus on preservation of agriculture.

- Not all reclaimed land can be reclaimed to agriculture, but where it can, reclamation to agriculture is a viable end use. There is no scientific reason to prohibit or restrict agricultural reclamation as an end use.

- The County is only beginning to see reclaimed agricultural fields through the CCAP as mining ends on some parcels. The study provides a case study of three sites. One has been formally reclaimed, the other two are in various stages of reclamation. Results support the conclusion that the required standards can be achieved.

- The standards for success in terms of evaluating productivity of reclaimed land is set by the State through the SMARA. It is used statewide and has been in place for some time. It is basically when the productive capability of the reclaimed land is equivalent to or exceeds, for two consecutive crop years, that of the pre-mining condition or similar crop production in the area.

- The literature reflects that reclaimed soils are not the same quality as original soils due to loss of soil structure and organic matter during the period of mining when the top soils are stockpiled for later use. The literature also reflects challenges in managing production on reclaimed fields. Improvements to soil structure and increased organic matter will occur over time with repeated crop production, thoughtful management, and potentially modified techniques.

- The study recommends integrating into the CCAP more explicit recognition that reclaimed agriculture is unlikely to be as productive as the original prime land.

- Successful farming of reclaimed land may require additional inputs such as organic matter over an extended period of time to restore soil ecology.

- It is important to avoid/address soil compaction during reclamation and provide access to irrigation water.

- The study identifies several additional recommendations for improving the program including: a) require peer review of agricultural reclamation plans by an agronomist, soil

[3] This report is available online at: https://www.yolocounty.org/home/showpublisheddocument/70973.

scientist, or other appropriate professional; b) increase the period of pre-mining crop history; c) allow for alternative crops not previously grown on the property; d) require crops to be grown on stockpiled soil during the mining period to help maintain soil quality and productivity post-mining; e) relocate topsoil to the same area in which it was removed; and f) establish protocols for record-keeping, monitoring, and reporting.

The County will utilize these recommendations to develop reclamation guidance for operators and for possible future amendments to the program.

3.3 RESPONSES TO COMMENTS

Each comment letter is bracketed to separate individual comments and each bracketed comment letter is followed by a numbered response. The responses amplify or clarify information provided in the Draft EIR and/or refer the reader to the appropriate place in the document where the requested information can be found. Comments that are not directly related to environmental issues (e.g., opinions on the merits of the project that are unrelated to environmental impacts) are discussed and noted for the record. Where revisions to the Draft EIR text are required in response to the comments, such revisions are noted in the response to the comment, and are also listed in Chapter 2 of this Final EIR. All new text is shown as double underlined and deleted text is shown in ~~strikethrough~~ font.

Letter 1

-----Original Message-----
From: A Louie [mailto:louieucd@gmail.com]
Sent: Sunday, December 20, 2020 2:36 PM
To: Stephanie Cormier <https://urldefense.proofpoint.com/v2/url?u=http-3A__Stephanie.Cormier-40yolocounty.org&d=DwIGaQ&c=euGZstcaTDllvimEN8b7jXrwqOf-v5A_CdpgnVfiiMM&r=kdtPCKeqKIngwAPH6qvp5f_ExA_ifBGx-p-DA3WNK-M&m=kyJL3LSpdxljpB3aFeSqVYGkv3MbqaakqtJQ8yy7Phc&s=WlwV1bGOuQxZl10Ikqk-3jKNftYUIV7m_eOMfJCz0pQ&e=>
Subject: Teichert DEIR comments from nearby resident

Dear Ms Cormier

1-1 I am writing to comment on the Teichert Shifler Mining project. I originally was not very opposed because we all need gravel, and the reclamation potential after the project sounded like a good thing for the county. But after recent issues with gravel trucks this year, and also reading the DEIR, I now have concerns about the impact of the project on my residence, health, and well-being. The major concerns that I have are:

1-2 1. Water quality. The impact reports noted increasing arsenic levels in 2 Wild Wings wells closest to the project. One of which was closed as it reached unacceptable high levels. Although the guidelines for other wells seem only to monitor and express concerns for wells within 1,000 ft of the project , the underground waterways are all connected. My well is less than a mile from the site, and I have had trouble with increasing sediment and odors in the past few years. I am concerned the large project site even closer to my home could adversely affect my water quality. And we private land owners do not have a Wild Wings type of management to monitor my water quality closely on a regular basis. We've had 2 dogs on our street die of rare cancers in the past few years. It's suspicious.

1-3 2. Air quality. The dust in our area is already quite high and particulate matter is a health hazard. I am concerned with the increased amount of dust even closer to my residence (I am on Paintridge Rd) at the new site. As well as the increased emissions from operations and trucking. The rare cancer that both dogs got was lung cancer. Extremely rare in dogs. Neither home were smokers.

1-4 3. Noise. We choose to live in rural areas for a myriad of reasons, but one of the greatest is the peace and tranquility of a quiet rural environment. With a major mining operation less than a mile away, with not only the mining operations itself but increased traffic of large trucks on Hwy 16,, I fear that daytime noise levels will become unacceptable, and will lower my property values. I can't imagine what it will do to the residences that are directly across the street from the planned site. And I am just on the other side of 16. Sound carries a long distance in the flatlands.

1-5 4. Transport vehicles. This year I have regularly seen gravel trucks speeding in excess of 70 mph on county rd 95. Mike Lowrie's trucks in particular. The limit on the road is 55, but I am passed regularly by gravel trucks as if I were standing still. These trucks have also knocked/run over garbage cans. And traveling at these speeds they create extremely loud banging/rattling noise traveling over roads bumps, which startle livestock and are a noise nuisance even at 200 ft away. There are sections of rd 95 that are off limits to aggregate trucks. If the noise, speeding, and rudeness continue it seems they should not be allowed on small county roads period.

1-6 I'm not sure what impact public comments can have. But hope that it might at least result in restricting mining to the further north side of the property under evaluation, to be as far as possible from people's homes.

Best,
Angie Louie

LETTER 1: ANGIE LOUIE, RESIDENT

Response to Comment 1-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Your concerns about the project are noted for the record. Please also see MR-1, "Comments Regarding the Merits of the Project."

Response to Comment 1-2

Please see MR-4 and Appendix E, titled Mobilization Processes of Natural Arsenic in Groundwater and Their Applicability to the Shifler Property at Teichert's Woodland Facility. Regarding cancer in dogs, please see Response to Comment 1-3 below.

Response to Comment 1-3

The commenter expresses concerns related to the existing level of dust in the commenter's residential area, new dust that could result from the proposed project, emissions from the operations of the proposed project, and cancer experienced by dogs living in the area.

The Draft EIR analyzes potential impacts related to dust emissions under Impact 4.3-3 on page 4.3-62 of Chapter 4.3, Air Quality, Greenhouse Gas Emissions, and Energy. Specifically, the Visible Emissions section of the analysis states the following:

> Visible emissions may result from the use of internal combustion engines, such as smoke from diesel fueled equipment, the burning of vegetation, or the upset and release of soil as dust. YSAQMD Rule 2.3 prohibits any person from discharging visible emissions of any air contaminant for a period or periods aggregating to more than three minutes in any one-hour time. All mining equipment and any other off-road equipment would be required to meet the visible emissions standards of Rule 2.3, and, considering the regulated nature of off-road equipment, would not be anticipated to result in substantial visible emissions. YSAQMD Rule 2.8 prohibits open burning of vegetation in most situations and the proposed project would not be anticipated to result in visible emissions, such as smoke, related to vegetation burning. Compliance with OCSMO Section 10-4.414 and 10-4.415 would ensure that visible emissions from dust and equipment would be minimized and further aid in compliance with Rule 2.3.

The significance conclusion for Impact 4.3-3 is identified as less than significant.

Potential impacts related to particulate matter, which includes dust, are addressed under Impact 4.3-1, which assesses all emissions, including short-term, construction-related emissions related to the relocation of Moore Canal and modification of Magnolia Canal, as well as long-term emissions associated with the proposed project's mining and reclamation components. Please note the proposed relocation and modification of the two canals are no longer a part of the project. As detailed in Section 1.3 of Chapter 1 of this Final EIR, the applicant has proposed to proceed with the Moore Canal Avoidance Alternative. Table 4.3-9 on page 4.3-49 includes the maximum unmitigated emissions estimates from project activities associated with modifying the canals. The Draft EIR states the following:

> The maximum unmitigated emissions resulting from relocation of Moore Canal and modification of Magnolia Canal have been estimated using CalEEMod for the proposed

> project. The modeling assumptions are described in the Method of Analysis section above. The estimated emissions are presented in Table 4.3-9.
>
> As shown in the table, the project's associated short-term emissions related to relocation of Moore Canal would be below the applicable YSAQMD thresholds of significance. Therefore, the short-term emissions resulting from implementation of the proposed project would not result in a significant contribution to the region's nonattainment status of ozone or PM and would not violate an air quality standard or contribute substantially to an existing or projected air quality violation.

The Draft EIR assesses long-term emissions associated with the proposed project, starting on page 4.3-51. Table 4.3-10 compares the net new emissions resulting from project operations to the YSAQMD's thresholds of significance. Based on the estimated long-term emissions associated with the project's mining and reclamation activities, the Draft EIR states the following:

> As shown in the table above, the proposed project would result in a net decrease in operational emissions of ROG and NOX during the proposed mining activities. In contrast, implementation of the project would result in an increase in PM10 emissions. Although PM10 emissions would increase with implementation of the proposed project, the net increase would not exceed the YSAQMD's thresholds of significance. Upon completion of mining activities, the project site would be reclaimed to agriculture, habitat, lake, and open space uses including future recreational use as dedicated properties are deeded to the County. While agricultural uses have the potential to generate criteria pollutant emissions, the total amount of reclaimed agriculture (116.7 acres) would be smaller what currently occurs on-site. Thus, after reclamation is complete, criteria pollutant emissions would be reduced relative to existing conditions.

The significance conclusion for Impact 4.3-1 is identified as less than significant.

Furthermore, under Impact 4.3-2 starting on page 4.3-53, the Draft EIR analyzes potential risks associated with the proposed project, including health risk assessments (HRAs) for diesel particulate matter (DPM) from off-road equipment and haul trucks associated with the project as well as emissions of respirable silica dust during mining and material processing activities. After analyzing potential health risks related to the proposed project with respect to health effects from exposure to DPM and respirable silica, the Draft EIR concludes the following:

> The proposed project would not meet the YSAQMD's screening criteria for CO, and, thus, would not result in the exposure of receptors to substantial concentrations of CO. The potential for the proposed project to result in substantial increases in health risks relative to existing mining activity has been further analyzed through the preparation of detailed, project-specific health risk assessments for DPM and respirable silica. As discussed above, the proposed project would not result in substantial increases in health risks related to either of the foregoing pollutants.

Impact 4.3-2 is identified as less than significant.

Regarding the commenter's mention of cancer in dogs, Chapter 4.3 includes health risk assessments involving cancer risks in humans that could result from the proposed project. In addition, the Draft EIR includes Chapter 4.4, Biological Resources, which analyzes potential impacts to a wide variety of animals that inhabit the project area and region. As noted on page 4.3-60 of the Draft EIR, health-related air quality impacts to animals are not a consideration under CEQA. Health risks to various animals are unique to each species, and no causal evidence has

been provided that would suggest either a health risk for dogs, or a health risk for dogs that differs from analyzed health risks to humans.

Response to Comment 1-4

The commenter expresses concerns related to noise from mining and haul truck activities. The Draft EIR identifies the applicable noise standards of the Yolo County Off-Channel Surface Mining Ordinance (OCSMO), including the following requirements of Sections 10-4.421 and 10-4.423, starting on page 4.10-15:

> Section 10-4.421. Noise: General standard
> From 6:00 a.m. to 6:00 p.m., noise levels shall not exceed an average noise level equivalent (Leq) of eighty (80) decibels (dBA) measured at the property boundaries of the site. However, noise levels shall not exceed an average noise level equivalent (Leq) of sixty (60) decibels (dBA) for any nearby off-site residences or other noise-sensitive land uses. From 6:00 p.m. to 6:00 a.m., noise levels shall not exceed an average noise level equivalent (Leq) of sixty-five (65) decibels (dBA) measured at the property boundaries of the site. At no time shall noise levels exceed a community noise equivalent (CNEL) of sixty (60) decibels (dBA) for any existing residence or other noise-sensitive land use. An existing residence shall be considered the property line of any residentially zoned area or, in the case of agricultural land, any occupied offsite residential structures. Achieving the noise standards may involve setbacks, the use of quieter equipment adjacent to residences, the construction of landscaped berms between mining activities and residences, or other appropriate measures. (§ 1, Ord. 1190, eff. September 5, 1996)
>
> Section 10-4.423. Noise: Traffic
> Operators shall provide acoustical analysis for future truck and traffic noise associated with the individual operations along County roadways identified as experiencing significant impacts due to increased traffic noise. The study shall identify noise levels at adjacent noise-sensitive receptors and ways to control the noise to the "normally acceptable" goal of a CNEL of sixty (60) dB and reduce the increase over existing conditions to five (5) dBA or less. Typical measures that can be employed include the construction of noise barriers (wood or masonry), earthen berms, or re-routing of truck traffic.

Starting on page 4.10-19 under Impact 4.10-1, the Draft EIR analyzes the proposed project's generation of noise from excavation activities, traffic noise associated with haul truck traffic, and operations at the existing Teichert Woodland Plant. With respect to the commenter's mention of noise from traffic on SR 16, this data is presented in Table 4.10-7 on page 4.10-23 and the following conclusion related to the proposed project's traffic noise:

> Table 4.10-7 shows the comparison between the existing and projected traffic noise levels with implementation of the proposed project. As shown in the table, the noise level increases projected to occur under Existing Plus Project conditions would be below the 5.0 dB threshold established by the County's OCSMO. Therefore, a less-than-significant impact would occur related to traffic noise.

While traffic noise would not represent a significant impact, Impact 4.10-1 concludes a significant impact could occur as a result of initial overburden removal operations and relocation of processing equipment to the Woodland Plant. The Draft EIR concludes a less-than-significant impact would occur, with incorporation of Mitigation Measures 4.10-1(a) and (b), detailed starting on page 4.10-24 of the Draft EIR. Implementation of Mitigation Measure 4.10-1(a) would reduce hourly noise exposure to 60 dB L_{eq} or less at Receptors 1 and 6, located east and west of the

project site, respectively. Mitigation Measure 4.10-1(b) would ensure that noise levels associated with processing activities at the Woodland Plant would be reduced to levels at or below the existing ambient noise levels shown in Table 4.10-2 on page 4.10-7 of the Draft EIR.

Under Impact 4.10-3 on page 4.10-27, the Draft EIR assesses project consistency with applicable standards related to noise and vibration, which are provided in Table 4.10-9. As noted in Table 4.10-9, with incorporation of mitigation measures specified under Impact 4.10-1, the proposed project would be consistent with all applicable General Plan policies. Regarding the OCSMO, Mitigation Measures 4.10-1(a) and (b) would ensure compliance with Section 10-4.421 and Section 10-4.422, which require equipment used during nighttime activities within 1,500 feet of a residence, to be equipped with non-sonic warning devices (e.g., infrared) consistent with the California Office of Safety Hazard Administration (Cal OSHA) regulations. As part of compliance with OCSMO Section 10-4.423, noise level increases projected to occur under Existing Plus Project conditions would be below the 5.0 dB threshold established by the OCSMO (see Table 4.10-7 on page 4.10-23 of the Draft EIR). Based on the following, the Draft EIR concludes a less-than-significant impact would occur.

Regarding the comment related to property values, please see MR-2, "Property Value Considerations."

Response to Comment 1-5

The comment concerns speed limits, enforcement, haul routes, and truck noise. Please see MR-3, "Transportation and Circulation," regarding the first three items. Please see Response to Comment 1-4 above regarding truck noise.

Response to Comment 1-6

With respect to the commenter's recommendation that mining activities associated with the proposed project be restricted to the further north side of the Shifler property, Chapter 6, Alternatives Analysis, of the Draft EIR, analyzes a reasonable range of five alternatives to the proposed project, in accordance with CEQA Guidelines Section 15126.6(a). The range of alternatives includes the Moore Canal Southern Alignment Alternative, discussed on page 6-26. The alternative would relocate the current alignment of the Moore Canal to the southern portion of the Shifler mining site, which would act to increase the distance from areas to the south and the mining activities. Table 6-1 on page 6-33 of the Draft EIR provides a comparison of environmental impacts associated with the proposed project and the five alternatives. Please also see MR-1, "Comments Regarding the Merits of the Project."

Thank you for participating in the process.

Letter 2

From: Lynn Beldner [mailto:roc_roc8@hotmail.com]
Sent: Wednesday, December 23, 2020 9:06 AM
To: Stephanie Cormier <Stephanie.Cormier@yolocounty.org>
Subject: Teichert Shifler Mining

Hi Stephanie,

2-1 I was reading the Davis Enterprise this morning and I just happened to notice a posting about the Teichert Shifler Mining Project. I live in Woodland do not normally read the Davis Enterprise.

I am writing to see if it would be possible for you to have this posted in Nextdoor? That way more citizens of Woodland and Esparto will be able to hear about it.

2-2 Also will the City of Woodland be doing any kind of mailing to the people who live in Esparto?

Can you please tell how else will the City of Woodland let the public know about this project?

2-3 Please include this email of concern as part of the comments.

Thanks so much for your help.

Best wishes,
Lynn Beldner
2023 Davis Street
Woodland 95776

LETTER 2: LYNN BELDNER, RESIDENT

Response to Comment 2-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record.

Response to Comment 2-2

The commenter was contacted by County Planning staff on December 23, 2020, and was encouraged by staff to post information about the project on Nextdoor, which she indicated she did. The item was posted on the County's website on the Natural Resources webpage and Community Services webpage, and publicly posted, including at the Woodland and Esparto libraries and three County Departments. The City of Woodland has also been notified, but they will not be doing any public notification because it is not a project within their jurisdiction, although they may submit comments. The lead agency for the proposed project is Yolo County, not the City of Woodland. In accordance with CEQA Guidelines Section 15087, Yolo County used the following methods to solicit public input on the Draft EIR:

- A Courtesy Notice was issued to interested parties requesting project notification and adjacent property owners within 5,000 feet of the project site, including all of Wild Wings.
- A Notice of Preparation (NOP) for the Draft EIR was released for a 30-day public review period from August 16, 2019, to September 16, 2019.
- A public scoping meeting was held on September 12, 2019, to solicit public comments regarding the scope of the Draft EIR. The NOP comment letters are included as Appendix B to the Draft EIR.
- The applicant (Teichert Aggregates) held a community outreach meeting on October 23, 2019, at the Flood Control District offices for all interested parties.
- On December 18, 2020, the Draft EIR was submitted to the State Clearinghouse for distribution to state agencies, resulting in a 49-day public review period from December 18, 2020, to February 5, 2021.
- A Notice of Availability (NOA) announcing the availability of the Draft EIR was distributed on December 17, 2020 to a variety of electronic and postal distribution lists including self-identified interested parties, all commenters on the NOP, all property owners and residents within one mile, and the entire Esparto community.
- The Draft EIR was made available for review on the County's website at https://www.yolocounty.org/government/general-government-departments/county-administrator/county-administrator-divisions/natural-resources/mining-projects-and-permits/teichert-shifler-application-ceqa-compliance. This webpage also contains general information about the Teichert Shifler project.
- An electronic copy of the document was made available for public review at the Woodland Public Library, located at 250 First Street, Woodland, CA, 95695, and the Esparto Regional Library, located at 17065 Yolo Avenue, Esparto, CA, 95627.
- An online public meeting was held before the Yolo County Planning Commission on January 21, 2021, with members of the public provided the option of participating via computer through a Zoom video conference or via phone by dialing into the meeting.

The project will be heard at the Esparto Citizens Advisory Committee prior to being heard at the Planning Commission for a recommendation to the Board of Supervisors, who will take final action

on the project. This will occur after the Draft EIR comment period has concluded and the County has prepared a Final EIR and responses to comments.

Response to Comment 2-3

Thank you for participating in the process. The commenter's address and email address have been added to the project distribution list.

From: Aaron Johnson [mailto:apjohn64@verizon.net]
Sent: Friday, January 15, 2021 12:00 PM
To: Stephanie Cormier <Stephanie.Cormier@yolocounty.org>
Subject: DEIR (SCH #2019089053)

Letter 3

Ma'am,

Greetings, I am a 30 disabled veteran living on Road 96 on a farm that has been in the family for over 80 years. For years a massive amount of thunderous trucks, foul-smelling material and dirt have moved through the neighborhood relentlessly at all hours. At times material is spilled onto the roadway with no consequences for the contaminators. The disturbance part of the problem doesn't include obvious safety factors and the large amount of litter thrown from the working vehicles (highly visible at the intersection of Hwy 20 and Rd 96). Teichert's operations represent an unlimited and unrestricted so called "public use" of the roadway to the point of abuse.

3-1

With Teichert's proposed huge expansion of operations, there is a logical solution to reducing the immense volume of traffic on Rd 96 and the hazardous intersection of Rd 96 and Hwy 16 by providing a **circular pattern of movement**.

SUGGESTION:

3-2 **** Design a one-way route along the creek to Rd 94B for egress of transports to Hwy 16 and I-505. It would be considerably more efficient and safer for trucks to enter from Rd 96 and exit to Rd 94B as opposed to one-way in and out ****

This would also **reduce 50% of the traffic burden to residents** caused by using one road (Rd 96). Exiting to Hwy 20 for access to I-5 would obviously remain.

3-3 We are looking forward to updates regarding this project. Thank you for your efforts and consideration!

Respectfully submitted,
~Aaron Johnson
530-650-5310

LETTER 3: AARON JOHNSON, RESIDENT

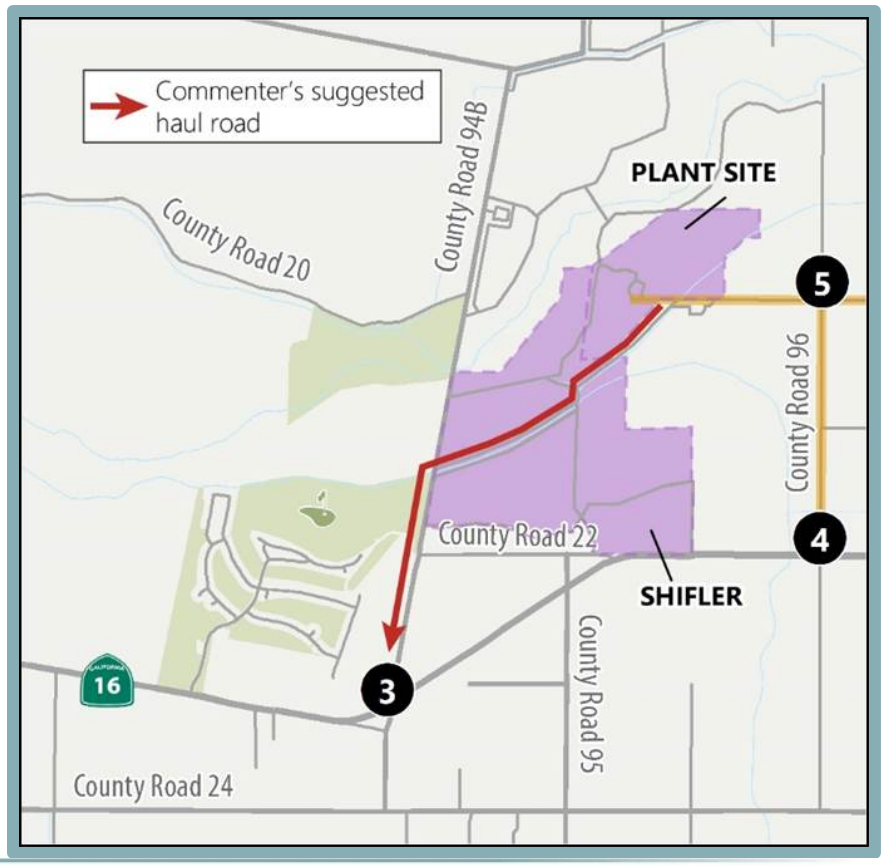
Response to Comment 3-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record.

With respect to the commenter's concerns related to the effects of haul trucks in the vicinity of the commenter's residence, please see MR-3, "Transportation and Circulation," for information on regarding enforcement of haul routes and speed limits. The commenter expresses opposition to use of the local roadways by the applicant. These concerns are noted. The applicant has the proper permits for current operations in the area, which includes a right to use local roads subject to conditions of approval. Among the requirements of the existing operation is adherence to approved haul route, and shared maintenance responsibilities for the haul route. The County does not condone unsafe driving or littering. If the commenter has identifying information regarding either activity and can present that information to local law enforcement, a report could be filed and the County could follow up on the issue, which could help address the situation.

Response to Comment 3-2

Please see MR-3, "Transportation and Circulation," for information regarding designated truck routes. Figure 4.12-1 on page 4.12-5 of the Draft EIR shows the currently approved County haul routes that would be used by the proposed project. The commenter's suggestion of an additional outbound haul route by way of CR 94B is illustrated in the following graphic.



The commenter's suggestions are appreciated. Using this route, an estimated 29 percent of project trips would travel to/from I-505. A one-way egress route by way of CR 94B would result in about 14.5 percent of project trips shifting from a southbound right-turn at the SR 16/CR 96 intersection to a southbound right-turn at the SR 16/CR 94B intersection. The portion of traffic that would be reduced for residents on CR 96 and CR 20 would be shifted to residents, businesses, and emergency services on CR 94B.

The County has examined the commenter's suggestion to design an alternative haul route and concluded that it would result in greater overall impacts than the current route, which has been in place for 25 years. Considerations include:

- Expanding the route to include truck traffic on CR 94B would expose more residences and businesses to new impacts, (e.g., noise) as compared to continued use of the existing approved haul route along CR 96 and CR 20.

- Teichert was required to rebuild CR 20 and CR 96, which comprise their approved haul route. These roads have structural integrity to support the approved mining. CR 94B would require reconstruction and does not presently have the structural integrity required for a haul route.

- The non-standard intersection of CR 94B and CR 22 is a concern as trucks would be required to stop in front of the Yolo Fliers Club driveway, where stacking would be a safety issue.

- The intersection of CR 94B and SR 16 is a concern as the skewed intersection approach would affect line of sight, visibility, and safe ingress and egress onto the highway due to the limited acceleration speed of the trucks.

- Truck movements at the two intersections noted above would create safety issues for calls for service from Willow Oak Fire Department Station 7, which is located on CR 94B south of CR 22.

Response to Comment 3-3

Thank you for participating in the process.

Letter 4

To Whom It May Concern:

4-1 We apologize in advance for the length of our comments. The draft document is extremely lengthy and covers so many areas of concern. Much of the information we are submitting is repetitive to those of you who have been a part of considering the past efforts by Teichert to destroy Class 1 ag land and expand their operation near our home.

4-2 Back around 2012, Teichert put together their first expansion proposal that we were notified of – they asked for permission to take over the old Schwarzgruber gravel business. Their back-up request if they were denied the Schwarzgruber proposal was to be given permission to mine the Shifler property. They got Schwarzgruber and expanded their County Road 20 business, the County gave the impression then that Class 1 soil should not be destroyed. Guess what? Two years later, in 2014, they submitted a proposal to mine the Shifler property anyhow. Here we are, 7 years later, still trying to protect our community. We are not asking you to lower the limit that Teichert can mine in Yolo County – their permits allow them to mine 1 million tons a year at their plant in Esparto and

4-3 a million tons a year at their plant near Woodland. So they can still mine 2 million tons in Yolo County. A denial of their request would not reduce the County's revenue from Teichert's business operations. They could continue to mine in Esparto where the impacts have already been addressed and mitigated. But expanding their tonnage at the Woodland plant would have serious impacts on the surrounding community.

4-4 The paperwork you have to review is unbelievably lengthy. We wish that there were two separate proposals – one to mine the Shifler property which would focus on environment, the importance of agriculture, the outcome of ruining Class 1 soil, etc. and a second proposal to double Teichert's production allowance at the Woodland plant. We have limited our comments but hope that others have also spoken up.

4-5 Our comments only touch on a few of the issues and problems that will occur as a result of the approval of Teichert's proposal to mine the Shifler property and increase the volume of business at their plant on County Road 20. We are confident that many of the citizens in the area have already expressed their concerns as the proposals resurface again and again. While we will focus on the traffic concerns, we are also worried about noise, about the

4-6 quality of life for those people who live closer to the Shifler property, about the residents of Wild Wings, about the people who attend the church near there, the golfers who go to the Flier's Club, about the impact on the cemetery and the families who seek solitude to visit the gravesite of a loved one, and for a place where those who have died can rest in peace. We question how Yolo County can even consider ruining Class 1 soil. How destroying the best farmland in Yolo County is good. How there is total disregard for the residents in the area and the value of their property. Please consider the negative impact this project will have those of us who live nearby. We aren't asking you to shut down Teichert, we are asking you to appreciate their business but not let them take down the local neighborhoods.

4-7 We have reviewed the Traffic Impact Study that is a part of the whole project proposal. There is a listing of speed limits on various roadways in the document, including County Road 20 between County Road 98 and County Road 96. According to the document, the speed limit there is 50 mph. There are no speed limit signs in the area that I can find, which would indicate the speed limit is 55 mph. **We question the accuracy of any of the information in the study if something as simple as the speed limit on a road is incorrect**.

4-8 Starting in 2014 we have been fighting Teichert's attempts to expand their operation at the plant on County Road 20. Most concerning to us is the knowledge that increasing the truck traffic on County Road 96 will be dangerous. We have spoken several times at Board of Supervisors meetings. We want to put our concerns in a framework where those of you who live in town can visualize the issue. County Rd. 96 is **23'7"** wide in front of our neighbor's house, with a 5" drop off the edge of the pavement. There is no shoulder. To put this in perspective, College Street, south of Cross Street is **36'** wide curb to curb. That is over 12' wider than Rd. 96 in front of our houses.

4-8 cont. Think of two gravel trucks travelling in excess of 55 MPH passing each other in front of your house while you are trying to exit your driveway or when you are putting out your garbage can. Remember, the road in front of our house is 12 feet narrower than the street in front of yours. This is not a safe situation for the residents along the rural roads the increased truck traffic will use.

Another thing that concerns us is the "Existing Traffic" section where it states:

"Existing Traffic Volumes

Morning (7:00 AM to 9:00 AM) and evening (4:00 PM to 6:00 PM) peak period intersection turning movement volumes were collected at the study intersections on January 28, 2014."

4-9 This was 7 years ago. A lot has changed since then – the expansion of Cache Creek Casino, the cutoff route of County Road 96 to County Road 20 as a shortcut from Hwy 16 to I-5 for commuters/customers to the Casino and for Wild Wing residents, the expansion of Pioneer Seeds/Cortiva on County Road 96, the start-up of several marijuana businesses in the area, the increase in other types of hauls from the Teichert plant, such as asphalt – all of these factors have changed the level of traffic in the area. This proposal has been on the table for a number of years – why did the County not conduct a study of more current traffic volumes?

4-10 Something that needs to be considered when you are potentially doubling the truck traffic in our neighborhood is the constant speeding and running of stop signs. The speed limit does not matter to many drivers on County Road 96 or on the straight and wide section of County Road 20. I have been behind gravel trucks that run the 4-way stop at County Road 20 and County Road 96, then accelerate to speeds in excess of 65 mph. I have taken down their company/truck numbers and documented the date and time and reported them to their company and to the CHP. The CHP wrote a report. The trucking company said they would talk to the driver. But nothing changes. I am not criticizing law enforcement – but it is something that needs to be considered when you are looking at potentially doubling the truck traffic volume on these roads. By the way, one of the trucks that was speeding was spotted again a couple of days later – southbound on County Road 95 – the same driver ran the 4-way stop at County Road 27. I again reported the incident to the trucking company. I doubt that anything was done then either. Those of us that live within the vicinity of Teichert's already have to deal with all of these traffic issues – congested roads, unsafe drivers, the noise right outside our front doors at all hours of the day and night – we suspect that most people

4-11 believe Teichert only runs between specific hours of the day, 6 days a week. But the trucks begin arriving as early as 5 a.m. and line up along County Road 20 at the entrance and wait. They then leave one after another, roaring along the two roads leading away (County Road 20 or County Road 96). They often extend their hours and workdays in the event of an "emergency". Doubling the truck traffic associated with Teichert's operations will be a nightmare and will undoubtably contribute to increased unsafe environment to those of us living in the area.

4-12 We hope that you will consider all of the detrimental issues associated with the proposed Shifler mining project and the consolidation of two Teichert plants and reject the proposal. Teichert will continue to run their business, will have the same County limits on tonnage, traffic issues will not double, and the highest quality ag land will be preserved. Thank you for your time.

Ranse and Joyce Reynolds

17355 County Road 96

Woodland, CA 95695

LETTER 4: RANSE AND JOYCE REYNOLDS, RESIDENTS

Response to Comment 4-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record.

The comment serves as an introductory statement for the commenters' concerns, which are addressed below. With respect to the commenter's concerns related to the loss of agricultural land, please see MR-5, "Agricultural Considerations." Regarding the commenters' mention of Teichert Aggregates' efforts to expand operations, please see MR-1, "Comments Regarding the Merits of the Project."

Response to Comment 4-2

Teichert is close to completion of the mining approved for the Esparto and Schwarzgruber sites. The application for the Shifler property would provide a new source of aggregate for their Woodland Plant facility. Aggregate mining can only occur where the resource is located. In Yolo County, aggregate mining is only allowed on land zoned SGR-O within the CCAP boundaries. Aggregate mining often occurs on agricultural land because the same natural forces that result in sand and gravel deposits are also often where good soils are found. The County balanced these competing factors when the CCAP was adopted in 1996. The Shifler application is within an appropriate area for mining under the CCAP. The CCAP required operators to minimize their mining footprint and maximize mining depth in order to reduce impacts. Agricultural soils are required to be stockpiled and reused during reclamation. The County places a priority on agricultural reclamation.

Response to Comment 4-3

The Draft EIR provides an objective science-based analysis of impacts from the proposed project. The concerns of the commenter are noted and will be considered by the decision-makers throughout the process. The analysis of the No Project Alternative provides an assessment of the effects of continued operation under Existing conditions (see Draft EIR page 6-5 through 6-11). See also MR-2, "Property Value Considerations."

Response to Comment 4-4

The commenter expresses a desire for a shorter EIR and a preference that the proposed project be divided into two separate proposals. The County appreciates this preference. The Draft EIR contains an Executive Summary in Chapter 2 which provides a good overview of the conclusions of the environmental impact analysis. CEQA encourages a comprehensive review of projects to ensure all potential direct and indirect impacts of a project are identified and addressed. The staff report prepared for the Planning Commission and Board of Supervisors hearings will provide a full analysis of the merits of the project and provide a staff recommendation regarding final action on the project.

Response to Comment 4-5

The commenters express their opposition to the proposed project and indicate that their comments focus on traffic impacts.

Response to Comment 4-6

The comment references noise, community impacts from the project, impacts to agricultural land, and effects on property values.

Regarding noise, please see Response to Comment 1-4, and Chapter 4.10, Noise, of the Draft EIR, where potential noise impacts are analyzed.

Regarding various general community impacts, these are addressed throughout the Draft EIR and particularly in Section 4.9, Land Use and Planning. As part of the Draft EIR's analysis, impacts commonly associated with quality of life, such as potential environmental impacts related to aesthetics, air quality, hydrology and water quality, and noise, are assessed in various chapters throughout the Draft EIR.

Regarding the commenters' reference to potential impacts to agricultural resources, please see MR-5, "Agricultural Considerations." Additionally, the Draft EIR analyzes impacts related to the conversion of Farmland under Impact 4.2-1. The analysis includes the following summary on page 4.2-26 of the Farmland categories in which the proposed project would result in impacts over the course of mining:

> As shown in Figure 4.2-2 and summarized in Table 4.2-4, over the course of mining, the proposed project would result in impacts to the following Farmland categories:
>
> - 267.50 acres of Prime Farmland;
> - 0.50 acres of Farmland of Statewide Importance;
> - 8.25 acres of Unique Farmland; and
> - 5.85 acres of Farmland of Local Importance.
>
> In order to mitigate for the permanent loss of the Prime Farmland, Unique Farmland, and Farmland of Statewide Importance, the proposed project must adhere to Section 10-5.525 of the SMRO, which establishes requirements to compensate for the permanent loss of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance that are equivalent to the countywide requirements identified in Section 8-2.404 of the County Code, but modified to reflect the unique requirements and outcomes of the CCAP.

As detailed on page 4.2-29, following analysis of Impact 4.2-1, the Draft EIR concludes the proposed project would result in a significant and unavoidable impact due to the net loss of Farmland, even with incorporation of Mitigation Measure 4.2-1. Per CEQA Guidelines Section 15093(a), a lead agency must balance, as applicable, the economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of a proposed project against its unavoidable environmental risks when determining whether to approve the project. If the specific benefits outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered "acceptable." In such cases, Section 15093(b) requires the lead agency to adopt a Statement of Overriding Considerations, which must be supported by substantial evidence in the record.

Under Impact 4.2-2 on page 4.2-30, the Draft EIR assesses the proposed project's potential to result in further conversion of Farmland to non-agricultural uses, beyond what is addressed under Impact 4.2-1. On the same page, Table 4.2-6 details the proposed project's consistency with applicable standards related to agricultural resources. The Draft EIR concludes a less-than-significant impact would occur, as discussed under Impact Statements 4.2-2 and 4.2-3.

The commenters' concerns about the project are noted for the record. Additionally, please see MR-1, "Comments Regarding the Merits of the Project."

Regarding property values, please see MR-2, "Property Value Considerations."

Response to Comment 4-7

The commenter notes that the speed limit should be identified in the Traffic Impact Study as being 55 mph on CR 20, between CR 98 and CR 96. Two-lane county roads in Yolo County have a de facto speed limit of 55 mph, unless otherwise posted. The final paragraph on page 4.12-3 of the Draft EIR is hereby corrected as follows:

> County Road 20 is a rural east-west roadway that extends from Teichert Woodland Plant in the west to SR 16/County Road 98 in the east, at which point the roadway becomes Kentucky Avenue. County Road 20 intersects SR 16 west of I-5, and becomes Kentucky Avenue in the developed area east of SR 16. County Road 20 is a two-lane roadway with a speed limit of ~~50~~ 55 mph within the project vicinity.

The revision to Chapter 4.12, Transportation and Circulation, corrects an inadvertent error and does not change the conclusions of the analysis in the Draft EIR.

Response to Comment 4-8

The Draft EIR analyzes potential transportation and circulation impacts in Chapter 4.12, Transportation and Circulation. Please see Impact 4.12-3 on page 4.12-23, which analyzes potential impacts related to increased hazards due to geometric design features. CR 96 on average measures 24 feet in width; however, at various points in the roadway, the width varies, as is typically the case of roadways throughout the County. With respect to the concerns regarding the cross-section of CR 96, the Draft EIR under Impact 4.12-5 on page 4.12-35 includes a condition of approval requiring the applicant to improve the shoulders on both sides of CR 96 from CR 20 to SR 16. Chapter 4 of this Final EIR includes a clarification to this proposed condition of approval. See also Response to Comment 15-9, and MR-3, "Transportation and Circulation."

Response to Comment 4-9

Increases in traffic since 2014 are captured in the cumulative LOS analysis. Current conditions would not yet reflect typical conditions due to influences on behavior from the COVID-19 pandemic. Please see MR-3, "Transportation and Circulation," for information on how the Traffic Study prepared for the proposed project accounted for probable future growth in the County in the cumulative baseline analysis.

MR-3, "Transportation and Circulation" also explains that LOS effects may no longer be considered a significant transportation impact under CEQA, and the Draft EIR is not required to address LOS impacts. Nevertheless, because the County considers LOS as a matter of General Plan policy (Policy CI-3.1) a nexus exists for requiring a project to ensure General Plan consistency through project conditions of approval. The County retains full discretion to require such conditions of approval. As detailed on page 4.12-35 of Chapter 4.12 of the Draft EIR, if approved, the project applicant would be required to make improvements to the shoulders on both sides of CR 96, for the approximately one-mile segment from CR 20 to SR 16. The County has made clarifications to this requirement which are reflected in Chapter 4 of this Final EIR, to indicate that paved shoulders are required. In addition, as explained in MR-3, "Transportation and Circulation," the applicant will be required to contribute a fair share of costs for improvements at the intersection of SR 16 and Wildwing Drive. Satisfying these conditions of approval would serve

as the project's fair-share contribution to address the project's effects on LOS. See also Response to Comment 15-9.

Response to Comment 4-10

The commenter's concerns regarding enforcement is noted. The County has been very attentive to this issue and continues to work with law enforcement, neighbors, and mining operators to monitor and address concerns. Please see MR-3, "Transportation and Circulation."

Response to Comment 4-11

Please see MR-3, "Transportation and Circulation," regarding LOS, enforcement of haul routes, and speeding. Additionally, please see the Response to Comment 1-4, which addresses concerns related to noise associated with the proposed project's mining and haul truck activities and includes the requirements of OCSMO Sections 10-4.421 and 10-4.423. The Schwarzgruber Mining Permit is subject to the following Condition of Approval related to noise:

> 38. The hours of operation for the mining site are 6:00am to 6:00pm Monday through Saturday. Occasional 24-hour operations to fulfill contract requirements are allowed within the regulations established in Section 10-4.421 of the mining ordinance. The hours of operation for the Teichert-Woodland plant are 6:00am to 6:00pm Monday through Friday. For the months of August, September, and October, hours may be extended to 10:00pm (Monday through Friday) and 6:00am to 6:00pm Saturday and/or Sunday subject to compliance with Section 10-4.421 of the Mining Ordinance.

Response to Comment 4-12

The comment reiterates the writers' opposition to the project and urges denial of the application. The comment is noted for the record and will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Thank you for participating in the process.

Letter 5

From: Robbie Zielesch [mailto:rz95695@gmail.com]
Sent: Monday, January 18, 2021 12:02 PM
To: Stephanie Cormier <Stephanie.Cormier@yolocounty.org>
Subject: Teichert proposal

5-1 We don't think this is right. They already have a huge hole that is stealing water from Cache Creek. Why are you thinking of letting them destroy the land around the cemetery, church and all the residents in the area, including us.

Thank you
Robin Zielesch

LETTER 5: ROBIN ZIELESCH, RESIDENT

Response to Comment 5-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record.

The comment expresses opposition to the proposed project. Please see MR-4, "Hydrology and Water Quality." Regarding various general community impacts, these are addressed throughout the Draft EIR, including in Chapter 4.9, Land Use and Planning. As part of the Draft EIR's analysis, impacts commonly associated with quality of life, such as potential environmental impacts related to aesthetics, air quality, hydrology and water quality, and noise, are assessed in various chapters throughout the Draft EIR.

Please also see Response to Comment 4-2. SMARA and the CCAP require full reclamation of mined land following the conclusion of mining. The proposed project proposes reclamation of the approximately 277-acre proposed mining area to agriculture and habitat uses, which would include a lake. Please see Chapter 3, Project Description, of the Draft EIR and page 1-2 of this Final EIR. Thank you for participating in the process.

Letter 6

-----Original Message-----
From: Margaret Walton [mailto:mwalton@cal.net]
Sent: Monday, January 18, 2021 4:16 PM
To: Stephanie Cormier <https://urldefense.proofpoint.com/v2/url?u=http-3A__Stephanie.Cormier-40yolocounty.org&d=DwIGaQ&c=euGZstcaTDllvimEN8b7jXrwqOf-v5A_CdpgnVfiiMM&r=kdtPCKeqKIngwAPH6qvp5f_ExA_ifBGx-p-DA3WNK-M&m=uTdEYUrrKYWsUlbwyBswkBcZkleDo79N9r7F2vbCkD4&s=w5O-WAsH98Ve7_dz6RLKzajDUyGmX_M4-8UG9mlD1p4&e=>
Subject: Teichert EIR Application

6-1 As a nearly 55 year resident of Woodland I wish to express my disapproval of Teichert's proposed mining action. I believe it would have a negative impact on too many people as well as a very bad use of prime at land.

Margaret Walton
629 Boxwood Road
Woodland CA 95695

LETTER 6: MARGARET WALTON, RESIDENT

Response to Comment 6-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record.

The comment expresses opposition to the proposed project. Please see MR-1, "Comments Regarding the Merits of the Project." With respect to the commenter's concerns related to the use of agricultural land, please see MR-5, "Agricultural Considerations." Please also see Response to Comment 4-2. Thank you for participating in the process.

Letter 7

Concerns/ Questions regarding the proposed Teichert/ Shiftler mining project Jan. 18,2021

7-1 1. How will the traffic be regulated during a heavy demand? What are the stipulations of sending sub-hauling trucks out the back of the plant onto Co Rd 94B? The intention was deliberate because the entrance was too congested. On Oct. 28. 2014, Teichert sent over 80 trucks to exit onto Rd. 94B and south to Rd 22 and Hwy 16. Co Rd 22 has 15 homes and 2 business – Monument Hill Cemetery and the Baptist Church and school. Co Rd 94B also consists of 3 businesses and numerous homes. How will Teichert handle the flow of traffic when demand is high? What is their responsibility for hiring sub-hauler or do they have none?

7-2 2. How will this mining affect property values in the area? Will the land owners be compensated if their water table or strata diminishes due to 30 years of mining? Where and who has active test wells in this area that are being monitored before and after the project gets under way?

7-3

7-4 3. Are the owners of previous mining sites happy with their reclaimed property? Is the property restored to previous standards, effective crop profits through the years? Is it maintained properly on a regular basis or left to mother nature and vandalism. Show the statements of approval from previous owners. Is it not up to Teichert but left in the hands of the county for general upkeep? Is the ground considered useless after mining is halted because of the extent of the removable of the grounds natural filtration layers?

7-5 4. What are the hours of mining and will mining run day and night depending on demand?

7-6 5. Who is responsible for monitoring hazard waste and emissions and how often will this report be available to the public?

7-7 6. How long will relocating the Moore Canal take?

7-8 7. Will businesses be compensated for decline in profits or land owners for decreased property values? This area was established long before Teicherts plan to mine the Shifler property: which was not included in the original mining overlay. The County had to rezone prime ag land to amend the off channel mining.

7-9 8. What will become of Cache Creek Parkway started in 2014? That was to be for hikers, horse trails – after all these years, still nothing! Was Teichert proposing that idea? How will this project hinder or delay the Parkway project?

7-10 9. What became of the small walk/ park behind Wild Wings. Who is responsible for upkeep after Teichert put it in? Now totally in shambles: rotted fence posts, benches and dead plants. The area burned and vandalized years ago. Are the county taxpayers responsible for upkeep?

7-11 10. Thank you for your time and consideration. Pam Van Brocklin – email: pvanbroc@yolo.net

Pam Van Brocklin

LETTER 7: PAM VAN BROCKLIN, RESIDENT

Response to Comment 7-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record.

With respect to the regulation of haul trucks during heavy demand of the project applicant's operations, please see MR-3, "Transportation and Circulation," regarding enforcement of haul routes. Additionally, as detailed on page 3-25 of the Draft EIR, the project applicant is permitted to expand hours of operations on occasion to fulfill contract requirements:

> Existing operations at the Woodland Plant and the associated Schwarzgruber mining site are governed by Condition 38 of the Schwarzgruber Mining Permit, which states the following:
>
> > 38. The hours of operation for the mining site are 6:00am to 6:00pm Monday through Saturday. Occasional 24-hour operations to fulfill contract requirements are allowed within the regulations established in Section 10-4.421 of the mining ordinance. The hours of operation for the Teichert-Woodland plant are 6:00am to 6:00pm Monday through Friday. For the months of August, September, and October, hours may be extended to 10:00pm (Monday through Friday) and 6:00am to 6:00pm Saturday and/or Sunday subject to compliance with Section 10-4.421 of the Mining Ordinance.
>
> Operations at the project site would be consistent with the existing hours of operation as described in this condition.

Please see MR-3, "Transportation and Circulation," regarding use of CR 94B. Regarding use of contract hauling services and customer hauling, in some cases the applicant is able to ensure adherence to the haul routes directly through contracts with haulers. In other cases, Teichert must ensure compliance indirectly through communications with the haulers, including refusal to do business with non-compliant haulers. Non-compliance is enforceable by the County through Teichert's mining permits and as a matter of roadway regulatory enforcement. Ultimately, the applicant's approvals and ability to operate are at risk if haul route violations occur.

Response to Comment 7-2

Please see MR-2, "Property Value Considerations."

Response to Comment 7-3

With respect to potential impacts to the groundwater table in the project vicinity, the Draft EIR on page 4.8-22 identifies various sections of the Surface Mining Reclamation Ordinance (SMRO) with which the proposed project would be required to comply, including Section 10-5.503:

> Section 10-5.503. Backfilled Excavations: Groundwater Flow Impacts
> The area of backfilled off-channel excavations extending below the groundwater table shall be minimized in order to reduce changes to groundwater levels and flow. Backfilled pits shall be oriented with regard to the direction of groundwater flow to prevent localized obstructions. If a backfilled off-channel excavation is proposed to penetrate either fifty (50) feet or one-half (1/2) into the saturated thickness of the shallow aquifer, then at least six

> months prior to the commencement of excavation below the average high groundwater level, the applicant shall demonstrate in a manner consistent with the Technical Studies that the pit design will not adversely affect active off-site wells within one-thousand (1,000) feet of the proposed pit boundary. If the application includes a series of backfilled pits, then the applicant shall also demonstrate that the cumulative effects of the multiple backfilled pits will not adversely affect groundwater flow, if there are any active off-site wells within one-thousand (1,000) feet of the pit boundaries.
>
> The applicant shall demonstrate, using MODFLOW (or a similar model of equal capability and proven reliability, as approved by the Director), that the proposed pit design would not adversely impact active off-site wells within one-thousand (1,000) feet of the proposed pit boundary or result in well failure. Average, historic low groundwater levels, which represent the condition of maximum threat to water levels in the subject well, shall be used for this simulation. If an adverse impact is identified by the MODFLOW (or other approved model) simulation, the mining and reclamation plan shall be modified, or the applicant shall submit a written agreement that the well owner has agreed to relocate or redesign the well, or accept the potential impact (at no expense to the County).

In accordance with SMRO Section 10-5.503, the Draft EIR includes an analysis of groundwater levels in the project vicinity under Impact 4.8-2, which starts on page 4.8-36. The analysis assesses Scenario 1, which includes the initial wet pit mining planned within the western portion of the project site, and Scenario 2, which includes the remaining wet pit mining in the central portion of the project site, with the western portion of the site reclaimed to agricultural land. The analysis concludes as follows:

> Based on the above, the proposed project would not substantially decrease groundwater levels at active off-site wells within 1,000 feet of the proposed mining pit or result in substantial adverse effects to groundwater levels at either of the Wild Wings subdivision wells. In addition, the project would not adversely affect groundwater quality. Therefore, the proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the Yolo Subbasin or conflict with or obstruct implementation of the Yolo Subbasin Groundwater Sustainability Plan, and a ***less-than-significant*** impact would occur.

In addition, please see MR-4, “Hydrology and Water Quality.”

Response to Comment 7-4

Mined lands are required under State law (SMARA) and County regulations (through the CCAP) to be reclaimed. The County’s established priority for reclamation along Cache Creek is: 1) agriculture; 2) habitat; 3) open space/recreation; and, 4) other uses (OCMP, Action 5.4-7), all of which provide important secondary uses for mining properties. Reclaimed properties may be retained by the operator, sold, and/or dedicated to the County for integration into the Cache Creek Parkway Plan. Property maintenance during mining and reclamation is governed by State and local regulations and the responsibility of the operator. After reclamation is complete, ongoing maintenance is the responsibility of the property owner.

Please see MR-5, “Agricultural Considerations.” In addition, please see Appendix G of this Final EIR, which includes a review of the project applicant’s reclamation of previously mined sites in the project vicinity, including the Haller, Muller and Coors properties.

The State Mining and Geology Board (SMGB) Reclamation Regulations Section 3707(c) provides that reclamation of prime agricultural land shall be deemed complete when the productivity of the reclaimed land meets or exceeds that of the pre-mining condition or similar crop production in the area for two consecutive crop years. Thus, the applicable standard for determining whether agricultural reclamation is successful is whether the productivity of the land can meet or exceed the yields of the land under pre-mining conditions or the yields from similar land in the area for two consecutive crop years. Agricultural yields on the Haller property met or exceeded productivity targets for three consecutive years from 2000 to 2002 when planted with sorghum/milo, wheat, and sunflower, respectively. The County deemed reclamation of the Haller property complete and released the reclamation bond on this property in 2003. Agricultural yields on the Muller property met or exceeded productivity targets for two consecutive years in 2007 and 2008 when planted with wheat, and again in 2010 and 2011 when planted with oat hay. The County deemed reclamation of the Haller property complete and released the reclamation bond on this property in 2003. Thus far, the agricultural yields on the Coors property have yet to meet or exceed productivity standards for two consecutive years, although yields in 2020 appear to have done so. Therefore, this site is still in the process of being reclaimed until the required productivity targets are met for two consecutive crop years.

Response to Comment 7-5

Please see the discussion under the Schedule and Employees subheading on page 3-25 of the Draft EIR's Chapter 3, Project Description, which includes the following:

> Existing operations at the Woodland Plant and the associated Schwarzgruber mining site are governed by Condition 38 of the Schwarzgruber Mining Permit, which states the following:
>
> > 38. The hours of operation for the mining site are 6:00am to 6:00pm Monday through Saturday. Occasional 24-hour operations to fulfill contract requirements are allowed within the regulations established in Section 10-4.421 of the mining ordinance. The hours of operation for the Teichert-Woodland plant are 6:00am to 6:00pm Monday through Friday. For the months of August, September, and October, hours may be extended to 10:00pm (Monday through Friday) and 6:00am to 6:00pm Saturday and/or Sunday subject to compliance with Section 10-4.421 of the Mining Ordinance.
>
> Operations at the project site would be consistent with the existing hours of operation as described in this condition.

Response to Comment 7-6

Under both the State and County mining regulations, all operators are required to file annual compliance reports with the County that are available for public review upon request. This includes compliance with all conditions of approval and regulatory requirements. Regarding hazardous waste, sand and gravel mining and associated reclamation would not generally produce substantial quantities of hazardous wastes. The Draft EIR includes the following the analysis under Impact 4.7-1 on page 4.7-19:

> Generally, the proposed project would not produce substantial quantities of hazardous waste, and waste associated with the project would be handled in accordance with applicable federal, State, and local regulations. Hazardous materials used on-site would consist primarily of fuels and oils for operation of mining equipment, similar to what is currently used on the adjacent Woodland Plant site. Given that the project applicant has

indicated that the proposed project would involve use or storage of hazardous materials on-site, the applicant would be required by the State to prepare a Hazardous Materials Business Plan, which would document the types and quantities of hazardous materials stored at the project site, along with detailed emergency planning and response procedures in the event of a hazardous materials release. The Hazardous Materials Business Plan must be submitted to the YCEHD prior to initiation of mining activities on the project site. Section 10-4.403 requires mine operators to notify the County of events such as fires, explosions, spills, land or slope failures, or other conditions at the site which could pose a hazard to life or property. Compliance with the requirements of Section 10-4.403 of the OCSMO would further reduce the potential for the proposed operations to result in hazards to the public or the environment.

With respect to emissions monitoring, the existing Woodland Plant includes operation of an asphalt plant, which is permitted by the YSAQMD. All projects under the jurisdiction of the YSAQMD are required to comply with all applicable YSAQMD rules and regulations. The Draft EIR on page 4.3-33 summarizes various rules and regulations applicable to the proposed project, including the following pertinent to emission reductions:

Regulation II – Prohibition, Exceptions - Requirements

Regulation II is comprised of prohibitory rules that are written to achieve emission reductions from specific source categories. The rules are applicable to existing sources as well as new sources. Examples of prohibitory rules include Rule 2.1 (Control of Emissions), Rule 2.28 (Cutback and Emulsified Asphalts), Rule 2.5 (Nuisance), Rule 2.11 (Particulate Matter Concentration), Rule 2.14 (Architectural Coatings), and Rule 2.40 (Wood Burning Appliances). Considering the relevance of Rule 2.5 and Rule 2.11 to the proposed activities, both rules are discussed in further depth below.

Rule 2.5 – Nuisance

Rule 2.5 prohibits the discharge of sufficient quantities of air contaminants or other materials that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public. The rule further protects the public from being subject to air contaminants and other materials that could endanger the comfort, repose, health, or safety of any persons, or could damage business or property.

Rule 2.11 – Particulate Matter Concentration

Rule 2.11 is intended to protect the ambient air quality within the YSAQMD's jurisdiction by establishing a standard for PM emissions. Per the definitions of Rule 2.11, PM is defined as any material that is emitted as a liquid or solid particles, or gaseous materials that becomes liquid or solid particles when collected at standard conditions. PM meeting the foregoing definition, shall not be released from any single source operation, dust, fumes, or other total suspended particulate matter emissions in excess of 0.1 grain per cubic foot of gas at dry standard conditions.

To account for the proposed project's potential to result in increased health risks associated with TAC emissions, under Impact 4.3-2 on page 4.3-55, the Draft EIR includes health risk assessments (HRAs) for the project's diesel particulate matter (DPM) from off-road equipment and haul trucks as well as emissions of respirable silica dust during mining and material processing activities. After analyzing potential health risks related to the proposed project with respect to health effects from exposure to DPM and respirable silica, the Draft EIR concludes the following:

> The proposed project would not meet the YSAQMD's screening criteria for CO, and, thus, would not result in the exposure of receptors to substantial concentrations of CO. The potential for the proposed project to result in substantial increases in health risks relative to existing mining activity has been further analyzed through the preparation of detailed, project-specific health risk assessments for DPM and respirable silica. As discussed above, the proposed project would not result in substantial increases in health risks related to either of the foregoing pollutants.

The significance conclusion for Impact 4.3-2 is less than significant.

Response to Comment 7-7

Teichert Aggregates informed the County on April 27, 2021, of their intent to request approval of the Moore Canal Avoidance Alternative rather than the originally proposed project (see Appendix B). Please see Section 1.3 of Chapter 1, Introduction, of this Final EIR, for a comparison of the previously proposed project and the currently proposed project, which is detailed in Table 1-1. In addition, please refer to Appendix C, which includes supplemental information to clarify and provide technical details regarding the Moore Canal Avoidance Alternative.

Response to Comment 7-8

Please see MR-2, "Property Value Considerations." The project site falls entirely within the OCMP boundary, and partially within the County's General Plan Mineral Resource Overlay (MRO). Approval of the project would require extending the overlay on an additional 212 acres of the site. This is explained on page 3-31 of the Draft EIR. The State has confirmed that the project site contains important sand and gravel reserves (see Appendix K). Approval would also require rezoning the property to apply the SG-O zoning overlay to the underlying A-N base zoning. Mining is a conditionally allowed use in the A-N zone. Rezoning to attach the SG-O is required for all mining projects.

Response to Comment 7-9

Work on the Cache Creek Parkway began in 1996 with adoption of the CCAP and execution of development agreements with all mining operators, including the subject applicant, to dedicate properties and provide ongoing funding for the future parkway. The parkway was to be comprised primarily of various reclaimed properties connected by a system of public access points and trails. The first Cache Creek Parkway planning document entitled "Open Space Inventory and Baseline Improvements" was accepted by the Board of Supervisors April 9, 2019. A separate long-range planning document entitled "Master Plan and Parkway Vision" was released in draft form February 2020 and has been on hold during the COVID-19 pandemic.

There are currently over 650 acres in the Parkway system including the Cache Creek Nature Preserve (dedicated by the applicant in 1995) which has had an active and vibrant visitation program since 1997.

This project would not hinder or delay the Cache Creek parkway. If approved, the subject project would result in additional dedications to the Parkway system which are described on pages 3-35 through 3-40 of the Draft EIR.

Response to Comment 7-10

The Wild Wings Open Space Park is a 17.26-acre park improved by the Wild Wings developer and dedicated to the County in satisfaction of County recreation requirements. The developer

revegetated approximately five acres of the site and installed a half-mile loop trail. This public open space is accessed through the Wild Wings subdivision and on-street parking is available near the access point where Wood Duck Street and Goldeneye Street connect. The County has added the property to the Cache Creek Parkway and funding for maintenance is provided through gravel mining fees.

Response to Comment 7-11

Thank you for participating in the process.

Letter 8

-----Original Message-----
From: Robert [mailto:gyroj4b@yahoo.com]
Sent: Tuesday, January 19, 2021 10:12 AM
To: Stephanie Cormier <https://urldefense.proofpoint.com/v2/url?u=http-3A__Stephanie.Cormier-40yolocounty.org&d=DwIFAg&c=euGZstcaTDllvimEN8b7jXrwqOf-v5A_CdpgnVfiiMM&r=kdtPCKeqKIngwAPH6qvp5f_ExA_ifBGx-p-DA3WNK-M&m=YvepLu77IvK7tL9UKokTpPRsCqEzYb4Ls6dRR5VQFgw&s=zgvgz6d43NPwcpbNgboxbM-Mp1guXaeTUQuvtsJX5IA&e=>
Cc: gyroj4b@yahoo.com
Subject: Teichert mining

Ms. Cormier,

8-1 A large number of land owners are very concerned with the impact of this proposed operation. After speaking with several well drilling operators and learning more about the impact of this mining, I and many of my neighbors are concerned about the ramifications to our own, self funded, water systems.

8-2 The increased traffic does cause some trepidation. With limited County road repair funding, this increase could result in breaking down our already fragile infrastructure.

8-3 I am hoping to secure a no vote to continue with this project.

Blessings to you and your family,

Robert Lewis
34464 County Rd 24
Woodland, Ca 95695

LETTER 8: ROBERT LEWIS, RESIDENT

Response to Comment 8-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record.

With respect to the concerns expressed regarding water supply and local wells, please see MR-4, "Hydrology and Water Quality."

Response to Comment 8-2

Traffic impacts are analyzed in Chapter 4.12, Transportation and Circulation, of the Draft EIR, beginning on page 4.12-1. The CCAP requires gravel operators to pay for necessary road improvements and road maintenance along approved haul routes necessary to support their operation. These regulatory requirements are summarized on page 4.12-14. If full funding for necessary improvements is not available, operators may be required to pay for the full capital or maintenance improvement subject to later reimbursement. This ensures full mitigation for identified significant impacts. Maintenance is reviewed annually by the County and capital improvements are considered every other year.

Response to Comment 8-3

The comment expresses opposition to the proposed project. Concerns about the project are noted for the record. Please see MR-1, "Comments Regarding the Merits of the Project." Thank you for participating in the process.

Letter 9

-----Original Message-----
From: Olga Nevarez [mailto:onevarez53@me.com]
Sent: Tuesday, January 19, 2021 7:57 PM
To: Stephanie Cormier <https://urldefense.proofpoint.com/v2/url?u=http-3A__Stephanie.Cormier-40yolocounty.org&d=DwIFAg&c=euGZstcaTDllvimEN8b7jXrwqOf-v5A_CdpgnVfiiMM&r=kdtPCKeqKIngwAPH6qvp5f_ExA_ifBGx-p-DA3WNK-M&m=FBowg7vxQL9jdeL92u4pjU_u-Fv0ToP2DbyVi7HSpjA&s=l2tLhM2A0F51bEUXdePr4EH780lDyD_qP7b-agwtVPk&e=>
Subject: Comments on Teichert Shifler Draft EIR

9-1 Our foremost concern regarding this project is how this project will impact the Aquifer in our area, considering the the drought we are already experiencing. Secondary is the noise level in the area in the late evenings.

9-2

LETTER 9: OLGA NEVAREZ, RESIDENT

Response to Comment 9-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record.

Please see MR-4, "Hydrology and Water Quality."

Response to Comment 9-2

Noise from mining operations is regulated pursuant to Section 10-4.421 of the OCSMO, which is detailed on page 4.10-15 of the Draft EIR and includes the following:

> From 6:00 a.m. to 6:00 p.m., noise levels shall not exceed an average noise level equivalent (Leq) of eighty (80) decibels (dBA) measured at the property boundaries of the site. However, noise levels shall not exceed an average noise level equivalent (Leq) of sixty (60) decibels (dBA) for any nearby off-site residences or other noise-sensitive land uses. From 6:00 p.m. to 6:00 a.m., noise levels shall not exceed an average noise level equivalent (Leq) of sixty-five (65) decibels (dBA) measured at the property boundaries of the site. At no time shall noise levels exceed a community noise equivalent (CNEL) of sixty (60) decibels (dBA) for any existing residence or other noise-sensitive land use. An existing residence shall be considered the property line of any residentially zoned area or, in the case of agricultural land, any occupied offsite residential structures. Achieving the noise standards may involve setbacks, the use of quieter equipment adjacent to residences, the construction of landscaped berms between mining activities and residences, or other appropriate measures. (§ 1, Ord. 1190, eff. September 5, 1996)

The Draft EIR analyzes the proposed project's potential to generate substantial temporary or permanent increases in ambient noise levels in the vicinity of the project under Impact 4.10-1, starting on page 4.10-19. As part of the analysis, Table 4.10-5 details reference noise levels for excavation equipment and operations, Table 4.10-6 shows projected noise levels at nearest receptors from on-site mining operations, and Table 4.10-7 provides the estimated existing plus project traffic noise levels associated with the proposed project. While the analysis acknowledges that during early phases of excavation when operations are occurring above-grade, if operations were to occur during nighttime hours, the proposed project could conflict with the 65 dB L_{eq} standard from 6:00 PM to 6:00 AM, as measured from the project boundaries (established by OCSMO Section 10-4.421), the Draft EIR addresses such impacts by including the following requirement in Mitigation Measure 4.10-1(a):

> *Excavation activities occurring within 560 feet of an existing residence shall be limited to the hours of 6:00 AM to 6:00 PM until such time as the excavation equipment has recessed in the pit a sufficient depth to no longer be visible from the nearest residences.*

The Draft EIR concludes a less-than-significant impact would occur, with incorporation of Mitigation Measure 4.10-1(a) and (b). Please also see the response to Comment 1-4.

Thank you for participating in the process. Concerns about the project are noted for the record.

Letter 10

-----Original Message-----
From: Mark Stinson [mailto:mpstinson@mac.com]
Sent: Tuesday, January 19, 2021 8:16 PM
To: Stephanie Cormier <https://urldefense.proofpoint.com/v2/url?u=http-3A__Stephanie.Cormier-40yolocounty.org&d=DwIGaQ&c=euGZstcaTDllvimEN8b7jXrwqOf-v5A_CdpgnVfiiMM&r=kdtPCKeqKIngwAPH6qvp5f_ExA_ifBGx-p-DA3WNK-M&m=-jLn6QuwwK5vs_vvql1DevaBHlw2KkdY_rYPohEZa-g&s=UP1sUtDqSlz-0LwxSMkm_YHahPV-nkwqC5o4G5g3Hjw&e=>
Cc: Mark Stinson <mpstinson@mac.com>; Kitty Stinson <https://urldefense.proofpoint.com/v2/url?u=http-3A__kitty.stinson-40icloud.com&d=DwIGaQ&c=euGZstcaTDllvimEN8b7jXrwqOf-v5A_CdpgnVfiiMM&r=kdtPCKeqKIngwAPH6qvp5f_ExA_ifBGx-p-DA3WNK-M&m=-jLn6QuwwK5vs_vvql1DevaBHlw2KkdY_rYPohEZa-g&s=FYpXFr0FlUEKzuCYSyZMftIfLwk7qmqojZu3DVNFyhY&e=>
Subject: Comments on Teichert Shifler Draft EIR

Hi Stephanie,

10-1 We would like Yolo County to put its residents' interests ahead of Teichert's and not approve this project.

10-2 We own a house in Wild Wings (WW) and are proprietary members of the Yolo Fliers Club (YFC). This expansion of mining operations would have significant negative impacts on the quality of life in our community as well as to YFC. We moved to Wild Wings in 2009 to get away from the noise and disturbances of the city. We loved the peace and quiet of Wild Wings and YFC. This proposed expansion of mining operations so close to WW and YFC would

10-3 ruin the peace and quiet of the area. An expansion of mining operations would also lower property values and increase truck traffic along Highway 16 and nearby roads, which are already dangerous roads to travel.

10-4 We are pro-business. We understand the value to Teichert of this location. We hope they can find an alternative to this project. When mining operations were approved long ago, this area was remote enough for mining to be acceptable; however, it is no longer. With the development of Wild Wings and the increase of vehicle traffic due to the growth of Woodland and Esparto, this is no longer an appropriate area to conduct any mining operations let alone an expansion of them.

Sincerely,
Mark & Kitty Stinson

LETTER 10: MARK AND KITTY STINSON, RESIDENTS

Response to Comment 10-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project.

The comment expresses opposition to the proposed project, which is noted for the record. Please see MR-1, "Comments Regarding the Merits of the Project."

Response to Comment 10-2

As part of the Draft EIR's analysis, impacts commonly associated with quality of life, such as potential environmental impacts related to aesthetics, air quality, hydrology and water quality, and noise, are assessed in various chapters throughout the Draft EIR. Regarding potential noise impacts of the proposed project, please see the Response to Comment 9-2. Additionally, please see MR-1, "Comments Regarding the Merits of the Project."

Response to Comment 10-3

Please see MR-2, "Property Value Considerations," and MR-3, "Transportation and Circulation."

Response to Comment 10-4

Please see MR-2, "Property Value Considerations," which summarizes relevant requirements and disclosures pertaining to the conduct of aggregate mining operations in the vicinity of the Wild Wings subdivision.

Regarding mining in the area, please also see Response to Comments 4-2 and 7-4. Thank you for participating in the process. Concerns about the project are noted for the record.

From: Joycemreyn [mailto:joycemreyn@aol.com]
Sent: Wednesday, January 20, 2021 1:40 PM
To: Stephanie Cormier <Stephanie.Cormier@yolocounty.org>
Subject: Comments on Teichert Shifler Draft EIR

Letter 11

To the County of Yolo Planning Commission:

11-1 You are considering the Teichert Shifler mining project EIR Draft which includes a request from Teichert to centralize their tonnage production/processing to create one huge plant on County Road 20 west of Woodland. Currently Teichert's permits allow them to process 1 million tons/year at their Esparto plant and 1 million tons/year at their Woodland plant. They want to transfer all of the tonnage to one plant which will have a massive impact on the truck traffic on County Roads 20 and 96, as well as the other routes to their job sites.

11-2 Not long ago we noticed that there are several County Roads where gravel truck travel has been banned. The first sign we saw was on County Road 27 east of I505. We also noticed signs along County Road 95, South of Hwy 16. We have asked the Yolo County Department of Public Works Engineering department what the restrictions were based on – their initial response was most likely noise issues. They are going to confirm this is the problem and let us know, and to share any other issues that resulted in the ban of gravel trucks. We suspect that it might also involve the width of the roads.

11-3 We are hoping it is something you can explore – we can attest first hand that gravel trucks are loud and it is especially an issue very early in the morning when there is one after another after another as is often the case when they leave and return to the plant. But

11-4 the areas where the County will currently not allow the trucks to travel are much more rural and have fewer houses than the sections of County Road 20 and County Road 96 that will be severely impacted if you allow Teichert to double their volume of trucks at the Woodland plant.

11-5 We believe you have close contact with the Department of Public Works and will be able to get a quick and thorough response. Their justification for limiting gravel truck routes will further confirm the negative impact that will be created by allowing the Woodland plant to significantly increase their truck traffic. Please do not approve the consolidation of all of the negative aspects of gravel mining to one neighborhood.

Thank you.

Ranse and Joyce Reynolds
17355 County Road 96
Woodland, CA 95695

LETTER 11: RANSE AND JOYCE REYNOLDS, RESIDENTS

Response to Comment 11-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record.

The commenter correctly notes that truck traffic would increase commensurate with increased mining operations at the Woodland Plant. Existing and proposed tonnages are summarized in Table 3-2 on page 3-4 of the Draft EIR. In any given year, the applicant can mine up to 1,411,766 tons at Schwarzgruber and 1,176,471 tons at Esparto for a total of 2,588,237 tons mined.

County Roads 20 and 96 are approved haul routes for existing and proposed mining. Please see MR-3, "Transportation and Circulation," for an explanation on the methods employed in evaluating transportation-related impacts under CEQA. The project would result in an increase in truck traffic on the two roads. As noted in the Project Trip Generation section on page 4.12-18 of the Draft EIR, the project is estimated to result in 202 AM peak hour trips and eight PM peak hour trips under Scenario 4, which involves the production of 2.2 million tons per year at the Woodland Plant. However, as detailed in Table 4.12-7 on page 4.12-28 of the Draft EIR, each of the CR 20 and CR 96 roadway segments under Scenario 4 would operate at an acceptable LOS, consistent with General Plan Policy CI-3.1.

Response to Comment 11-2

Section 10-4.419 of the County's Off-Channel Mining Ordinance includes language regarding approved haul routes that gravel trucks must use when traveling to and from gravel mine sites. In the summer of 2020, in response to an increase in complaints regarding gravel truck traffic on County roads that are not approved haul routes, County staff took a multipronged approach to address the issue. Informational handouts were prepared for operators to distribute to truck drivers that displayed each operation's approved haul route; notices were sent to truck companies regarding the County's requirement; coordination occurred with the CHP and Sheriff's Office regarding enforcement, including improved enforcement for speeding and vehicle code violations; workshops with the mining industry were held to explain the concerns of neighbors and reiterate the importance of compliance; signs were installed on County roads where problems were known to occur advising that aggregate trucking is prohibited; and signs were installed on haul routes identifying them as approved aggregate haul routes. These efforts appear to have reduced the problem and the County continues to monitor the situation and work with neighbors.

Please also see MR-3, "Transportation and Circulation," for more information on enforcement of haul routes, which are established as part of a mining operation's CUP.

Response to Comment 11-3

The commenter's first-hand experience with the noise generation of the gravel trucks, particularly during early morning hours, is noted. An extensive noise survey consisting of continuous (24-hour) monitoring at five locations and short-term (15-minute) monitoring at an additional 17 locations was conducted to establish existing baseline noise exposure in the project vicinity. The results of those surveys, which are presented in Draft EIR Tables 4.10-1 and 4.10-2, indicate that ambient noise levels in the general project vicinity vary depending on proximity to the local roadways and the volumes of traffic on those roadways. In addition to the ambient noise surveys,

existing and project traffic noise levels were modeled along the local roadway segments. At some locations, measured baseline ambient noise levels were substantially influenced by existing traffic, including heavy trucks. The baseline condition modeling results are presented in Table 4.10-3 on page 4.10-9 of the Draft EIR. The modeling results for Existing Plus Project noise levels related to traffic are presented in Table 4.10-7 on page 4.10-23. As shown in the table, none of the analyzed roadway segments would experience a substantial increase in noise due to traffic under Existing Plus Project conditions.

Response to Comment 11-4

The roadways which will be utilized most frequently by trucks associated with the project include CR 20, CR 96, CR 98, and SR 16. The commenter is correct that residences are located along these roadway segments. Table 4.10-7 on page 4.10-23 in the Draft EIR presents the traffic noise level increases which would result from the proposed project. Table 4.10-7 indicates that those increases would range from 0.1 dB along SR 16 just east of I-505 to 4.6 dB along CR 20 between the Teichert Woodland Plant entrance and CR 96. In terms of perceptibility, these increases would range from imperceptible (0.1 dB) to clearly noticeable (4.6 dB). Relative to the County noise standards and CEQA Guidelines, the Draft EIR determined that the project-related increases in traffic noise levels, while clearly noticeable in some areas, would fall below applicable standards, and would, therefore, be less than significant.

Response to Comment 11-5

Please see Response to Comment 11-2 and MR-1, “Comments Regarding the Merits of the Project.” Thank you for participating in the process. Concerns about the project are noted for the record.

Letter 12

From: Margaret K [mailto:margaret.kronenberg@gmail.com]
Sent: Wednesday, January 20, 2021 4:56 PM
To: Stephanie Cormier <Stephanie.Cormier@yolocounty.org>
Subject: Comments on Teichert Shifler Draft EIR

12-1 Good afternoon,
I do not approve of this project that will destroy hundreds of prime ag land in Yolo County.

Sincerely
Margaret

"Logic will get you from A to B. Imagination will take you everywhere." - Albert Einstein

LETTER 12: MARGARET KRONENBERG, RESIDENT

Response to Comment 12-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record.

Please see MR-1, "Comments Regarding the Merits of the Project," and MR-5, "Agricultural Considerations." In addition, please see Response to Comment 7-4. Thank you for participating in the process.

Letter 13

Yolo County Planning Commission Meeting

Shifler Mining and Reclamation Project DEIR Comments and Reponses

January 21, 2021

Purpose of Meeting: **To receive comments from the public and Planning Commission on the DEIR (Item 14: ZF #2018-0078: Teichert Shifler Mining and Reclamation Project Draft Environmental Impact Report [EIR])**

Staff Presentation: Presentation by Heidi Tschudin, Contract Planner.

Commissioner Questions:

1. **Commissioner Reynolds (10:40)**
   Commissioner Reynolds had questions regarding the project, related to updates on the Cache Creek Area Plan, road improvements on County Road 96, why agricultural land is not considered a net gain, reclamation of land, and when current sites would be out of aggregate.

   Contract Planner Tschudin: Updates to the Cache Creek Area Plan would be applied to this project to the extent that there are any modifications to their submittal that are required. Updates may also be applied in the form of Conditions of Approval and required changes to the Final Reclamation Plan and Mining Plan.

13-1 There are no road improvements proposed to County Road 96 as part of the project but a key component of this process is the requirement in the CCAP for an annual review for any road improvements that are related to the mining operations as well as a maintenance requirement for their approved haul route. In the EIR there is an identified condition of approval that is added to the project that the applicant would install a five percent shoulder with a 2:1 backslope along both sides of County Road 96. Road mitigation is required under the program separate from net gains.

   The net gain is a proposal made by the applicant as part of the negotiations for the development agreement. Typical net gains are land dedications, cash donations, or trail work consistent with the Cache Creek Parkway Plan. One of the net gains proposed for this project is the dedication of several reclaimed properties including the Shifler lake and the Schwarzgruber property. The Storz property is in reclamation as part of the current approval and it would be dedicated along with Muller.

   The Schwarzgruber and Esparto operations are running out of aggregate. The Teichert representatives can provide additional information regarding the status of mining at the various sites.

2. **Commissioner Gibbs (10:47)**
   13-2 Commissioner Gibbs had questions regarding Wild Wings Subdivision disclosure documents related to nearby mining activities and the General Plan Amendment/Rezone. In addition, Commissioner Gibbs requested clarifications regarding the role of and comments from the Yolo County Flood Control District (YCFCD).

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Contract Planner Tschudin: Residents in the Wild Wings Subdivision have disclosures on their properties. Details on those disclosures will be provided. The subdivision was developed after mining had already been occurring. There are required legal disclosures specific to the subdivision, and California law requires that the CCAP also be disclosed.

13-2

Mining has been ongoing in this area for a long time and is contemplated to continue for some time. The General Plan Amendment (GPA) required for this proposal is not changing the land from non-mining to mining; rather, it is expanding the boundary of the gravel overlay in the General Plan.

The zoning designation that would allow the mining is not attached to the property until mining is actually approved. The program uses a "Mining Reserve" overlay to disclose where future mining could occur, and a "Mining" overlay to show where mining is actually approved. The County does not attach the mining overlay unless there is a permit approval.

The YCFCD is scheduled to approve a Draft EIR comment letter at their next meeting. The letter will be incorporated in the document. The YCFCD, under CEQA, is a responsible agency. The County is the lead agency. The YCFCD needs to approve the proposed relocation of canal. If the County approves this project, then the YCFCD must still act separately to approve the request for modifications to the canal, which is their piece of infrastructure.

3. **Commissioner Campbell (10:54)**
Commissioner Campbell had comments on the following pages of the DEIR:

- Page 4.2-29 says agricultural easement shall be provided at 3:1, but may be reduced to 1:1. On page 5-9, it then says 1:1. The discrepancy needs clarification and/or confirmation of potential inconsistency in DEIR.
    - **Contract Planner Tschudin**: These sections will be doublechecked for errors. The County has agricultural offset requirements that essentially are 3:1 for prime land, 2:1 for certain nonprime lands, and 1:1 for other lands. Before the County adopted the offset program, the CCAP was the first County plan to incorporate formal agricultural offsets. The CCAP Update tiered off of the County's overall agricultural offset program and allows for certain exceptions that recognize the uniqueness of the aggregate program. At a minimum, any mining project that would result in loss of prime land or other protected agricultural land types under CEQA must be minimally mitigated at a 1:1 level. If a mining applicant proposes additional equivalent net gains beyond the base requirement, which the Teichert application does, agricultural offsets can remain at a 1:1 ratio.

13-3

- Page 4.5-22, regarding cultural mitigation, says that a monitor is required. Why is monitor limited to within 500 feet of the creek?
    - **Contract Planner Tschudin**: We will get a cultural resources expert to assist us with a better answer. However, the area identified reflects where the greatest sensitivity for cultural resources would be located based on width and depth. Cultural resources are not typically found below a certain soil depth. Notwithstanding the identified area of sensitivity, if any unknown cultural resources are identified they would be required under the

13-4

13-4 regulations to stop excavation and analyze the resource. The regulation applies for an unknown find anywhere on the property.

- Page 4.5-25, regarding Action CO-A64, says that even though agriculture has been ongoing, underground resources could still be found. Could artifacts be located deeper? **13-5**
  - **Contract Planner Tschudin**: If any unknown resources are found, excavation would be required to stop and the resources would be identified and analyzed. The 500-foot area reflects where cultural resources are more likely to be found.

- Page 58 of Volume II of the Draft EIR, in the Initial Study Mandatory Findings section, why are all the questions marked potentially significant? **13-6**
  - **Contract Planner Tschudin**: The Initial Study is an early document that is completed to identify the scope of the EIR. Anything marked potentially significant means it will be addressed in the EIR (Tschudin confirmed this is common in an Initial Study for a full scope EIR).

Commissioner Campbell also indicated that she toured the project site with Commissioner Muller on January 8.

4. **Commissioner Muller (11:03)**
Commissioner Muller had questions on how reclaimed agriculture can be described as prime agriculture land and expressed his view that the land cannot be successfully reclaimed to pre-existing conditions. Commissioner Muller's questions were in response to page 4.2-29 of the DEIR. Commissioner Muller indicated that reclaimed farmland is not equal to prime land, because it is harder to farm, and did not like how the DEIR characterized the issue. **13-7**

Contract Planner Tschudin: This is an issue that would be best for staff to bring back. Staff will ensure this is addressed in the responses to comments. For reclaimed sites, the County does require monitoring reports to demonstrate yields from the land. Typical reclamation along Cache Creek is a combination of reclaimed agricultural land, open water lakes, and habitat, with reclamation based on the ability to refill the mined areas with stockpiled soils in adherence with existing rules and regulations. There is an opportunity for the applicant to improve the quality of some soils. Reclamation is desired whenever possible. The County has experience with reclaimed lands and there is a history of farming reclaimed agriculture.

5. **Commissioner Dudley (11:07)**
Commissioner Dudley echoed Muller's comments. Commissioner Dudley has experience farming tomatoes on reclaimed land up through the 1980s. He expressed that tomato farmland restored to hay crops is not reclamation. **13-8**

Contract Planner Tschudin
Tschudin thanked Commissioner Dudley for his comment.

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6. **Commissioner Dubin (11:09)**
Commissioner Dubin had questions on how the EIR can make assumptions in regards to the Off-Site Alternative?

13-9 **Contract Planner Tschudin:** The alternative analysis does not assume a specific site – it looks generally at all available "mining reserve" sites. The Draft EIR does not conduct an equal-level analysis of alternative sites. In terms of the agricultural assumptions, it assumes that the lands along Cache Creek have similar properties. Therefore, impacts can be generally assessed. In the CEQA analysis, you would look at whether allowing the project at another site would minimize significant effects expected from the project as proposed. The project sites are looked at using a comparative analysis.

13-10 Commissioner Dubin stated that the Energy Supply section of the project description is too dismissive of potential renewable resource options, and asked about the process of considering potential renewable energy facilities onsite and if any additional on-site options available.

Contract Planner Tschudin: Tschudin indicated she could not answer that question off the top of her head. She indicated these are the types of questions that the Final EIR will address.

7. **Lachi Richards (11:16; 11:28)**
Lachi Richards did not have comments initially, due to technical difficulties.

13-11 Richards, who lives in Wild Wings, indicated the Traffic Study prepared for the project did not include intersections and roadways at Wild Wings. Richards requested that Wild Wings be included in the Traffic Study and asked that the County consider adding a left turn lane for the community.

13-12 Richards indicated that the water analysis conducted for the EIR was limited at 1,000 feet from the project site and that the community's biggest well is outside that distance. While Richards noted that the EIR included Wild Wings wells, she indicated the community's largest well is just outside the 1,000 feet considered, and that the "Canvas Back Well" impacts should be included.

Regarding page 4.8-29, Richards asked if "substantial" could be defined for groundwater impacts as well as for erosion impacts.

13-13 **Contract Planner Tschudin**
Tschudin thanked Lachi Richards for the comment, and stated that there are definitions for "substantial" under CEQA. Tschudin stated that it is a legal determination and that she wanted to research the regulations and clarify this in the response to comments.

8. **Omar Carrillo (11:17)**
13-14 Carrillo, who represents the Yocha Dehe Wintun Nation (Tribe), said that the project is within an area of great sensitivity, that a known resource is immediately adjacent to the project, and that there are also other resources in the area. Carrillo explained that the Tribe requested an avoidance alternative, but the EIR did not address the Tribe's request. Carrillo said the cultural resources report is six years old, and as a result, the report does

not address changes to CEQA (including AB 52). Carrillo said the report does not incorporate best practices or the substantial evidence provided by the Tribe. Carrillo added that the EIR needs to address unanticipated discoveries and needs a monitor, and that the nature of the project makes it difficult to properly monitor. Carrillo said the project needs more investigation before construction, the Tribe will be submitting written comments, and looks forward to consultation.

13-14

Contract Planner Tschudin
Tschudin thanked Omar Carillo for the comment.

9. **Juliette Beck (11:21)**
The commenter identified herself as a concerned citizen from Davis and noted that a Yolo County Board of Supervisors resolution to achieve climate neutrality by 2030 and to perform climate impact assessments was adopted in September 2020. The commenter said she would like to see how this commitment would be implemented by the project. The commenter expressed concerns about impacts from the project on the climate and public health as a result of degradation of air quality (project emissions and smoke related to wildfires in California). She noted that it was hard to understand the GHG mitigation from the DEIR and requested clarification regarding use of renewable energy sources at the Woodland Plant.

13-15

Contract Planner Tschudin
Tschudin thanked Juliette Beck for the comment.

10. **Heidi Potter (11:26)**
The commenter's mother lives directly east of the project site. She asked who will own the planned reclamation open water lake, and who will hold Teichert accountable in 30 years?

13-16

Contract Planner Tschudin
Tschudin thanked Heidi Potter for the comment. Tschudin noted that responses will be addressed in the Final EIR.

11. **Max Stevenson (11:32)**
Stevenson represents the YCFCD. Stevenson said the YCFCD is concerned with relocation of the Moore Canal and whether or not it would continue to provide the same level of service. Stevenson said the canal currently provides recharge, and questioned whether that would be affected if the canal is relocated. Stevenson said the creek is very erosive, and mentioned a bridge collapse in the 1970s. He noted that the YCFCD has determined that the creek would be safe and that the area would be stable following the proposed relocation of the canal within 200 feet of the creek; however, predicting the impacts of the relocation 100 years into the future is difficult. Stevenson said the YCFCD Board will determine whether moving the canal is acceptable, and indicated the Southern Alignment Alternative might be better.

13-17

Contract Planner Tschudin
Tschudin thanked Max Stevenson.

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Commissioner Comments:

12. **Commissioner Muller (11:37)**
Commissioner Muller expressed uncertainty about the project. His opinion is based on being a farmer and a resident. Commissioner Muller said the project would destroy Class I soil, especially south of the canal, because the canal bisects the property where the soil quality changes. Commissioner Muller said agricultural land closer to the creek has poor soil and that the southern soil is better and definitely prime agricultural land. Commissioner Muller expressed that moving the canal closer to the creek is a bad idea and recommended keeping the canal in place and limiting mining to the area to the north. He indicated that he wants to maintain agricultural land, and reclaimed agricultural land is not a viable substitute to agricultural land preservation.

13-18

Contract Planner Tschudin
Tschudin thanked Commissioner Muller.

13. **Commissioner Reynolds (11:40)**
Commissioner Reynolds expressed concern with the loss of prime agricultural land, traffic, and safety related to truck trips. Commissioner Reynolds said increased tonnage would make conditions worse, but that the County's mining program is a good program and Teichert has a history of being a good operator. Commissioner Reynolds indicated the Reduced Tonnage Alternative should be considered and would be a good compromise.

13-19

Contract Planner Tschudin
Tschudin thanked Commissioner Reynolds.

14. **Commissioner Dubin (11:43)**
Commissioner Dubin said the DEIR is daunting but effectively highlights the potential impacts in multiple areas. Commissioner Dubin expressed interest in being able to better understand the possibilities for alternative energy, such as how mobile solar arrays could work. She agreed that keeping aggregate production local is "climate responsible," and indicated the County can't off-load the climate burden to other counties. She noted that trucking aggregate long distances is not viable.

13-20

Contract Planner Tschudin
Tschudin thanked Commissioner Dubin.

15. **Commissioner Campbell (11:46)**
Commissioner Campbell expressed concerns with students at Stallion Station and others in proximity to the site. Commissioner Campbell asked how many children would be exposed and if the EIR analysis included the church and children at the church day care. Commissioner Campbell said it appears the Stallion Station was omitted from the HRA analysis. Commissioner Campbell would like to see the stables and church considered as sensitive receptors with respect to emissions.

13-21

Contract Planner Tschudin
Tschudin thanked Commissioner Campbell.

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The discussion of this item ended at approximately 12:02 PM. These staff summary minutes were prepared as part of the CEQA process for the Shifler Mining and Reclamation Draft EIR.

LETTER 13: PLANNING COMMISSION MEETING, YOLO COUNTY

Response to Comment 13-1

The comment summarizes questions expressed by Commissioner Reynolds during the Planning Commission meeting on the Draft EIR regarding updates to the CCAP, road improvements to CR 96, why agricultural land is not considered a net gain, reclamation of land, and the status of aggregate at the Teichert Schwarzgruber and Teichert Esparto sites.

The comment summarizes the responses provided to Commissioner Reynolds by Contract Planner Tschudin. Tschudin's response addresses each of Commissioner Reynolds' questions. No further response is merited.

Response to Comment 13-2

The comment summarizes questions expressed by Commissioner Gibbs regarding Wild Wings subdivision mining activity disclosure documents, the proposed General Plan Amendment and Rezone, and the role of the YCFCWCD.

The comment summarizes the responses provided to Commissioner Gibbs by Tschudin. Tschudin's response provides feedback on each of Commissioner Gibbs' questions. No further response is merited. A more detailed explanation of the Wild Wings disclosures is provided in MR-2, "Property Value Considerations."

Response to Comment 13-3

The comment summarizes a question expressed by Commissioner Campbell regarding an apparent discrepancy in the Draft EIR related to the proposed project's agricultural easement. The comment summarizes the responses provided to Commissioner Campbell by Tschudin.

The two citations are accurate and explain the requirements of the County Code in different ways. As detailed in Mitigation Measure 4.2-1(b) on page 4.2-29, the proposed project must establish a permanent agricultural conservation easement on 452.4 acres of equivalent or better (in quality and capability) Prime Farmland, compliant with the requirements in County Code Sections 8-2.404(d) and Section 8-2.404(e), (f), and (g). The easement overall, per the mitigation measure, would result in an offset ratio of 3:1; however, the total acreage could be reduced to a minimum 1:1 offset ratio in accordance with Sections 8-2.404(d) or 10-5.525(a), (b), (c), or (d), based on (among other options) dedication of additional net gains, provided the total acreage is determined to be equivalent to the applicable ratio and acreage required under Section 8-2.404.

This is rephrased in text on page 5-9 of the Draft EIR related to Impact 5-2, as well as in Tschudin's response to Commissioner Campbell.

Response to Comment 13-4

The comment summarizes a question expressed by Commissioner Campbell regarding mitigation related to the proposed project's potential impacts to cultural resources. The comment summarizes the response provided to Commissioner Campbell by Tschudin.

Based on consultation with the Yocha Dehe Wintun Nation (the Tribe) that has occurred subsequent to the Planning Commission meeting, revisions to Chapter 4.5 of the Draft EIR,

including particularly Mitigation Measure 4.5-3, are proposed. These are reflected in Chapter 4. See also Response to Comment 13-14, and responses to Letter 23.

Response to Comment 13-5

The comment summarizes a question expressed by Commissioner Campbell regarding the prospect of the proposed project potentially impacting unknown resources situated beyond the boundaries established by Mitigation Measure 4.5-3(a) on page 4.5-22. The comment summarizes the responses provided to Commissioner Campbell by Tschudin. See also Response to Comment 13-4.

Response to Comment 13-6

The comment summarizes a question expressed by Commissioner Campbell regarding the environmental issue areas marked as potentially significant in the Initial Study's Mandatory Findings section. The comment summarizes the response provided to Commissioner Campbell by Tschudin. No further response is merited.

Response to Comment 13-7

The comment summarizes questions expressed by Commissioner Muller regarding how reclaimed agriculture land can be described as prime agricultural land and how the land could not be successfully reclaimed to pre-existing conditions. Per the comment, Commissioner Muller's questions were in response to page 4.2-29 of the Draft EIR. Commissioner Muller indicated that reclaimed farmland is not equal to prime agricultural land, because reclaimed farmland is harder to farm. Please see MR-5, "Agricultural Considerations" and Appendix H. In addition, please see Response to Comment 7-4.

Response to Comment 13-8

The comment summarizes sentiments expressed by Commissioner Dudley, which echoed Commissioner Muller's comments regarding reclaimed agriculture farmland. Please see the Response to Comment 13-7 and MR-5, "Agricultural Considerations."

Response to Comment 13-9

The comment summarizes questions expressed by Commissioner Dubin regarding the assumptions made by the Draft EIR in the analysis of the Off-Site Alternative in Chapter 6, Alternatives Analysis, starting on page 6-11. The comment summarizes the response provided to Commissioner Dubin by Tschudin. The response given by Ms. Tschudin is consistent with the text at the bottom of page 6-12, which confirms that the EIR made reasonable general assumptions about agricultural resources within the CCAP area.

Response to Comment 13-10

The comment summarizes concerns expressed by Commissioner Dubin regarding the potential for on-site renewable energy facilities.

In addition to the information from the applicant that is summarized in the Project Description on page 3-19 and 3-20, the applicant has further clarified that the company with which they contracted indicated the Federal Aviation Administration (FAA) expressed concerns about the height of a wind turbine in proximity to the airport and wind resources at that location were insufficient to support a wind turbine. Furthermore, the applicant added that a larger solar array would cause additional impacts to agriculture and habitat. Alternatively, they have committed to

transitioning the Woodland plant and office facility to an energy portfolio by 2025 that meets or exceeds the "light green" renewable levels offered through Valley Clean Energy, and to "deep green" levels of 100 percent by 2030 (please see Appendix I).

Response to Comment 13-11

Please see MR-3, "Transportation and Circulation."

Response to Comment 13-12

The comment expresses concerns related to the water analysis conducted for the Draft EIR and requests that potential impacts to the Canvas Black well be included in the Draft EIR. An analysis of impacts to this well were included in the Draft EIR in Chapter 4.8, and specifically in Appendix K2, which addresses groundwater level impacts to Wild Wings wells among other topics.

Please also see MR-4, "Hydrology and Water Quality" and Appendix E, which detail how the Draft EIR evaluated the potential for impacts to groundwater resources to occur from wet pit mining and reclamation activities at the Shifler property. As explained in MR-4, Impact 4.8-2 of the Draft EIR concludes the proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the Yolo Subbasin, or conflict with or obstruct implementation of the Yolo Subbasin Groundwater Sustainability Plan, and a less-than-significant impact would occur. As noted in MR-4, the model analysis conducted as part of the Draft EIR focused on predicted effects on the Canvas Back well and concluded impacts would be less than significant.

Response to Comment 13-13

The commenter refers to page 4.8-29 of the Draft EIR and requests a definition for the word "substantial" as used in the threshold of significance for groundwater and erosion impacts in Chapter 4.8, Hydrology and Water Quality.

Section 10-4.413 of the County's' Mining Ordinance addresses drainage control and focuses on preventing erosion in accordance with best management practices and pursuant to the Storm Water Pollution Prevention Plan required for mining operations. The drainage system must be inspected annually by an engineer to confirm effective operation. Failure to meet those standards would result in a substantial impact.

Section 10-4.417 requires groundwater monitoring for both levels and quality. Groundwater levels are recorded and monitored over time. Groundwater quality is compared to Maximum Contaminant Levels (MCLs) or established background levels. A substantial impact would be one that significantly differs from these thresholds.

Section 10-4.427 requires protection of nearby drinking wells defined as those within 1,000 feet or a municipal well and within 500 feet of a domestic well. The regulations require a capture zone analysis simulating 30 days of continuous pumping at maximum probable yield to establish the capture zone. The proposed aggregate mining pit cannot coincide with the capture zone. If the pit where to coincide with the capture zone this would be considered substantial and would be identified as a significant impact. The Draft EIR includes an analysis of potential impacts to groundwater under Impact 4.8-2, which starts on page 4.8-36. As part of assessing if "substantial" impacts would occur to groundwater, Impact 4.8-2 includes an analysis of potential impacts to groundwater levels for all active off-site wells within 1,000 feet of the proposed mining pit and water levels associated with the proposed lake that would be constructed as part of project

reclamation activities. To account for groundwater levels at Wild Wings subdivision wells, Impact 4.8-2 also includes an assessment of water level, water budget, and particle tracking analyses at the Canvas Back well, a water production well used to supply the Wild Wings subdivision. Finally, Impact 4.8-2 includes an evaluation of past and proposed mining and reclamation activities in the area, as well as the historical water quality monitoring results for the Teichert mining properties. Based on this information, the Draft EIR concludes the following with respect to "substantial" impacts to groundwater:

> Based on the above, the proposed project would not substantially decrease groundwater levels at active off-site wells within 1,000 feet of the proposed mining pit or result in substantial adverse effects to groundwater levels at either of the Wild Wings subdivision wells. In addition, the project would not adversely affect groundwater quality. Therefore, the proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the Yolo Subbasin or conflict with or obstruct implementation of the Yolo Subbasin Groundwater Sustainability Plan, and a ***less-than-significant*** impact would occur.

Concerning "substantial" impacts related to erosion, the Draft EIR analyzes this under Impact 4.8-3 on page 4.8-40. The analysis includes the following:

> The project site would be graded to allow stormwater runoff to collect in the proposed mining pit, where the runoff would gradually percolate or evaporate. At the conclusion of mining, the site would remain contoured such that stormwater runoff would be directed to the reclaimed mining area. New stormwater detention basins would be provided within the western and eastern reclaimed agricultural areas of the site. Based on the above, stormwater runoff would not leave the site during, or after completion of, the proposed mining activities. Consistent with OCSMO Section 10-4.437, the proposed project would not include discharge of any stormwater or wastewater to Cache Creek during the proposed mining activities or upon reclamation of the site to agricultural and recreational uses.

The Draft EIR concludes that Impact 4.8-3 would be less than significant.

Response to Comment 13-14

The comment summarizes concerns expressed by Omar Carrillo, who represents the Tribe, regarding the project site's potential cultural and Tribal Cultural Resources, the Draft EIR's analysis of cultural and Tribal Cultural Resources, and the Tribe's request for clarifications in the Draft EIR.

To assess the sensitivity for Tribal Cultural Resources so that avoidance opportunities could be considered, and to provide updated information since the time of the cultural resources report was prepared by Peak & Associates, the County retained ECORP Consulting, Inc. to assist in collaborating with the Tribe and completing the consultation process. On May 17, 2021, a program of backhoe trenching was employed at four locations in the phases of proposed mining that are closest to the current creek channel. The location of the trenches was selected in consultation with the project applicant, County staff, the Tribe, and a professional archaeologist from ECORP Consulting, Inc. Trenching was carried out under the direction and observation of professional archaeologists and a tribal monitor. The purpose of the trenching was to determine whether or not buried archaeological deposits were present at those locations and to help inform the environmental review. As documented in July 15, 2021, correspondence from ECORP to the

County, the trenching yielded no indications of buried archeological sites or Tribal Cultural Resources; however, ECORP recommended development of a monitoring program for the project. The Tribe and applicant are currently developing a Tribal Monitoring Agreement to mitigate for potential impacts associated with unanticipated discovery of Tribal Cultural Resources or Native American Cultural Places.

Chapter 4 of this Final EIR contains proposed revisions to Draft EIR Chapter 4.5, Cultural and Tribal Cultural Resources, to clarify Mitigation Measure 4.5-3 to reflect this. The clarifications require a formal monitoring plan and provide greater specificity regarding the timing, content, protocols, and participating parties in executing the plan. These revisions provide greater detail and clarity to the original measure to ensure successful and effective mitigation in a manner acceptable to the Tribe. These clarifications will result in improved outcomes, but do not substantially change the mitigation requirement or result in changes that would constitute "significant new information" that would trigger recirculation of the Draft EIR pursuant to Section 15088.5 of the CEQA Guidelines. A more detailed description and substantiation of this determination will be included in the CEQA Findings of Fact.

Response to Comment 13-15

The comment summarizes concerns and questions expressed by Juliette Beck, regarding consistency of the proposed project with a recent resolution of the Board of Supervisors related to carbon neutrality goals of the County, the greenhouse gas (GHG) emissions mitigation contained within the Draft EIR, and the use of renewable energy sources at the project applicant's Woodland Plant.

On September 29, 2020, the Board of Supervisors adopted Resolution 20-114 related to climate change. This resolution describes the creation of a working advisory group to revise the County's existing (2011) Climate Action Plan (CAP). It describes the makeup of the advisory group and sets a goal of March 2022 for development of a draft revised CAP for public review. The resolution describes that the revised CAP will "achieve a negative carbon footprint by 2030." The resolution also describes that the County will consider adding "sustainability, greenhouse gas (GHG) and co-pollutant carbon-footprint and ecological impact statements" for relevant commission and Board of Supervisor agenda action items.

Amendment of the existing County CAP to change current adopted GHG reduction goals has not occurred. Also, County protocols for staff reports have not yet been changed to require additional information related to carbon footprint statements for agenda items. For the subject project, the Draft EIR appropriately assesses consistency with current General Plan policies and requirements of the adopted CAP related to climate change and GHG reduction.

Air quality, GHG emissions, and energy impacts are analyzed in Chapter 4.3 of the Draft EIR. Impacts 4.3-7 through 4.3-9 on pages 4.3-74 through 4.3-84 address GHG emissions and plan consistency. Two mitigation measures are identified. Mitigation Measure 4.3-7 requires a project-specific Greenhouse Gas Reduction Plan to identify actions to be taken by the applicant for achieving the required reduction of 1.877.84 MTCO2e/year. Mitigation Measure 4.3-8 requires submittal of an Electric Vehicle Parking Plan for the project. Specific performance standards for implementation of both measures are described in each mitigation measure.

In response to the request for additional information regarding use of renewable energy at the site please see the discussions under Impacts 4.3-4 and 4.3-5 on pages 4.3-63 through 4.3-66 of the Draft EIR, Response to Comment 13-10, and Appendix I of this Final EIR. Appendix I provides

a letter from Teichert Aggregates in response to Comment 13-10 that details the project applicant's commitment to reducing GHG emissions and climate change impacts. In addition, please see the responses to Letter 33.

Response to Comment 13-16

The comment summarizes concerns and questions expressed by Heidi Potter, regarding the Reclamation Plan's proposed lake and project compliance with County requirements.

As described on page 3-38, the applicant is proposing to dedicate the reclaimed lake to the County following completion of the mining and reclamation process. Regarding compliance and accountability, under both the State and County mining regulations all operators are required to file annual compliance reports with the County which are available for public review. This includes compliance with all conditions of approval and regulatory requirements.

Response to Comment 13-17

The comment summarizes concerns expressed by Max Stevenson, on behalf of the YCFCWCD, regarding the proposed project's relocation of Moore Canal and to what extent the YCFCWCD believes Moore Canal's level of service would be impacted by the relocation. As noted in Section 1.3 of this Final EIR, the YCFCWCD has since voted to retain the Moore Canal in its existing alignment.

Please see Response to Comment 7-7, which pertains to the project applicant's decision to modify the proposed project in accordance with the Moore Canal Avoidance Alternative. In addition, please see the Response to Comments 32-4 through 32-8, which address similar concerns.

Response to Comment 13-18

The comment summarizes Commissioner Muller's closing thoughts regarding the proposed project, including concerns related to potential impacts to agriculture and impacts from relocating Moore Canal. Please see the Response to Comment 13-7 and MR-5, "Agricultural Considerations."

Commissioner Muller suggested restricting mining to the area north of the Moore Canal and expressed his desire to maintain agricultural land and avoid agricultural reclamation which he expressed may not be viable. Regarding the suggestion to limit mining to the area north of the canal, the applicant has submitted a response related to the feasibility of this concept (please see Appendix F). As indicated in MR-5, the CCAP was developed to address these concerns, but also balance multiple goals. Mining countywide and within the large CCAP plan area was specifically restricted to those areas where the highest value aggregate resource could be feasibly mined. Through adoption of the CCAP, it has been the County's express policy since the inception of the program to limit mining to specific areas, encourage mining to the full depth of the aggregate deposit to minimize impacts to agriculture, and to encourage reclamation to agriculture as a top priority reclaimed use.

Response to Comment 13-19

The comment summarizes Commissioner Reynolds's closing thoughts regarding the proposed project. Commissioner Reynolds expressed concerns about increased tonnage and the Reduced Tonnage Alternative would be a good compromise. These comments are noted for the record.

Response to Comment 13-20

The comment summarizes Commissioner Dubin's closing thoughts regarding the Draft EIR and requesting more information regarding the possibility of the project incorporating forms of alternative energy, such as mobile solar arrays. Commissioner Dubin additionally comments on the merits of keeping aggregate production local with respect to climate responsibility.

Please also see Response to Comment 13-10.

Response to Comment 13-21

The comment summarizes Commissioner Campbell's closing thoughts regarding potential impacts to students at the Stallion Station and others in proximity to the project site, as well as questions regarding whether the Stallion Station was included in the HRA. Commissioner Campbell also expressed that the stables and church day-care should be considered as sensitive receptors in the Draft EIR, with respect to emissions. As noted below, the church day care is identified as a sensitive receptor.

As detailed on page 4.3-15 of Chapter 4.3, Air Quality, Greenhouse Gas Emissions, and Energy, the Draft EIR includes within the analysis on potential impact related to air quality various sensitive receptors as defined by Policy CO-A107 of the Yolo County General Plan:

> Policy CO-A107 of the Yolo County General Plan provides a County-specific definition of sensitive receptors using the following criteria: residentially designated land uses; hospitals, nursing/convalescent homes, and similar board and care facilities; hotels and lodgings; schools and day care centers; and neighborhood parks. Considering Yolo County's definition of sensitive receptors, the nearest sensitive receptors to the project site are a church-run school located approximately 650 feet south of the Shifler mining site, residences located approximately 430 feet south of the site across County Road 22, and the residences located in the Wild Wings subdivision, which is located approximately 1,180 feet to the southwest of the Shifler mining site (see Figure 4.3-1).
>
> Various farm dwellings exist within areas designated for agricultural uses by Yolo County, which are in close proximity to both the existing Teichert operational areas as well as the proposed Shifler site. For instance, the nearest farm dwelling to the Shifler site is approximately 165 feet to the west, while another farm dwelling approximately 180 feet to the east. Multiple farm dwellings exist in close proximity to the existing Woodland Plant. Figure 4.3-1 presents some of the farm dwelling locations in close proximity to the Woodland Plant and Shifler site. Additional farm dwellings in the vicinity of the project site were also considered in this analysis. All such farm dwellings are considered other sensitive land uses for the purposes of this analysis.

The Draft EIR analyzes potential impacts related to the exposure of sensitive receptors to substantial pollutant concentrations under Impact 4.3-2, which starts on page 4.3-53.

With respect to the commenter's concern regarding students taking riding lessons and/or competing at the Stallion Station, the Stallion Station property, located to the northwest of the Shifler project site, does not meet the sensitive receptor criteria established by Policy CO-A107. The site is not a designated school or day care. For this reason, the Stallion Station is not a sensitive receptor based on the County's adopted policy. In summary, the daycare at the West Valley Baptist Church is a sensitive receptor and was analyzed for impact in the EIR, including in the HRA. The Stallion Station is not a sensitive receptor and was not specifically included in the HRA analysis.

However, as described in the EIR and depicted in Figure 4.3-1 on page 4.3-16 of the Draft EIR, sensitive receptors are located immediately south and southwest of the project site. The EIR analysis concluded that impacts to these sensitive receptors would be less than significant. The Stallion Station site is further west than the studied receptors, and therefore, would be exposed to diminishing pollutant concentrations should they occur, as compared to the studied locations. The Stallion Station facility was developed by the Taylor family, the prior owners of the property, in 1983. At that time Teichert was mining across CR 20, at the current site of the Cache Creek Nature Preserve (CCNP), a successfully reclaimed habitat site. The location of that mining was much closer to the equestrian facility and a known proximate land use from the time the facility was developed. Similar to the circumstances at the Wild Wings subdivision, mining has been ongoing in this segment of the creek for decades. Since 1983, mining activities have taken place in-channel, and at the CCNP, Haller, Coors, Muller, and Storz property, all of which are closer than the Shifler property to the Stallion Station.

Chapter 4.3 includes health risk assessments involving cancer risks that would be expected as a result of the proposed project. Impact 4.3-2 includes an assessment of potential impacts from localized concentrations of carbon monoxide (CO) and potential health risks resulting from exposure to toxic air contaminants (TACs). Regarding TACs, Table 4.3-11 on page 4.3-56 presents potential health risks from implementation of the proposed project related to DPM from off-road equipment. Table 4.3-12 on page 4.3-58 presents the potential health risks related to DPM from haul trucks. Table 4.3-13 on page 4.3-59 presents the potential health risks related to respirable silica. The Draft EIR concludes the following:

> The proposed project would not meet the YSAQMD's screening criteria for CO, and, thus, would not result in the exposure of receptors to substantial concentrations of CO. The potential for the proposed project to result in substantial increases in health risks relative to existing mining activity has been further analyzed through the preparation of detailed, project-specific health risk assessments for DPM and respirable silica. As discussed above, the proposed project would not result in substantial increases in health risks related to either of the foregoing pollutants. Consequently, the proposed project would not result in the exposure of receptors to substantial pollutant concentrations, and implementation of the proposed project would result in a ***less-than-significant*** impact.

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California
Department of Conservation
Division of Mine Reclamation

Gavin Newsom, Governor
David Shabazian, Director

Letter 14

February 1, 2021

Ms. Stephanie Cormier
County of Yolo
Department of Community Services
292 West Beamer Street
Woodland, CA 95695

Copy sent via email: stephanie.cormier@yolocounty.org

Subject: Teichert Shifler Draft Environmental Impact Report
State Clearinghouse No. 2019089053

Dear Ms. Cormier:

14-1 Thank you for including the Department of Conservation's Division of Mine Reclamation (Division) in the environmental review process for the Teichert Shifler Mine Project (Proposed Project) Draft Environmental Impact Report (EIR). The Draft EIR indicates that Yolo County (County) is the lead agency under the California Environmental Quality Act (CEQA) for the Proposed Project.

14-2 Teichert Aggregates is proposing to conduct mining and reclamation activities on 277.1 acres and undertake modifications to portions of the Moore and Magnolia Canals. The Proposed Project includes mining 41.6 million tons of aggregate resources (sand and gravel) over a requested 30-year period at an annual rate not to exceed 2.6 million tons mined per year. Mining is proposed in two phases moving from north to south, and reclamation is proposed in three phases resulting in approximately 85.8 acres of agricultural land on the west, approximately 30.9 acres of agricultural land on the east, a 112.0 acre open water tank in the central portion of the proposed mining area, 23.9 acres of riparian habitat along the lake frontage, and 23.6 acres in grassy slopes and access roads.

14-3 The Proposed Project description includes the following elements that have a nexus with the Surface Mining and Reclamation Act of 1975 (SMARA; Public Resources Code [PRC] Section 2710 et seq.):

- Relocation of a segment of Moore Canal to the northerly portion of the site and modification of Magnolia Canal to align with the relocated Moore Canal
- Continued operation and expansion of the Teichert Woodland Plant facilities (including new equipment and increased processing capacity)
- Excavation and reclamation at the Shifler site
- Extend operation of the Woodland Plant site commensurate with the requested 30-year mining permit, delaying reclamation at the site
- Completion of an in-channel gravel bar removal project

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Ms. Cormier
Teichert Shifler Draft EIR
February 1, 2021

The Division has review responsibilities associated with lead agency implementation of SMARA. SMARA provides a comprehensive surface mining and reclamation policy to assure that:

14-4

- Adverse environmental effects of surface mining operations are prevented or minimized and mined lands are reclaimed to a usable condition which is readily adaptable for alternative land uses
- Production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment
- Residual hazards to the public health and safety are eliminate

The Division's primary focus is on active surface mining operations; however, the Division also addresses issues related to abandoned (pre-1976) legacy mines. Division staff has reviewed the subject Draft EIR pursuant to the CEQA and State CEQA Guidelines and offers the following comments at this time:

14-5

- Division staff will provide comments on the Reclamation Plan for this proposed mining activity once the Division receives the complete Reclamation Plan and any supporting documents along with the statement from the County that certifies the submission as complete and in accordance with PRC Section 2772.1(a)(3)(A-C).
- Division staff will provide comments on the Financial Assurance Cost Estimate for the Proposed Project in accordance with PRC Section 2773.4(a-c).

14-6

The Division requests to be included on the distribution list for this Proposed Project. Additionally, the Division requests that any subsequent project documents (e.g., hearing notices for the Draft and Final EIRs and any supplemental environmental documents), as well as a copy of the certified Final EIR, be sent to the Division at DMR-Submittals@conservation.ca.gov. If you have any questions, please contact one of us at (916) 323-9198.

Sincerely,

DocuSigned by:
Carol E Atkins
73ECCB6738194DA...
Carol E. Atkins
Manager
Environmental Services Unit

DocuSigned by:
Claire Meehan
7C67E0775504421...
Claire Meehan
Restoration Ecologist
Environmental Services Unit

ec: State Clearinghouse, state.clearinghouse@opr.ca.gov
Department of Conservation, Office of Legislative and Regulatory Affairs; OLRA@conservation.ca.gov

LETTER 14: CAROL E. ATKINS AND CLAIRE MEEHAN, CALIFORNIA DEPARTMENT OF CONSERVATION

Response to Comment 14-1
Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. The comments are noted for the record.

Response to Comment 14-2
The comment summarizes several of the main components of the proposed project. The Draft EIR discusses the components of the proposed project in Chapter 3, Project Description, starting on page 3-12. However as noted in Section 1.3 of Chapter 1 of this Final EIR, the applicant has recently modified their application to request approval of the Moore Canal Avoidance Alternative, which is Alternative 4 in the Draft EIR. The Division of Mine Reclamation (DMR) has conducted their review of the proposed revised reclamation plan and concluded in their letter dated September 2, 2021 they have no comments at this time.

Response to Comment 14-3
The comment summarizes the various key components of the proposed project. Bullet number one (relocation of the Moore Canal) is no longer a component of the project. Please see Response to Comment 14-2 regarding recent changes to the project proposal.

Response to Comment 14-4
The comment addresses the review responsibilities of DMR associated with lead agency implementation of SMARA and lists goals of SMARA. No response is necessary.

Response to Comment 14-5
The comment notes the Division will comment on the proposed project's Reclamation Plan and Financial Assurance Cost Estimate, pursuant to PRC requirements, once a complete Reclamation Plan and supporting documents are submitted. As noted above, DMR has already conducted a review of the project as originally proposed and as revised, and informed the County on February 17, 2021 and September 2, 2021 that no comments from the Division were merited at this time.

Response to Comment 14-6
The commenter requests to be included on the project distribution list and to receive all documents and notices. The County has placed the agency on all relevant distribution lists and will continue to provide DMR with all documents and notices.

Thank you for participating in the process. The comments are noted for the record.

Letter 15

Teichert Draft EIR Comments

01-31-21

I am Lachi Richards from the Wild Wings community. I live at 18111 Mallard Street, Woodland CA, 95695. I have comments on the following three sections of the Draft Teichert EIR for the Teichert Shifler Mining and Reclamation Project.

Moore Canal Relocation:

15-1

1. I have concerns about the relocation of the Moore Canal, as follows: The Wildwings subdivision discharges storm drainage for the Wildwings Golf Course and about half of the Wildwings community to the Moore Canal, through 3 drainage gates. Storm drainage from the Wildwings streets and golf course ponds all drain into a pond (Watts Pond) located on the west side of the Watts Airport. From there flow drains through piping to a ditch along Road 94B, and then into the Moore Canal. The gates are located at the intersection of Road 94B and the canal, on the south side of the canal, as shown below.

2. There is not very much fall between the Watts Airport drainage ponds and the Moore Canal. In heavy rains this leads to flooding of the airport runways, and water backing up into the streets of Wildwings.
3. My concern is that if the canal is relocated, the canal will have to be longer, thus potentially making the head higher at the intersection where the Wildwings storm

drainage enters the canal. Higher head at this location would result in making the existing problem with flooding worse.

Request 1: I request that the hydraulics of the canal be examined not just for capacity (flow-rate) but for changes in head (how high is the water in the canal) at the intersection of Road 94B, from the current condition to the future condition with any changes in alignment. If the head is increased at the Wildwings inlet, I request that the geometry of the canal be enlarged as needed, so as to reduce the head, to match the current condition.

Hydrology and Water Quality:

4. On Page 4.8-9, paragraph 2, line 11, states that the Canvas Back well ceased operations in 2019 due to high arsenic levels. The 2019 date should be changed to 2009, which is when the well ceased operations due to high arsenic. LSCE has the backup data for the 2009 date, or I can send you the pertinent data.

15-2

Request 2: I request that the date that the Canvas Back Well was taken off line be changed from 2019 to 2009.

5. I note that the monitoring and sampling requirements and other mitigation measures apply to people and wells located within 1,000 feet of the Teichert mine. The Wildwings Canvas Back well is located about 1,150 feet from the mining area.

15-3

Request 3: I request that that mitigation measures that apply to 1,000 feet distances allow for the inclusion of the Canvas Back well too. In part, because that one well will impact over 1,000 people, and in part because water quality or well level changes tend to gradually change over distance and are not likely to switch from a "Substantial Impact" to "No Impact" just outside of the 1,000 range.

6. On Page 4.8-29, paragraphs 3, 4, and 5, all prohibit the "substantial" degradation or decrease in water quality, water supplies, or drainage patterns. However, "substantial" does not seem to be defined in this section as it relates to hydrology.

15-4

Request 4: I request that a definition for the word "substantial" as it relates to hydrology be defined and inserted into the report.

Transportation and Circulation:

7. The entrance/exit road to the Wildwings community (Wildwings Drive) is located along Hwy 16, which is on the haul route for the Teichert trucks. Wildwings Drive currently experiences traffic backups primarily during the morning commute time when people exit the community and make a left-hand turn (east bound) onto Hwy 16.

15-5

I noted that the traffic study for Teichert was done for various intersections along Hwy 16 and other locations but a traffic study **was not done for the Wildwings community entrance**.

15-6

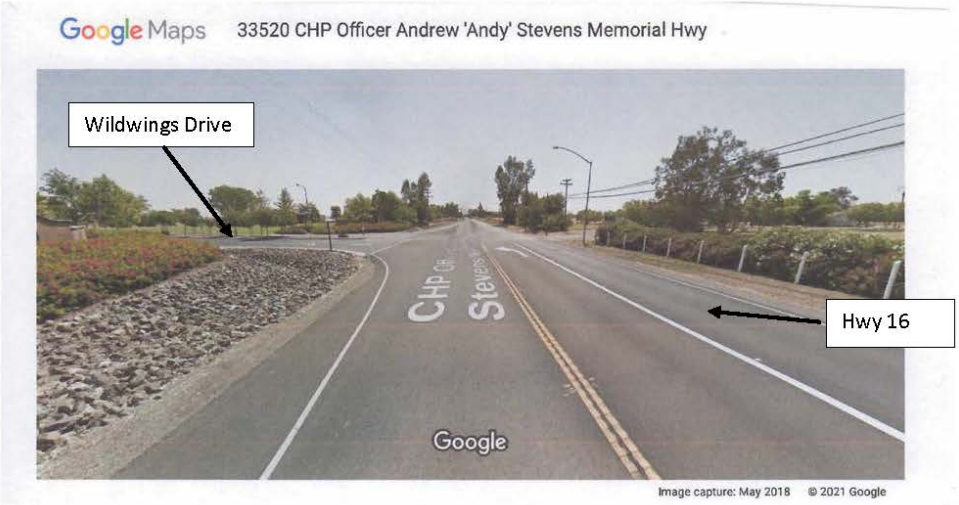
8. Looking at the traffic study I can see that the roads closest to Wildwings Drive, Road 94 B and Road 96, are going to be significantly impacted and service will go from Level of Service D to Level of Service F, in 3 of the 4 Teichert scenarios. I imagine that as Wildwings has about 1,000 residents all exiting in the same time frame during the morning commute hours, and with no other exit choices, that Wildwings has the potential to be impacted even more than the intersections at Road 94 B and Road 96.

Request 5: I request that the Wildwings community be included in the traffic study or that the Wildwings Drive intersection be assigned a status of "The Impact Would Be Significant" without actually performing the traffic study. I believe that a traffic study conducted now during the time of Covid and Lock Downs would not be representative of "normal" traffic patterns.

9. I looked at the number of truck trips per year, which I understand from Jason at Teichert to be 88,000, and looked at Page 4.12-18, paragraph 5 which states that about 29% of those trucks will be passing by Wildwings Drive. That equates to 85 trucks per hour on average passing the Wildwings intersection. According to Table 4.12-14 the current delays during peak pm hours is 268 seconds at the intersection at 94B. It looks like there will be a truck every 42 seconds with Scenario 4, which could make it very difficult to make a left turn onto Hwy 16 from Wildwings Drive.

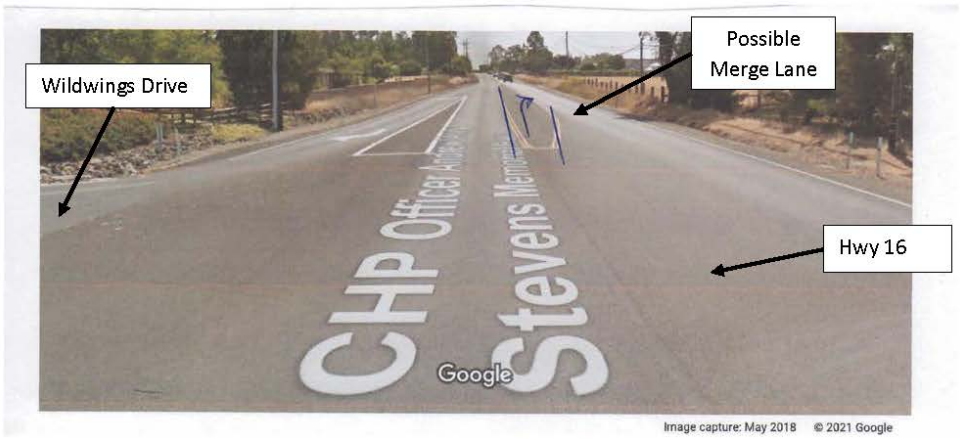
15-7

10. It appears that Wildwings Drive service is going to be degraded by the addition of 85 trucks per hour during commute times. I am concerned that since both lanes of traffic need to be crossed at the same time for east-bound travelers on Hwy 16, that accidents will occur.



Looking East on Hwy 16 at Intersection of Wildwings Drive

15-7



Location of Possible Merge Lane

15-8

Request 6: I request that the addition of a left turn merge lane added to the intersection to alleviate this issue, be studied. It looks like there is enough right-of-way that an additional lane might be able to be added with just restriping of the intersection, and/or with the addition of a minimal amount of asphalt. I understand that Caltrans has the final authority on this intersection as it is on a Hwy, but would like the Teichert EIR to pursue this issue with Caltrans.

15-9

1. I see on Page 4.12-35 that the mitigation measure suggested for the "Significant Impact" at the intersections of 94 B and Road 96 is as follows:

   "The applicant shall install 5 percent shoulders with a 2:1 back slope along both sides of CR 96, for the approximately one-mile segment between CR 20 and CR 16."

Request 7: I don't understand what a "5 Percent Shoulder" entails and I don't understand how work on the shoulder of the road will improve the intersection. Would you explain the reasoning for this mitigation?

15-10

Request 8: I also don't understand why a mitigation measure is required for Road 96 on Page 4.12-35 but not for Road 94B. When both are stated to be significantly impacted on Page 4.12-34, paragraph 2 and 3. Would you explain the reasoning for the exclusion of Road 94B from mitigation measures?

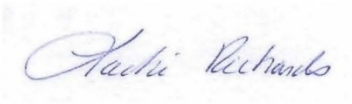
15-11

Request 9: Would you add units and definitions to the Tables in the Traffic Section? For instance, what is a PTSF% on Table 4.12-15, or a pcplpm on Table 4.12-17, does "Cumulative" on Table 4.12-14 mean "Existing", etc.?

15-12

Request 10: It would be helpful if you added a paragraph on the number of trucks expected on the haul roads in addition to the Vehicle Miles Traveled that is presented.

Sincerely,



Lachi Richards

LETTER 15: LACHI RICHARDS, RESIDENT

Response to Comment 15-1
Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record.

Appendix J, dated March 31, 2021 from Cunningham Engineering, provides a detailed response to this comment supporting the conclusion that the design of the relocated canal would not increase the water surface elevation west of CR 94B.

As noted in Section 1.3 of Chapter 1 of this Final EIR, the applicant has revised their proposal to request approval of the Moore Canal Avoidance Alternative which is analyzed as Alternative 4 in the Draft EIR. Please see Response to Comment 7-7.

Response to Comment 15-2
The comment identifies an error in the Draft EIR on page 4.8-9 (second paragraph), where the Canvas Back well is identified as ceasing operation in 2019. This is a typographical error and should be 2009. A correction is provided in Chapter 4 and the LSCE 2020 Groundwater Memo, included as Appendix K2 in the Draft EIR, is hereby corrected for the record.

Response to Comment 15-3
Please see MR-4, "Hydrology and Water Quality," and Response to Comment 13-12.

Response to Comment 15-4
Please see Response to Comment 13-13.

Response to Comment 15-5
Please see MR-3, "Transportation and Circulation."

Response to Comment 15-6
Please see MR-3, "Transportation and Circulation," concerning effects of the proposed project on the SR 16/Wildwing Drive intersection. Traffic counts analyzed in the Traffic Study were prior to the onset of the COVID-19 pandemic, and thus, serve as an appropriate baseline for the purposes of analyzing existing traffic conditions.

Response to Comment 15-7
The commenter incorrectly estimates the level of truck traffic associated with implementation of the proposed project. If 2.2 million tons per year sold of material is approved at the Woodland Plant, the total number of trips from the plant would be approximately 176,000 per year (88,000 loads and two trips per load). Such an amount would equate to roughly 51,040 trips passing through the SR 16/Wildwing Drive intersection on an annual basis. Assuming 270 workdays, approximately 189 truck trips would pass through the intersection on a daily basis.

Please see MR-3, "Transportation and Circulation," concerning the effects of the proposed project on the SR 16/Wildwing Drive intersection.

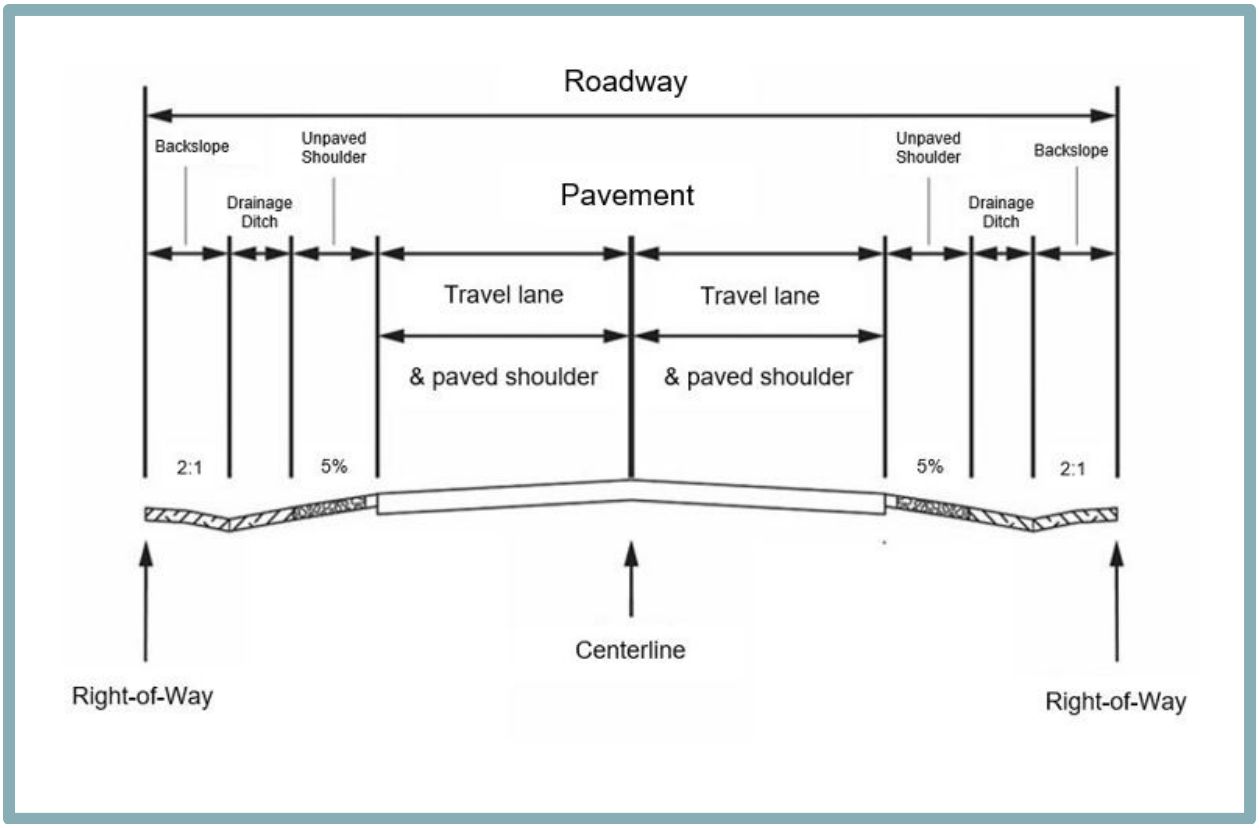
Response to Comment 15-8

Please see MR-3, "Transportation and Circulation," concerning the effects of the proposed project on the SR 16/Wildwing Drive intersection.

Response to Comment 15-9

As described on page 4.12-35 of the Draft EIR and addressed in MR-3, "Transportation and Circulation," the project applicant would be required to install shoulders along both sides of CR 96, between CR 20 and SR 16. The County has made clarifying edits to this requirement in Chapter 4 of the Final EIR.

The shoulder would slope down away from the edge of pavement at a five percent grade. The 2:1 backslope refers to the steepness of the dirt past the shoulder that rises to ground level. In other words, the dirt past the shoulder cannot be steeper than one vertical unit for every two horizontal units. Rainfall runoff will sheet flow across the shoulder and backslope and continue in a concentrated flow where the existing grade meets the backslope. The figure below provides a conceptual cross-section of the required improvement, including the clarifications in Chapter 4 of this Final EIR:



State regulations and related case law restrict the County's ability to condition a project to contribute more than its fair-share to infrastructure improvements. The project's fair-share contribution would not fully fund improvements to address affected LOS at the intersections – at most it might contribute 20 percent of the needed funding. However, neither the County nor the State have any planned improvements at these intersections. Moreover, recent changes in CEQA preclude identifying changes in LOS as a CEQA transportation impact. In light of this, the County

Public Works Director identified alternative improvements involving installation of improved shoulders for the segment of CR 96, between CR 20 and SR 16. As described on page 4.12-35 of the Draft EIR:

> Full funding and installation of improvements to these intersections sufficient to alleviate the projected LOS deficiencies would constitute costs that are beyond the project's fair share contribution, and without inclusion in the County's CIP, the full funding for the improvements cannot be guaranteed. Alternatively, the County has identified an equivalent improvement for which there is a nexus to require full funding by the applicant, commensurate with their fair share based on trip contributions to the two intersections.

This improvement would improve road structure and road safety. In addition to the improvement on CR 96 as described above, MR-3, "Transportation and Circulation" also identifies that the project, if approved, will be required to contribute a fair share of costs for improvements at the intersection of SR 16 and Wildwing Drive.

Response to Comment 15-10

Please see MR-3, "Transportation and Circulation."

Response to Comment 15-11

Explanations and definitions for terms used in the tables presented in the Draft EIR are provided in the Traffic Impact Study (Appendix M1 of the Draft EIR). "Percent Time Spent Following" (PTSF) represents the freedom to maneuver and the comfort and convenience of travel. PTSF is a key service measure used by the *Highway Capacity Manual* for evaluating the LOS of two-lane highways. "Pcplpm" stands for passenger cars per lane per mile.

Table 4.12-6 on page 4.12-28 is hereby clarified to include the following note in the final row:

> Percent Time Spent Following (PTSF) represents the freedom to maneuver and the comfort and convenience of travel.

In addition, Table 4.12-10 on page 4-12-31 is hereby clarified to include the following note in the final row:

> Note: Pcplpm stands for passenger cars per lane per mile.

With respect to the commenter's question regarding the "cumulative" setting addressed in Table 4.12-14 on page 4.12-34 of the Draft EIR, cumulative baseline conditions traffic volumes were developed using a modified version of the SACMET regional travel demand model developed by the Sacramento Area Council of Governments (SACOG) for the Metropolitan Transportation Plan (MTP)/Sustainable Communities Strategy (SCS) update. As noted on page 4.12-30 of the Draft EIR, the cumulative baseline conditions analysis assumes the Woodland and Esparto plants will be operating at full capacity (1.2 million tons per year production at Woodland and 1 million tons per year production at Esparto), based on the allowed production allotments. Please see MR-3, "Transportation and Circulation," for further information on the probable future growth in the County accounted for in the cumulative baseline analyses.

Response to Comment 15-12

The Traffic Impact Study prepared for the proposed project (Appendix M1 of the Draft EIR) includes a project trip distribution breakdown on page 21, and includes the following:

> Project generated traffic volumes were distributed to the surrounding roadway network based on existing travel patterns at the Woodland Plant. Project trips were distributed based on the following:
>
> - 4% to/from north on I-5 via County Road 20 and County Road 98
> - 67% to/from south on I-5 via County Road 20 and County Road 98
> - 5% to/from north on I-505 via County Road 20, County Road 96, and SR 16
> - 20% to/from south on I-505 via County Road 20, County Road 96, and SR 16
> - 4% to/from west on SR 16 via County Road 20 and County Road 96

In addition, Figure 3 on page 22 provides an illustration of the project trip distribution.

Thank you for participating in the process. The comments are noted for the record.

Letter 16

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY GAVIN NEWSOM, Governor

DEPARTMENT OF TRANSPORTATION
District 3
703 B Street
MARYSVILLE, CA 95901–5556
(530) 634-7616
TTY 711
www.dot.ca.gov

Making Conservation
a California Way of Life.

February 1, 2021

GTS# 03-YOL-2020-00136
SCH# 2019089053

Stephanie Cormier
Principal Planner
Department of Community Services
Yolo County
292 West Beamer Street
Woodland, CA 95695

Teichert Shifler Mining and Reclamation Project – Draft Environmental Impact Report (DEIR)

Dear Ms. Cormier:

16-1 Thank you for including the California Department of Transportation (Caltrans) in the review process for the project referenced above. Caltrans' new mission, vision, and goals signal a modernization of our approach to California's transportation system. We review this local development for impacts to the State Highway System (SHS) in keeping with our mission, vision, and goals for sustainability/livability/economy, and safety/health. We provide these comments consistent with the State's smart mobility goals that support a vibrant economy, and build communities, not sprawl.

16-2 The proposed project consists the mining of 41.6 million tons (35.25 million tons sold) of aggregate resources (sand and gravel) over a requested 30-year period at an annual rate not to exceed 2.6 million tons mined per year (2.2 million tons sold). Mining is proposed in two phases and reclamation is proposed in three phases to reclaim 116 acres of agricultural uses and 161 acres of pond and habitat uses. This proposed project is located in Yolo County, near the city of Woodland. The Woodland mining facility is approximately 1.7 miles northwest of the intersection of State Route 16 / County Road 96 and the Esparto mining facility is approximately 2.6 miles southwest of the Interstate 505 / County Road 19 interchange. Based on the information received, Caltrans provides the following comments.

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Stephanie Cormier
February 1, 2021
Page 2

Traffic Operations

16-3 Caltrans anticipates an increase of traffic from the Teichert Woodland Plant facility which will increase traffic at the intersections of State Route 16 and County Road 96 and State Route 16 and County Road 94B. To mitigate the additional traffic, Caltrans recommends installing an eastbound and westbound acceleration lane on State Route 16 to improve turning movement for trucks entering the highway. Additionally, installing a left turn lane on County Roads 94B and 96 would improve turning movement for trucks.

16-4 Please explain the methodology on how the traffic volumes between scenarios one and four in the Transportation and Circulation section of the DEIR (page 4.12-29) were calculated. The projected increase of 13 vehicles between the two scenarios appears to be low.

16-5 Please provide our office with copies of any further actions regarding this project. We would appreciate the opportunity to review and comment on any changes related to this development. If you have any questions regarding these comments or require additional information, please contact Nick Hernandez, Intergovernmental Review Coordinator, at (530) 634-7618 or by email at: nick.hernandez@dot.ca.gov

Sincerely,

Alexander Fong

ALEX FONG
Acting Branch Chief, Transportation Planning – South
Planning, Local Assistance, and Sustainability
Caltrans District 3

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

LETTER 16: ALEX FONG, CALTRANS DISTRICT 3

Response to Comment 16-1
Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. The comments about the project are noted for the record.

Response to Comment 16-2
The comment summarizes various components of the proposed project and describes the location of the project. The Draft EIR discusses the existing setting of the project site in Chapter 3, Project Description, starting on page 3-4. The Draft EIR discusses the components of the proposed project in Chapter 3, starting on page 3-12.

Response to Comment 16-3
The County appreciates the suggestion for possible mitigation measures. As explained in MR-3, "Transportation and Circulation", a project's effect on automobile delay generally no longer constitutes a significant transportation impact under CEQA. There is already a left-turn lane at SR 16 and CR 96. CR 94B is not a haul route, so the suggested improvements would not be necessary at that location. The County has identified an alternative requirement that the project widen the shoulders along CR 96, which will improve safety and operations along that corridor. Please see MR-3, "Transportation and Circulation."

Response to Comment 16-4
It is assumed that the comment refers to the increase of 13 eastbound vehicles and 13 westbound vehicles during the AM peak hour on CR 96 (CR 20 to SR 16) and SR 16 (CR 96 to I-505) estimated in the Traffic Study. As stated on page 4.12-18 of the Draft EIR, under Scenario 1, the project is estimated to generate 110 AM peak hour trips (55 inbound/55 outbound) and under Scenario 4, the project is estimated to generate 202 AM peak hour trips (101 inbound/101 outbound) which are distributed to the surrounding roadway network. Page 4.12-18 also provides an estimate of trip distribution, such that a total of 29 percent of the AM/PM truck traffic would be expected to use CR 96 (CR 20 to SR 16) and SR 16 (CR 96 to I-505). The increase in trip generation between Scenarios 1 and 4 would be 46 inbound and 46 outbound trips, of which 13 inbound and 13 outbound trips (29 percent) would travel between the Woodland Plant and I-505 by way of SR 16.

Response to Comment 16-5
The Caltrans District 3 office is included on the distribution list for the proposed project. Subsequent project documents will be submitted to Caltrans District 3. Thank you for participating in the process. The comments about the project are noted for the record.

Letter 17

From: Ser Gio [mailto:sgio2014@yahoo.com]
Sent: Monday, February 1, 2021 7:17 PM
To: Stephanie Cormier <Stephanie.Cormier@yolocounty.org>
Subject: DEIR

Hello Stephanie Cormier,

17-1 I hope this is the right place and you are the correct person to send this to. I reviewed the DEIR for the Teichert Mining Project, not the whole thing since it is humongous and not always easy to understand. I mostly want to say that me and my family are still concerned regarding the impact of the traffic on the county roads. No matter what the project proposes, this project means more traffic from the mining trucks and casino workers/consumers. There is still not a way to slow down the traffic on County Road 96 either. This is where we live which places us less than 2 miles from the proposed project; I'm guessing it's 1 mile from us.

17-2

17-3 We also continue to be concerned about our well water being affected by this project. I understand that there are wells that are being monitored, but this does not include our well and this is prior to this project occurring. What happens if our well is affected? What guarantee do we have that our water will not be affected?

17-4 Thank you for receiving these comments.

Sincerely,

Monique Marin

LETTER 17: MONIQUE MARIN, RESIDENT

Response to Comment 17-1
Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record. The County realizes the Draft EIR is large and appreciates the effort of those who review the document.

Response to Comment 17-2
The concerns of the commenter are noted. Please see MR-3, "Transportation and Circulation," specifically in regard to the proposed project's potential impacts to LOS of project area roadways.

Response to Comment 17-3
Please see the Response to Comment 15-3 and MR-4, "Hydrology and Water Quality."

Response to Comment 17-4
Thank you for participating in the process. The concerns about the project are noted for the record.

Letter 18

From: Julie Payne [mailto:payne1109@sbcglobal.net]
Sent: Tuesday, February 2, 2021 9:45 AM
To: Stephanie Cormier <Stephanie.Cormier@yolocounty.org>
Cc: Gary Sandy <Gary.Sandy@yolocounty.org>; Angel Barajas <Angel.Barajas@yolocounty.org>
Subject: Teichert/Schifler mining project

To Whom it may concern:

18-1 "Yolo County is a middle-sized rural/suburban county with a strong commitment to the preservation of agriculture and open space. "
This quote is taken from the Yolo County website. This statement is a direct contradiction to the Teichert/Shifler mining project.
This project will take 267.50 acres of Prime Farm Land out of production. There is no way to replace this land. 116.70 acres of the land will be returned to farming, but once the topsoil is removed it will no longer be Prime Farm Land.

18-2 My family owns 2 homes next to the gravel plant, and another home directly adjacent to the proposed new mining project. My family has owned the homes next to the gravel plant since before Teichert had their plant at that location, just so you know we didn't buy a house next to a gravel plant and then decide we don't like the noise!

18-3 In reading the EIR, it appears that currently Teichert is exceeding the noise levels at the homes we own. From the EIR, the noise is equivalent to a gas lawn mower or a diesel truck going 50 mph. Remember that at times this is 7 days a week, 24 hours a day. These readings were taken May 29,30 and 31. In the Teichert Schwarzgruber conditions of approval it states that the operating hours can be extended in August, September and October during their busy times. It seems that the noise levels shouldn't be based on three days when it's not their busy time and when they should not be operating nights during that time.

18-4 Odors
The EIR acknowledges that the asphalt plant at the Woodland Plant could represent an existing source of odor. When they are making asphalt, the odor at our homes next to the plant is so strong you can't be out in the yard. You can't open your windows, even on a beautiful spring evening because of the smell. To put it in perspective, it smells like your roof is being tarred for days at time. This definitely is impacting the quality of life living in the country.

18-5 Please keep in mind that the people living in the Willow Oak area have moved there for a way of life. This does not include mining the farm fields next to their homes, smelling asphalt or dealing with gravel trucks speeding down the narrow country roads and leaving garbage behind. Please think beyond the $$ and let's keep Yolo County an agricultural community.

Thank you,
Julie Payne

LETTER 18: JULIE PAYNE, RESIDENT

Response to Comment 18-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record.

The staff will ultimately develop a recommended action on the project, and the Planning Commission and Board of Supervisors will ultimately decide on the merits of the proposal. However, with adoption of the CCAP in 1996, the Board established policy that this area is an appropriate location for mining, particularly in light of the fact that mining is precluded elsewhere in the County. Unlike other urban land uses which can theoretically be located anywhere, mining can only occur where the resource exists. Yolo County further limits that area to a few thousand acres and applies rigorous standards and requirements through the CCAP. In addition, please see MR-5, "Agricultural Considerations."

Response to Comment 18-2

The commenter notes the homes owned by the commenter's family, which are in proximity to the Woodland Plant and the project site. The commenter points out the homes have been in the family's possession since before the project applicant had started operations at the Woodland Plant. The comment is noted for the record.

Response to Comment 18-3

Regarding the commenter's mention of the existing noise levels of Teichert Aggregates' operations, please see the Draft EIR discussion on the specific standards established by the OCSMO related to noise, which starts on page 4.10-15 of Chapter 4.10, Noise. With respect to the commenter's mention of how noise levels were assessed at existing sites operated by Teichert Aggregates, please see the discussion under the Method of Analysis heading on page 4.10-18. The Method of Analysis section includes the following:

> Baseline (i.e., existing) traffic conditions for the existing Woodland and Esparto Plants were developed using the average annual production over the previous ten-year period. Calculating the baseline traffic conditions based on the average annual production of the previous ten-year period accounts for the typical variation in demand for aggregate materials, including periods of high and low production and, thus, provides a realistic representation of existing conditions. In the subject analysis the use of this average is conservative as it covers a period of depressed economic activity associated with emergence from the Great Recession of the late 2000's.
>
> BAC evaluated traffic noise levels for existing traffic conditions using the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108), which is based on the Calveno reference noise factors for automobiles, medium trucks, and heavy trucks and takes into consideration metrics such as vehicle speed, volume, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model was developed to predict hourly Leq values for free-flowing traffic conditions. The existing traffic on roadways within the vicinity of the project site was categorized for noise purposes into automobiles, medium duty trucks (two axles), and heavy-duty trucks (three or more axles). Heavy truck volumes in the immediate project vicinity primarily consist of agricultural, commercial, and aggregate industry trucks. Truck traffic associated

> with ongoing operations at the Teichert Woodland Plant and other associated operations was estimated based on past trip generation data from the facility.

The Draft EIR analyzes the proposed project's potential to generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project site in excess of County standards under Impact 4.10-1, starting on page 4.10-9. The analysis notes that the primary sources of noise associated with the project would be heavy-duty equipment operation associated with excavation and overburden material, traffic noise associate with haul truck traffic on local roadways, and potentially an indirect increase in noise generation at the Woodland Plant. The Draft EIR concludes that with incorporation of Mitigation Measures 4.10-1(a) and (b), the proposed project would result in a less-than-significant impact, and includes the following description of the required mitigation measures:

> Implementation of Mitigation Measure 4.10-1(a) would reduce hourly noise exposure to 60 dB Leq or less at the Receptors 1 and 6, located east and west of the project site, respectively. In addition, Mitigation Measure 4.10-1(b) would ensure that noise levels associated with processing activities at the Woodland Plant would be reduced to at or below the existing ambient noise levels shown in Table 4.10-2 above. Thus, the above impact would be reduced to a *less-than-significant* level.

The noise measurement and modeling were associated with maximum capacity of plant operations. Therefore, it should be noted that noise levels from project operations would not change during the project applicant's busy season. The busy season would increase the duration of operations, but not the level of noise produced by operations. In summary, the noise analysis was properly conducted, meets industry standards, and is adequate to support the conclusions within the EIR.

Response to Comment 18-4

With respect to the operations of the existing Woodland Plant, which includes an asphalt plant, the Draft EIR notes the following under Impact 4.3-3, on page 4.3-61:

> Although the proposed project would include increased throughput of aggregates at the Woodland Plant, the operations and capacity of the asphalt plant would not be altered with implementation of the proposed project. Because operations of the asphalt plant would not be altered, and existing operations have resulted in only a single complaint, which was resolved, the proposed project would not result in any new or more substantial impacts related to odors from the existing asphalt plant.

Based on the conclusion of the analysis of Impact 4.3-3, the impact is identified as less than significant. Notwithstanding the analysis in the Draft EIR, the commenter's experience living near the plant is noted. Mining is an allowed use in agricultural zones. Both mining and agriculture can emit smells during normal operations; this is an acknowledged component of living in a rural area.

Response to Comment 18-5

The comment expresses the commenter's opposition to the project. Please see MR-1, "Comments Regarding the Merits of the Project." Thank you for participating in the process. Concerns about the project are noted for the record.

Letter 19

From: Dayle Murray |mailto:drdayledds@gmail.com|
Sent: Tuesday, February 2, 2021 12:16 PM
To: Stephanie Cormier <Stephanie.Cormier@yolocounty.org>
Subject: Gravel mining project

19-1 Stephanie, I have two major concerns about the project. The noise will be very close to the Wild Wings development for the next thirty years. This quiet and peaceful community of 334 homes will never be quiet or peaceful for the next thirty years. The mining starts at 6 am and goes until 8 pm seven days a week. 8-5 five days a week would be too much let alone the around the clock option.

19-2 My second concern is this will kill our property values. Totally unfair to all of us home owners. Many of us work from home and several of us are retired at home. We would never get any respite from the mining noise for the next thirty years. Quality of life would go right out the door. Nobody would want to move here with the annoying noise round the clock. We would have to give our homes away if we elected to move from here. I cannot support this project. Dayle K Murray DDS.

LETTER 19: DAYLE K. MURRAY, RESIDENT

Response to Comment 19-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record.

The Draft EIR analyzes the potential of the proposed project to generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project site in excess of noise standards established by the County's OCSMO under Impact 4.10-1, starting on page 4.10-19. As part of the analysis, the Draft EIR evaluates the potential noise effects of the project's heavy-duty equipment operation associated with excavation of overburden material, traffic noise associated with haul truck traffic on local roadways, and indirect increases in noise generation at the existing Teichert Woodland Plant. Noise generated above OCSMO standards is identified as a significant impact. As noted on page 4.10-24, the Draft EIR concluded initial overburden removal operations using self-elevating scrapers could result in new exceedances of the County's applicable 60 dB L_{eq} noise standard at Receptors 1 and 6, and the relocation of processing equipment to the Woodland Plant could result in increased noise levels associated with plant operations. With respect to the commenter's concerns of project noise experienced by residents of the Wild Wings subdivision, the Draft EIR determined project noise would not exceed OCSMO standards at Receptors 4 and 5, which are located between the Shifler project site and the Wild Wings subdivision. Therefore, residents of the neighborhood would not experience project noise above OCSMO standards. To ensure project noise levels do not impact Receptors 1 and 6, situated immediately to the east and west of the project site, respectively, Mitigation Measures 4.10-1(a) and (b), would be required as part of project approval, and would reduce such impacts to a less-than-significant level, as noted under Impact 4.10-1:

> Mitigation Measure(s)
> Implementation of Mitigation Measure 4.10-1(a) would reduce hourly noise exposure to 60 dB L_{eq} or less at the Receptors 1 and 6, located east and west of the project site, respectively. In addition, Mitigation Measure 4.10-1(b) would ensure that noise levels associated with processing activities at the Woodland Plant would be reduced to at or below the existing ambient noise levels shown in Table 4.10-2 above.

With incorporation of mitigation, Impact 4.10-1 is concluded to be less than significant.

Response to Comment 19-2

Please see MR-2, "Property Value Considerations." As part of the Draft EIR's analysis, impacts commonly associated with quality of life, such as potential environmental impacts related to aesthetics, air quality, hydrology and water quality, and noise, are assessed in various chapters throughout the Draft EIR.

Thank you for participating in the process. The commenter's opposition to the project is noted for the record.

Letter 20

Please address these comments in the Final EIR.

20-1

1. From the time of its introduction of this project to the public, up to and including this document, the impact of removal of 100's of acres of farmland has been minimized in at attempt to downplay this destruction. The lead planner, in 2019, used the words "scoped out" to address the non-inclusion of 'conflicts with agricultural zoning or the Williamson Act'. That seems to have made this issue a non-starter, as the 8 key proposed elements, listed in the first paragraph of the introduction make no mention of the loss of farmland, despite the fact that Yolo County professes to have a commitment to preserving—and valuing—agriculture. This deliberate downgrading is carried through the entire document, in spite of the one small sentence (Page 4.2-28) "In summary, impacts related to the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide importance to non-agricultural uses would be SIGNIFICANT." It is totally inappropriate to understate this. As stated on the next page, 'due to the net loss of Farmland, the impact would remain significant and unavoidable' despite a reclamation plan that is then outlined. To illustrate the magnitude of the impact, the Final EIR needs to show graphically the efficacy of reclamation of the properties that have previously been mined and "reclaimed" to agriculture. The preparers need to show data for the Muller, Hollar, and Coors-Fong, all done under the auspices of Teichert, as well as projects by Granite Construction, Syar Industries and Cemex (Solano Concrete for which there should be more than 20 years of data. This should include the type of crop planted and yields thereof, as well as the percentage of cropland for each relative to the total area mined.

20-2

20-3

2. Also, since it is the nearest in proximity, clear and complete information on the Storz mining site needs to be included for comparison and guidance. What is the timeline for completion of reclamation there? Did reclamation begin as soon as mining was ended? What is the depth of the (exposed) water (table) there? What was it during the drought years (2015-16) and after the heavy rains of 2019? This will provide the public with information on the impacts and outcomes of the "lake" that will result from the Shifler proposal. Will this lake be likewise off-limits to the public and have surveillance cameras? Provide details from Yolo County Mosquito Abatement of results of their surveys for West Nile Virus and other vector-borne disease tested for in the Storz pit.

Comments submitted by Janet Levers, 36750 CR 20, Woodland, CA 95695

LETTER 20: JANET LEVERS, RESIDENT

Response to Comment 20-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record.

The Draft EIR analyzes relevant potential impacts to agricultural resources, as established through significance criteria developed from Appendix G of the CEQA Guidelines and applicable County policies and regulations. The significance criteria are listed on page 4.2-22 of the Draft EIR.

The commenter references CEQA significance threshold II.b related to conflicts with zoning or Williamson Act. This issue is described on page 4.2-22 as being determined to be less-than-significant in the early Initial Study for the project. This conclusion was reached because mining is an allowed use in the agricultural zone and because there is no Williamson Act contract on the project site. This is an accurate conclusion. The Draft EIR describes that because of this conclusion, the issue is not further discussed in the Draft EIR. This is appropriate under CEQA, but does not mean the Draft EIR ignores agricultural impacts. Chapter 4.2 of the Draft EIR fully analyzes all impacts with the potential to occur as a result of the project.

Under Impact 4.2-1 (pages 4.2-23 through 4.2-29) the conclusion is reached that impacts related to the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses would be significant and unavoidable even with the inclusion of identified feasible mitigation.

Please also see MR-5, “Agricultural Considerations,” and Response to Comment 7-4.

Response to Comment 20-2

Please see MR-5, “Agricultural Considerations,” and Response to Comment 7-4.

Response to Comment 20-3

As noted on page 3-3 of the Draft EIR, the Storz property is currently being reclaimed to habitat uses, including open water and riparian wetland. Agricultural reclamation will not occur at the Storz site. The Storz lake was approved for dedication to the County following reclamation, as part of the Cache Creek Parkway. In the Cache Creek Parkway Plan, Open Space Inventory and Baseline Improvements document (page 59), the reclaimed site is identified as providing future opportunities for passive lake recreation and potentially as appropriate for inclusion in the County’s HCP/NCCP habitat reserve system. Conjunctive use for groundwater recharge is also identified as a possibility.

Please see MR-4, “Hydrology and Water Quality,” and MR-5, “Agricultural Considerations,” which address groundwater data associated with the project applicant’s previous and ongoing activities at the Coors, Storz, Haller, Muller, and Schwarzgruber properties and County policy that pertains to the reclamation of previously mined lands to agriculture. In addition, please see Appendix G to this Final EIR, which pertains to the project applicant’s reclamation of aggregate mining sites in the County.

Concerning the commenter's questions regarding mosquito abatement at the Storz site, the Yolo Mosquito and Vector Control District (YMVCD) (Lexie Pack, YMVCD, personal communication with Jason Smith, Teichert, August 4, 2021) confirmed they placed mosquito fish in the Storz pond in 2017 and have been monitoring the fish annually since that time, including as recently as February 2021. There have not been any known issues related to mosquitos or vector borne illness in the area.

Letter 21

From: Lachi Richards |mailto:cascade@saber.net|
Sent: Tuesday, February 2, 2021 1:56 PM
To: Stephanie Cormier <Stephanie.Cormier@yolocounty.org>
Cc: Elisa Sabatini <Elisa.Sabatini@yolocounty.org>; 'Jason Smith' <JSmith@teichert.com>
Subject: RE: Teichert Draft EIR Comments

Hello Stephanie,

Three more comments!

21-1 1. Request from a Wildwings resident to add a flashing yellow light at the Hwy 16/Wildwings Drive intersection. (Transportation Section of EIR)

21-2 2. Request to state how much water is being pumped from the well at the Woodland Plant now vs in the future scenarios. (Hydrology Section of EIR)

21-3 3. Additional information regarding the Wildwings Canvas Back Well: Although the Canvas Back well is off line at this time, the CSA is in the midst of an Arsenic remediation project so that this well can be brought back on line at about 1,200 gpm. The Arsenic remediation project is anticipated to be online within the next year or two. (Hydrology Section of EIR)

Thanks Everyone,

Lachi

LETTER 21: LACHI RICHARDS, RESIDENT

Response to Comment 21-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record.

Concerning the request for improvements at the SR 16/Wildwing Drive intersection, please see MR-3, "Transportation and Circulation."

Response to Comment 21-2

On page 4.8-37 of the Draft EIR, the second bullet describes that Teichert proposes water use of 1,910 acre-feet/year maximum (average steady state flow rate of 1,184 gpm or 227,920 cubic feet per day based on 24 hours/day, 365 days/year operations). This amount would be in addition to 723 ac-ft/year or 448 gpm (steady state flow) for current operations, for a net increase in pumping of 1,187 ac-ft/yr or 736 gpm (steady state flow).

Response to Comment 21-3

The commenter provides information on the Canvas Back well. The information is appreciated and noted for the record. Please also see Appendix E.

Letter 22

City of Woodland

Community Development Department Engineering • 300 First Street Woodland, CA 95695 • (530) 661-5820 • www.cityofwoodland.org

February 2, 2021

Stephanie Cormier
Yolo County Community Services Department
292 West Beamer Street
Woodland, CA 95695

RE: Comments offered by the City of Woodland concerning Yolo County's Teichert Shifler Mining and Reclamation Draft EIR

Dear Ms. Cormier:

22-1 The City of Woodland would like to submit the following comments to Yolo County Community Services Department with regard to the proposed Teichert Shifler Mining Draft EIR. We appreciate the opportunity to provide comment on this project. The City is particularly concerned about impacts that may occur within and directly adjacent to the City's Sphere of Influence. The following comments summarize comments offered by the City.

Traffic Analysis

22-2 The project traffic analysis assumes that all I-5 bound vehicles will take CR96 to CR 20 to CR98 and then to I-5. We know from monitoring city traffic that many trucks use CR20 and continue eastbound on Kentucky Avenue through the city to access I-5 from West or East streets.

22-3 These alternate, non-preferred, routes create additional traffic congestion and increase pavement deterioration on City streets. It is recommended that the County condition Teichert to instruct all vehicles accessing the subject site, or the plant associated with the site, to utilize only roadways outside the Woodland city limits unless they are on direct routes to locations of business within the City of Woodland.

22-4 The City appreciates the opportunity to provide comments and looks forward to any follow up dialog on how to best address these concerns.

Thank you,

Brent Meyer
City Engineer/Acting CDD Director

1

LETTER 22: BRENT MEYER, CITY OF WOODLAND

Response to Comment 22-1
Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. The comments about the project are noted for the record.

Response to Comment 22-2
The use of West Kentucky Avenue is not an approved haul route for this project or any of the approved County mining operations. The Traffic Study prepared for the proposed project assumed haul trucks would adhere to the identified haul route. Please see MR-3, "Transportation and Circulation," with respect to enforcement of haul routes. It is not clear from the comment, but possible, that the trucks observed by the City are unrelated to mining along Cache Creek, unrelated to this project, and/or delivering locally, which is allowed. County staff have contacted City staff to further discuss the City's observations.

Response to Comment 22-3
Please see MR-3, "Transportation and Circulation," and Response to Comment 22-2. The County CUP conditions currently restrict the operator to their approved haul route. The County concurs that this condition would continue to apply if the project is approved.

Response to Comment 22-4
Thank you for participating in the process.

Letter 23

February 2, 2021

Tribal Council

Anthony Roberts
Chairman
James Kinter
Secretary
Matthew Lowell, Jr.
Treasurer
Mia Durham
Member
Diamond Lomeli
Member

Stephanie Cormier, Principal Planner
Yolo County Department of Community Services
292 W. Beamer Street
Woodland, CA 95695
Submitted electronically to: stephanie.cormier@yolocounty.org

Re: Teichert Shifler Mining and Reclamation Project
SCH # 2019089053

Dear Ms. Cormier:

23-1 On behalf of the Yocha Dehe Wintun Nation ("Yocha Dehe" or "Tribe"), a federally recognized tribal government, I am providing comments on the Draft Environmental Impact Report ("DEIR") for the proposed Teichert-Shifler Mining and Reclamation Project ("Project") which lies within our traditional territory.

23-2 As an initial matter, we are very concerned the DEIR presents a slanted and inaccurate account of the Tribe's engagement with the County to date. Perhaps seeking to downplay the Project's potential impacts on cultural resources, the DEIR contains multiple suggestions that tribal stakeholders have expressed no concern.

23-3 In truth, Yocha Dehe has made it quite clear that the Project poses a significant threat to tribal cultural resources. On January 10, 2019, we timely requested formal consultation on the Project, as well as a project timeline, detailed project information and the latest cultural study. Yocha Dehe then hosted a coordination meeting on February 11, 2019. At the meeting, we (1) explained that there are known cultural resources very close to the Project's proposed mining activities; (2) explained that additional cultural resources are likely to be found on site; and (3) offered to provide a list of preferred archeologists to the County. We also asked several questions about the Project proponent's development plans. The County's representatives responded that the Project's application review process remained in its earliest stages and the proponent's application had not yet been deemed complete.

23-4 The County offered to coordinate a site visit, which occurred on May 6, 2019. During the site visit, Yocha Dehe's Cultural Resources Director shared his experience, during childhood, of coming across cultural resources while walking from the Yolo Fliers

Yocha Dehe Wintun Nation
PO Box 18 Brooks, California 95606 p) 530.796.3400 f) 530.796.2143 www.yochadehe.org

Club toward the proposed Project site. In addition, the Director and Manager of Yocha Dehe's Cultural Resources Department each spoke to the known resources that are nearby and the highly probability of coming across additional resources on the Project site itself. Then, on May 21, 2019, Yocha Dehe sent a letter to the County memorializing that the Project raises cultural resource concerns for the Tribe and explaining that avoidance and mitigation measures should be considered.

23-5

If the DEIR is to serve the informational function mandated by CEQA, the document must be substantially revised to present a fair and accurate account of the events described above, as well as the following:

23-6

1. The DEIR relies on a "Cultural Resource Assessment" that is badly outdated. The Assessment is at least six years old. Worse, it consists entirely of investigations and analysis conducted in 2012 and 2013. All of this predates and fails to account for (a) major changes to CEQA's requirements for addressing cultural resources; and (b) related advances in best practices within the field of cultural resource management; and (c) substantial evidence provided to the County by Yocha Dehe. Unless the Cultural Resources Assessment and related DEIR analysis are substantially revised and recirculated, the County will not have a legally defensible basis on which to approve the Project.

23-7

2. As noted above, information about the Project remained incomplete at the time of the most recent coordination meeting between the County and the Tribe. Accordingly, we were pleased to see that the DEIR includes updated and additional information about proposed construction phasing, timing, and methods. But the information provided suggests Project construction will proceed so quickly – and with such large equipment – that monitoring of construction activities may be insufficient to avoid destroying tribal cultural resources likely to exist on the Project site. In addition to monitoring, we strongly recommend an appropriate pre-construction investigation – including, for example, updated site inspection and, in areas of potential sensitivity that cannot be avoided, carefully-located and -executed trenching. The Tribe should be consulted in the development of a scope and workplan for such investigation.

23-8

3. During the site visit, we requested that the Project's footprint be altered to avoid areas of high sensitivity for cultural resources. Avoidance is the top priority in cultural resource protection. The DEIR neither includes the requested alteration nor explains why the alteration cannot be made. That failure is particularly problematic given Section 10-4.410 of the Yolo County Off-Channel Surface Mining Ordinance, which provides that "[d]amaging effects on cultural resources shall be avoided whenever possible." The Project cannot demonstrate compliance with Section 10-4.410 unless avoidance is properly considered.

23-9

4. Mitigation Measure 4.5-3(a) provides for monitoring of ground disturbance by "local Native American tribes or groups that have responded to the request for information regarding sacred lands or other heritage sites that might be impacted by the proposed project…" While we generally support tribal monitoring, the specifics of Measure 4.5-3(a) require substantial revision. First, the Measure limits Tribal monitoring to "within 500 feet of the Cache Creek bank." We know of no substantial evidence that would suggest monitoring is unnecessary beyond 500 feet from the Creek – and the DEIR certainly provides none. Unless and until a proper investigation of the proposed Project site is undertaken, monitoring must be required for ground disturbance throughout the property. Second, and relatedly, it is important to note that prior agricultural use of the Project site is not a reasonable ground for concluding that cultural resources are absent. Resources are often found below the depth of agricultural soil disturbance. Indeed, Yocha Dehe cultural monitors regularly encounter well-preserved cultural resources on properties that have been intensively farmed for decades. Third, there is no sound basis to use "respon[ses] to the request for information regarding sacred lands or other heritage sites" as the sole criterion for identifying appropriate tribal monitors. The Native American Heritage Commission has identified Yocha Dehe and its sister Patwin tribes as the Most Likely Descendants for human remains found in Yolo County. Therefore, monitoring should be conducted by Patwin tribes – including Yocha Dehe.

23-10

23-11

23-12

5. The DEIR suggests cultural resources found at the Project site would not qualify as "unique archaeological resources." This conclusion, too, lacks any sound basis in substantial evidence. The DEIR's Cultural Resource Assessment fails to address the issue and, as discussed above, it is badly outdated and requires revision. For avoidance of ambiguity, the Tribe notes that the archaeological resources found at and around the Project site would almost certainly qualify as "unique" within the meaning of Public Resources Code section 21083.2. The Tribe should be consulted with respect to options for preservation in place or, if necessary, mitigation calculations.

23-13

We look forward to your response to our comments. If you have any questions or concerns, please contact Isaac Bojorquez, Cultural Resources Director at 530.796.0103 or ibojorquez@yochadehe-nsn.gov.

Wile bo,

Anthony Roberts
Tribal Chairman

cc: Isaac Bojorquez, Yocha Dehe Director of Cultural Resources Department

LETTER 23: ANTHONY ROBERTS, YOCHA DEHE WINTUN NATION

Response to Comment 23-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record.

Response to Comment 23-2

Please see Response to Comment 13-14. The County is seeking fair, objective, accurate analysis of all issues in the Draft EIR, especially related to the Tribe's interests and Tribal Cultural Resources. The County appreciates being made aware of the concerns of the Tribe regarding the project's original technical report. In April 2021, the County retained ECORP Consulting, Inc. to assist in collaborating with the Tribe and completing the consultation process. The record of communications on page 4.5-17 of the Draft EIR has been revised to clarify, and add additional, relevant information from more recent communications with and input from the Tribe. These changes are identified in Chapter 4 of this Final EIR.

The analysis under Impact 4.5-3 on page 4.5-22 acknowledges the concern expressed by the Tribe regarding potential impacts of the proposed project to Tribal Cultural Resources. The Draft EIR includes the following analysis:

> Based on a search of the NAHC Sacred Lands File there are no recorded Native American sacred lands or traditional cultural properties within the project site vicinity. However, the Yocha Dehe Wintun Nation expressed concern that the project could impact Tribal Cultural Resources. The potential exists for previously undiscovered Tribal Cultural Resources associated with local tribes to occur in the vicinity of the project site, particularly within the upper layers of overburden material within the project site. The Yocha Dehe Wintun Nation has requested that a tribal monitor be present on-site during initial ground disturbance associated with the proposed project.

Please see Chapter 4 of this Final EIR for additional clarifications the County is making to the Draft EIR to better reflect the results of the consultation and the concerns of the Tribe. These include clarifications to Mitigation Measures 4.5-3(a) and (b) to reflect a requirement for a Monitoring Agreement, which is under development at the time of release of this document.

Response to Comment 23-3

Please see the Response to Comment 23-2. As noted, the record of communications on page 4.5-17 of the Draft EIR has been revised to clarify, and add additional, relevant information from more recent communications with and input from the Tribe.

Response to Comment 23-4

The May 2018 site visit was very helpful in understanding the concerns of the Tribe. The County appreciates that opportunity to discuss the project site, and the subsequent consultation process.

Response to Comment 23-5

Please see the Response to Comment 23-3.

Response to Comment 23-6

Please see Response to Comment 23-3.

Response to Comment 23-7

The original cultural resources assessment prepared by Peak & Associates for the project in 2015 was supplemented first by an updated records search at the Northwest Information Center in 2019. Subsequently, in April 2021, the County retained ECORP Consulting, Inc. to expand the identification effort in collaboration with the Tribe by designing and implementing a pre-construction subsurface trenching program to identify buried Tribal Cultural Resources or unique archaeological sites. Chapter 4.5 of the Draft EIR has been revised to incorporate the methods and results of this additional assessment. In addition, Impact 4.5-3 was revised to reflect the additional information gained from tribal consultation and the supplemental assessment, and to incorporate best practices in managing unanticipated discoveries.

Response to Comment 23-8

Please see Response to Comment 23-7 and clarifications to the Draft EIR presented in Chapter 4. The Tribe contributed to, and approved, the scope and workplan for the pre-construction subsurface investigation referenced in the Response to Comment 13-14.

Response to Comment 23-9

The Draft EIR examines five project alternatives, three of which would potentially address the concerns raised by the commenter (please see Chapter 6 of the Draft EIR). Alternative 1 is the No Project Alternative which assumes no mining on the site. Under this alternative the site would remain as it is currently. Alternative 2 is the Off-Site Alternative which assumes that mining would occur on other sites within the CCAP area that are currently zoned SGR-O and aggregate would be hauled to the Woodland Plant site for processing. These potential off-site locations are shown in Figure 6-2 on page 6-13. Under this alternative, the site would also remain as it is currently. Alternative 6 examines a larger 700-foot setback from the creek. In addition, Mitigation Measure 4.8-4(c) requires a minimum 250-foot setback from the creek.

Response to Comment 23-10

After further consultation with the Tribe, Mitigation Measure 4.5-3 has been revised to remove the 500-foot monitoring threshold, and has been replaced with the requirement to develop, in agreement with the Tribe, a more detailed Tribal Monitoring Plan that provides an appropriate level of tribal monitoring.

Response to Comment 23-11

The information that previous agricultural activities do not preclude the presence of cultural resources is appreciated and acknowledged. The Tribal Monitoring Plan required by new Mitigation Measure 4.5-3 will provide procedures for addressing any unanticipated discoveries.

Response to Comment 23-12

The County appreciates this information. The Tribal Monitoring Plan required by new Mitigation Measure 4.5-3 will address the appropriate number of tribal monitors based on collaboration with the Tribe.

Response to Comment 23-13

Impact 4.5-2 has been revised to clarify the potential for the disturbance of unique archaeological resources. The Tribal Monitoring Plan required by new Mitigation Measure 4.5-3 will provide for consultation on any unanticipated discoveries of unique archaeological resources.

Letter 24

From: Michelle Beltrano |mailto:mdbeltrano@gmail.com|
Sent: Wednesday, February 3, 2021 5:25 PM
To: Stephanie Cormier <Stephanie.Cormier@yolocounty.org>; Clerkoftheboard <clerkoftheboard@yolocounty.org>; Gary Sandy <Gary.Sandy@yolocounty.org>; saylor@yolocounty.org; Jim Provenza <Jim.Provenza@yolocounty.org>; Oscar Villegas <Oscar.Villegas@yolocounty.org>; Angel Barajas <Angel.Barajas@yolocounty.org>
Cc: Michael Beltrano <beltranomichael@yahoo.com>
Subject: Teichert Project near Wild Wings

Dear County Supervisors,

24-1

I am writing today to strongly request that the Teichert project near Wild Wings be denied. My family and I had saved for 15 years to move out here and away from town to enjoy peace and quiet in this lovely community. We were finally able to make our dream a reality in July 2020 but recently were told that Teichert wants to begin a mining project a quarter mile from our new home; if we had known this, we may not have bought a home here. This will ruin our quiet, family community and take a huge toll on our home values. Many of our neighbors, as well as myself, are near retirement or have already retired - we won't have a choice to move somewhere else when our home values fall. I don't want to live the rest of my life near a mine. Please consider the many homeowners of Wild Wings and our farming neighbors who have families as well as animals. Please consider our environment and the proximity of our children to this project. Please vote no.

Michelle Beltrano
mdbeltrano@gmail.com

LETTER 24: MICHELLE BELTRANO, RESIDENT

Response to Comment 24-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record.

The commenter's opposition to the proposed project is noted for the record.

Please see MR-1, "Comments Regarding the Merits of the Project," MR-2, "Property Value Considerations," and Response to Comment 4-6.

Letter 25

Sierra Club Yolano Group Comments on the Draft Environmental Impact Report (DEIR) for the Teichert Shifler Mining and Reclamation Project, December 2020 – February 4, 2020

VIA EMAIL

From: Sierra Club Yolano Group

To: Stephanie Cormier
Yolo County Planning Dept
<Stephanie.Cormier@yolocounty.org>

Re: Comments on the Draft Environmental Impact Report (DEIR) for the Teichert Shifler Mining and Reclamation Project, December 2020

Date: February 4, 2021

Dear Ms. Cormier,

This correspondence provide comments on the above-referenced DEIR on behalf of the Sierra Club Yolano Group.

25-1

In summary, the DEIR does not properly analyze the appropriate Criteria Pollutant emissions and Greenhouse Gas (GHG) emissions related to applicable Standards of Significance. Nor does the DEIR propose adequate mitigation for such emissions in a manner sufficient to meet the legal requirements of CEQA as explained in the following discussion.

For ease of reading and review, all language below excerpted and quoted from the DEIR is highlighted with blue, italicized font.

The DEIR discusses Project-Specific Impacts and Mitigation Measures related to Air Quality, GHG emissions, and Energy based on implementation of the proposed project in comparison with the following Standards of Significance identified in Chapter 4.3 - Chapter 4.3 - Air Quality, GHG Emissions, and Energy in the DEIR.

25-2

"Standards of Significance
The significance criteria used for this analysis were developed from Appendix G of the CEQA Guidelines, applicable policies and regulations of Yolo County, and recommendations of YSAQMD. An air quality, GHG emission, or energy impact is considered significant if the proposed project would:

- *Conflict with or obstruct implementation of the applicable air quality plan;*
- *Expose sensitive receptors to substantial pollutant concentrations;*
- *Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people;*
- *Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation;*
- *Conflict with or obstruct a state or local plan for renewable energy or energy efficiency;*
- *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard;*
- *Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment;*
- *Conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs; or*
- *Cause a significant environmental impact due to a conflict with applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigating impacts to air quality, GHG emissions, or energy."*

(Chapter 4.3 – Air Quality, Greenhouse Gas Emissions, and Energy Page 4.3 – Pages 38-39)

1

25-2 cont.

The following section discusses those Standards of Significance related to Criteria Pollutants and GHG Emissions which are insufficiently addressed in the DEIR.

"4.3-1 Conflict with or obstruct implementation of the applicable air quality plan. The impact would be less than significant."

"Operational Criteria Pollutant Emissions
As discussed above, due to the nonattainment designations of the area, the YSAQMD has developed plans to attain the State and federal standards for ozone and particulate matter. The currently applicable air quality plan is the 2013 Ozone Attainment Plan. Adopted YSAQMD rules and regulations, as well as the thresholds of significance, have been developed with the intent to ensure continued attainment of AAQS, or to work towards attainment of AAQS for which the area is currently designated nonattainment, consistent with the applicable air quality plan. Thus, if a project's operational emissions exceed the YSAQMD's mass emission thresholds for operational emissions of ROG, NOx, or PM10, a project would be considered to conflict with or obstruct implementation of the YSAQMD's air quality planning efforts."

The existing mining operations at Esparto and the Schwarzgruber site as well as the existing processing activity at Esparto and Woodland generate ROG, NOx, and PM 10 from both mobile and stationary sources. Emissions related to existing and proposed operations are primarily sourced from the use of off-road equipment, the use of on-road haul trucks, ground disturbing activity associated with mining activities, vehicle travel on unpaved roads, and dust emissions from material processing. Emissions resulting from existing mining operations at Esparto and the Schwarzgruber site as well as the existing processing activity at Esparto and Woodland form part of the environmental baseline for the analysis presented in this DEIR. Consequently, it is appropriate to consider the level of existing emissions as a baseline for the environmental analysis of the proposed project. Therefore, the analysis included in this DEIR will focus on the net new emissions that would result from implementation of the proposed project. In order to determine the net new emissions, emissions from the existing operations as well as the proposed project are presented and compared in Table 4.3-10 below. In addition, Table 4.3-10 compares the net new emissions resulting from project operations to the YSAQMD's thresholds of significance.

Table 4.3-10
Maximum Controlled Net New Operational Emissions

	ROG (tons/yr)	***NOx (tons/yr)***	***PM 10 (lbs/day)***
Existing Emissions (Esparto mine and plant, Woodland Plant, Schwarzgruber mine, and on-site Agricultural Activities)	*2.59*	*45.43*	*345.82*
Proposed Project	*2.39*	*43.75*	*422.82*
Net New Emissions	***-0.19***	***-1.68***	***77.00***
YSAQMD Significance Threshold	*10*	*10*	*80.0*
Exceeds Threshold?	***NO***	***NO***	***NO***
See Appendix D for all emissions calculations.			

Because existing and future operations would be subject to the dust control requirements of Section 10-4.414 OCSMO, the emissions presented in Table 4.3-10 represent the levels of emissions that would occur with incorporation of dust suppression and control techniques."

(Chapter 4.3 – Air Quality, Greenhouse Gas Emissions, and Energy Page 4.3 – Pages 51-52)

In essence, the DEIR states that because the existing mining operations at Esparto and Schwarzgruber already emit substantial quantities of NOx and PM10 and these emissions (and more) will also occur at the new Shifler mining project, Criteria Pollutant emission evaluation at the new Shifler project should be based only on the additional incremental emissions associated with the new Shifler project. The DEIR concludes that because only these new incremental emissions do not exceed YSAQMD Significance Thresholds, "**The impact would be less**

25-2 cont.

than significant" and thus not require additional mitigation measure~~measures~~ beyond those already in place for the Esparto and Schwarzgruber mining operations

However, this analysis is incorrect. The DEIR states that the vast bulk of Criteria Pollutant operational emissions from the new Shifler mining project can be simply "transferred" from the existing Schwarzgruber and Esparto mines to the Shifler project once the older mines are shut down in the future before operations commence at the new Shifler site. The DEIR then incorrectly assumes that since the emissions from the Esparto and Schwarzgruber sites were already permitted, the new Shifler project Criteria Pollutant emissions do not have to be further evaluated for mitigation purposes.

As a result, the DEIR proposes that no additional Criteria Pollutant emission mitigation measures will be required for all of the operational emissions produced by the Shifler site because emission authorization is assumed to be "transferred" to the Shifler project and thus not require further analysis or mitigation.

In fact, CEQA requires the Shifler mining project to be treated as a completely new separate project because the emission "entitlements" from the existing Schwarzgruber and Esparto mines are solely tied to those specific projects. That is, operating permits (and associated emission "entitlements") for each of the mines expire on 1/1/2028 but operations are scheduled to cease within a few years as the maximum amount of aggregate removal are reached. Once mining at the Esparto or Schwarzgruber mines stops, however, all Criteria Pollutant or other emission "entitlements" are immediately "canceled" and they cannot be "transferred" to the new Shifler mining project as erroneously assumed in the DEIR.

As a result, the DEIR insufficiently analyses the impacts of these Criteria Pollutant emissions from the new Shifler site and mitigation must be proposed and evaluated in light of the new emissions projected to occur directly due to the Shifler site mining operations that are in excess of the YSAQMD Significance Thresholds.

"4.3.7 - Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. The project's incremental contribution to this significant cumulative impact would be cumulatively considerable."

"Implementation of the proposed project would result in short-term GHG emissions related to the relocation of Moore Canal and modification of Magnolia Canal, as well as long-term GHG operational emissions.

25-3

Short-Term GHG Emissions

...YSAQMD has not yet established or adopted any GHG thresholds, and is instead recommending analysis of GHGs consistent with SMAQMD's adopted thresholds of significance. For typical land use projects, SMAQMD recommends use of a construction threshold of 1,100 MTCO2e/yr threshold of significance to determine whether construction would result in the generation of GHG emissions sufficient to result in a significant impact on the environment. Emissions from relocation of the Moore Canal and modification of Magnolia Canal would be well below SMAQMD's applicable threshold, and, as such, the relocation of Moore Canal and modification of Magnolia Canal would not be considered to result in generation of GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

Long-Term GHG Emissions

Existing mining operations at the Esparto and Schwarzgruber sites, as well as processing activity at the Esparto and Woodland plants, currently result in emissions of GHGs from various sources that are primarily the result of combustion of fossil fuels and the consumption of electricity...
According to CEQA Guidelines Section 15064.4(b), the extent to which a project may increase or reduce GHG emissions as compared to the existing environmental setting should be considered when assessing the significance of impacts from GHG emissions on the environment. Therefore, in accordance with CEQA Guidelines Section 15064.4(b), to determine the significance of project-related GHG emissions, Table 4.3-19 presents the net GHG emissions that would result from implementation of the project as compared to GHG emissions occurring due to existing agricultural and mining activities. Due the absence of YSAQMD adopted thresholds of significance for GHG analysis, and considering the conservative approach to analysis recently

applied in the CCAP Update FEIR and the Granite Esparto Mining and Reclamation Certified FEIR, any net increase in GHG emissions would be considered a significant impact.

Table 4.3-19 ***Net New Operational GHG Emissions***	
	GHG Emissions (MTCO2e/yr)
Existing Emissions (Esparto, Woodland, and on-site Agricultural Activities)	*11,601.01*
Proposed Project	*13,489.45*
Net New Emissions	***1,887.84***

25-3 cont.

*As shown in Table 4.3-19, **the proposed project would result in a net increase in GHG emissions of approximately 1,887.84 MTCO2e/yr**...Because emissions are anticipated to increase with implementation of the proposed project, the project would result in a cumulatively considerable contribution to the significant cumulative impact analyzed in the CCAP Update FEIR."* (**Bold emphasis added**)

(Chapter 4.3 – Air Quality, Greenhouse Gas Emissions, and Energy Page 4.3 – Pages 74-75)

"***Mitigation Measure(s)***
Implementation of Mitigation Measure 4.3-7 would ensure that operational GHG emissions are reduced to levels that are equal to or less than existing emissions. By ensuring that implementation of the proposed project would not result in a net increase in GHG emissions, the incremental contribution of the project to the significant cumulative impact identified in the CCAP Update FEIR would be less than cumulatively considerable.

> *4.3-7 Prior to initiation of mining activity at the Shifler mining site, the project applicant shall submit, for review and approval, a Greenhouse Gas Reduction Plan (GHGRP) to the Yolo County Department of Community Services. In order to demonstrate that implementation of the proposed project would not result in a net increase in GHG emissions from baseline conditions, **the GHGRP shall demonstrate how operational emissions of the proposed project would be reduced by at least 1,887.84 MTCO2e/yr**. Strategies to achieve emissions reductions may include, but are not limited to, the following:*
>
> - *Replacement of existing fossil fueled equipment with hybrid or electrically powered equipment;*
> - *Installation of additional renewable energy systems on-site;*
> - *Purchase of an increased proportion of electricity from renewable sources;*
> - *Purchase carbon credits to offset Project annual emissions. Carbon offset credits shall be verified and registered with The Climate Registry, the Climate Action Reserve, or another source approved by CARB, YSAQMD, or Yolo County."* (**Bold emphasis added**)

(Chapter 4.3 – Air Quality, Greenhouse Gas Emissions, and Energy Page 4.3 – Page 76)

However, similar to the analysis of emissions of Criteria Pollutants above, the authorization or entitlement for GHG emissions from the Esparto and Schwarzgruber mining sites cannot simply be "transferred" to the Shifler mining site.

In fact, CEQA also requires the GHG emissions from Shifler mining project to be treated as a new separate project distinct from the Esparto and Schwarzgruber mining sites because the emission "entitlements" from the existing Schwarzgruber and Esparto mines are solely tied to those specific projects. Operating permits for each of the mines expire on 1/1/2028 but operations are scheduled to cease within a few years as the maximum amount of aggregate removal are reached. Any such GHG or other emission "entitlements" are immediately canceled once those projects cease operations and/or their permits expire. The DEIR otherwise assumes only the new net incremental GHG emissions associated with the Shifler project (1,887 MTCO2e/year) needs to be mitigated.

However, because the GHG emissions associated with the existing Teichert Schwarzgruber and Esparto mining projects would be completely eliminated when their operating permits expire within several years and/or operations cease, the emissions from the Teichert Shifler project must be considered as an

25-3 cont.

entirely new project and the entire 13,489 MTCO2e/year produced by the new mining project needs to be mitigated to comply with the County's 2011 Climate Action Plan ("2011 CAP") and the new Emergency Climate Mobilization Resolution and policy approved by the Yolo County Board of Supervisors in September 2020 as further discussed below.

"***4.3-8 Conflict with an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. The project's incremental contribution to this significant cumulative impact would be cumulatively considerable.***

25-4

We believe the DEIR does present facts indicating the DEIR is not in compliance with "*applicable plan, policy or regulation of an agency*". For instance, we note that the current proposed lack of mitigation for the vast majority of GHG emissions associated with the new Shifler mining project conflicts with the County General Plan. As reported in the DEIR, the Yolo County General Plan has as one of its policy criteria the following goal:

*"**Goal CO-8 Climate Change. Reduce greenhouse gas emissions and plan for adaptation to the future consequences of global climate change**.*

Policy CO-8.2 Use the development review process to achieve measurable reductions in greenhouse gas emissions."

To thus comply with the General Plan, the applicant must revise its GHG mitigation plans to result in true measurable reductions in the GHG emissions from the new Shifler project.

25-5

In addition to non-compliance with the County's General Plan, the proposed emissions from the new Shifler project are in direct conflict with the County's existing 2011 Climate Action Plan ("2011 CAP") which seeks to reduce GHG emissions as follows:

•1990 levels by 2020
•27% below 1990 levels by 2030
•53% below 1990 levels by 2040
•80% below 1990 levels by 2050

(YOLO COUNTY CLIMATE ACTION PLAN: A Strategy for Smart Growth Implementation, Greenhouse Gas Reduction, and Adaptation to Global Climate Change, Update 2016)

Rather than reducing GHG emissions, the Shifler project actually increases GHG emissions which is in direct conflict with this 2011 CAP.

25-6

The current permits for aggregate mining expire in 2028 and that any GHG emissions after 2028 from the project will negatively impact the County's ability to meet the 2030, 2040 and 2050 reductions.

The DEIR fails to disclose and discuss when the other permits expire and/or when the other aggregate will be exhausted and if there will be any overlap of the two projects. If so, this also needs to be discussed. Without disclosure of this information, immediate impacts on the environmental baseline and cumulative impacts cannot be analyzed.

The existing baseline includes the expiration of the current permit and/or exhaustion of the aggregate. Where environmental conditions may vary over time it may be appropriate to consider conditions over a range of time. *Communities for a Better Environment v. South Coast Air Quality Management District* (2010) 48 Cal.4th 310, 327.

25-7

Further, Yolo County recently approved a new policy calling for County-wide carbon neutrality by 2030 in Yolo County *RESOLUTION 20-114 - A Resolution Declaring a Climate Crisis Requiring an Urgent and Inclusive Mobilization in Yolo County* ("2020 Climate Emergency Mobilization Resolution"). This resolution was passed

and adopted by the Yolo County Board of Supervisors on September 29, 2020. This far-reaching policy enacted by the Board of Supervisors includes the following language.

"*WHEREAS, historically Yolo County actions have put it in the forefront of the green movement including adoption in 2009 of the Yolo County 2030 General Plan with more than 350 climate change related policies; among them: the 2011 adoption of a Climate Action Plan (CAP) to: r****educe GHG emissions to 1990 levels by 2020, 27% below 1990 levels by 2030, 53% below 1990 levels by 2040, and 80% below 1990 levels by 2050; address economic and social adaptation to the effects of climate change; and implement detailed strategies and measures to achieve these goals and contribute to State and international climate protection efforts****;*" (**Bold emphasis added**)

and

"*NOW, THEREFORE, BE IT RESOLVED that Yolo County declares climate change a crisis requiring urgent and immediate mobilization of public* ***and private resources to develop and implement a climate and sustainability plan that identifies and integrates current and future actions needed to achieve a just economic recovery and transition to a countywide carbon negative (climate-positive) footprint by 2030****.*" (**Bold emphasis added**)

25-7 cont.

and

"*BE IT FURTHER RESOLVED, Yolo County shall, by March 1, 2021 create a working advisory body to develop and propose a new Climate Action Plan (Yolo County 2022 Climate Action Plan) designed* ***to reduce all greenhouse gas emissions in Yolo County and achieve a carbon negative footprint by 2030****.*" (**Bold emphasis added**)

and

"*BE IT FURTHER RESOLVED,* ***Yolo County will consider and adopt sustainability, greenhouse gas (GHG) and co-pollutant carbon-footprint and ecological impact statements for relevant Yolo County Commissions and Board of Supervisor agenda action items in the same manner as fiscal impact statements are currently considered and adopted****;*" (**Bold emphasis added**)

Because the new Shifler mining project proposes mitigations to offset only the new incremental GHG emissions resulting from the project instead of all of the GHG emissions from the site, the DEIR is insufficient as it fails to provide mitigation by which the project will not be in conflict with the existing 2011 CAP nor the new 2020 Climate Emergency Mobilization Resolution.

25-8

For the County to maintain its goal of achieving carbon neutrality by 2030 as stated in the 2020 Climate Emergency Mobilization Resolution or meet the GHG reduction targets established by the 2011 CAP, any proposed new development projects must achieve at least carbon neutrality. The newly proposed Shifler mining project simply cannot be allocated the GHG emissions from the "expiring" Esparto and Schwarzgruber projects and not mitigate them or the project will fail to meet the 2020 Climate Emergency Mobilization Resolution net carbon neutral goal without mitigation strategies to ultimately eliminate all GHG emissions.

Further, purchases of sufficient GHG allowances from the State Cap and Trade Program Auction to fully mitigate all remaining emissions may nor actually result in local carbon neutrality as required by the County policy. Instead, the applicant must purchase any such greenhouse gas allowances from local sources of available carbon credits or the County must ensure an allocation from the State GHG Allowance Fund to return that amount to the County for local GHG mitigation efforts offsite from the subject development.

25-9

Failure to provide for such mitigation will mean that the DEIR does "*Conflict with an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs*" and such mitigation must be required before the DEIR can be properly certified.

"4.3-9 Cause a significant environmental impact due to a conflict with applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigating impacts to air quality, GHG emissions, and energy. This impact would be less than significant.

Table 4.3-20 below provides an analysis of the proposed project's consistency with applicable policies and regulations that have been adopted for the purpose of avoiding or mitigating environmental effects related to air quality, GHG emissions, and energy.

25-10

As shown in the table, the proposed project is anticipated to be generally consistent with applicable standards related to air quality, GHG, and energy. Thus, a less-than-significant impact would occur."

We strongly disagree with this assessment that a "less-than-significant impact would occur" and point to the following elements of Table 4.3-20 in which serious discrepancies exist with respect to the air quality and GHG emissions causing substantial deficiencies in the DEIR.

"***Goal ED-5.4 Economic Sustainability***.
Support sustainable economic development. Encourage local industry to adapt to the expected effects of climate change and minimize greenhouse gases and other emissions.

See Impact 4.3-1. The proposed project would result in net reductions in ROG and NOx emissions. Although the project would be anticipated to increase emissions of PM10, compliance with Dust Control requirements in the Mining Ordinance would reduce these emissions to the greatest feasible extent. See also Impact 4.3-7. The project would provide a continued local source of building aggregates, which would be considered to support the County's CAP. Therefore, the project would be consistent with this policy."

25-11

The DEIR only proposes to mitigate the incremental GHG emissions from the new project which conflicts with numerous County policies as reported above. Additional mitigation measures must be included to offset all the otherwise expected total GHG emissions of the new project to support "*sustainable development*" and to "*adapt to the expected effects of climate change and minimize greenhouse gases and other emissions*."

"***Goal CO-8 Climate Change.***
Reduce greenhouse gas emissions and plan for adaptation to the future consequences of global climate change.

Mitigation Measure 4.3-7 requires that GHG emissions reductions strategies be implemented sufficient to ensure that implementation of the proposed project would not result in a net increase in emissions. Accordingly, direct operations of the project would not result in increases to GHG emissions that could conflict with this goal. The purpose of the project is to provide a local source of aggregate materials. Aggregate materials are used in a wide variety of applications, and provision of a local source of such materials reduces the need for aggregate materials to be hauled into the area from other more distant locations. Thus, the project supports the provision of aggregate material with a low level of embedded GHG emissions (i.e. aggregate material provided by the project would result in a relatively lesser amount of GHG emissions per unit of material as compared to material hauled in from a more distant source). Accordingly, the project would be consistent with this goal."

25-12

This is a false statement because the direct operations of the new mine are only proposed to be partially mitigated. To otherwise comply with the County's 2011 CAP and the 2020 Climate Emergency Mobilization Resolution, all of the projects GHG emissions must be fully mitigated.

"Policy CO-8.2
Use the development review process to achieve measurable reductions in greenhouse gas emissions.

Mitigation Measure 4.3-7 requires the project to achieve a total reduction in GHG emissions of 1,887.84 MTCO2e/yr, as compared to estimated unmitigated project operations. The inclusion of Mitigation Measure 4.3-7 within this DEIR would result in a measurable reduction in GHG emissions, thus fulfilling this policy."

25-13

25-13 cont. **This is also false statement because the direct operations of the new mine are only proposed to be partially mitigated. To otherwise comply with the County's 2011 CAP and the 2020 Climate Emergency Mobilization Resolution, all of the projects GHG emissions must be fully mitigated.**

Related to cumulative GHG emissions, the DEIR also inaccurately characterizes the cumulative impacts of the GHG emissions in Chapter 5 – Cumulative Impacts and Other Required Sections of the DEIR

"5-4 Cumulative greenhouse gas emissions. The project's incremental contribution to the cumulative impact is less than cumulatively considerable.

Issues related to Greenhouse Gas (GHG) emissions are, by nature, cumulative. Specifically, emissions of GHG contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change (e.g. sea level rise, impacts to water supply and water quality, public health impacts, impacts to ecosystems, impacts to agriculture, and other environmental impacts). This impact is addressed in Chapter 4.3 of this DEIR, see Impact 4.3-7. Cumulative impacts were found to be less than cumulatively considerable.

25-14 *Mitigation Measure(s)*
None Required"

(Chapter 5 – Cumulative Impacts and Other Required Sections - Page 5-10)

As is discussed above, the DEIR erroneously proposes to only mitigate the new incremental GHG emission of the Shifler project claiming that the emissions from the expiring mines can be "transferred" to the new project and not be counted as new emissions requiring mitigation. This opinion is incorrect because the GHG emissions associated with the existing Teichert Schwarzgruber and Esparto mining projects would otherwise be completely eliminated when their operating permits expire within several years and/or operations cease. The emissions from the Teichert Shifler project must be considered as an entirely new project and the entire 13,489.45 MTCO2e/year produced by the new mining project needs to be mitigated to comply with the County's new Emergency Climate Mobilization Resolution approved by the Yolo County Board of Supervisors in September 2020 for the emissions to be "*less than cumulatively considerable*".

25-15 In summary, the DEIR has substantial deficiencies which render it non-compliant for CEQA purposes and the DEIR can thus not be properly certified unless these deficiencies are corrected.

Respectfully submitted

Alan E. Pryor

Alan Pryor, Chair
Sierra Club Yolano Group
<sierraclubyolanogroup@gmail.com>

LETTER 25: ALAN PRYOR, SIERRA CLUB YOLANO GROUP

Response to Comment 25-1

Thank you for submitting comments during the Draft EIR public review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record.

The commenter states their position that the Draft EIR does not properly analyze pollutant emissions or identify adequate mitigation. The County has provided substantial evidence to support that the Draft EIR adequately addresses potential impacts related to the project and identifies known feasible mitigation measures. Detailed responses to all associated comments are provided below.

Response to Comment 25-2

The commenter expresses concerns regarding the method for analyzing air quality and GHG emissions. The project site is located within the jurisdiction of the Yolo-Solano Air Quality Management District (YSAQMD). As such, the criteria pollutant emissions associated with the proposed project are compared to the applicable YSAQMD thresholds of significance. As discussed under Impact 4.3-1, the proposed project would not result in an increase in criteria pollutant emissions in excess of the YSAQMD's thresholds of significance, and long-term operational emissions associated with project implementation would not conflict with or obstruct implementation of the applicable air quality plans.

The DEIR concludes that because only new incremental emissions do not exceed YSAQMD Significance Thresholds, the impact would be less than significant. CEQA Guidelines Section 15125 states, "[The] environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant." As such, CEQA requires an analysis of impacts from the proposed project as compared to the environmental baseline, which, for this project, is considered the existing setting. Because emissions are currently released at the Esparto and Woodland plants, the Schwarzgruber mine, and from agricultural operations on the project site, and because the project would transfer permits from these sources, the environmental baseline conditions for analysis in the Draft EIR includes existing emissions levels from the foregoing sources. Therefore, the comparison of the net increase in air pollutants to the applicable thresholds of significance is appropriate under CEQA, and the conclusions presented in the Draft EIR remain valid.

The Draft EIR provides an evaluation of the existing air quality environment as compared to the air quality environment that would occur following implementation of the proposed project. CEQA requires analysis of all components of any given project. In order to avoid a segmented analysis of the project components, the analysis included within the Draft EIR accounts for all components of the proposed project, including the proposed transfer of production tonnage. Air pollution is a basin-wide concern. In ceasing operations at the Esparto facility and Schwarzgruber mine, continuing operations at the Woodland plant, and commencing mining at the Shifler site, the net emissions are relevant for the analysis.

Please refer to page 3-31 of Chapter 3, Project Description, for a description of the requested project entitlements.

Response to Comment 25-3

See Response to Comment 25-2 regarding the approach to analysis taken in the Draft EIR under CEQA Guidelines. The Draft EIR analysis considers net new emissions. The environmental baseline used in the EIR is accurate, because in ceasing operations at the Esparto facility and Schwarzgruber mine, continuing operations at the Woodland plant, and commencing mining at the Shifler site, the net emissions are relevant for the analysis.

As noted on page 4.3-40 of the Draft EIR, the YSAQMD has not established GHG thresholds of significance and the YSAQMD is currently recommending GHG analysis consistent with Sacramento Metro Air Quality Management District's (SMAQMD) adopted thresholds of significance. Therefore, GHG emissions associated with construction of the proposed project were compared to the SMAQMD's adopted threshold of significance. As discussed under Impact 4.3-7, GHG emissions from relocation of the Moore Canal and modification of Magnolia Canal would be well below SMAQMD's applicable threshold and, as such, the relocation of Moore Canal and modification of Magnolia Canal would not be considered to result in generation of GHG emissions, either directly or indirectly, that may have a significant impact on the environment. Please note the proposed relocation and modification of the two canals are no longer a part of the project. As detailed in Section 1.3 of Chapter 1 of this Final EIR, the applicant has proposed to proceed with the Moore Canal Avoidance Alternative.

Neither YSAQMD nor SMAQMD have adopted a threshold of significance for GHGs emitted from mining operations. However, the CCAP Update FEIR (SCH# 2017052069) previously analyzed GHG emissions for the entire plan area covered by the CCAP, of which the proposed project is a part. The Draft EIR uses a no-net increase threshold for the GHG emissions analysis. If the project would result in a net increase in GHG emissions as compared to the environmental baseline conditions, the proposed project would be considered to result in a significant impact. Considering YSAQMD and SMAQMD set an allowable increase in GHG emissions, the no-net increase threshold is conservative, and consistent with Yolo County protocols for similar project analyses. As noted under Impact 4.3-7 of the Draft EIR, implementation of Mitigation Measure 4.3-7 would ensure that operational GHG emissions are reduced to levels that are equal to or less than existing emissions. By ensuring that implementation of the proposed project would not result in a net increase in GHG emissions, the incremental contribution of the project to the significant cumulative impact identified in the CCAP Update FEIR would be less than cumulatively considerable. This information substantiates that the Draft EIR does properly analyze GHG emissions, including use of appropriate standards of significance, and requires mitigation measures where appropriate and necessary.

Concerning compliance with the County's CAP, please see the discussion on page 4.3-37 through 4.3-38 of the Draft EIR. For context, the construction and mining sector is identified in the County CAP as constituting approximately seven percent of countywide emissions.[4] While the County does not have direct control over emissions from the construction and mining sector, compliance with the County CAP is required, including implementation of Mitigation Measure 4.3-7, which would ensure that operational GHG emissions are reduced to levels that are equal to or less than existing emissions. Please also see Response to Comment 13-15.

[4] Yolo County. *Yolo County Climate Action Plan: A Strategy for Smart Growth Implementation, Greenhouse Gas Reduction, and Adaptation to Global Climate Change* [pg. 12]. March 15, 2011.

Response to Comment 25-4

Please see response to comment 25-3. In addition, Chapter 6, Alternatives Analysis, includes a discussion of the environmental setting related to GHG emissions under the No Project scenario. As noted on page 6-9 of the Draft EIR, under the No Project scenario, regional GHG emissions would still occur as a function of the continued demand for sand and gravel. Without the proposed project, demand for aggregate would be met from other planned sites within the CCAP or potentially outside of the County.

Furthermore, page 4.3-78 of the Draft EIR includes the following discussion:

> Although the emissions modeling presented in this chapter represents operations of the proposed project at the maximum permitted capacity, a project-specific analysis of the VMT considered multiple operational scenarios. As discussed further in the VMT analysis, if production levels under the proposed project equal the existing production levels at the Esparto and Woodland Plant (which would represent a continuation of the existing level of demand for aggregate material, rather than an increase in aggregate demand to the maximum permitted levels as analyzed in this section of the EIR), the consolidation of aggregate mining at the Woodland Plant would result in an overall reduction in VMT.[5] Reducing VMT would directly result in reduced GHG emissions through a decrease in consumption of fossil fuels. Thus, despite the increase in production assumed for this analysis, the GHG emissions per unit of aggregate produced would decrease with implementation of the project, as the production and distribution process would become more efficient as a result of the project. Given that the CCAP Update FEIR determined that the CCAP is consistent with the County's CAP, and the proposed project is consistent with the CCAP, the proposed project would likewise not conflict with the County's CAP.[6]

This excerpt further demonstrates compliance with the County CAP. In addition, the Draft EIR includes Mitigation Measure 4.3-8 to address the potentially significant impact related to VMT.

Response to Comment 25-5

Please see Response to Comments 25-2 through 25-4. Implementation of the proposed project would not preclude the achievement of the County's GHG reduction goals.

Response to Comment 25-6

Please refer to Chapter 3, Project Description, for a detailed explanation of requested project entitlements and permits, and the relationship between currently permits and requested approvals.

Implementation of the proposed project would not preclude the achievement of the County's GHG reduction goals. The Draft EIR appropriately defines the environmental baseline pursuant to CEQA Guidelines Section 15125, and the approach to analysis used in the Draft EIR is consistent with CEQA Guidelines Section 15064.4(b). Please see Response to Comments 25-2 and 25-4.

Response to Comment 25-7

The comment misstates the action taken by the Board of Supervisors. Please see Response to Comment 13-15.

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5 Fehr & Peers. *Shifler Mining Project Vehicle Miles Traveled Impact Evaluation*. February 4, 2020.

6 Yolo County. *Cache Creek Area Plan Update Project, Final Environmental Impact Report. SCH# 2017052069* [pg 4.7-14]. December 2019.

Response to Comment 25-8
Please see Response to Comments 25-2, 25-3, and 13-15.

Response to Comment 25-9
Please see Response to Comments 25-2, 25-3, and 13-15.

Response to Comment 25-10
This comment introduces a discussion related to the conclusions presented under Impact 4.3-9 and the analysis included within Table 4.3-20 on pages 4.3-80 through 4.3-84. Each specific item is addressed in Responses to Comments 25-11 through 25-14.

Response to Comment 25-11
The commenter expresses concern that Goal ED-5.4 may not be achieved with the proposed project. The project proposes mining consistent with the County's CCAP, in an area where mining is an allowed use. The proposed project would, among other things, provide a new source of aggregate for the applicant's Woodland aggregate plant, with mitigation for net GHG emissions. These considerations will be further analyzed in the staff report prepared prior to hearings, to assess the merits of the proposal.

Response to Comment 25-12
Please see Response to Comments 25-2, 25-3, 25-4, and 13-15.

Response to Comment 25-13
Please see Response to Comments 25-2, 25-3, 25-4, and 13-15.

Response to Comment 25-14
Please see Response to Comments 25-2, 25-3, 25-4, and 13-15.

Response to Comment 25-15
Please see Response to Comment 25-1. Thank you for participating in the process. The commenter's concerns about the project are noted for the record.

Letter 26

-----Original Message-----
From: Steven Pierce [mailto:pierce6939@sbcglobal.net]
Sent: Thursday, February 4, 2021 3:49 PM
To: Stephanie Cormier <https://urldefense.proofpoint.com/v2/url?u=http-3A__Stephanie.Cormier-40yolocounty.org&d=DwIGaQ&c=euGZstcaTDllvimEN8b7jXrwqOf-v5A_CdpgnVfiiMM&r=kdtPCKeqKIngwAPH6qvp5f_ExA_ifBGx-p-DA3WNK-M&m=swqKpJPilyUfWUIYIy4k_xARuPqDU5j-EaTsB2vxFWs&s=JEUvIONNut_U8D8jq3j0V9ZI6sBsie5ErU7d3GpVgXU&e=>
Subject: Comments on Teichert Shifler Draft EIR

Dear County Supervisors:

26-1 I am a resident who lives just a quarter of a mile from the proposed expanded Teichert mining site. I have grave concerns regarding this project. It will result in the loss of extensive prime agricultural land. As proposed, it will

26-2 result in unreasonable increases to truck traffic along the two roads exiting the facility. It will increase the dust and noise coming from the site. While the ERA believes there will be no impact to the water table. I am by no means a

26-3 water expert, but I have serious concerns about this. If the "experts" are wrong, this will make my house unlivable - no water, no residence.

26-4 While no one can truly predict the future of real estate values, I do have some experience in real estate, and I have done an unscientific polling of very experienced real estate agents. The collective belief is that a project like this will reduce the value of homes in the immediate area will lose approximately 20% of their value solely because of this project. This impact does not appear to be covered in the ERA, but it should be considered.

26-5 I have much more to add, but my current schedule has not allowed me to spend the time to construct a comprehensive, more thoughtful response. For that, I apologize.

In closing, I would like to voice my strong opposition to this project.

Steven Pierce
CR 94B

LETTER 26: STEVEN PIERCE, RESIDENT

Response to Comment 26-1
Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. The commenter's concerns about the project are noted for the record.

Response to Comment 26-2
The commenter expresses general concerns related to agricultural, traffic, dust, and noise. The potential environmental impacts of the proposed project related to agricultural are addressed in Chapter 4.2 of the Draft EIR beginning on page 4.2-22. Please also see the Response to Comment 4-6 and MR-5, "Agricultural Considerations."

Potential impacts related to traffic and circulation are analyzed in Chapter 4.12 of the Draft EIR starting on page 4.12-15. Please also see the Response to Comment 11-4 and MR-3, "Transportation and Circulation."

Potential impacts related to air quality are assessed in Chapter 4.3 of the Draft EIR. Regarding dust-related concerns, please also see the Response to Comment 1-3.

The potential environmental impacts of the proposed project related to noise are analyzed in Chapter 4.10, Noise, of the Draft EIR, beginning on page 4.10-19. Please also see Response to Comments 1-4 and 11-3.

Response to Comment 26-3
With respect to the commenter's concern related to water quality impacts, please see MR-4, "Hydrology and Water Quality." The CCAP has rigorous regulations protecting water which include ongoing monitoring and reporting. There is an extensive record supporting the conclusions that water quality impacts will be less-than-significant.

Response to Comment 26-4
Regarding the commenter's concern related to property value impacts, please see MR-2, "Property Value Consideration."

Response to Comment 26-5
Please see MR-1, "Comments Regarding the Merits of the Project." Thank you for participating in the process. The commenter's opposition to the project is noted for the record.

Letter 27

From: Scott Bradford [mailto:scott.bradford.usda@gmail.com]
Sent: Thursday, February 4, 2021 9:23 PM
To: simonebradford90@gmail.com; Stephanie Cormier <Stephanie.Cormier@yolocounty.org>; Clerkoftheboard <clerkoftheboard@yolocounty.org>; saylor@yolocounty.org; Jim Provenza <Jim.Provenza@yolocounty.org>; Oscar Villegas <Oscar.Villegas@yolocounty.org>; Angel Barajas <Angel.Barajas@yolocounty.org>
Subject: Arsenic Contamination of Drinking Water Wells

Dear Stephanie Cormier and Gary Sandy,

27-1

The Environmental Impact Statement for the Teichert Shifter Mining project apparently did not adequately address the potential impacts of arsenic contamination on the drinking water quality of wells in the vicinity of the proposed mining operations. For example, the drinking water wells in the Wild Wings neighborhood are presently at or near the maximum contaminant levels for arsenic. Mining and dewatering operations have the potential to mobilize arsenic from fine grain sediments. For example, arsenic desorption from clay minerals in the vadose zone can occur as a result of shifts in pH, ligand exchange, changes in the ionic strength, and redox conditions of the surrounding water. Land subsidence due to compaction of interbedded clays has been reported to expel water containing dissolved arsenic or arsenic-mobilizing

solutes (e.g., dissolved organic carbon and competing ions) to deep aquifers over decades (Erban et al., 2013). The potential impact of mining operations on arsenic contamination of drinking water wells therefore deserves a thorough investigation before moving forward with this project. We certainly do not want to exceed safe drinking water standards for arsenic and create a potential risk to public health. Note that small changes in operations can have a big impact on water quality as recently evidenced in Flint, MI (https://www.nrdc.org/stories/flint-water-crisis-everything-you-need-know).

Sincerely,

Scott Bradford, Ph.D.
District 3 resident

P.S. - Please note that I am a Research Soil Scientist and Research Leader for the USDA, ARS, Sustainable Agricultural Water Systems Unit in Davis, CA and the co-Editor-in-Chief for the journal Critical Reviews in Environmental Science and Technology. However, I am providing this letter in my capacity as a concerned citizen and not as a USDA employee.

Erban, L. E., S. M. Gorelick, H. A. Zebker, and S. Fendorf (2013), Release of arsenic to deep groundwater in the Mekong Delta, Vietnam, linked to pumping-induced land subsidence, Proc. Natl. Acad. Sci. U. S. A., 110(34), 13,751–13,756, doi:10.1073/pnas.1300503110

LETTER 27: SCOTT BRADFORD, RESIDENT

Response to Comment 27-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record.

Water quality has been addressed in the Draft EIR. Please see MR-4, "Hydrology and Water Quality," and Appendix E of this Final EIR.

Letter 28

From: Susan Girimonte [mailto:girimonte@sbcglobal.net]
Sent: Friday, February 5, 2021 8:55 AM
To: Stephanie Cormier <Stephanie.Cormier@yolocounty.org>; Clerkoftheboard <clerkoftheboard@yolocounty.org>; Gary Sandy <Gary.Sandy@yolocounty.org>; saylor@yolocounty.org; jimprovenza@yolocounty.org; Oscar Villegas <Oscar.Villegas@yolocounty.org>; Angel Barajas <Angel.Barajas@yolocounty.org>
Subject: Teichert Schifler Mining Project

Dear Elected Officials and Valued County Employees,

28-1 I am a resident of Wild Wings and have lived here as a first owner since 2005. My home is on Goldeneye Street and backs up to the Nature Preserve and Cache Creek.

28-2 I am writing to you to express my concerns to the proposed Teichert Mining Project. My main concerns are the noise pollution, air quality, and possible contamination of our existing fragile well water. I believe that the value/profit for the project does not out weigh the well being and quality of life for our community. I have read the reports and these issues have been raised by many. I am asking you to carefully consider what can be done to mitigate these problems if the project is approved. However, the better solution would be to not approve the project.

I would like to inform you of some of the problems we have faced as homeowners and a community in Wild Wings since the neighborhood was established in 2004. I have listed them below:

28-3 1.) Market fallout and foreclosures in 2008 and beyond. As many suffered through this time, Wild Wings was hit especially hard because it was a new community and the housing prices were high and inflated.
2.) Golf course failure. As a community we voted to maintain the course and pay for the water so the course would not go under and further decrease the value of our homes. The course is now a benefit to our residents and Yolo County at large. We continue to subsidize the course through our taxes.

28-4 3.) Water and well issues. This is an ongoing worry and as you know we are in litigation about the lack of oversight in protecting our water quality and supply.

28-5 4.) ATV trespassing and destroying the Cache Creek area and Nature Preserve. This is a problem that still has not been addressed and the area is trespassed and polluted daily.

28-6 I love this community and do not plan on moving. What we need is a some help from you in order to maintain the way of life we thought we signed up for. This Teichert Project would be yet another setback to the quality of life for our residents.

Please register my opposition and thank you for your consideration.

Sincerely,
Susan Girimonte

LETTER 28: SUSAN GIRIMONTE, RESIDENT

Response to Comment 28-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record.

Response to Comment 28-2

The commenter expresses general concerns related to noise pollution, air quality, and well contamination. The potential environmental impacts of the proposed project related to noise are analyzed in Chapter 4.10, Noise, of the Draft EIR, beginning on page 4.10-19. Please also see Response to Comments 1-4 and 11-3.

Potential impacts related to air quality are assessed in Chapter 4.3 of the Draft EIR. Regarding dust-related concerns, please also see the Response to Comment 1-3.

With respect to the commenter's concern related to water quality impacts, please see MR-4, "Hydrology and Water Quality." The CCAP has rigorous regulations protecting water which include ongoing monitoring and reporting. There is an extensive record supporting the conclusions that water quality impacts will be less than significant.

Response to Comment 28-3

The commenter describes some of the challenges Wild Wings residents have faced. This perspective is appreciated. Further response is not required.

Response to Comment 28-4

The lawsuit referenced in this comment is *Wild Wings Owners Association v. County of Yolo*, filed in early 2019 in Yolo Superior Court (No. CV-19-237). The lawsuit alleges, among other things, that the County mismanaged the wastewater treatment and freshwater systems at the plant owned and operated by the County Service Area ("CSA"). Further, the lawsuit alleges the CSA fees imposed on Wild Wings landowners included maintenance charges necessitated by the County's allegedly poor maintenance of the plant. The complaint has been amended twice, most recently to revise the claims against the County to include violations of Proposition 218 and inverse condemnation. The lawsuit does not allege any claims against the County or other defendants relating to water supply or quality issues. The County and plaintiffs entered into a conditional settlement earlier this year and efforts to implement the settlement are ongoing. The lawsuit remains active as to other defendants, including contractors that performed services for the CSA.

Response to Comment 28-5

OHV use is legal within the bed of the Creek, below the ordinary high-water mark, between the hours of 6:00 AM and 7:00 PM (Yolo County Code Section 10-12.103(a)). However, OHV use on any non-highway property owned by the County, such as the Cache Creek Nature Preserve, is illegal (Yolo County Code Section 10-12.104 [a]), and instances of trespass or vandalism should be reported to the Yolo County Sheriff's Office.

Response to Comment 28-6

Please see MR-1, "Comments Regarding the Merits of the Project." Regarding various general community impacts, these are addressed throughout the Draft EIR and particularly in Chapter 4.9, Land Use and Planning. As part of the Draft EIR's analysis, impacts commonly associated with quality of life, such as potential environmental impacts related to aesthetics, air quality, hydrology and water quality, and noise, are assessed in various chapters throughout the Draft EIR. Thank you for participating in the process. The commenter's opposition to the project is noted for the record.

Letter 29

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A PROFESSIONAL CORPORATION
ATTORNEYS
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SACRAMENTO, CALIFORNIA 95814

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JOHN M. TAYLOR
JAMES B. WILEY
JESSE J. YANG
KATE A. WHEATLEY
MATTHEW S. KEASLING

February 5, 2021

Stephanie Cormier, Principal Planner
Yolo County Department of Community Services, Planning Division
292 West Beemer Street
Woodland, California 95695

Re: Teichert Shifler Mining and Reclamation Project Draft Environmental Impact Report (SCH# 2019089053)

Dear Ms. Cormier:

29-1 As you are aware, Taylor and Wiley represents Teichert Materials (Teichert), the applicant for the Teichert Shifler Mining and Reclamation Project (Project). We have reviewed the Draft Environmental Impact Report (DEIR) for the Project. Based on that review, we offer the following comments:

29-2 Timeliness of Comments. The stated comment period for the DEIR was originally scheduled to close on February 2, 2021. However, based on the County's contract planner Heidi Tschudin's comments at the Planning Commission hearing on the DEIR on January 21, 2021, it is our understanding that the County is accepting comments on the DEIR through February 5, 2021.

Chapter 2 (Executive Summary)

Table 2-1. See Chapters below for specific comments on impacts and mitigation in executive summary table.

Chapter 3 (Project Description)

29-3 Page 3-1, Second Paragraph. In the fifth sentence of this paragraph, the word "boundaries" is misspelled "bounnetries."

Page 3-3, Fourth Paragraph. Mining on the Schwarzgruber property is now anticipated to be completed in 2021, not 2020, as indicated in the DEIR.

Page 3-8, Fourth Paragraph. On January 21, 2021, the State Mining and Geology Board (SMGB) approved Teichert's petition to apply the MRZ-2 designation to the entire project site.

Chapter 4.2 (Agricultural Resources)

29-4 Page 4.2-27, Fourth and Fifth Paragraphs. See our prior comment regarding page 3-8 with respect to the SMGB's approval of Teichert's petition to apply the MRZ-2 designation to the entire project site.

Chapter 4.3 (Air Quality, Greenhouse Gas Emissions, and Energy)

29-5 Page 4.3-43, Operational Emissions. The DEIR notes that the 10-year average production was the used for the purpose of calculating baseline operational emissions. While we concede that the use of the 10-year average production scenario is a conservative baseline for assessing air quality and greenhouse gas (GHG) emissions of the Project, the use of this baseline attributes to the Project those emissions that would already occur with operations at the existing permitted maximum, which is allowed under the current entitlements for the Teichert Woodland and Esparto facilities. No increase in total annual production is being sought with the Project, only a transfer of the existing permitted production from the Esparto facility to the Woodland facility. The 10-year average used in the DEIR was from 2005 to 2014, which includes several years of substantially reduced production as a result of the recent recession of the late 2000s and early 2010s during which construction projects and associated aggregate demand were greatly diminished. Aggregate production can vary greatly depending on demand. In non-recession years, actual operations at Teichert's Woodland and Esparto have regularly approached the maximum permitted annual production level of a combined 2.2 million tons sold. For example, combined production at the two facilities was over 1.8 million tons in six of the past twenty years and over two million tons in three of those six years.

29-6 While we are not suggesting that the current analysis be stricken, to balance out the analysis, we suggest that the DEIR also include information comparing the Project's air quality and GHG emissions to those associated with use of the existing maximum permitted production scenario (1.2 million tons sold per year [MTY] Woodland/1.0 MTY Esparto). Using this baseline removes the variability of annual aggregate production from the comparison of existing and Project emissions. The use of an aggregate facility's permitted maximum as a baseline for CEQA analysis is supported by *Fairview Neighbors v. County of Ventura*, 70 Cal.App.4th 238 (1999). This approach ensures that the air quality and GHG analysis compare the change in operational emissions associated with the Project by focusing on the changes in anticipated plant equipment and vehicle trip lengths as opposed to production level, which can vary substantially on a day-to-day basis. For these reasons, the EIR should also include a comparison of emissions of the existing maximum permitted production (1.2 MTY Woodland/1.0 MTY Esparto) to the emissions of the Project.

29-7 Pages 4.3-74 to 4.3-76, Impact 4.3-7. See our previous comments on page 4.3-43 above regarding the use of the 10-year average baseline. As discussed, no increase in maximum permitted production is being sought with the Project, as the Esparto production allocation is simply being transferred to the Woodland Plant. Thus, actual Project GHG emissions would not increase beyond what could already occur under existing entitlements. In fact, as discussed below in our comments regarding traffic and

29-7 cont. circulation, the VMT analysis prepared by Fehr & Peers Associates and incorporated into the DEIR as Appendix M2 concluded that the Project would decrease VMT when comparing existing permitted capacity of Teichert's Woodland and Esparto plants to the proposed permitted capacity at the Woodland Plant due to shorter trip lengths. Because VMT associated with maximum permitted operations would decrease with the Project, the associated GHG emissions would also be reduced with the Project. For these reasons, the DEIR should also include a comparison of GHG emissions associated with maximum permitted operations under existing and Project scenarios.

Chapter 4.4 (Biological Resources)

29-8 Page 4.4-6, Wetlands and Potential Waters of the U.S./State. The second paragraph of this discussion states that, "the USACE confirmed to EcoSynthesis that the on-site irrigation ditches (such as Moore Canal and Magnolia Canal) are not considered jurisdictional." This is not accurate. The USACE concurred with EcoSynthesis' delineation which concluded that the canals were jurisdictional (i.e., were waters of the U.S.), but USACE then determined that the canals were exempt from the permitting requirements of the Clean Water Act, Section 404. The final sentence of this Section should also be revised to reflect that the project site contains 2.205 acres of waters of the U.S., consisting of Moore and Magnolia canals.

29-9 Page 4.4-8, Moore Canal and Magnolia Canal. The second sentence of this section restates the incorrect conclusion that the irrigation canals are not waters of the U.S., as discussed in the immediately preceding comment. We recommend that this sentence be revised as follows:

> Per the Section 404(f) exemption found in 33 CFR 323.4(a)(3), permits from USACE are not required for construction and maintenance of irrigation ditches ~~as irrigation ditches are not considered waters of the U.S.~~."

The final sentence of this discussion notes that, even though the USACE determined that the realignment of the irrigation ditches does not require a 404 permit, "the irrigation ditches may be considered to be waters of the State." However, please see the attached e-mail from Stephanie Tadlock at the Central Valley Regional Water Quality Control Board (RWQCB) confirming that no permits are needed from the RWQCB in order to realign the canals.

29-10 Page 4.4-24, California Fish & Game Code Section 1600 et seq. There are some misstatements of the law in this section of the DEIR. We suggest the following revisions:

> "Section 1602 of the Fish and Game Code requires that a person notify ~~a Streambed Alteration Agreement (SAA) be submitted to~~ CDFW ~~for~~ before beginning "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake." CDFW ~~must be notified prior to any such activities and~~ will review the proposed action(s). If CDFW determines that the proposed

29-10 cont.

activity will substantially affect fish and wildlife resources, it will require a Streambed Alteration Agreement (SAA), which will contain ~~necessary, CDFW will propose~~ measures to protect affected fish and wildlife resources."

Page 4.4-25, Porter-Cologne Water Quality Act. This section should reference the "State Wetland Definition and Procedures for Discharges of Dredged & Fill Materials to Waters of the State," adopted by the SWRCB in April 2019, which is SWRCB/RWQCB's new regulatory process for permitting discharge of fill to Waters of the State. Moreover, the reference to NWPs does not belong here, as NWPs are from the Corps/404 program and have nothing to do with SWRCB/RWQCB jurisdiction. We suggest revising the third paragraph as follows:

29-11

"Under the Porter-Cologne Water Quality Control Act (Cal. Water Code Section 13000-14920), the RWQCB is authorized to regulate the discharge of waste that could affect the quality of the State's waters. In response to the narrowing of federal jurisdiction over certain aquatic features by various legal decisions, most notably Solid Waste Agency of Northern Cook County (SWANCC) v. USACE, the RWQCB adopted its own program to regulate the discharge of waste to waters of the State. This program – known as the State Wetland Definition and Procedures for Discharges of Dredged and Fill Material (State Wetland Procedures) – was adopted by the State Water Resources Control Board in April of 2019. Therefore, even if a project does not require a federal permit (i.e., a Nationwide Permit from the USACE), the project may still require review and approval by the RWQCB pursuant to the State Wetland Procedures.~~, in light of the approval of new NWPs on March 9, 2000 and the Supreme Court's decision in the case of Solid Waste Agency of Northern Cook County (SWANCC) v. USACE. The RWQCB in response to the above case, issued guidance for regulation of discharges to "isolated" water on June 25, 2004. The guidance states:~~

We suggest deleting the subsequent quote from the RWQCB's 2004 guidance as well.

29-12

Pages 4.4-47 to 4.4-49, Impact 4.4-3. The DEIR should note that there are no wetlands or other special aquatic habitats (marsh, vernal pool, etc.) onsite, only the two man-made irrigation canals. There are several references to "wetlands" in this discussion that may cause confusion and should be removed. We have several additional comments regarding the DEIR's discussion of impacts to state or federally protected wetlands and the provided mitigation measures associated with this impact. Please refer to our specific comments below.

29-13

Page 4.4-47, Last Paragraph, to 4.4-48, First Paragraph. The first sentence of this paragraph incorrectly notes that the project site does not contain jurisdictional features (waters of the U.S). As discussed in our prior comments, the canals are jurisdictional

features under the Clean Water Act. It is correct to note (as the DEIR does) that the Corps determined no permits are needed to move the canals (i.e., work is exempt under Section 404(f) of the CWA). So, no mitigation is required pursuant to Section 404. The second sentence of this paragraph notes that the discussion is focused on impacts to waters of the State, and the following paragraph notes that the canals are considered waters of the State, which is a correct assertion. However, the DIER should reference the previously discussed determination from RWQCB that no permits are required for moving the canals – the only waters of the State onsite. (See attached email from the RWQCB.) So, no mitigation is required pursuant to Porter-Cologne and/or the State Wetland Procedures.

29-13 cont.

Page 4.4-48, Second Paragraph. The second paragraph (first full paragraph) on page 4.4-48, starting at the third sentence, should be revised as follows to more accurately describe the requirements of Section 1602 of the Fish and Game Code:

> In addition, Section 1602 of the Fish and Game Code requires that a person notify ~~a SAA to be submitted to~~ CDFW ~~for~~ before beginning "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake", which ~~would~~ may include the proposed relocation of the Moore and Magnolia canals. If CDFW determines that the proposed relocation of the canals is within its jurisdiction, and that the activity will substantially affect fish and wildlife resources, it may require a Streambed Alteration Agreement (SAA), which will contain measures to protect such affected fish and wildlife resources. Therefore, the project would have the potential to involve the disturbance, removal or fill or hydrologic interruption of 2.205 acres of aquatic resources potentially within the jurisdiction of ~~waters of the State regulated by the RWQCB and/or the~~ CDFW. …"

29-14

Page 4.4-8, Third Paragraph. The second and third sentences of this paragraph should be revised to read as follows to more accurately reflect the Project's post-reclamation effect on aquatic resources:

> Thus, the proposed project would result in a net increase in on-site aquatic resources ~~wetland and waters of the State~~ once reclamation is complete. ~~The net increase in on-site wetlands following project implementation is important because CDFW and RWQCB pursue a "no net loss" approach to wetland conservation~~. Typically, project applicants are required, either by the foregoing state agencies or the USACE, to purchase credits at mitigation banks to off-set the on-site loss of aquatic resources~~wetlands~~."

29-15

Also, the last several sentences of this paragraph refer to the loss of aquatic resources. However, the only "waters" being removed are portions of Moore and Magnolia canals proposed to be relocated. There are no other affected aquatic resources. Therefore, we would suggest the following edits to these sentences:

29-15 cont.

…in addition to the increased length of Moore Canal serving to off-set most if not all of the removed area of Magnolia Canal, following reclamation of the project site, reclamation of the site will also result in the creation of ~~the small amount of aquatic resources lost during mining activities would be replaced with~~ a permanent lake that would greatly expand the aquatic resources and wetland habitat available on-site. Consequently, the project would result in a net increase in aquatic resources comply with the "no-net-loss" approach to wetland conservation over the ~~life~~ of the project.

Page 4.4-48, Fourth Paragraph. This discussion contains a few inaccurate statements concerning the applicability of the Yolo HCP/NCCP AMMs to the Project. We suggest the following revisions to this paragraph to clarify matters:

29-16

…In addition, the Yolo HCP/NCCP contains two AMMs addressing impacts to wetlands and other waters: AMM 9 and AMM 10. AMM 9 requires the establishment of buffers around certain wetlands that will be avoided by a project. Since there are no wetlands on the project site, AMM 9 is not applicable. AMM 10 provides that project proponents must comply with any requirements imposed by applicable National Pollutant Discharge Elimination System (NPDES) permits, as well as complying with applicable requirements of other agencies with jurisdiction ~~of~~ over the impacted features. ~~Because the waters on the project site cannot be avoided, AMM 9 is not applicable to the proposed project~~."

29-17

Page 4.4-49, Second Paragraph. The DEIR concludes that the project could have a substantial adverse effect on sensitive natural communities and/or have a substantial adverse effect on State-protected aquatic resources (marsh, vernal pools, etc.). As discussed in our prior comments, there are no wetlands or other sensitive aquatic resources on this site, just the canals. Is the discussion referring to the temporary impact associated with relocation of the canals?

Page 4.4-49, Mitigation Measure 4.4-3(b). We suggest the following revisions to this measure to more accurately describe the requirements of Section 1602 of the Fish and Game Code:

29-18

"Prior to disturbance associated with relocation of the Moore and/or Magnolia Canal, the applicant shall notify CDFW pursuant to ~~secure a~~ Section 1602 of the Fish and Game Code to determine whether a Lake or Streambed Alteration Agreement ~~from CDFW,~~ is required for the relocation of the Moore/Magnolia Canal and any other activities affecting the bed, bank or associated riparian vegetation of the canals. The information provided in the application shall include a description of all of the activities associated with the relocation of the canals and any other

29-18 cont.

activities affecting the bed, bank or any associated riparian vegetation of those features. ~~proposed project, and shall not be limited to those associated solely with the drainages and/or riparian vegetation.~~ Impacts to the canals and any associated riparian vegetation shall be outlined in the application and shall be substantially consistent with the impacts to biological resources outlined in this EIR. Impacts for each activity shall be broken down by temporary and permanent, and a description of the proposed mitigation for biological resource impacts, including compliance with the Yolo HCP/NCCP, shall be outlined per activity and as temporary or permanent. ~~Information regarding project-specific drainage and hydrology changes resulting from project implementation shall be provided as well as a description of stormwater treatment methods.~~ Mitigation may include compliance with the Yolo HCP/NCCP, restoration or enhancement of resources on or off-site, purchase habitat credits from an agency-approved mitigation/conservation bank, off-site, working with a local land trust to preserve land, or any other method acceptable to CDFW. Written verification of the applicant's compliance with Section 1602 of the Fish & Game Code~~Lake or Streambed Alteration Agreement~~ shall be submitted to the County."

Chapter 4.5 (Cultural Resources)

29-19

General Comment. At the Planning Commission hearing of January 21, 2021, a representative of the Yocha Dehe Wintun Nation (Yocha Dehe) expressed some concerns regarding the analysis of tribal cultural resources in the DEIR and indicated that the analysis did not address their earlier comments. In light of that testimony, Teichert suggests that the County consider having a third-party review and update the cultural resources chapter and provide further analysis of all issues identified by the Yocha Dehe.

Chapter 4.6 (Geology and Soils)

Page 4.6-6, Second Paragraph. See our prior comment regarding page 3-8 with respect to the SMGB's approval of Teichert's petition to apply the MRZ-2 designation to the entire project site.

29-20

Page 4.6-29, Second Paragraph. See our prior comment regarding page 3-8 with respect to the SMGB's approval of Teichert's petition to apply the MRZ-2 designation to the entire project site.

Page 4.6-31, Table 4.6-1. With respect to the discussion of Action CO-A43, please see our prior comment regarding the SMGB's approval of Teichert's petition to apply to the MRZ-2 designation to the entire project site.

Stephanie Cormier
February 5, 2021
Page 8

Chapter 4.8 (Hydrology and Water Quality)

29-20 cont.

Pages 4.8-41 to 4.8-45, Impact 4.8-4. The impact statement on page 4.8-41 indicates that this impact is "less than significant," but the discussion on page 4.8-43 and the Executive Summary on page 2-35 denotes that it is a significant impact.

Chapter 4.12 (Transportation and Circulation)

29-21

Pages 4.12-18 to 4.12-19, Project Vehicle Miles Traveled. The DEIR notes that the 10-year average production between 2005 and 2014 was the used for the purpose of calculating baseline vehicle miles traveled (VMT). As discussed in our prior comments regarding air quality and GHG emissions, the use of the 10-year average production scenario overstates the impacts of the Project. We suggest that the EIR also include a scenario that compares VMT associated with existing maximum permitted production levels (1.2 MTY Woodland/1.0 MTY Esparto) to the Project. This information is already found in the VMT analysis prepared by Fehr & Peers Associates and included in the DEIR as Appendix M2. The analysis shows that the Project would reduce VMT when comparing maximum permitted operations under existing conditions (1.2 MTY Woodland/1.0 MTY Esparto) to maximum permitted operations under Project conditions (2.2 MTY Woodland). Per that analysis, maximum permitted operations under existing condition would generate 6,146,918 VMT, while maximum permitted operations with the Project would generate only 5,628,012 VMT. Thus, maximum permitted operations with the Project would reduce VMT by 518,906 or approximately 8.4% compared to maximum permitted operations under existing conditions.

Moreover, it should be noted that several jurisdictions in California[1] have concluded that the VMT analysis requirements of SB 743 only apply to automobiles and light-duty trucks, i.e., those vehicles that support typical worker commute trips. These jurisdictions do not require CEQA analysis of VMT impacts associated with the movement of goods and associated heavy-duty truck traffic.

29-22

Pages 4.12-20 to 4.12-23, Impact 4.12-2. Please see our comments above regarding the use of the 10-year average as a baseline to assess the significance of the Project's VMT emissions. As noted on page 4.12-21 of the DEIR, the Project would reduce the average trip length for both employee commutes and truck deliveries by approximately 5.4 % each compared to existing conditions, based on the technical analysis prepared by Fehr & Peers Associates and included in the DEIR as Appendix M2. Moreover, the DEIR notes that, for the same level of production, VMT generated by the Project would decrease from existing conditions given the proximity of the Woodland Plant to the market and employee homes.

[1] Examples of jurisdictions that have exempted heavy-duty truck traffic from the VMT analysis requirements of SB 743 include, but are not limited to, the cities of Clovis, Irvine, Long Beach, San Diego San Marcos, and San Mateo.

Stephanie Cormier
February 5, 2021
Page 9

Chapter 6 (Alternatives)

29-23 Page 6-9, Fourth Paragraph. The DEIR notes, under its discussion of the No Project Alternative, that other sources of aggregate within the CCAP boundary and/or outside of the County would result in longer trip lengths as compared to a local source such as the Project, thereby increasing air pollutant and GHG emissions associated with aggregate transport. Teichert concurs with this statement. If the Project were not approved, our customers would have to purchase aggregate from other aggregate facilities located within the CCAP boundary and/or outside of the County. We suggest that the EIR include a discussion of what increased air pollutant and GHG emissions might occur based on the locations of alternative aggregate mining facilities needed to meet aggregate demand if the Project is not approved. For example, our research indicates that that average trip lengths would increase by 20% if aggregate demand were met by purchasing aggregate from Granite's Esparto facility. If Teichert were to utilize out-of-county sources, average trip lengths would increase by 153% if that aggregate demand were met by importing aggregate from alternative sites in Yuba County.

29-24 Page 6-11, Transportation and Circulation. The DEIR notes that, under the No Project Alternative, other sources of aggregate within the CCAP boundary and/or outside the County would result in longer trip lengths as compared to a local source such as the Project, thereby increasing regional VMT. Teichert concurs with this statement. We suggest that the EIR quantify what VMT increases could occur if the Project is not approved and aggregate demand must be met with alternative sources both within the CCAP boundary and outside of the County. Please see our prior comment above for specific examples of trip length increases associated with the use of aggregate from other sources within the CCAP boundary and/or outside of the County.

29-25 Pages 6-20 to 6-26, Moore Canal Avoidance Alternative. While the Moore Canal Avoidance Alternative may meet most of the project objectives, it should be noted that this alternative would result in the loss of approximately 3.6 million cubic yards (5.4 million tons) of aggregate compared to the proposed Project, because the aggregate under the existing Moore Canal would not be mined.

29-26 Pages 6-26 to 6-31, Moore Canal Southern Alignment Alternative. While the Moore Canal Southern Alignment Alternative would meet the stated project objectives, it should be noted that the cost of canal relocation would approximately double under this alternative when compared to the proposed Project. The increased cost associated with this alternative may render this alternative economically infeasible for Teichert.

29-27 We appreciate the opportunity to provide our comments on the DEIR. Please let us know if you have any questions or need further information to respond to our comments.

Sincerely,

Jesse J. Yang

29-28 Enclosure (RWQCB e-mail)

cc: Jason Smith, Teichert Materials

From: Tadlock, Stephanie@Waterboards
To: Kate Wheatley
Subject: RE: Teichert Shifler Property
Date: Thursday, December 17, 2020 1:25:22 PM

I apologize for missing this one. If the only waters being impacted are irrigation canals, then no 401 or WDR are needed from our office.

Steph

Stephanie Tadlock
Senior Environmental Scientist
401 Water Quality Certification and Dredging Unit
(916) 464-4644
Stephanie.Tadlock@waterboards.ca.gov

From: Kate Wheatley <kwheatley@taylor-wiley.com>
Sent: Thursday, December 17, 2020 1:17 PM
To: Tadlock, Stephanie@Waterboards <Stephanie.Tadlock@waterboards.ca.gov>
Subject: RE: Teichert Shifler Property

EXTERNAL:

Hi Stephanie,

I'm sorry to be a pest – just checking in on this item. Yolo County is expected to release the draft EIR for the Shifler project within the next couple of days, so it would be very helpful to have RWQCB's written confirmation that no permits are needed to relocate Moore and Magnolia canals as soon as possible. Please let me know if I can provide any additional information relative to our request.

By the way, I had a great conversation with Angela Nguyen-Tan today regarding the Jackson Township project. Thank you again for connecting us.

I hope you are well!

Kate

Kate A. Wheatley
TAYLOR & WILEY
500 Capitol Mall, Suite 1150
Sacramento, CA 95814
916.929.5545 (o)
916.201.4285 (m)

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From: Kate Wheatley
Sent: Tuesday, December 1, 2020 2:14 PM
To: Stephanie.Tadlock@waterboards.ca.gov
Subject: RE: Teichert Shifler Property

Hi Stephanie,

Just following up on this request. Please let me know if you have any questions or if you need additional information.

Thanks!

Kate Wheatley

Kate A. Wheatley
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500 Capitol Mall, Suite 1150
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From: Kate Wheatley
Sent: Tuesday, November 17, 2020 11:37 AM
To: Stephanie.Tadlock@waterboards.ca.gov
Subject: Teichert Shifler Property

Hi Stephanie,

Thanks for speaking with me this morning. Per our discussion, I'm attaching a copy of the wetland delineation figure for the Shifler property. I am also attaching a letter from the Corps verifying that the only "waters of the US" onsite are the Moore and Magnolia irrigation canals, and indicating that relocation of these canals is exempt under Clean Water Act Section 404(f). Teichert is requesting confirmation from CVRWQCB that no 401 certification or WDR are required for the canal relocation.

Please feel free to reach out with any questions.

Thanks again,

Kate

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500 Capitol Mall, Suite 1150
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LETTER 29: JESSE J. YANG, TAYLOR & WILEY ON BEHALF OF TEICHERT MATERIALS

Response to Comment 29-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. The comments are noted for the record.

Response to Comment 29-2

The comment addresses the timeline and deadline for submitting comments on the Draft EIR. As indicated in Section 1.3 of Chapter 1 of this Final EIR, the County opted to accept and respond to comments after the February 2, 2021, deadline through February 5, 2021.

Response to Comment 29-3

The comment identifies a text error. The fifth sentence of the second paragraph on page 3-1 is hereby corrected as follows:

> The proposed project is located within the ~~bounnetries~~ boundaries of the Cache Creek Area Plan (CCAP) adopted by the Board of Supervisors in 1996, and most recently updated in 2019.

The comment notes that mining on the Schwarzgruber property is now anticipated to be completed in 2021, not 2020, as indicated on page 3-3 of the Draft EIR. The fourth paragraph on page 3-3 is hereby corrected as follows:

> In November 2012, the County approved the Teichert Schwarzgruber operation with mining to commence following the completion of mining at the Teichert Woodland sites. Mining at the 41-acre Schwarzgruber site was approved for a total of 4.65 million tons (4.0 million tons sold) over a maximum 15-year period at an annual rate not to exceed 1,176,471 tons mined (1.0 million tons sold) per year (Zone File 2011-0035). Mining on the Schwarzgruber site commenced in 2017 and ~~if~~ is anticipated to be completed in ~~2020~~ 2021, depending on market demand. Aggregate extracted from the Schwarzgruber site is being processed at the Teichert Woodland Plant. Teichert is seeking approval of mining at the Shifler property to commence following the completion of mining at the Schwarzgruber site. The Schwarzgruber site will be reclaimed to habitat uses, consisting of seasonal pond, grassland, riparian, and riparian wetland habitat. Teichert is requesting to transfer the annual production allotment from the Schwarzgruber operation to the Shifler site.

Referring to the fourth paragraph on page 3-8, the comment notes that on January 21, 2021, the SMGB approved the project applicant's petition to apply the MRZ-2 designation to the entire project site. The final action by the SMGB occurred May 20, 2021, with acceptance by that body of Special Report 255 (see Appendix K). This paragraph is revised as follows:

> Existing surface elevations on the project site range from approximately 98 to 112 feet above mean sea level (MSL), with the proposed mining area elevations between approximately 103 and 112 feet above MSL. On-site soils include Brentwood silty clay loam, 0 to 2 percent slopes, Loamy alluvial land, Riverwash, Sehorn-Balcom complex, 2 to 15 percent slopes, Sehorn-Balcom complex, 30 to 50 percent slopes, eroded, and Yolo silt loam, 0 to 2 percent slopes. ~~Approximately~~ Previously, approximately 107 acres of the project site ~~are~~ was located within Mineral Resources Zone (MRZ)-2, which generally

> includes areas underlain by mineral deposits where geologic data show that significant measured or indicated resources are present. The remainder of the project site ~~is~~ was located within MRZ-3, which indicates that this area includes mineral deposits, the significance of which cannot be evaluated from available data. However, effective May 20, 2021, the State Mining and Geology Board (SMGB) redesignated the entirety of the subject property MRZ-2.

The requested revisions to Chapter 2 and Chapter 3 are for clarification purposes and do not change the conclusions of the analysis in the Draft EIR.

Response to Comment 29-4

In response to the comment, the fourth paragraph on page 4.2-23 of the Draft EIR is hereby updated as follows:

> While much of the site is currently used for agriculture, the site falls within the boundaries of the CCAP and within the Planning Area for the OCMP (see Figure 4.2-3). ~~Approximately 107 acres of the site is designated by the California State Mining and Geology Board as MRZ-2,~~ Effective May 20, 2021, the State Mining and Geology Board (SMGB) redesignated the entire project site MRZ-2. ~~reflecting~~ The MRZ-2 designation reflects the existence of known significant mineral deposits or a high likelihood for the presence of mineral deposits. ~~The remaining approximately 212 acres of the project site is designated MRZ-3, indicating an area of known reserves of unknown significance (see Figure 4.2-4). The applicant as submitted an application to the DOC in July 2020 to change the MRZ-3 State designation of the site to MRZ-2 to reflect the existence of known significant aggregate reserves over the entire project site.~~ The property is identified for Future Proposed Mining on Figure 5 of the CCAP. As such, proposed mining at the property is consistent with the CCAP and mining operations are an anticipated use.

The requested revisions are for clarification purposes and do not change the conclusions of the analysis in the Draft EIR.

Response to Comment 29-5

The comment describes the applicant's perspective that the 10-year average production used for purposes of assessing air and greenhouse gas emissions is a conservative approach for reasons stated. This comment is noted. No response is necessary.

The baseline operational emissions analysis presented in the Draft EIR provides a conservative assessment. Estimates of the air quality and GHG emissions associated with the maximum permitted production of a combined 2.2 million tons sold from the Esparto and Woodland plants are presented in Response to Comment 29-6; however, the estimates are presented for comparison purposes and do not change the conclusions of the analysis in the Draft EIR.

Response to Comment 29-6

The applicant requests the County compare air quality and GHG emissions from permitted maximum annual production at the Woodland and Esparto facilities (2.2 million tons sold) to the 10-year production average method utilized in the Draft EIR. Tables A and B below provide this information. It is noted that the estimates below were calculated using a per-ton ratio to proportionally scale the emissions associated with each facility. The estimates reflect a good-faith effort to respond to the commenter's request and provide a theoretical basis to support the approach to analysis taken in the Draft EIR, and do not necessarily represent precise data.

Table A Operational Criteria Pollutant Emissions			
	ROG (tons/yr)	**NO_X (tons/yr)**	**PM_{10} (lbs/day)**
Maximum Allowable Emissions Under Existing Permit	5.01*	87.88*	668.98*
Actual 10-year Average Emissions Under Existing Permit	2.59	45.43	345.82
Proposed Project	2.39	43.75	422.82
* These values were estimated based on a per-ton/per-pound emission factor. Modeled emissions may vary.			

As shown in Table A, the proposed project would result in a net decrease in operational emissions of all criteria pollutants of concern during the proposed mining activities when compared to the maximum allowable emissions under the existing permitting conditions, because improvements to vehicle emissions, vehicle fleets, and heavy mining equipment, which are governed at the federal and State level, will be realized overtime in accordance with mandated requirements. Therefore, because the rate of emissions improves over time through advancements in technology and fuel efficiency, the analysis of project-related emissions presented in the Draft EIR, which were estimated based on 2020 emission rates, is conservative. Project implementation over time would involve a more efficient rate of emissions from project-associated machinery and mobile emissions would be reduced from what was anticipated in the Draft EIR.

Additionally, the table demonstrates that the 10-year averaging approach to analysis used in the Draft EIR offers a conservative analysis, because emissions under the 10-year average conditions are substantially less than the potential emissions under the maximum permitted production. In other words, the net change between emissions from approved mining under current conditions and the proposed project is in actuality a negative number, reflecting an overall decrease in emissions under the proposed project. Generally, in reality, emissions are expected to go down for the aforementioned reasons cited above. However, based on the conservative approach in the Draft EIR, the net change between emissions from the assumed 10-year production average and the proposed project is a higher number, suggesting an overall increase in emissions under the proposed project, as a result of the conservative analysis method, when such an increase may not actually occur.

Table B Operational GHG Emissions	
	GHG Emissions (MTCO2e/yr)
Maximum Allowable Emissions Under Existing Permit	22,441.75*
Actual 10-Year Average Emissions Under Existing Permit	11,601.01
Proposed Project	13,489.45
* This value was estimated based on a per-ton emission factor. Modeled emissions may vary.	

Similar to the discussion above, Table B demonstrates that GHG emissions associated with the maximum permitted production scenario would be substantially greater than emissions under the 10-year average conditions. The proposed project would result in a net decrease in operational GHG emissions when compared to the maximum allowable emissions under the existing permitting conditions. However, as noted on page 4.3-75 of the Draft EIR, the proposed project would result in a net increase in GHG emissions as compared to the 10-year average. As such, the comparison to the 10-year average scenario represents a more conservative approach to the environmental impact analysis.

Response to Comment 29-7

Please see the Response to Comments 29-5 and 29-6. It is accurate that when compared to the maximum annual production allowed under the current approvals, emissions are projected to decrease. The County chose the 10-year production average method to better reflect changes as compared to recent actual conditions.

Response to Comment 29-8

The comment identifies errors in the third and fourth paragraphs under the Wetlands and Potential Waters of the U.S./State subheading on page 4.4-6. The third and fourth paragraphs are hereby clarified as follows:

> A delineation of wetlands and other waters of the U.S. was prepared for the project site by ECORP. The USACE issued a preliminary jurisdictional determination (PJD) in July 2012. Subsequent to the USACE PJD, EcoSynthesis provided a new wetland delineation of the Shifler site using up-to-date methodologies and equipment. EcoSynthesis submitted the findings of the updated wetland delineation to the USACE, which issued a PJD on June 3, 2020 concurring with the findings of EcoSynthesis. Based on the updated delineation efforts prepared for the project, the project site contains a total of 2.205 acres of ~~potentially~~ jurisdictional waters of the U.S. – which would also be considered waters of the State. The ~~potentially~~ jurisdictional waters on-site consist of Moore Canal and Magnolia Canal (see Figure 4.4-1). However, USACE determined that the canals were exempt from permitting requirements of the Clean Water Act (CWA), Section 404.
>
> Previous wetland delineations prepared by ECORP for the project site identified other features on-site that were considered potentially jurisdictional at the time ECORP prepared the site delineation. As further explained in the Aquatic Resources Delineation memorandum prepared by EcoSynthesis on July 5, 2020, all potential aquatic resources within the site other than Moore Canal and Magnolia Canal have been determined not to be aquatic resources. ~~In addition, the USACE confirmed to EcoSynthesis that the on-site irrigation ditches (such as the Moore Canal and Magnolia Canal) are not considered jurisdictional.~~ The USACE's PJD issued on June 3, 2020 is considered the definitive determination of potentially jurisdictional features on-site. ~~Given the conclusions of the USACE, the project site does not contain any aquatic features that would be considered jurisdictional waters by the USACE.~~

The revisions to Chapter 4.4, Biological Resources, do not change the conclusions of the analysis in the Draft EIR.

Response to Comment 29-9

The comment identifies appropriate clarifications to the third paragraph on page 4.4-8 which is hereby corrected as follows:

> The USACE confirmed that both Moore Canal and Magnolia Canal meet the CFR's definition of irrigation ditches. Per the Section 404(f) exemption found in 33 CFR 323.4(a)(3), permits from USACE are not required for construction and maintenance of irrigation ditches ~~as irrigation ditches are not considered waters of the U.S. Nevertheless, the irrigation ditches may be considered to be waters of the State~~. In addition, per the determination of the RWQCB, realignment of Moore Canal and Magnolia Canal would not require permitting by the RWQCB.

The above revisions are for clarification purposes and do not change the conclusions of the analysis in the Draft EIR.

Response to Comment 29-10

The comment identifies appropriate clarifications to the discussion under the California Fish and Game Code Section 1600 et seq. heading on page 4.4-24 which is hereby corrected as follows:

> Section 1602 of the Fish and Game Code requires ~~a Streambed Alteration Agreement (SAA) be submitted to~~ notification to CDFW ~~for~~ before beginning "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW ~~must be notified prior to any such activities and~~ will review the proposed action(s). If ~~necessary, the CDFW will propose~~ CDFW determines that the proposed activity will substantially affect fish and wildlife resources, it will require a Streambed Alteration Agreement (SAA), which will contain measures to protect affected fish and wildlife resources. The SAA is comprised of the final mitigation measure(s) and condition(s) mutually agreed-upon by the CDFW and the Applicant. Often, projects that require a SAA also require a permit from the USACE under Section 404 of the CWA. In such instances, the conditions of the Section 404 permit and the SAA may overlap.

The above revisions do not change the conclusions of the analysis in the Draft EIR.

Response to Comment 29-11

The comment identifies appropriate clarifications to the third paragraph under the Porter-Cologne Water Quality Act heading on page 4.4-25 which is hereby corrected as follows:

> Under the Porter-Cologne Water Quality Control Act (Cal. Water Code Section 13000-14920), the RWQCB is authorized to regulate the discharge of waste that could affect the quality of the State's waters. In response to the narrowing of federal jurisdiction over certain aquatic features by various legal decisions, most notably Solid Waste Agency of Northern Cook County (SWANCC) v. United States Army Corps of Engineers (USACE), 531 U.S. 159 (2001), the RWQCB adopted its own program to regulate the discharge of waste to waters of the State. This program – known as the State Wetland Definition and Procedures for Discharges of Dredged and Fill Material (State Wetland Procedures) – was adopted by the SWRCB in April of 2019. Therefore, even if a project does not require a federal permit (i.e., a Nationwide Permit from the USACE), the project may still require review and approval by the RWQCB, pursuant to the State Wetland Procedures. ~~in light of the approval of new NWPs on March 9, 2000 and the Supreme Court's decision in the case of the Solid Waste Agency of Northern Cook County (SWANCC) vs. USACE. The RWQCB in response to the above case, issued guidance for regulation of discharges to "isolated" water on June 25, 2004. The guidance states:~~
>
> > ~~Discharges subject to Clean Water Act section 404 receive a level of regulatory review and protection by the USACE and are also subject to streambed alteration agreements issued by the CDFW; whereas discharges to waters of the State subject to SWANCC receive no federal oversight and usually fall out of CDFW jurisdiction. Absent of RWQCB attention, such discharges will generally go entirely unregulated. Therefore, to the extent that staffing constraints require the RWQCB to regulate some dredge and fill discharges of similar extent, severity, and permanence to federally-protected waters of similar value. Dredging, filling, or excavation of "isolated" waters constitutes a discharge of waste to waters of the State, and prospective dischargers are required to submit~~

~~a report of waste discharge to the RWQCB and comply with other requirements of Porter-Cologne.~~

The above revisions do not change the conclusions of the analysis in the Draft EIR.

Response to Comment 29-12

The comment identifies appropriate clarifications to the second paragraph under Impact 4.4-3, which starts on page 4.4-48 and is hereby corrected as follows:

> A total of 2.205 acres of waters of the State have been delineated within the project site (see Figure 4.4-1 above). All such features would be affected by the proposed project. Specifically, the segment of the Moore Canal within the project site, as well as a section of the Magnolia Canal, would be relocated to follow the western and northern boundary of the site. In addition, Section 1602 of the Fish and Game Code requires ~~an SSA to be submitted to~~ notification to CDFW ~~for~~ before beginning "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake", which ~~would~~ may include the proposed relocation of the Moore and Magnolia canals. If CDFW determines that the proposed relocation of the canals is within its jurisdiction, and that the activity will substantially affect fish and wildlife resources, it may require a SAA, which will contain measures to protect such affected fish and wildlife resources. The project would have the potential to involve the disturbance, removal, fill or hydrologic interruption of 2.205 acres of ~~waters of the State regulated by the RWQCB and/or the~~ aquatic resources potentially within the jurisdiction of CDFW. Given the nature of the proposed project, neither Moore Canal nor Magnolia Canal can be avoided. No wetlands or other special aquatic habitats (marsh, vernal pool, etc.) were identified on the site.

The above revisions do not change the conclusions of the analysis in the Draft EIR.

Response to Comment 29-13

The comment identifies appropriate clarifications to the analysis under Impact 4.4-3, which starts on page 4.4-47 and is hereby corrected as follows:

> On June 3, 2020, the USACE provided confirmation that the project site does ~~not~~ contain jurisdictional features~~, and that permitting from the USACE would not be required~~. However, USACE determined that the canals were exempt from permitting requirements of the Clean Water Act (CWA), Section 404. Additionally, per the determination of the RWQCB, realignment of Moore Canal and Magnolia Canal, which are also considered waters of the State, would not require permitting by the RWQCB. Accordingly, the following discussion focuses on the potential for the project to result in impacts ~~to waters of the State or wetland features that are otherwise protected (for instance by the CDFW or RWQCB)~~ that would necessitate notification of CDFW.

The above revisions do not change the conclusions of the analysis in the Draft EIR.

Response to Comment 29-14

The comment identifies appropriate clarifications to the second paragraph on page 4.4-48. Please see Response to Comment 29-12.

Response to Comment 29-15

The comment identifies appropriate clarifications to the third paragraph on page 4.4-48 which is hereby corrected as follows:

> After mining has ceased on the project site, approximately 117 acres of the mining area would be reclaimed to agricultural use, 113 acres would be reclaimed to a lake, and 23.9 acres would be reclaimed to riparian woodland habitats. Thus, the proposed project would result in a net increase in on-site ~~wetlands and waters of the State~~ aquatic resources once reclamation is complete. ~~The net increase in on-site wetlands following project implementation is important because the CDFW and RWQCB pursue a "no-net-loss" approach to wetland conservation.~~ Typically, project applicants are required, either by the foregoing state agencies or the USACE, to purchase credits at mitigation banks to off-set the on-site loss of ~~wetlands~~ aquatic resources. In the case of the proposed project, the on-site aquatic features, which are related to existing irrigation ditches, would be retained through construction of relocated and modified irrigation ditch channels. The proposed alignment of Moore Canal would allow for the removal of approximately 1,200 feet of the existing alignment of Magnolia Canal. The removal of 1,200 feet of Magnolia Canal and loss of on-site irrigation ditch aquatic resource area would be substantially, if not completely, off-set through the increased length of Moore Canal, which would take a longer and more circuitous route following the northern and western boundary of the site. In addition to the increased length of Moore Canal serving to off-set most if not all of the removed area of Magnolia Canal, following reclamation of the project site, ~~the small amount of aquatic features lost during mining activities would be replaced with~~ reclamation of the site will also result in the creation of a permanent lake that would greatly expand the aquatic resources and wetland habitat available on-site. Consequently, the project would result in a net increase in aquatic resources and comply with the "no-net-loss" approach to wetland conservation.

The above revisions do not change the conclusions of the analysis in the Draft EIR.

Response to Comment 29-16

The comment identifies appropriate clarifications to the fourth paragraph on page 4.4-48 which is hereby corrected as follows:

> The Yolo HCP/NCCP requires payment of fees to offset loss of wetlands. In ~~Addition~~ addition, the Yolo HCP/NCCP contains two AMMs addressing impacts to wetlands and other waters: AMM 9 and AMM 10. AMM 9 requires the establishment of buffers around certain wetlands that will be avoided by a project. Because there are no wetlands on the project site, AMM 9 is not applicable. AMM 10 provides that project proponents must comply with any requirements imposed by applicable National Pollutant Discharge Elimination System (NPDES) permits, as well as complying with applicable requirements of other agencies with jurisdiction ~~of~~ over the impacted features. ~~Because the waters on the project site cannot be avoided, AMM 9 is not applicable to the proposed project.~~

The above revisions are for clarification and do not change the conclusions of the analysis in the Draft EIR.

Response to Comment 29-17

The comment requests clarification regarding the conclusion established by the Draft EIR under Impact 4.4-3, specifically the second paragraph on page 4.4-49. The Draft EIR states:

> Based on the above, implementation of the proposed project could have a substantial adverse effect on sensitive natural communities and/or have a substantial adverse effect on State protected aquatic resources (including, but not limited to, marsh, vernal pool, coastal, etc.), through direct removal, filling, hydrological interruption, or other means. While the proposed reclamation activities would ultimately result in a net increase in the total acreage of on-site wetlands and waters of the State, a temporary ***significant*** impact could occur.

The commenter correctly summarizes why this impact was found to be a temporary significant impact. To clarify, the conclusion parallels similar language used in Appendix G of the CEQA Guidelines with respect to analysis of potential biological resources impacts (Item IV, b and c). The Draft EIR also uses this language in Chapter 4.4 as part of the significance criteria listed on page 4.4-32, specifically, bullet three. Because the analysis under Impact 4.4-3 determines a temporary significant impact would occur as a result of the disturbance associated with the relocation of Moore Canal and Magnolia Canal, the Draft EIR concludes the proposed project would "have a substantial adverse effect on sensitive natural communities and/or have a substantial adverse effect on State protected aquatic resources (including, but not limited to, marsh, vernal pool, coastal, etc.), through direct removal, filling, hydrological interruption, or other means." As the commenter is aware, the proposed relocation and modification of the two canals are no longer a part of the project.

Response to Comment 29-18

The comment identifies appropriate clarifications to Mitigation Measure 4.4-3(b) on page 4.4-49. However, the commenter's request to add text providing that mitigation may include "compliance with the Yolo HCP/NCCP" is declined, as the Yolo HCP/NCCP does not provide for mitigation or coverage related to Section 1602 of the California Fish and Game Code. In addition, the commenter's request to remove text related to "project-specific drainage and hydrology changes" is declined, as such language ensures that information related to such impacts is maintained as part of project implementation. Mitigation Measure 4.4-3(b) is hereby revised as follows:

> *4.4-3(b)* *Prior to disturbance associated with relocation of the Moore and/or Magnolia Canal, the applicant shall ~~secure a~~ notify CDFW pursuant to Section 1602 of the Fish and Game Code to determine whether a Lake or Streambed Alteration Agreement ~~from CDFW,~~ is required for the relocation of the Moore/Magnolia Canal and any other activities affecting the bed, bank, or associated riparian vegetation of the canals. The information provided in the application(s) shall include a description of all of the activities associated with the ~~proposed project, and shall not be limited to those associated solely with the drainages and/or riparian vegetation~~ relocation of the canals and any other activities affecting the bed, bank or any associated riparian vegetation of those features. Impacts to the canals and any associated riparian vegetation shall be outlined in the application and shall be substantially consistent with the impacts to biological resources outlined in this EIR. If this is not the case, the County shall be immediately notified to determine an appropriate response pursuant to CEQA. Impacts for each activity shall be broken down by temporary and permanent, and a description of the proposed mitigation for biological resource impacts, including compliance with the Yolo HCP/NCCP as applicable, shall be outlined per activity and as temporary or permanent. Information regarding project-specific drainage and hydrology changes resulting from project implementation shall be provided as well as a description of storm water treatment methods. Mitigation may*

> *include restoration or enhancement of resources on- or off-site, purchase habitat credits from an agency-approved mitigation/conservation bank, off-site, working with a local land trust to preserve land, or any other method acceptable to CDFW. Written verification of the applicant's compliance with Section ~~1600 Lake or Streambed Alteration Agreement~~ 1602 of the Fish and Game Code shall be submitted to the County.*

The above revisions provide additional clarification and more precise language related to requirements set forth by Section 1602 of the California Fish and Game Code associated with the relocation of Moore and/or Magnolia Canal. The relocation of the canals was a component of the previously proposed project analyzed in the Draft EIR; however, as detailed in Section 1.3 of Chapter 1 of this Final EIR, the currently proposed Moore Canal Avoidance Alternative would not involve the relocation of the canals. The above revisions to Mitigation Measure 4.4-3(b) do not change the conclusions of the analysis in the Draft EIR.

Response to Comment 29-19

Please see Responses to Comment 13-14 and Letter 23.

Response to Comment 29-20

In response to the comment, the second paragraph on page 4.6-6 is hereby revised as follows:

> Yolo County has two primary mineral resources, aggregate (sand and gravel) and natural gas. Mining in Yolo County is regulated by the Off-Channel Mining Plan (OCMP). The MRZ-2 area along Cache Creek contains over 700 million tons of high-grade sand and gravel. Within the project site, 107-acres ~~are~~ were previously designated by the State as MRZ-2 reflecting known significant deposits and 212 acres ~~are~~ were previously designated MRZ-3 reflecting unknown significant deposits. However, based on analysis and testing conducted by the applicant, the quality and quantity of mineral resources underlying the entire site have been confirmed. In July 2020, the applicant submitted an application to the California Department of Conservation (DOC) in July 2020 to modify the MRZ-3 State designation of the site to MRZ-2 to reflect the existence of known significant aggregate reserves over the entire project site. Effective May 20, 2021, the State Mining and Geology Board (SMGB) redesignated the entire project site MRZ-2.

In response to the comment, the second paragraph on page 4.6-29 is hereby revised as follows:

> The proposed project would result in extraction of aggregate mineral resources from the project site, consistent with the County's long-term plan for the management of aggregates along Cache Creek. ~~Approximately 107 acres of the site is designated by the California State Mining and Geology Board as MRZ-2, reflecting the existence of known significant mineral deposits or a high likelihood for the presence of mineral deposits. The remaining approximately 212 acres of the project site is designated MRZ-3, indicating an area of known reserves of unknown significance. The applicant has submitted an application to the California Department of Conservation (DOC) in July 2020 to change the MRZ-3 State designation of the site to MRZ-2 to reflect the existence of known significant aggregate reserves over the entire project site.~~ Effective May 20, 2021, the State Mining and Geology Board (SMGB) redesignated the entire project site MRZ-2 reflecting known significant deposits of mineral resources. Re-designation of the entire site is supported by the fact that the area ~~site~~ is known to contain over 700 million tons of sand and gravel deposits.

In response to the comment, the consistency discussion regarding Action CO-A43 on page 4.6-31 is hereby revised as follows:

> Effective May 20, 2021, the State Mining and Geology Board (SMGB) redesignated the entire project site MRZ-2. Currently, a portion of the project site is designated by the County with the General Plan Mineral Resource Overlay. Implementation of the proposed project would include redesignation of the remaining portion of the site with a Mineral Resource Overlay. Consequently, the project would comply with this action.

The commenter noted that the impact statement for Impact 4.8-4 incorrectly identifies the significance conclusion. The analysis and Executive Summary correctly identify that a significant impact could occur. In response to the comment, the impact statement for Impact 4.8-4 on page 4.8-41 is hereby corrected as follows:

> **4.8-4 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows. This impact would be ~~*less than*~~ *significant*.**

The above revisions correct minor errors and make non-substantive clarifications and do not change the conclusions of the analysis in the Draft EIR.

Response to Comment 29-21

The VMT analysis included in the Transportation and Circulation chapter of the Draft EIR relies upon empirical data of historical production levels at the Woodland Plant and Esparto Plant for the purposes of establishing a 10-year production average to utilize for baseline conditions. The baseline plus project analysis scenario considers the VMT effects of mining operations at the project site assuming the maximum allowable production levels that would be permitted by the proposed project (2,200,000 tons per year). In other words, the analysis analyzes the impacts associated with the net change between the 10-year average production levels under the current approvals and the maximum production levels under the proposed project. This is the same approach used for the assessment of impacts to air quality, GHG, and noise. Please see responses to comments 29-5 through 29-7, and the discussion of Impact 4.12-2 in the Draft EIR, beginning on page 4.12-20.

The commenter notes that when VMT from approved maximum production is compared to VMT from the project as proposed, the effect of the project would be to decrease VMT by 8.5 percent compared to existing conditions. The commenter's summary of these conclusions is correct. This information is provided in Appendix M2 of the Draft EIR.

The commenter also indicates that other jurisdictions have concluded that the VMT requirements of SB 743 only apply to passenger vehicles and light duty trucks. The legislative intent of SB 743 and the associated CEQA Guidelines Section 15064.3 is to ensure that lead agencies include an equitable and appropriate analysis of VMT to better align transportation impact analysis and mitigation outcomes with the State's goals to reduce GHG emissions, encourage infill development, and improve public health through more active transportation. Consistent with OPR guidance, for urban infill development, it is defensible to exclude heavy truck trips based on this premise, and focus instead on passenger car and light-duty trucks. However, for projects such as the subject aggregate mine, where the primary traffic issue concerns truck trips associated with hauling, it is the position of the County that it would be inappropriate to ignore such an issue in this EIR. Hence both VMT and truck haul trips generation are analyzed.

Response to Comment 29-22
Please see the Response to Comments 29-5 through 29-7, and 29-21.

Response to Comment 29-23
The commenter requests an analysis of increased emissions associated with closure of the Woodland Plant and assuming all Woodland Plant customers alternatively purchased aggregate resources from the Granite Esparto facility. The County has elected not to prepare such an analysis as the following required assumptions would be highly speculative, including but not limited to the following questions:

- Whether current customers of the Teichert Woodland Plant would alternatively purchase all or some portion of products from Granite Esparto?
- When and whether the Granite Esparto facility will be operational?
- The job site location of customers at the Teichert Woodland Plant?
- What future market conditions to assume?
- What production levels to assume?
- What equipment to assume?

Response to Comment 29-24
Please see the Response to Comment 29-23 regarding the speculative nature of such an analysis.

Response to Comment 29-25
The commenter notes that the Moore Canal Avoidance Alternative would result in the loss of approximately 3.6 million cubic yards (5.4 million tons) of aggregate compared to the proposed project, because the aggregate under the existing Moore Canal would not be mined under the alternative. The commenter's input is noted for the record.

Response to Comment 29-26
The commenter notes that the Moore Canal Southern Alignment Alternative would approximately double the cost of canal relocation as compared to the proposed project. The commenter's input is noted for the record.

Response to Comment 29-27
Thank you for participating in this process. The comments are noted for the record.

Response to Comment 29-28
The attachment to the comment letter, provided in support of the comments, are noted as a part of the record. No further response is necessary.

Letter 30

From: Jon Huffine [mailto:jonhuffine@me.com]
Sent: Friday, February 5, 2021 12:09 PM
To: Stephanie Cormier <Stephanie.Cormier@yolocounty.org>
Subject: Water shed protection.

Hi Stephanie,

30-1 I do not see any protections for our watershed. I see protections for the creek but nothing for our watershed . All the properties around the mining site are on well water.
The mine will be below our water table, as will the proposed lake. I see no guarantee that the property owner will maintain the lake also. Pumping that much water every year could be expensive for them.

30-2 Mercury levels in the lower creek are high according to a report.
https://www.yolocounty.org/home/showdocument?id=42299

30-3 Rinsing gravel with well water is sure to loosen water ever is there. What protections are in place from the mining company to monitor and test their activities in relation to our watershed and drinking water. Wild Wings has three wells and one already tests to high for arsenic to use as drinking water.
What are we and all of the others going to do if our wells are contaminated?

30-4 Wild Wings property values will be impacted horrendously if we have no drinking water.
Jon Huffine
Wild Wings

LETTER 30: JON HUFFINE, RESIDENT

Response to Comment 30-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record.

Please see MR-4, "Hydrology and Water Quality." The applicant is responsible for maintenance of the lake during mining and reclamation. Following completion of reclamation and dedication of the lake to the County, maintenance would become the responsibility of the County as part of the Cache Creek Parkway. As related specifically to this proposed project, the project would be subject to all applicable regulations set forth in the CCAP and SMARA. Furthermore, potential impacts to groundwater are addressed in the project-level Draft EIR in Chapter 4.8 starting on page 4.8-36 and the potential for adverse impact was determined to be less-than-significant based on decades of monitoring results and continued compliance with the requirements of the program.

The applicant proposes to undertake pumping, including occasional dewatering as allowed under the County's regulations, for purposes of dust suppression and aggregate processing. This is described starting on page 3-25 of the Draft EIR. The County does not have information regarding pumping costs of the applicant.

Response to Comment 30-2

The commenter references mercury levels in the watershed and suggests that use of well water during aggregate processing could increase/release additional mercury into the environment.

Mercury is a legacy contaminant in the Cache Creek watershed, and along lower Cache Creek and the Cache Creek Settling Basin in particular, as a result of historic mercury mining in the upper watershed in and around Lake County and subsequent natural flood deposition downstream. This condition is well established, and the State and County have been closely monitoring this issue for decades. The CCAP incorporates a rigorous mercury monitoring and reporting program described in Sections 10-5.517 and 10-5.532 of the Reclamation Ordinance.

Mercury from historic mining is most likely to be found in the top soils on either side of Cache Creek as the creek has meandered and mercury laden fines have settled out on the soil surface over time. There is no substantive human or wildlife health risk related to mercury in the soil, except indirectly as a source of methylmercury production when constituting the bottom sediments of a lake. Future potential conversion to agricultural or other non-aquatic soils presents no significant mercury hazard at the concentrations present. Additionally, this was the original condition of the soil before aggregate mining. On mined sites the top soils are required to be stockpiled, and are used during reclamation to recreate various end uses.

Where mercury concerns do come into play are the reclaimed lakes. The program requires ongoing determination of background mercury levels in the creek for comparison to monitored levels in wet pits and reclaimed lakes. The fish in these environments are monitored annually for methylated mercury levels pursuant to the requirements of the program. The report referenced by the commenter is one of the County's annual reports on this issue. If levels of concern are identified in fish from the pits/lakes, remedial actions are required.

Response to Comment 30-3

Please see Response to Comment 30-1 and MR-4, "Hydrology and Water Quality."

Response to Comment 30-4

With respect to the comment's concern regarding property value, please see MR-2, "Property Value Considerations."

Thank you for participating in the process. Concerns about the project are noted for the record.

Letter 31

From: Thomas Wilkop |mailto:twilkop42@gmail.com|
Sent: Friday, February 5, 2021 12:36 PM
To: Stephanie Cormier <Stephanie.Cormier@yolocounty.org>; Clerkoftheboard <clerkoftheboard@yolocounty.org>; Gary Sandy <Gary.Sandy@yolocounty.org>
Subject: Comments on Teichert Shifler Draft EIR

Dear Stephanie Cormier,

Please find below my comments on the Teichert Shifler development.

31-1 Some of my points were raised in earlier communications, but deserve reiteration. Some new concerns have emerged. I took the liberty to include in the emails the Yolo County Clerk of the Board.

The proposed expansion of the Teichert severely conflicts with the rights of local residents and the environment in numerous ways.

31-2 Rehabilitation of the landscape and nature: All the attempted efforts of Teichert on their previous sites have been exceedingly poor. Some trees were planted that all withered. This indicates neglect establishes a poor track record. A performance evaluation of these is needed and must be documented objectively.

31-3 Noise pollution: Mining is highly disturbing and loud. Also, mining of millions of tons of material with (in part) transport via conveyor belts is disturbingly noisy. As everyone will attest living in the area. However current operations are a fraction of what can be expected when the new site is developed.

31-4 The excavation of the envisaged massive volume is scarring the landscape forever. As can be seen in the current site. Stagnant water there is a breeding ground for vectors of all kinds.

31-5 The site is directly adjacent to the supposedly peaceful resting place of many Woodland natives in the cemetery.

31-6 The narrative of light use of heavy freight vehicles and truck on the site is certainly misleading. There will be heavy traffic with all its negative side effects.

No accountability is seen of Teichert to verify their claims of rehabilitation of their sites, noise pollution and environmental pollution and overall impact.

31-7 Also, mining operations will influence the ground water ecology negatively.

There is potential arsenic contamination on the drinking water quality in all the wells in the vicinity of the proposed mining operations.

31-8 No restrictions on operating hours are placed. This means not even over the weekends there is a reestablishment of peace.

Everyone living within a few miles of the site will experience a tremendous amount of loss in the quality of living, through noise, dust and environmental scarring. This will translate to massive losses on the value of all real estate in the neighbourhood.

Thanks for your attention to the details and concerns.

Thomas Wilkop

18199 Gadwall Street
Woodland CA 95695

LETTER 31: THOMAS WILKOP, RESIDENT

Response to Comment 31-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record. Responses to specific comments are provided below.

Response to Comment 31-2

The comment expresses a general opinion that the applicant's reclamation record is poor, but does not provide specific examples that would allow for a detailed response. Recently, the County has signed off on reclamation at the Haller and Muller sites, both of which were found to meet applicable standards for reclamation under both state and local standards. While some plant mortality occurs from time to time based on site-specific conditions, it is not unusual for this to occur with large revegetation efforts. The County requires five years of monitoring and replacement, including submittal of annual reports and County inspections. The Cache Creek Nature Preserve is an older example of reclamation from this applicant. The Preserve was dedicated to the County in the early 1990s and is generally considered to be a very successful reclamation site.

Response to Comment 31-3

The commenter notes that certain equipment and processes associated with aggregate excavation and processing generate elevated levels of noise. Table 4.10-2 in the Draft EIR reports that the average noise level measured at a distance of 90 feet from the operating Teichert asphalt plant was 81 dBA (Site 6), which is considered an elevated sound level. However, because sound decreases with distance travelled from the noise source, the proximity of a person to the noise source greatly affects that person's noise exposure. As a result, persons located a greater distance from that same asphalt plant would experience lower noise exposure.

Other factors influencing noise exposure include variation in atmospheric conditions, intervening topography and vegetation, and shielding by intervening structures or noise barriers. For example, the nearest residence within the Wild Wings subdivision is located approximately 7,300 feet from the Teichert asphalt plant. At that distance, the asphalt plant noise exposure would be reduced to approximately 32 dBA due to distance and atmospheric absorption of sound. A level of 32 dBA is well below County noise standards and below baseline ambient noise conditions. Therefore, while the noise generation of the aggregate excavation and processing operations are elevated at locations in close proximity to the operating equipment, the noise exposure would be significantly lower at more distant sensitive receptors to the proposed project operations.

The noise generation of each component of the project was quantified and projected to the nearest sensitive receptors. The Draft EIR's noise analysis concluded that initial overburden removal operations at the Shifler aggregate excavation site could exceed the applicable noise standards at the two nearest sensitive receptors. As a result, Mitigation Measure 4.10-1(a) requires the reduced intensity of operations and the construction of an earthen berm during initial overburden removal operations. As excavation occurs and equipment has recesses below grade into the pit, the pit walls would provide additional sound attenuation at existing residences in the project vicinity. The specific purpose of CEQA is to ensure that post-project noise exposure at sensitive receptors does not significantly exceed existing noise exposure. With implementation of Mitigation Measure 4.10-1(a), that purpose would be achieved. Mitigation Measure 4.10-1(b)

requires noise monitoring to be conducted following implementation of Mitigation Measure 4.10-1(a) to verify that the mitigation is effective in reducing any potential noise impacts of the project to a level of insignificance. Therefore, Mitigation Measures 4.10-1(a) and (b) would ensure the proposed project would not result in the generation of substantial temporary or permanent increases in ambient noise levels at sensitive receptors above the standards established by the County's OCSMO and a less-than-significant impact would occur.

Response to Comment 31-4

With respect to the commenter's concern related to mosquito and vector control, please see Chapter 4.7, Hazards and Hazardous Materials. The Draft EIR analyzes potential impacts related to vector-borne diseases under Impact 4.7-1, specifically on page 4.7-20. Following the analysis, the Draft EIR concludes Impact 4.7-1 would result in a less-than-significant impact.

The commenter's view regarding changes in the landscape are noted. As described on page 3-28 of the Draft EIR, the project applicant has proposed to reclaim the approximately 277-acre proposed mining area to agriculture and habitat uses. Approximately 116 acres of the mining area would be reclaimed to agricultural use, while the remainder of the mining area would be reclaimed to a lake with riparian woodland along the fringes/shoreline. Slopes would be reclaimed to grassland. The amount of each habitat type could vary depending on actual mining depths and groundwater elevations.

Response to Comment 31-5

The comment notes the proximity of the Monument Hills Memorial Park. This information is disclosed as well in the Draft EIR. There are no land use or regulatory requirements that would preclude the proposed use from locating in proximity to the cemetery. Teichert's aggregate plant has been in operation at that location since the early 1950's, and mining has been occurring in the area since that time, and prior. The project would be consistent with the General Plan and CCAP.

Response to Comment 31-6

Please refer to Chapter 4.12, Transportation and Circulation, of the Draft EIR for a detailed analysis of potential project impacts to the transportation system. The analyses contained therein consider the effects of new traffic that would be generated by the project, including truck and passenger vehicle traffic. In addition, please see MR-3, "Transportation and Circulation."

With respect to the commenter's concerns related to accountability and reclamation of the project applicant's sites, please see Response to Comment 31-2. Chapter 4.0 of the Draft EIR addresses the potential for adverse impact in 12 different resource areas. SMRO Section 10-5.103, with which the project applicant would be required to comply in reclaiming the project site, includes the following provision:

> Reclamation plans shall be designed to integrate with the long-term goals of encouraging agriculture and recreation while protecting, habitat, recreation, and protecting the riparian corridor. Provisions shall be made to continue monitoring and maintenance activities after reclamation is completed, where appropriate, in order to ensure that reclaimed uses remain compatible with and enhance local resource management.

A detailed analysis of the noise generation of the specific equipment and processes proposed as part of the project was conducted for the Draft EIR. Table 4.10-5 notes that the noise generation

of conveyors, self-elevating scrapers, excavators, and haul trucks were all considered in the Draft EIR noise analysis. As detailed in the response to Comment 31-3, the Draft EIR noise analysis concluded that initial overburden removal operations at the Shifler aggregate excavation site could exceed the applicable noise standards at the two nearest sensitive receptors. As a result, noise Mitigation Measure 4.10-1(a) was developed to require reduced intensity of operations and construction of an earthen berm during those initial overburden removal operations. Mitigation Measure 4.10-1(b) requires noise monitoring to be conducted following implementation of Mitigation Measure 4.10-1(a) to verify that the mitigation is effective in reducing any potential noise impacts of the project to a less-than-significant level.

Response to Comment 31-7

Please see MR-4, "Hydrology and Water Quality." In addition, Impact 4.8-1 assesses the potential for the proposed project to violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality, starting on page 4.8-35 of the Draft EIR. The analysis details how the proposed project would be required to comply with applicable water quality standards and waste discharge requirements, including the most current State NPDES Industrial General Permit requirements, a Stormwater Pollution Prevention Plan, Best Management Practices (BMPs), inspections pursuant to OCSMO Section 10-4.413, and requirements found in OCSMO Section 10-4.415. Impact 4.8-1 includes the following conclusion:

> Compliance with the State NPDES Industrial General Permit and the applicable requirements of the OCSMO, as described above, would minimize the potential degradation of stormwater quality and downstream surface water associated with the proposed project. As discussed in further depth in Impact 4.8-2 below, the project is not anticipated to result in impacts related to groundwater quality; therefore, the project would not result in any impacts to surface water through groundwater connection of the reclaimed lake and Cache Creek. Based on the above, the proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Thus, a ***less-than-significant*** impact would occur.

In accordance with SMRO Section 10-5.503, the Draft EIR includes an analysis of groundwater levels in the project vicinity under Impact 4.8-2, which starts on page 4.8-36. The analysis assesses Scenario 1, which includes the initial wet pit mining planned within the western portion of the project site, and Scenario 2, which includes the remaining wet pit mining in the central portion of the project site, with the western portion of the site reclaimed to agricultural land. Following the analysis, the following conclusion is determined:

> Based on the above, the proposed project would not substantially decrease groundwater levels at active off-site wells within 1,000 feet of the proposed mining pit or result in substantial adverse effects to groundwater levels at either of the Wild Wings subdivision wells. In addition, the project would not adversely affect groundwater quality. Therefore, the proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the Yolo Subbasin or conflict with or obstruct implementation of the Yolo Subbasin Groundwater Sustainability Plan, and a ***less-than-significant*** impact would occur.

With respect to the commenter's concerns related to arsenic levels in drinking water, please see the Response to Comment 15-2.

Response to Comment 31-8

Operations at the project site would be consistent with the existing hours of operation as described in Condition #38 of the Schwarzgruber Mining Permit, detailed on page 3-25 of the Draft EIR. No change is proposed.

Regarding various general community impacts, these are addressed throughout the Draft EIR and particularly in Chapter 4.9, Land Use and Planning. As part of the Draft EIR's analysis, impacts commonly associated with quality of life, such as potential environmental impacts related to aesthetics, air quality, hydrology and water quality, and noise, are assessed in various chapters throughout the Draft EIR.

Regarding concerns over dust, please see the Response to Comment 1-3. With respect to concerns over project noise, please see the Response to Comment 1-4. Additionally, please see MR-2, "Property Value Considerations." Thank you for participating in the process. Concerns about the project are noted for the record.

Letter 32

From: Max Stevenson |mailto:mstevenson@ycfcwcd.org|
Sent: Friday, February 5, 2021 1:54 PM
To: Stephanie Cormier <Stephanie.Cormier@yolocounty.org>
Cc: romingerbrothers@gmail.com; Mary Kimball <mary@landbasedlearning.org>; Tim O'Halloran <tohalloran@ycfcwcd.org>; htschudin <htschudin@sbcglobal.net>; Elisa Sabatini <Elisa.Sabatini@yolocounty.org>; 'Jason Smith' <JSmith@teichert.com>
Subject: Comments on Teichert Shifler Draft EIR

Dear Stephanie Cormier,

32-1 The Yolo County Flood Control and Water Conservation District (District) would like to provide formal comments on the Teichert Shifler Draft EIR. The District's role in the EIR process is that of a sister 'responsible' agency. The District is using the DEIR as background information to inform our Board's approval or denial of aspects of the project under District purview. We would like to comment only on those aspects of the DEIR that relate to moving the Moore Canal or mining close to the Canal.

The Moore Canal could be moved to a Northern Alignment, to a Southern Alignment, or left in place and mined on both sides. There is no clear best alignment from a District perspective, all mining

32-2 scenarios have drawbacks. The Northern Alignment would move the Canal closer to Cache Creek, increasing the chance of Cache Creek causing an erosion failure of the Canal. The Southern and Existing Alignments would offer more long-term security from Cache Creek erosion events, but the Southern Alignment, in particular, is quite flat, and may increase sedimentation and maintenance issues into the future.

32-3 The DEIR is very detailed and thorough and District staff has engaged Teichert and Yolo County staff through the DEIR process. However, the District feels it still does not have enough information to evaluate the pros and cons of each alternative. Therefore, we would like to engage Teichert in further discussion of the following topics:

32-4 1. For Northern Alignment, a buffer of an adequate and agreed upon distance between the Canal and Cache Creek must be maintained, which may be in a configuration different from the DEIR.

32-5 2. For Northern Alignment, confirm the funding source and maintenance plan for the CCRMP TAC proposed armoring and planting (DEIR Appendix R).

3. For Northern Alignment, analyze potential costs of erosion prevention and repair/replacement of the Canal.

32-6 4. For the Northern Alignment, Teichert should provide a financial mechanism, after the 30-year mining period is completed, to keep the District whole if meandering from Cache Creek threatens the integrity of the Canal.

32-7

5. For the Southern Alignment, the District may request canal design features to facilitate sediment cleaning such as ramps for equipment access or detention basins.
6. For any alignment, construction of a new canal must maintain or increase the existing flow capacity.
7. For any alignment, the ability to deliver water downstream of the construction zone should not be negatively impacted during construction.

32-8

8. For any alignment, an automatic gate is required at a new Magnolia heading.
9. For any alignment, we would like to coordinate a schedule with Teichert for District decision making on moving/not moving the canal.
10. Engage further with Teichert on other creative solutions, such as a shorter Southern Alignment crossing neighbor property, or shared benefit solution, such as a pipeline.

Thank you for your time and consideration.

Please confirm your receipt of this comment email.

Sincerely,
-Max Stevenson

LETTER 32: MAX STEVENSON, YOLO COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT

Response to Comment 32-1
Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. The comments on behalf of the YCFCWCD are noted for the record.

Response to Comment 32-2
The comment provides the YCFCWCD's opinion on various scenarios for relocating Moore Canal. Analysis of these alternatives is provided in the Draft EIR. Since submittal of this comment letter, the YCFCWCD has taken a formal final position to retain the Moore Canal in its existing alignment. Please see Section 1.3 of Chapter 1 this Final EIR.

Response to Comment 32-3
The commenter acknowledges the extent to which the Draft EIR analyzes the proposed project, and expresses interest in further dialogue with the applicant regarding their proposal. The YCFCWCD and applicant have met several times since this letter was submitted. Please see Section 1.3 of Chapter 1 of this Final EIR.

Response to Comment 32-4
Teichert Aggregates informed the County on April 27, 2021, of their intent to request approval of the Moore Canal Avoidance Alternative rather than the originally proposed project (see Appendix B). Please see Section 1.3 of Chapter 1, Introduction, of this Final EIR, for a comparison of the previously proposed project and the currently proposed project, which is detailed in Table 1-1. In addition, please refer to Appendix C, which includes supplemental information to clarify and provide technical details regarding the Moore Canal Avoidance Alternative.

Response to Comment 32-5
Please see Response to Comment 32-4.

Response to Comment 32-6
Please see Response to Comment 32-4.

Response to Comment 32-7
Please see Response to Comment 32-4.

Response to Comment 32-8
Please see Response to Comment 32-4.

Thank you for participating in the process.

Letter 33

From: Juliette Beck |mailto:juliettebuxtonbeck@gmail.com|
Sent: Friday, February 5, 2021 3:41 PM
To: Stephanie Cormier <Stephanie.Cormier@yolocounty.org>
Subject: Comments on Teichert Shifler Draft EIR

VIA EMAIL
From: Yolo Climate Emergency Coalition
To: Stephanie Cormier
Yolo County Planning Dept
<Stephanie.Cormier@yolocounty.org>

Re: Comments on the Draft Environmental Impact Report (DEIR) for the Teichert Shifler Mining and Reclamation Project, December 2020
Date: February 5, 2021

Dear Ms. Cormier,

This correspondence provides comments on the above-referenced DEIR on behalf of the

33-1 Yolo Climate Emergency Coalition.

We are a grassroots coalition mobilizing to help achieve countywide carbon neutrality by 2030 as called for in County RESOLUTION 20-114 - A Resolution Declaring a Climate Crisis Requiring an Urgent and InclusiveMobilization in Yolo County ("2030 Climate Emergency Mobilization Resolution"). This resolution was passed and adopted by the Yolo County Board of Supervisors on September 29, 2020.

Along with Yolo County's 2011 Climate Action Plan and elements of the General Plan, the resolution clearly states that Yolo County's overarching priority is to achieve significant reductions in greenhouse gas emissions. In the case of the resolution, a clear target of achieving carbon neutrality by 2030 has been set.

33-2 The DEIR does not properly analyze the appropriate Criteria Pollutant emissions and Greenhouse Gas (GHG) emissions related to applicable Standards of Significance. Nor does the DEIR propose adequate mitigation for such emissions in a manner sufficient to meet the legal requirements of CEQA and the clearly defined goals of Yolo County to achieve carbon neutrality within the next decade.

Reclamation Plans Are Not Viable Under Rapidly Changing Climatic Conditions
Given the rapid changes to the region's climate, the project's reclamation plan is inadequate and unlikely to achieve the restoration goals. The removal of 46 out of 52 oaks on the project site, for example, can not be mitigated by the replanting of oaks in the future. Climatic changes including prolonged drought, higher temperatures, and the spread of invasive species are already impacting the viability of regrowth of native species such as oak.

33-3 Reclamation plans to restore prime agricultural land lacks scientific validity as well. Mining and removal of topsoil will release carbon that is currently sequestered in the soil and disrupt the carbon absorption capacity of that soil. Studies by UC Davis (see *Deep soil inventories reveal that impacts of cover crops and compost on soil carbon sequestration differ in surface and subsurface soils published July 13, 2019 in Global Change Bioogy*, https://onlinelibrary.wiley.com/doi/abs/10.1111/gcb.14762) and others have shown that carbon absorption in soil is best achieved by soils with higher organic matter, more than 12 inches deep, with a more complex soil structure.

33-3 cont.

Local farmers have commented that reclaimed agricultural land in similar reclaimed mining areas have not been viable. Retaining and enhancing the carbon absorption capacity of local soils must also be a key priority if the objective of the Yolo Climate Emergency Resolution - to achieve carbon neutrality by 2030 - is to be met. Until a thorough analysis and complete soil testing of nearby "reclaimed" lands is conducted, this mitigation measure should not be deemed viable. Restoration of existing, degraded farmland to achieve greater carbon absorption and offset GHG impacts in the immediate term could be considered as a potential mitigation measure. The significant cumulative impact of GHG emissions of mining operations must be remedied before this project is approved.

33-4

A complete evaluation of the significant and cumulative biological impacts is also missing from the DEIR, especially as it pertains to the biodiversity restoration goals of the nearby Cache Creek Nature Preserve. The cumulative impacts of mining in the area on species that need larger foraging habitat, wildlife corridors, and safe access to riparain

areas is not adequately considered or mitigated. Impacts of the mining will adversely affect the carrying capacity of the habitat being restored at the nearby Cache Creek Nature Preserve. A consideration of these cumulative impacts of the project and adequate mitigation measures is missing from the DEIR.

Additional areas where the DEIR is missing information include:

33-5

Energy: The DEIR points to onsite solar power generation at the Woodland Plant but did not provide any specific information on how much solar energy is being generated in comparison to the overall energy use. No plans to increase on-site renewable energy are provided. New state mandates in electric vehicle use need to be addressed in the DEIR. Plans to convert vehicle fleets used in this 30-year project to electric powered must be provided consistent with the GHG emission reduction goals of the state and county. Expanding on-site solar power generation will also be needed to meet this demand.

Purchasing carbon credits to mitigate or offset this project's GHG emissions is fraught with challenges in monitoring, reporting and guaranteeing actual, quantifiable carbon reduction (Song, Lisa, and Paula Moura. "An (even more) inconvenient truth: why carbon credits for forest preservation may be worse than nothing." *ProPublica* (2019). Ball, Jeffrey. "Why carbon pricing Isn't Working: Good Idea in theory, failing in Practice." *Foreign Aff.* 97 (2018): 134. Gifford, L., 2020. "You can't value what you can't measure": a critical look at forest carbon accounting. *Climatic Change*, *161*(2), pp.291-306.) Purchasing carbon offsets should not be deemed an effective mitigation measure for this project.

33-6

Air quality: Visitors to the Cache Creek Nature preserve could be also be impacted by PM 2.5 and other pollutants from the mining operations. Air quality monitoring should take place along the perimeter and downwind from the mining operations. Additionally, ongoing air quality monitoring to ensure protection for worker health and safety onsite is needed, especially during wildfire season when air quality is frequently hazardous to human health.

If the COVID crisis is ongoing, or another significant infectious illness develops, safety considerations for social distancing, mask wearing etc should be considered as well. Facemasks and PPE should be provided by the company

33-7

Cultural resources: The DEIR acknowledges significant impacts to cultural resources at the site related to the Moore irrigation canal. Impacts to Native Californian resources are also significant. The attached map (Kroeber 1925 and 1935a, Mirriam (Heizer and Hester 1970) and Bennyhoff 1961) indicates the presence of Native Californian villages in close proximity to the project site. Activities including fishing, hunting and gathering were extensive throughout the Cache Creek basin region. Sensitive cultural resources including human remains damaged or disturbed by excavation with heavy machinery can not be mitigated.

The Cache Creek basin continues to be an area of rich cultural resources vital to maintaining the cultural practices of Native Californians. These practices include tending and gathering of native plants for food and basketmaking as well as the overall care for the biodiversity and ecological health of the Cache Creek ecosystem. Oak trees are an important, living cultural resource. Removal of 46 oaks in the context of rapidly changing climatic conditions and invasion of invasive species will cause significant harm to Native Californian cultural resources. The Oak trees and other native plans including Elderberry

should be protected and excluded from mining operations.

33-8

Development Agreement:
It is unclear how the amounts of $15,000 cash contribution to the Cache Creek Nature Preserve, and $5,000 for the County's Update of the Cache Creek County Parkway Plan were arrived at. These amounts are totally insufficient given the scale of this 30-year project. A transparent, public discussion of the cash contribution should be held to ensure adequate resources are available to the Cache Creek Nature Preserve and the County for ongoing restoration and planning efforts.

The DEIR states that the mined materials will be used for local projects, thus minimizing GHG emissions for vehicle miles traveled. Tying the mining to local projects should be required in the Development Agreement to ensure this aspect of the project is adhered to.

33-9

Teichert is a stalwart company and fellow members of this local/regional economy. For the sake of this profitable enterprise and for the livelihood of Tiechert employees we would ask the County to consider that the breadth of missing information requires that the draft EIR not be certified.

Respectfully submitted,

Juliette Beck, Adelita Serena, Nancy Price
Yolo Climate Emergency Coalition
(530) 902-8407
juliettebuxtonbeck@gmail.com

LETTER 33: JULIETTE BECK, YOLO CLIMATE EMERGENCY COALITION

Response to Comment 33-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record.

Please see Response to Comments 13-15 and 25-2 through 25-6.

Response to Comment 33-2

Please see Response to Comments 13-15 and 25-2 through 25-6.

Response to Comment 33-3

The commenter indicates that reclamation plans are not viable due to climate conditions, but does not provide evidence to support this conclusion. The County has not found this to be the case and there is a large body of evidence and experience that reclamation of mined lands to secondary end uses is both desirable and feasible. State and County mining regulations require compliance with all applicable reclamation requirements and performance standards. The proposed Reclamation Plan requires regular monitoring to ensure vegetation survival and success rates. As such, replanted oaks and other vegetative species would be monitored and, if necessary, provisions would be adjusted to ensure the regrowth of native species. In addition, as noted in the Reclamation Plan, SMARA Performance Standards require that agricultural reclamation cannot be deemed complete until the productive capability of the affected land is equivalent to, or exceeds, for two consecutive crop years, that of the pre-mining condition or similar crop production in the area.

Please see MR-5, “Agricultural Considerations,” for additional information. In addition, please refer to Appendix C of the Draft EIR for further information regarding the Reclamation Plan and the performance standards established therein.

The proposed reclamation is not intended to accomplish specific goals related to carbon sequestration in soils. The County’s long-term preservation of agricultural lands pursuant to the General Plan and CAP already accomplishes this more effectively countywide. Rather, the intent of reclamation is to ensure productive beneficial reuse of lands identified for harvest of important mineral resources identified for mining and necessary for planned land uses consistent with the County General Plan and state policy.

The CCAP, which underwent a significant update in 2019, establishes the reclamation priorities and performance thresholds applicable to this project. As new science and best practices emerge for reclamation there is continuing opportunity to adapt the CCAP to include new feasible practices. The potential for cumulative impacts from GHG emissions is analyzed in the CCAP Update EIR and in the Shifler Draft EIR in Chapter 5.0.

The commenter suggests that restoration of existing degraded farmland elsewhere in the County to achieve greater carbon absorption and offset GHG impacts would be an effective mitigation measure and should be considered as an alternative to the proposed reclamation plan. However, this would be inconsistent with State and local mining regulations which require on-site reclamation of mined lands and establish criteria and priorities for doing so, and unnecessary in light of clear policy for mining and climate change established in existing and adopted plans and

regulations of the County. In addition, Chapter 5.0 of the Draft EIR concludes there are no unmitigated cumulative impacts for which additional mitigation is required. In light of this, the proposed mitigation measure is rejected as infeasible.

Response to Comment 33-4

The Draft EIR analyzes potential impacts to biological resources that could result from the proposed project in Chapter 4.4, Biological Resources. Please see page 4.4-32 in the chapter, which provides the significance criteria established for the analysis. The significance criteria were developed from Appendix G of the CEQA Guidelines and applicable policies and regulations of Yolo County. In addition, please see the discussion under the Method of Analysis, which starts immediately following the listed significance criteria and provides further details on the Biological Resources Assessment, Peer Review, and Wetland Delineation used to analyze potential impacts of the proposed project.

With respect to the comment's concern related to the biodiversity restoration goals of the Cache Creek Nature Preserve, please see the analysis under Impact 4.4-5, which starts on page 4.4-50. The Cache Creek Nature Preserve is a former mining site of the applicant that has been reclaimed to habitat and passive recreation uses and is one of several properties within the emerging Cache Creek Parkway. The Parkway is a long-term public benefit of the CCAP that will significantly increase the biological value and diversity of the area.

The Draft EIR includes an assessment of the proposed project's potential to conflict with the provisions of the Yolo HCP/NCCP. The Yolo HCP/NCCP is a countywide conservation plan that protects special-status species and sensitive natural community types. The project must comply with the requirements of the HCP/NCCP. Moreover, the CCAP is integrally tied to the HCP/NCCP, as it is the source of habitat and funding to build the biological reserve system necessary for HCP/NCCP implementation. The analysis concludes a less-than-significant impact would occur, and therefore mitigation is not required.

Regarding cumulative impacts to biological resources, please see Chapter 5, Cumulative Impacts and Other Required Sections, of the Draft EIR. A discussion on the cumulative setting of the proposed project starts on page 5-3 in the chapter. Impact statements and corresponding analyses start on page 5-8. Impact 5-6, starting on page 5-11, analyzes cumulative impacts to biological resources in the context of the CCAP, which encompasses the Cache Creek Nature Preserve, and includes the following:

> As discussed previously, the project site would be required to obtain coverage under the Yolo HCP/NCCP, remit payment of applicable HCP/NCCP fees, and implement Yolo HCP/NCCP AMMs. Payment of HCP/NCCP development fees by the proposed project, in combination with fee payment from other cumulative development in the Yolo HCP/NCCP Permit Area, would ensure that cumulative habitat loss of the 12 covered species would be mitigated through the protection of similar habitat elsewhere in the Yolo HCP/NCCP Permit Area. The protections for these species have co-benefits for other species in the County.
>
> The CCAP Update FEIR concluded that other potential cumulative impacts to biological resources associated with implementation of the CCAP would be reduced to less-than-significant levels, with compliance with the regulations included in the OCMP and the SMRO, as well as required coverage under the Yolo HCP/NCCP. As demonstrated in this EIR, the proposed project would comply with all applicable County regulations related to biological resources, and would be consistent with the CCAP. Furthermore, this EIR includes additional project-specific mitigation measures to ensure that impacts to biological

resources are less-than-significant. Therefore, cumulative impacts to biological resources would be ***less than significant***.

Response to Comment 33-5

The comment notes that consistency with State and County GHG emissions reduction goals is required. This is addressed in the analysis presented in Chapter 4.3 of the Draft EIR. Please see Response to Comments 13-15 and 25-2 through 25-6. Regarding the solar system in use at the Woodland Plant, page 4.3-65 of the Draft EIR reads as follows:

> The existing photovoltaic energy system at the Woodland Plant would be maintained with implementation of the proposed project. The on-site photovoltaic system would continue to support the County's CAP goal of reducing GHG emissions from electricity through increased reliance on renewable energy. In addition, electricity purchased through Direct Access Providers is required to attain the renewable content requirements specified in RPS. For instance, in the year 2020, Direct Access Providers must supply electricity with a renewable content of 33 percent, and that requirement will increase to 60 percent by the year 2030. Compliance with the RPS would ensure that grid-supplied electricity, independent of the on-site photovoltaic systems, would be generated by an increasing proportion of renewable sources.
>
> Teichert has considered the possibility of installing further renewable energy systems to provide the electricity needed to meet the additional electricity demand resulting from project implementation. However, several impediments exist to installation of additional renewable energy systems. With regard to wind power, according to the project applicant, the project site does not experience sufficient wind to make the use of a wind turbine feasible. Installing solar panels at the Shifler site was considered; however, the amount of land needed to install a solar array that would provide an appreciable amount of solar power is prohibitive. For instance, because the Shifler site would experience farming, mining, and reclamation in phases, there would not be sufficient undisturbed space that could be used for solar power generation at any given time. Installation of panels at an off-site location would increase the area disturbed by implementation of the project, which could increase environmental impacts to other areas, such as cultural and tribal cultural resources or biological resources. Accordingly, the project applicant has not included installation of additional renewable energy systems at this time.

Because a portion of the electricity would be generated from an increasing proportion of renewable resources over time, and because equipment would be designed to be more efficient over time, a less-than-significant impact would occur.

Improvements to vehicle emissions and vehicle fleets are governed at the federal and State level and will be realized overtime, in accordance with mandated requirements. Given that the rate of emissions from vehicle fleets improves over time through advancements in technology and fuel efficiency, the analysis of project-related emissions presented in the Draft EIR is conservative, because on-road emissions were estimated based on 2020 emission rates. As such, project implementation over time would involve more efficient vehicle fleet emissions and mobile emissions would be reduced from what was anticipated in the Draft EIR. Therefore, the conclusion presented in the Draft EIR would not change.

With regard to the use of carbon offsets as a viable mitigation measure, CEQA Guidelines Section 15126.4(c) states:

> (c) Mitigation Measures Related to Greenhouse Gas Emissions.

> Consistent with section 15126.4(a), lead agencies shall consider feasible means, supported by substantial evidence and subject to monitoring or reporting, of mitigating the significant effects of greenhouse gas emissions. Measures to mitigate the significant effects of greenhouse gas emissions may include, among others:
>
> (1) Measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency's decision;
> (2) Reductions in emissions resulting from a project through implementation of project features, project design, or other measures, such as those described in Appendix F;
> (3) Off-site measures, ***including offsets*** *[emphasis added]* that are not otherwise required, to mitigate a project's emissions;
> (4) Measures that sequester greenhouse gases;
> (5) In the case of the adoption of a plan, such as a general plan, long range development plan, or plans for the reduction of greenhouse gas emissions, mitigation may include the identification of specific measures that may be implemented on a project-by-project basis. Mitigation may also include the incorporation of specific measures or policies found in an adopted ordinance or regulation that reduces the cumulative effect of emissions.

As explicitly noted under item (3), the purchase of carbon offsets is a feasible and acceptable mitigation measure under CEQA. Furthermore, use of offsets is anticipated in and consistent with the County's adopted CAP (for example see page 128) and General Plan (see Action CO-A116 on page CO-92).

Furthermore, all carbon offsets purchased pursuant to Mitigation Measure 4.3-7 must be purchased through a CARB-approved registry, such as the Climate Action Reserve, the American Carbon Registry, and the Verified Carbon Standard; any registry approved by CARB to act as a registry under the California Cap and Trade program; or through the CAPCOA GHG Rx and the YSAQMD. Accordingly, carbon offsets purchased from the aforementioned reputable sources would be substantially monitored and would result in actual quantifiable GHG reductions.

Response to Comment 33-6

More than 90 percent of DPM is less than one micrometer in diameter and, thus, DPM is a subset of $PM_{2.5}$. As noted on page 4.3-47 of the Draft EIR, in conducting the health risk assessment, the estimated concentration of $PM_{2.5}$ was used as a proxy to represent emissions of DPM. Therefore, health effects associated with $PM_{2.5}$ were already analyzed, and the results are presented in Table 4.3-11 and 4.3-12 of the Draft EIR. As shown in the tables, the anticipated health risks associated with DPM and, thus, $PM_{2.5}$, from the proposed project would be less than significant. As the tables present the maximum health risks associated with implementation of the proposed project, because the impact is concluded to be less than significant, the impact to visitors of the Cache Creek Nature Preserve from DPM exposure as a result of the proposed project would be less than significant. Therefore, air quality monitoring and additional protection measures are not warranted under CEQA. The commenter's suggestions regarding safety considerations are noted for the record.

Response to Comment 33-7

The commenter summarizes cultural resource concerns addressed in Chapter 4.5 of the Draft EIR. The applicant has requested approval of the Moore Canal Avoidance Alternative which would result in avoidance of impacts to the canal (see Section 1.3 of Chapter 1 of this Final EIR). Mitigation Measures 4.5-3(a) and (b) ensure mitigation for potential impacts to potential impacts

to Tribal Cultural Resources. Chapter 4 of this Final EIR contains clarifications to this Mitigation Measure to reflect input from the Tribe. Please also see Response to 13-14 and responses to Letter 23. Regarding oaks and elderberry, please also see Chapter 4.4 of the Draft EIR, which includes a Biological Resources Summary and peer review. As described on page 4.4-4 and in Figure 4.4-5, the northern portion of the site contains 52 scattered oak trees. This is in the "notch" area where the Magnolia and Moore Canals meet. As described in Impact 4.4-7, the project as originally proposed with relocation of the Moore Canal, would result in removal of 46 of the 52 trees. Under The Moore Canal Avoidance Alternative fewer trees would be impacted. The applicant has estimated that only seven oak trees would be impacted, with the remainder avoided and retained in place (see Figure 6-5 in Chapter 4 of this Final EIR). As part of the reclamation plan, the applicant proposes planting just under 500 oak seedlings. This was determined to provide adequate mitigation to reduce this impact to less than significant.

Response to Comment 33-8

The applicant's net gains proposal is described starting on page 3-35 of the Draft EIR. Net gains are by definition additional community benefits proposed by the applicant. They are in addition to compliance with all requirements of the program, mitigation of all CEQA impacts where feasible, and compliance with standard conditions of approval. The net gains proposal is also in addition to payment of the required per-ton fees that fund the CCAP program. The CCAP has been self-funded since its inception. CCAP funding also pays for the CCNP as well as other components of the Parkway. As a requirement of the program, the County regularly considers the Gravel Mining Fee Ordinance which establishes the amount and use of the per-ton fees. The fee program is considered by both the Planning Commission and Board of Supervisors in public hearings with public comment. The fees were last comprehensively updated in 2013 and are set through 2026 at which point they will be revisited.

The commenter indicates that the Draft EIR states mined materials will be used for local projects, thus minimizing GHG emissions for VMT, and therefore recommends the development agreement tie use of mined materials to local projects, in order to ensure this result. On page 4.3-53 (second paragraph), the Draft EIR states:

> … As demonstrated in the vehicle miles travelled (VMT) analysis prepared for the project by Fehr and Peers, the average trip length for haul trucks is between 26.4 and 28.9 miles per trip. The relatively short distance of the average haul truck trip indicates that most of the material processed under the existing and proposed conditions would be used locally. Use of the mined material locally would make the use of rail inefficient, as the ultimate length of travel by truck would not be significantly reduced through the use of rail. Consequently, requiring the use of rail would not be considered a feasible means of reducing criteria pollutant emissions, or emissions of GHGs, which are discussed further below…

On page 4.3-78 (second paragraph), the Draft EIR states:

> …Yolo County's CAP identifies increased energy efficiency within the industrial sector as a supporting means of achieving the CAP's reduction goals.[7] Furthermore, the County's CAP seeks to reduce embodied energy content of construction materials as a means of reducing lifecycle emissions related to development within the County. Continued

[7] Yolo County. *Yolo County Climate Action Plan: A Strategy for Smart Growth Implementation, Greenhouse Gas Reduction, and Adaptation to Global Climate Change* [pg. 61]. March 15, 2011.

> provision of a local source for aggregate material, as would be provided with implementation of the project, would support the County's goal of using local materials, and could support the County in any effort to establish requirements for locally made or extracted materials in new developments. Thus, while emissions related to mining and material extraction are assumed to be addressed through state regulations and not expressly included in the County's CAP projections, the proposed project would support measures within the County's CAP by providing a more efficient, local source of aggregate materials…

On page 4.3-81 under the discussion of Goal CO-8, the Draft EIR states:

> …The purpose of the project is to provide a local source of aggregate materials. Aggregate materials are used in a wide variety of applications, and provision of a local source of such materials reduces the need for aggregate materials to be hauled into the area from other more distant locations. Thus, the project supports the provision of aggregate material with a low level of imbedded GHG emissions (i.e., aggregate material provided by the project would result in a relatively lesser amount of GHG emissions per unit of material as compared to material hauled in from a more distant source). Accordingly, the project would be consistent with this goal…

In other words, the Draft EIR does not state that materials from the project site will only be used in County projects, but rather that local sources help minimize GHG emissions generally because of the shorter distance for economically feasible transport. As indicated in the VMT report, the length of the average truck trip substantiates that the economically feasible distance for aggregate delivery is about a one-half hour range. This is further substantiated in the County's OCMP which states on page 6 that aggregate is a "low-value, high-bulk commodity," and as a result, transportation costs can account for up to 50 percent of the price of the delivered product, which limits the market region for any given deposit. For these reasons, it is not necessary to include delivery limitations in the development agreement to restrict where product can be used.

Response to Comment 33-9

The comment indicates the EIR is missing information and should not be certified. The facts do not support this position as demonstrated in the responses to comments provided in this document. As substantiated by the record, the Final EIR is comprehensive, adequate, and in full compliance with state and County requirements.

Thank you for participating in the process. These concerns are part of the record and will be considered by the decision-makers during their deliberations.

Letter 34

-----Original Message-----
From: Sharon Schwarz [mailto:sharonmschwarz@gmail.com]
Sent: Friday, February 5, 2021 4:30 PM
To: Gary Sandy <https://urldefense.proofpoint.com/v2/url?u=http-3A__Gary.Sandy-40yolocounty.org&d=DwIFAg&c=euGZstcaTDllvimEN8b7jXrwqOf-v5A_CdpgnVfiiMM&r=kdtPCKeqKIngwAPH6qvp5f_ExA_ifBGx-p-DA3WNK-M&m=KA0rgDbAD-vGuTaq4FBdb6xj48QyHceVShxGdjVph8o&s=tyEpAZ-7-h1wyIf_wEI7OURAW8M49-SaoJOmzdCPjE0&e=>; Stephanie Cormier <https://urldefense.proofpoint.com/v2/url?u=http-3A__Stephanie.Cormier-40yolocounty.org&d=DwIFAg&c=euGZstcaTDllvimEN8b7jXrwqOf-v5A_CdpgnVfiiMM&r=kdtPCKeqKIngwAPH6qvp5f_ExA_ifBGx-p-DA3WNK-M&m=KA0rgDbAD-vGuTaq4FBdb6xj48QyHceVShxGdjVph8o&s=mYDXH88dimeO7h9fqICNXjaV8Yo-tsJ_1fSX8Fk0Gqs&e=>
Cc: clearkoftheboard@yolocounty.org; Don Saylor <https://urldefense.proofpoint.com/v2/url?u=http-3A__Don.Saylor-40yolocounty.org&d=DwIFAg&c=euGZstcaTDllvimEN8b7jXrwqOf-v5A_CdpgnVfiiMM&r=kdtPCKeqKIngwAPH6qvp5f_ExA_ifBGx-p-DA3WNK-M&m=KA0rgDbAD-vGuTaq4FBdb6xj48QyHceVShxGdjVph8o&s=LESc8UPPXH-TNYlcxVgYiqQik3osGO8n_h9iX6s437I&e=>; Jim Provenza <https://urldefense.proofpoint.com/v2/url?u=http-3A__Jim.Provenza-40yolocounty.org&d=DwIFAg&c=euGZstcaTDllvimEN8b7jXrwqOf-v5A_CdpgnVfiiMM&r=kdtPCKeqKIngwAPH6qvp5f_ExA_ifBGx-p-DA3WNK-M&m=KA0rgDbAD-vGuTaq4FBdb6xj48QyHceVShxGdjVph8o&s=V7ZoAS7Q4B3HyqpKAncB9P8m9T89AIw4ukOszjRA4vE&e=>; Oscar Villegas <https://urldefense.proofpoint.com/v2/url?u=http-3A__Oscar.Villegas-40yolocounty.org&d=DwIFAg&c=euGZstcaTDllvimEN8b7jXrwqOf-v5A_CdpgnVfiiMM&r=kdtPCKeqKIngwAPH6qvp5f_ExA_ifBGx-p-DA3WNK-M&m=KA0rgDbAD-vGuTaq4FBdb6xj48QyHceVShxGdjVph8o&s=hosKnWQ88Z0RfeRU7Hl-Y4jlBwS3dFZngKJteKmbDr0&e=>; Angel Barajas <https://urldefense.proofpoint.com/v2/url?u=http-3A__Angel.Barajas-40yolocounty.org&d=DwIFAg&c=euGZstcaTDllvimEN8b7jXrwqOf-v5A_CdpgnVfiiMM&r=kdtPCKeqKIngwAPH6qvp5f_ExA_ifBGx-p-DA3WNK-M&m=KA0rgDbAD-vGuTaq4FBdb6xj48QyHceVShxGdjVph8o&s=YJ7ndan6z0TtxOnwiGbWgJYNxI6rQAZKY1WQtvXqQRM&e=>; sharon <sharonmschwarz@gmail.com>
Subject: Teichert-Shifler Mining Project

Dear Ms Cormier and Mr Sandy,

34-1 I am writing to you to express my concerns about the proposed project. My husband and I are residents of the Wild Wings development and feel that our home will be impacted greatly from the proposed project. Our home values will decrease due to the proposed 30 year project and the increased noise, increased traffic and mining - let alone the peaceful quality of our lives. Hearing drilling and feeling vibrations from the drilling will be too much to bear for 30 years. Let alone the potential for damage to our water source. Our

34-2 development currently has two wells now that are at the higher levels of arsenic - potential for more well water contamination is just not tolerable.

34-3 We strongly urge you to vote against this project. The quality of our lives is important and needs to be strongly considered!

Sincerely,

Sharon and William Schwarz
Wild Wings Subdivision
18220 Mandarin Street, Woodland, CA

LETTER 34: SHARON AND WILLIAM SCHWARZ, RESIDENT

Response to Comment 34-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record.

Please see MR-2, "Property Value Considerations." Regarding various general community impacts, these are addressed throughout the Draft EIR and particularly in Chapter 4.9, Land Use and Planning. As part of the Draft EIR's analysis, impacts commonly associated with quality of life, such as potential environmental impacts related to aesthetics, air quality, hydrology and water quality, and noise, are assessed in various chapters throughout the Draft EIR.

Response to Comment 34-2

Although drilling is not specifically proposed as part of the proposed project, this comment was likely intended to apply to overall excavation activities at the Shifler site. Please see Response to Comment 31-3.

Additionally, Impact 4.10-2 specifically evaluated the effects of project-generated vibration. The evaluation determined that project-generated ground vibration would be below perceptible levels at the nearest residences to the project site and would similarly be below levels at which damage to structures could occur.

Regarding the commenter's concerns related to potential impacts to wells, please see MR-4, "Hydrology and Water Quality."

Response to Comment 34-3

Please see MR-1, "Comments Regarding the Merits of the Project." Thank you for participating in the process. Concerns about the project are noted for the record.

Letter 35

From: jane stevens [mailto:stevens.j.e.12@gmail.com]
Sent: Friday, February 5, 2021 4:59 PM
To: Clerkoftheboard <clerkoftheboard@yolocounty.org>; Gary Sandy <Gary.Sandy@yolocounty.org>; Stephanie Cormier <Stephanie.Cormier@yolocounty.org>
Subject: Teichert Shifler Mining Proposal

TO:
Stephanie Cormier; Stephanie Cormier, Principal Planner. Yolo County
Stephanie.Cormier@yolocounty.org

Yolo County Clerk of the Board: clerkoftheboard@yolocounty.org Yolo County Board of Supervisors, 625 Court Street, Room 204, Woodland, CA 95695

Gary Sandy District 3 gary.sandy@yolocounty.org

35-1 I request a delay in the approval for the Teichert Shifler Mining Proposal to allow time for input from the surrounding neighborhoods to assess impacts of noise, traffic, and dust from traffic and operations.

35-2 As the proposal stands now, it is obvious that consideration has not been made for impact of the operation on nearby property values, which are likely to decrease substantially given the environmental impacts. The neighborhoods, including Wild Wings, where I live, are valued for their peaceful environment. The mining operation, as it is intended now, will destroy that.

35-3 I look forward to hearing from you.

Sincerely,

Jane Stevens
707-495-1112
jstevens@mmjourno.com

LETTER 35: JANE STEVENS, RESIDENT

Response to Comment 35-1

Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record.

The comment included a request to delay the approval of the proposed project. The Draft EIR was released December 18, 2020, and the public was given through February 2, 2021, to provide comments. Yolo County used the following methods to solicit public input on the Draft EIR:

- Notice of Preparation (NOP) for the Draft EIR was released for a 30-day public review period from August 16, 2019, to September 16, 2019;
- A public scoping meeting was held on September 12, 2019, to solicit public comments regarding the scope of the Draft EIR. The NOP comment letters are included as Appendix B to the Draft EIR;
- On December 18, 2020, the Draft EIR was submitted to the State Clearinghouse for distribution to state agencies, resulting in a 49-day public review period from December 18, 2020, to February 5, 2021;
- The Draft EIR was made available for review on the County's website at https://www.yolonaturalresources.org/;
- An electronic copy of the document was made available for public review at the Woodland Public Library, located at 250 First Street, Woodland, CA, 95695, and the Esparto Regional Library, located at 17065 Yolo Avenue, Esparto, CA 95627; and
- An online public meeting was held in front of the Yolo County Planning Commission on January 21, 2021, with members of the public given the option of participating via computer through a Zoom video conference or via phone by dialing into the meeting.

As described in Section 1.3 of Chapter 1 of this Final EIR, comments on the Draft EIR were accepted for an additional three days after the close of the comment period. The Final EIR was released in September 2021 allowing over six months since release of the Draft EIR for neighbors to continue to study the EIR analysis and consider the project. The project will be presented to the Esparto Citizens Advisory Committee and the Monument Hills community area prior to hearings before the Planning Commission and Board of Supervisors.

Additionally, the Draft EIR addresses the environmental issue areas cited by the commenter. Potential noise impacts under CEQA are analyzed in Chapter 4.10, Noise. Potential traffic impacts are analyzed in Chapter 4.12, Transportation and Circulation. Potential dust impacts are analyzed in Chapter 4.3, Air Quality, Greenhouse Gas Emissions, and Energy.

Response to Comment 35-2

Please see MR-2, "Property Value Considerations." Regarding various general community impacts, these are addressed throughout the Draft EIR and particularly in Chapter 4.9, Land Use and Planning. As part of the Draft EIR's analysis, impacts commonly associated with quality of life, such as potential environmental impacts related to aesthetics, air quality, hydrology and water quality, and noise, are assessed in various chapters throughout the Draft EIR.

Response to Comment 35-3

Thank you for participating in the process.

From: Michelle Beltrano [mailto:mdbeltrano@gmail.com]
Sent: Friday, February 5, 2021 6:10 PM
To: Stephanie Cormier <Stephanie.Cormier@yolocounty.org>
Subject: Draft EIR for Teichert Shifler Project

Letter 36

Dear Ms. Cormier,

36-1 The purpose of this email is to comment on the draft EIR for the Teichert Shifler project currently being considered by the county.

36-2 The first concern I have is that in 4.10.2 Existing Environmental Setting/Description of Regional Environment is stated the following:
"The region is rural and sparsely populated, with urban development being primarily concentrated in small towns such as Capay, Esparto, and Madison."
This is blatantly in error as it neglects to mention the more than 300 homes located in the Wild Wings community as well as the two golf courses that surround us. The EIR should here be amended to reflect the approximately one-thousand residents that will be affected here.

36-3 Secondly, the draft EIR states that the noise will essentially be continuous from 6am to 6pm Monday through Saturday and during peak season may run continuously. This is completely unacceptable. I do not want mining noise all day and potentially all night for the rest of my life. Wild Wings may be zoned low-density, but for those of us who live here, it is critical. And not just the community of Wild Wings, but our rural neighbors who also have families and animals. I implore you to consider living with noise every day from 6am to 6pm or continuously through the day and night. This will be detrimental to residents' health and mental well-being. The draft EIR mentions a "significant impact could occur related to the generation of a substantial increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance..."

36-4 Third, my understanding is that the wells in Wild Wings already have environmental issues and this project will be mining below the water table which brings into serious consideration that it will damage our drinking water and the creek that runs through the Cache Creek Reserve. This is a very serious consideration.

36-5 Finally, this will significantly and adversely affect home values near this project. With the increased noise, potential environmental issues (dust, water, etc.) the community of Wild Wings and our surrounding neighbors will see our real estate values plummet. Many of us have saved and sacrificed to live in a quiet community and if this project proceeds, that will be stolen from us. Many of the residents of Wild Wings are retired or have small children. We chose this community for the calm, clean environment and are fearful this will be ruined because of corporate greed.

36-6 Thank you for your consideration and I urge you as strongly as I can to please vote no to accepting the Teichert Shifler project. Please consider Yolo County residents before the demands of a large corporation. This will be a detriment to our county.

Sincerely,

Michelle D. Beltrano
mdbeltrano@gmail.com

LETTER 36: MICHELLE BELTRANO, RESIDENT

Response to Comment 36-1
Thank you for submitting comments during the Draft EIR review period. The comments will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project. Concerns about the project are noted for the record.

Response to Comment 36-2
The commenters suggests that the Wild Wings subdivision should be mentioned in the description of the regional environment on page 4.10-4. On page 4.10-4, in the second full paragraph under Description of the Regional Environment, the first sentence is hereby clarified as follows:

> The region is rural and sparsely populated, with urban development being primarily concentrated within small towns such as Capay, Esparto, and Madison, and the Wild Wings subdivision.

Response to Comment 36-3
As the commenter notes, typical excavation operations would occur between the hours of 6:00 AM and 6:00 PM. Nighttime operation of the Teichert Woodland facility processing equipment would periodically occur based on market demand but nighttime excavation operations at the Shifler site are not proposed. The project is not proposing changes to the approved operating hours at the Teichert Woodland plant.

A detailed analysis of the project's noise generation at the Wild Wings development, and all of the nearest potentially affected residences to the project site, was conducted as part of the preparation of the Draft EIR. A potentially significant noise impact was identified for the two nearest residences to the Shifler site during initial overburden removal operations, but noise impacts were not identified at the more distant Wild Wings development. As a result of the identified potentially significant noise impact at the two nearest residences, noise Mitigation Measure 4.10-1(a) was developed to require reduced intensity of operations and construction of an earthen berm during initial overburden removal operations occurring near those residences. Mitigation Measure 4.10-1(b) requires noise monitoring to be conducted following implementation of Mitigation Measure 4.10-1(a) to verify that the mitigation is effective in reducing any potential noise impacts of the project to a less-than-significant level.

Response to Comment 36-4
Please see MR-4, "Hydrology and Water Quality."

Response to Comment 36-5
Please see MR-2, "Property Value Considerations." Regarding various general community impacts, these are addressed throughout the Draft EIR and particularly in Chapter 4.9, Land Use and Planning. As part of the Draft EIR's analysis, impacts commonly associated with quality of life, such as potential environmental impacts related to aesthetics, air quality, hydrology and water quality, and noise, are assessed in various chapters throughout the Draft EIR.

Response to Comment 36-6
The commenter expresses their opposition to the proposed project. Thank you for participating in the process. Please see MR-1, "Comments Regarding the Merits of the Project."

Letter 37

From: Jim Burau [mailto:buraujames@gmail.com]
Sent: Thursday, February 11, 2021 2:10 PM
To: Stephanie Cormier <Stephanie.Cormier@yolocounty.org>; Gary Sandy <Gary.Sandy@yolocounty.org>; Dotty Pritchard <Dotty.Pritchard@yolocounty.org>
Subject: Teichert project

Hi Gary,Dotty and Stephanie

I have been working with Dotty to get a zoom meeting with Gary and our local group. Due to Covid that is proving difficult.

37-1 In case this meeting does not come to pass I am sending you this letter that outlines my major concern.

37-2 My main concern is for the possible impact to the aquaphor. In the process of researching the impact of this project our group had a meeting with the Yolo Irrigation district a few years ago. During that meeting it became clear that no one has been able to conduct any research into the Yolo aquaphor. It seems like this is primarily due to access to well drilling logs which are currently proprietary. Without good research I am not sure how anyone can be sure of the impact of this project.

37-3 In addition to being against the County granting a permit for the shiffler mine project I am also against allowing Tiechert to move its allowable tonnage from the West side of I505 to the East side of I505.

37-4 Water is precious and we should do everything possible to protect our local aquaphor

I have some question relating to the Groundwater management act section of the EIR (4.8-12) (See below for a copy of the language).

In subsection section 2 it states that the DWR requires there be a Groundwater Sustainability Plan and it be implemented.

37-5

1. What is the Groundwater Sustainability Plan for the Cache Creek basin?
2. More specifically how do the aquifers identified in the EIR receive recharged? Is there a Cache Creek Basin specific peer review study of the Cache Creek basin aquifer and its recharge?
3. Are the aquifers identified in the EIR going to be affected by this proposed mine site following reclamation? If so how and where (please be very specific)?
4. Does the reclamation plan involve a method to reestablish the lossed recharge capacity from this project?
5. Will some gravel be left in the pit to maintain a recharge path as part of the reclamation plan? If so, where and to what depth?
6. At what point will Yolo County slow or stop the removal of our valuable aquifer recharge capacity? That is, will the Supervisors identify land to be exempted from future mining operations.

Jim Burau

Sustainable Groundwater Management Act

The DWR has developed a Strategic Plan for its Sustainable Groundwater Management (SGM) Program. DWR's SGM Program will implement the new and expanded responsibilities identified in the 2014 Sustainable Groundwater Management Act (SGMA). The expanded responsibilities include the following: 1) Developing regulations to revise groundwater basin boundaries;
2) Adopting regulations for evaluating and implementing Groundwater Sustainability Plans (GSPs) and coordination agreements;
3) Identifying basins subject to critical conditions of overdraft;
4) Identifying water available for groundwater replenishment; and
5) Publishing best management practices for the sustainable management of groundwater.

LETTER 37: JIM BURAU, RESIDENT

Response to Comment 37-1

Thank you for submitting comments during the Draft EIR review period. These comments were received well after the February 2, 2021, comment deadline and after the three-day grace period for receiving comments. Pursuant to Section 15088(a) of the CEQA Guidelines the County is not required to respond late comments. The County nevertheless chooses to do so. These comments are noted for the record and will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project.

Response to Comment 37-2

Please see MR-4, "Hydrology and Water Quality," which addresses water quality impacts, hydrology, and water quality monitoring.

Response to Comment 37-3

The comment expresses opposition to the proposed project and specifically to the request of the applicant to transfer the Esparto tonnage to the Woodland operation. This is noted for the record. Please see MR-1, "Comments Regarding the Merits of the Project."

Response to Comment 37-4

The comment expresses support for protection of local water sources. Please see MR-4, "Hydrology and Water Quality."

Response to Comment 37-5

The comment refers to the SGMA, which is described on page 4.8-12 of the Draft EIR. The comment asks several questions for which responses are provided below.

Concerning the first question posed by the comment, please see the first paragraph of page 4.8-13 in the Draft EIR's Chapter 4.8, Hydrology and Water Quality, which includes the following regarding the Yolo Subbasin Groundwater Sustainability Plan:

> The SGMA requires the formation of local groundwater sustainability agencies (GSAs) that must assess conditions in their local water basins and adopt locally-based management plans. The SGMA provides substantial time (20 years) for GSAs to implement plans and achieve long-term groundwater sustainability. The SGMA protects existing surface water and groundwater rights and does not impact current drought response measures. Yolo County has partnered with various other local agencies to form the Yolo Subbasin Groundwater Agency (YSGA), which is currently in the process of preparing the Yolo Subbasin Groundwater Sustainability Plan in compliance with the SGMA.

Regarding the second question, for information on recharge of groundwater sources in the project area, please see discussions under the Groundwater heading, which starts on page 4.8-6 of the Draft EIR. With respect to the comment's question pertaining to the Cache Creek Basin, as noted on page 4.8-6, the project site is located within the Yolo Subbasin, a portion of the larger Sacramento Valley groundwater basin. In addition to the analyses contained within Chapter 4.8 of the Draft EIR, please see Appendix K1 and K2 to the Draft EIR for more information on groundwater conditions in the vicinity of the project site.

With respect to the third question, please see MR-4, "Hydrology and Water Quality." Additionally, please see the analysis in the Draft EIR under Impacts 4.8-1, 4.8-2, 4.8-3, and 4.8-4, which starts on page 4.8-35. Impacts 4.8-1 through 4.8-3 are concluded to be less than significant. Impact 4.8-4 is concluded to be less than significant, with incorporation of Mitigation Measures 4.8-4(a) through (c), which are detailed starting on page 4.8-43.

Concerning the fourth question, please see the analysis under Impact 4.8-2, starting on page 4.8-36, which assesses the potential of the proposed project to substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin or conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management. As demonstrated through the evaluation of the project's potential impacts on groundwater levels in the project vicinity and groundwater levels at Wild Wings subdivision wells, the project would have a less-than-significant impact on groundwater recharge, with Impact 4.8-2 concluding the following:

> Based on the above, the proposed project would not substantially decrease groundwater levels at active off-site wells within 1,000 feet of the proposed mining pit or result in substantial adverse effects to groundwater levels at either of the Wild Wings subdivision wells. In addition, the project would not adversely affect groundwater quality. Therefore, the proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the Yolo Subbasin or conflict with or obstruct implementation of the Yolo Subbasin Groundwater Sustainability Plan, and a ***less-than-significant*** impact would occur.

Furthermore, as demonstrated in the analysis of Impact 4.8-3, the project site would be graded to allow stormwater runoff to collect in the proposed mining pit, where the runoff would gradually percolate or evaporate. Following mining activities, the site would remain contoured such that stormwater runoff would be directed to the reclaimed mining area, and new stormwater detention basins would be provided within the western and eastern reclaimed agricultural areas of the site, which would further contribute to groundwater recharge. As a result, Impact 4.8-3, which analyzes the project's potential to result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; or create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, is determined to result in a less-than-significant impact.

Regarding the fifth question, for details on the Reclamation Plan, please Chapter 3, Project Description, starting on page 3-28, and Appendix C of the Draft EIR. The applicant has indicated that their intent is to remove all the gravel in the proposed mining area, though there may be some remaining in various places. This is consistent with Section 10-4.411.1 of the Mining Ordinance which addresses Depth of Mining:

> Sec. 10-4.411.1 Depth of Mining. This ordinance regulates the size of the footprint of the mining operation, and establishes no regulatory depth limit for off-channel mining. Unless an environmental analysis concludes that unacceptable environmental impacts will result, mining operations shall be encouraged to excavate the full depth of available resources at any particular mining site. In conjunction with a minimize mining footprint, this will ensure efficiency in resource extraction, help minimize impacts to agriculture by containing the area of surface disturbance of any individual mining operation, and minimize impacts of water loss associated with evaporation from reclaimed lakes.

Chapter 3 includes the following regarding capture of stormwater runoff on page 3-25:

> Stormwater runoff would not leave the site during, or after completion of, the proposed mining activities. The project site would be graded to allow stormwater runoff to collect in the proposed mining pit, where the runoff would gradually percolate or evaporate. At the conclusion of mining, the site would remain contoured such that stormwater runoff would be directed to the reclaimed mining area. New stormwater detention basins would be provided within the western and eastern reclaimed agricultural areas of the site.

The following excerpt from page 12 of the Groundwater Report submitted with the original application (see Appendix K) is also relevant:

> Further, overall groundwater quality protection is derived from the natural "filtering" effects of surficial soils and aggregate materials on water percolating through them, as described herein by addressing four categories of water quality parameters:
>
> - General mineral constituents move conservatively through porous media, with the exception of some cations (calcium and magnesium versus sodium) which can exchange in the soil profile. In general, it can be expected that general mineral constituents in percolating water will ultimately mix with those already dissolved in groundwater.
>
> - Any heavy metals in percolating water can generally be expected to adsorb near the soil/water interface and not penetrate deeply into the aquifer. Certainly, such adsorption is affected by both the geochemical environment in the immediate subsurface and the relative solubility of specific metals in the water.
>
> - Organic chemicals are much greater in number and type than general mineral and metal constituents; they are also quite variable in their movement through porous media. In general, the movement of organics is affected by the solubility of each specific constituent and by the organic matter in the soil matrix; some organics move easily (e.g., solvents), while others can be readily adsorbed in the soil (e.g., organochlorine pesticides). Undoubtedly, the best management of organics is to control their introduction to land areas rather than to expect the soil profile to prevent their deep percolation to groundwater.
>
> - Bacteriological constituents are generally recognized to have limited movement in all types of porous media, as possibly best illustrated by the requirement for sanitary sealing of domestic water wells. Bacterial "problems" in groundwater are typically associated with and limited to well structures, which can be disinfected and thus controlled, rather than the aquifer.
>
> Thus, collectively, Teichert's management practices and the natural soil mechanisms appear to have provided groundwater and pond water quality protection in the Teichert Woodland Plant area.

Regarding the sixth question, the Board of Supervisors in their deliberations regarding the proposed project will consider all impacts posed by the proposed project, including impacts to hydrology and water quality. As detailed in the Draft EIR, the only impact identified in Chapter 4.8, Hydrology and Water Quality, as being potentially significant relates to the project's potential to substantially alter the existing drainage pattern of the site or area in a manner which would impede or redirect flows. However, with incorporation of Mitigation Measures 4.8-4(a) through (c), which

would require improvements to ensure protection against bank erosion of Moore Canal and enhancement of habitat in the Cache Creek vicinity, impacts would be less than significant.

Thank you for participating in the process. Concerns about the project are noted for the record.

Letter 38

From: Tom Hanagan |mailto:tomhanagan46@gmail.com|
Sent: Wednesday, March 10, 2021 11:11 AM
To: Ronald Miller <Ronald.Miller@yolocounty.org>; Stephanie Cormier <Stephanie.Cormier@yolocounty.org>
Cc: Rick Fenaroli <borgotaro@sbcglobal.net>; Rob Johnson <robntawn@gmail.com>; Kathy Salling <ksalling@att.net>; Holst Alan <pencil0044@netzero.net>
Subject: Re: Teichert Shifler Project - Comments

Good morning, Stephanie and Ron,

38-1 Thank you for the opportunity to make a few comments about the Teichert project, even though the formal comment period has closed. I was asked by the Wild Wings HOA board of directors (of which I am one), to reach out regarding the traffic situation on Route 16. Traffic

38-2 from the heavy haulers has been an imposition for some time, not just because of the increased traffic impeding egress from the development, but also damage to vehicles from flying debris from the trucks (I am currently having a windshield replaced because of a flying rock from one of these trucks traveling in the opposite direction). The EIR is interesting, not only because of information and data reviewed, but also because of information not addressed.

38-3 The traffic and data information is generally from the period 2004 - 2014. This information is now 7 years old, and much has changed. Consideration for employee traffic at the quarries was addressed, but not two other sources. Despite analysis of the junctions of 94B/16 and

38-4 96/16, no comment was made about ingress and egress from the Wild Wings development, which is a fairly dense community of 333 homes. Apparently, preparation was made for a traffic signal when the community was built circa 2005, so traffic congestion was an issue of concern many years ago. Both morning and evening traffic causes problems, but also during

38-5 the day with the increased traffic from the quarry. Cache Creek Casino has had two increases in capacity since the 2004-2014 data analysis, therefore a deficient analysis sample.

38-6 Also, traffic to and from the quarry must have changed as well. The recession of 2008-09 affected volume, which has rebounded since. We have seen a significant increase in the number of trucks visiting the quarry over the last few years. The accident rate on route 16

38-7 between 505 and 98 is significantly higher than other locations along 16 as well as 5; this should be a warning sign to increased safety hazards along 16. Accidents are frequent at the junction of 96/16, and we have seen accidents more frequently at the junction of 16/Wild Wings Drive. The junction of 94B/16 has very little to no quarry traffic at this time.

38-8 The EIR, on page 4.12-10 comments "LOS D is acceptable, assuming passing lanes and appropriate intersection improvements are constructed". LOS D seems to be optimistic, given the increases mentioned above, and this is without the increases expected after the quarry project is approved and in progress. "Appropriate" seems quite vague, as well. We are asking

38-9 that a traffic signal be installed at the junction of 16/Wild Wings Drive as a requirement of this project moving forward. We are expecting the project to go forward, and all we are asking is

38-10 that the residents of Wild Wings be respected and considered regarding their safety and well being. The junction of 96/16 should be reviewed, as well, due to the accident frequency and heavy truck traffic increases (already seen).

Thank you for your consideration,

Tom Hanagan
19279 Gadwall St.
Woodland, CA 95695
530-908-4843

LETTER 38: TOM HANAGAN, RESIDENT

Response to Comment 38-1

Thank you for submitting comments during the Draft EIR review period. These comments were received well after February 2, 2021, comment deadline and after the three-day grace period for receiving comments. Pursuant to Section 15088(a) of the CEQA Guidelines the County is not required to respond late comments. The County nevertheless chooses to do so. These comments are noted for the record and will be considered by the staff, Planning Commission, and Board of Supervisors in their deliberations regarding the proposed project.

Response to Comment 38-2

With respect to the commenter's concerns related to project-related traffic on SR 16, trips associated with the proposed project were analyzed for SR 16 and were not identified as a significant impact in the Draft EIR. As noted under Impact 4.12-3 on page 4.12-23 of Chapter 4.12, Transportation and Circulation, haul trucks are required to use designated haul routes, which includes SR 16:

> Aggregate trucks going to and from the Woodland Plant currently access the plant from its entrance on County Road 20. Trucks are required to use designated haul routes of County Road 20, County Road 96, and SR 16 to and from I-5 and I-505. Local deliveries are allowed to use roads other than SR 16, County Road 20, or County Road 96.
>
> In order to allow mining equipment to move between the Woodland Plant site and the project site, an over-crossing of the relocated Moore Canal would be constructed as part of the proposed project. Aggregate trucks would continue to access the Woodland Plant site by way of the existing entrance on County Road 20, using the existing haul routes noted above. The project does not include changes to the designated haul routes. Thus, the project would not result in any new or exacerbated hazards associated with haul truck traffic.

Impact 4.12-3, which evaluates the proposed project's potential to substantially increase hazards due to a geometric design feature or incompatible uses, was determined to be less than significant.

The comment regarding rock from haul trucks is noted.

Response to Comment 38-3

The commenter refers to the timeframe used to assess project-related VMT in Chapter 4.12, Transportation and Circulation. The existing VMT conditions evaluated in this assessment for the Teichert Woodland Plant and Esparto Plant operations were developed using the average annual production over the 10-year period between 2004 and 2014. The Draft EIR relies on the 10-year average annual production level in order to provide a more realistic representation of existing traffic conditions and a more conservative analysis. Please also see Response Comments 29-4 through 29-6.

Response to Comment 38-4

Please see MR-3, "Transportation and Circulation."

Response to Comment 38-5

Please see MR-3, "Transportation and Circulation," and the Response to Comment 4-9.

Response to Comment 38-6

Please see MR-3, "Transportation and Circulation," with respect to LOS effects of the proposed project. Additionally, as discussed in the Response to Comment 38-3, the existing VMT conditions evaluated in the Draft EIR for the Teichert Woodland Plant and Esparto Plant operations were developed to establish a baseline against which to assess the proposed project's VMT. The existing VMT conditions were determined using the average annual production over the 10-year period between 2004 and 2014. Therefore, the trips associated with the plant operations during that timeframe include the period of economic recovery after the recession noted by the commenter.

Response to Comment 38-7

The commenter expresses concerns about the existing accident rate on SR 16 and how the proposed project could potentially increase hazards along this roadway. The Draft EIR analyzes the proposed project's potential to substantially increase hazards due to a geometric design feature or incompatible use in Impact 4.12-3. Per the analysis, haul trucks are required to use designated haul routes of CR 20, CR 96, and SR 16 to and from I-5 and I-505, and the proposed project would not include changes to the designated haul routes. Thus, the proposed project would not result in any new or exacerbated hazards associated with haul truck traffic. As such, Impact 4.12-3 is concluded to result in a less-than-significant impact.

Additionally, please see MR-3, "Transportation and Circulation," with respect to VMT serving as the primary metric used to identify transportation impacts to roadway systems under CEQA. The Draft EIR does present that LOS at the SR 16/CR 94B intersection would operate at an unacceptable level, per the County General Plan Policy CI-3.1; however, a required condition of approval is identified in the Draft EIR on page 4.12-35 to address the issue. Chapter 4 of this Final EIR includes text clarifying this requirement. See also Response to Comment 15-9.

Response to Comment 38-8

With respect to LOS effects of the proposed project, per CEQA Guidelines Section 15064.3, a project's effect on automobile delay does not constitute a significant environmental impact under CEQA, and the Draft EIR is not required to address LOS impacts. Nevertheless, because the County considers LOS as a matter of General Plan policy (Policy CI-3.1) a nexus exists for requiring a project to ensure General Plan consistency through project conditions of approval. The County retains full discretion to require such conditions of approval. As detailed on page 4.12-35 of Chapter 4.12, Transportation and Circulation, in the Draft EIR, as part of the project's approval, the project applicant would be required to install shoulders along both sides of CR 96, for the approximately one-mile segment between CR 20 and CR 16 as a condition of approval. A clarification to this condition is identified in Chapter 4 of the Final EIR. In addition, as explained in MR-3, "Transportation and Circulation," the applicant will be required to contribute a fair share of costs for improvements at the intersection of SR 16 and Wildwing Drive. Satisfying such conditions of approval would serve as the project's fair-share contribution to address the project's effects on LOS. See also Response to Comment 15-9.

Response to Comment 38-9

With respect to the requested signal at the SR 16/Wildwing Drive intersection, please see MR-3, "Transportation and Circulation."

Response to Comment 38-10

Please see MR-1, “Comments Regarding the Merits of the Project.” Concerning the SR 16/CR 96 intersection, the Draft EIR addressed the proposed project’s effects on this intersection. Please see the Response to Comments 15-9 and 15-10.

Thank you for participating in the process. Concerns about the project are noted for the record.

4. Revisions to the Draft EIR Text

4. REVISIONS TO THE DRAFT EIR TEXT

4.1 INTRODUCTION

This chapter provides all corrections, additions, and revisions made to the Draft EIR. In addition to the text revisions made in response to comments, as presented in Chapter 3 of this Final EIR, this chapter provides other text revisions and corrections to the Draft EIR initiated by Yolo County based upon further review of the document since publication. The changes correct errors, and/or provide minor clarifications and amplifications of analysis contained in the Draft EIR. The revisions do not constitute significant new information that, in accordance with CEQA Guidelines Section 15088.5, would trigger the need to recirculate portions or all of the Draft EIR. As discussed in Section 1.4 of Chapter 1 of this Final EIR, the County has determined that the provisions of Section 15088.5 of the CEQA Guidelines are not triggered and recirculation of this EIR is not required. A more detailed description and substantiation of this determination will be included in the CEQA Findings of Fact.

4.2 DESCRIPTION OF CHANGES

New text is double underlined and deleted text is ~~struck through~~. Text changes are presented in the page order in which they appear in the Draft EIR.

Page v, Draft EIR Table of Contents (all volumes), Appendix Q is hereby corrected as follows:

Appendix Q Moore Canal Southern Alignment Alternative Tech Memos

- Q1: Moore Canal ~~Avoidance~~ Southern Alignment Alternative Geotechnical Addendum
- Q2: Moore Canal ~~Avoidance~~ Southern Alignment Alternative Groundwater Memo

2 Executive Summary

Please see Appendix M which provides a revised/corrected version of the impact and mitigation summary table, Table 2-1.

3 Project Description

Page 3-1, Draft EIR Chapter 3, Section 3.2, second paragraph, line 6 is hereby corrected as follows:

> The proposed project is located within the ~~bounnetries~~ boundaries of the Cache Creek Area Plan (CCAP) adopted by the Board of Supervisors in 1996, and most recently updated in 2019.

Page 3-3, Draft EIR Chapter 3, Section 3.2, fourth paragraph is hereby corrected as follows:

> In November 2012, the County approved the Teichert Schwarzgruber operation with mining to commence following the completion of mining at the Teichert Woodland sites.

> Mining at the 41-acre Schwarzgruber site was approved for a total of 4.65 million tons (4.0 million tons sold) over a maximum 15-year period at an annual rate not to exceed 1,176,471 tons mined (1.0 million tons sold) per year (Zone File 2011-0035). Mining on the Schwarzgruber site commenced in 2017 and ~~if~~ is anticipated to be completed in ~~2020~~ 2021, depending on market demand. Aggregate extracted from the Schwarzgruber site is being processed at the Teichert Woodland Plant. Teichert is seeking approval of mining at the Shifler property to commence following the completion of mining at the Schwarzgruber site. The Schwarzgruber site will be reclaimed to habitat uses, consisting of seasonal pond, grassland, riparian, and riparian wetland habitat. Teichert is requesting to transfer the annual production allotment from the Schwarzgruber operation to the Shifler site.

Page 3-8, Draft EIR Chapter 3, Section 3.3, fourth paragraph is hereby revised as follows:

> Existing surface elevations on the project site range from approximately 98 to 112 feet above mean sea level (MSL), with the proposed mining area elevations between approximately 103 and 112 feet above MSL. On-site soils include Brentwood silty clay loam, 0 to 2 percent slopes, Loamy alluvial land, Riverwash, Sehorn-Balcom complex, 2 to 15 percent slopes, Sehorn-Balcom complex, 30 to 50 percent slopes, eroded, and Yolo silt loam, 0 to 2 percent slopes. ~~Approximately~~ Previously, approximately 107 acres of the project site ~~are~~ was located within Mineral Resources Zone (MRZ)-2, which generally includes areas underlain by mineral deposits where geologic data show that significant measured or indicated resources are present. The remainder of the project site ~~is~~ was located within MRZ-3, which indicates that this area includes mineral deposits, the significance of which cannot be evaluated from available data. However, effective May 20, 2021, the State Mining and Geology Board (SMGB) redesignated the entirety of the subject property MRZ-2.

The revisions to Chapter 3, Project Description, do not change the conclusions of the analysis in the Draft EIR.

4.2 Agricultural Resources

Page 4.2-23, Draft EIR Chapter 4.2, Section 4.2.4, the first paragraph under Impact 4.2-1 is hereby revised as follows:

> While much of the site is currently used for agriculture, the site falls within the boundaries of the CCAP and within the Planning Area for the OCMP (see Figure 4.2-3). ~~Approximately 107 acres of the site is designated by the California State Mining and Geology Board as MRZ-2,~~ Effective May 20, 2021, the State Mining and Geology Board (SMGB) redesignated the entire project site MRZ-2. ~~reflecting~~ The MRZ-2 designation reflects the existence of known significant mineral deposits or a high likelihood for the presence of mineral deposits. ~~The remaining approximately 212 acres of the project site is designated MRZ-3, indicating an area of known reserves of unknown significance (see Figure 4.2-4). The applicant as submitted an application to the DOC in July 2020 to change the MRZ-3 State designation of the site to MRZ-2 to reflect the existence of known significant aggregate reserves over the entire project site.~~ The property is identified for Future Proposed Mining on Figure 5 of the CCAP. As such, proposed mining at the property is consistent with the CCAP and mining operations are an anticipated use.

The foregoing revisions to Chapter 4.2, Agricultural Resources, do not change the conclusions of the analysis in the Draft EIR.

4.4 Biological Resources

Page 4.4-6, Draft EIR, Chapter 4.4, Section 4.4.2, the third and fourth paragraphs are hereby revised as follows:

> A delineation of wetlands and other waters of the U.S. was prepared for the project site by ECORP. The USACE issued a preliminary jurisdictional determination (PJD) in July 2012. Subsequent to the USACE PJD, EcoSynthesis provided a new wetland delineation of the Shifler site using up-to-date methodologies and equipment. EcoSynthesis submitted the findings of the updated wetland delineation to the USACE, which issued a PJD on June 3, 2020 concurring with the findings of EcoSynthesis. Based on the updated delineation efforts prepared for the project, the project site contains a total of 2.205 acres of ~~potentially~~ jurisdictional waters of the U.S. – which would also be considered waters of the State. The ~~potentially~~ jurisdictional waters on-site consist of Moore Canal and Magnolia Canal (see Figure 4.4-1). However, USACE determined that the canals were exempt from permitting requirements of the Clean Water Act (CWA), Section 404.
>
> Previous wetland delineations prepared by ECORP for the project site identified other features on-site that were considered potentially jurisdictional at the time ECORP prepared the site delineation. As further explained in the Aquatic Resources Delineation memorandum prepared by EcoSynthesis on July 5, 2020, all potential aquatic resources within the site other than Moore Canal and Magnolia Canal have been determined not to be aquatic resources. ~~In addition, the USACE confirmed to EcoSynthesis that the on-site irrigation ditches (such as the Moore Canal and Magnolia Canal) are not considered jurisdictional.~~ The USACE's PJD issued on June 3, 2020 is considered the definitive determination of potentially jurisdictional features on-site. ~~Given the conclusions of the USACE, the project site does not contain any aquatic features that would be considered jurisdictional waters by the USACE.~~

Page 4.4-8, Draft EIR, Chapter 4.4, Section 4.4.2, the third paragraph is hereby corrected as follows:

> The USACE confirmed that both Moore Canal and Magnolia Canal meet the CFR's definition of irrigation ditches. Per the Section 404(f) exemption found in 33 CFR 323.4(a)(3), permits from USACE are not required for construction and maintenance of irrigation ditches ~~as irrigation ditches are not considered waters of the U.S. Nevertheless, the irrigation ditches may be considered to be waters of the State~~. In addition, per the determination of the RWQCB, realignment of Moore Canal and Magnolia Canal would not require permitting by the RWQCB.

Page 4.4-24, Draft EIR, Chapter 4.4, Section 4.4.3, the discussion under the California Fish and Game Code Section 1600 et seq. heading is hereby corrected as follows:

> Section 1602 of the Fish and Game Code requires ~~a Streambed Alteration Agreement (SAA) be submitted to~~ notification to CDFW ~~for~~ before beginning "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW ~~must be notified prior to any such activities and~~ will review the proposed action(s). If ~~necessary, the CDFW will propose~~ CDFW determines that the proposed activity will substantially affect fish and wildlife resources, it will require a Streambed Alteration Agreement (SAA), which will contain measures to protect affected fish and wildlife resources. The SAA is comprised of the final mitigation measure(s) and condition(s) mutually agreed-upon by the CDFW and the Applicant.

Often, projects that require a SAA also require a permit from the USACE under Section 404 of the CWA. In such instances, the conditions of the Section 404 permit and the SAA may overlap.

Page 4.4.-25, Draft EIR, Chapter 4.4, Section 4.4.3, the third paragraph under the Porter-Cologne Water Quality Act heading is hereby corrected as follows:

Under the Porter-Cologne Water Quality Control Act (Cal. Water Code Section 13000-14920), the RWQCB is authorized to regulate the discharge of waste that could affect the quality of the State's waters. In response to the narrowing of federal jurisdiction over certain aquatic features by various legal decisions, most notably Solid Waste Agency of Northern Cook County (SWANCC) v. USACE, the RWQCB adopted its own program to regulate the discharge of waste to waters of the State. This program – known as the State Wetland Definition and Procedures for Discharges of Dredged and Fill Material (State Wetland Procedures) – was adopted by the SWRCB in April of 2019. Therefore, even if a project does not require a federal permit (i.e., a Nationwide Permit from the USACE), the project may still require review and approval by the RWQCB, pursuant to the State Wetland Procedures. ~~in light of the approval of new NWPs on March 9, 2000 and the Supreme Court's decision in the case of the Solid Waste Agency of Northern Cook County (SWANCC) vs. USACE. The RWQCB in response to the above case, issued guidance for regulation of discharges to "isolated" water on June 25, 2004. The guidance states:~~

> ~~Discharges subject to Clean Water Act section 404 receive a level of regulatory review and protection by the USACE and are also subject to streambed alteration agreements issued by the CDFW; whereas discharges to waters of the State subject to SWANCC receive no federal oversight and usually fall out of CDFW jurisdiction. Absent of RWQCB attention, such discharges will generally go entirely unregulated. Therefore, to the extent that staffing constraints require the RWQCB to regulate some dredge and fill discharges of similar extent, severity, and permanence to federally protected waters of similar value. Dredging, filling, or excavation of "isolated" waters constitutes a discharge of waste to waters of the State, and prospective dischargers are required to submit a report of waste discharge to the RWQCB and comply with other requirements of Porter-Cologne.~~

Page 4.4-47, Draft EIR, Chapter 4.4, Section 4.4.4, the first paragraph under Impact 4.4-3 is hereby corrected as follows:

On June 3, 2020, the USACE provided confirmation that the project site does ~~not~~ contain jurisdictional features~~, and that permitting from the USACE would not be required~~. However, USACE determined that the canals were exempt from permitting requirements of the Clean Water Act (CWA), Section 404. Additionally, per the determination of the RWQCB, realignment of Moore Canal and Magnolia Canal, which are also considered waters of the State, would not require permitting by the RWQCB. Accordingly, the following discussion focuses on the potential for the project to result in impacts ~~to waters of the State or wetland features that are otherwise protected (for instance by the CDFW or RWQCB)~~ that would necessitate notification of CDFW.

Page 4.4-48, Draft EIR, Chapter 4.4, Section 4.4.4, the second paragraph under Impact 4.4-3 is hereby corrected as follows:

A total of 2.205 acres of waters of the State have been delineated within the project site (see Figure 4.4-1 above). All such features would be affected by the proposed project. Specifically, the segment of the Moore Canal within the project site, as well as a section of the Magnolia Canal, would be relocated to follow the western and northern boundary of the site. In addition, Section 1602 of the Fish and Game Code requires ~~an SSA to be submitted to~~ notification to CDFW ~~for~~ before beginning "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake", which ~~would~~ may include the proposed relocation of the Moore and Magnolia canals. If CDFW determines that the proposed relocation of the canals is within its jurisdiction, and that the activity will substantially affect fish and wildlife resources, it may require a SAA, which will contain measures to protect such affected fish and wildlife resources. The project would have the potential to involve the disturbance, removal, fill or hydrologic interruption of 2.205 acres of ~~waters of the State regulated by the RWQCB and/or the~~ aquatic resources potentially within the jurisdiction of CDFW. Given the nature of the proposed project, neither Moore Canal nor Magnolia Canal can be avoided. No wetlands or other special aquatic habitats (marsh, vernal pool, etc.) were identified on the site.

Page 4.4-48, Draft EIR, Chapter 4.4, Section 4.4.4, the third paragraph is hereby corrected as follows:

After mining has ceased on the project site, approximately 117 acres of the mining area would be reclaimed to agricultural use, 113 acres would be reclaimed to a lake, and 23.9 acres would be reclaimed to riparian woodland habitats. Thus, the proposed project would result in a net increase in on-site ~~wetlands and waters of the State~~ aquatic resources once reclamation is complete. ~~The net increase in on-site wetlands following project implementation is important because the CDFW and RWQCB pursue a "no-net-loss" approach to wetland conservation.~~ Typically, project applicants are required, either by the foregoing state agencies or the USACE, to purchase credits at mitigation banks to off-set the on-site loss of ~~wetlands~~ aquatic resources. In the case of the proposed project, the on-site aquatic features, which are related to existing irrigation ditches, would be retained through construction of relocated and modified irrigation ditch channels. The proposed alignment of Moore Canal would allow for the removal of approximately 1,200 feet of the existing alignment of Magnolia Canal. The removal of 1,200 feet of Magnolia Canal and loss of on-site irrigation ditch aquatic resource area would be substantially, if not completely, off-set through the increased length of Moore Canal, which would take a longer and more circuitous route following the northern and western boundary of the site. In addition to the increased length of Moore Canal serving to off-set most if not all of the removed area of Magnolia Canal, following reclamation of the project site, ~~the small amount of aquatic features lost during mining activities would be replaced with~~ reclamation of the site will also result in the creation of a permanent lake that would greatly expand the aquatic resources and wetland habitat available on-site. Consequently, the project would result in a net increase in aquatic resources and comply with the "no-net-loss" approach to wetland conservation.

Page 4.4-48, Draft EIR, Chapter 4.4, Section 4.4.4 the fourth paragraph is hereby corrected as follows:

The Yolo HCP/NCCP requires payment of fees to offset loss of wetlands. In ~~Addition~~ addition, the Yolo HCP/NCCP contains two AMMs addressing impacts to wetlands and other waters: AMM 9 and AMM 10. AMM 9 requires the establishment of buffers around certain wetlands that will be avoided by a project. Because there are no wetlands on the project site, AMM 9 is not applicable. AMM 10 provides that project proponents must

comply with any requirements imposed by applicable National Pollutant Discharge Elimination System (NPDES) permits, as well as complying with applicable requirements of other agencies with jurisdiction ~~of~~ over the impacted features. ~~Because the waters on the project site cannot be avoided, AMM 9 is not applicable to the proposed project.~~

Page 4.4-49, Draft EIR, Chapter 4.4, Section 4.4.4, Mitigation Measure 4.4-3(b) is hereby revised as follows:

4.4-3(b) *Prior to disturbance associated with relocation of the Moore and/or Magnolia Canal, the applicant shall ~~secure a~~ notify CDFW pursuant to Section 1602 of the Fish and Game Code to determine whether a Lake or Streambed Alteration Agreement ~~from CDFW,~~ is required for the relocation of the Moore/Magnolia Canal and any other activities affecting the bed, bank, or associated riparian vegetation of the canals. The information provided in the application(s) shall include a description of all of the activities associated with the ~~proposed project, and shall not be limited to those associated solely with the drainages and/or riparian vegetation~~ relocation of the canals and any other activities affecting the bed, bank or any associated riparian vegetation of those features. Impacts to the canals and any associated riparian vegetation shall be outlined in the application and shall be substantially consistent with the impacts to biological resources outlined in this EIR. If this is not the case, the County shall be immediately notified to determine an appropriate response pursuant to CEQA. Impacts for each activity shall be broken down by temporary and permanent, and a description of the proposed mitigation for biological resource impacts, including compliance with the Yolo HCP/NCCP as applicable, shall be outlined per activity and as temporary or permanent. Information regarding project-specific drainage and hydrology changes resulting from project implementation shall be provided as well as a description of storm water treatment methods. Mitigation may include restoration or enhancement of resources on- or off-site, purchase habitat credits from an agency-approved mitigation/conservation bank, off-site, working with a local land trust to preserve land, or any other method acceptable to CDFW. Written verification of the applicant's compliance with Section ~~1600 Lake or Streambed Alteration Agreement~~ 1602 of the Fish and Game Code shall be submitted to the County.*

The foregoing revisions to Chapter 4.4, Biological Resources, do not change the conclusions of the analysis in the Draft EIR. The revisions do not trigger any of the criteria set forth in CEQA Guidelines Section 15088.5(a) necessitating the recirculation of a Draft EIR subsequent to public review. The revisions correct errors and/or provide additional clarification to information and analysis already conveyed.

4.5 Cultural and Tribal Cultural Resources

Page 4.5-1, Draft EIR Chapter 4.5, Section 4.5.1, the first paragraph is hereby revised as follows:

> […] The information presented in this chapter is sourced primarily from the Cultural Resource Assessment prepared for the proposed project by Peak & Associates, Inc. (see Appendix G),[1] the Yolo County General Plan[2] and associated EIR,[3] ~~and~~ the Cache Creek Area Plan (CCAP) update EIR.[4], and the tribal consultation record for this project.

Page 4.5-1, Draft EIR Chapter 4.5, Section 4.5.1, first bullet point following the second paragraph is hereby revised as follows:

- Potential impacts to Tribal Cultural Resources (Northwest Information Center and Native American Heritage Commission);

Page 4.5-2, Draft EIR Chapter 4.5, Section 4.5.1, is hereby revised to include the following paragraph at the end of the section:

> "Tribal Cultural Resource," as defined in Section 20174 of the PRC, is a resource of any form or function that is identified by culturally-affiliated California Native American tribes as being important. Information about Tribal Cultural Resources is obtained through a legally prescribed consultation process between the County and tribes, as described further below.

Page 4.5-6, Draft EIR Chapter 4.5, Description of Local Environment is hereby clarified as follows:

> The northeastern portion of the site previously contained a ranch headquarters (Stevens Ranch); however, the structures that comprised the headquarters were burned down as part of a fire department training exercise in the late 1970s or early 1980s and the remains of the ranch headquarters were bulldozed, such that no integrity remains. Currently, structures do not exist at the location and the area is currently overgrown by low-lying brush. The northern portion of the site consists of scattered oak trees and ruderal grassland vegetation.

Page 4.5-7, Draft EIR Chapter 4.5, Section 4.5.2, is hereby revised as follows:

> **~~On-Site~~ Cultural Resources**
>
> ~~A records search of~~ Records searches with the California Historical Resources Information System (CHRIS)[5] ~~confirmed the project site has not been subject to past cultural resource surveys.[5] Nor have any prehistoric period cultural resources been recorded within the project site. Near the northeast portion of Parcel 2 is the location of a former ranch headquarters (Stevens Ranch); however, structures do not exist at the location and the area is currently overgrown by low-lying brush. All that remains of the former structures is a building pad, a partially buried steel pipe of unknown use, and various refuse piles.~~ and a cultural resources inventory by Peak & Associates have identified cultural resources within the project area. A summary of known historic-era cultural resources is provided below. Prehistoric resources were not identified within the project area.

---

1 Peak & Associates, Inc. *Cultural Resource Assessment for the Shifler Mining and Reclamation Project, Yolo County, California.* January 2015.
2 Yolo County. *2030 Countywide General Plan.* November 10, 2009.
3 Yolo County. *Yolo County 2030 Countywide General Plan Environmental Impact Report. SCH# 2008102034.* April 2009.
4 Yolo County. *Cache Creek Area Plan Update Project, Final Environmental Impact Report. SCH# 2017052069.* December 2019.

~~Three historic-period resources have been recorded within the project vicinity: an oak grove, Monument Hill Memorial Park cemetery, and the Moore Canal. In addition, the project site contains a section of the Magnolia Canal which, as noted above, is a remnant part of the Moore Canal.~~

[5] Northwest Information Center. County File Number *ZF2018-0078 / Portions of APNs 025-120-032, 025-120-033, 025-430-001, and 025-430-002 / Teichert Shifler Mining and Reclamation*. September 5, 2019.

Page 4.5-8, Draft EIR Chapter 4.5, Section 4.5.2, first heading and first paragraph are hereby revised as follows:

Stevens Ranch Headquarters

Near the northeast portion of Parcel 2 is the location of a former ranch headquarters (Stevens Ranch). Although this was visible on aerial photographs as early as 1937, structures do not exist at the location. The site was bulldozed after it was burned down by the fire department, and the area is currently overgrown by low-lying brush. All that remains of the former structures is a building pad, a partially buried steel pipe of unknown use, and various refuse piles. As such, there is no potential to yield subsurface archaeological data at the site.

Page 4.5-8, Draft EIR Chapter 4.5, Section 4.5.2, final heading and final paragraph are hereby revised as follows:

Tribal Cultural Resources

Based on a search of the Native American Heritage Commission (NAHC) Sacred Lands File, as described in further detail in the Method of Analysis section below, no Native American sacred sites or traditional cultural properties have been previously recorded within the project site. Per the NAHC's suggestion, Peak & Associates, Inc. contacted each of the Native American tribes or individuals indicated by the NAHC to potentially have knowledge of cultural resources in the project area. In addition ~~to the above~~, the County conducted Assembly Bill (AB) 52 and Senate Bill (SB) 18 tribal consultation for the project, and implemented an archaeological trenching program (with negative results) in coordination with the Yocha Dehe Wintun Nation in 2021, as described in the Method of Analysis section below. ~~Additional tribal cultural resources were not identified for the project site.~~

Page 4.5-10, Draft EIR Chapter 4.5, Section 4.5.3, second paragraph is hereby revised as follows:

State historic preservation regulations affecting this project include the statutes and guidelines contained in CEQA (PRC Sections 21083.2 and 21084.1 and Sections 15064.5 and 15126.4 (b) of the CEQA Guidelines). CEQA requires lead agencies to consider the potential effects of a project on historical resources and unique archaeological resources. A "historical resource" includes, but is not limited to, any object, building, structure, site, area, place, record or manuscript that is historically or archaeologically significant (PRC Section 5020.1). Under Section 15064.5 of the CEQA Guidelines, a resource is considered "historically significant" if one or more of the following CRHR criteria have been met:

Page 4.5-11, Draft EIR Chapter 4.5, Section 4.5.3, first paragraph is hereby revised as follows:

Public Resource Code Section 5024.1

~~The State Historic Preservation Officer (SHPO)~~ The California Office of Historic Preservation (OHP) maintains the CRHR. Properties that are listed on the NRHP are automatically listed on the CRHR, along with State Landmarks and Points of Interest. The CRHR can also include properties designated under local ordinances or identified through local historical resource surveys. Criteria to determine eligibility under the CRHR are listed above.

Page 4.5-17, Draft EIR Chapter 4.5, Section 4.5.4, the final two paragraphs are hereby revised as follows:

Method of Analysis

The analysis of cultural resources presented within this chapter is based ~~primarily~~ on the Cultural Resources Assessment prepared for the proposed project by Peak & Associates, Inc. The analysis of Tribal Cultural Resources in this chapter considers the tribal consultation record under AB 52 and SB 18, including the 2021 trenching program. The methods of these analyses are summarized below.

Peak & Associates, Inc. staff complete a pedestrian survey of the project site on August 30 and September 3, 2012 using 15-meter-wide transects. A second visit was made to the project site on October 3, 2013 to gather additional information related to the on-site ditches. In addition to the field surveys, the Cultural Resources Assessment included a review of site-specific information from the CHRIS database provided by the Central California Information Center on August 20, 2012. Additional research on the history of the development and use of the Moore Canal was conducted at the Yolo County Archives and the California Room of the California State Library, as well as through internet sources including Ancestry.com, the Internet Archive, and the USGS topographic map collection. Sources utilized include maps, published reports, and county histories.

In 2021, the County retained ECORP Consulting, Inc. and the Yocha Dehe Wintun Nation to design and implement a subsurface trenching program in areas determined by the tribe to be sensitive for Tribal Cultural Resources. Because Cache Creek is a perennial water source that has been used and managed by traditional Native American cultures, including Wintun tribes and Patwin speaking groups, for thousands of years, occupational and resource procurement sites are frequently located along the banks of the creek. These sites were typically buried by alluvium (stream channel deposits) because of flood events or stream channel meandering. The result is that sites that were at one time occupied on the banks of the creek may now be located some distance from the current channel and at a depth below the surface that cannot be detected from surface survey alone. Given the proximity of the Project Area to Cache Creek, there exists a potential for the discovery of buried cultural deposits that may occur during project implementation. Buried sites, if present, would be expected to be located within the loamy and sandy alluvium, or A horizon, and above the heavier gravels that form current and ancient stream beds. Based on the geomorphology of the floodplain, this potential varies with distance from the current creek channel.

Therefore, on May 17, 2021, a program of backhoe trenching was employed at four locations in the phases of proposed mining that are closest to the current creek channel. The location of the trenches was selected in consultation with the project applicant, County staff, the Yocha Dehe Wintun Nation, and a professional archaeologist from ECORP Consulting, Inc. Trenching was carried out under the direction and observation of professional archaeologists and a tribal monitor. The

purpose of the trenching was to determine whether or not buried archaeological deposits were present at those locations and to help inform the environmental review.

In addition, on August 19, 2012, Peak & Associates, Inc. sent letters to the following Native American tribes or individuals indicated by the NAHC to potentially have knowledge of cultural resources in the project area: the Yocha Dehe Wintun Nation and the Cortina Rancheria Band of Wintun Indians of California. ~~Representative~~ A representative of the firm indicated in their report that responses from the tribes were not received.

Page 4.5-18, Draft EIR Chapter 4.5, Section 4.5.4, first paragraph, bulleted list of tribal consultation, and second paragraph is hereby revised as follows:

~~In~~ Separately, in compliance with AB 52 ~~and SB 18~~, the County conducted tribal consultation for the project, as follows:

- 12/18/2018 The County sent letters to five tribes ~~requesting to initiate~~ to offer consultation under AB 52 ~~consultation~~ and requested response within 30 days: the Yocha Dehe Wintun Nation; the Cortina Rancheria Band of Wintun Indians of California; the Ione Band of Miwok Indians; the Wilton Rancheria; and the Torres Martinez Desert Cahuilla Indians.

- 1/10/2019 The Yocha Dehe Wintun Nation requested initiation of formal consultation with the County, along with copies of various project materials related to cultural resources (see Appendix G).

- 1/23/2019 The County acknowledged Yocha Dehe Wintun Nation and sent the Cultural Resources Report for the proposed project. The County requested a meeting.

- 1/28/2019 The Yocha Dehe Wintun Nation emailed offers for several meeting dates.

- 2/11/2019 A consultation/coordination meeting was held at tribal offices (meeting minutes included in Appendix G).

- 2/11/2019 The Cultural Resources Report was resent to the tribe. The County also sent a copy of the Biological Resources Report sent to the tribe.

- 3/11/2019 The County sent minutes of the meeting to the tribe and agreed to set up a site visit.

- 4/1/2019 The County provided an email confirming the field meeting.

- 5/6/2019 Representatives from the County and the applicant conducted a tour of the project site, attended by Isaac Bojorquez and other representatives of the Yocha Dehe Wintun Nation.

- 5/21/2019 The County received a letter from the tribe recommending monitoring during "development and ground disturbance".

- 2/2/2021 The Yocha Dehe Wintun Nation sent a comment letter to the County on the DEIR with suggested revisions to the document.

- 5/3/2021 A field consultation meeting was held by the County and the Yocha Dehe Wintun Nation. The tribal representative stated that there is a potential for encountering buried archaeological resources in certain portions of the project area, and that such resources could be considered to be Tribal Cultural Resources and unique archaeological resources.

- 5/17/2021 At the request of the Yocha Dehe Wintun Nation, a program of subsurface trenching was carried out in areas selected by the tribal representatives and the County's archaeological consultant to determine whether or not buried resources are likely to be present.

- 6/24/2021 A tribal monitoring plan was sent to the Yocha Dehe Wintun Nation for review and comment.

- 8/3/2021 The County concluded tribal consultation in agreement with the Yocha Dehe Wintun Nation by letter.

In compliance with SB 18, the County conducted tribal consultation for the project, as follows:

- 6/28/2021 The County requested an updated list of tribal contacts from the NAHC under SB 18.

- 6/28/2021 The County sent letters to five tribes to offer consultation under SB 18 and requested response within 30 days, although all tribes had up to 90 days to respond: the Yocha Dehe Wintun Nation; the Cortina Rancheria Band of Wintun Indians of California; the Ione Band of Miwok Indians; the Wilton Rancheria; and the Torres Martinez Desert Cahuilla Indians.

- 7/15/2021 The Yocha Dehe Wintun Nation responded to accept consultation and requested information.

- 7/19/2021 The County sent a letter to the Yocha Dehe Wintun Nation to provide the requested information.

- 7/21/2021 The NAHC responded with a list of tribes. Only one additional tribe, the Cachil Dehe Band of Wintun Indians of the Colusa Indian Community, was named on the list that was not previously noticed.

- 7/26/2021 The County sent a letter to the Cachil Dehe Band of Wintun Indians of the Colusa Indian Community to offer consultation under SB 18 and requested response within 30 days, although the tribe has up to 90 days to respond.

- 8/3/2021 The County concluded tribal consultation with the Yocha Dehe Wintun Nation in agreement, by letter.

- 8/12/2021 The Yocha Dehe Wintun Nation responded to request an update meeting.

- 9/13/2021 Yocha Dehe Wintun Nation and County participated in a project update meeting.

Based on the above, the County has provided written notification of the proposed project to all applicable local tribes and has provided an opportunity for the tribes to comment on methods for protection of unknown ~~tribal cultural resources~~ Tribal Cultural Resources and sacred sites potentially occurring within the project area. Additional opportunity for comment and collaboration will include through tribal review of this EIR. Thus, the County has fully satisfied AB 52 and SB 18 tribal consultation requirements for the proposed project.

Page 4.5-19, Draft EIR Chapter 4.5, Section 4.5.4, the third, fourth, and fifth paragraphs under Impact 4.5-1 are hereby revised as follows:

The northeast portion of the project site contains remnants of the former Stevens Ranch headquarters~~; however,~~. While the Stevens name is known in various parts of Yolo County, information could not be found to suggest that the Stevens name is associated with any important events or persons in history such that it rises to the level of importance that would render it eligible with CRHR Criteria 1 or 2. The structures do not exist at the location (CRHR Criterion 3) and the area is currently overgrown by low-lying brush. All that remains of the former structures after being used in a fire training exercise is a building pad, a partially buried steel pipe of unknown use, and various refuse piles, and there is no potential for associated archaeological materials that would yield important information in history (CRHR Criterion 4). ~~Given~~ Furthermore, given that the integrity of the former Stevens Ranch headquarters has been substantially degraded, the headquarters is not eligible for ~~consideration as~~ inclusion in the CRHR and is not a historical resource ~~per the CRHR criteria~~ under Section 15064.5 of the CEQA Guidelines.

Per the Cultural Resource Assessment, the Magnolia Canal is not considered ~~significant under subsections~~ a historical resource under Section 15064.5~~(A) and (B)~~ of the CEQA Guidelines because it is not ~~currently~~ associated with important people and events (CRHR Criteria 1 and 2). In addition, the lack of continuous use and major alterations, as well as the re-naming and the alteration of water source, also make the Magnolia Canal ineligible under ~~subsections (C) and (D) of CEQA Guidelines Section 15064.5~~ CRHR Criterion 3. The canal does not possess important information in history beyond what has already been recorded (CRHR Criterion 4). Therefore, the Magnolia Canal is not eligible for ~~consideration as a significant historical resource under the CRHR~~

inclusion in the CRHR and is not a historical resource under Section 15064.5 of the CEQA Guidelines, and removal of a segment of the canal as part of the proposed project would not result in any significant impacts.

The Moore Canal has been described as being the oldest ditch in Yolo County, and ~~is considered to be a significant historical resource eligible for inclusion in the NRHP~~ was previously evaluated as eligible for inclusion in the NRHP, and therefore, also a historical resource under CEQA. In addition to being the oldest canal, the Moore Canal is relevant in the history of water rights policy in the California.

Page 4.5-20, Draft EIR Chapter 4.5, Section 4.5.4, sixth paragraph under Impact 4.5-1 is hereby revised as follows:

Per the Cultural Resource Assessment, the Moore Canal appears to be significant and eligible for the CRHR under CRHR Criterion 1, for its associations with important events. The Moore Canal is also significant and eligible under CRHR Criterion 3, as the earliest canal in Yolo County. As the original canal allowed the seasonal irrigation of many acres of otherwise dry lands useful only for grazing or grain crops, the changes in land use changed the patterns of development of the region. The section of the Moore Canal in the project site retains integrity of location (in part), setting, feeling, and association. However, the materials have been changed with the lining of the ditch at some point in the past. Based on the above, the Moore Canal is considered to be eligible for inclusion in the CRHR and the NRHP and is considered a historical resource under CEQA.

Page 4.5-21, Draft EIR Chapter 4.5, Section 4.5.4, first and third paragraphs under Impact 4.5-2 are hereby revised as follows:

Evidence of ~~prehistoric cultural resources, including archaeological resources,~~ unique archaeological resources or human remains has not been identified within the project site by prior cultural resource studies and was not noted during the field survey of the project site conducted by Peak & Associates, Inc. or the archaeological trenching performed in 2021. In addition to the on-site ground-disturbing activities associated with the proposed project, the project would require installation of a new water pipe, to be located partially off-site alongside the existing conveyor belt alignment. However, installation of the pipe would not require trenching in areas that have not already been subject to substantial prior disturbance associated with the conveyor belt. Similarly, the addition of new equipment at the Woodland Plant would occur entirely within the footprint of the existing Plant and would not require substantial ground disturbance. As such, ground-disturbing activities associated with the proposed mining and reclamation activities would not be likely to disturb any unique archaeological resources or human remains.

With regard to lands proposed for dedication, the future recreation, trails, and public open space uses and activities would occur on reclaimed lands subsequent to mining and reclamation. Dedication of the Shifler In-Channel property would involve change of ownership but no other specific land use changes or improvements beyond the improvements identified

under Mitigation Measure 4.8-4(a through c) which would be subject to the requirements of the OCSMO and Mitigation Measure 4.5-3~~(a and b)~~. Recreational, parkway, and open space use would rely primarily on existing trails and roads on the Shifler In-Channel property.

Nonetheless, the possibility exists that previous activities have obscured prehistoric or historic period artifacts or habitation areas, eliminating surface evidence that would permit discovery of such resources, and if found, those could constitute unique archaeological resources. In the event that an inadvertent discovery of ~~prehistoric~~ potential unique archaeological resources or human skeletal remains occurs during excavation activities, the project applicant would be required to implement the provisions of OCSMO Section 10-4.410. The provisions require immediate cessation of all work within 75 feet of the discovery, notification of the Yolo County Coroner (if human remains are encountered), contact with the appropriate Native American community, and recording

Page 4.5-22, Draft EIR Chapter 4.5, Section 4.5.4, analysis under Impact 4.5-3 and Mitigation Measure 4.5-3(a) is hereby revised as follows:

~~Based on a search of the NAHC Sacred Lands File there are no recorded Native American sacred lands or traditional cultural properties within the project site vicinity. However, the Yocha Dehe Wintun Nation expressed concern that the project could impact Tribal Cultural Resources. The potential exists for previously undiscovered Tribal Cultural Resources associated with local tribes to occur in the vicinity of the project site, particularly within the upper layers of overburden material within the project site. The Yocha Dehe Wintun Nation has requested that a tribal monitor be present on-site during initial ground disturbance associated with the proposed project.~~

~~Because, ground-disturbing activities associated with the proposed project could unearth an unknown Tribal Cultural Resource as defined in PRC Section 21074, a ***significant*** impact could occur.~~

Although the trenching program failed to yield indications of buried archaeological sites, the trenching only examined a small proportion of the Project Area. Because pre-excavation of the entire Project Area is neither feasible nor appropriate in advance of project approval, and because the potential for encountering subsurface deposits during project implementation remains higher in certain locations, ground-disturbing activities associated with the proposed project could unearth an unknown Tribal Cultural Resource as defined in PRC Section 21074, a ***significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

4.5-3~~(a)~~ ~~*Prior to initiation of ground-disturbing activities associated with removal of overburden material on the project site, within 500 feet of the Cache Creek bank (i.e., streamway influence zone), local Native American tribes or groups that have*~~

~~*responded to the request for information regarding sacred lands or other heritage sites that might be impacted by the proposed project shall be apprised by the applicant of the proposed mining schedule and be afforded the opportunity to provide a tribal monitor at their discretion. Written proof of notification shall be submitted to the Yolo County Department of Community Services. The opportunity to monitor shall be provided during all ground-disturbing activities occurring within 500 feet of the Cache Creek bank, down to a depth of 10 feet below the existing ground surface. The monitor shall meet all applicable Occupational Safety and Health Administration (OSHA) requirements and abide by the operator schedule. The operator shall be responsible for reimbursing the costs of one (1) tribal monitor.*~~

Develop and Implement a Tribal Cultural Resources Monitoring Plan

The project proponent shall prepare, with input from the Yocha Dehe Wintun Nation, a Tribal Cultural Resources Monitoring Plan for County approval that includes the following components. The Plan shall be fully executed and copies provided to the County prior to the initiation of ground-disturbing activities associated with the approved project.

- *Awareness Training -- The scope, format, and timing of delivery of a contractor awareness training program to inform equipment operators and their supervisors of the procedures required by the Monitoring Plan, which includes, at a minimum, annual training for all personnel involved in project implementation. The program shall include relevant information regarding sensitive tribal cultural laws and regulations. The program shall describe appropriate avoidance and minimization measure (as described in the executed Monitoring Plan) for resources that have the potential to be located on the project site and shall outline specific actions and contacts should any potential archeological resources or artifacts be encountered. The program shall also underscore the requirement for confidentiality and culturally-appropriate treatment of any finds of significance to Native American peoples and for behavior consistent with Native American Tribal values. A copy of the contractor awareness training program materials and written verification of completion of the training program shall be submitted to the Yolo County Department of Community Services.*
- *Compliance with Applicable Laws – The Monitoring Plan shall describe applicable laws and regulations relevant to potential cultural resource finds, including specific procedures to ensure compliance during implementation.*
- *Extent of Monitoring – The plan shall include a description of the extent that monitoring will be required. Monitoring shall be limited to the depth of overburden (topsoil), which is the area in which unknown Tribal Cultural Resources*

could occur. The plan shall acknowledge that monitoring of the excavation of gravels and aggregate materials, or backfilling and restoration, is not required. The parties may identify a phasing system to facilitate efficient monitoring – this phasing shall not be in conflict with approved mining phasing. The level of monitoring may be determined in the field based on observed actual conditions as mining moves away from Cache Creek into areas where the likelihood of resources is reduced based on known cultural practices and activities.

- *Reporting By Phase –The applicant shall file a written report to the County within 30 days of completion of monitoring for each monitoring phase. The report shall document compliance with the terms of the Monitoring Agreement and shall report on the nature and disposition of any cultural resource discoveries. Applicable requirements for confidentiality shall be observed in these reports.*
- *Treatment and Disposition of Cultural Items and Remains – Detailed unanticipated discovery procedures for cultural resources, unique archaeological resources, tribal cultural resources, or human remains that includes consultation with the County to ensure that any discoveries are treated in accordance with applicable state law before work can resume at the discovery location.*
- *Other Procedures and Requirements – Timing and procedures for other relevant actions necessary to implement the Monitoring Plan.*

The County shall be afforded 15 calendar days to review and approve the draft Monitoring Plan prior to execution. Ground-disturbing activities subject to the Monitoring Plan cannot begin until the County approves the Monitoring Plan and the Plan is executed between the project proponent and the Yocha Dehe Wintun Nation.

Page 4.5-23, Draft EIR Chapter 4.5, Section 4.5.4, Mitigation Measure 4.5-3(b) is hereby deleted and combined with Mitigation Measure 4.5-3(a) as shown above:

~~*4.5-3(b) Prior to initiation of ground-disturbing activities, a consultant and construction worker cultural resources awareness brochure and training program for all personnel involved in project implementation shall be developed in coordination with interested Native American tribes. The brochure shall be distributed and the training shall be conducted in coordination with qualified cultural resources specialists and Native American Representative and monitors from culturally affiliated Native American Tribes. The program shall include relevant information regarding sensitive tribal cultural laws and regulations. The worker cultural resources awareness program shall describe appropriate avoidance and minimization measures for resources that have the potential*~~

~~*to be located on the project site and shall outline what to do and whom to contact if any potential archeological resources or artifacts are encountered. The program shall also underscore the requirement for confidentiality and culturally-appropriate treatment of any find of significance to Native American and for behavior consistent with Native American Tribal values. A copy of the cultural resources awareness brochure and written verification of completion of the training program shall be submitted to the Yolo County Department of Community Services.*~~

Page 4.5-23, Draft EIR, Chapter 4.5, Section 4.5.5, Mitigation Measure 4.5-4 is hereby revised as follows:

4.5-4 Implement Mitigation Measures 4.5-1~~,~~ and 4.5-3~~(a), and 4.5-3(b)~~.

Page 4.5-25, Draft EIR Chapter 4.5, Section 4.5.4, Table 4.5-1, consistency discussion for Action CO-A64 is hereby revised as follows:

> The project site has been subject to extensive ground disturbance, including tilling, associated with ongoing agricultural uses. Thus, the project would not involve earth disturbing activities on previously undisturbed soils. However, the possibility of encountering buried deposits below the plow zone will be addressed through Mitigation Measure 4.5-3(a). The proposed project would be consistent with this action.

The foregoing revisions to Chapter 4.5, Cultural and Tribal Cultural Resources, do not change the conclusions of the analysis in the Draft EIR. The revisions do not trigger any of the criteria set forth in CEQA Guidelines Section 15088.5(a) necessitating the recirculation of a Draft EIR subsequent to public review. The revisions correct errors and/or provide additional clarification to information and analysis already conveyed.

4.6 Geology and Soils, Mineral Resources, and Paleontological Resources

Page 4.6-6, Draft EIR, Chapter 4.6, Section 4.6.2, the second paragraph is hereby revised as follows:

> Yolo County has two primary mineral resources, aggregate (sand and gravel) and natural gas. Mining in Yolo County is regulated by the Off-Channel Mining Plan (OCMP). The MRZ-2 area along Cache Creek contains over 700 million tons of high-grade sand and gravel. Within the project site, 107-acres ~~are~~ were previously designated by the State as MRZ-2 reflecting known significant deposits and 212 acres ~~are~~ were previously designated MRZ-3 reflecting unknown significant deposits. However, based on analysis and testing conducted by the applicant, the quality and quantity of mineral resources underlying the entire site have been confirmed. In July 2020, the applicant submitted an application to the California Department of Conservation (DOC) in July 2020 to modify the MRZ-3 State designation of the site to MRZ-2 to reflect the existence of known significant aggregate reserves over the entire project site. Effective May 20, 2021, the State Mining and Geology Board (SMGB) redesignated the entire project site MRZ-2.

Page 4.6-29, Draft EIR, Chapter 4.6, Section 4.6.4, the second paragraph is hereby revised as follows:

> The proposed project would result in extraction of aggregate mineral resources from the project site, consistent with the County's long-term plan for the management of aggregates along Cache Creek. ~~Approximately 107 acres of the site is designated by the California State Mining and Geology Board as MRZ-2, reflecting the existence of known significant mineral deposits or a high likelihood for the presence of mineral deposits. The remaining approximately 212 acres of the project site is designated MRZ-3, indicating an area of known reserves of unknown significance. The applicant has submitted an application to the California Department of Conservation (DOC) in July 2020 to change the MRZ-3 State designation of the site to MRZ-2 to reflect the existence of known significant aggregate reserves over the entire project site.~~ Effective May 20, 2021, the State Mining and Geology Board (SMGB) redesignated the entire project site MRZ-2 reflecting known significant deposits of mineral resources. Re-designation of the entire site is supported by the fact that the area ~~site~~ is known to contain over 700 million tons of sand and gravel deposits.

Page 4.6-31, Draft EIR, Chapter 4.6, Section 4.6.4, the consistency discussion regarding Action CO-A43 is hereby revised as follows:

> Effective May 20, 2021, the State Mining and Geology Board (SMGB) redesignated the entire project site MRZ-2. Currently, a portion of the project site is designated by the County with the General Plan Mineral Resource Overlay. Implementation of the proposed project would include redesignation of the remaining portion of the site with a Mineral Resource Overlay. Consequently, the project would comply with this action.

The foregoing revisions to Chapter 4.6, Geology and Soils, Mineral Resources, and Paleontological Resources, do not change the conclusions of the analysis in the Draft EIR. The revisions do not trigger any of the criteria set forth in CEQA Guidelines Section 15088.5(a) necessitating the recirculation of a Draft EIR subsequent to public review. The revisions correct errors and/or provide additional clarification to information and analysis already conveyed.

4.8 Hydrology and Water Quality

Page 4.8-9, Draft EIR, Chapter 4.8, Section 4.8, the second paragraph is hereby corrected as follows:

> In addition to wells located at the Teichert properties in the project vicinity, two water production wells (Pintail well and Canvas Back well) are used to supply the Wild Wings subdivision to the southwest of the project site, as noted in LSCE's 2020 Groundwater Memo. Both wells are located outside of the County-specified radii of influence for model analyses (i.e., 1,000 and 500 feet from wet pit boundaries for water level and water quality concerns, respectively). Of the two wells, the Canvas Back well is located closest to the project site, at a distance of 1,150 feet from the limits of the proposed mining area. The well extends to a depth of 425 feet below ground surface (bgs) and the well screen resides between 364 to 415 feet bgs. Pintail well is significantly deeper than the Canvas Back well, with well screens extending from 935 to 992 and from 1,021 to 1,061 feet bgs. Both wells produce groundwater with total arsenic concentrations that have been gradually increasing, such that operation of the Canvas Back well ceased in ~~2019~~ 2009 due to concentrations exceeding arsenic's Maximum Contaminant Level (MCL) for regulated drinking water contaminants in California (10 µg/L). Arsenic concentrations in the Pintail well have been approaching, but remain below, the MCL.

Page 4.8-41, Draft EIR, Chapter 4.8, Section 4.8.4, the impact statement for Impact 4.8-4 is hereby corrected as follows:

> **4.8-4 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows. This impact would be ~~*less than*~~ *significant*.**

The foregoing revisions to Chapter 4.8, Hydrology and Water Quality, do not change the conclusions of the analysis in the Draft EIR. The revisions do not trigger any of the criteria set forth in CEQA Guidelines Section 15088.5(a) necessitating the recirculation of a Draft EIR subsequent to public review. The revisions correct errors and/or provide additional clarification to information and analysis already conveyed.

4.10 Noise

Page 4.10-4, Draft EIR, Chapter 4.10, Section 4.10.2, the second paragraph under the Description of Regional Environment heading is hereby revised as follows:

> The region is rural and sparsely populated, with urban development being primarily concentrated within small towns such as Capay, Esparto, and Madison, and the Wild Wings subdivision.

The foregoing revision to Chapter 4.10, Noise, does not change the conclusions of the analysis in the Draft EIR. The revisions do not trigger any of the criteria set forth in CEQA Guidelines Section 15088.5(a) necessitating the recirculation of a Draft EIR subsequent to public review. The revisions correct errors and/or provide additional clarification to information and analysis already conveyed.

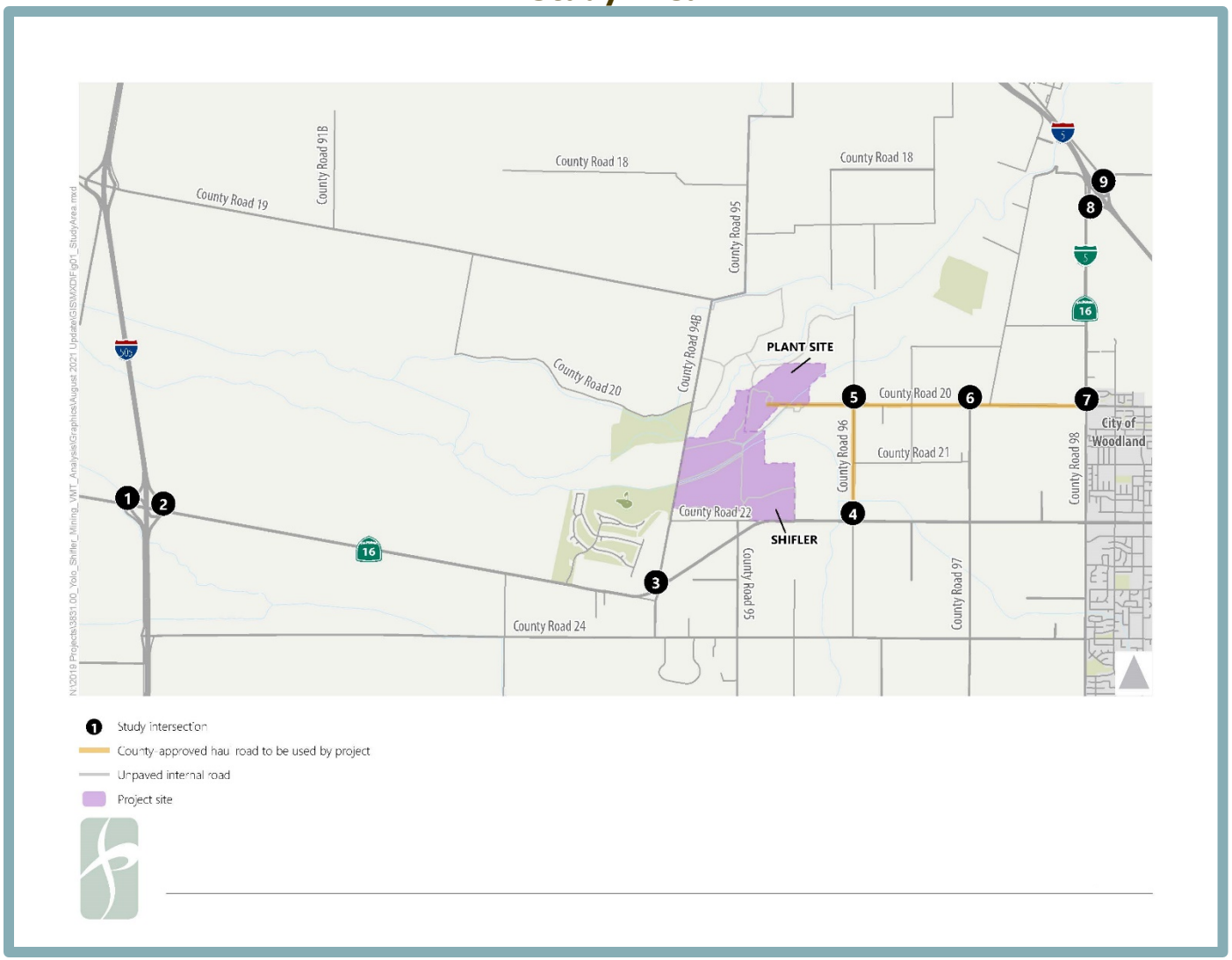
4.12 Transportation and Circulation

Page 4.12-3, Draft EIR, Chapter 4.12, Section 4.12.2, the final paragraph is hereby corrected as follows:

> County Road 20 is a rural east-west roadway that extends from Teichert Woodland Plant in the west to SR 16/County Road 98 in the east, at which point the roadway becomes Kentucky Avenue. County Road 20 intersects SR 16 west of I-5, and becomes Kentucky Avenue in the developed area east of SR 16. County Road 20 is a two-lane roadway with a speed limit of ~~50~~ 55 mph within the project vicinity.

Page 4.12-5, Draft EIR, Chapter 4.12, Section 4.12.2, Figure 4.12-1 is hereby updated with a more detailed figure that has been prepared to show the internal circulation routes associated with the proposed project.

Figure 4.12-1
Study Area



Page 4.12-23, Draft EIR, Chapter 4.12, Section 4.12.4, the second paragraph is hereby corrected as follows:

> […]Comments were also received regarding a community petition to lower the posted speed limit on County Road 96, to improve traffic safety. The proposed project would not increase traffic volumes on County Road ~~96~~ 94B relative to existing conditions and, thus, would not exacerbate any potential pre-existing safety concerns.

Page 4.12-28, Draft EIR, Chapter 4.12, Section 4.12.4, Table 4.12-6 is hereby clarified to include the following note in the final row:

Percent Time Spent Following (PTSF) represents the freedom to maneuver and the comfort and convenience of travel.

Page 4.12-31, Draft EIR, Chapter 4.12, Section 4.12.4, Table 4.12-10 is hereby clarified to include the following note in the final row:

> Note: Pcplpm stands for passenger cars per lane per mile.

The foregoing revisions to Chapter 4.12, Transportation and Circulation, do not change the conclusions of the analysis in the Draft EIR.

Page 4.12-35, Draft EIR, Chapter 4.12, the text mid-page is clarified as follows:

> The County shall condition the project, if approved, to require the applicant to fully construct the following improvement:
>
> - The applicant shall install a paved shoulder, and 5 percent sloped aggregate base shoulders with a 2:1 back slope, along both sides of CR 96 similar to County of Yolo Improvement Standards Drawing No. 4-8, for the approximate one-mile segment between CR 20 and State Route 16. Engineered improvement plans shall be reviewed and approved by the County Engineer, and an encroachment permit shall be issued prior to beginning this work within the County right-of-way. ~~The applicant shall install 5 percent shoulders with 2:1 back slope along both side of CR 96, for the approximately one-mile segment between CR 20 and CR 16~~

The revisions do not trigger any of the criteria set forth in CEQA Guidelines Section 15088.5(a) necessitating the recirculation of a Draft EIR subsequent to public review. The revisions correct errors and/or provide additional clarification to information and analysis already conveyed.

6 Alternatives Analysis

Page 6-21, Draft EIR, Chapter 6, Section 6.3, the first paragraph under the Agricultural Resources heading is hereby revised as follows:

> *Agricultural Resources*
> The Moore Canal Avoidance Alternative would result in similar acreage of impacts to agricultural resources compared to the proposed project. As shown in Figure 6-5, of the 264.1-acre mining and reclamation area, 249.5 acres are mapped by the California Department of Conservation as Prime Farmland, 8.25 acres are mapped as Unique Farmland, 0.5 acres are mapped as Farmland of Statewide Importance, and 5.85 acres

are mapped as Farmland of Local Importance. As explained on pages 4.2-26 for the analysis of the project as originally defined, in order to mitigate for the permanent loss of Prime Farmland, Unique Farmland, and Farmland of Statewide Importance, the applicant would be required to adhere to the offset requirements of Section 10-5.525 of the SMRO and Section 8-2.404 of the County Code. Upon completion of the mining activities, the alternative would include reclamation of the site to agricultural lands and a lake. Because the approximately seven acres underlying the existing on-site canals cannot be farmed, similar amounts of agricultural land would be impacted by mining under this alternative; however, because the seven acres underlying the canals would not be reclaimed under the alternative, the total amount of agricultural land and lake reclaimed under this alternative would be slightly reduced compared to the proposed project, from 116.7 acres to approximately ~~109.7~~ 113.2 acres.

Thus, impacts to agricultural resources would be similar with slightly less reclamation back to agricultural uses. Overall for this comparative analysis this would result in a greater net impact to agriculture (total reclaimed acres would be lower) under this alternative. This alternative would result in a significant and unavoidable impact and still be subject to County Code requirements related to agricultural mitigation, as required per Mitigation Measure 4.2-1.

For informational purposes, Mitigation Measure 4.2-1 would need to be modified as shown below to be applicable to the Moore Canal Avoidance Alternative. Please note the revised mitigation is reflected in Chapter 6, Moore Canal Avoidance Alternative Mitigation Monitoring and Reporting Program, of this Final EIR.

4.2-1 The applicant shall complete the following, subject to approval by the County. Item a) shall be completed in accordance with the approved reclamation plan and conditions of approval. Items b) and c) shall be completed prior to the commencement of mining activity on any Prime Farmlands, Unique Farmlands, or Farmland of Statewide Importance:

a) Reclaim 113.2 acres of Prime Farmland onsite, equivalent in quality and capacity to existing Prime Farmland permanently converted as a result of the project.

b) Establish a permanent agricultural conservation easement on ~~452.4~~ 408.9 acres (~~267.50~~ 264 disturbed acres – 113.2 reclaimed acres, at a 3:1 ratio) of equivalent or better (in quality and capability) Prime Farmland compliant with the requirements in County Code Sections 8-2.404(d) and Section 8-2.404(e), (f) and (g). The total acreage placed in permanent easement may be reduced to a minimum of ~~150.8~~ 136.3 acres (~~264~~ 249.5 disturbed acres – 113.2 reclaimed acres at a 1:1 ratio) in accordance with Sections 8-2404(d) or 10-5.525(a), (b), (c), or (d), provided the total acreage is determined to be equivalent to the applicable ratio and acreage required under Section 8-2.404. The proposal and the substantiation in support of finding equivalency shall be provided in writing by the applicant, for review by staff and acceptance by the Board of Supervisors. The County may in its discretion approve phasing of the

required easement so long as mitigation is satisfied prior to or coincident with impacts to Prime Farmland.

c) Establish a permanent agricultural conservation easement on 17.5 acres (0.5 acres + 8.25 acres, at a 2:1 ratio) of equivalent or (in quality and capability) better Farmland of Statewide Importance and Unique Farmland compliant with the requirements in County Code Sections 8-2.404(d) and 8-2.404(e), (f), and (g). The total acreage placed in permanent easement may be reduced to a minimum of 8.75 acres (0.50 acres + 8.25 acres, at a 1:1 ratio) in accordance with Sections 8-2.404(d) or 10-5.525(a), (b), (c), or (d), provided the total acreage is determined to be equivalent to the applicable ratio and acreage required under Section 8-2.404. The proposal and the substantiation in support of finding equivalency shall be provided in writing by the applicant, for review by staff and acceptance by the Board of Supervisors. The County may in its discretion approve phasing of the required easement so long as mitigation is satisfied prior to or coincident with impacts to Farmland of Statewide Importance and Unique Farmland.

Page 6-24, Draft EIR, Chapter 6, Section 6.3, the description and analysis of the Moore Canal Avoidance Alternative is hereby revised to include Figure 6-5 and Figure 6-6 (on the following pages), which show the Farmland acreages and the location/impact of existing native oaks associated with the alternative, respectively. All subsequent figure numbers in Chapter 6 following the new Figures 6-5 and 6-6 are hereby revised, accordingly.

Page 6-24, Draft EIR, Chapter 6, Section 6.3, the paragraph under the Biological Resources heading is hereby revised as follows:

Biological Resources

Under the Moore Canal Avoidance Alternative, the existing Moore Canal and Magnolia Canal alignments would be retained. Thus, the alternative would not result in impacts to 2.205 acres of potentially jurisdictional wetlands and waters of the U.S. – which would also be considered waters of the State. However, impacts to the existing on-site seasonal wetland, seasonal marsh, drainage ditch, and pond would still occur. The alternative would still have the potential to impact the same species as the proposed project and would be subject to the same mitigation requirements for such species. As shown in Figure 6-6, under the Moore Canal Avoidance Alternative, seven oak trees would be impacted and the remainder would be avoided and retained in place. Overall, after accounting for the alternative's reduction in impacts to potentially jurisdictional wetlands and waters of the State, this alternative would result in slightly reduced impacts, on the whole, as compared to the proposed project. Mitigation Measures 4.4-1(a) through (c) and 4.4-1(e) through (o) ~~(e) and 4.4-3(a) and (b)~~ would be required for this alternative. Mitigation Measures 4.4-1(d) and 4.4-3(a) and (b) would not be required under this alternative.

Figure 6-5
Moore Canal Avoidance Alternative – Project Site Farmland Acreage Totals

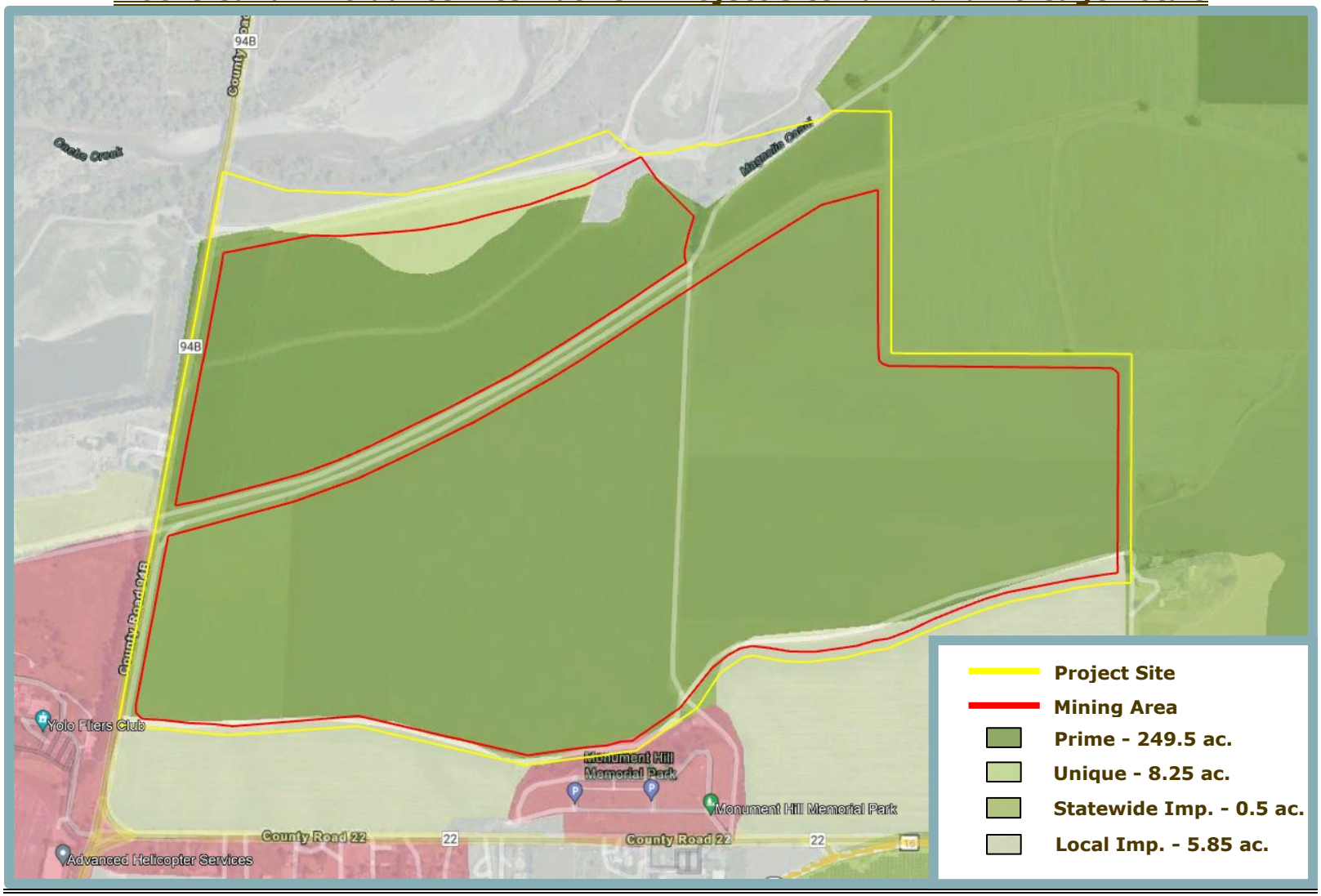
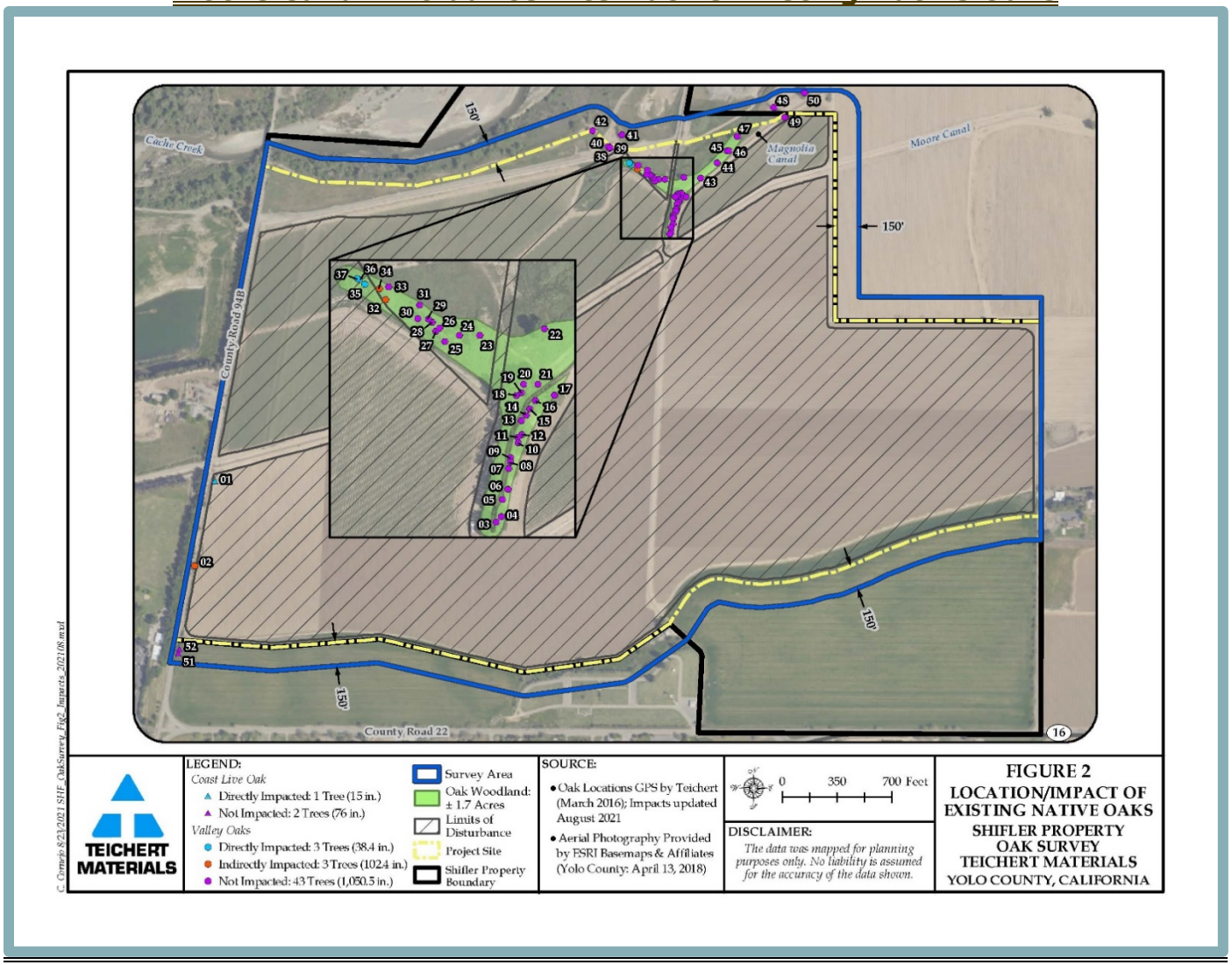


Figure 6-6
Moore Canal Avoidance Alternative Existing Native Oaks



Page 6-24, Draft EIR, Chapter 6, Section 6.3, the paragraph under the Cultural and Tribal Cultural Resources heading is hereby revised to be consistent with the revisions presented above in this chapter under "4.5 Cultural and Tribal Cultural Resources." The revisions additionally account for the modifications proposed by the applicant to implement the Moore Canal Avoidance Alternative, as described in Section 1.3 of this Final EIR.

> *Cultural and Tribal Cultural Resources*
> Under the Moore Canal Avoidance Alternative, the overall area of disturbance would be slightly reduced compared to the proposed project. Therefore, this alternative would result in reduced potential for impacts related to unknown cultural, archeological, or tribal cultural resources during mining activities. However, because relocation of Moore Canal would not occur, Mitigation Measure 4.5-1 related to documentation of the canal would not be required. Alteration of the canal would be limited to installation of a canal overcrossing for heavy equipment. Therefore, this alternative would result in reduced impacts as compared to the proposed project, likely not resulting in a significant and unavoidable impact. Mitigation Measures 4.5-3~~(a) and (b)~~ related to tribal monitoring during initial ground-disturbing activities would be required for this alternative. Mitigation Measure 4.5-3 also mitigates for adverse effects from this Alternative that could occur under Impact 4.5-4.

Page 6-33, Draft EIR, Chapter 6, Section 6.4, Table 6-1 is hereby revised to account for the foregoing revisions to the analysis of impacts under the Moore Canal Avoidance Alternative.

The foregoing revisions to Chapter 6, Alternatives Analysis, do not change the conclusions of the analysis in the Draft EIR. The revisions do not trigger any of the criteria set forth in CEQA Guidelines Section 15088.5(a) necessitating the recirculation of a Draft EIR subsequent to public review. The revisions correct errors and/or provide additional clarification to information and analysis already conveyed.

Appendix K2: Supplemental Analysis of Groundwater Conditions

Page 2, Draft EIR, Appendix K2, the first paragraph is hereby corrected as follows:

> Pintail well is significantly deeper than the Canvas Back well with well screens extending from 935 to 992 and from 1021 to 1061 feet (bgs). This well produces groundwater from aquifer zones far below the base of model domain (580 feet, bgs). Both wells produce groundwater with total arsenic concentrations that have been gradually increasing, such that operation of the Canvas Back well ceased in ~~2019~~ 2009 due to concentrations exceeding arsenic's Maximum Contaminant Level (MCL) for regulated drinking water contaminants in California (10 µg/L). Arsenic concentrations in the Pintail well have been approaching, but remain below, the MCL. As a result of proximity and construction, potential effects from mining and reclamation activities would first manifest in the Canvas Back well. Therefore, regarding the first concern, model analysis was conducted focusing on predicted effects on the Canvas Back well. For comparison, mining and reclamation activities are planned to occur in the aggregate materials of Layer 1 of the model. Teichert's main production well (i.e., Teichert plant well) is completed in model Layer 3. Regarding the second concern, LSCE consulted with the laboratory director of California Laboratory Services (CLS), Dr. James Liang about descriptions and comparison of analytical methods for arsenic in water (personal communication, J. Liang, CLS, December 10, 2019).

The foregoing revision to Appendix K2, Supplemental Analysis of Groundwater Conditions, does not change the conclusions of the analysis in the Draft EIR. The revision does not trigger any of the criteria set forth in CEQA Guidelines Section 15088.5(a) necessitating the recirculation of a Draft EIR subsequent to public review. The revision corrects an error.

5. Proposed Project Mitigation Monitoring and Reporting Program

5. PROPOSED PROJECT MITIGATION MONITORING AND REPORTING PROGRAM

5.1 INTRODUCTION

The California Environmental Quality Act (CEQA) requires public agencies to report on and/or monitor measures adopted as part of the environmental review process (see Public Resources Code Section 21081.6 and CEQA Guidelines Sections 15091[d] and 15097). This Mitigation Monitoring and Reporting Program (MMRP) accomplishes this for the Teichert Shifler Mining and Reclamation Project, as evaluated in the Final EIR.

5.2 PURPOSE

This MMRP has been prepared to ensure required implementation, monitoring, and reporting of/for all required mitigation measures of the Teichert Shifler Mining and Reclamation Project, as evaluated in the Final EIR. Monitoring and documenting compliance with mitigation measures are the responsibility of Yolo County.

5.3 ROLES AND RESPONSIBILITIES

As required by Section 21081.6(a)(2) of the Public Resources Code, the Yolo County Community Services Department is the "custodian of documents and other material" that constitute the "record of proceedings" upon which the decisions related to the proposed project are based.

Inquiries should be directed to:

Stephanie Cormier, Principal Planner
Yolo County Department of Community Services
292 West Beamer Street Woodland, CA 95695
(530) 666-8041
Stephanie.cormier@yolocounty.org

Project files and relevant project information are also available at this address.

5.4 MITIGATION MONITORING AND REPORTING PROGRAM

The table attached to this report identifies the mitigation measures set forth in the Final EIR, the responsible party for the monitoring action, and timing of the monitoring action. The applicant will be responsible for fully understanding and effectively implementing the mitigation measures contained within the MMRP. The County will be responsible for monitoring compliance.

The following table provides the impact each mitigation measure was designed to address, the mitigation measure number and text, the agency responsible for monitoring, the required timing for implementation of the measure, and an area for verification of compliance.

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
Chapter 4.2 – Agricultural Resources				
4.2-1 Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.	*4.2-1 The applicant shall complete the following, subject to approval by the County. Item a) shall be completed in accordance with the approved reclamation plan and conditions of approval. Items b) and c) shall be completed prior to the commencement of mining activity on any Prime Farmlands, Unique Farmlands, or Farmland of Statewide Importance:* *a) Reclaim 116.7 acres of Prime Farmland onsite, equivalent in quality and capacity to existing Prime Farmland permanently converted as a result of the project.* *b) Establish a permanent agricultural conservation easement on 452.4 acres (267.50 disturbed acres – 116.7 reclaimed acres, at a 3:1 ratio) of equivalent or better (in quality and capability) Prime Farmland compliant with the requirements in County Code Sections 8-2.404(d) and Section 8-2.404(e), (f) and (g). The total acreage placed in permanent easement may be reduced to a minimum of 150.8 acres (267.50 disturbed acres – 116.7 reclaimed acres at a 1:1 ratio) in accordance with Sections 8-2404(d) or 10-5.525(a), (b), (c), or (d), provided the total acreage is determined to be equivalent to the applicable ratio and acreage required under Section 8-2.404. The proposal and the substantiation in support of finding equivalency shall be provided in writing by the applicant, for review by staff*	Yolo County Planning Division	Prior to commencement of mining activities	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	and acceptance by the Board of Supervisors. The County may in its discretion approve phasing of the required easement so long as mitigation is satisfied prior to or coincident with impacts to Prime Farmland. *c) Establish a permanent agricultural conservation easement on 17.5 acres (0.5 acres + 8.25 acres, at a 2:1 ratio) of equivalent or (in quality and capability) better Farmland of Statewide Importance and Unique Farmland compliant with the requirements in County Code Sections 8-2.404(d) and 8-2.404(e), (f), and (g). The total acreage placed in permanent easement may be reduced to a minimum of 8.75 acres (0.50 acres + 8.25 acres, at a 1:1 ratio) in accordance with Sections 8-2.404(d) or 10-5.525(a), (b), (c), or (d), provided the total acreage is determined to be equivalent to the applicable ratio and acreage required under Section 8-2.404. The proposal and the substantiation in support of finding equivalency shall be provided in writing by the applicant, for review by staff and acceptance by the Board of Supervisors. The County may in its discretion approve phasing of the required easement so long as mitigation is satisfied prior to or coincident with impacts to Farmland of Statewide Importance and Unique Farmland.*			

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
Chapter 4.3 – Air Quality, Greenhouse Gas Emissions, and Energy				
4.3-7 Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.	*4.3-7* *Prior to initiation of mining activity at the Shifler mining site, the project applicant shall submit, for review and approval, a Greenhouse Gas Reduction Plan (GHGRP) to the Yolo County Department of Community Services. In order to demonstrate that implementation of the proposed project would not result in a net increase in GHG emissions from baseline conditions, the GHGRP shall demonstrate how operational emissions of the proposed project would be reduced by at least 1,887.84 $MTCO_2e$/yr. Strategies to achieve emissions reductions may include, but are not limited to, the following:* • *Replacement of existing fossil fueled equipment with hybrid or electrically powered equipment;* • *Installation of additional renewable energy systems on-site;* • *Purchase of an increased proportion of electricity from renewable sources;* • *Purchase carbon credits to offset Project annual emissions. Carbon offset credits shall be verified and registered with The Climate Registry, the Climate Action Reserve, or another source approved by CARB, YSAQMD, or Yolo County.* *If purchase of off-site mitigation credits is selected as a means of meeting the requirements of this mitigation measure, purchase of off-site mitigation credits shall be negotiated with the County and YSAQMD at the time that credits are sought. Off-*	Yolo County Planning Division	Prior to commencement of mining activities	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project					
Impact		**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
		site mitigation credits purchased as part of this mitigation measure shall be real, quantifiable, permanent, verifiable, enforceable, and additional, consistent with the standards set forth in Health and Safety Code section 38562, subdivisions (d)(1) and (d)(2). Such credits shall be based on protocols that are consistent with the criteria set forth in subdivision (a) of Section 95972 of Title 17 of the California Code of Regulations, and shall not allow the use of offset projects originating outside of California, except to the extent that the quality of the offsets, and their sufficiency under the standards set forth herein, can be verified by Yolo County and/or the YSAQMD. The credits must be purchased through one of the following: (i) a CARB-approved registry, such as the Climate Action Reserve, the American Carbon Registry, and the Verified Carbon Standard; (ii) any registry approved by CARB to act as a registry under the California Cap and Trade program; or (iii) through the CAPCOA GHG Rx and the YSAQMD.			
4.3-8	Conflict with an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.	*4.3-8*	*Within the first three years of initiation of mining activity at the Shifler Project site, the project applicant shall submit to the County an Electric Vehicle Parking Plan for the Woodland Plant, that shall specify the number and location of electric vehicle charging installations.*	Yolo County Planning Division	Within the first three years of initiation of mining activity at the Shifler Project site	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
4.4 Biological Resources				
4.4-1 Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.	*VELB* *4.4-1(a) Prior to initiation of any ground-disturbing activities at the project site, the project applicant shall obtain coverage under the Yolo HCP/NCCP, remit payment of any applicable Yolo HCP/NCCP fees, and implement all applicable Yolo HCP/NCCP Avoidance and Minimization Measures (AMMs). Proof of payment of HCP/NCCP coverage and fee payment shall be submitted to the County. This requirement may be satisfied by the execution of an agreement with the Yolo Habitat Conservancy, which could include, at the discretion of the YHC, phased payment of fees consistent with phased project approvals.*	YHC	Prior to initiation of any ground-disturbing activities at the project site	
	4.4-1(b) The project applicant shall implement Yolo HCP/NCCP AMM-12 (Minimize Take and Adverse Effects on Habitat of Valley Elderberry Longhorn Beetle) to the satisfaction of the County and the YHC.	Yolo County Planning Division YHC	Prior to initiation of any ground-disturbing activities at the project site	
	Western Pond Turtle *4.4-1(c) Implement Mitigation Measure 4.4-1(a), which mitigates for the loss of habitat for the Western Pond Turtle by funding the acquisition of suitable habitat easements through the Yolo HCP/NCCP.*	YHC	Prior to initiation of any ground-disturbing activities at the project site	
	4.4-1(d) The project applicant shall implement Yolo HCP/NCCP AMM-14 (Minimize Take and Adverse Effects on Habitat of Western Pond Turtle) to the satisfaction of the County and the YHC. In addition, prior to demolition and grading activities associated with the existing alignment of Moore	Yolo County Planning Division YHC	Prior to demolition and grading activities associated with the existing alignment of Moore	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	Canal and Magnolia Canal, the existing on-site sections of each canal that are to be abandoned or disturbed shall be surveyed in order to confirm that no Western pond turtles have become stranded. Should Western pond turtles be found within the portions of Moore Canal or Magnolia Canal that are to be abandoned or disturbed, the turtles shall be physically moved by a qualified biologist in compliance with the guidance provided in AMM-14.		Canal and Magnolia Canal	
	Northern Harrier and Short-Eared Owl			
	4.4-1(e) The project applicant shall not initiate project-related vegetation removal or earthmoving within 500 feet of the nearest potential nesting tree during the nesting season (February 15 through August 31). All initial project-related vegetation removal and earthmoving removal shall occur between September 1 and February 14 to the maximum extent feasible. *Alternatively, if project-related vegetation removal or earthmoving is required within 500 feet of the nearest potential nesting tree between February 15 and August 31, a qualified biologist shall conduct a survey for northern harrier and short-eared owl in suitable nesting habitat within and out to 500 feet from the area proposed for disturbance. Any surveys conducted outside the project site shall occur to the extent practicable from publicly accessible areas. The survey(s) shall be conducted no more than 14 days prior to initiation of each phase of project-related vegetation removal or earthmoving on the project site. A*	Yolo County Planning Division	During the nesting season	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	written summary of the survey results shall be submitted to the County within 14 days of survey completion. If nesting individuals are not identified, further mitigation is not required for that phase.			
	4.4-1(f) *If nesting individuals are found prior to initiation of project-related vegetation removal or earthmoving in the year of the survey, a project exclusion zone shall be established within 500 feet of the active nest(s) until a qualified biologist determines that the young-of-the-year are no longer reliant upon the nest. All exclusion zones shall be demarcated by security fencing.* *Alternatively, the project applicant may retain a qualified biologist to monitor on a weekly basis active nests that are within 500 feet or less from project-related vegetation removal or earthmoving to determine if the individuals are exhibiting any behaviors that would suggest that nest failure could occur. If the qualified biologist determines that disturbance is sufficient to cause nest failure, all activities within 500 feet of the nest will be terminated until the young-of-the-year are no longer reliant upon the nest. Project-related vegetation removal or earthmoving shall not be initiated within 200 feet of an active nest once nesting has begun, under any circumstances. The project applicant shall establish a 500-foot protective buffer around active Northern harrier or short-eared owl nests if nesting is initiated after active mining has begun. The biologist shall submit a written summary of the monitoring results to the County.*	Yolo County Planning Division	Prior to initiation of project-related vegetation removal or earthmoving	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	Swainson's Hawk and White-Tailed Kite *4.4-1(g)* *Implement Mitigation Measure 4.4-1(a), which mitigates for the loss of habitat for the Swainson's Hawk and White-Tailed Kite by funding the acquisition of suitable habitat easements through the Yolo HCP/NCCP.*	YHC	Prior to initiation of any ground-disturbing activities at the project site	
	4.4-1(h) *The project applicant shall implement Yolo HCP/NCCP AMM-16 (Minimize Take and Adverse Effects on Habitat of Swainson's Hawk and White-Tailed Kite) to the satisfaction of the County and the YHC. Any surveys outside the project site conducted pursuant to AMM-16 shall occur to the extent practicable from publicly accessible areas. In addition to implementing AMM-16, the project applicant shall establish a 500-foot protective buffer around active Swainson's hawk/white-tailed kite nests on or near the project site if nesting is initiated after active mining has begun.*	Yolo County Planning Division YHC	Prior to initiation of any ground-disturbing activities at the project site	
	Loggerhead Shrike *4.4-1(i)* *The project applicant shall not initiate project-related vegetation removal or earthmoving within 200 feet of the nearest potential nesting tree during the loggerhead shrike/migratory bird nesting season (February 15 through August 31). All initial project-related vegetation removal and earthmoving removal shall occur between September 1 and February 14 to the maximum extent feasible.* *Alternatively, if project-related vegetation removal or earthmoving is required within 200 feet of the*	Yolo County Planning Division	During the loggerhead shrike/ migratory bird nesting season	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	nearest potential nesting tree between February 15 and August 31, a survey shall be conducted for non-special-status nesting raptors in suitable nesting habitat within and out to 200 feet from the area proposed for disturbance. Any surveys conducted outside the project site shall occur to the extent practicable from publicly accessible areas. The survey(s) shall be conducted by a qualified biologist within 14 days prior to initiation of each phase of project-related vegetation removal or earthmoving on the project site. This survey may be conducted concurrently with the survey required per Mitigation Measure 4.4-4(a). A written summary of the survey results shall be submitted to the County within 14 days of survey completion. If nesting individuals are not identified, further mitigation is not required for that phase.			
	4.4-1(j) If nesting loggerhead shrike individuals or other nesting migratory birds are found prior to initiation of project-related vegetation removal or earthmoving in the year of the survey, a project exclusion zone shall be established within 200 feet of the active nest(s) until a qualified biologist determines that the young-of-the-year are no longer reliant upon the nest. All exclusion zones shall be demarcated by security fencing. *Alternatively, the project applicant may retain a qualified biologist to monitor any active nests that are within 200 feet or less from project-related vegetation removal or earthmoving to determine if the individuals are exhibiting any behaviors that would suggest that nest failure could occur. If the*	Yolo County Planning Division	Prior to initiation of project-related vegetation removal or earthmoving in the year of the survey	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	qualified biologist determines that disturbance is sufficient to cause nest failure, all activities within 200 feet of the nest will be terminated until the young-of-the-year are no longer reliant upon the nest. Project-related vegetation removal or earthmoving shall not be initiated within 100 feet of an active nest once nesting has begun, under any circumstances. The project applicant shall establish a 200-foot protective buffer around active nests if nesting is initiated after active mining has begun. The biologist shall submit a written summary of the monitoring results to the County. *Other Nesting Raptors Protected Under the MBTA* *4.4-1(k) The project applicant shall not initiate project-related vegetation removal or earthmoving within 300 feet of the nearest potential nesting tree during the raptor nesting season (February 15 through August 31). All initial project-related vegetation removal and earthmoving removal shall occur between September 1 and February 14 to the maximum extent feasible.* *Alternatively, if project-related vegetation removal or earthmoving is required within 500 feet of the nearest potential nesting tree between February 15 and August 31, a survey shall be conducted for non-special-status nesting raptors in suitable nesting habitat within and out to 500 feet from the area proposed for disturbance. Any surveys conducted outside the project site shall occur to the extent practicable from publicly accessible areas. The survey(s) shall be conducted by a qualified biologist within 14 days prior to initiation*	Yolo County Planning Division	During the raptor nesting season	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	of each phase of project-related vegetation removal or earthmoving on the project site. This survey may be conducted concurrently with the survey required per Mitigation Measure 4.4-4(a). A written summary of the survey results shall be submitted to the County within 14 days of survey completion. If nesting individuals are not identified, further mitigation is not required for that phase.			
	4.4-1(l) If nesting raptor individuals are found prior to initiation of project-related vegetation removal or earthmoving in the year of the survey, a project exclusion zone shall be established within 300 feet of the active nest(s) until a qualified biologist determines that the young-of-the-year are no longer reliant upon the nest. All exclusion zones shall be demarcated by security fencing. *Alternatively, the project applicant may retain a qualified biologist to monitor any active nests that are within 300 feet or less from project-related vegetation removal or earthmoving to determine if the individuals are exhibiting any behaviors that would suggest that nest failure could occur. If the qualified biologist determines that disturbance is sufficient to cause nest failure, all activities within 300 feet of the nest will be terminated until the young-of-the-year are no longer reliant upon the nest. Project-related vegetation removal or earthmoving shall not be initiated within 200 feet of an active nest once nesting has begun, under any circumstances. The project applicant shall establish a 300-foot protective buffer around active raptor nests if nesting is initiated after active*	Yolo County Planning Division	Prior to initiation of project-related vegetation removal or earthmoving in the year of the survey	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	mining has begun. The biologist shall submit a written summary of the monitoring results to the County.			
	Other Nesting Birds Protected Under the MBTA			
	4.4-1(m) Implement Mitigation Measures 4.4-1(i) and (j).	Yolo County Planning Division	During the loggerhead shrike/ migratory bird nesting season Prior to initiation of project-related vegetation removal or earthmoving in the year of the survey	
	Foraging Habitat for Tricolored Blackbirds, Swainson's Hawk, and White-Tailed Kite and Winter Foraging Habitat for Ferruginous Hawk and Merlin			
	4.4-1(n) Implement Mitigation Measures 4.4-1(a), which mitigates for the loss of habitat for the Tricolored Blackbirds, Swainson's Hawk, and White-Tailed Kite and Winter Foraging Habitat for Ferruginous Hawk and Merlin by funding the acquisition of suitable habitat easements through the Yolo HCP/NCCP.	YHC	Prior to initiation of any ground-disturbing activities at the project site	
	Silver-Haired Bat, Western Red Bat, and Hoary Bat			
	4.4-1(o) Removal of the four trees identified as potential special-status bat species habitat in Figure 4.4-6	Yolo County Planning	Prior to formation of maternity bat	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project					
Impact		**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
		of this EIR shall occur either prior to formation of maternity bat colonies (April 15) or after young are capable of flight (August 15). Disturbance-free buffer zones, as determined by a qualified biologist, shall be observed for maternity roosts or hibernacula found during the maternity roost season (i.e., April 15 through August 15). *Tree removal activities shall take place over a minimum of two days, with the first day consisting of trimming to open the roosting area up to airflow. Final tree removal shall only occur after at least one night has passed since trimming has been completed, to allow bats to wake from torpor and leave during darkness. The biologist shall submit a written summary of the tree removal activities, including any bat individuals observed, to the County within 14 days of completion of tree removal.*	Division	colonies (April 15) or after young are capable of flight (August 15)	
4.4-3	Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	*4.4-3(a)* *4.4-3(b)*	*Implement Mitigation Measure 4.4-1(a), which mitigates for the loss of aquatic resources by funding the acquisition of aquatic habitat easements through the Yolo HCP/NCCP.* *Prior to disturbance associated with relocation of the Moore and/or Magnolia Canal, the applicant shall notify CDFW pursuant to Section 1602 of the Fish and Game Code to determine whether a Lake or Streambed Alteration Agreement is required for the relocation of the Moore/Magnolia Canal and any other activities affecting the bed, bank, or associated riparian vegetation of the canals. The information provided in the application(s) shall include a description of all of the activities*	YHC Yolo County Planning Division	Prior to initiation of any ground-disturbing activities at the project site Prior to disturbance associated with relocation of the Moore and/or Magnolia Canal	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	associated with the relocation of the canals and any other activities affecting the bed, bank or any associated riparian vegetation of those features. Impacts to the canals and any associated riparian vegetation shall be outlined in the application and shall be substantially consistent with the impacts to biological resources outlined in this EIR. If this is not the case, the County shall be immediately notified to determine an appropriate response pursuant to CEQA. Impacts for each activity shall be broken down by temporary and permanent, and a description of the proposed mitigation for biological resource impacts, including compliance with the Yolo HCP/NCCP as applicable, shall be outlined per activity and as temporary or permanent. Information regarding project-specific drainage and hydrology changes resulting from project implementation shall be provided as well as a description of storm water treatment methods. Mitigation may include restoration or enhancement of resources on- or off-site, purchase habitat credits from an agency-approved mitigation/conservation bank, off-site, working with a local land trust to preserve land, or any other method acceptable to CDFW. Written verification of the applicant's compliance with Section 1602 of the Fish and Game Code shall be submitted to the County.			

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project					
Impact		**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
4.5 Cultural and Tribal Cultural Resources					
4.5-1	Cause a substantial adverse change in the significance of an historical resource as defined in Section 15064.5.	*4.5-1* *Prior to initiation of construction activities associated with relocation of Moore Canal within the project site, the project applicant shall retain a qualified archaeologist to provide for documentation of the Canal. A series of high-resolution photographs shall be taken of the resource, including any features and general overviews of canal segments planned for removal, to document the current appearance, with associated GPS readings. In addition, GPS readings shall be taken of the linear extent of Moore Canal.* *Cross-sectional profiles shall be recorded at various points along the segments, depending on variations of the width and depth of the feature. The project applicant shall ensure that copies of the photographs of the canal section are filed with the Northwest Information Center, the Yolo County Archives, the Yolo County Flood Control and Water Conservation District, and the Yolo County Department of Community Services.*	Northwest Information Center Yolo County Archives Yolo County Flood Control and Water Conservation District Yolo County Department of Community Services	Prior to the initiation of construction activities associated with relocation of Moore Canal within the project site	
4.5-3	Directly or indirectly disturb or destroy a unique tribal cultural resource, such as a site, feature, place, cultural landscape, sacred place or object with cultural value to a	*4.5-3* *Develop and Implement a Tribal Cultural Resources Monitoring Plan* *The project proponent shall prepare, with input from the Yocha Dehe Wintun Nation, a Tribal Cultural Resources Monitoring Plan for County approval that includes the following components. The Plan shall be fully executed and copies provided to the County prior to the initiation of ground-disturbing activities associated with the approved project.*	Yolo County Department of Community Services	Prior to the initiation of ground-disturbing activities associated with the approved project	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
California Native American Tribe.	• *Awareness Training -- The scope, format, and timing of delivery of a contractor awareness training program to inform equipment operators and their supervisors of the procedures required by the Monitoring Plan, which includes, at a minimum, annual training for all personnel involved in project implementation. The program shall include relevant information regarding sensitive tribal cultural laws and regulations. The program shall describe appropriate avoidance and minimization measure (as described in the executed Monitoring Plan) for resources that have the potential to be located on the project site and shall outline specific actions and contacts should any potential archeological resources or artifacts be encountered. The program shall also underscore the requirement for confidentiality and culturally-appropriate treatment of any finds of significance to Native American peoples and for behavior consistent with Native American Tribal values. A copy of the contractor awareness training program materials and written verification of completion of the training program shall be submitted to the Yolo County Department of Community Services.* • *Compliance with Applicable Laws – The Monitoring Plan shall describe applicable laws and regulations relevant to potential cultural resource finds, including specific procedures to ensure compliance during implementation.*			

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	• *Extent of Monitoring – The plan shall include a description of the extent that monitoring will be required. Monitoring shall be limited to the depth of overburden (topsoil), which is the area in which unknown Tribal Cultural Resources could occur. The plan shall acknowledge that monitoring of the excavation of gravels and aggregate materials, or backfilling and restoration, is not required. The parties may identify a phasing system to facilitate efficient monitoring – this phasing shall not be in conflict with approved mining phasing. The level of monitoring may be determined in the field based on observed actual conditions as mining moves away from Cache Creek into areas where the likelihood of resources is reduced based on known cultural practices and activities.* • *Reporting By Phase –The applicant shall file a written report to the County within 30 days of completion of monitoring for each monitoring phase. The report shall document compliance with the terms of the Monitoring Agreement and shall report on the nature and disposition of any cultural resource discoveries. Applicable requirements for confidentiality shall be observed in these reports.* • *Treatment and Disposition of Cultural Items and Remains – Detailed unanticipated discovery procedures for cultural resources, unique archaeological resources, tribal cultural resources, or human remains that*			

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project					
Impact		**Mitigation Measures**		**Monitoring Agency**	**Implementation Timing**	**Sign-off**
			includes consultation with the County to ensure that any discoveries are treated in accordance with applicable state law before work can resume at the discovery location. • *Other Procedures and Requirements – Timing and procedures for other relevant actions necessary to implement the Monitoring Plan.* *The County shall be afforded 15 calendar days to review and approve the draft Monitoring Plan prior to execution. Ground-disturbing activities subject to the Monitoring Plan cannot begin until the County approves the Monitoring Plan and the Plan is executed between the project proponent and the Yocha Dehe Wintun Nation.*			
4.5-4	The project has the potential to eliminate important examples of the major periods of California history or prehistory.	*4.5-4*	*Implement Mitigation Measures 4.5-1 and 4.5-3.*	See Mitigation Measures 4.5-1 and 4.5-3	See Mitigation Measures 4.5-1 and 4.5-3	
4.6 Geology and Soils, Mineral Resources, and Paleontological Resources						
4.6-5	Directly or indirectly destroy a unique paleontological resource.	*4.6-5*	*Pursuant to Section 10-4.410(b) of the mining ordinance, should paleontological resources be discovered during ground disturbing activities, work shall be halted in the area within 75 feet of the find. The applicant shall notify the Director (as defined by the OCSMO as the County Administrator or designee chosen by the Administrator) and the Yolo County Department of Community Services and retain a qualified paleontologist to inspect the discovery. The find*	Yolo County Department of Community Services	During ground-disturbing activities	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project					
Impact	**Mitigation Measures**		**Monitoring Agency**	**Implementation Timing**	**Sign-off**
		must be recorded by a qualified archaeologist or paleontologist using relevant professional protocols and a report fully recording the find submitted to the County Administrator or designee chosen by the Administrator and the Yolo County Department of Community Services. This report shall include recommendations for appropriate removal and preservation of the artifact. If deemed appropriate in the report, the resource(s) shall then be salvaged and deposited at the Cache Creek Nature Preserve, or other appropriate venue, where the discovery would be properly curated and preserved for the benefit of current and future generations. The language of this mitigation measure shall be included on any future grading plans, mining plans, and reclamation plans approved by the Department of Community Services for the proposed project, where ground disturbance would be required.			
4.7-2 Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	*4.7-2(a)*	*Prior to initiation of ground-disturbing activities within 50 feet of the domestic water well on the project site, the project applicant shall obtain a water well abandonment permit from the Yolo County Environmental Health Division (YCEHD), and coordinate with the YCEHD regarding procedures for abandonment of the on-site domestic water well.*	YCEHD	Prior to initiation of ground-disturbing activities	
	4.7-2(b)	*Prior to initiation of ground-disturbing activities within 50 feet of the natural gas well on the project site, the project applicant shall submit a Notice of Intention (Form OG106) to the California Division of Oil, Gas, and Geothermal Resources (DOGGR) stating the applicant's intent to re-abandon the*	Yolo County Department of Community Services DOGGR	Prior to initiation of ground-disturbing activities within 50 feet of the natural gas well on the project site	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	existing on-site gas well. Subsequent to acquisition of an approved gas well abandonment permit from DOGGR, the project applicant shall retain a licensed contractor to cut off the well at the maximum depth of the proposed excavation and install a cement plug at least 25 feet below the final proposed elevation of the well. Subsequently, the casing of the well shall be cut off five to 10 feet below the final ground surface and a steel plate affixed to the top of the casing with the well identifier number, indicated by the last five digits of the API well number, welded onto the plate. The location of the well shall be surveyed for future reference. The project applicant shall submit a copy of the approved well abandonment permit to the Yolo County Department of Community Services. Records of all re-abandonment activities shall be submitted to the Yolo County Department of Community Services and DOGGR.			
	4.7-2(c) During removal of overburden associated with the proposed project, potentially hazardous materials identified in the vicinity of the former ranch headquarters on the project site, shall be removed from the site and disposed of in accordance with the following regulations and requirements: • *Hazardous materials identified on the project site shall be handled in accordance with Chapter 6.5, Division 20, of the California Health and Safety Code.* • *Hazardous materials shall be disposed of at an approved disposal site and shall only be hauled by a current California registered*	Yolo County Department of Community Services YCEHD	During removal of overburden associated with the proposed project	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project					
Impact		**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
		hazardous waste hauler using correct manifesting procedures and vehicles displaying a current Certificate of Compliance. The project applicant shall identify by name and address the site where toxic substances shall be disposed of. Disposal shall be coordinated with the Yolo County Environmental Health Division, and the necessary applications shall be filed. The applicant shall provide CEHD with a valid certification from the approved disposal site that the material was delivered. *The applicant shall notify the Yolo County Department of Community Services and the Yolo County Environmental Health Division when this measure has been fulfilled and provide supporting documentation.*			
4.8 Hydrology and Water Quality					
4.8-4	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows.	*4.8-4(a) Prior to mining or other activity closer than 700 feet to the top of bank, the applicant shall implement a reinforcement improvement in an approximately 600-foot area of streambank (shown in Figure 4.8-1 of the Draft volume of the EIR) which lies in the path of a potential theoretical migration of the creek meander bend. Along this alignment the improvements will consist of a soil-backfilled and planted rock revetment designed and installed to help prevent future bank erosion in the area closest to the Moore Canal and where there is the highest potential for channel migration. The design and placement of this improvement will be subject to review and approval by the Cache Creek TAC.*	Cache Creek Technical Advisory Committee (TAC)	Prior to mining or other activity closer than 700 feet to the top of bank	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	4.8-4(b) *Prior to mining of other activity closer than 700 feet to the top of bank, the applicant shall implement a habitat enhancement improvement in an approximately 6-acre area of inset terrace (shown in Figure 4.8-1 of the Draft volume of the EIR). There exists an area on the inset terrace below the Shifler property that extends from County Road 94B along the right (south) bank to the Teichert Aggregates Woodland Plant. This terrace has some native woody vegetation along the first approximately 1,000 feet east of CR 94B but is otherwise predominantly bare or covered with non-native ruderal species. Within the approximately 6-acre zone shown in the referenced figure, the applicant shall remove non-native species and plant appropriate native woody (tree and shrub) species (with the species selection informed by which trees and shrubs are already present on the terrace). This action shall be undertaken in a manner so as not to disturb existing native species (especially elderberry) that already exist within this 6-acre zone. This action will help stabilize this terrace in addition to enhancing habitat between the creek channel and the project site, further reducing potential for channel migration. The habitat enhancement project shall be implemented, monitored, and maintained to the same revegetation standards as stipulated in the approved reclamation plan.*	Cache Creek TAC	Prior to mining of other activity closer than 700 feet to the top of bank	
	4.8-4(c) *The minimum allowed setback between the top of bank and mining or other activity shall be 250 feet. Mining and reclamation plans shall be modified accordingly.*	Cache Creek TAC	During mining and reclamation	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
4.10 Noise				
4.10-1 Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	*4.10-1(a)* *The following language shall be included as a condition of approval on the Mining Permit for the proposed project, to the satisfaction of the Yolo County Department of Community Services:* • *Initial scraper operations occurring within 300 feet of the project site boundary near Receptors 1 or 6 (as identified in Figure 4.10-4 of this EIR) shall be limited to 15 minutes per hour;* *OR* • *An earth berm or other form of noise barrier shall be constructed along 300 feet of the eastern and western site boundaries nearest to Receptors 1 and 6. The barrier shall be a minimum of eight feet in height relative to the existing ground elevation.* *In addition, the Mining Permit shall be conditioned with the following language, to the satisfaction of the Yolo County Department of Community Services, to further reduce the potential for annoyance associated with proposed excavation activities:* • *Excavation activities occurring within 560 feet of an existing residence shall be limited to the hours of 6:00 AM to 6:00 PM until such time as the excavation equipment has recessed in the pit a sufficient depth to no longer be visible from the nearest*	Yolo County Department of Community Services	Prior to the issuance of a Mining Permit	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	residences. • *Teichert shall coordinate with Monument Hill Memorial Park cemetery representatives on an ongoing basis to determine when funeral services are scheduled to occur at the cemetery, and shall limit on-site operations during such services. Alternatively, Teichert may initiate communication with Monument Hill Memorial Park representatives to identify other feasible methods for minimizing potential noise intrusion during services.*			
	4.10-1(b) A noise survey shall be conducted following the installation and operation of any new equipment which will be required to increase processing capacity of the Woodland Plant. The results of the noise survey shall be submitted to the Yolo County Department of Community Services within two months of the new equipment being brought online. In the event that the survey results indicate the additional equipment has resulted in a substantial increase in processing plant noise emissions (in excess of 5 dB), the equipment causing the substantial increase shall cease operation until the following noise mitigation options shall be implemented, as appropriate, to reduce the overall increase in plant noise levels to less than 5 dB at the nearest residences: • *Construct localized noise barriers adjacent to ground level equipment determined to be responsible for substantial increases in ambient noise levels.*	Yolo County Department of Community Services	Following the installation and operation of any new equipment which will be required to increase processing capacity of the Woodland Plant	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	• *Suspend acoustic curtains adjacent to elevated equipment determined to be responsible for substantial increases in ambient noise levels.* • *Line new conveyor transfer points and hoppers with heavy urethane linings.* • *Utilize urethane screens in new screen decks.* • *Utilize automatic reverse-activated strobe lights in lieu of audible backup beeper devices for any new mobile equipment, if the applicant can obtain a variance from Cal/OSHA. If a variance cannot be obtained, then utilize MHSA-approved broad-band backup warning devices for any new mobile equipment rather than the traditional tonal back-up beeper devices.* • *Ensure that all internal combustion engines which may be required to drive new equipment is equipped with appropriate mufflers.*			
4.12 Transportation and Circulation				
4.12-2 Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).	*4.12-2* ***Transportation Demand Management (TDM) Program.*** *Prior to commencement of mining activities at the project site, the project applicant shall develop and implement a TDM program to reduce the number of daily employee commute trips made to the project site, and shall submit the TDM Program to Yolo County for review and approval. The TDM Program shall identify trip reduction strategies as well as mechanisms for funding and overseeing the delivery of trip reduction programs and strategies. The TDM*	Yolo County Planning Division	Prior to commencement of mining activities at the project site	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project					
Impact		**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
		Program shall be designed to achieve the following trip reduction: • *Reduce employee commute VMT to the maximum extent feasible.* *Feasible trip reduction strategies may include, but are not limited to, the following:* • *Develop an employer-led program that considers:* ○ *Carpooling encouragement;* ○ *Ride-matching assistance; and* ○ *Vanpool assistance.*			
5 Cumulative Impacts and Other Required Sections					
5-2	Cumulative impacts to farmland.	*Implement Mitigation Measure 4.2-1.*	Yolo County Planning Division	Prior to commencement of mining activities	
5-14	Cumulative impacts to transportation and circulation.	*Implement Mitigation Measure 4.12-2.*	Yolo County Planning Division	Prior to commencement of mining activities at the project site	

6. Moore Canal Avoidance Alternative Mitigation Monitoring and Reporting Program

6. MOORE CANAL AVOIDANCE ALTERNATIVE MITIGATION MONITORING AND REPORTING PROGRAM

6.1 INTRODUCTION

The California Environmental Quality Act (CEQA) requires public agencies to report on and/or monitor measures adopted as part of the environmental review process (see Public Resources Code Section 21081.6 and CEQA Guidelines Sections 15091[d] and 15097). This Mitigation Monitoring and Reporting Program (MMRP) accomplishes this for the Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative (Alternative 4), as evaluated in the Final EIR.

The Final EIR analyzed the Teichert Shifler Mining and Reclamation Project as the "proposed project" as originally submitted by Teichert Aggregates (project applicant). However, as detailed in Section 1.3 of Chapter 1 of this Final EIR, subsequent to the public comment period on the Draft EIR, the Yolo County Flood Control and Water Conservation District notified the County and the project applicant on April 15,2021, (see Appendix A) of the District Board of Directors' vote on April 6, 2021, to retain the Moore Canal in its existing alignment. As a result of this action, components of the project as described in Chapter 3, Project Description, of the Draft EIR and CEQA Alternative 5, Moore Canal Southern Alignment Alternative became infeasible. As a result, Teichert Aggregates informed the County on April 27, 2021, of their intent to request approval of the Moore Canal Avoidance Alternative (Alternative 4) rather than the originally proposed project (see Appendix B). On June 21, 2021, the project applicant submitted supplemental information to clarify and provide technical details regarding the Moore Canal Avoidance Alternative (see Appendix C).

6.2 PURPOSE

This MMRP has been prepared to ensure implementation, monitoring, and reporting of/for all required mitigation measures of the Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative (Alternative 4), as evaluated in the Final EIR. Monitoring and documenting compliance with mitigation measures are the responsibility of Yolo County.

6.3 ROLES AND RESPONSIBILITIES

As required by Section 21081.6(a)(2) of the Public Resources Code, the Yolo County Community Services Department is the "custodian of documents and other material" that constitute the "record of proceedings" upon which the decisions related to the proposed project are based.

Inquiries should be directed to:

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Yolo County Department of Community Services
292 West Beamer Street Woodland, CA 95695
(530) 666-8041
Stephanie.cormier@yolocounty.org

Project files and relevant project information are also available at this address.

6.4 MITIGATION MONITORING AND REPORTING PROGRAM

The table attached to this report identifies the mitigation measures set forth in the Final EIR, the responsible party for the monitoring action, and timing of the monitoring action. The applicant will be responsible for fully understanding and effectively implementing the mitigation measures contained within the MMRP. The County will be responsible for monitoring compliance.

The following table provides the impact each mitigation measure is designed to address, the mitigation measure number and text, the agency responsible for monitoring, the required timing for implementation of the measure, and an area for verification of compliance.

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative					
Impact		**Mitigation Measures**		**Monitoring Agency**	**Implementation Timing**	**Sign-off**
Chapter 4.2 – Agricultural Resources						
4.2-1	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.	*4.2-1*	*The applicant shall complete the following, subject to approval by the County. Item a) shall be completed in accordance with the approved reclamation plan and conditions of approval. Items b) and c) shall be completed prior to the commencement of mining activity on any Prime Farmlands, Unique Farmlands, or Farmland of Statewide Importance:* *a) Reclaim 113.2 acres of Prime Farmland onsite, equivalent in quality and capacity to existing Prime Farmland permanently converted as a result of the project.* *b) Establish a permanent agricultural conservation easement on 408.9 acres (249.5 disturbed acres – 113.2 reclaimed acres, at a 3:1 ratio) of equivalent or better (in quality and capability) Prime Farmland compliant with the requirements in County Code Sections 8-2.404(d) and Section 8-2.404(e), (f) and (g). The total acreage placed in permanent easement may be reduced to a minimum of 136.3 acres (249.5 disturbed acres – 113.2 reclaimed acres at a 1:1 ratio) in accordance with Sections 8-2404(d) or 10-5.525(a), (b), (c), or (d), provided the total acreage is determined to be equivalent to the applicable ratio and acreage required under Section 8-2.404. The proposal and the substantiation in support of finding equivalency shall be provided in*	Yolo County Planning Division	Prior to commencement of mining activities	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	writing by the applicant, for review by staff and acceptance by the Board of Supervisors. The County may in its discretion approve phasing of the required easement so long as mitigation is satisfied prior to or coincident with impacts to Prime Farmland. *c) Establish a permanent agricultural conservation easement on 17.5 acres (0.5 acres + 8.25 acres, at a 2:1 ratio) of equivalent or (in quality and capability) better Farmland of Statewide Importance and Unique Farmland compliant with the requirements in County Code Sections 8-2.404(d) and 8-2.404(e), (f), and (g). The total acreage placed in permanent easement may be reduced to a minimum of 8.75 acres (0.50 acres + 8.25 acres, at a 1:1 ratio) in accordance with Sections 8-2.404(d) or 10-5.525(a), (b), (c), or (d), provided the total acreage is determined to be equivalent to the applicable ratio and acreage required under Section 8-2.404. The proposal and the substantiation in support of finding equivalency shall be provided in writing by the applicant, for review by staff and acceptance by the Board of Supervisors. The County may in its discretion approve phasing of the required easement so long as mitigation is satisfied prior to or coincident with impacts to Farmland of Statewide Importance and Unique Farmland.*			

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
Chapter 4.3 – Air Quality, Greenhouse Gas Emissions, and Energy				
4.3-7 Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.	*4.3-7* *Prior to initiation of mining activity at the Shifler mining site, the project applicant shall submit, for review and approval, a Greenhouse Gas Reduction Plan (GHGRP) to the Yolo County Department of Community Services. In order to demonstrate that implementation of the proposed project would not result in a net increase in GHG emissions from baseline conditions, the GHGRP shall demonstrate how operational emissions of the proposed project would be reduced by at least 1,887.84 $MTCO_2e$/yr. Strategies to achieve emissions reductions may include, but are not limited to, the following:* • *Replacement of existing fossil fueled equipment with hybrid or electrically powered equipment;* • *Installation of additional renewable energy systems on-site;* • *Purchase of an increased proportion of electricity from renewable sources;* • *Purchase carbon credits to offset Project annual emissions. Carbon offset credits shall be verified and registered with The Climate Registry, the Climate Action Reserve, or another source approved by CARB, YSAQMD, or Yolo County.* *If purchase of off-site mitigation credits is selected as a means of meeting the requirements of this mitigation measure, purchase of off-site mitigation credits shall be negotiated with the County and*	Yolo County Planning Division	Prior to commencement of mining activities	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative					
Impact		**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
		YSAQMD at the time that credits are sought. Off-site mitigation credits purchased as part of this mitigation measure shall be real, quantifiable, permanent, verifiable, enforceable, and additional, consistent with the standards set forth in Health and Safety Code section 38562, subdivisions (d)(1) and (d)(2). Such credits shall be based on protocols that are consistent with the criteria set forth in subdivision (a) of Section 95972 of Title 17 of the California Code of Regulations, and shall not allow the use of offset projects originating outside of California, except to the extent that the quality of the offsets, and their sufficiency under the standards set forth herein, can be verified by Yolo County and/or the YSAQMD. The credits must be purchased through one of the following: (i) a CARB-approved registry, such as the Climate Action Reserve, the American Carbon Registry, and the Verified Carbon Standard; (ii) any registry approved by CARB to act as a registry under the California Cap and Trade program; or (iii) through the CAPCOA GHG Rx and the YSAQMD.			
4.3-8	Conflict with an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.	*4.3-8*	*Within the first three years of initiation of mining activity at the Shifler Project site, the project applicant shall submit to the County an Electric Vehicle Parking Plan for the Woodland Plant, that shall specify the number and location of electric vehicle charging installations.*	Yolo County Planning Division	Within the first three years of initiation of mining activity at the Shifler Project site	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
4.4 Biological Resources				
4.4-1 Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.	*VELB* *4.4-1(a) Prior to initiation of any ground-disturbing activities at the project site, the project applicant shall obtain coverage under the Yolo HCP/NCCP, remit payment of any applicable Yolo HCP/NCCP fees, and implement all applicable Yolo HCP/NCCP Avoidance and Minimization Measures (AMMs). Proof of payment of HCP/NCCP coverage and fee payment shall be submitted to the County. This requirement may be satisfied by the execution of an agreement with the Yolo Habitat Conservancy, which could include, at the discretion of the YHC, phased payment of fees consistent with phased project approvals.*	YHC	Prior to initiation of any ground-disturbing activities at the project site	
	4.4-1(b) The project applicant shall implement Yolo HCP/NCCP AMM-12 (Minimize Take and Adverse Effects on Habitat of Valley Elderberry Longhorn Beetle) to the satisfaction of the County and the YHC.	Yolo County Planning Division YHC	Prior to initiation of any ground-disturbing activities at the project site	
	Western Pond Turtle *4.4-1(c) Implement Mitigation Measure 4.4-1(a), which mitigates for the loss of habitat for the Western Pond Turtle by funding the acquisition of suitable habitat easements through the Yolo HCP/NCCP.*	YHC	Prior to initiation of any ground-disturbing activities at the project site	
	Northern Harrier and Short-Eared Owl *4.4-1(d) The project applicant shall not initiate project-related vegetation removal or earthmoving within 500 feet of the nearest potential nesting tree*	Yolo County Planning Division	During the nesting season	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	during the nesting season (February 15 through August 31). All initial project-related vegetation removal and earthmoving removal shall occur between September 1 and February 14 to the maximum extent feasible. *Alternatively, if project-related vegetation removal or earthmoving is required within 500 feet of the nearest potential nesting tree between February 15 and August 31, a qualified biologist shall conduct a survey for northern harrier and short-eared owl in suitable nesting habitat within and out to 500 feet from the area proposed for disturbance. Any surveys conducted outside the project site shall occur to the extent practicable from publicly accessible areas. The survey(s) shall be conducted no more than 14 days prior to initiation of each phase of project-related vegetation removal or earthmoving on the project site. A written summary of the survey results shall be submitted to the County within 14 days of survey completion. If nesting individuals are not identified, further mitigation is not required for that phase.*			
	4.4-1(e) If nesting individuals are found prior to initiation of project-related vegetation removal or earthmoving in the year of the survey, a project exclusion zone shall be established within 500 feet of the active nest(s) until a qualified biologist determines that the young-of-the-year are no longer reliant upon the nest. All exclusion zones shall be demarcated by security fencing.	Yolo County Planning Division	Prior to initiation of project-related vegetation removal or earthmoving	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	Alternatively, the project applicant may retain a qualified biologist to monitor on a weekly basis active nests that are within 500 feet or less from project-related vegetation removal or earthmoving to determine if the individuals are exhibiting any behaviors that would suggest that nest failure could occur. If the qualified biologist determines that disturbance is sufficient to cause nest failure, all activities within 500 feet of the nest will be terminated until the young-of-the-year are no longer reliant upon the nest. Project-related vegetation removal or earthmoving shall not be initiated within 200 feet of an active nest once nesting has begun, under any circumstances. The project applicant shall establish a 500-foot protective buffer around active Northern harrier or short-eared owl nests if nesting is initiated after active mining has begun. The biologist shall submit a written summary of the monitoring results to the County.			
	Swainson's Hawk and White-Tailed Kite			
	4.4-1(f) Implement Mitigation Measure 4.4-1(a), which mitigates for the loss of habitat for the Swainson's Hawk and White-Tailed Kite by funding the acquisition of suitable habitat easements through the Yolo HCP/NCCP.	YHC	Prior to initiation of any ground-disturbing activities at the project site	
	4.4-1(g) The project applicant shall implement Yolo HCP/NCCP AMM-16 (Minimize Take and Adverse Effects on Habitat of Swainson's Hawk and White-Tailed Kite) to the satisfaction of the County and the YHC. Any surveys outside the project site	Yolo County Planning Division	Prior to initiation of any ground-disturbing activities at the project site	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	conducted pursuant to AMM-16 shall occur to the extent practicable from publicly accessible areas. In addition to implementing AMM-16, the project applicant shall establish a 500-foot protective buffer around active Swainson's hawk/white-tailed kite nests on or near the project site if nesting is initiated after active mining has begun.	YHC		
	Loggerhead Shrike			
	4.4-1(h) The project applicant shall not initiate project-related vegetation removal or earthmoving within 200 feet of the nearest potential nesting tree during the loggerhead shrike/migratory bird nesting season (February 15 through August 31). All initial project-related vegetation removal and earthmoving removal shall occur between September 1 and February 14 to the maximum extent feasible. *Alternatively, if project-related vegetation removal or earthmoving is required within 200 feet of the nearest potential nesting tree between February 15 and August 31, a survey shall be conducted for non-special-status nesting raptors in suitable nesting habitat within and out to 200 feet from the area proposed for disturbance. Any surveys conducted outside the project site shall occur to the extent practicable from publicly accessible areas. The survey(s) shall be conducted by a qualified biologist within 14 days prior to initiation of each phase of project-related vegetation removal or earthmoving on the project site. This survey may be conducted concurrently with the*	Yolo County Planning Division	During the loggerhead shrike/ migratory bird nesting season	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	survey required per Mitigation Measure 4.4-4(a). A written summary of the survey results shall be submitted to the County within 14 days of survey completion. If nesting individuals are not identified, further mitigation is not required for that phase.			
	4.4-1(i) If nesting loggerhead shrike individuals or other nesting migratory birds are found prior to initiation of project-related vegetation removal or earthmoving in the year of the survey, a project exclusion zone shall be established within 200 feet of the active nest(s) until a qualified biologist determines that the young-of-the-year are no longer reliant upon the nest. All exclusion zones shall be demarcated by security fencing. *Alternatively, the project applicant may retain a qualified biologist to monitor any active nests that are within 200 feet or less from project-related vegetation removal or earthmoving to determine if the individuals are exhibiting any behaviors that would suggest that nest failure could occur. If the qualified biologist determines that disturbance is sufficient to cause nest failure, all activities within 200 feet of the nest will be terminated until the young-of-the-year are no longer reliant upon the nest. Project-related vegetation removal or earthmoving shall not be initiated within 100 feet of an active nest once nesting has begun, under any circumstances. The project applicant shall establish a 200-foot protective buffer around active nests if nesting is initiated after active mining has*	Yolo County Planning Division	Prior to initiation of project-related vegetation removal or earthmoving in the year of the survey	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	begun. The biologist shall submit a written summary of the monitoring results to the County. *Other Nesting Raptors Protected Under the MBTA* *4.4-1(j) The project applicant shall not initiate project-related vegetation removal or earthmoving within 300 feet of the nearest potential nesting tree during the raptor nesting season (February 15 through August 31). All initial project-related vegetation removal and earthmoving removal shall occur between September 1 and February 14 to the maximum extent feasible.* *Alternatively, if project-related vegetation removal or earthmoving is required within 500 feet of the nearest potential nesting tree between February 15 and August 31, a survey shall be conducted for non-special-status nesting raptors in suitable nesting habitat within and out to 500 feet from the area proposed for disturbance. Any surveys conducted outside the project site shall occur to the extent practicable from publicly accessible areas. The survey(s) shall be conducted by a qualified biologist within 14 days prior to initiation of each phase of project-related vegetation removal or earthmoving on the project site. This survey may be conducted concurrently with the survey required per Mitigation Measure 4.4-4(a). A written summary of the survey results shall be submitted to the County within 14 days of survey completion. If nesting individuals are not identified, further mitigation is not required for that phase.*	Yolo County Planning Division	During the raptor nesting season	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	4.4-1(k) If nesting raptor individuals are found prior to initiation of project-related vegetation removal or earthmoving in the year of the survey, a project exclusion zone shall be established within 300 feet of the active nest(s) until a qualified biologist determines that the young-of-the-year are no longer reliant upon the nest. All exclusion zones shall be demarcated by security fencing. *Alternatively, the project applicant may retain a qualified biologist to monitor any active nests that are within 300 feet or less from project-related vegetation removal or earthmoving to determine if the individuals are exhibiting any behaviors that would suggest that nest failure could occur. If the qualified biologist determines that disturbance is sufficient to cause nest failure, all activities within 300 feet of the nest will be terminated until the young-of-the-year are no longer reliant upon the nest. Project-related vegetation removal or earthmoving shall not be initiated within 200 feet of an active nest once nesting has begun, under any circumstances. The project applicant shall establish a 300-foot protective buffer around active raptor nests if nesting is initiated after active mining has begun. The biologist shall submit a written summary of the monitoring results to the County.* *Other Nesting Birds Protected Under the MBTA* *4.4-1(l) Implement Mitigation Measures 4.4-1(i) and (j).*	Yolo County Planning Division Yolo County Planning Division	Prior to initiation of project-related vegetation removal or earthmoving in the year of the survey During the loggerhead shrike/	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
			migratory bird nesting season Prior to initiation of project-related vegetation removal or earthmoving in the year of the survey	
	Foraging Habitat for Tricolored Blackbirds, Swainson's Hawk, and White-Tailed Kite and Winter Foraging Habitat for Ferruginous Hawk and Merlin *4.4-1(m) Implement Mitigation Measures 4.4-1(a), which mitigates for the loss of habitat for the Tricolored Blackbirds, Swainson's Hawk, and White-Tailed Kite and Winter Foraging Habitat for Ferruginous Hawk and Merlin by funding the acquisition of suitable habitat easements through the Yolo HCP/NCCP.*	YHC	Prior to initiation of any ground-disturbing activities at the project site	
	Silver-Haired Bat, Western Red Bat, and Hoary Bat *4.4-1(n) Removal of the four trees identified as potential special-status bat species habitat in Figure 4.4-6 of this EIR shall occur either prior to formation of maternity bat colonies (April 15) or after young are capable of flight (August 15). Disturbance-free buffer zones, as determined by a qualified biologist, shall be observed for maternity roosts or hibernacula found during the maternity roost season (i.e., April 15 through August 15).*	Yolo County Planning Division	Prior to formation of maternity bat colonies (April 15) or after young are capable of flight (August 15)	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	Tree removal activities shall take place over a minimum of two days, with the first day consisting of trimming to open the roosting area up to airflow. Final tree removal shall only occur after at least one night has passed since trimming has been completed, to allow bats to wake from torpor and leave during darkness. The biologist shall submit a written summary of the tree removal activities, including any bat individuals observed, to the County within 14 days of completion of tree removal.			
4.5 Cultural and Tribal Cultural Resources				
4.5-3 Directly or indirectly disturb or destroy a unique tribal cultural resource, such as a site, feature, place, cultural landscape, sacred place or object with cultural value to a California Native American Tribe.	*4.5-3* *Develop and Implement a Tribal Cultural Resources Monitoring Plan* *The project proponent shall prepare, with input from the Yocha Dehe Wintun Nation, a Tribal Cultural Resources Monitoring Plan for County approval that includes the following components. The Plan shall be fully executed and copies provided to the County prior to the initiation of ground-disturbing activities associated with the approved project.* • *Awareness Training -- The scope, format, and timing of delivery of a contractor awareness training program to inform equipment operators and their supervisors of the procedures required by the Monitoring Plan, which includes, at a minimum, annual training for all personnel involved in project implementation. The program shall include*	Yolo County Department of Community Services	Prior to the initiation of ground-disturbing activities associated with the approved project	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	relevant information regarding sensitive tribal cultural laws and regulations. The program shall describe appropriate avoidance and minimization measure (as described in the executed Monitoring Plan) for resources that have the potential to be located on the project site and shall outline specific actions and contacts should any potential archeological resources or artifacts be encountered. The program shall also underscore the requirement for confidentiality and culturally-appropriate treatment of any finds of significance to Native American peoples and for behavior consistent with Native American Tribal values. A copy of the contractor awareness training program materials and written verification of completion of the training program shall be submitted to the Yolo County Department of Community Services. • *Compliance with Applicable Laws – The Monitoring Plan shall describe applicable laws and regulations relevant to potential cultural resource finds, including specific procedures to ensure compliance during implementation.* • *Extent of Monitoring – The plan shall include a description of the extent that monitoring will be required. Monitoring shall be limited to the depth of overburden (topsoil), which is the area in which unknown Tribal Cultural Resources could occur. The plan shall acknowledge that monitoring of the*			

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	excavation of gravels and aggregate materials, or backfilling and restoration, is not required. The parties may identify a phasing system to facilitate efficient monitoring – this phasing shall not be in conflict with approved mining phasing. The level of monitoring may be determined in the field based on observed actual conditions as mining moves away from Cache Creek into areas where the likelihood of resources is reduced based on known cultural practices and activities. • *Reporting By Phase –The applicant shall file a written report to the County within 30 days of completion of monitoring for each monitoring phase. The report shall document compliance with the terms of the Monitoring Agreement and shall report on the nature and disposition of any cultural resource discoveries. Applicable requirements for confidentiality shall be observed in these reports.* • *Treatment and Disposition of Cultural Items and Remains – Detailed unanticipated discovery procedures for cultural resources, unique archaeological resources, tribal cultural resources, or human remains that includes consultation with the County to ensure that any discoveries are treated in accordance with applicable state law before work can resume at the discovery location.* • *Other Procedures and Requirements – Timing and procedures for other relevant*			

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative					
Impact		**Mitigation Measures**		**Monitoring Agency**	**Implementation Timing**	**Sign-off**
		actions necessary to implement the Monitoring Plan. *The County shall be afforded 15 calendar days to review and approve the draft Monitoring Plan prior to execution. Ground-disturbing activities subject to the Monitoring Plan cannot begin until the County approves the Monitoring Plan and the Plan is executed between the project proponent and the Yocha Dehe Wintun Nation.*			
4.5-4	The project has the potential to eliminate important examples of the major periods of California history or prehistory.	*4.5-4*	*Implement Mitigation Measure 4.5-3.*	See Mitigation Measure 4.5-3	See Mitigation Measure 4.5-3	
4.6 Geology and Soils, Mineral Resources, and Paleontological Resources						
4.6-5	Directly or indirectly destroy a unique paleontological resource.	*4.6-5*	*Pursuant to Section 10-4.410(b) of the mining ordinance, should paleontological resources be discovered during ground disturbing activities, work shall be halted in the area within 75 feet of the find. The applicant shall notify the Director (as defined by the OCSMO as the County Administrator or designee chosen by the Administrator) and the Yolo County Department of Community Services and retain a qualified paleontologist to inspect the discovery. The find must be recorded by a qualified archaeologist or paleontologist using relevant professional protocols and a report fully recording the find submitted to the County Administrator or designee chosen by the Administrator and the Yolo County*	Yolo County Department of Community Services	During ground-disturbing activities	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative					
Impact		**Mitigation Measures**		**Monitoring Agency**	**Implementation Timing**	**Sign-off**
			Department of Community Services. This report shall include recommendations for appropriate removal and preservation of the artifact. If deemed appropriate in the report, the resource(s) shall then be salvaged and deposited at the Cache Creek Nature Preserve, or other appropriate venue, where the discovery would be properly curated and preserved for the benefit of current and future generations. The language of this mitigation measure shall be included on any future grading plans, mining plans, and reclamation plans approved by the Department of Community Services for the proposed project, where ground disturbance would be required.			
4.7-2	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	*4.7-2(a)*	*Prior to initiation of ground-disturbing activities within 50 feet of the domestic water well on the project site, the project applicant shall obtain a water well abandonment permit from the Yolo County Environmental Health Division (YCEHD), and coordinate with the YCEHD regarding procedures for abandonment of the on-site domestic water well.*	YCEHD	Prior to initiation of ground-disturbing activities	
		4.7-2(b)	*Prior to initiation of ground-disturbing activities within 50 feet of the natural gas well on the project site, the project applicant shall submit a Notice of Intention (Form OG106) to the California Division of Oil, Gas, and Geothermal Resources (DOGGR) stating the applicant's intent to re-abandon the existing on-site gas well. Subsequent to acquisition of an approved gas well abandonment permit from DOGGR, the project applicant shall retain a licensed contractor to cut off the well at the*	Yolo County Department of Community Services DOGGR	Prior to initiation of ground-disturbing activities within 50 feet of the natural gas well on the project site	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative					
Impact	**Mitigation Measures**		**Monitoring Agency**	**Implementation Timing**	**Sign-off**
		maximum depth of the proposed excavation and install a cement plug at least 25 feet below the final proposed elevation of the well. Subsequently, the casing of the well shall be cut off five to 10 feet below the final ground surface and a steel plate affixed to the top of the casing with the well identifier number, indicated by the last five digits of the API well number, welded onto the plate. The location of the well shall be surveyed for future reference. The project applicant shall submit a copy of the approved well abandonment permit to the Yolo County Department of Community Services. Records of all re-abandonment activities shall be submitted to the Yolo County Department of Community Services and DOGGR.			
	4.7-2(c)	*During removal of overburden associated with the proposed project, potentially hazardous materials identified in the vicinity of the former ranch headquarters on the project site, shall be removed from the site and disposed of in accordance with the following regulations and requirements:* • *Hazardous materials identified on the project site shall be handled in accordance with Chapter 6.5, Division 20, of the California Health and Safety Code.* • *Hazardous materials shall be disposed of at an approved disposal site and shall only be hauled by a current California registered hazardous waste hauler using correct manifesting procedures and vehicles displaying a current Certificate of*	Yolo County Department of Community Services YCEHD	During removal of overburden associated with the proposed project	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative					
Impact		**Mitigation Measures**		**Monitoring Agency**	**Implementation Timing**	**Sign-off**
		Compliance. The project applicant shall identify by name and address the site where toxic substances shall be disposed of. Disposal shall be coordinated with the Yolo County Environmental Health Division, and the necessary applications shall be filed. The applicant shall provide CEHD with a valid certification from the approved disposal site that the material was delivered. *The applicant shall notify the Yolo County Department of Community Services and the Yolo County Environmental Health Division when this measure has been fulfilled and provide supporting documentation.*			
4.8 Hydrology and Water Quality					
4.8-4	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows.	*4.8-4(a)*	*Prior to mining or other activity closer than 700 feet to the top of bank, the applicant shall implement a reinforcement improvement in an approximately 600-foot area of streambank (shown in Figure 4.8-1 of the Draft volume of the EIR) which lies in the path of a potential theoretical migration of the creek meander bend. Along this alignment the improvements will consist of a soil-backfilled and planted rock revetment designed and installed to help prevent future bank erosion in the area closest to the Moore Canal and where there is the highest potential for channel migration. The design and placement of this improvement will be subject to review and approval by the Cache Creek TAC.*	Cache Creek Technical Advisory Committee (TAC)	Prior to mining or other activity closer than 700 feet to the top of bank	
		4.8-4(b)	*Prior to mining of other activity closer than 700 feet to the top of bank, the applicant shall implement a*	Cache Creek TAC	Prior to mining of other activity closer	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative					
Impact	**Mitigation Measures**		**Monitoring Agency**	**Implementation Timing**	**Sign-off**
		habitat enhancement improvement in an approximately 6-acre area of inset terrace (shown in Figure 4.8-1 of the Draft volume of the EIR). There exists an area on the inset terrace below the Shifler property that extends from County Road 94B along the right (south) bank to the Teichert Aggregates Woodland Plant. This terrace has some native woody vegetation along the first approximately 1,000 feet east of CR 94B but is otherwise predominantly bare or covered with non-native ruderal species. Within the approximately 6-acre zone shown in the referenced figure, the applicant shall remove non-native species and plant appropriate native woody (tree and shrub) species (with the species selection informed by which trees and shrubs are already present on the terrace). This action shall be undertaken in a manner so as not to disturb existing native species (especially elderberry) that already exist within this 6-acre zone. This action will help stabilize this terrace in addition to enhancing habitat between the creek channel and the project site, further reducing potential for channel migration. The habitat enhancement project shall be implemented, monitored, and maintained to the same revegetation standards as stipulated in the approved reclamation plan.		than 700 feet to the top of bank	
	4.8-4(c)	*The minimum allowed setback between the top of bank and mining or other activity shall be 250 feet. Mining and reclamation plans shall be modified accordingly.*	Cache Creek TAC	During mining and reclamation	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
4.10 Noise				
4.10-1 Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	*4.10-1(a)* *The following language shall be included as a condition of approval on the Mining Permit for the proposed project, to the satisfaction of the Yolo County Department of Community Services:* • *Initial scraper operations occurring within 300 feet of the project site boundary near Receptors 1 or 6 (as identified in Figure 4.10-4 of this EIR) shall be limited to 15 minutes per hour;* *OR* • *An earth berm or other form of noise barrier shall be constructed along 300 feet of the eastern and western site boundaries nearest to Receptors 1 and 6. The barrier shall be a minimum of eight feet in height relative to the existing ground elevation.* *In addition, the Mining Permit shall be conditioned with the following language, to the satisfaction of the Yolo County Department of Community Services, to further reduce the potential for annoyance associated with proposed excavation activities:* • *Excavation activities occurring within 560 feet of an existing residence shall be limited to the hours of 6:00 AM to 6:00 PM until such time as the excavation equipment has recessed in the pit a sufficient depth to no*	Yolo County Department of Community Services	Prior to the issuance of a Mining Permit	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	longer be visible from the nearest residences. • *Teichert shall coordinate with Monument Hill Memorial Park cemetery representatives on an ongoing basis to determine when funeral services are scheduled to occur at the cemetery, and shall limit on-site operations during such services. Alternatively, Teichert may initiate communication with Monument Hill Memorial Park representatives to identify other feasible methods for minimizing potential noise intrusion during services.*			
	4.10-1(b) A noise survey shall be conducted following the installation and operation of any new equipment which will be required to increase processing capacity of the Woodland Plant. The results of the noise survey shall be submitted to the Yolo County Department of Community Services within two months of the new equipment being brought online. In the event that the survey results indicate the additional equipment has resulted in a substantial increase in processing plant noise emissions (in excess of 5 dB), the equipment causing the substantial increase shall cease operation until the following noise mitigation options shall be implemented, as appropriate, to reduce the overall increase in plant noise levels to less than 5 dB at the nearest residences: • *Construct localized noise barriers adjacent to ground level equipment determined to be*	Yolo County Department of Community Services	Following the installation and operation of any new equipment which will be required to increase processing capacity of the Woodland Plant	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative				
Impact	**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
	responsible for substantial increases in ambient noise levels. • *Suspend acoustic curtains adjacent to elevated equipment determined to be responsible for substantial increases in ambient noise levels.* • *Line new conveyor transfer points and hoppers with heavy urethane linings.* • *Utilize urethane screens in new screen decks.* • *Utilize automatic reverse-activated strobe lights in lieu of audible backup beeper devices for any new mobile equipment, if the applicant can obtain a variance from Cal/OSHA. If a variance cannot be obtained, then utilize MHSA-approved broad-band backup warning devices for any new mobile equipment rather than the traditional tonal back-up beeper devices.* • *Ensure that all internal combustion engines which may be required to drive new equipment is equipped with appropriate mufflers.*			
4.12 Transportation and Circulation				
4.12-2 Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).	*4.12-2* ***Transportation Demand Management (TDM) Program.*** *Prior to commencement of mining activities at the project site, the project applicant shall develop and implement a TDM program to reduce the number of daily employee commute trips made to the project site, and shall submit the TDM Program to Yolo County for review and approval. The TDM Program shall identify trip*	Yolo County Planning Division	Prior to commencement of mining activities at the project site	

MITIGATION MONITORING AND REPORTING PROGRAM Teichert Shifler Mining and Reclamation Project, Moore Canal Avoidance Alternative					
Impact		**Mitigation Measures**	**Monitoring Agency**	**Implementation Timing**	**Sign-off**
		reduction strategies as well as mechanisms for funding and overseeing the delivery of trip reduction programs and strategies. The TDM Program shall be designed to achieve the following trip reduction: • *Reduce employee commute VMT to the maximum extent feasible.* *Feasible trip reduction strategies may include, but are not limited to, the following:* • *Develop an employer-led program that considers:* ○ *Carpooling encouragement;* ○ *Ride-matching assistance; and* ○ *Vanpool assistance.*			
5 Cumulative Impacts and Other Required Sections					
5-2	Cumulative impacts to farmland.	*Implement Mitigation Measure 4.2-1.*	Yolo County Planning Division	Prior to commencement of mining activities	
5-14	Cumulative impacts to transportation and circulation.	*Implement Mitigation Measure 4.12-2.*	Yolo County Planning Division	Prior to commencement of mining activities at the project site	

Appendix A

YOLO COUNTY
FLOOD CONTROL & WATER CONSERVATION DISTRICT

April 15, 2021

Jason Smith
Teichert Materials
Aggregate Resource Development
Via mail: JSmith@teichert.com

Elisa Sabatini
Manager of Natural Resources
Yolo County
Vial email: elisa.sabatini@yolocounty.org

RE: Teichert Shifler Project / Potential Moore Canal Relocation

Dear Jason Smith and Elisa Sabatini,

After careful consideration of the risks and benefits of relocating the Moore Canal (Canal), review of the Draft Environmental Impact Report, and discussions with Teichert Materials (Teichert) staff and their consultants, the District's Board of Directors would like to keep the Moore Canal in-place in its current alignment. This decision was formalized at the District's Board meeting on April 6, 2021.

Leaving the Canal in-place is acceptable to both Teichert and the District's Board of Directors, although Teichert still prefers the northern alignment.

If some future benefit to the District can be identified and agreeable to both the District and Teichert, the Board would reconsider allowing Teichert to move the Canal to the northern alignment. The logistics of changing the mining plan after mining has started would need to be evaluated by Teichert.

Sincerely,

Max Stevenson
Assistant General Manager

34274 State Highway 16
Woodland, CA 95695-9371
(530) 662-0265
FAX (530) 662-4982
www.ycfcwcd.org

Tim O'Halloran
General Manager

Appendix B

Corporate Office
3500 American River Drive
P.O. Box 15002
Sacramento, CA 95851
(916) 484-3011 • Fax (916) 484-7012

TEICHERT MATERIALS

April 27, 2021

Ms. Elisa Sabatini, Manager of Natural Resources
Yolo County Office of the County Administrator, Natural Resources Division
625 Court Street, Room 202
Woodland, California 95695

Re: Teichert Shifler Mining & Reclamation Project – Intend to Proceed with the Moore Canal Avoidance Alternative

Dear Ms. Sabatini:

As you are aware, the Teichert Shifler Mining & Reclamation project (Project) currently includes a proposal to relocate the existing Moore Canal along the northern portion of the project site. However, on April 6, 2021, the Board of Directors of the Yolo County Flood Control and Water Conservation District (YCFCWCD) voted to submit a letter to the County and Teichert indicating its preference that Teichert not relocate Moore Canal as part of its proposed Shifler Mining & Reclamation Project. A copy of this letter, dated April 15, 2021, is attached for your reference.

In light of the YCFCWCD's action and letter, Teichert has elected to modify its application for the Project to proceed with the Moore Canal Avoidance Alternative instead of the original proposed project. To facilitate the County's consideration of this matter, we will be submitting, under separate cover, the following information pertaining to the Moore Canal Avoidance Alternative:

- Revised project description and exhibits;
- Mining and reclamation plan prepared by Cunningham Engineering;
- Revised reclamation plan text and exhibits;
- Geotechnical analysis prepared by GEOCON Consultants; and
- Application binders for review by the State of California, Department of Conservation, Division of Mine Reclamation.

Please let us know if you need additional information in order to proceed with the Moore Canal Avoidance Alternative as the Project.

Sincerely,

Jason Smith

Enclosures

cc: Heidi Tschudin, Contract Planner
Max Stevenson, Yolo County Flood Control and Water Conservation District

YOLO COUNTY
FLOOD CONTROL & WATER CONSERVATION DISTRICT

April 15, 2021

Jason Smith
Teichert Materials
Aggregate Resource Development
Via mail: JSmith@teichert.com

Elisa Sabatini
Manager of Natural Resources
Yolo County
Vial email: elisa.sabatini@yolocounty.org

RE: Teichert Shifler Project / Potential Moore Canal Relocation

Dear Jason Smith and Elisa Sabatini,

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Leaving the Canal in-place is acceptable to both Teichert and the District's Board of Directors, although Teichert still prefers the northern alignment.

If some future benefit to the District can be identified and agreeable to both the District and Teichert, the Board would reconsider allowing Teichert to move the Canal to the northern alignment. The logistics of changing the mining plan after mining has started would need to be evaluated by Teichert.

Sincerely,

Max Stevenson
Assistant General Manager

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Tim O'Halloran
General Manager

Appendix C

Corporate Office
3500 American River Drive
P.O. Box 15002
Sacramento, CA 95851
(916) 484-3011 • Fax (916) 484-7012

TEICHERT MATERIALS

June 21, 2021

Ms. Elisa Sabatini, Manager of Natural Resources
Yolo County Office of the County Administrator, Natural Resources Division
625 Court Street, Room 202
Woodland, California 95695

Re: Teichert Shifler Mining & Reclamation Project – Moore Canal Avoidance Alternative supplemental application materials

Dear Ms. Sabatini:

In our prior letter of April 27, 2021, we notified the County of our intent to modify our original application for the Teichert Shifler Mining & Reclamation Project (Project) to proceed with the Moore Canal Avoidance Alternative instead of the original proposed project. We are in receipt of your letter of May 27, 2021, attached for your reference, requesting additional information regarding the revised Project.

As requested, we are submitting the following information pertaining to the Moore Canal Avoidance Alternative:

- Revised project description and exhibits;
- Mining and reclamation plan prepared by Cunningham Engineering;
- Revised reclamation plan text and exhibits, including redline version;
- Geotechnical analysis prepared by GEOCON Consultants; and
- Application binders for review by the State of California, Department of Conservation, Division of Mine Reclamation.

Please let us know if you need any additional information to proceed with the Moore Canal Avoidance Alternative as the Project.

Sincerely,

Jason Smith

Enclosures

cc: Heidi Tschudin, Contract Planner

OFF-CHANNEL MINING PLAN
FOR
SHIFLER PROPERTY

YOLO COUNTY, CALIFORNIA
JUNE 2021

GENERAL NOTES:

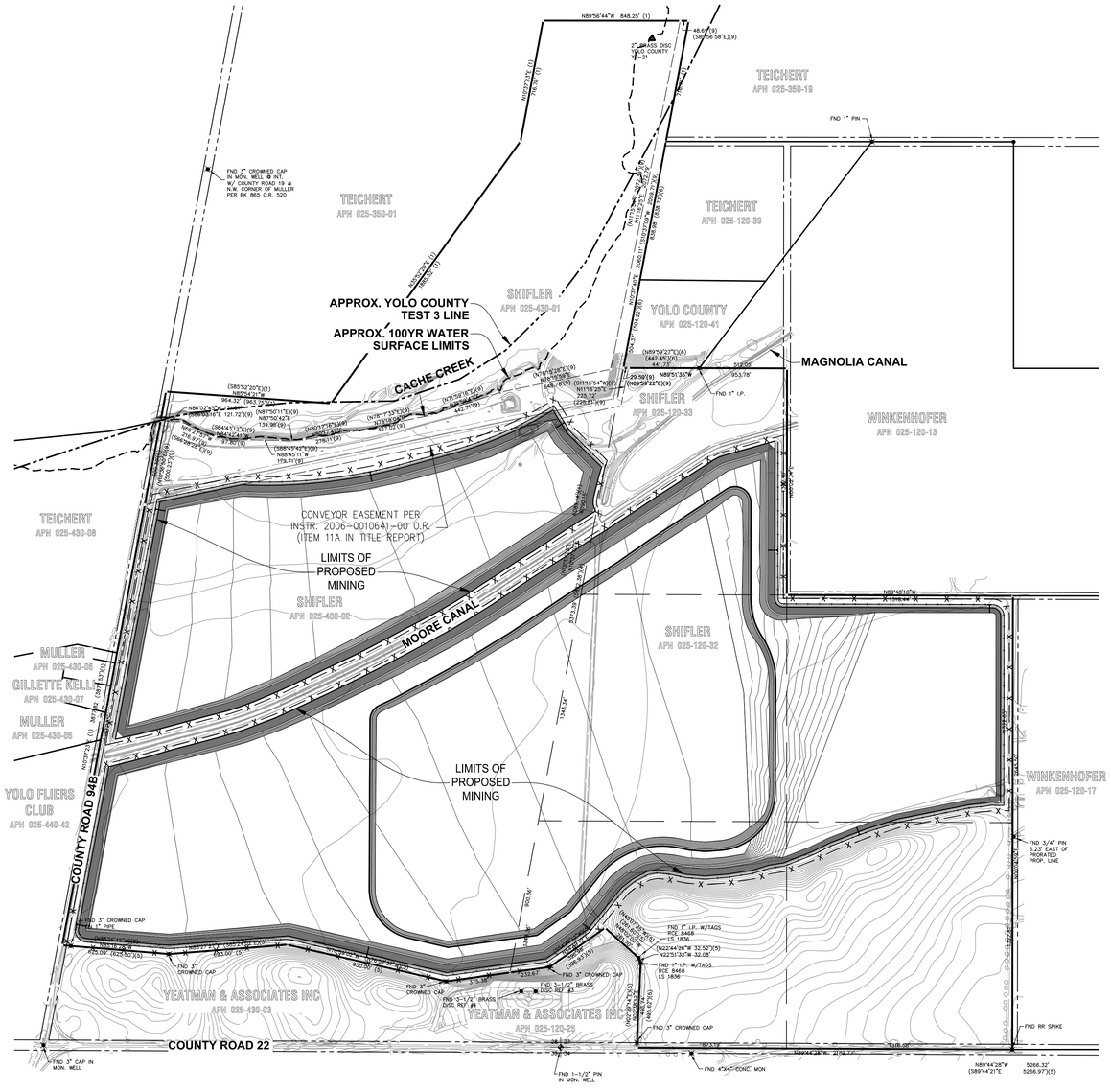
1. ALL WORK SHALL CONFORM TO THE YOLO COUNTY OFF-CHANNEL MINING ORDINANCE (ORD. #1190). THE PROJECT SPECIFIC CONDITIONS OF APPROVAL, THE PROJECT STORM WATER POLLUTION PREVENTION PLAN (SWPPP), THE SURFACE MINING AND RECLAMATION ACT (SMARA), OSHA, MSHA, AND OTHER APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.
2. EXISTING TOPOGRAPHY BASED ON AERIAL TOPOGRAPHY FLOWN IN APRIL 2010 BY POINT CO. PHOTOGRAMMETRIC SERVICES; VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING MINING.
3. ANY WORK THAT NEEDS TO BE PERFORMED WITHIN PG&E'S OR ANY OTHER UTILITY COMPANY'S EASEMENT WILL REQUIRE A CONSENT AGREEMENT FROM THE APPROPRIATE UTILITY COMPANY. USE CAUTION WHEN OPERATING ANY VEHICLES OR EQUIPMENT NEAR OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES. COMPLY WITH ALL CONDITIONS LISTED IN THE CONSENT AGREEMENT.
4. THE DEPTH OF MINING AND THE LIMIT-OF-MINING LINES ARE ONLY APPROXIMATE, AND ARE SUBJECT TO CHANGE BASED ON THE AMOUNT AND QUALITY OF MATERIAL UNCOVERED, AND THE ABILITY OF THE PRODUCER TO MEET THE RECLAMATION REQUIREMENTS. THE FORESEEABLE ESTIMATE OF VARIATION IS +/- 10' IN MINING DEPTH; AND +/- 20% OF AREA FOR EACH TYPE OF RECLAMATION.
5. HIGH AND LOW AVERAGE GROUNDWATER ELEVATIONS BASED ON "GROUNDWATER CONDITIONS IN THE VICINITY OF PLANNED WETPIT MINING OPERATIONS, SHIFFLER PROPERTY" AND "CONTOURS OF PREDICTED GROUNDWATER ELEVATION, AVERAGE FALL LOW, POST-RECLAMATION",, BY LUHDORFF & SCALMANINI CONSULTING ENGINEERS DATED DECEMBER 22, 2015, UPDATED FEBRUARY 2016.
6. MAXIMUM INCLINATION OF MINING SLOPES ABOVE THE SUMMER LOW GROUNDWATER LEVEL TO BE ¾:1 (H:V).
7. PROVIDE PROTECTION TO WET PIT AREAS FROM STORMWATER AND/OR AGRICULTURAL RUNOFF THROUGH THE PLACEMENT OF BERMS AND/OR SWALES. (THIS NOTE MAY NOT APPLY OR BE REQUIRED IF EXISTING TOPOGRAPHY PREVENTS SURFACE RUNOFF FROM ENTERING ANY OF THE MINING EXCAVATIONS THAT EXPOSE GROUNDWATER.)
8. IF HUMAN SKELETAL REMAINS ARE ENCOUNTERED DURING EXCAVATION, ALL WORK WITHIN SEVENTY-FIVE (75) FEET SHALL IMMEDIATELY STOP, AND THE COUNTY CORONER SHALL BE NOTIFIED WITHIN TWENTY-FOUR (24) HOURS. IF ANY CULTURAL RESOURCES, SUCH AS CHIPPED OR GROUND STONE, HISTORIC DEBRIS, BUILDING FOUNDATIONS, OR PALEONTOLOGICAL MATERIALS ARE ENCOUNTERED DURING EXCAVATION, THEN ALL WORK WITHIN SEVENTY-FIVE (75) FEET SHALL IMMEDIATELY STOP AND THE DIRECTOR SHALL BE NOTIFIED AT ONCE. ANY CULTURAL RESOURCES FOUND ON THE SITE SHALL BE RECORDED BY A QUALIFIED ARCHAEOLOGIST AND THE INFORMATION SHALL BE SUBMITTED TO THE COUNTY.
9. DURING OPERATIONS, THE SITE SHALL BE KEPT FREE OF DEBRIS AND MAINTAINED IN A NEAT AND ORDERLY MANNER SO AS NOT TO CREATE ANY HAZARDOUS OR UNSIGHTLY CONDITIONS. OVERBURDEN SHALL BE STOCKPILED AND STUMPS, BRUSH, OR OTHER DEBRIS RESULTING FROM EXCAVATION AND/OR PROCESSING SHALL BE PROPERLY DISPOSED.
10. UNNECESSARY PERSONNEL SHALL BE EXCLUDED FROM OFF-CHANNEL EXCAVATIONS. OPEN PITS SHALL BE FENCED WITH A FOUR STRAND BARBED WIRE FENCE OR THE EQUIVALENT, PRIOR TO THE COMMENCEMENT OF EXCAVATION. FENCING MAY ENCLOSE THE PROPERTY OF WHICH THE MINING SITE IS A PART, THE MINING SITE, OR BOTH. IN ADDITION, SIGNS SHALL BE INSTALLED AT THE PROJECT SITE BOUNDARIES AND ACCESS ROAD, INDICATING THAT THE EXCAVATION AREA IS A DANGER ZONE.

ABBREVIATIONS:

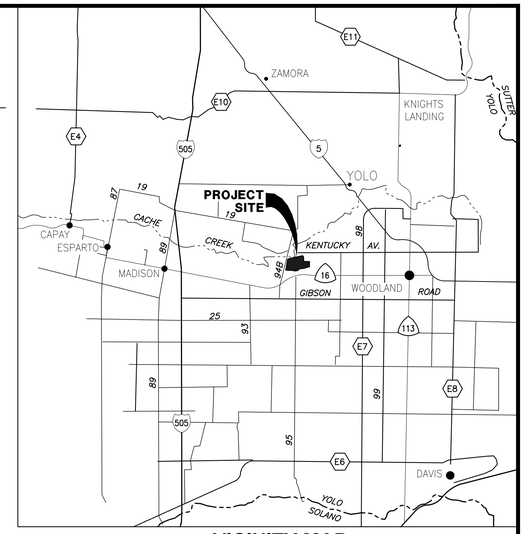
AC	ACRES	IRR	IRRIGATION
AG	AGRICULTURAL	MSHA	MINE SAFETY AND HEALTH ADMINISTRATION
AGG	AGGREGATE	MW	MONITOR WELL
AMSL	ABOVE MEAN SEA LEVEL	N	NORTH
APN	ASSESSOR'S PARCEL NUMBER	N.I.C.	NOT IN CONTRACT
AVG	AVERAGE	OG	ORIGINAL GROUND ELEVATION
CFR	CODE OF FEDERAL REGULATIONS	OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
CL	CENTER LINE	PL	PROPERTY LINE
CY	CUBIC YARDS	R	RADIUS
E	EAST	R/W	RIGHT-OF-WAY
ELEV	ELEVATION	RECL.	RECLAMATION
FG	FINISH GRADE	S	SLOPE
FL	FLOW LINE	S&G	SAND AND GRAVEL
FT	FEET	TYP	TYPICAL
GB	GRADE BREAK	V	VERTICAL
GW	GROUND WATER	W	WEST
H	HORIZONTAL	YR	YEAR

LEGEND:

- FOUND MONUMENTS AS SHOWN
- POWER POLE
- EXISTING EDGE OF ROAD
- WATER
- EXISTING GROUND CONTOUR (100)
- PROPOSED CONTOUR (90)
- CROSS SECTION NUMBER AND SHEET LOCATION (A / C-03 — A / C-03)
- APPROXIMATE YOLO COUNTY TEST 3 LINE
- APPROXIMATE 100YR WATER SURFACE LIMITS
- EXISTING ELEV. (195.0)
- PROPOSED ELEV. (30.0)
- HORIZONTAL TO VERTICAL SLOPE (2:1)
- WATER SURFACE
- PROPERTY BOUNDARY
- RIGHT-OF-WAY
- EASEMENT
- FENCE



KEY MAP
1"=400'



VICINITY MAP
NOT TO SCALE

SHEET INDEX:

M-01 TITLE SHEET
M-02 SITE PLAN
M-03 CROSS SECTION A-A
M-04 CROSS SECTION B-B
M-05 CROSS SECTION C-C
M-06 CROSS SECTION D-D
M-07 CROSS SECTION E-E
M-08 CROSS SECTION F-F
M-09 CROSS SECTION G-G

BENCHMARK:

EXISTING TOPOGRAPHY BASED ON AERIAL TOPOGRAPHY FLOWN IN APRIL 2010 BY POINT CO. PHOTOGRAMMETRIC SERVICES. AERIAL TARGETS SURVEYED BY LAUGENOUR AND MEIKLE, WOODLAND.
HORIZONTAL DATUM: CA NAD83 ZONE 2
VERTICAL DATUM: NAVD 88

ASSESSORS PARCEL NO:

025-120-32
025-120-33
025-430-02
025-430-01

PROPERTY OWNER:

SHIFLER LJ FAMILY TRUST INC.
35030 COUNTY ROAD 20
WOODLAND, CA 95851

APPLICANT:

TEICHERT AGGREGATES
P.O. BOX 15002
SACRAMENTO, CA 95851
(916) 484-3319

CIVIL ENGINEER:

CUNNINGHAM ENGINEERING
2940 SPAFFORD STREET, SUITE 200
DAVIS, CALIFORNIA 95618
(530) 758-2026

DRAWING STATUS:
- ● PLAN REVIEW SET – NOT FOR CONSTRUCTION
- ○ PERMIT SET

DESIGNED BY NC
DRAWN BY NC
CHECKED BY SG
SCALE: AS SHOWN

NO.	DATE	REVISIONS	BY	APPD.

TEICHERT AGGREGATES

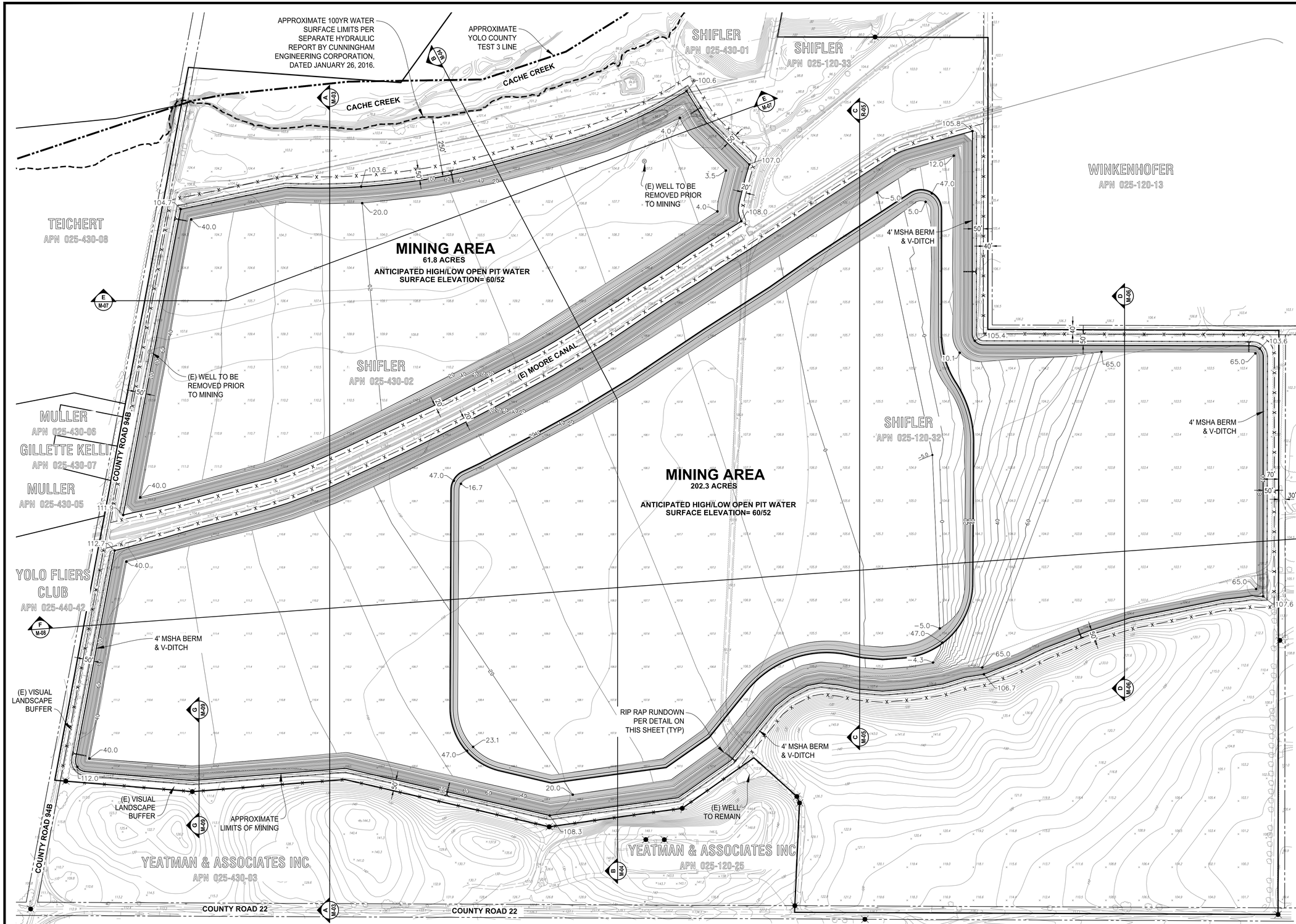
CUNNINGHAM ENGINEERING
CECWEST.COM
Project Planning ■ Civil Engineering ■ Landscape Architecture
■ Sacramento Office: 2120 20th Street, Suite Three, Sacramento, CA 95818, (916) 455-2026
■ Davis Office: 2940 Spafford Street, Suite 200, Davis, CA 95618, (530) 758-2026

SHIFLER MINING PLAN
(MOORE CANAL AVOIDANCE)
TITLE SHEET

YOLO COUNTY CALIFORNIA

SHEET M-01 OF 9
DATE: 6/8/21
JOB NO: 1129.20

S:\Projects\1000\129 Teichert Shiflers\Acad\01129-20 SHF Mining and Reclamation Plan\SHEETS\M-01 A1129-20 shf-min TITL-ALT A.dwg - TITL - 6/08/2021 - 2:09PM Plotted by: Nick



NOTES:

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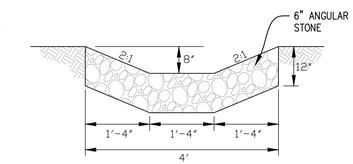
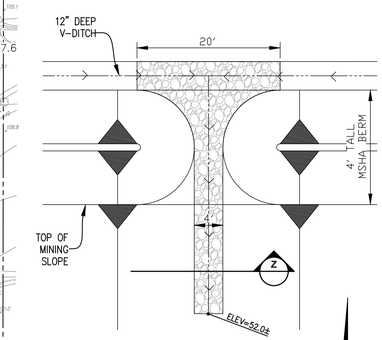
4. BOTTOM MINING ELEVATIONS ARE ±10' DEPENDING ON ACTUAL BOTTOM OF GRAVEL DEPTHS.
5. PROPOSED CONTOURS SHOWN AT 5' INTERVAL.
6. WELLS TO BE ABANDONED SHALL BE ABANDONED PER YOLO COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH STANDARDS.
7. TOPSOIL AND OVERBURDEN STOCKPILES SHALL BE SLOPED AND VEGETATED PER SECTION 10-4.433 OF THE MINING ORDINANCE.



SECTION Z
NTS



RIP-RAP RUNDOWN DETAIL
NTS

200 100 0 200 400
SCALE 1" = 200'

DESIGNED BY NC	NO.	DATE	REVISIONS	BY	APPD.
DRAWN BY NC					
CHECKED BY SG					
SCALE AS SHOWN					

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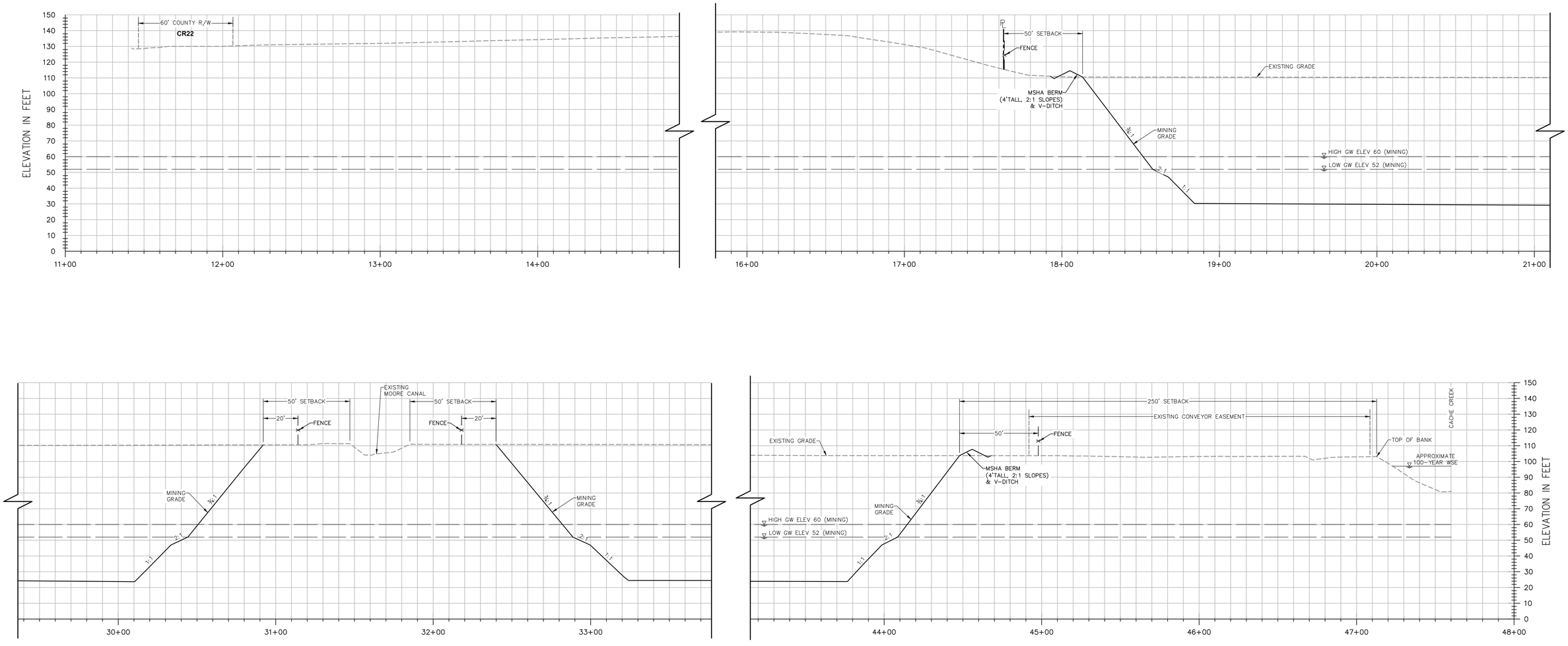
SHIFLER MINING PLAN
(MOORE CANAL AVOIDANCE)
SITE PLAN

YOLO COUNTY CALIFORNIA

SHEET M-02 OF 9

DATE: 6/8/21

JOB NO: 1129.20



SECTION A-A

H: 1"=30'
V: 1"=30'

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4. BOTTOM MINING ELEVATIONS ARE ±10' DEPENDING ON ACTUAL BOTTOM OF GRAVEL DEPTHS.

30 15 0 30 60
SCALE 1" = 30'HOR.
SCALE 1" = 30'VERT.

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CHECKED BY SG					
SCALE AS SHOWN					

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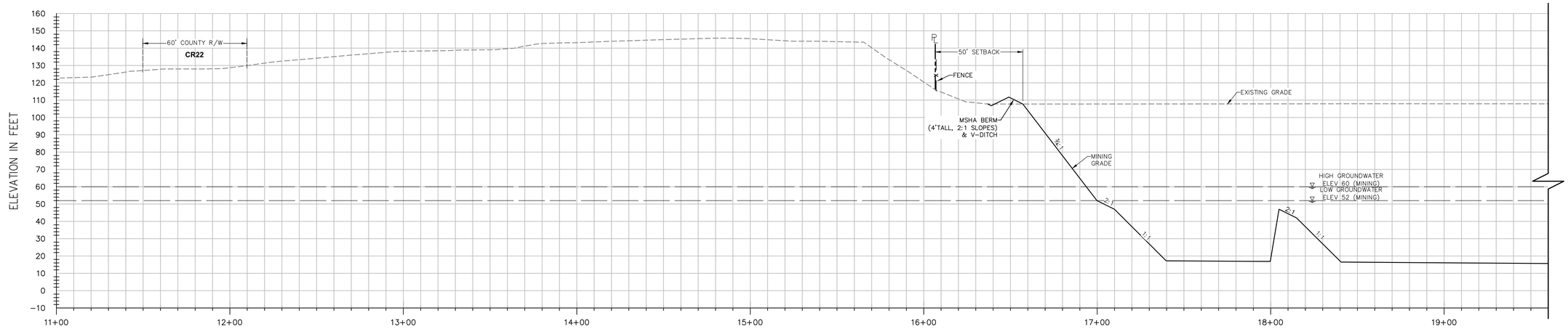
SHIFLER MINING PLAN
(MOORE CANAL AVOIDANCE)
CROSS SECTION A-A

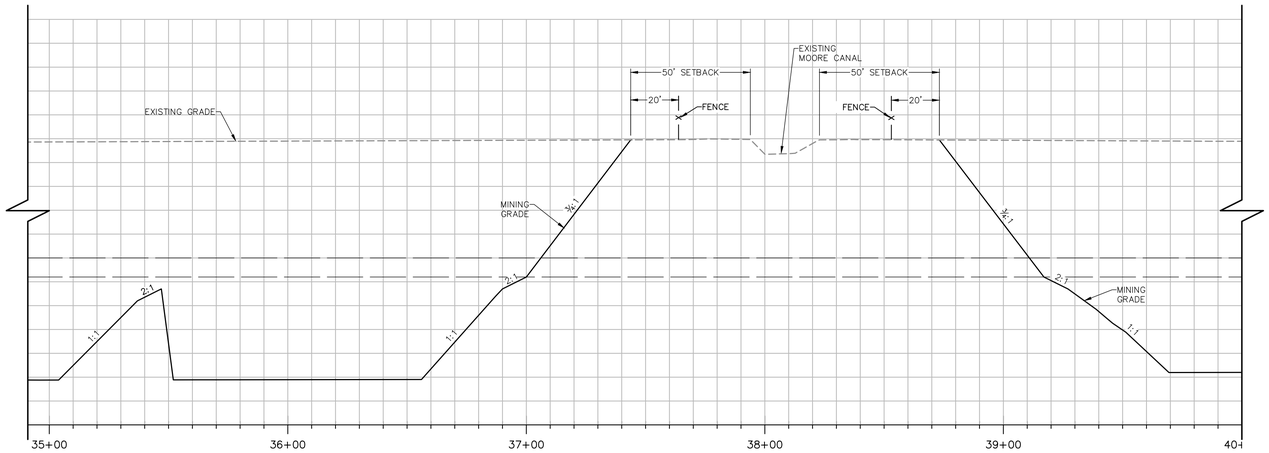
YOLO COUNTY CALIFORNIA

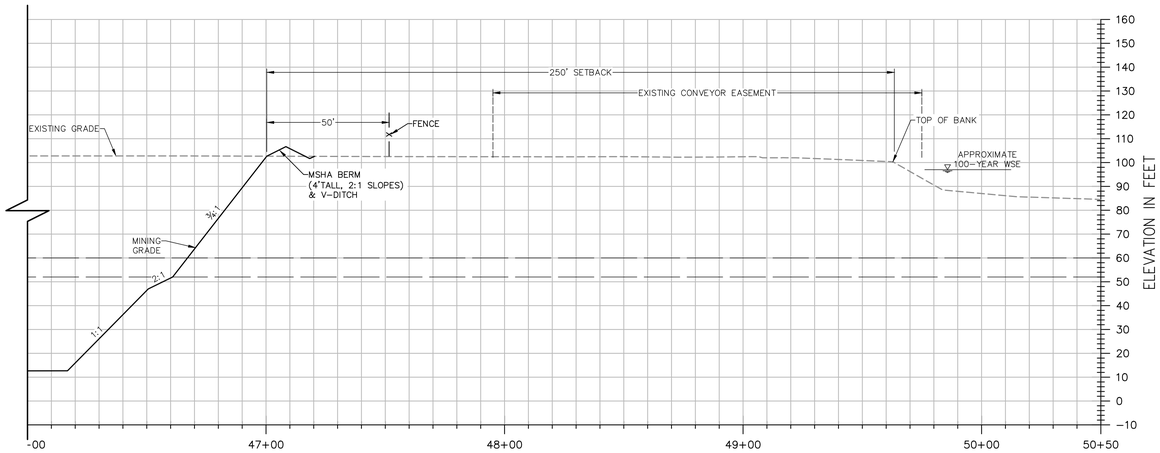
SHEET M-03 OF 9

DATE: 6/8/21

JOB NO: 1129.20







SECTION B-B

H: 1"=30'
V: 1"=30'

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30 15 0 30 60
SCALE 1" = 30'HOR.
SCALE 1" = 30'VERT.

DESIGNED BY NC	NO.	DATE	REVISIONS	BY	APPD.
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SCALE AS SHOWN					

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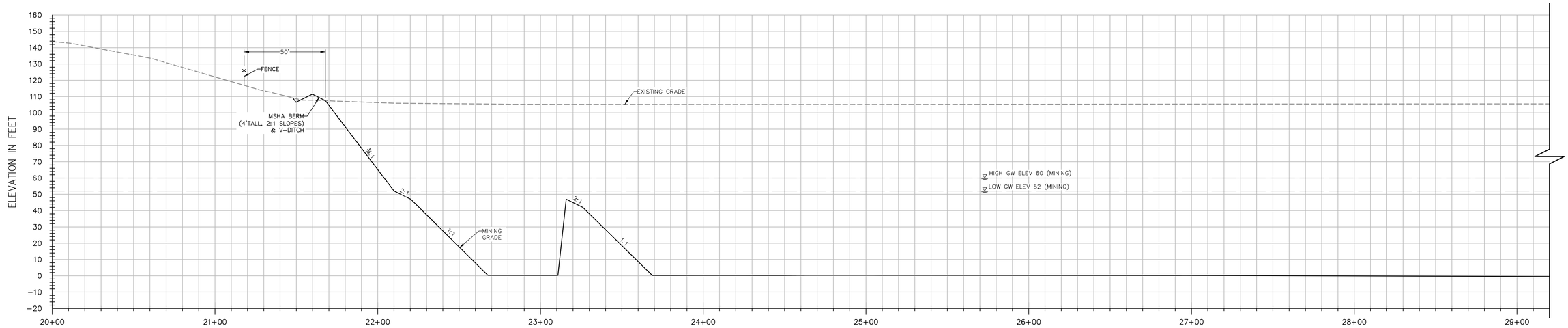
SHIFLER MINING PLAN
(MOORE CANAL AVOIDANCE)
CROSS SECTION B-B

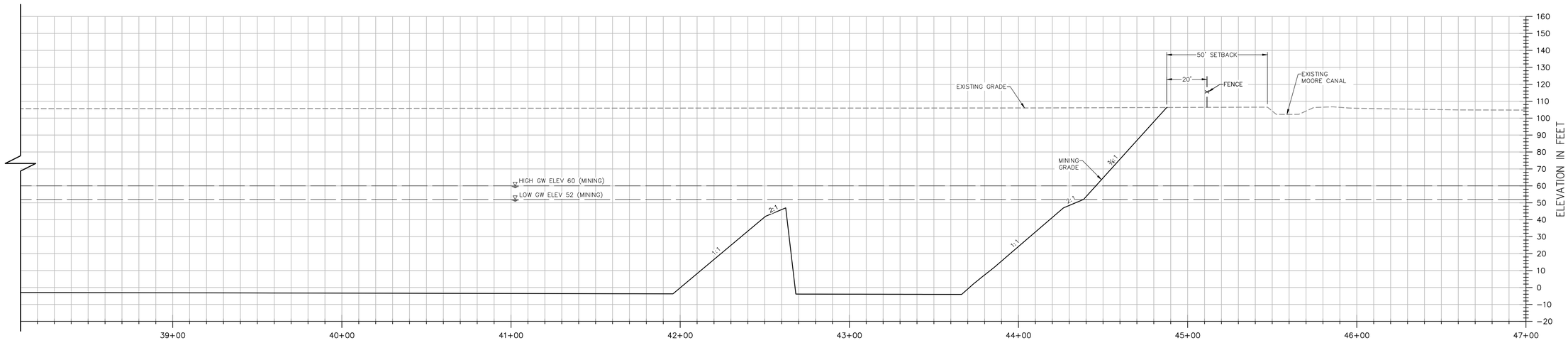
YOLO COUNTY CALIFORNIA

SHEET M-04 OF 9

DATE: 6/8/21

JOB NO: 1129.20





SECTION C-C

H: 1"=30'
V: 1"=30'

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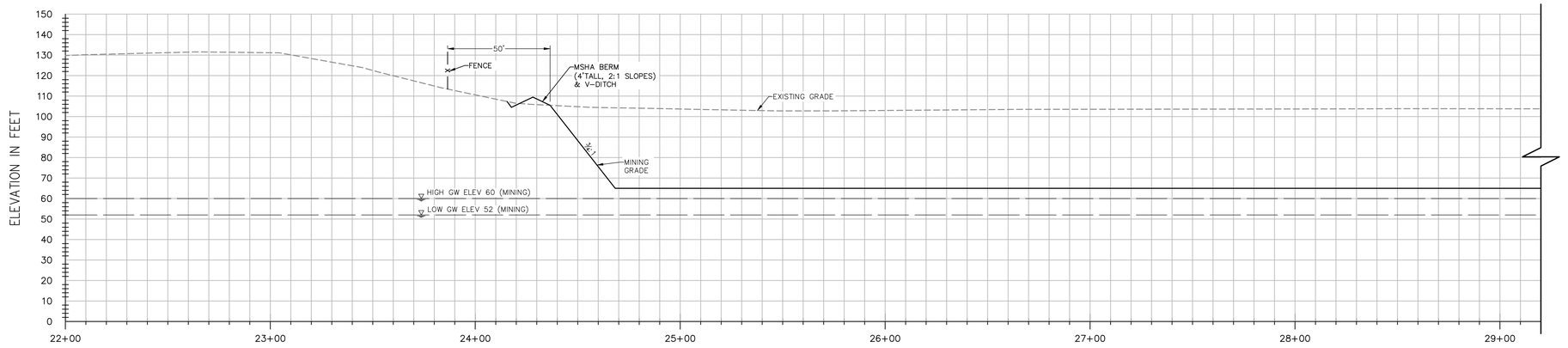
SHIFLER MINING PLAN
(MOORE CANAL AVOIDANCE)
CROSS SECTION C-C

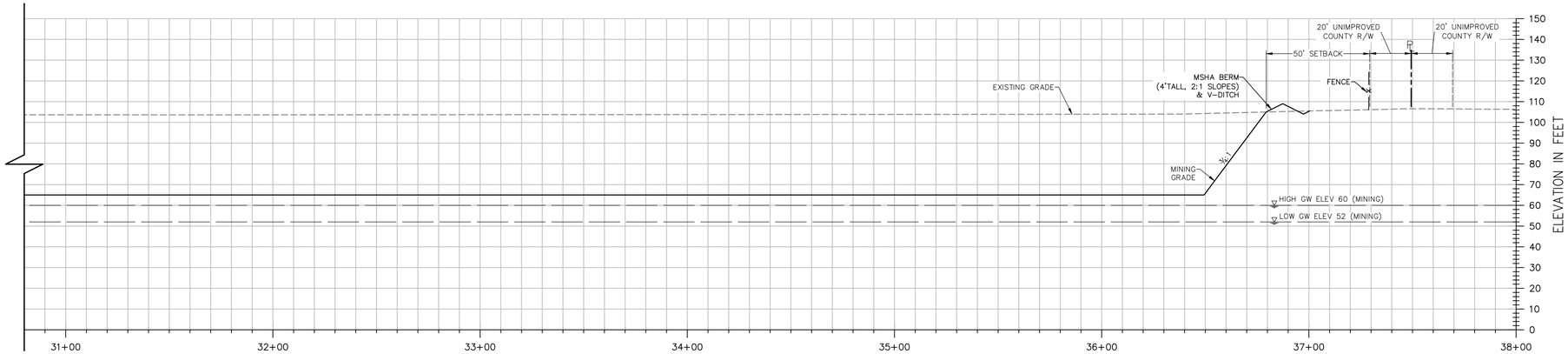
YOLO COUNTY CALIFORNIA

SHEET M-05 OF 9

DATE: 6/8/21

JOB NO: 1129.20





SECTION D-D

H: 1"=30'
V: 1"=30'

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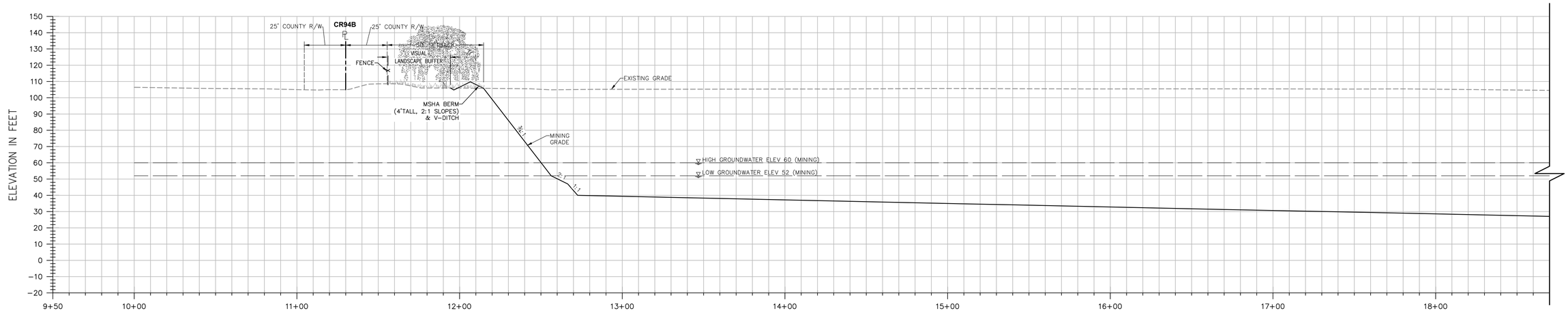
SHIFLER MINING PLAN
(MOORE CANAL AVOIDANCE)
CROSS SECTION D-D

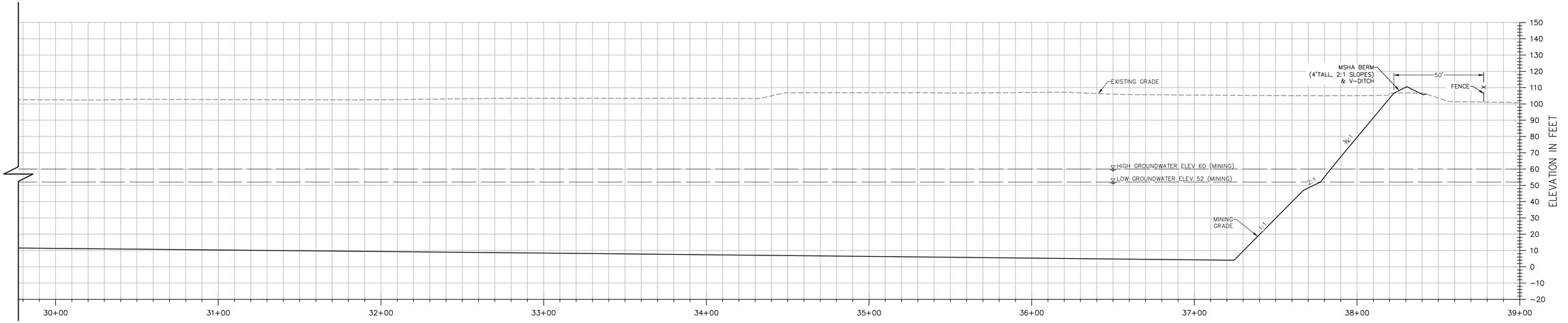
YOLO COUNTY CALIFORNIA

SHEET M-06 OF 9

DATE: 6/8/21

JOB NO: 1129.20





SECTION E-E

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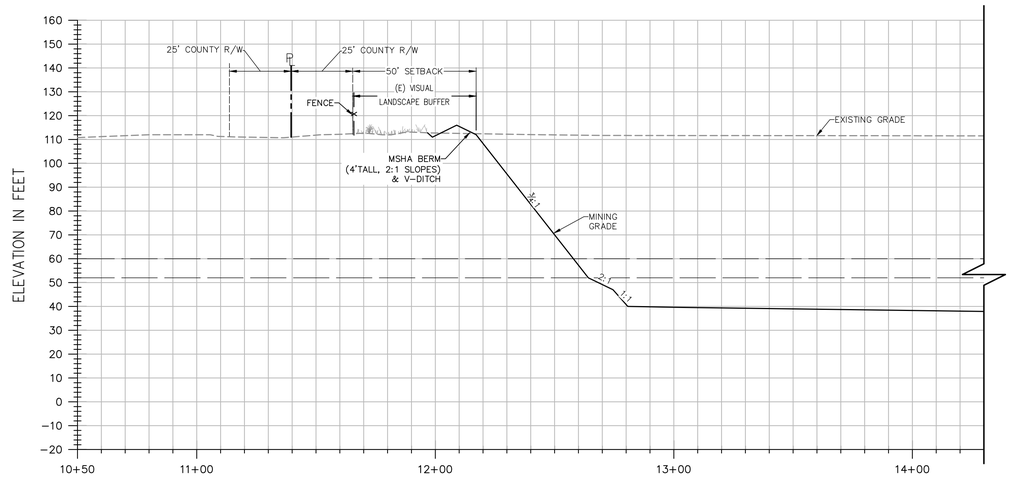
SHIFLER MINING PLAN
(MOORE CANAL AVOIDANCE)
CROSS SECTION E-E

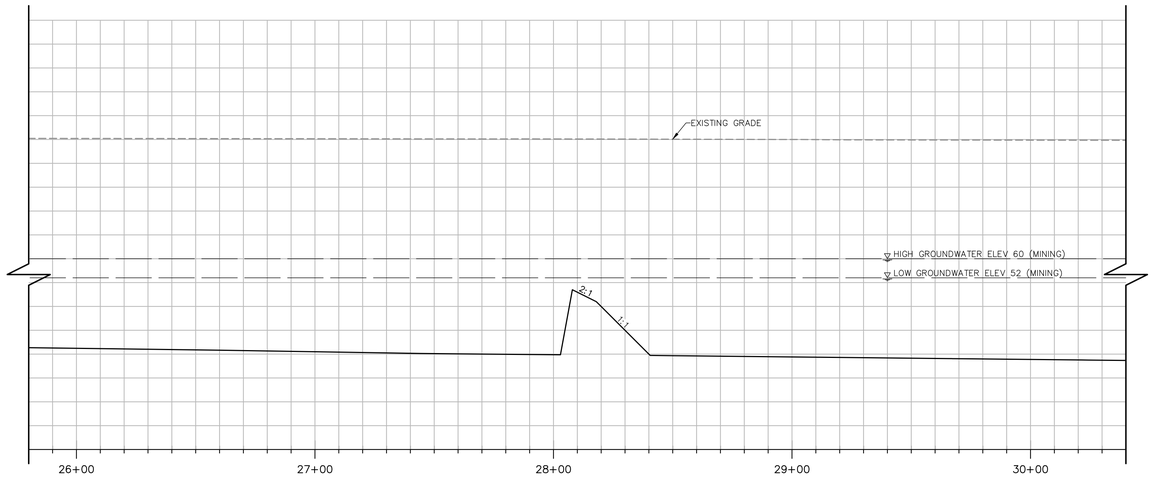
YOLO COUNTY CALIFORNIA

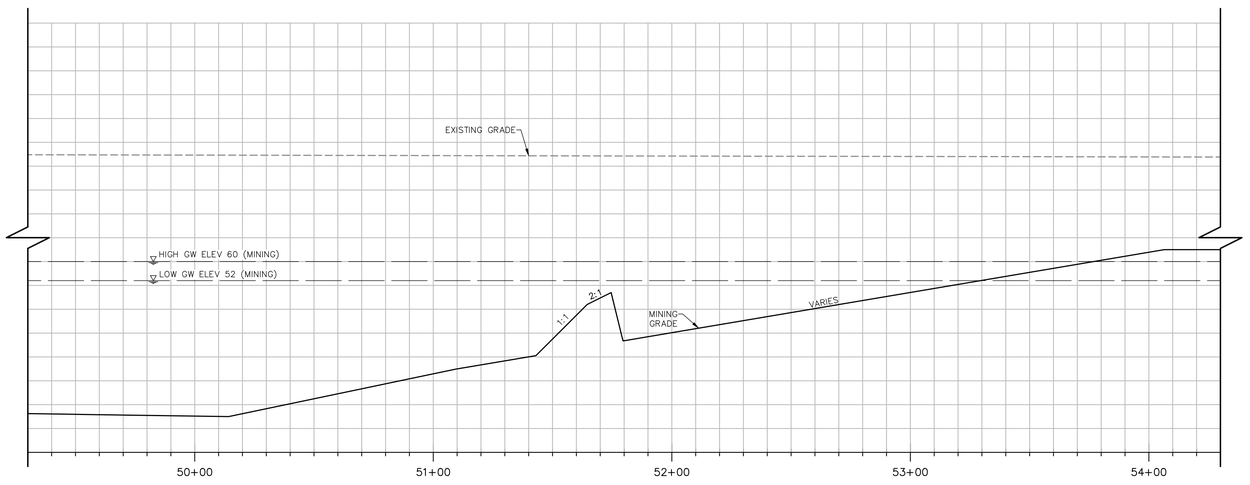
SHEET M-07 OF 9

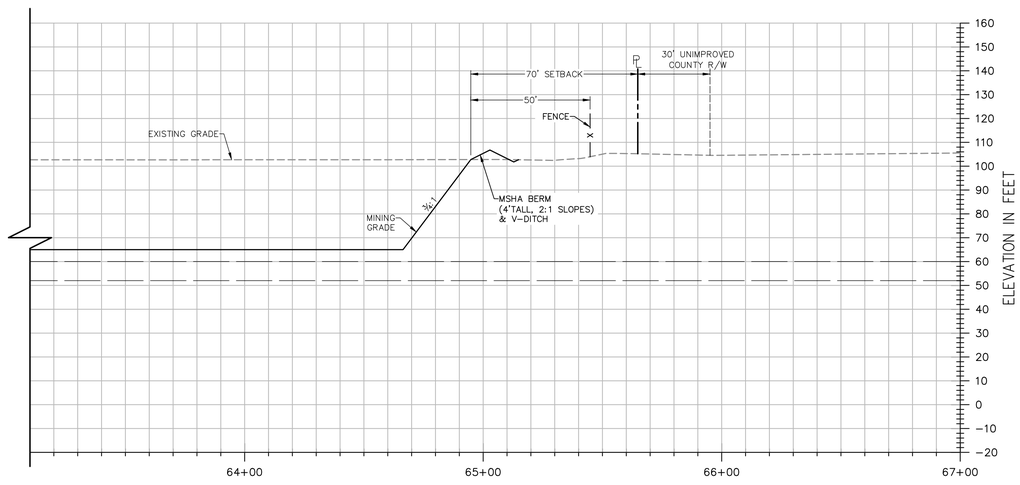
DATE: 6/8/21

JOB NO: 1129.20









SECTION F-F

H: 1"=30'
V: 1"=30'

NOTES:

1. ELEVATIONS AND DISTANCES ARE APPROXIMATE. EXISTING GROUND IS BASED ON AERIAL TOPOGRAPHY FLOWN IN APRIL 2010 BY POINT CO. PHOTOGRAMMETRIC SERVICES.
2. HIGH AND LOW AVERAGE GROUNDWATER ELEVATIONS BASED ON "GROUNDWATER CONDITIONS IN VICINITY OF PLANNED WET-PIT MINING OPERATIONS-SHIFLER PROPERTY" AND "CONTOURS OF PREDICTED GROUNDWATER ELEVATION, AVERAGE FALL LOW, POST RECLAMATION", BY LUHDORFF & SCALMANINI CONSULTING ENGINEERS DATED DECEMBER 22, 2015, UPDATED FEBRUARY 2016.
3. BERMS OR V-DITCHES (NOT SHOWN) TO BE ADDED ALONG THE TOP OF SLOPES AS NECESSARY TO KEEP SURFACE RUNOFF FROM ADJACENT AREAS FROM ENTERING INTO THE DESIGNATED OPEN WATER AREAS.
4. BOTTOM MINING ELEVATIONS ARE ±10' DEPENDING ON ACTUAL BOTTOM OF GRAVEL DEPTHS.

30 15 0 30 60
SCALE 1" = 30'HOR.
SCALE 1" = 30'VERT.

DESIGNED BY NC	NO.	DATE	REVISIONS	BY	APPD.
DRAWN BY NC					
CHECKED BY SG					
SCALE AS SHOWN					

TEICHERT AGGREGATES

CUNNINGHAM ENGINEERING

CECWEST.COM

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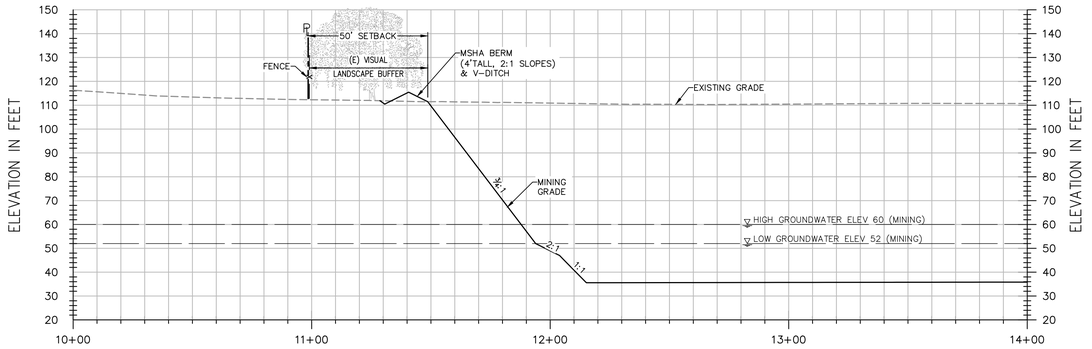
SHIFLER MINING PLAN
(MOORE CANAL AVOIDANCE)
CROSS SECTION F-F

YOLO COUNTY CALIFORNIA

SHEET M-08 OF 9

DATE: 6/8/21

JOB NO: 1129.20



SECTION G-G

H: 1"=30'
V: 1"=30'

NOTES:

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30 15 0 30 60
SCALE 1" = 30'HOR.
SCALE 1" = 30'VERT.

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SHIFLER MINING PLAN
(MOORE CANAL AVOIDANCE)
CROSS SECTION G-G

YOLO COUNTY CALIFORNIA

SHEET M-09 OF 9

DATE: 6/8/21

JOB NO: 1129.20

S:\Projects\1100\1129 Teichert Woodland\AutoCAD\1129-20 SHF Mining and Reclamation Plan\SHEETS\ALT A\1129-20-MIN-M09-XSEC_G-ALT A.dwg - XSEC_G 6/08/2021 - 2:09PM Plotted by: Niki

CONCEPTUAL OFF-CHANNEL RECLAMATION PLAN
FOR
SHIFLER PROPERTY

YOLO COUNTY, CALIFORNIA
JUNE 2021

GENERAL NOTES:

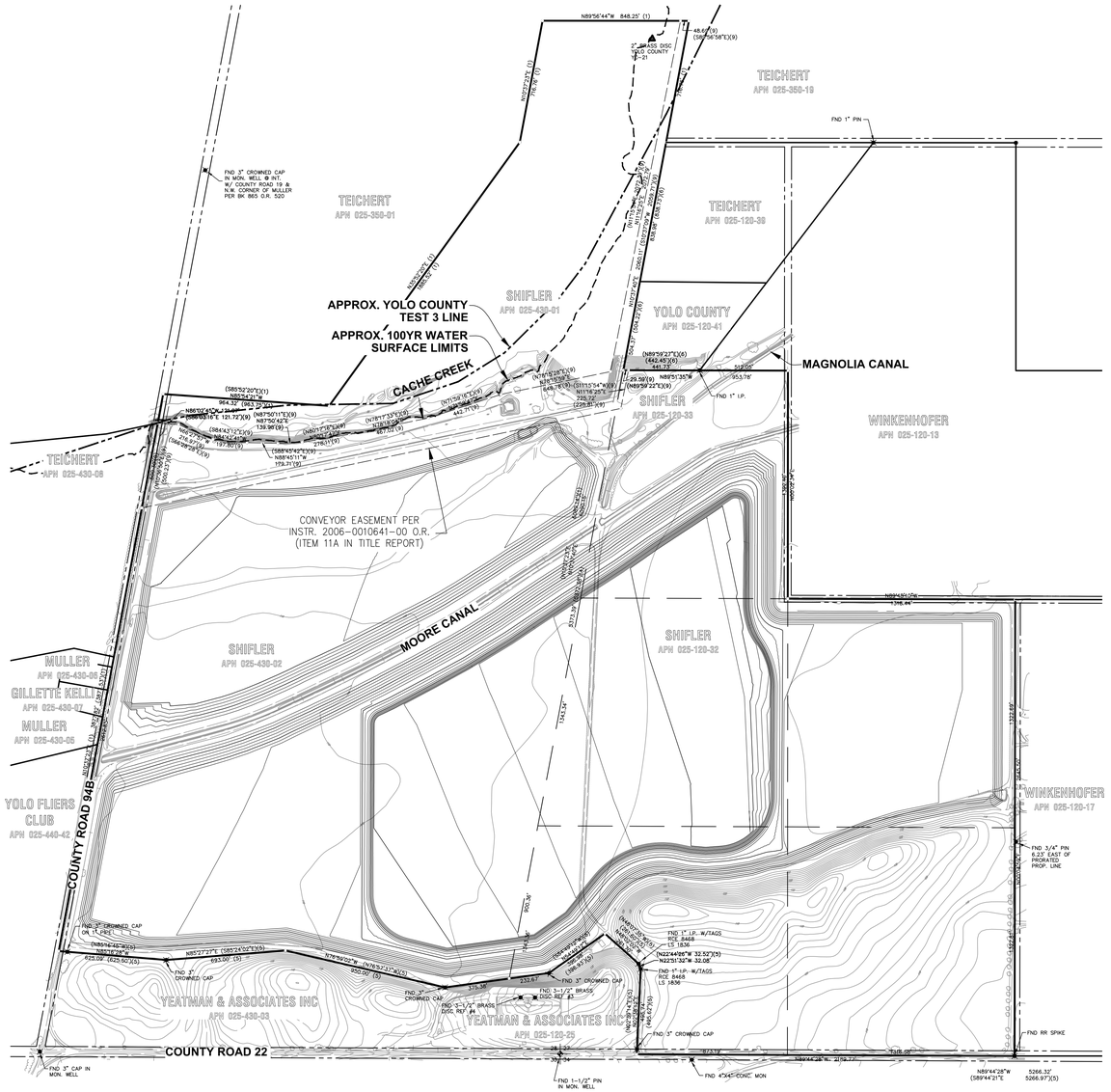
1. ALL WORK SHALL CONFORM TO THE YOLO COUNTY SURFACE MINING RECLAMATION ORDINANCE (ORD. #1191), THE PROJECT SPECIFIC CONDITIONS OF APPROVAL, THE PROJECT STORM WATER POLLUTION PREVENTION PLAN (SWPPP), THE SURFACE MINING AND RECLAMATION ACT (SMARA), OSHA, MSHA, AND OTHER APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.
2. EXISTING TOPOGRAPHY BASED ON AERIAL TOPOGRAPHY FLOWN IN APRIL 2010 BY POINT CO. PHOTOGRAMMETRIC SERVICES; VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING MINING.
3. ANY WORK THAT NEEDS TO BE PERFORMED WITHIN PG&E'S OR ANY OTHER UTILITY COMPANY'S EASEMENT WILL REQUIRE A CONSENT AGREEMENT FROM THE APPROPRIATE UTILITY COMPANY. USE CAUTION WHEN OPERATING ANY VEHICLES OR EQUIPMENT NEAR OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES. COMPLY WITH ALL CONDITIONS LISTED IN THE CONSENT AGREEMENT.
4. THE DEPTH OF MINING AND THE LIMIT-OF-MINING LINES ARE ONLY APPROXIMATE, AND ARE SUBJECT TO CHANGE BASED ON THE AMOUNT AND QUALITY OF MATERIAL UNCOVERED, AND THE ABILITY OF THE PRODUCER TO MEET THE RECLAMATION REQUIREMENTS. THE FORESEEABLE ESTIMATE OF VARIATION IS +/- 10' IN MINING DEPTH; AND +/- 20% OF AREA FOR EACH TYPE OF RECLAMATION.
5. HIGH AND LOW AVERAGE GROUNDWATER ELEVATIONS BASED ON "GROUNDWATER CONDITIONS IN THE VICINITY OF PLANNED WETPIT MINING OPERATIONS, SHIFFLER PROPERTY" AND "CONTOURS OF PREDICTED GROUNDWATER ELEVATION, AVERAGE FALL LOW, POST-RECLAMATION",, BY LUHDORFF & SCALMANINI CONSULTING ENGINEERS DATED DECEMBER 22, 2015, UPDATED FEBRUARY 2016.
6. IF HUMAN SKELETAL REMAINS ARE ENCOUNTERED DURING EXCAVATION, ALL WORK WITHIN SEVENTY-FIVE (75) FEET SHALL IMMEDIATELY STOP, AND THE COUNTY CORONER SHALL BE NOTIFIED WITHIN TWENTY-FOUR (24) HOURS. IF ANY CULTURAL RESOURCES, SUCH AS CHIPPED OR GROUND STONE, HISTORIC DEBRIS, BUILDING FOUNDATIONS, OR PALEONTOLOGICAL MATERIALS ARE ENCOUNTERED DURING EXCAVATION, THEN ALL WORK WITHIN SEVENTY-FIVE (75) FEET SHALL IMMEDIATELY STOP AND THE DIRECTOR SHALL BE NOTIFIED AT ONCE. ANY CULTURAL RESOURCES FOUND ON THE SITE SHALL BE RECORDED BY A QUALIFIED ARCHAEOLOGIST AND THE INFORMATION SHALL BE SUBMITTED TO THE COUNTY.
7. DURING OPERATIONS, THE SITE SHALL BE KEPT FREE OF DEBRIS AND MAINTAINED IN A NEAT AND ORDERLY MANNER SO AS NOT TO CREATE ANY HAZARDOUS OR UNSIGHTLY CONDITIONS. OVERBURDEN SHALL BE STOCKPILED AND STUMPS, BRUSH, OR OTHER DEBRIS RESULTING FROM EXCAVATION AND/OR PROCESSING SHALL BE PROPERLY DISPOSED.
8. UNNECESSARY PERSONNEL SHALL BE EXCLUDED FROM OFF-CHANNEL EXCAVATIONS. OPEN PITS SHALL BE FENCED WITH A FOUR STRAND BARBED WIRE FENCE OR THE EQUIVALENT, PRIOR TO THE COMMENCEMENT OF EXCAVATION. FENCING MAY ENCLOSE THE PROPERTY OF WHICH THE MINING SITE IS A PART, THE MINING SITE, OR BOTH. IN ADDITION, SIGNS SHALL BE INSTALLED AT THE PROJECT SITE BOUNDARIES AND ACCESS ROAD, INDICATING THAT THE EXCAVATION AREA IS A DANGER ZONE.

ABBREVIATIONS:

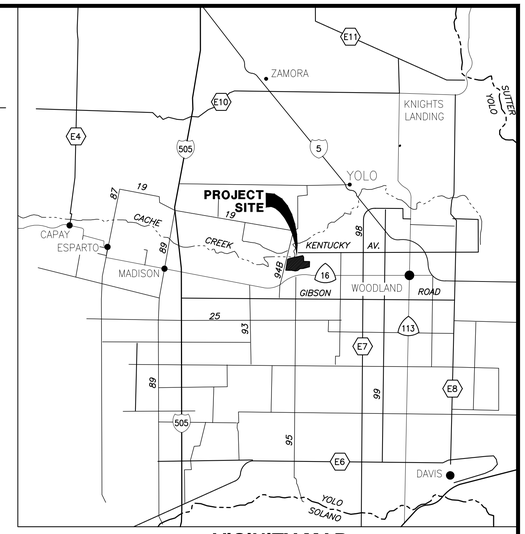
AC	ACRES	IRR	IRRIGATION
AG	AGRICULTURAL	MSHA	MINE SAFETY AND HEALTH ADMINISTRATION
AGG	AGGREGATE	MW	MONITOR WELL
AMSL	ABOVE MEAN SEA LEVEL	N	NORTH
APN	ASSESSOR'S PARCEL NUMBER	N.I.C.	NOT IN CONTRACT
AVG	AVERAGE	OG	ORIGINAL GROUND ELEVATION
CFR	CODE OF FEDERAL REGULATIONS	OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
CL	CENTER LINE	PL	PROPERTY LINE
CY	CUBIC YARDS	R	RADIUS
E	EAST	R/W	RIGHT-OF-WAY
ELEV	ELEVATION	RECL.	RECLAMATION
FG	FINISH GRADE	S	SLOPE
FL	FLOW LINE	S&G	SAND AND GRAVEL
FT	FEET	TYP	TYPICAL
GB	GRADE BREAK	V	VERTICAL
GW	GROUND WATER	W	WEST
H	HORIZONTAL	YR	YEAR

LEGEND:

- FOUND MONUMENTS AS SHOWN
- POWER POLE
- EXISTING EDGE OF ROAD
- WATER
- EXISTING GROUND CONTOUR (100)
- PROPOSED CONTOUR (90)
- CROSS SECTION NUMBER AND SHEET LOCATION (A / C-03 — A / C-03)
- APPROXIMATE YOLO COUNTY TEST 3 LINE
- APPROXIMATE 100YR WATER SURFACE LIMITS
- TOP OF SLOPE
- BOTTOM OF SLOPE
- EXISTING ELEV. (195.0)
- PROPOSED ELEV. (30.0)
- HORIZONTAL TO VERTICAL SLOPE (2:1)
- WATER SURFACE
- PROPERTY BOUNDARY
- RIGHT-OF-WAY
- EASEMENT
- RECLAMATION HABITAT BOUNDARY
- FENCE (x — x — x — x — x)



KEY MAP
1"=400'



VICINITY MAP
NOT TO SCALE

SHEET INDEX:

R-01 TITLE SHEET
R-02 SITE PLAN
R-03 CROSS SECTION A-A
R-04 CROSS SECTION B-B
R-05 CROSS SECTION C-C
R-06 CROSS SECTION D-D
R-07 CROSS SECTION E-E
R-08 CROSS SECTION F-F
R-09 CROSS SECTION G-G

BENCHMARK:

EXISTING TOPOGRAPHY BASED ON AERIAL TOPOGRAPHY FLOWN IN APRIL 2010 BY POINT CO. PHOTOGRAMMETRIC SERVICES. AERIAL TARGETS SURVEYED BY LAUGENOUR AND MEIKLE, WOODLAND.
HORIZONTAL DATUM: CA NAD83 ZONE 2
VERTICAL DATUM: NAVD 88

ASSESSORS PARCEL NO:

025-120-32
025-120-33
025-430-02
025-430-01

PROPERTY OWNER:

SHIFLER LJ FAMILY TRUST INC.
35030 COUNTY ROAD 20
WOODLAND, CA 95851

APPLICANT:

TEICHERT AGGREGATES
P.O. BOX 15002
SACRAMENTO, CA 95851
(916) 484-3319

CIVIL ENGINEER:

CUNNINGHAM ENGINEERING
2940 SPAFFORD STREET, SUITE 200
DAVIS, CALIFORNIA 95618
(530) 758-2026

DRAWING STATUS:

- ● PLAN REVIEW SET – NOT FOR CONSTRUCTION
- ○ PERMIT SET

DESIGNED BY NC
DRAWN BY NC
CHECKED BY SG
SCALE AS SHOWN

NO.	DATE	REVISIONS	BY	APPD.

TEICHERT AGGREGATES

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■ Sacramento Office: 220 20th Street, Suite Three, Sacramento, CA 95816, (916) 455-2026
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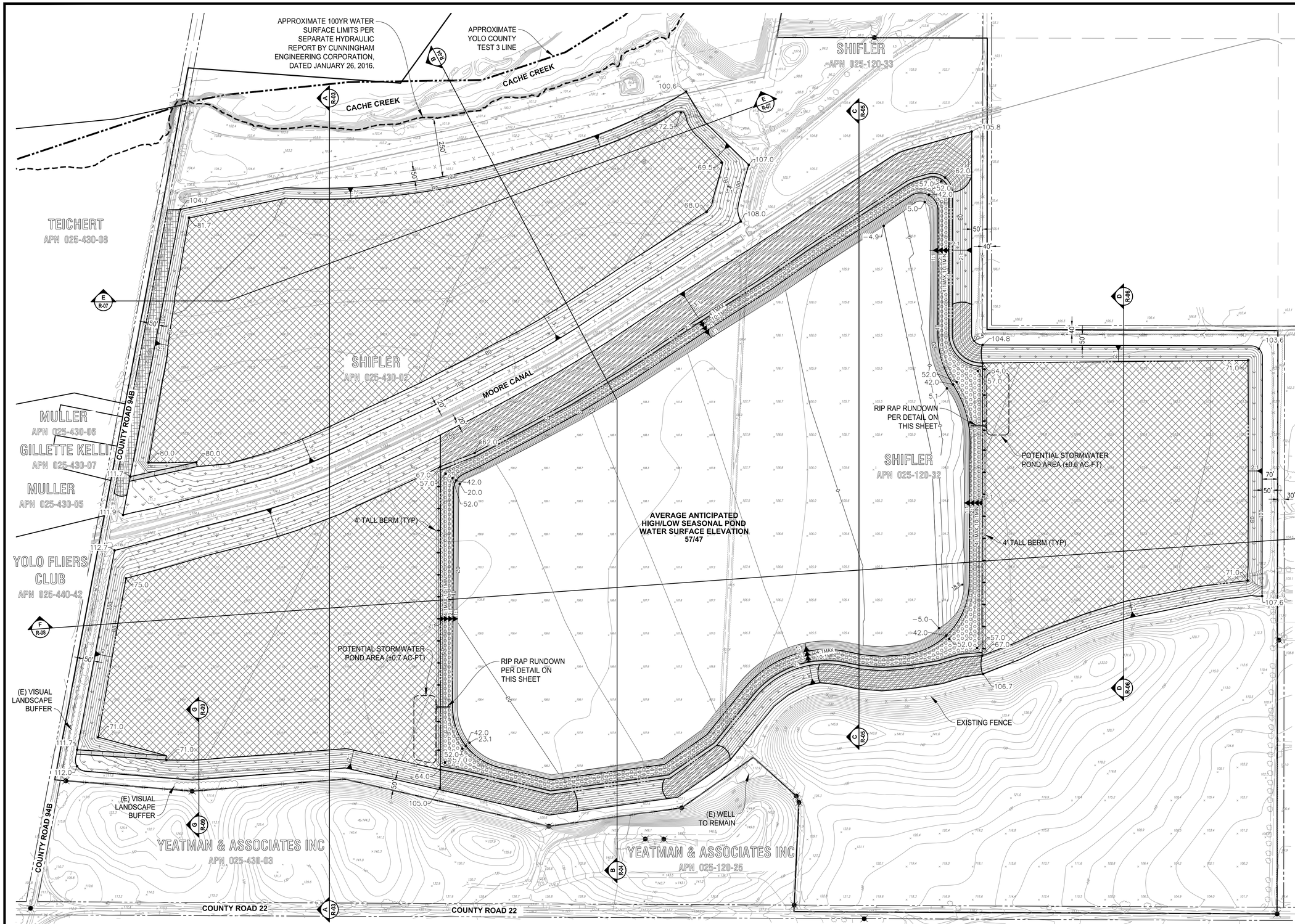
SHIFLER RECLAMATION PLAN
(MOORE CANAL AVOIDANCE)
TITLE SHEET
YOLO COUNTY CALIFORNIA

SHEET R-01 OF 9
DATE: 6/8/21
JOB NO: 1129.20

C:\Projects\1100\129 Teichert Reclamation\Acad\2021\29-20 SW Mining and Reclamation Plan\SHEETS\ALT A\1129-20-REC-R01-TITLE-ALT A.dwg, TITL, 6/8/2021 2:20PM, Plotted by: Nic



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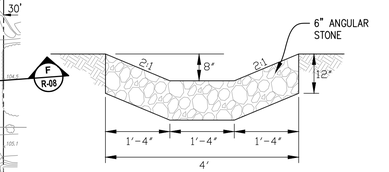
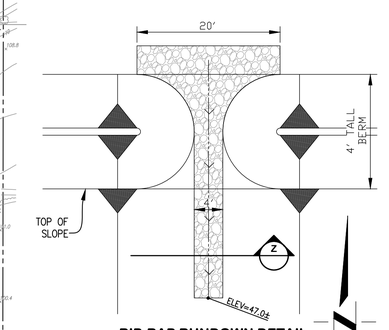
3. BOTTOM MINING ELEVATIONS ARE ±10' DEPENDING ON ACTUAL BOTTOM OF GRAVEL DEPTHS.
4. PROPOSED CONTOURS SHOWN AT 5' INTERVAL.
5. FOR DETAILS, SEE ACCOMPANYING RECLAMATION PLAN PREPARED BY TEICHERT AGGREGATES (AUGUST 2015).
6. WELLS TO BE ABANDONED, IF ANY, SHALL BE ABANDONED PER YOLO COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH STANDARDS.
7. AGRICULTURE ZONES TO HAVE MINIMUM OF 5' OF TOPSOIL AND SHALL BE A MINIMUM OF 5' ABOVE THE AVERAGE HIGH GROUNDWATER LEVEL.

HABITAT ZONES:

- SEASONAL POND (90.9 AC)
- AGRICULTURE (113.2 AC)
- UPPER RIPARIAN WOODLAND (13.3 AC)
- LOWER RIPARIAN WOODLAND/WETLAND (11.4 AC)
- GRASSLAND SLOPES (32.8 AC)
- NATIVE LANDSCAPE (1.8 AC)
- ACCESS ROAD (2.5 AC)



SECTION Z
NTS



RIP-RAP RUNDOWN DETAIL
NTS

200 100 0 200 400
SCALE 1" = 200'

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CHECKED BY SG					
SCALE AS SHOWN					

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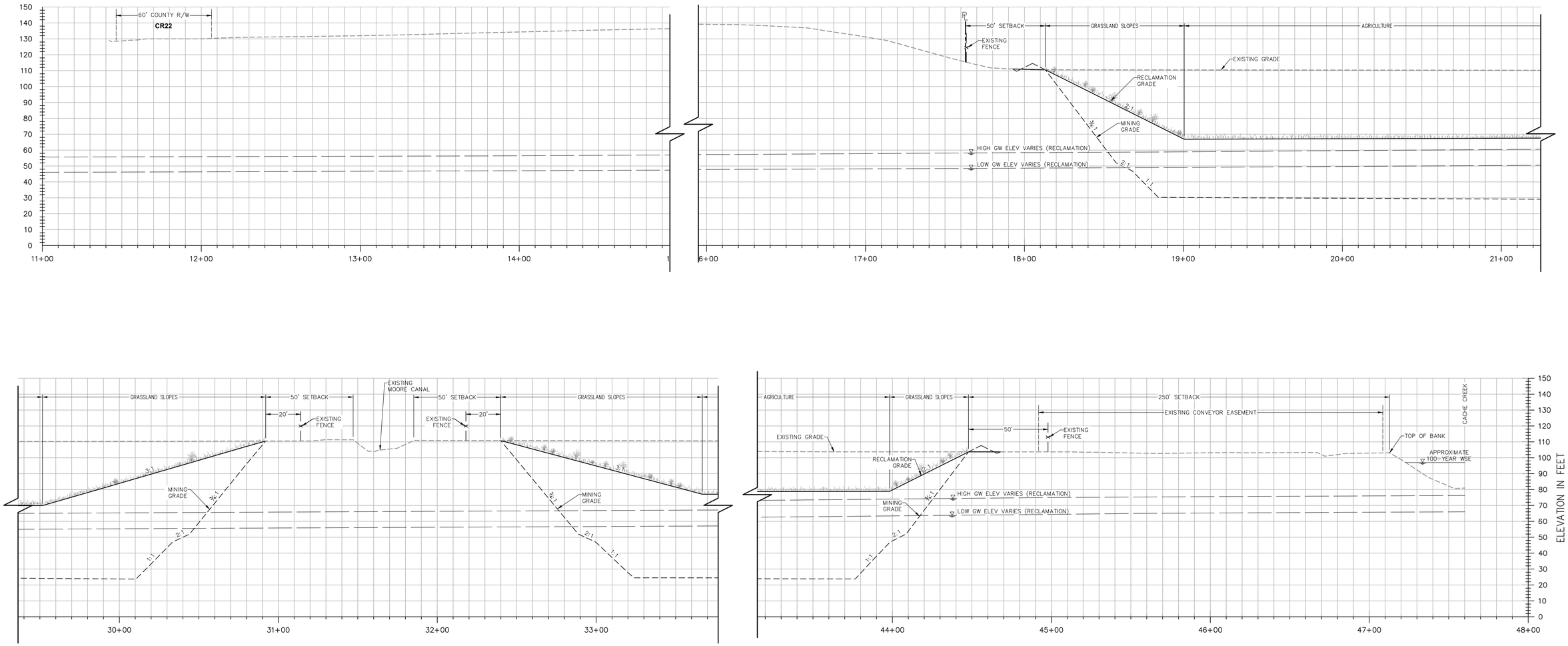
SHIFLER RECLAMATION PLAN
(MOORE CANAL AVOIDANCE)
SITE PLAN

YOLO COUNTY CALIFORNIA

SHEET R-02 OF 9

DATE: 6/8/21

JOB NO: 1129.20



SECTION A-A

H: 1"=30'
V: 1"=30'

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5. AGRICULTURAL ZONES TO HAVE MINIMUM OF 5' OF TOPSOIL AND SHALL BE A MINIMUM OF 5' ABOVE THE AVERAGE HIGH GROUNDWATER LEVEL.

30 15 0 30 60
SCALE 1" = 30'HOR.
SCALE 1" = 30'VERT.

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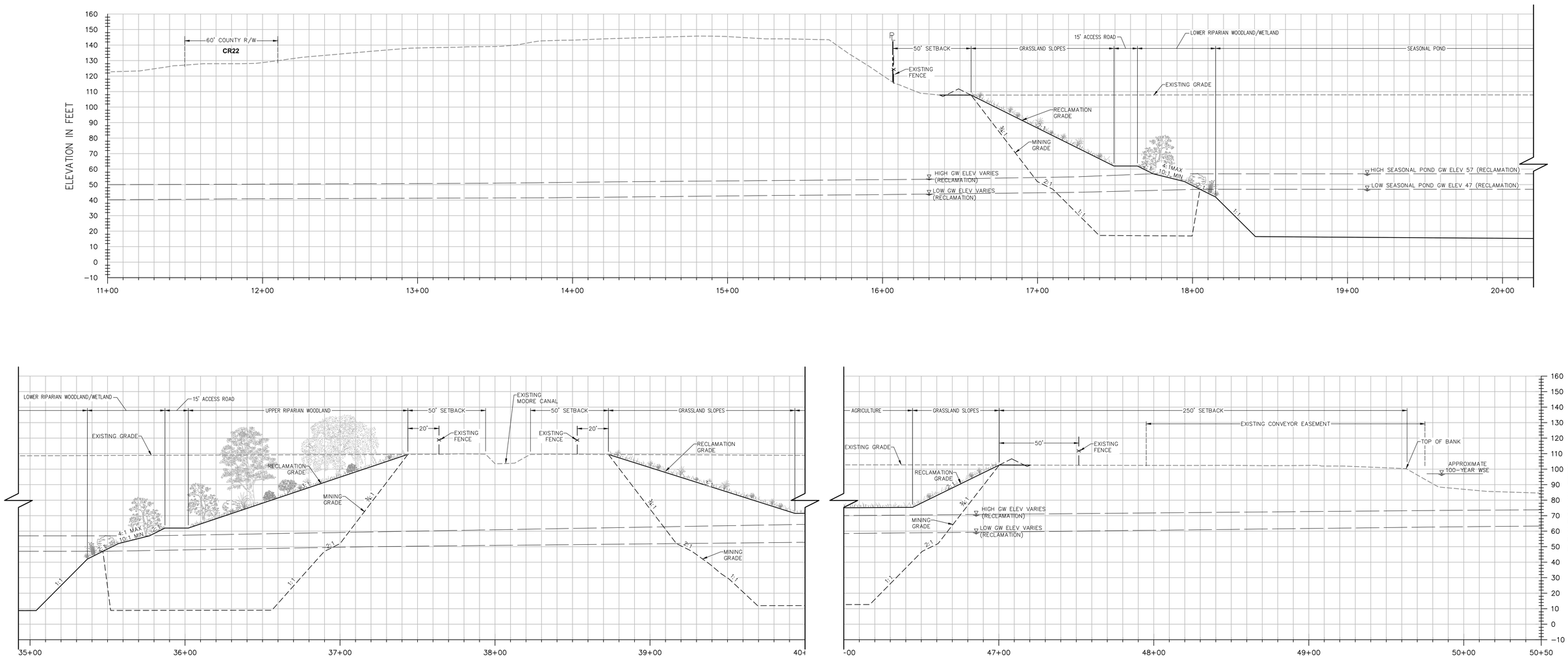
SHIFLER RECLAMATION PLAN
(MOORE CANAL AVOIDANCE)
CROSS SECTION C-C

YOLO COUNTY CALIFORNIA

SHEET R-03 OF 9

DATE: 6/8/21

JOB NO: 1129.20



SECTION B-B

H: 1"=30'
V: 1"=30'

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30 15 0 30 60
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SCALE 1" = 30'VERT.

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SHIFLER RECLAMATION PLAN
(MOORE CANAL AVOIDANCE)
CROSS SECTION B-B

YOLO COUNTY CALIFORNIA

SHEET R-04 OF 9

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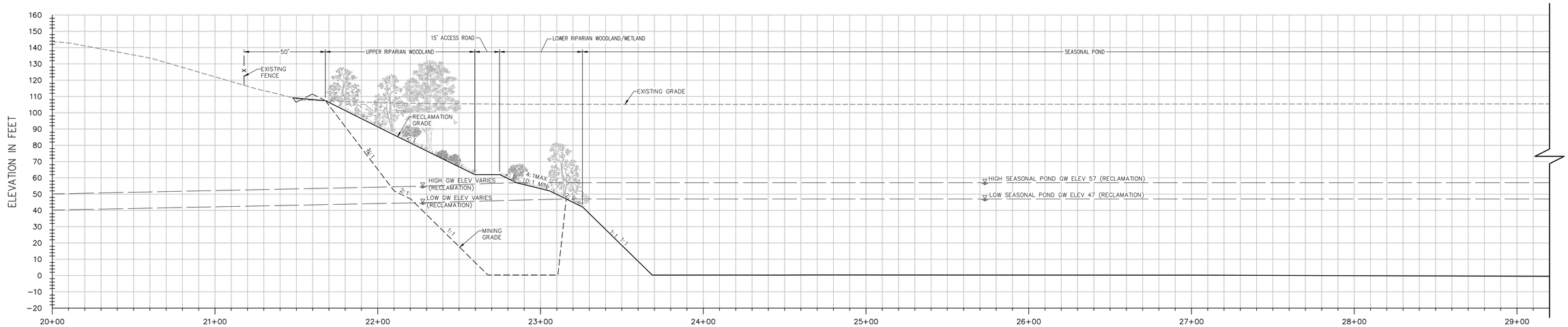
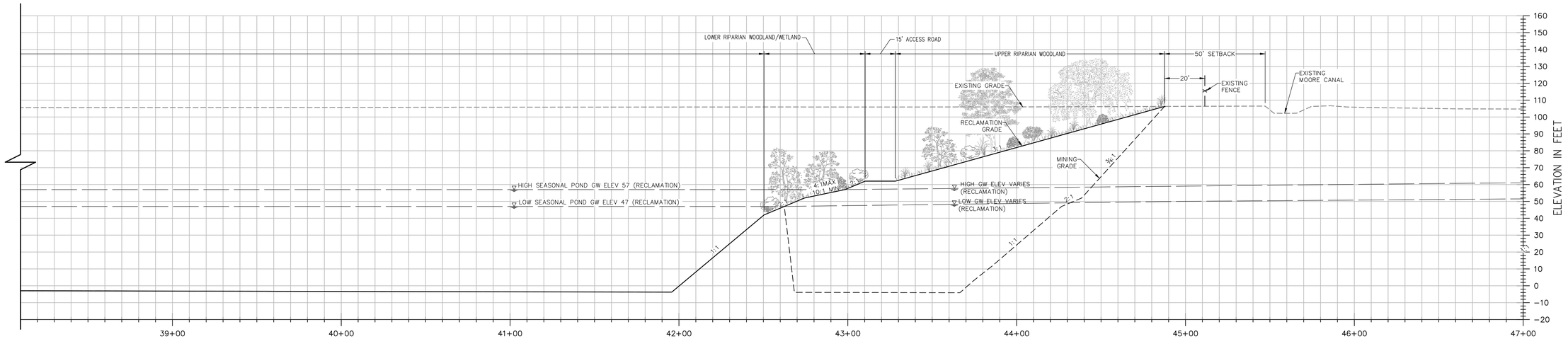
JOB NO: 1129.20





SECTION C-C

H: 1"=30'
V: 1"=30'

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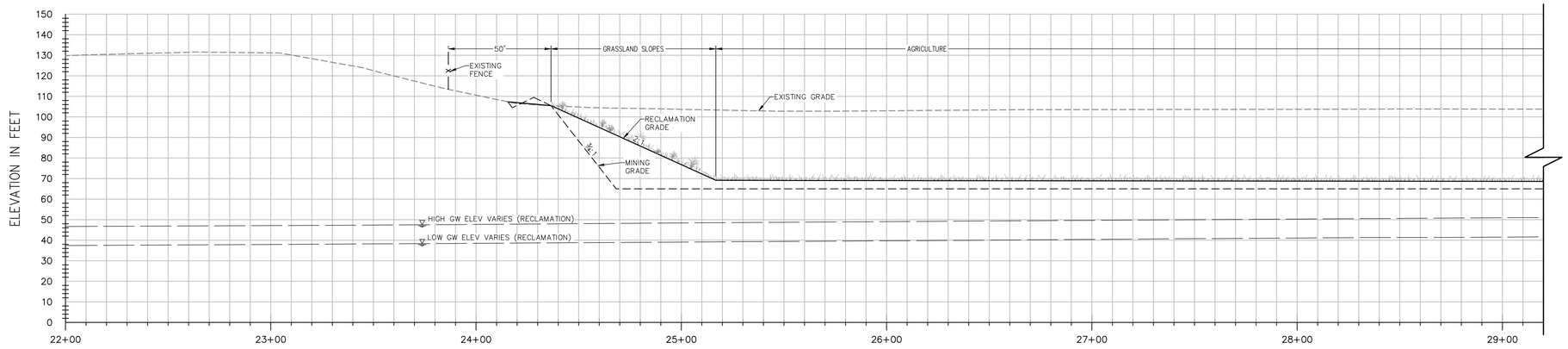
SHIFLER RECLAMATION PLAN
(MOORE CANAL AVOIDANCE)
CROSS SECTION C-C

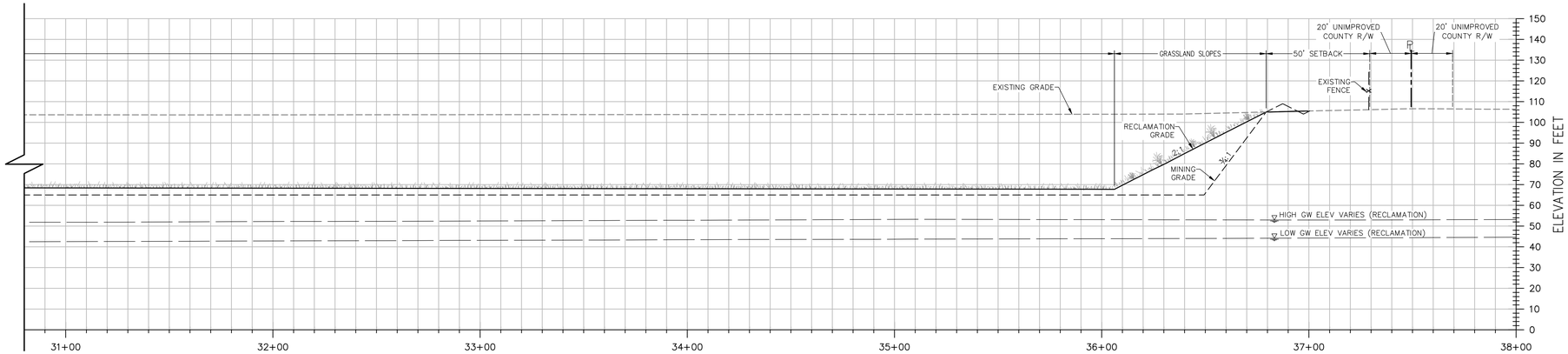
YOLO COUNTY CALIFORNIA

SHEET R-05 OF 9

DATE: 6/8/21

JOB NO: 1129.20





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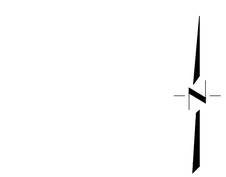

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SHIFLER RECLAMATION PLAN
(MOORE CANAL AVOIDANCE)
CROSS SECTION D-D

YOLO COUNTY CALIFORNIA

SHEET R-06 OF 9

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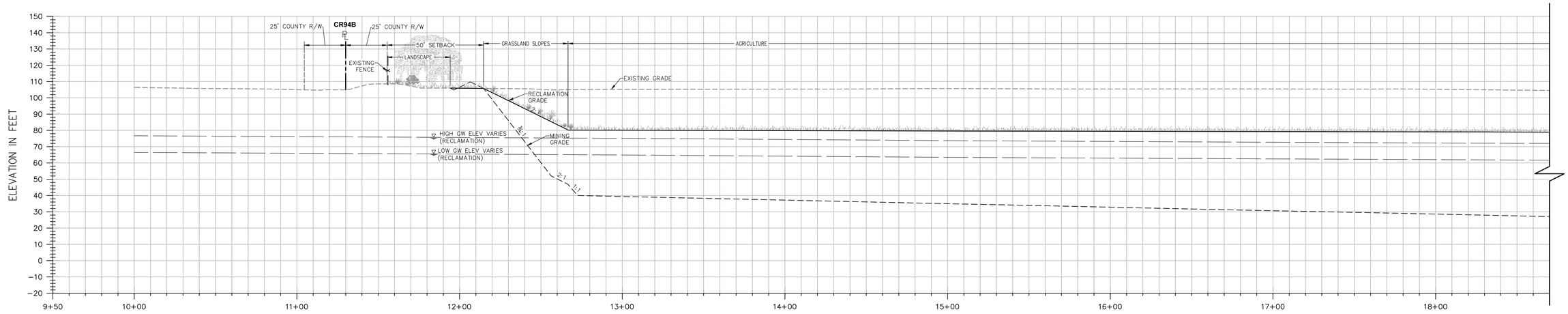

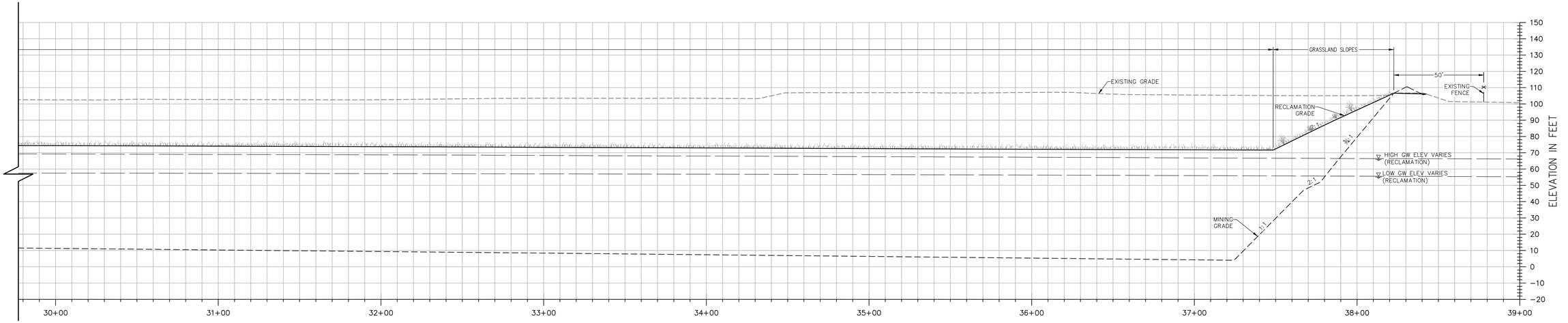

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SHIFLER RECLAMATION PLAN
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CROSS SECTION E-E

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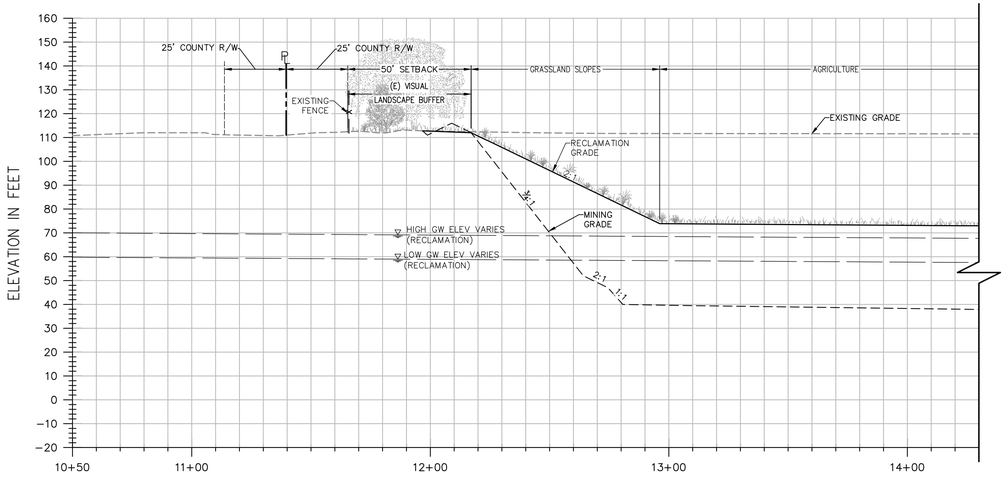

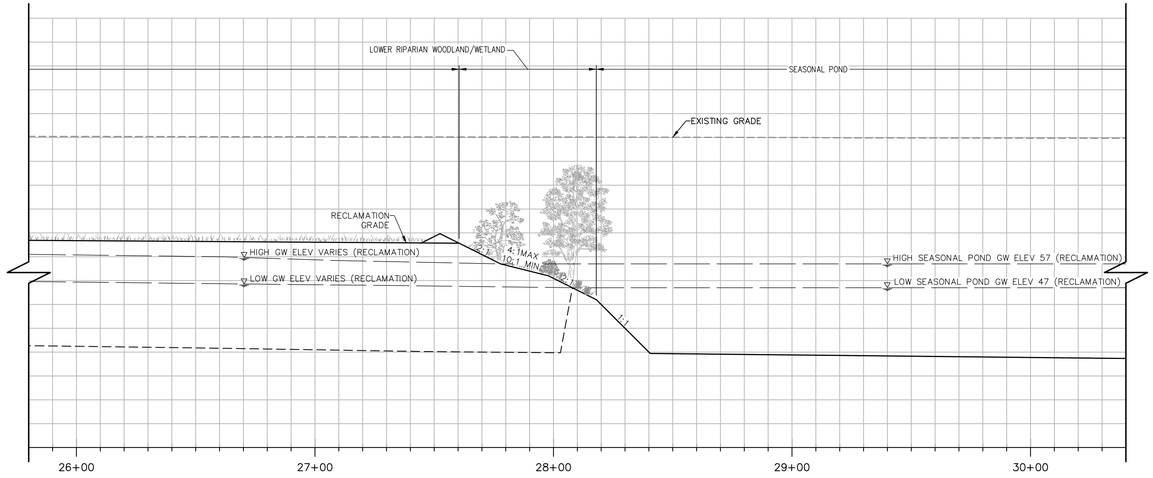

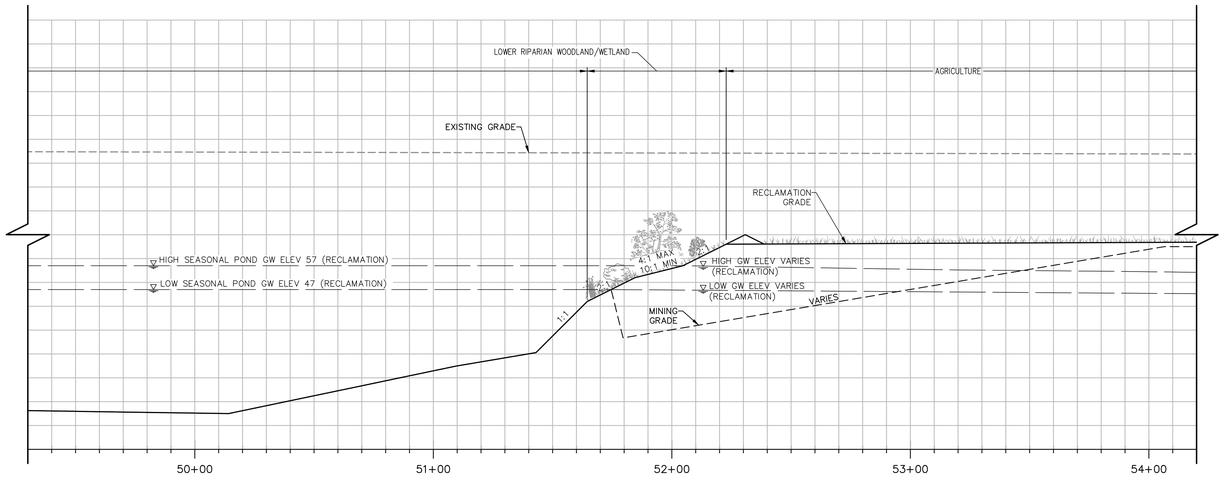

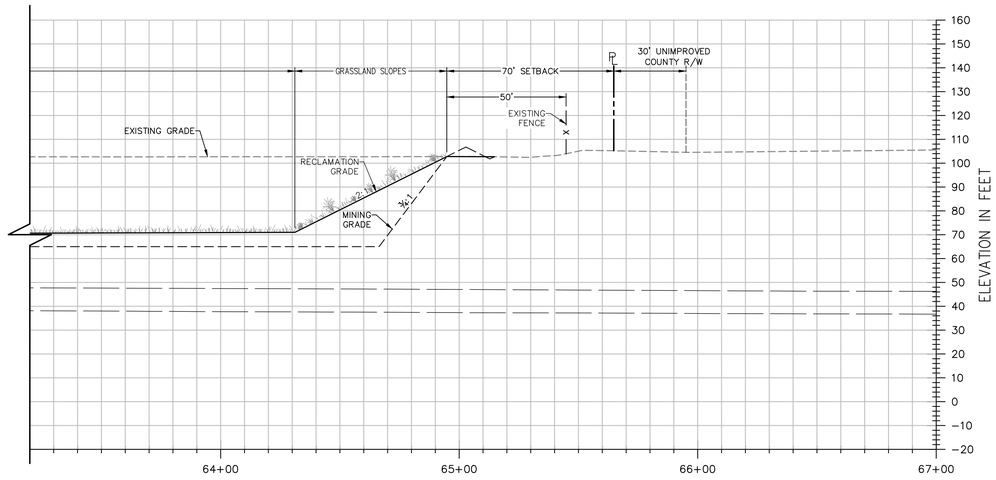

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SHIFLER RECLAMATION PLAN
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YOLO COUNTY CALIFORNIA

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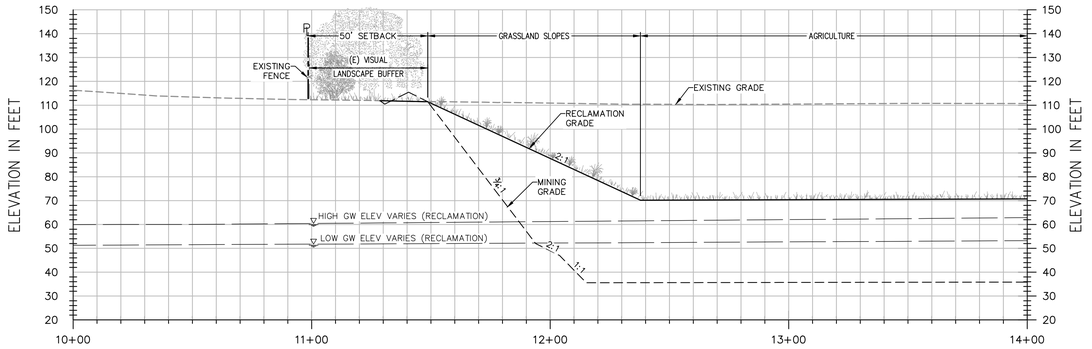

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SHIFLER

Mining and Reclamation Plan

Yolo County, California

Prepared For:

County of Yolo
Planning and Public Works Department
292 West Beamer Street
Woodland, CA 95695-2598

Prepared By:

Teichert Materials
Contact: Barry Baba
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Date:

June 2018
Revised June 2021

TEICHERT

3500 American River Drive, Sacramento, CA 95864 (916) 484-3011 tel (916) 484-7012 fax www.teichert.com

Shifler
Mining and Reclamation Plan
Yolo County, California

SUMMARY

Teichert Materials (Teichert) proposes to mine a portion of the Shifler Property for sand and gravel resources in order to continue supplying aggregate materials to the existing Teichert Woodland Plant processing facility ('Project'). The Shifler Property, located southwest of the Woodland Plant in Yolo County, is privately-owned and farmed for row and field crops, such as tomatoes, safflower, and wheat. In order to return the land to beneficial use, a reclamation plan has been prepared for the proposed mining project. This document presents Teichert's Reclamation Plan (Plan) for the Shifler Property, prepared pursuant to the State Surface Mining and Reclamation Act (SMARA) of 1975 and associated regulations (updated January 2012) and the Yolo County Cache Creek Area Plan (CCAP), which includes the Off-Channel Surface Mining Ordinance (OCSMO), Title 10 (Chapters 5 and 8) of the County Code Surface Mining Reclamation Ordinance (SMRO) and Agricultural Surface Mining and Reclamation Ordinance (ASMRO), and the Yolo County Off-Channel Mining Plan (OCMP). SMARA policies were prepared in accordance with the Administrative Procedures Act, (Government Code) and are found in California Code of Regulations (CCR), Title 14, Division 2, Chapter 8, Subchapter 1. This document consists of text and graphic descriptions of the mine plan and procedures necessary for the final reclamation of the Shifler Property, which is expected to be in operation for 30-50 years following the commencement of mining.

In preparation of this document, information was collected from onsite field surveys, visits to nearby reclamation areas, and from Teichert's previous reclamation projects. The Reclamation Plan embraces the Legislative intent that mined land is returned to a valid, quantifiable, and desirable post-mining use. Reclamation of the Shifler Property will include the restoration of approximately 113 acres of agriculture. The remainder of the site will be reclaimed to a combination of open space and wildlife habitat. The primary goal of the reclamation effort is to restore the agricultural use of the land, as well as provide quality wildlife habitat in proximity to the Cache Creek corridor.

This Reclamation Plan has been divided into nine general sections by discipline:

1) Mine Operation and Closure
2) End Land Use
3) Geotechnical Requirements
4) Hydrology and Water Quality
5) Environmental Setting and Protection of Fish and Wildlife Habitat

6) Revegetation, Resoiling and General Reclamation Requirements

7) Agricultural Soils Evaluation and Reclamation Plan

8) Open Space Habitat Revegetation and Establishment

9) Open Space Habitat Monitoring and Performance Standards

10) Administrative Requirements

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Yolo County, California

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1 MINE OPERATION AND CLOSURE

Aggregate material (sand and gravel) mined at the Shifler Project Site ('Project Site') will be processed at Teichert's existing Woodland Plant, located adjacent to and north/northeast of the Project Site (Figure 1). The Woodland Plant is currently regulated by conditional use permit (CUP ZF #2011-0035) and development agreement (DA #12-152) for the nearby Schwarzgruber Property. These entitlements require that the Woodland Plant cease operation upon expiration of permits on 01 January 2028, unless additional mining sites, such as the Project Site, are permitted to continue supplying the Woodland Plant. The Project includes a request for a mining permit, reclamation plan, and development agreement for the Project Site. If the Project were approved, the Woodland Plant would then be regulated by the terms of the mining permit requested for the Project Site once mining on the Schwarzgruber site has been completed.

The mining process proposed for the Project will be the same as currently employed by Teichert at the Schwarzgruber mining site. Teichert proposes to mine/disturb approximately 264.1 acres of the 319.3-acre Project Site (Figure 2). Mining will begin at the northwestern portion of the site and proceed eastward, in two proposed phases. Mining requires overburden (i.e., materials overlying sand and gravel) to be removed using scrapers, motor graders and bull dozers. Salvaged soils will be progressively removed ahead of mining and stockpiled in setback areas, berms, and internal storage locations until retrieved for reclamation. Aggregate located above the groundwater level will be harvested by scrapers and dozers, while that mined below the water table will be extracted by a combination of equipment such as excavators and draglines. An electric-powered conveyor will be used to transport mined aggregate from the Project Site to the Woodland Plant. Mining and processing details of the Project are provided in the mine plan drawings prepared by Cunningham Engineering (2021). Additional details of the mine preparation, operation, and final reclamation are presented in subsequent sections of this document.

1.1 Name and Address of Operator – *SMARA 2772(c)(1)*

Operator Name:	A. Teichert & Son, Inc. (Teichert Materials)
Operator Physical Address:	Woodland Plant 35030 County Road 20 Woodland, CA 95695
Operator Mailing Address:	3500 American River Drive Sacramento, CA 95864

1.2 Type and Quantity of Materials to be Mined – *SMARA 2772(c)(2)*

Approximately 20 million cubic yards of Portland Cement Concrete (PCC) grade aggregate (sand and gravel) material will be removed from the site.

1.3 Initiation and Termination Dates – *SMARA 2772(c)(3)*

Mining is anticipated to commence as early as October 2021 and will continue for up to 30 years from the commencement of mining. The Shifler Mining Project will have an estimated termination date of 31 December 2051, depending on actual start date and market conditions.

1.4 Maximum Anticipated Depth of Mining – *SMARA 2772(c)(4)*

The maximum anticipated depth of mining is approximately 110 feet below existing grade, in the north-central section of the site. Final elevations are anticipated to range from approximately 5 feet below mean sea level (MSL) at the reclaimed pond bottom, to 80 feet above MSL in the northwestern portion of the reclaimed agricultural fields.

1.5 Project Site Description – *SMARA 2772(c)(5)*

The Project is located approximately 3 miles west of the City of Woodland, in unincorporated Yolo County and consists of seven parcels, four of which are owned by the Shifler Family Trust (Assessor Parcel Numbers [APNs] 025-120-032, 025-120-033, 025-430-001, and 025-430-002) and three that are owned by the Yolo County Flood Control and Water Conservation District (YCFCWCD) (APNs 025-430-009, 025-120-010, and 025-120-011) totaling approximately 319 acres (Figure 2). The Project is located within a portion of Sections 27 and 28, Township 10 North, and Range 1 East (MDBM) of the "Woodland, California" 7.5-minute quadrangle. Current surface elevations on the Project Site range from approximately 98 to 112 feet above mean sea level (MSL).

The vast majority of the site is in agricultural production and is classified as prime agricultural land. A concrete-lined canal (Moore Canal) traverses the Project Site from west to east, and an unlined canal (Magnolia Canal) conveys water northeast from the Moore Canal (Figure 2). Both canals are owned and operated by the Yolo County Flood Control and Water Conservation District (YCFCWCD).The Project Site is generally bounded by County Road 94B to the west, Cache Creek to the north, and County Road 22 to the south.

Surrounding land uses include Teichert's Woodland Plant site to the northeast; agricultural land to the east; the Monument Hill Memorial Park cemetery and rural residential uses to the south; the Yolo Fliers Club golf course, Watts-Woodland Airport, and Monument Hills community to the southwest; and Teichert's existing Storz mining site and the Cache Creek Nature Preserve to the northwest. Access to the site is available from paved County Road 94B.

1.6 Mine Plan and Phasing – *SMARA 2772(c)(6); SMRO §10-5.522; ASMRO §10-8.422*

A timetable of 30 years is proposed to complete mining in two phases (Figure 3). The phasing plan has been structured to minimize the area of disturbed agricultural lands during each mining phase, and to encourage the timely completion of the reclamation of agricultural land.

1.7 Public Health and Safety – CCR 3502(b)(2), CCR 3713(b); ASMRO §10-8.427

All equipment associated with mining of aggregate material at the Shifler Project Site will be stored in a designated area, and then removed from the Site upon completion of all mining and reclamation activities. During operations, the site shall be kept free of debris and maintained in a neat and orderly manner so as not to create any hazardous or unsightly conditions.

At the completion of operations, appropriate measures will be taken to return the Site to a safe condition that is free of all material and equipment associated with aggregate mining. Applicable portals, shafts, tunnels, or openings will be gated or protected from public entry, but in such a way as to preserve access for wildlife. Drill holes and water wells will be completed or abandoned in accordance with laws. Structures and equipment will be dismantled and removed, and any waste produced through mining activities will be disposed of off-site according to all state and local health and safety ordinances.

1.7.1 Fencing – *SMRO §10-5.510*

Fencing may enclose the property of which mining is a part, the mining site, or both. In addition, signs shall be installed along fence lines and access roads, indicating that the excavation area is restricted. Additional security (e.g. gates with protected locks and wing fences to prevent drive-arounds) shall be provided at all vehicular routes. All fencing and gates shall be maintained throughout the mining and reclamation period.

2 END LAND USE – SMARA 2772(C)(7), SMARA 2772(C)(8)

The proposed end use for the Shifler Project Site is agriculture (± 113.2 acres) and open space/wildlife habitat (± 148.4 acres) (Figure 4). The reclaimed habitat areas include grassland, pond, upper riparian woodland, and lower riparian woodland communities. Reclamation of the site will occur concurrently with and following the cessation of mining operations.

Reclamation has been separated into three primary phases (Figure 4). Final reclamation will be characterized by one large pond with associated shoreline habitat, bounded to the east and west by two agricultural fields and perimeter grassland slopes. Reclamation may also include permanent access roads as needed for agricultural use of the site. Table 1 below summarizes the quantity and types of reclamation features to be created.

TABLE 1. SHIFLER MINING PROJECT – PROPOSED RECLAMATION FEATURES

Reclamation Feature	Acres
Agriculture	± 113.2
Grassland Slopes	± 32.8
Pond	± 90.9
Lower Riparian Woodland	± 11.4
Upper Riparian Woodland	± 13.3
Access Road	± 2.5
Total Reclaimed	**264.1**

The particular timing for the completion of Project Site preparation and reclamation may vary depending on market conditions, quality of mineable materials and ultimate mining depth, acquisition and coordination with additional mineable areas, and availability of salvaged material and processed fines as backfill.

3 GEOTECHNICAL REQUIREMENTS

3.1 Bank Stabilization Maintenance – *SMRO §10-5.506*

The proposed mining falls within 700 feet of the active channel of Cache Creek.

The condition of flood protection structures and the integrity of the land within the approved setback zone separating the mining areas and the creek channel shall be inspected annually by a Registered Civil Engineer and reported to the Yolo County Community Development Agency (YCCDA). An annual report shall be prepared each year and include any recommendations for remedial action for identified erosion problems. All maintenance of bank stabilization features during the mining and reclamation period will be the responsibility of the mining operator.

3.2 Final Slopes - *CCR 3704(d); CCR 3704(e); SMRO §10-5.530 and §10-5.502; ASMRO §10-8.428*

A slope stability analysis was prepared for the Project in 2021 by Geocon Consultants (Geocon 2021). In order to provide for safety and to conform to surrounding topography, all final reclamation fill slopes will not exceed 2:1 (horizontal [H]: vertical [V]). Those slopes within 50 feet of the Moore Canal will be graded to no steeper than 3:1. Rounded edges and benches will be created in order to mimic natural landforms of the neighboring Cache Creek channel.

3.3 Disposition of Fill Materials - *CCR 3502(b)(4), CCR 3704(b)*

The Project Site contains soils at depths of 5 to 10+ feet, which will be stockpiled for future replacement on slopes and as salvaged soil for agricultural reclamation (Figure 3). Results of laboratory analysis indicate that there was generally no significant differentiation between 'topsoil' and 'subsoil' (upper and lower soil horizons) for the purposes of agricultural reclamation, and therefore may be mixed and stockpiled as one salvageable stockpile (Eco Synthesis 2017). As mining depth increases, some interbedded clays may be present as additional overburden material, which in these instances shall be stockpiled separately and used only in reclamation as a substrate material at least 5 feet below the final reclamation surface.

At the commencement of mining operations, reclamation soils will be first placed within the 50 foot-wide property setbacks surrounding the mine perimeter in the form of Mine Safety and Health Administration (MSHA) and noise buffer berms. These berms will be constructed in accordance with MSHA and County requirements and be seeded to prevent erosion, and will remain in place until all mining is complete. Remaining soils will be placed in one or more stockpile(s), each no greater than 40 feet in height and with side slopes of at least 2:1 (H:V) and seeded to prevent erosion, in accordance with OCSMO §10-4.433. Stockpiled soils will likely shift as mining and reclamation proceed from one area to the next. Thus, soil stockpiles may be placed within the Project boundary during the course of operations in previously-mined areas, the locations of which may change according to field conditions. A map illustrating the locations of all stockpiles to be used for final reclamation shall be prepared prior to

mining and updated as soil stockpiles are relocated. Signs shall also be place at these locations indicating salvaged stockpile soils to be used for final reclamation.

In order to build back to at least 5 feet above the average high groundwater level in proposed agricultural reclamation areas, waste fines generated from the Woodland Plant may be pumped in slurry form onto the pit floor as substrate material. These waste fines may also be used to create peninsulas and other shoreline habitats surrounding the perimeter of the lake. Only suitable soils salvaged from stockpiles will be used as a final layer on top of any fines or overburden used for agricultural, slope, or habitat reclamation.

For a detailed description of soil removal, handling procedures, and placement refer to Sections 6 (Resoiling and General Reclamation Requirements) and 7 (Agricultural Soils Evaluation and Reclamation Plan) of this document.

4 SOILS, HYDROLOGY AND WATER QUALITY

The Natural Resources Conservation Service (NRCS) has mapped 5 soil units on the site (Figure 5). The most predominant soil component is mapped as Yolo Series, a fine silty series of Mollic Xerofluvents (NRCS 2015), which is distributed across approximately 94.5% of the Project Site, and classified as prime farmland by the NRCS if irrigated. After Yolo Silt Loam, Loamy Alluvial Land, which is classified as non-prime farmland, comprises 4.3% of the property. Other soil types, each comprising less than 1% of the property, include Brentwood Silty Clay Loam, 0 to 2 percent slopes; Sehorn-Balcom Complex, 2 to 15 percent slopes; and Sehorn-Balcom Complex, 30 to 50 percent slopes eroded.

Wetland features identified and mapped within the Project Site include two irrigation canals (Eco Synthesis 2019) (Figure 6). The hydrologic regime of the Project Site is dominated by summer (May through October) irrigation and seasonal precipitation (primarily between November and March). Annual average precipitation is 16-20 inches. Summer irrigation is supplied by the Moore Canal, which traverses the site. The amount of water applied to the site during the growing season depends upon the crop: tomatoes and cucumbers, which are planted in the two fields south of the canal and receive supplemental drip irrigation, are supplied approximately 2.0-2.5 acre feet of water; for sunflowers and canola, approximately 1.5 acre feet of water are applied; and for winter wheat, which is typically planted in the field north of the canal, no supplemental irrigation is applied. Much of the agricultural and stormwater surface runoff from the Shifler Property appears to drain into Cache Creek via roadside ditches situated throughout the site.

The northernmost portion of the Project Site is bordered by Cache Creek. All of the proposed mining area would be off-channel and located a minimum of 250 feet from the creek bank. Section 10-4.429(d) of the Yolo County OCSMO requires a minimum setback of 700 feet from the existing channel bank, but allows for that setback to be reduced to a minimum of 200 feet of unexcavated area with a demonstration that such a setback would not adversely affect channel stability. Consistent with this requirement, the project application includes a hydrological analysis that demonstrates that that the proposed 200-foot mining setback meets the required factors of safety and would not adversely affect the stability of the Cache Creek channel (Cunningham 2014).

Moore Canal currently traverses the Shifler property and will be retained and not impacted by the proposed mining area in coordination with the YCFCWCD. Reclaimed mining slopes within 50 feet of the relocated canal will include at least 3:1 (H:V) slopes, as requested by the YCFCWCD.

One groundwater monitoring well (known as the “Stephens” well) exists within the Project boundary, adjacent to County Road 94B near the northwest corner of the proposed mining area. This well exhibits annual groundwater elevation ranges that typically fluctuate between an average fall low of 49.5 feet AMSL to an average spring high of 57.5 AMSL (above mean sea level) (Luhdorff & Scalmanini 2014). During wetter hydrologic periods, spring groundwater levels may reach 67.5 feet AMSL, and during drier hydrologic periods, fall season levels may decline to as low as 42.5 feet AMSL.

4.1 Wet-Pit Mining - *SMRO §10-5.510, §10-5.524, and §10-5.528; ASMRO §10-8.409*

Wet-pit mining is proposed for part of the site where aggregate resources are deepest (Figure 3). Wet pits will not be used for the storage and treatment of sewage, nor for landfill purposes. Fueling and maintenance activities of heavy equipment are prohibited within one-hundred feet of open bodies of water during mining and reclamation.

Open wet pits will be fenced with a minimum 42-inch high, 4-strand barbed wire fence (bottom wire barbless and 18 inches above ground), prior to the commencement of excavation, during excavation, and during reclamation.

Groundwater monitoring will be ongoing throughout the mining and reclamation period. Following the completion of reclamation, groundwater monitoring of wet-pit mining areas will continue for 10 years.

4.2 Site Specific Sediment and Erosion Control - *CCR 3503(e); CCR 3706(c); CCR 3706(e); CCR 3710(a); OCSMO §10-4.413; SMRO §10-5.507 & §10-5.508; ASMRO §10-8.408*

A number of erosion and sedimentation controls will be implemented during the Project's life. A slope stability analysis has been conducted by a Registered Civil Engineer documenting that the proposed mining slopes will exhibit adequate static and seismic factors of safety (Geocon 2021). Inactive soil stockpiles will be vegetated to create an erosion-resistant outer layer. During operating hours, all disturbed soil and unpaved roads shall be adequately watered to keep soil moist. All disturbed but inactive portions of the site shall be either seeded or watered until vegetation is grown or shall be stabilized using jute netting or other soil binders.

Upon the completion of mining operations, grading and revegetation will minimize erosion and convey storm water runoff from reclaimed areas. During reclamation, the land surface will be graded so as to create broad gentle slopes that will allow sufficient drainage to prevent water pockets or undue erosion.

Various grading and revegetation activities associated with reclamation will be carried out to minimize erosion. All erosion and sedimentation will be controlled during all phases of reclamation to minimize siltation of nearby water courses per the Central Valley Regional Water Quality Control Board and the State Water Resources Control Board. To minimize erosion, the finish grading of pit slopes will be performed as soon as practical after the completion of mining activities. The grading of final slopes, the replacement of soil, and associated erosion control measures shall take place prior to November 1. Furthermore, all slopes shall be seeded prior to November 1.

Retention basins will be created to collect surface runoff and protect surrounding land and water resources. Surrounding topography graded gently such that runoff will flow naturally to retention basins and not rely solely on ditches and berms to direct runoff.

4.2.1 Site Specific Erosion Control Monitoring Plan – *SMARA 2773(a)*

Slopes will be observed regularly throughout the reclamation monitoring period. All observed erosion in excess of 6 square inches in cross-section and 6 feet in length will be backfilled with additional soils, reseeded, and mulch applied if necessary. Adjacent roads will also be re-graded as needed to minimize any focal areas of erosion. Long-term erosion control will be achieved through revegetation. Additional soil or supplemental materials (i.e., mulch, straw bales, or fiber blankets) will be applied around plantings if erosion continues in revegetated areas. All erosion control treatments will be monitored by Teichert and corrective measures will be employed throughout the reclamation monitoring period.

5 ENVIRONMENTAL SETTING & PROTECTION OF FISH AND WILDLIFE HABITAT

Details of the plant communities and potential wildlife that are present within the Project Site are described in the *Biological Resources Assessment – Teichert Woodland Shifler Project* (BRA) prepared by Teichert Materials (2018) and *Wetland Delineation for Shifler Property* prepared by Eco Synthesis (2019). The reports assess the potential for occurrence of special-status species and identify jurisdictional waters of the United States. .

5.1 Existing Vegetation Communities – *CCR 3502(b)(1)*

The majority of the Project study area consists of agriculture (row crops). Other habitats at the site include small sections of annual grassland/ruderal vegetation, oak woodland, canals, and other small wetlands.

5.1.1 Agriculture (Row and Field Crops)

The majority of the Project Site consists of agricultural land, totaling 285.6 acres (Figure 3). Crops planted at the site over the past decade have included wheat, alfalfa, tomatoes, cucumbers, canola, sunflower, and safflower. Selection of crop is made on the basis of various factors, but most notably the availability of irrigation water. Ruderal plants are common along agricultural borders and roads, including pigweed (*Amaranthus albus*, *A. blitoides*, and *A. retroflexus*), lamb's quarters (*Chenopodium album*), mallow (*Malva parviflora* and *M. leprosa*), bindweed (*Convolvulus arvensis*), devil's claw (*Proboscidea louisianica* and *P. lutea*), puncture vine (*Tribulus terrestris*), common knotweed (*Polygonum aviculare* subsp. *depressum*), bermuda grass (*Cynodon dactylon*), and Johnson grass (*Sorghum halepense*).

5.1.2 Annual Grassland/Ruderal

The northern portion of the Project Site paralleling Cache Creek supports approximately 19.2 acres of annual grassland and ruderal vegetation (Figure 3). This area is separated from the agricultural area by a conveyor system and access/maintenance road. Common grassland species include filaree (*Erodium botrys*, *E. cicutarium*, and *E. moschatum*), common fiddleneck (*Amsinckia intermedia*), ripgut brome (*Bromus diandrus*), soft-chess (*Bromus hordeaceus*), wild oat (*Avena barbata* and *A. fatua*), hare wall barley (*Hordeum murinum*), and six-weeks fescue (*Festuca myuros*). Disturbed areas also support dense stands of ruderal vegetation, including milk thistle (*Silybum marianum*), Italian thistle (*Carduus pycnocephalus*), yellow star-thistle (*Centaurea solstitialis*), mallow, and perennial mustard (*Hirschfeldia incana*). Also scattered throughout the northern portion of the site are isolated trees and shrubs, including valley oak, Northern California black walnut (*Juglans hindsii*), tree of heaven (*Ailanthus altissima*), almond (*Prunus dulcis*), Fremont cottonwood (*Populus fremontii*), blue elderberry (*Sambucus nigra* subsp. *caerulea*), and poison oak (*Toxicodendron diversilobum*).

5.1.3 Oak Woodland

A small area (approximately 1.7 acres) projecting south from the northeastern portion of the Project Site supports a valley oak woodland stand. Most of these oaks are associated with a segment of the earthen-lined Magnolia Canal just north of the Moore Canal. Common understory vegetation include poison oak, horehound (*Marrubium vulgare*), Italian thistle, and ripgut brome.

5.1.4 Moore Canal and Magnolia Canal

Both the Moore Canal and Magnolia Canal (collectively totaling 1.738 acres) appear on the USGS 7.5-minute series "Woodland, California" quadrangle as a dashed blue line feature. The Moore Canal is an approximately 15-foot wide concrete-lined irrigation water conveyance system operated by the YCFCWCD. The Moore Canal enters the Project Site from underneath County Road 94B and flows in a west to east direction (Figure 3). A gate structure exists near the northeastern portion of the Project Site, which allows water from the Moore Canal to be diverted into the Magnolia Canal. The Magnolia Canal is an approximately 7-foot wide earthen-lined canal that starts at this gate structure and flows in a northeasterly direction (Figure 3). Both canals are continuously maintained, and vegetation is frequently absent. The earthen-lined Magnolia Canal supports some vegetation, which can vary between years depending on the availability of water allocations. When the canal is operating and flowing, predominant vegetation include nutsedge (*Cyperus esculentus* var. *leptostachyus* and *C. eragrostis*), bermuda grass, rye grass (*Festuca perennis*), bearded sprangletop (*Leptochloa fusca* subsp. *fascicularis*), common barnyard grass (*Echinochloa crus-galli*), and Johnson grass (*Sorghum halepense*). In drought years when the canal is not operating, vegetation generally consists of ruderal plants including milk thistle, perennial mustard, orach (*Atriplex* sp.), bermuda grass, and rye grass.

5.1.5 Other Areas

Other areas include an existing conveyor system and associated graveled maintenance road along the northern portion of the Project Site, which transports aggregate material from Teichert's adjacent Storz site to the west to the Woodland Processing Plant to the northeast (Figure 3). A maintenance road for the Moore Canal also parallels both sides of the canal throughout its entire length within the Project Site (Figure 3). Landscape plantings consisting of oleanders (*Nerium oleander*) are present along County Road 94B and the southeastern portion of the Project Site (Figure 3).

5.2 Sensitive Species and Wildlife Habitat – *CCR 3502(b)(1)*

Based upon a general review of the California Natural Diversity Database (CNDDB) (Rarefind Version 5), U.S. Fish and Wildlife Service (USFWS) (Sacramento Field Office website), California Native Plant Society's Online Inventory of Rare and Endangered Plants of California, and numerous field surveys, it was determined that several sensitive species have the potential to occur at the Project site. Teichert has prepared a BRA, which shall be used to facilitate the CEQA process for biological resources. This BRA provides a more detailed discussion of special-status species and sensitive habitats occurring or with the potential to occur on the Site, and associated mitigation measures where avoidance is not practicable (Teichert 2018).

5.3 Protection of Vegetation and Fish and Wildlife Habitat - *CCR 3503(c), CCR 3703(a), 3703(b), and 3703(c); ASMRO §10-8.433 & §10-8.435*

Disturbance to important wildlife habitat features (e.g., agricultural fields, grasslands, and trees) shall be avoided during the nesting season (e.g., between February and August). If disturbance activities are proposed during the nesting season, pre-construction surveys shall be performed to ensure no impacts to nesting birds will occur.

A minimum 250-foot mining setback has been established from the Cache Creek channel in order to protect fish and riparian habitat. All impacts to wetlands within the Project Site shall be mitigated through compliance with mitigation requirements established by the Corps.

A total of 32 elderberry shrubs were encountered outside of the project area within the Cache Creek riparian zone, proximal to the northern boundary of the project site (Teichert 2018). Elderberry shrubs are considered the sole host plant for the federally-threatened valley elderberry long horn beetle (*Desmocerus californicus dimorphus*) (VELB). No direct or indirect effects to these elderberry shrubs are anticipated as a result of the proposed action, as all shrubs exist at least 50 meters outside of the Project's limits of disturbance. According to United States Fish and Wildlife Service (Service) Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (May 2017), for elderberry shrubs that exist within a riparian area, no adverse effects may be assumed when a 50-meter (or wider) buffer is established and maintained around the elderberry shrubs. This buffer will be established and maintained for all mining and construction activities associated with the Shifler project.

5.4 Sensitive Natural Communities – *ASMRO §10-8.434*

Due to the highly disturbed nature of the Project Site, there is a virtual absence of sensitive natural communities within the Site's boundaries. In addition the Project will maintain a minimum 250-foot setback from Cache Creek and its associated riparian habitat.

6 RESOILING AND GENERAL RECLAMATION REQUIREMENTS

One of the important concepts underlying the development of a revegetation plan is the necessity to determine future use of the site subsequent to mining. Post-mining use at the Shifler property centers primarily on agricultural production, in conjunction with an open space component, including habitat for wildlife. This reclamation plan is based upon the nature of the surrounding areas and characteristics of the property, salvaged reclamation soils, available overburden, waste fines, and site topography and hydrology. The agriculture and habitat zones, together with their respective revegetation designs, are detailed in subsequent sections and shown on Figure 5.

The reclamation plan is intended to maximize agricultural use of the property while also enhancing the wildlife habitat quality of the open space component of the site. The agricultural component (Section 7) of the reclamation plan is based on existing and final expected soil quality and depth, historic and current crop rotations and production rates, and current and expected average groundwater levels. For the habitat component (Section 8), planting densities of native species were determined based on several factors, including expected success, ultimate plant size, natural recruitment potential, and desired level of habitat types.

6.1 Resoiling - *CCR 3503(f); SMRO §10-5.511, §10-5.512, §10-5.516, §10-5.530, §10-5.531, and §10-5.532; ASMRO §10-8.412, §10-8.413, §10-8.428 and §10-8.430*

Agricultural areas will follow soil handling and replacement methods recommended in the *Teichert Shifler Project – Agricultural Reclamation Feasibility Study* (Eco Synthesis 2017, Appendix A) and as described in the Agricultural Soils Evaluation and Reclamation Plan (Section 7). In order to minimize compaction of the reclaimed agricultural fields, each 2-foot layer of soil laid down will be ripped to a depth of at least 3 feet. Final reclaimed agricultural surfaces shall be of sufficient depth to prevent the formation of anaerobic conditions in the crop rooting zone, suggested as at least 5 feet above the average high groundwater level. Post-reclamation groundwater models indicate that the average high groundwater level (spring high) for the Shifler property will be 75-80 feet AMSL in the west, and 45-50 feet AMSL in the east (Luhdorff & Scalmanini 2015). Final reclaimed agricultural surfaces will be graded to provide suitable field gradients to allow surface/furrow irrigation of crops and allow for adequate storm water drainage.

A cover crop will be seeded on the reclaimed fields following soil replacement on the pit floor, and then disked to incorporate this green manure organic matter as a soil amendment. Agricultural fields will be revegetated in accordance with the recommendations outlined in Section 7. After the first two crop seasons have been completed on the reclaimed agricultural fields, Teichert shall retain a Licensed Land Surveyor or Registered Civil Engineer to resurvey the fields; any areas where settling has occurred shall be releveled to the field grade specified in the approved reclamation plan.

Slopes and other non-agricultural areas (open space habitat) will be ripped/disked to a minimum depth of 6 inches to de-compact surfaces compressed by various equipment operations. Slopes that are less than 5 feet below the average summer low groundwater level will be reclaimed to no steeper than 2:1

(H:V). These slopes will be dressed with a minimum one-foot layer of salvaged reclamation soils that will be track-walked and immediately seeded to prevent erosion and provide for grassland habitat. Reclaimed slopes within the wet-pit areas (pond) located 5 feet or more below the reclaimed average summer low groundwater level will not be steeper than 1:1 in order to minimize the effects of sedimentation and biological clogging on groundwater flow, to prevent stagnation, and to protect the public health. According to Luhdorff & Scalmanini (2015), the seasonal low (summer/fall) pond elevation is expected to be approximately 47 feet AMSL.

Overburden material and processing fines will be used whenever possible to build elevations for proposed agricultural areas and as a subsoil layer. Salvaged reclamation soils formerly in agricultural areas will be prioritized for the reclamation of agricultural fields. Farming shall commence in agricultural areas once an entire field is reclaimed. As constructed slopes and habitat areas are completed, revegetation as described in Section 8 will be initiated the following fall and winter.

6.2 Soils Handling and Stockpiling - *CCR 3704(c), CCR 3705(e), CCR 3707(b), CCR 3707(d), CCR 3711(a), CCR 3711(b), CCR 3711(c), CCR 3711(d), CCR 3711(e)*

Preserving soil productivity and minimizing soil compaction are key components during the removal (mining) and replacement (reclamation) process. This reclamation plan identifies the surface 10 feet of soil to be of sufficient texture and quality for separation as salvaged reclamation soil suitable for agricultural use. In order to minimize soil compaction, all handling of soils (soil stripping, stockpiling, and reconstruction) will occur when soil moisture is low.

Article 9 Reclamation Standards section 3711(a) requires all vegetation and salvageable soil not be removed more than one year preceding surface mining activities. Before soil removing operations are initiated in each phase, stockpile sites will be identified on plan maps and clearly marked in the field. Initial stockpile areas will be located along perimeter berms around the mine pit. Some stockpiles will remain longer than others, and some soil may be used immediately after stripping to reclaim portions of a preceding phase.

Salvaged reclamation soil stockpiles that are not used for reclamation within one mining season will be planted with an annual grassland seed mix similar to that identified in Table 2 below to minimize soil erosion, maintain microbial activity, and discourage noxious weed establishment. Specific species in the mix and seeding rates for soil revegetation are shown below. Seeding will occur prior to the end of October in each season soil stockpiling is completed. Seeding methods may include either hydro-seeding or broadcast seeding.

TABLE 2. SEEDING SPECIFICATIONS FOR SOIL STOCKPILE EROSION CONTROL – SHIFLER PROJECT

Common Name	Botanical Name	Seed Rate (lbs/acre)
Soft chess	*Bromus hordeaceus*	20.0
Six-weeks fescue	*Festuca myuros*	12.0
Ryegrass	*Festuca perennis*	6.0
Rose clover	*Trifolium hirtum*	7.0

Crimson clover	*Trifolium incarnatum*	3.0
Total		**48 lbs**

In addition, erosion control materials (e.g., wattles, coconut fabric rolls, etc.) or retarding basins/ditches shall be installed surrounding the base of all soil stockpiles to prevent soil runoff. Future management of soil stockpiles and MSHA berms will also include removing invasive or noxious species (e.g., yellow star-thistle, Italian thistle, etc.) and re-seeding as necessary.

All soil management (handling, stockpiling, maintaining, and reconstructing) objectives are intended to limit impact on the soils while maintaining the function and productivity of soils for future reclamation purposes.

7 AGRICULTURAL SOILS EVALUATION AND RECLAMATION PLAN

Per Article 4 (Agricultural Mining and Reclamation Standards) of the Yolo County ASMRO (§10-8.401), the general standard for agricultural reclamation is to ensure that the agricultural productivity of reclaimed lands either meets or exceeds farm production levels established prior to mining. An Agricultural Reclamation Feasibility Study (Eco Synthesis 2017) is attached as Appendix A of this document. Appendix A details existing agricultural conditions, including soil type as well as crop productivity, in addition to proposed reclamation procedures for the agricultural component of the site, including that for handling and redistribution of salvaged soils, planting specifications, and minimum reclamation success criteria.

As per §10-5.525 of the Yolo County SMRO, for each acre of prime farmland that would be converted to non-agricultural use, the reclamation plan shall present provisions to offset (at a 1:1 ratio) the conversion of these lands. Teichert proposes to offset the permanent loss of approximately 161 acres of prime farmland by placing permanent conservation easements on land meeting the Williamson Act definition of "prime farmland."

7.1 Agricultural Reclamation Plan

7.1.1 Salvage – *ASMRO §10-8.429*

The results of the present soil analysis indicate that the material available for salvage, down to a depth of at least 10 feet, is all suitable for use as the uppermost layer of soil to support growth of agricultural crops common to the region (Appendix A). Accordingly, the recommended soil salvage procedure is for the entire 10 foot depth of the soil profile to be salvaged as one supply of agricultural reclamation soil.

After the initial recovery of a volume of soil sufficient to reclaim the final intended phase of operations, including construction of slopes and resoiling of areas to be future agricultural land, the remainder of the salvaged soil can be placed directly for reclamation. However, at any point where the active mining area exceeds the area that can be reclaimed with the stockpiled soil volume, then additional stockpiles shall be created to make up the potential future shortfall.

Soil shall be cut in maximum depths in order to minimize traffic and limit compaction. The handling and transport of soil shall be minimized, and all handling of salvaged reclamation soils should be accomplished when the soil is dry to avoid undue compaction.

7.1.2 Stockpiling - *ASMRO §10-8.431*

Soil stockpiles shall be constructed to a maximum height of 40 feet or less, with slopes of 2:1 (H:V) or gentler, to minimize erosion and discourage use by bank swallows. The top of the soil stockpile shall be graded to drain, at a slope of at least two percent, so as to minimize the infiltration of rain water into the interior of the stockpile. Soil stockpiles shall be seeded and vegetated to prevent wind and rain

erosion. Salvaged soil may not be used for purposes other than reclamation without prior County approval.

7.1.3 Reclamation Soil Profile - *ASMRO §10-8.432*

Once mining operations have attained the lowest depth from which useful aggregate material can be removed, a slurry of fines that are separated from the commercial aggregate during processing will be discharged onto the bottom of the mined area where agricultural fields are proposed. The discharge/placement of fines is expected to create a desirable, uneven or sloping layer. This sloping subgrade surface will naturally create a gradient that enhances lateral flow of subsurface water, thus minimizing the mounding of percolating water on top of the low-permeability fines.

A minimum thickness of 4 feet of salvaged reclamation soil (that is, soil recovered from the uppermost 10-foot depth of the existing soil and overburden profile) shall be placed directly, or from a stockpile, to create the final agricultural soil profile on top of the subgrade layer (Appendix A). Soils classified as prime agricultural land shall be reserved for on-site crop reclamation.

In order to facilitate irrigation, the final surface of the areas intended to be used as agricultural land shall be leveled such that irrigation ditches may be created. In accordance with the Yolo County SMRO, broad gentle slopes that will allow sufficient drainage to prevent water pockets or undue erosion will be created to allow for site irrigation management. An approximately 1% grade is proposed for agricultural fields, sloping toward the reclaimed pond area.

7.1.4 Agricultural Reclamation Monitoring and Minimum Performance Standards

According to SMARA Performance Standards for Prime Agricultural Land Reclamation (§3707), reclamation shall be deemed complete when productive capability of the affected land is equivalent to or exceeds, for 2 consecutive crop years, that of the pre-mining condition or similar crop production in the area. Detailed information regarding current agricultural production and minimum reclamation standards is available in Appendix A.

8 OPEN SPACE HABITAT REVEGETATION AND MAINTENANCE

The Shifler Property will be reclaimed to a combination of agriculture and open space/habitat. A detailed soils analysis and agricultural reclamation feasibility study, in addition to agricultural reclamation plan, has been developed separately and has been included as Section 7 of this document. This section of the reclamation plan is specifically designed to provide for the development of the remainder of the Site, which will be reclaimed to open space wildlife habitat featuring open water, grassland slopes, and riparian shoreline/woodland vegetation communities. The habitat communities and their respective revegetation designs are detailed in the sections below and shown on Figure 4. Included in the plan are the habitat types to be created, methods of establishment, general planting locations relative to final elevations and groundwater levels, species types, and densities. The general plan is intended to improve the wildlife habitat quality of the open space component of the site. Planting densities were determined based on several factors, including expected success, ultimate plant size, and potential of natural recruitment.

8.1 Open Space/Habitat Revegetation Description - *SMRO §10-5.502; SMRO §10-5.523; ASMRO §10-8.423 and §10-8.426*

Teichert's reclamation plan for the open space component of the Project has been developed based on information from existing site conditions, available soils for reclamation, and extensive experience with the creation and monitoring of other reclamation sites throughout central and northern California. Final vegetative types and acres will depend upon conditions of the reclaimed land, including availability of overburden and processed fines, access to groundwater, and depth of silts in ponds.

The Shifler Property has been in agricultural production since the late 1800s; therefore, natural preexisting conditions of the Project Site are virtually unknown. However, the floodplain terrace geomorphology of the site indicates that, prior to agricultural production, the Shifler Property likely consisted of various stages of wetland, riparian, and oak woodland habitats that changed in accordance with creek flows and migration patterns. Table 3 summarizes the quantity of habitat types proposed to be created by the Project.

TABLE 3. OPEN SPACE RECLAMATION PHASES AND HABITAT TYPES (ACRES)

Reclamation Phase	Reclamation Feature	Acres
PHASE A	Agriculture	± 47.5
	Access Roads	± 0.1
	Grassland Slopes	± 14.2
PHASE B	Access Road	± 1.1
	Agriculture	34.6
	Grassland Slopes	± 10.5
	Upper Riparian Woodland	± 6.4
	Lower Riparian Woodland	± 5.0
	Pond	± 42.9
PHASE C	Agriculture	31.1

Reclamation Phase	Reclamation Feature	Acres
	Access Roads	1.3
	Grassland Slopes	8.1
	Upper Riparian Woodland	6.9
	Lower Riparian Woodland	6.4
	Pond	48
Total Reclaimed Acreage		**± 264.1**

8.2 Habitat Communities

In addition to agriculture and associated access roads, a total of four reclaimed habitat communities are proposed. These include grassland slopes, pond, upper riparian woodland, and lower riparian woodland. Some of these communities may overlap or transition into one another. Grassland and woodland communities shall be established surrounding a reclaimed pond in order to enhance habitat values and protect neighboring agricultural fields (SMRO §10-5.533). These vegetation communities and their associated microhabitats are typical of naturally-occurring ones in the area. Each habitat community is designed to have a diversity of plants and conditions that will complement each other and provide a diverse habitat for wildlife. As a general rule, depth to groundwater will be a primary determinant of which plant associations or communities are appropriate for a given area. Ultimate mining depth and availability of fines and other materials for resoiling of slopes will largely determine the riparian features and are expected to adjust over time in response to changing site conditions.

8.2.1 Grassland Slopes

A total of ± 32.8 acres of slopes are proposed to be created surrounding the perimeter of the mined areas (Figure 4). All slopes will be reclaimed to no steeper than 2:1 (H:V), and 3:1 (H:V) within 50 feet of the Moore Canal. Slopes will be revegetated by broadcast seeding with an appropriate grassland seed mix selected for its erosion control and habitat value. Typical species in the seed mix shall include drought-tolerant native species, such as blue wildrye (*Elymus glaucus*), California brome (*Bromus carinatus*), annual fescue (*Festuca microstachys*), California poppy (*Eschscholzia californica*), and arroyo lupine (*Lupinus succulentus*). Additional naturalized, annual plants will likely colonize these areas, including soft chess brome (*Bromus hordeaceus*), wild oat (*Avena fatua*), six-weeks fescue (*Festuca myuros*), and filaree (*Erodium botrys*, *E. cicutarium*, and *E. moschatum*). Table 4 below shows seed mixes and seeding rates for the slopes following construction. All seeding rates are specified in terms of pounds of pure live seed (PLS).

Table 4. SEEDING SPECIFICATIONS FOR GRASSLAND SLOPES

Common Name	Botanical Name	Seed Rate (lbs/acre)
Blue wild rye	*Elymus glaucus*	8.0
California brome	*Bromus carinatus*	12.0
Annual fescue	*Festuca microstachys*	6.0
California poppy	*Eschscholzia californica*	1.0
Arroyo Lupine	*Lupinus succulentus*	5.0
TOTAL		**32.0**

8.2.2 Pond

Approximately 90.9acres of the Project Site are proposed to be reclaimed to pond (open water), which is expected to experience seasonal and annual fluctuations in water level as dictated by changes in precipitation patterns, creek flows, and the groundwater table. The pond will be separated from the surrounding agricultural land by vegetated slopes and berms. The use of motorized watercraft will be prohibited on this reclamation feature.

The open water habitat occurs within the deepest mined areas of the site and will be entirely dependent upon groundwater elevations, making it a dynamic zone. Seasonal variations in groundwater levels, and variations in the maximum mining depth, will dictate which areas remain seasonally or permanently inundated. Regardless, it can be expected that during portions of the year (typically winter and spring) open water will be present. The depth, slope, and size of the pond will vary, and in some cases, undergo a seasonal succession ranging from open water to mudflats in winter and spring to vegetated or parched areas in summer and fall. The distribution of each of these specific communities may also vary spatially each year. Rainfall patterns and creek flows affecting groundwater levels will dictate the specific arrangement of wetland-related communities by season and year.

In general, deeper areas with longer hydroperiods will remain open water and lack vegetation, or consist of submerged and floating-leaved herbaceous plants. Other areas may eventually dry and become mudflats until re-submerged when groundwater elevations rise. Although no wetland habitats are proposed as part of this reclamation plan, other areas within the reclaimed wet pit may become intermittently established with various wetland species, such as cattail (*Typha* spp.), smartweed (*Polygonum* spp.), spikerush (*Eleocharis macrostachya*), rush (*Juncus* sp.), loosestrife (*Lythrum* spp.), Texas bergia (*Bergia texana*), beard grass (*Polypogon* spp.), and Mediterranean barley (*Hordeum marinum*). If successive drought years persist and groundwater levels remain low, some areas may also become vegetated with woody riparian vegetation, including willows (*Salix* spp.), mule fat (*Baccharis salicifolia*), and Fremont cottonwood (*Populus fremontii*).

8.2.3 Lower Riparian Woodland

The proposed lower riparian woodland community will consist of approximately 11.4 acres surrounding the reclaimed pond. In general, the lower riparian woodland community represents a transition area between the pond and upper riparian slopes. The ultimate acres of lower riparian woodland habitat to be created within the proposed mining area will be dependent upon final reclaimed slopes, availability of soil harvested from the settling ponds/berms, groundwater elevations, and seasonal hydrological conditions.

Plants tolerant of saturated soils and occasional inundation are characteristic of this community. Willows (*Salix gooddingii*, *S. laevigata*, and *S. exigua*), cottonwood (*Populus fremontii*), and mulefat (*Baccharis salicifolia*) are expected volunteers where hydrological conditions and soil moisture is favorable during establishment. Other species, including California box elder (*Acer negundo* var.

californicum), Oregon ash (*Fraxinus latifolia*), California sycamore (*Platanus racemosa*), and button willow (*Cephalanthus occidentalis*) will be planted to supplement natural colonization and increase species diversity and wildlife habitat value. Table 5 shows planting specifications and minimum planting densities for the riparian wetland community.

TABLE 5. PLANTING SPECIFICATIONS FOR THE LOWER RIPARIAN WOODLAND

Common Name	Botanical Name	Planting Density (seedlings/acre)
California Box Elder	*Acer negundo* var. *californicum*	30
Oregon Ash	*Fraxinus latifolia*	30
California Sycamore	*Platanus racemosa*	10
California Button Willow	*Cephalanthus occidentalis*	30
	TOTAL	**100**

Planting ratios of species may be modified due to existing site conditions, relative proximity to groundwater elevations, and availability at the time of planting. Should additional natural colonization of willows, cottonwoods, or mulefat not be evident, additional plantings of these species shall be included within this community. The total initial target density of woody riparian plants (combination of planted and volunteers) shall be at least 250 plants per acre. In general, seedlings will be planted from Deepot™ 40[1] size containers. Alternative container size seedlings or methods, including direct seeding or installation of pole cuttings, may be substituted if monitoring suggests adequate survival and success rate.

8.2.4 Upper Riparian Woodland

Approximately 13.3 acres of the slopes surrounding the pond, in areas above the lower riparian woodland that demonstrate adequate soil depths, are proposed to be reclaimed to upper riparian woodland habitat. This habitat will consist of several discontinuous stands separated by grassland slopes to provide for habitat diversity. Final locations and sizes of the upper riparian woodland areas will be determined by site conditions at the time of final reclamation. In order to facilitate the successful establishment of woody species, designated upper riparian woodland areas will require at least 3 feet of soil and good drainage. Initially, these areas will predominantly resemble an open grassland community, but eventually grow into a woodland habitat as the plantings develop. Vegetation in this community is typically represented by relatively drought-tolerant riparian species, including valley oak (*Quercus lobata*), elderberry (*Sambucus mexicana*), coyote brush (*Baccharis pilularis*), California wild rose (*Rosa californica*) and California blackberry (*Rubus ursinus*). Table 6 shows the planting specifications and minimum densities for the upper riparian woodland community.

TABLE 6. PLANTING SPECIFICATIONS FOR UPPER RIPARIAN WOODLAND

Common Name	Botanical Name	Planting Density (seedlings/acre)
Valley oak	*Quercus lobata*	50

[1] Seedlings grown in plant containers measuring 2.5” diameter x 10” deep, or 40 cubic inches.

Blue elderberry	*Sambucus mexicana*	55
Coyote brush	*Baccharis pilularis*	20
California wild rose	*Rosa californica*	35
California blackberry	*Rubus ursinus*	30
	TOTAL	**190**

Planting ratios of species may be modified due to existing site conditions and availability of plants at the time of planting. In general, seedlings will be planted from Deepot™- 40 size containers. Alternative container size seedlings or methods, including direct seeding (i.e., oak acorns), may be substituted if monitoring suggests adequate survival and success rates.

8.3 Revegetation Test Plot

Article 9 Reclamation Standards section 3705(b), requires revegetation test plots to be implemented concurrent with mining to determine the most appropriate revegetation procedures to be followed to ensure successful establishment of the proposed reclamation plan. The primary objective of a test plot is to document the success or failure in attaining designated objectives and performance standards. For Teichert's Shifler open space reclamation features, these objectives relate to success in slope, grassland, riparian upland, riparian wetland, and pond habitat.

Teichert's mining and reclamation plan for the Shifler Project was developed on information from existing site conditions, available soils for reclamation, and extensive experience with the creation and monitoring of other reclamation sites throughout central and northern California. Specific reclamation features described in this plan have already been successfully created at several sites in the Woodland area. Teichert's Muller Reclamation Site (Figure 7), located just northwest and across Cache Creek, demonstrates similar reclamation features as those described for the Shifler Project and, therefore, shall be referenced as the revegetation test plot for the Schwarzgruber Project.

Teichert's Muller Reclamation Site is an approximately 135-acre site located just northwest of Cache Creek and the Schwarzgruber Property. It is one of several properties comprising Teichert's Woodland aggregate mine operation. The Muller Property was mined for sand and gravel from the late-1990's to 2008. Reclamation of the Muller Property includes reestablishment of both agricultural and natural habitat lands in areas previously disturbed by mining (Figure 8). An approximately 32-acre portion of the site (also known as Muller 30-Acre) was reclaimed to agriculture in 2006. Seven acres of slopes also surround the northern, western, and southern portion of the reclaimed agricultural field. The remaining 86 acre portion of the site (also known as Muller 90-Acre) was completed from 2008 and 2009 and includes similar reclamation features as those proposed for the Shifler Project. These include slopes, grasslands, oak riparian woodland, riparian wetland, and pond habitats. The first monitoring report for the Muller 90-Acre Reclamation Project was prepared in October 2010, with the final report submitted in November 2014.

8.4 Plant Procurement and Installation

A variety of different plant materials may be used in the restoration planting of the various communities. These include seeds, container-grown plants, and cuttings. The specific planting methods will depend upon which habitats and what materials are available at the time of planting. Plants collected and grown locally will always be given priority in the selection process. All seeding for grassland cover and erosion control will occur before the end of October, prior to the first major rains. Planting of trees and shrub seedlings will generally occur between November and January, ideally after winter storms have moistened the ground. Plants will not be installed in linear rows or of equal spacing, but randomly placed as individuals or in clusters intermixed with other species. Clumping of some species will also emphasize the variety of plant associations. Natural colonization by additional plants is expected to further enrich the site along various zones.

8.4.1 Direct Planting

The following are various technical specifications regarding plant materials, seeding or planting densities, and their installation. Often site requirements, timing, species, and availability will dictate the method of planting. Contingent upon the results of monitoring, amendments to the soil prior to or during the time of planting may be required. All seeding for grassland cover and erosion control will occur before the end of October, prior to the first major rains. Planting of trees and shrub seedlings will generally occur between November and January, ideally after winter storms have moistened the ground. Plants will not be installed in linear rows or of equal spacing, but randomly placed as individuals or in clusters intermixed with other species. Clumping of some species will also emphasize the variety of plant associations. Natural colonization by additional plants is expected to further enrich the site along various zones.

8.4.1.1 *Seeding for Erosion Control/Grassland Cover*

Seeding areas and techniques to establish vegetative cover on slopes and grassland communities will depend on a number of factors, especially hydrology, soils, existing terrain, and size of the area. Annual grasses and broadleaf weeds are likely to invade much of the area. However, native grasses will be planted at the site to increase native plant diversity.

Prior to seeding, all slopes will be track-walked with imprints perpendicular to the direction of the slope. Slope will be broadcast seeded using a belly grinder, or spreader mounted on a tractor if slopes are gentle enough.

8.4.1.2 *Container/Seedling Installation*

Seedlings will be grown out in containers from locally collected seeds or purchased from a local nursery shortly before installation. Planting holes for seedlings will be dug at least twice as deep and twice as wide as the seedling root wad. A slow-release fertilizer (11-17-9) will be placed in each planting hole, with one teaspoon at the bottom of the hole and another teaspoon with the backfill material. Holes shall be backfilled such that when the seedling is in place, the top of the root wad is level with or slightly

above the grade of the surrounding ground. A shallow trench will be created surrounding each seedling for a watering basin. All plantings will be carried out during the dormant season, following seasonal rains.

8.4.1.3 *Collection and Planting of Acorns*

Depending on oak acorn production years and timing of restoration planting, oaks may be directly planted in the field from acorns. Acorns will be collected in the fall, inspected for viability, and stored in refrigeration until the ground is moistened by rains. Viable acorns will be separated from damaged ones by placing acorns in a bucket of water and discarding those that float to the top. Acorns may be stored in refrigeration for up to 2 months, but may begin to lose viability soon after. Prior to planting acorns, the existing ground will be prepped by loosening the first 12 inches. This may be done by equipment (i.e., auger) or by hand (i.e., shovel). At each planting spot, two or three acorns will be placed about ½ inch below the surface. Plant protector tubes will be installed to identify planting locations and protect young shoots from animal damage.

8.4.2 Natural Colonization

Natural colonization, or regeneration, is the process where existing conditions (i.e., topography, soils, hydrology, weather, etc.) are favorable and plant species adapted to those specific conditions are able to grow and establish on their own. Although this process is difficult in some areas and may be extremely slow for some species, it is often the most appropriate and efficient form of restoring sites. Natural colonization of desired or target vegetation is expected to some degree, but will most likely be dependent upon hydrological conditions. Willows, cottonwood, and mule fat are expected to colonize along riparian wetland zones (i.e., pond shorelines) where fine sediment is available to initiate seed germination.

8.5 Maintenance and Follow-Up of Restoration Plantings

In design and development of a restoration site such as this, there are numerous conditions and elements that may interfere with the accomplishment of the original goals and objectives. Some of the most critical factors affecting restoration are water availability, invasive species and weed competition, herbivory, and human vandalism. Each of these issues is addressed separately and a maintenance plan is included below. Acts of God, such as fires and flood events, could alter reclamation deliverables if areas are burned, washed away or depositional areas are created.

8.5.1 Irrigation

A temporary drip irrigation system will be used for installed plants in the lower and upper riparian woodland communities during the first 2 to 3 years of establishment. The length of supplemental irrigation will depend on soils and seasonal rainfall patterns. Irrigation will be installed prior to the arrival of the dry season so that water can be provided to individual plantings before water stress becomes a problem. All irrigation systems will be installed to a portable water pump that will pump

water from the created pond. A screen will be installed on the intake hose of the pump to minimize debris entering the irrigation system and clogging emitters.

Individual seedlings will be irrigated with two drip emitters, spaced to provide water to the entire root zone, each applying water at a rate of 2 to 4 gallons per hour. A minimum of 8 gallons of water will be applied to each planting once a week during the first year. Irrigation will be monitored and adjusted as necessary to ensure plants are properly watered. Future irrigation will be applied for the following one to two seasons, as necessary. The frequency of irrigation will be reduced gradually over the 2 to 3 year period (depending upon species), and the effects will be monitored to ensure successful weaning of the plants from artificial watering.

8.5.2 Weed Maintenance/Control of Invasive Plants

Another critical factor potentially affecting young plants and overall reclamation objectives is competing vegetation. The amount of competition will vary depending on the species present, the existing seed bank in the soil material used for reclamation, hydrological conditions, and a number of other factors.

For individual tree and shrub plantings, a 3 to 4 foot circular area around each seedling will be cleared of weeds. Herbicides (i.e., Roundup®) may be applied around individual plantings as needed for the first 3 years. The use of any chemical herbicide, however, must be coordinated with a qualified biologist to ensure that the most effective methods are applied and damage to non-target vegetation is minimized. If weeds are minimal, a weed maintenance program around individual plants may not be necessary, or weeds can simply be mechanically removed by hand.

The Shifler Site is potentially subject to a number of invasive or noxious plants, particularly during the reclamation process as new areas are disturbed. A number of invasive plants have been identified within the lower Cache Creek watershed and could potentially threaten reclamation success of a project. Table 7 below is a partial list of invasive or noxious weed species recorded from the site or from nearby areas. The list includes those species categorized as "noxious" by the California Department of Food and Agriculture (CDFA) and "invasive (High)" by the California Invasive Plant Council (Cal-IPC).

TABLE 7. PARTIAL LIST OF INVASIVE/NOXIOUS WEEDS ALONG THE LOWER CACHE CREEK WATERSHED

Common Name	Scientific Name	Cal-IPC Rating	CDFA Rating
Barbed goatgrass	*Aegilops triuncialis*	High	B
Giant reed	*Arundo donax*	High	B
Red brome	*Bromus madritensis ssp. rubens*	High	----
Italian thistle	*Carduus pycnocephalus*	Moderate	C
Purple star-thistle	*Centaurea calcitrapa*	Moderate	B
Yellow star-thistle	*Centaurea solstitialis*	High	C
Bull thistle	*Cirsium vulgare*	Moderate	C
Pampas grass	*Cortaderia selloana*	High	----
Medusahead	*Elymus caput-medusae*	High	C
Hydrilla	*Hydrilla verticillata*	High	A
Perennial pepperweed	*Lepidium latifolium*	High	C
Creeping water-primrose	*Ludwigia peploides ssp. montevidensis*	High	----

Purple loosestrife	*Lythrum salicaria*	High	B
Parrot's feather	*Myriophyllum aquaticum*	High	----
Eurasian watermilfoil	*Myriophyllum spicatum*	High	C
Himalyan blackberry	*Rubus armeniacus*	High	----
Smallflower tamarisk	*Tamarix parviflora*	High	B
Saltcedar	*Tamarix ramosissima*	High	B

Reclamation standards require that all Cal-IPC rated "invasive (High)" and CDFA rated "noxious" plants be managed such that they do not threaten the success of the proposed revegetation. While the list only includes those species listed by the CDFA or ranked "High" by the Cal-IPC, other species should also be considered for management in reclamation of the site, including milk thistle (*Silybum marianum*), field mustard (*Hirschfeldia incana*), tree tobacco (*Nicotiana glauca*), poison hemlock (*Conium maculatum*), stinkwort (*Dittrichia graveolens*), and Ravenna grass (*Saccharum ravennae*). Adjustments shall be made to ensure that all of the most invasive and undesirable species are included within the management plan for the site.

Invasive/noxious weeds shall be managed annually as necessary throughout each of the reclamation areas in which monitoring is required. A list of target species will be updated each year and those found at the site will be identified for removal. Management of invasive weeds will include both mechanical and approved chemical methods, carried out on an annual basis and any time the observed component of invasive species exceeds 5%. Methods based on the latest scientific research at the time of reclamation shall be applied to all management actions. Adjacent areas within the property boundaries will also be managed to minimize future spreading into reclaimed areas. The use of any chemical herbicide will be coordinated with a qualified biologist with an applicator license to ensure that the most effective methods are applied and damage to non-target vegetation is minimized. Monitoring and management of invasive weeds will continue to occur in the reclaimed areas throughout the end of the monitoring period.

8.5.3 Herbivory Control

To protect planted seedlings from deer, small rodents, rabbits, and beavers, it may be necessary to implement various measures that will reduce herbivory. If present, herbivory may be minimized through several approaches. First, plant protector tubes, or tree shelters, will be placed around seedlings if herbivory from voles or rabbits are evident. Tubes will be inserted approximately 4 inches into the ground to minimize voles from tunneling under them and left in place until they become of sufficient size to tolerate occasional browsing, usually after the first year or two. Tree shelters may be left around some tree seedlings indefinitely (or until they naturally degrade) if monitoring suggests.

Additionally, oaks and other tree seedlings may be protected from larger animals (i.e., deer or beaver) by installing wire cylinder cages around individual seedlings. Cages shall be large enough (i.e., 2' wide and 4' tall) to allow for some new plant growth before they can be browsed.

8.5.4 Vandalism

Visitors to the Project Site are required to register and receive safety orientation at the Woodland Plant. Any vandalism would most likely occur from trespassers along Cache Creek or adjacent County roads. Fencing, as required by SMRO § 10-5.510, will be the primary deterrent to trespassing/vandalism (Section 1.7.1). In addition, trespassing is expected to be discouraged by weekly visits by Teichert staff and/or contractors to the site during the reclamation establishment period. In addition, no trespassing signs will be placed along the entire perimeter of the Project Site.

9 OPEN SPACE HABITAT MONITORING AND PERFORMANCE STANDARDS

The primary objective of a monitoring program is to document the success or failure in attaining designated objectives and performance standards. For the open space habitat features, these objectives relate to plant establishment and the general conditions of revegetated areas. Monitoring is also designed to provide sufficient data to identify and evaluate the cause of problems in attaining success should they occur, and assist in devising appropriate corrective measures. A biologist or revegetation specialist with qualifications acceptable to the County of Yolo and State Mining and Geology Board will conduct all monitoring and reporting requirements for the habitat features.

9.1 Monitoring Time Period

Habitat reclamation will be monitored annually for a minimum of 5 years following implementation. Because reclamation will occur in phases, monitoring may represent various stages in vegetation and reclamation development. As reclamation areas are completed and all success criteria are met, monitoring and reporting for that particular area will end. If success criteria are not met, further monitoring and/or corrective measures will be required until such time that success criteria have been achieved.

9.1.1 Photo Monitoring

Photographs will be taken in late-spring or early summer while vegetative conditions are at their peak. A minimum of four permanent photo stations will be selected to qualitatively document changes in habitat development, types, and distribution over successive monitoring periods. Each photo station will be staked and mapped in the field with a GPS (global positioning system) unit with sub-meter accuracy and its direction of view recorded for future monitoring. Fixed features (i.e., mature trees, slope features, etc.) will be included in photos to provide a consistent reference and background against which yearly comparisons can be made. Representative photos during construction and revegetation will also be taken and included in monitoring reports.

9.1.2 Vegetation Monitoring

Vegetation monitoring will be conducted for each of the habitat types proposed. Vegetation data will be collected using randomly placed 10 meter (m) long transects and using a point-line intercept method. Each transect will be treated as a sampling unit to calculate total absolute plant cover[1] for each unit and each species. Starting points for each transect will be randomly generated using ArcGIS software (i.e., tool in Data Management Tools/Feature Class called Create Random Points) or any other scientifically justified method for generating random points. In addition, a random degree of direction between 0 and 360 degrees for each point will be produced.

Once random points are created and a degree of direction for each point assigned, the information will be saved and uploaded into a GPS unit. Each point will be identified in the field using the GPS unit, and a

transect will be established by laying a 10-m tape in the direction randomly assigned for that particular point. At every 0.1-m interval along each transect, all vegetation intercepted by a vertical pointed will be recorded. Sample sizes for all monitoring efforts will be sufficient to produce at least an 80 percent confidence level with a confidence interval width within 20 percent of the mean. Total absolute cover of each transect will be calculated using the data collected at each transect.

$$\text{Total Cover of Transect X} = \frac{\text{Total \# of points where vegetation is recorded}}{\text{Total \# of points along each transect}}$$

Species richness data will be calculated by using 10-m^2 plots and the same transects as those established for collecting cover data. All species encountered within 0.5 meter of each transect will be recorded, and the data for the plots will be averaged to determine the number of species per 10-m^2 area. Noxious or invasive weeds will be recorded separately from total plant cover and species richness data.

9.1.2.1 *Grassland Slopes*

Revegetation efforts on slopes will be evaluated based on total plant cover, species richness, and minimization of invasive/noxious weeds. Floristic surveys of reclaimed slopes will be conducted each spring when the majority of species are easily identifiable.

9.1.2.2 *Lower and Upper Riparian Woodland*

Plantings within the lower and upper riparian woodland will be monitored for an evaluation of native woody (trees and shrubs) species, including plant survival, total absolute cover, density, and species richness. A census of all plantings installed and those naturally recruited will be conducted each summer in which monitoring is required. At the time of installation, all plantings will be recorded with a GPS unit with sub-meter accuracy. Field maps of planting locations will then be generated to confirm the presence or absence (death) of plantings in the field. In addition, individual plantings will be assigned a vigor (health) ranking between 0 and 4 where: 0 = dead or missing, 1 = severe decline to nearly dead, 2 = possible decline or moderate defects, 3 = stable to fairly healthy and 4 = healthy with good growth. The amount of new growth, growth patterns, and foliage color will be considered when visually rating the health of each planting. Factors affecting these measurements may include weed competition, water, herbivory, soil characteristics, or disease. Only plantings with a vigor rating of 2 or high will be considered surviving plants.

Cover data for the riparian woodland habitats will focus on evaluating native woody vegetation and invasive species. Understory vegetation (herbaceous layer) would not be appropriate early in the restoration process as certain maintenance measures (i.e., weed removal around seedlings) would affect cover values.

Density and species richness of native woody vegetation can be calculated using the GPS information of individual plantings, or in the case of extensive natural recruitment, using similar plots established for calculating species richness. Densities for riparian woody species will be calculated to represent numbers per acre.

9.1.3 Wildlife Monitoring

Observations of wildlife (birds, amphibians, reptiles, or mammals) or their signs (i.e., tracks or scats) will be recorded whenever encountered, and a species list will be created for the site.

9.2 Performance Standards

In order to determine whether the goals of the habitat reclamation objectives have been met, a set of final performance standards have been developed. These success criteria for the different types of habitats created are provided in Table 8. All established criteria must be met and present at the end of the 5-year monitoring period.

TABLE 8. MINIMUM SUCCESS CRITERIA FOR HABITAT RECLAMATION

Habitat Type	Minimum Performance Standards
Grassland Slope	• Total absolute vegetative cover must be at least 70%. • Total absolute cover of noxious or invasive weeds must be less than 5%.* • Species richness must average at least 4 species per 10-m^2, excluding noxious or invasive.
Upper Riparian Woodland	• Survivorship of installed plantings will be at least 80% (health/vigor rating of 2 or higher). Natural recruitment of native woody species may be counted toward replacement seedlings. • Total absolute cover of native woody species must be at least 10%. • Density of native woody species must be at least 150 trees/shrubs per acre. • Species richness must average at least 4 native woody species. • Total absolute cover of invasive/noxious weeds must be less than 5%. • The total amount of Upper Riparian Woodland habitat established must be equal to or greater than 10.9 acres.
Lower Riparian Woodland	• Survivorship of installed plantings will be at least 80% (health/vigor rating of 2 or higher). Natural recruitment of native woody species may be counted toward replacement seedlings. • • Total absolute cover of native woody species must be at least 10%. • Density of native woody species must be at least 250 plants per acre. • Species richness must average at least 4 native woody species per acre. Total absolute cover of invasive/noxious weeds must be less than 5%.* • Total amount of Lower Riparian Woodland established must be equal to or greater than 13.0 acres.

* Invasive/noxious weeds are those species listed by the CDFA or ranked 'High' by the Cal-IPC.

An aerial photo of the site and constructed reclamation features shall be taken within the first year following completion, or the boundaries of each feature shall be mapped using a GPS unit with sub-meter accuracy, to report "as-built" conditions. In addition, constructed slopes shall be surveyed to verify grade. All information shall be provided in the first monitoring report and updated once again in the final monitoring report.

If a reclaimed area has been adversely affected by a natural disaster (i.e. flood, earthquake, fire, or other natural occurrence beyond the operator's control), contingency measures will be implemented to the extent feasible. Teichert shall meet with regulatory personnel to evaluate and agree upon the feasibility of such corrective actions, taking into account the extent to what areas have been previously reclaimed and destroyed prior to the natural occurrence, the effect of the natural occurrence on public health and safety, the site characteristics and proposed end use, etc.

9.3 Annual Monitoring Reports

Monitoring reports will summarize the reclamation responsibilities, construction and revegetation completed, monitoring implemented, and results compared to established success criteria. Photo documentation and field data will also be provided in appendices to the monitoring reports. If it is apparent that some reclamation features may not achieve intended success criteria, potential remediation opportunities will be evaluated or suggested and provided in the report.

Monitoring reports will be prepared and submitted annually to the Yolo County Natural Resources Division and Department of Conservation, Division of Mine Reclamation. Monitoring reports shall be due on August 31st of each year. This allows time for remedial actions, if necessary, or enhancement opportunities to be discussed and implemented prior to the end of the construction season.

At the end of the 5-year monitoring period, monitoring will cease, provided all the reclamation features are determined by the agencies to be in substantial compliance with the established success criteria. Reclamation monitoring and annual reporting will be extended beyond the 5-year period only if success criteria have not been met.

Upon review of the final monitoring report, the County or State may require a site visit to confirm the completion of the reclamation requirements. Once it is deemed that all success criteria have been met for the site, the performance bond will be released and the site will be allowed to continue to develop under natural processes.

10 ADMINISTRATIVE REQUIREMENTS

10.1 Performance (Financial) Assurances – *SMARA 2773.1(a)*

A Performance Bond payable to the "County of Yolo or the Department of Conservation" shall be provided to the County of Yolo in the amount for the estimated cost of reclamation. The financial assurances shall remain in effect for the duration of the surface mining operation and any additional period until reclamation is completed. The amount of financial assurances required for any one year shall be adjusted annually to account for new lands disturbed, inflation, and reclamation of lands accomplished in accordance with the approved Reclamation Plan. As items of reclamation work are accomplished to the standards set forth in the approved Reclamation Plan and are acceptable to the County, the operator may retrieve the existing assurance and submit a new one with the face value reduced accordingly.

Upon review of the final monitoring report, the County or State may require a site visit to confirm the completion of the reclamation requirements. Once it is deemed that all success criteria have been met for the site, the performance bond shall be released and the site shall be allowed to continue to develop under natural processes. An amended reclamation plan shall be required prior to substantial deviation to approved plans (PRC 2777).

10.2 Reclamation Cost Estimate – *SMARA 2773.1; SMRO §10-5.601(g)*

Reclamation is phased to be concurrent with mining so that costs can be distributed over the life of the operation. Reclamation tasks are shown with the various costs and summarized in Appendix B, Financial Assurance Cost Estimate (FACE). Costs are based on work being performed by outside contractors. The FACE is intended to be adjusted annually as mining begins and reclamation areas are completed.

10.3 Reclamation Responsibility Designee – SMARA 2772(c)(10)

STATEMENT OF RESPONSIBILITIES

Submittal of this Shifler Mining and Reclamation Plan represents a commitment by Teichert Materials, a division of A. Teichert & Son, Inc., to reclaim the Shifler Property per the approved entitlement granted by Yolo County. Teichert accepts responsibility for reclaiming the mined lands in accordance with the attached reclamation plan. Assuring this obligation will be a surety bond to be held by the lead agency and the Department of Conservation, Office of Mine Reclamation.

Signed this _____ day of, _____2021

By _____
Dana Davis, President of Teichert Materials

By _____
Paul Mercurio, Production Manager

11 REFERENCES

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Figure 6 Existing Habitat and Wetland Communities

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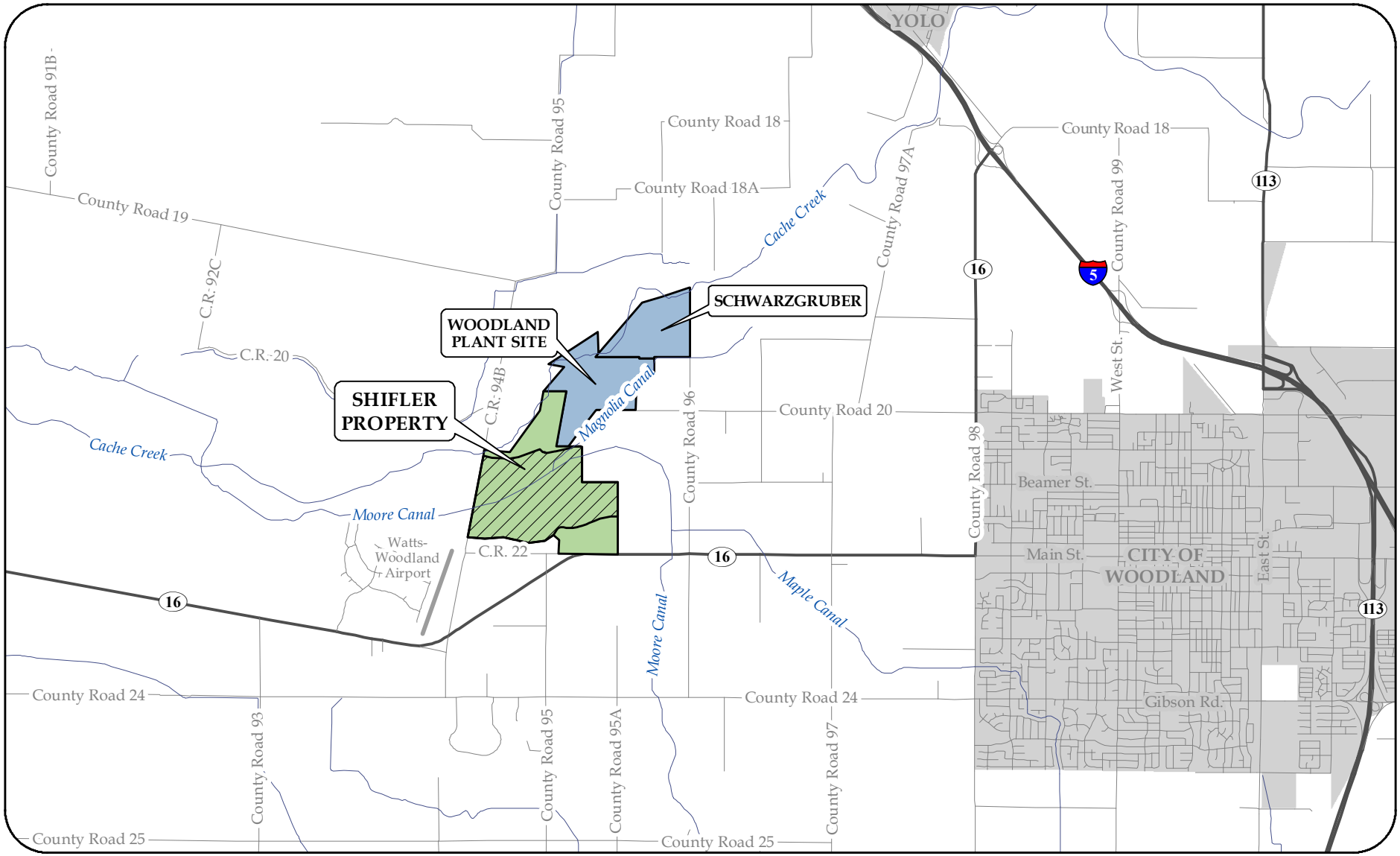
Figure 10 Muller Reclamation – Habitat Communities



TEICHERT MATERIALS

LEGEND:

- Project Site
- Shifler Property Boundary
- Teichert Woodland Plant Site & Schwarzgruber Property

DISCLAIMER:

The data was mapped for planning purposes only. No liability is assumed for the accuracy of the data shown.

0 0.5 1 Miles

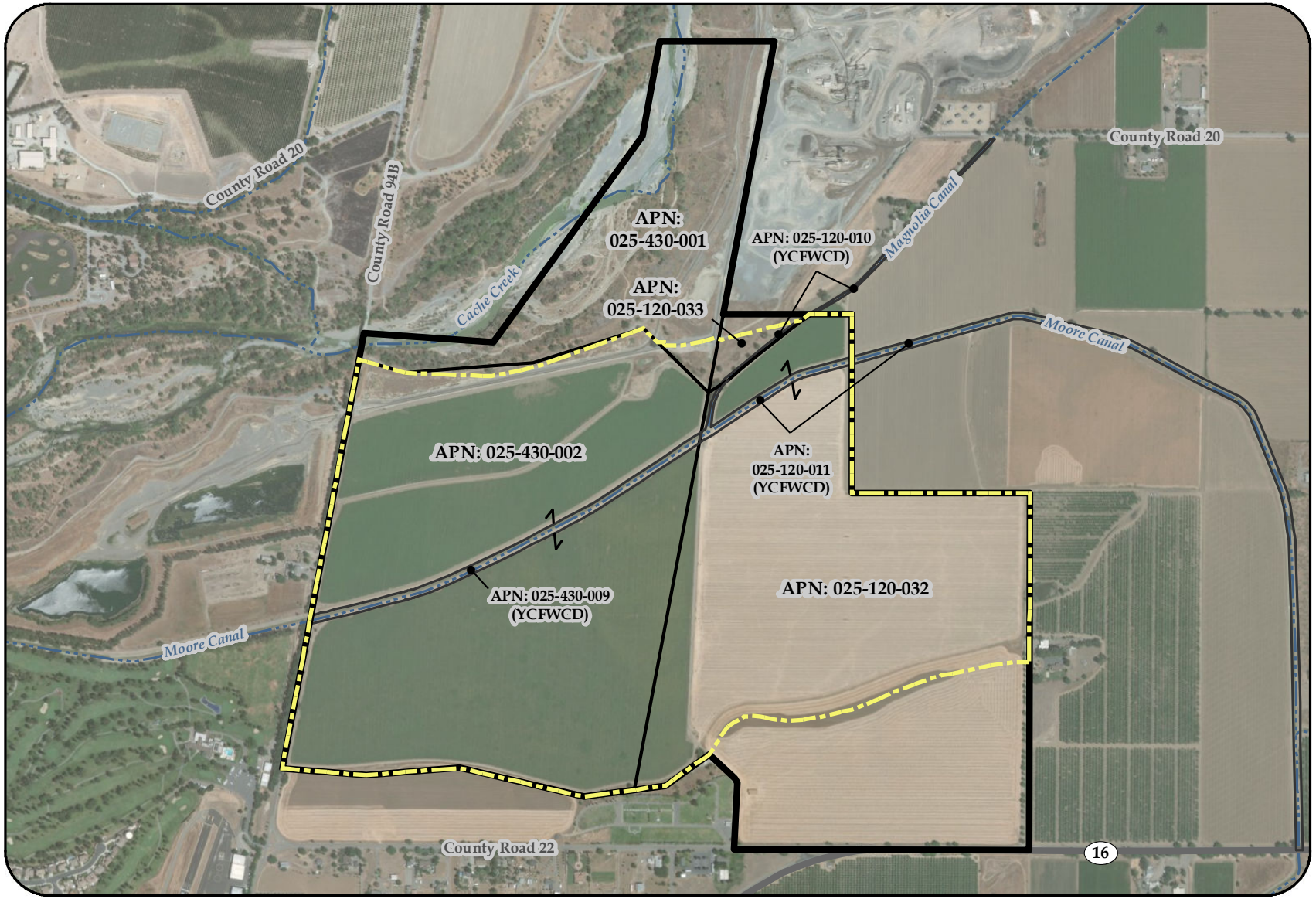
FIGURE 1

SITE VICINITY MAP

RECLAMATION PLAN
SHIFLER PROPERTY
TEICHERT MATERIALS

YOLO COUNTY, CALIFORNIA

C. Cornejo 6/15/2018 SHF_RecPlan_Fig1_Vicinity_201806.mxd



TEICHERT MATERIALS

LEGEND:

- Project Site
- Yolo County Flood Control & Water Conservation District (YCFWCD) Parcel Boundaries (Approximate)
- Project Parcel Boundaries
- Shifler Property Boundary

SOURCE:

- Aerial Photography Provided by ESRI Basemaps & Affiliates (DigitalGlobe: July 08, 2016)

0 550 1,100 Feet

DISCLAIMER:

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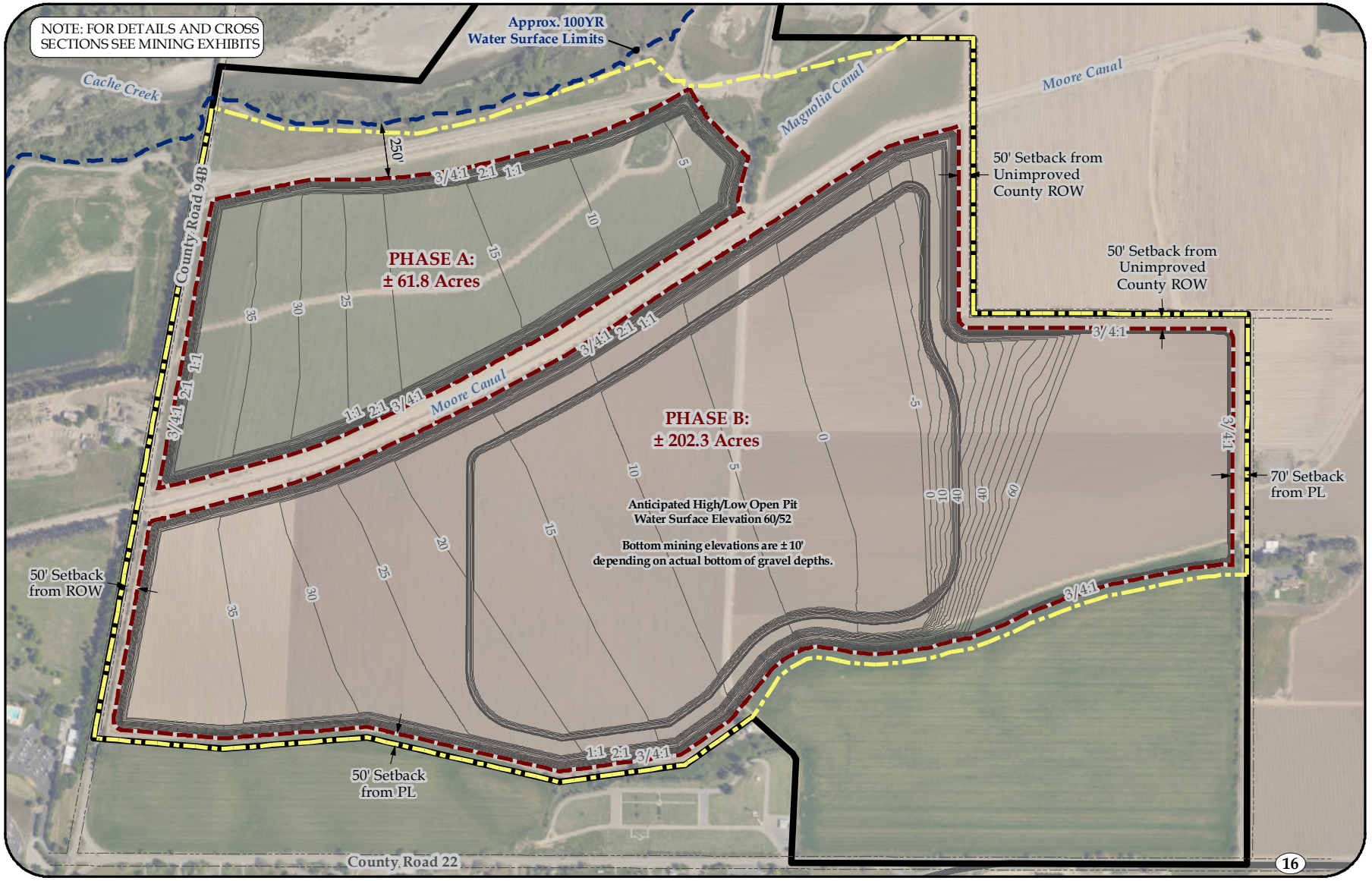
FIGURE 2

SITE MAP

RECLAMATION PLAN
SHIFLER PROPERTY
TEICHERT MATERIALS

YOLO COUNTY, CALIFORNIA

C. Cornejo 6/15/2018 SHF_RecPlan_Fig2_Site_201806.mxd



LEGEND:

- Approx. 100YR Water Surface Limits
- Proposed Mining Contours
- Proposed Mining Phases: Total ± 264.1 Ac.
- Project Site
- Shifler Property Boundary

SOURCE:

- Approx. 100YR Water Surface Limits Per Separate Hydraulic Report by Cunningham Engineering (Jan. 26, 2016)
- Mining Contours Provided by Cunningham Engineering (June 2021)
- Aerial Photography Provided by ESRI Basemaps (Yolo County: April 13, 2018)

0 350 700 Feet

DISCLAIMER:

The data was mapped for planning purposes only. No liability is assumed for the accuracy of the data shown.

FIGURE 3

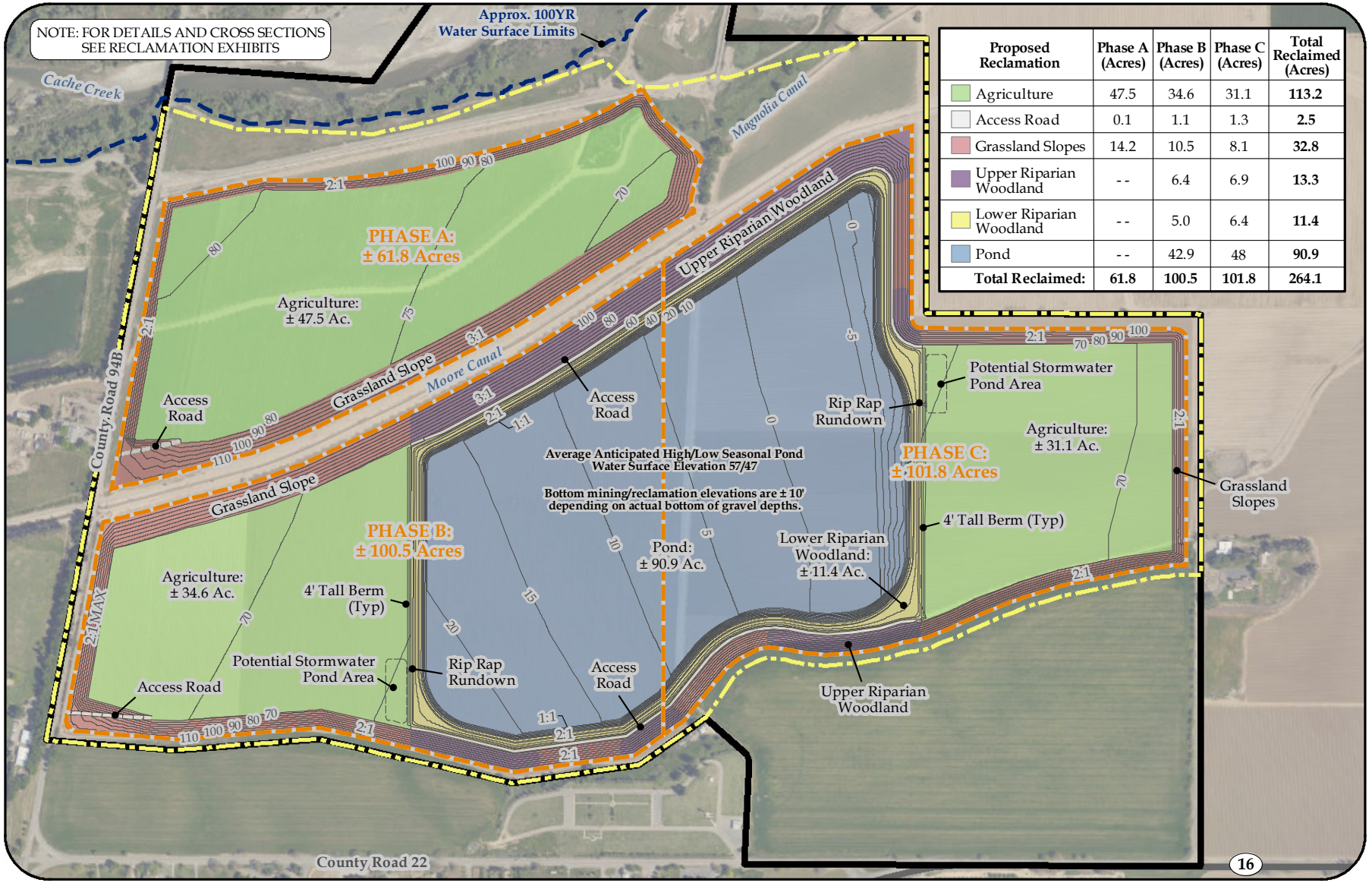
PROPOSED MINING AREA

RECLAMATION PLAN SHIFLER PROPERTY TEICHERT MATERIALS

YOLO COUNTY, CALIFORNIA

TEICHERT MATERIALS

C. Cornejo 6/15/2021 SHF_RecPlan_Fig3_Mining_202106.mxd



Proposed Reclamation	Phase A (Acres)	Phase B (Acres)	Phase C (Acres)	Total Reclaimed (Acres)
Agriculture	47.5	34.6	31.1	**113.2**
Access Road	0.1	1.1	1.3	**2.5**
Grassland Slopes	14.2	10.5	8.1	**32.8**
Upper Riparian Woodland	--	6.4	6.9	**13.3**
Lower Riparian Woodland	--	5.0	6.4	**11.4**
Pond	--	42.9	48	**90.9**
Total Reclaimed:	**61.8**	**100.5**	**101.8**	**264.1**

TEICHERT MATERIALS

LEGEND:

- Approx. 100YR Water Surface Limits
- Proposed Reclamation Contours
- Proposed Reclamation Phases: Total ± 264.1 Ac.
- Project Site
- Shifler Property Boundary

SOURCE:

- Approx. 100YR Water Surface Limits Per Separate Hydraulic Report by Cunningham Engineering (Jan. 26, 2016)
- Reclamations Contours Provided by Cunningham Engineering (June 2021)
- Aerial Photography Provided by ESRI Basemaps (Yolo County: April 13, 2018)

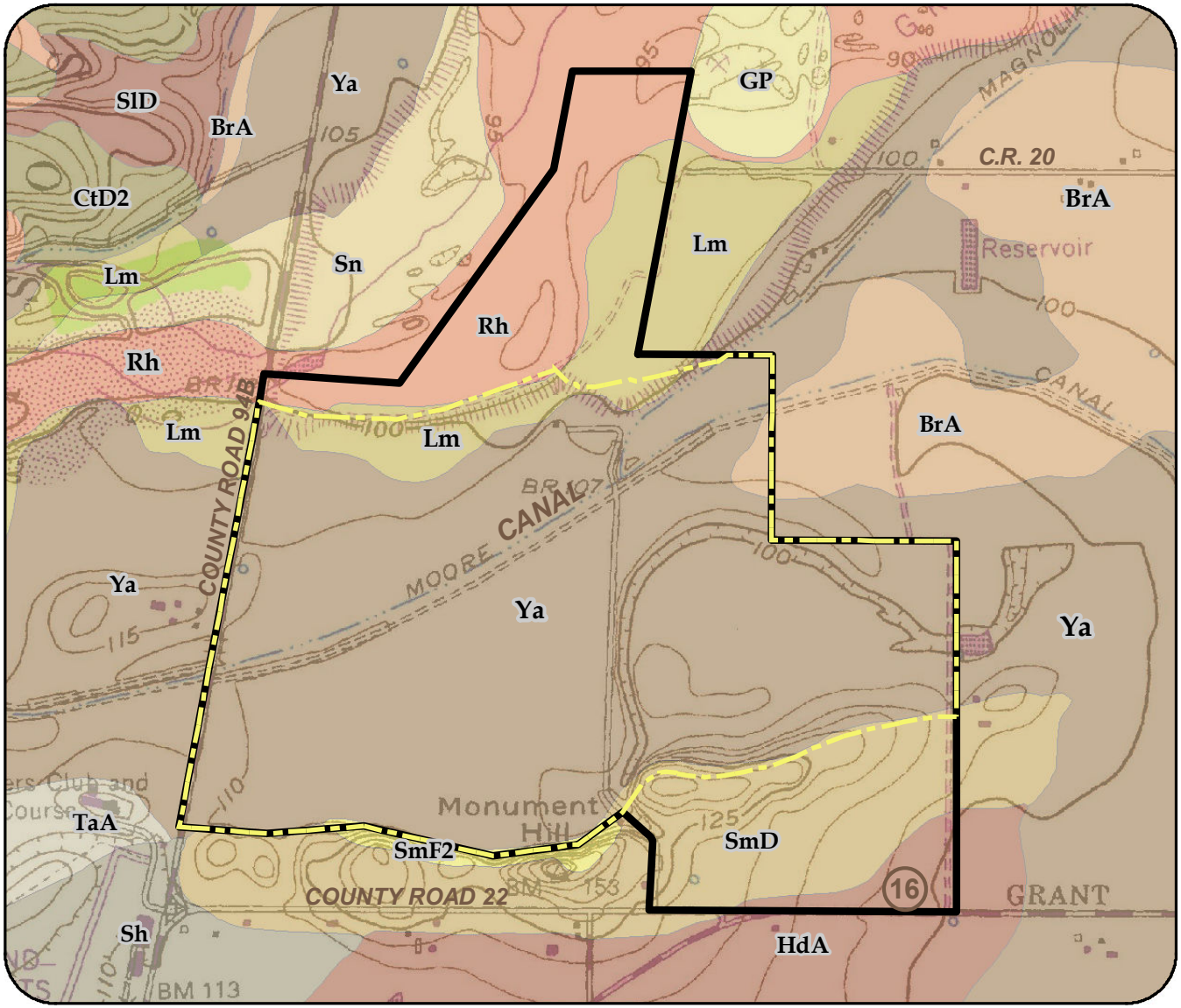
0 350 700 Feet

DISCLAIMER:

The data was mapped for planning purposes only. No liability is assumed for the accuracy of the data shown.

FIGURE 4
PROPOSED RECLAMATION-AGRICULTURE & HABITAT COMMUNITIES
RECLAMATION PLAN
SHIFLER PROPERTY
TEICHERT MATERIALS
YOLO COUNTY, CALIFORNIA

C. Cornejo 6/15/2021 SHF_RecPlan_Fig4_Rec_202106.mxd



NATURAL RESOURCES CONSERVATION SERVICE SOIL TYPES:

- BrA- Brentwood silty clay loam, 0 to 2 percent slopes
- CtD2- Corning gravelly loam, 0 to 12 percent slopes, MLRA 17
- GP- Gravel pits
- HdA- Hillgate loam, moderately deep, 0 to 2 percent slopes
- Lm- Loamy alluvial land
- Rh- Riverwash
- Sh- San Ysidro loam, 0 to 5 percent slopes, dry, MLRA 17
- SlD- Sehorn cobbly clay, 2 to 15 percent slopes
- SmD- Sehorn-Balcom complex, 2 to 15 percent slopes
- SmF2- Sehorn-Balcom complex, 30 to 50 percent slopes, eroded
- Sn- Soboba gravelly sandy loam
- TaA- Tehama loam, 0 to 2 percent slopes, loamy substratum, MLRA 17
- Ya- Yolo silt loam, 0 to 2 percent slopes, MLRA 17
- Project Site
- Shifler Property Boundary

TEICHERT MATERIALS

SOURCE:

Soil Survey Provided by NRCS
(Version 13, Sept. 13, 2017)

USGS 7.5' Quad: Woodland

0 600 1,200 Feet

DISCLAIMER:

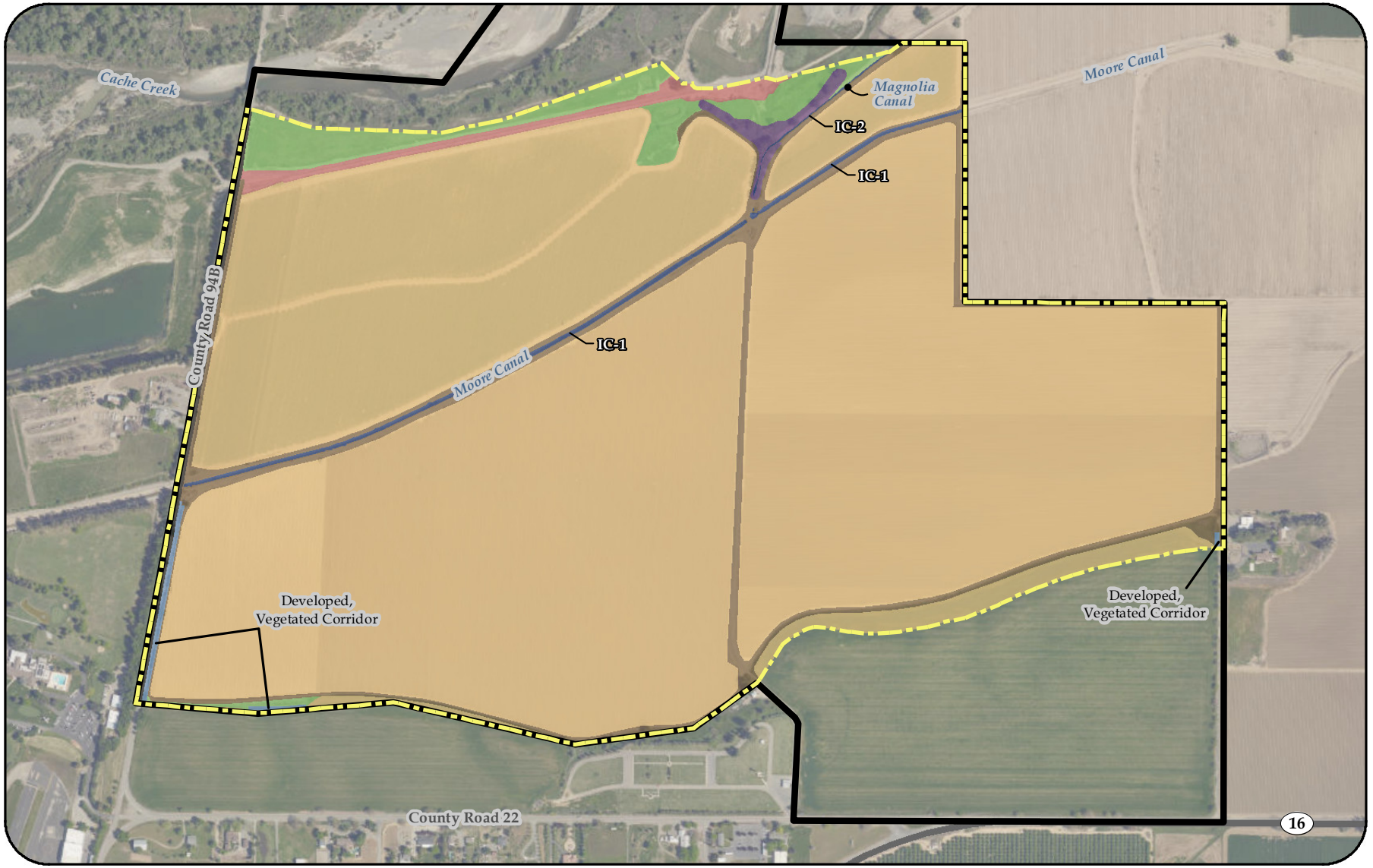
The data was mapped for planning purposes only.
No liability is assumed for the accuracy of the data shown.

FIGURE 5

NATURAL RESOURCES CONSERVATION SERVICE SOIL TYPES

RECLAMATION PLAN
SHIFLER PROPERTY
TEICHERT MATERIALS
YOLO COUNTY, CALIFORNIA

C. Cornejo 6/15/2018 SHF_RecPlan_Fig5_Soils_201806.mxd



TEICHERT MATERIALS

LEGEND:

WATERS OF THE U.S.

- Irrigation Canal (IC)
- Barren, Anthropogenic
- Cultivated Lands
- Developed, Vegetated Corridor
- Grassland
- Incidental to Agriculture
- Urban or Built Up, Paved Road
- Valley Oak Woodland
- Project Site
- Shifler Property Boundary

0 350 700 Feet

SOURCE:

- Existing Features Provided by Teichert (July 2020)
- Wetlands Provided by EcoSynthesis (Dec. 2019)
- Aerial Provided by ESRI Basemaps (Yolo Cnty: 04/13/18)

DISCLAIMER:

The data was mapped for planning purposes only.
No liability is assumed for the accuracy of the data shown.

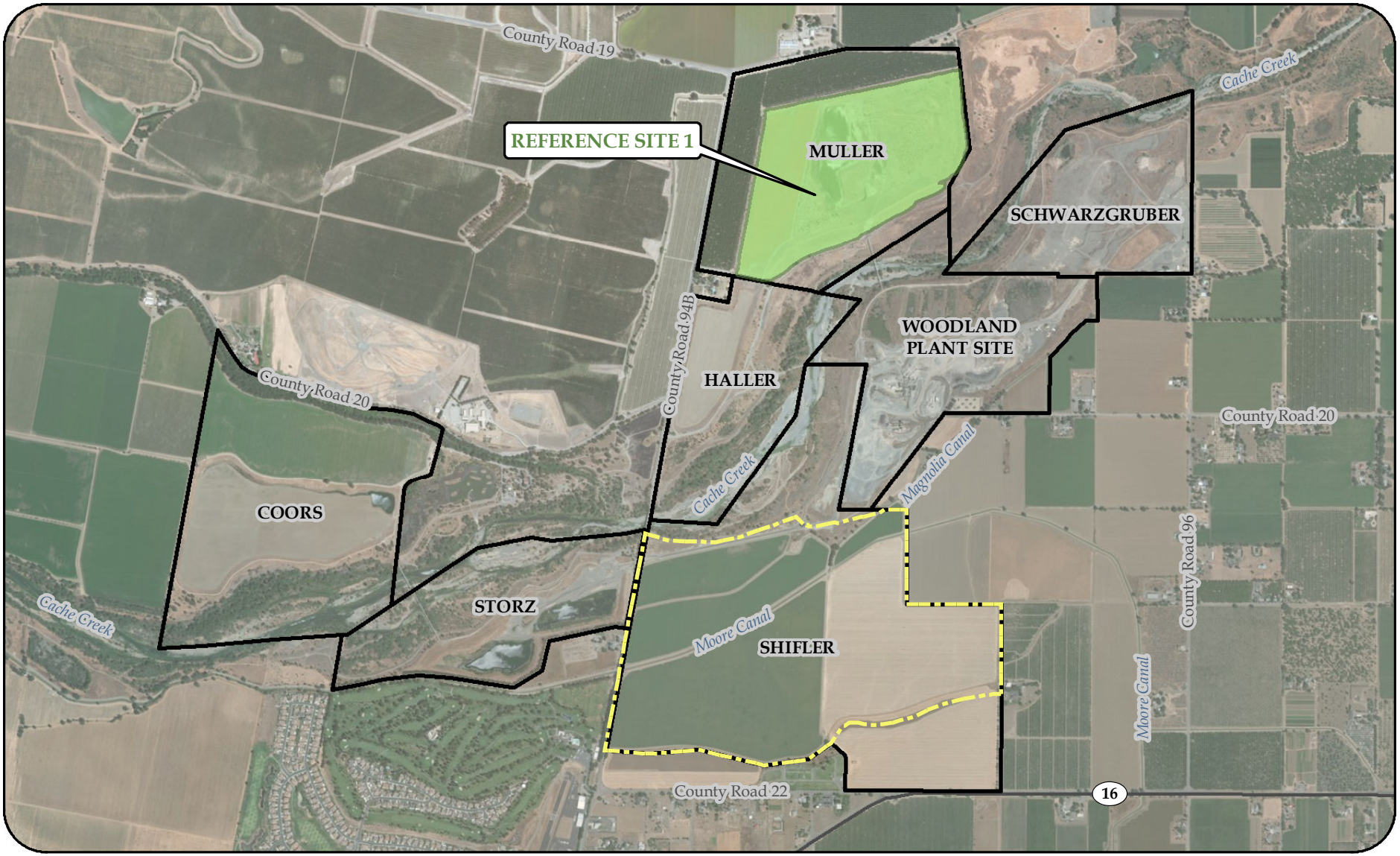
FIGURE 6

EXISTING HABITATS, WETLANDS AND FEATURES

RECLAMATION PLAN
SHIFLER PROPERTY
TEICHERT MATERIALS

YOLO COUNTY, CALIFORNIA

C. Cornejo 5/13/2021 SHF_RecPlan_Fig6_Bio_202105.mxd



TEICHERT MATERIALS

LEGEND:

- Reference Site 1: Muller
- Project Site
- Property Boundaries

SOURCE:

Aerial Photography Provided by ESRI Basemaps & Affiliates (Digital Globe: July 08, 2016)

0 1,000 2,000 Feet

DISCLAIMER:

The data was mapped for planning purposes only. No liability is assumed for the accuracy of the data shown.

FIGURE 7

REFERENCE SITE

RECLAMATION PLAN
SHIFLER PROPERTY
TEICHERT MATERIALS

YOLO COUNTY, CALIFORNIA

C. Cornejo 6/26/2018 SHF_RecPlan_Fig7_RefSites_201806.mxd

FIGURE 8

REFERENCE SITE 1: MULLER RECLAMATION PLAN AND HABITAT COMMUNITIES

RECLAMATION PLAN
SHIFLER PROPERTY
TEICHERT MATERIALS

YOLO COUNTY, CALIFORNIA

LEGEND

- Access Road
- Agriculture: ± 32 Acres
- Grassland Slopes: ± 18 Acres
- Low Density Oak Woodland/ Grassland: ± 11 Acres
- Native Hedgerow Planting: ± 1 Acre
- Open Water/ Seasonal Marsh: ± 27 Acres
- Riparian Upland: ± 40 Acres
- Riparian Wetland: ± 6 Acres
- Property Boundary

N W E S

0 250 500 Feet

SOURCE:

- Updated Reclamation GPS (May 2012)
- Aerial Photography Provided by ESRI Basemaps & Affiliates (DigitalGlobe: July 08, 2016)

DISCLAIMER:

The data was mapped for assessment purposes only. No liability is assumed for the accuracy of the data shown.

TEICHERT MATERIALS

C. Cornejo 6/26/2018 SHF_RecPlan_Fig8_Muller_201806.mxd

APPENDIX A

Teichert Shifler Project – Agricultural Feasibility Study

Eco Synthesis
SCIENTIFIC & REGULATORY SERVICES, INC.

Teichert Shifler Project

Agricultural Reclamation Feasibility Study

Prepared by:

Adrian Juncosa, PhD

Prepared for:

Teichert Aggregates
3500 American River Drive
Sacramento, CA 95864

September 16, 2017

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SUMMARY

This report discusses the feasibility of reclamation of a portion of the Shifler project site into prime agricultural land, and provides recommendations for soil salvage and placement to achieve that goal.

Soils of the mining area are mapped by the USDA Natural Resources Conservation Service entirely as Yolo loam, which is a very deep silt loam classified as a Mollic Xerofluvent, having only a very slight horizonation between the A and C horizons. There is a subtle color change, but no consistent and substantial change in texture or nutrient content.

Soil test pits were studied at 19 locations, and samples obtained and analyzed for nutrient content and texture. Results of laboratory analysis indicate that there is generally no significant differentiation between "topsoil" and subsoil for the purposes of agricultural reclamation, and that almost all of the material studied, down to a depth of at least 10 feet in most pits, was suitable for placement as the agricultural soil surface layer. Based upon laboratory results, all soils that are salvaged from a depth of up to 10 feet and stockpiled for the purposes of resoiling of the agricultural field would be expected to have sufficiently similar nutrient content that they may be mixed and stockpiled as one salvage stockpile, without separation of material to be placed as subsoil and topsoil. With the application of irrigation and fertilization practices that are commonly utilized in the region, yields from the reclaimed agricultural land could reasonably be expected to meet mining ordinance performance criteria.

Wet mining areas will be backfilled with waste fines up to at least five feet higher than the level of average annual high groundwater; at a minimum, the uppermost four feet of the backfill will be salvaged Yolo loam and sloped to drain (similar surface topography to the present fields).

Analysis of temperature data from June 2015 to February 2016 indicates that the below-grade agricultural field will have a suitable temperature range for agricultural production. Temperature differences between a present day field at grade and a reclaimed field 40 feet below grade were slight, and if anything were more favorable for agriculture in the below-grade field than the control site: nighttime temperatures during cold periods of the year were not as low, and daytime temperatures during warm months were not quite as high as the control site. The presence of an even lower pond level next to the below-grade field (as will be the case at Shifler) explains this result.

Soil and temperature studies demonstrate that post-mining reclamation to prime agricultural land is feasible.

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Appendix A. Soil sampling data

1 INTRODUCTION

1.1 Site Description and Project Summary

This report discusses the feasibility of, and procedures for, reclamation of the majority of the Teichert Shifler Project (Project) into prime agricultural land by the time of project closure.

The Project site is located a short distance to the south of Cache Creek in Yolo County, west of the City of Woodland. The majority, but not the entirety, of the site is proposed to be mined (the "Mining Area") and is currently used for agriculture and is classified as prime agricultural land; portions of the site outside the mining area are in ruderal native and non-native vegetation.

The Mining Area will be mined to levels below the groundwater elevation ("wet mining"), and commercial aggregate will be separated from waste fines. These waste fines will be used to bring a portion of the Mining Area up to the average annual groundwater elevation, or higher, then salvaged soil will be placed to achieve reclamation into prime agricultural land. A portion of the Mining Area will remain as a pond at closure.

Mining will create steep slopes near the Mining Area limits, which will be backfilled to establish slopes of 2:1 gradient or gentler in all areas above the average high groundwater level.

1.2 Agricultural Reclamation Overview and Objectives

The essence of all planned disturbed-land rehabilitation is to establish soil conditions that support the desired post-project vegetation. Ideally, this is achieved by salvaging and stockpiling appropriate soils, perhaps supplementing them with other growth media or amendments, and reestablishing the desired soil profile as disturbance is completed.

In order to determine what those supportive soil conditions are, one must understand how the desired post-project ecosystem functions. Agricultural systems may be highly managed, but they are fundamentally simply non-native vegetation types that produce plant parts that we find useful. The Yolo County Off Channel Surface Mining Ordinance and Yolo County Surface Mining Reclamation Ordinance (collectively, "Ordinance") specify that the applicable definition is that of the Williamson Act (sections 51200-51207 of the California Government Code). The present report discusses both the Williamson Act definition of prime agricultural land, and the definition of prime farmland provided by the California Department of Conservation (DOC), which are neither equivalent nor interchangeable. However, the latter definition includes details about soil characteristics that are relevant to the feasibility and methods of reclamation into prime agricultural land use as well. We are confident that the reclamation approach that is analyzed and recommended in the present feasibility report will achieve both the Williamson Act and DOC definitions and thus meet the Ordinance requirements with respect to reclamation of productive agricultural land.

1.2.1 DEFINITION AND DESCRIPTION OF AGRICULTURAL LANDS

Prime Agricultural Land (Williamson Act)

Section 10-4.220 of the Ordinance cites the Williamson Act, specifically California Government Code Section 51201, for the definition of prime agricultural land. This section reads as follows:

51201 (c). "Prime agricultural land" means any of the following:

1. All land that qualifies for rating as class I or class II in the Natural Resource Conservation Service land use capability classifications.
2. Land which qualifies for rating 80 through 100 in the Storie Index Rating.
3. Land which supports livestock used for the production of food and fiber and which has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture.
4. Land planted with fruit- or nut-bearing trees, vines, bushes, or crops which have a nonbearing period of less than five years and which will normally return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than two hundred dollars ($200) per acre.
5. Land which has returned from the production of unprocessed agricultural plant products an annual gross value of not less than two hundred dollars ($200) per acre for three of the previous five years.

Prime Farmland (DOC)

Prime farmland is defined by the DOC primarily on the basis of soil profile characteristics, with the additional requirement of irrigation. The details of the soil profile provided in the DOC definition are discussed in Section 2.4, along with information from the soil survey data and from site observations that are pertinent to it.

Functional Overview of Agricultural Reclamation

Agriculture, and specifically prime agricultural land or prime farmland, is a distinctive ecosystem in two ways: 1) plant growth is largely dependent on irrigation (which is a key element in the DOC definition of the term); and 2) the species grown may change from time to time, and even from season to season. The present agricultural use of the Shifler site is for annual crops rather than trees, so the present discussion is directed primarily at that use, though reclamation to annual crop use, as described here, does not preclude future conversion to tree crops.

This latter characteristic (variable species composition) may result from variation in climate, availability and amount of water for irrigation, other inputs, market factors, desire to maintain long-term soil fertility, and/or avoidance of plant pests of one or another phylogenetic type. Since the "revegetation" is variable, soil studies and specifications are not tailored to the ecology of a specific desired community, but rather merely to be generally suitable for major crops that are commonly grown in the Woodland area (irrigated row crops and orchards).

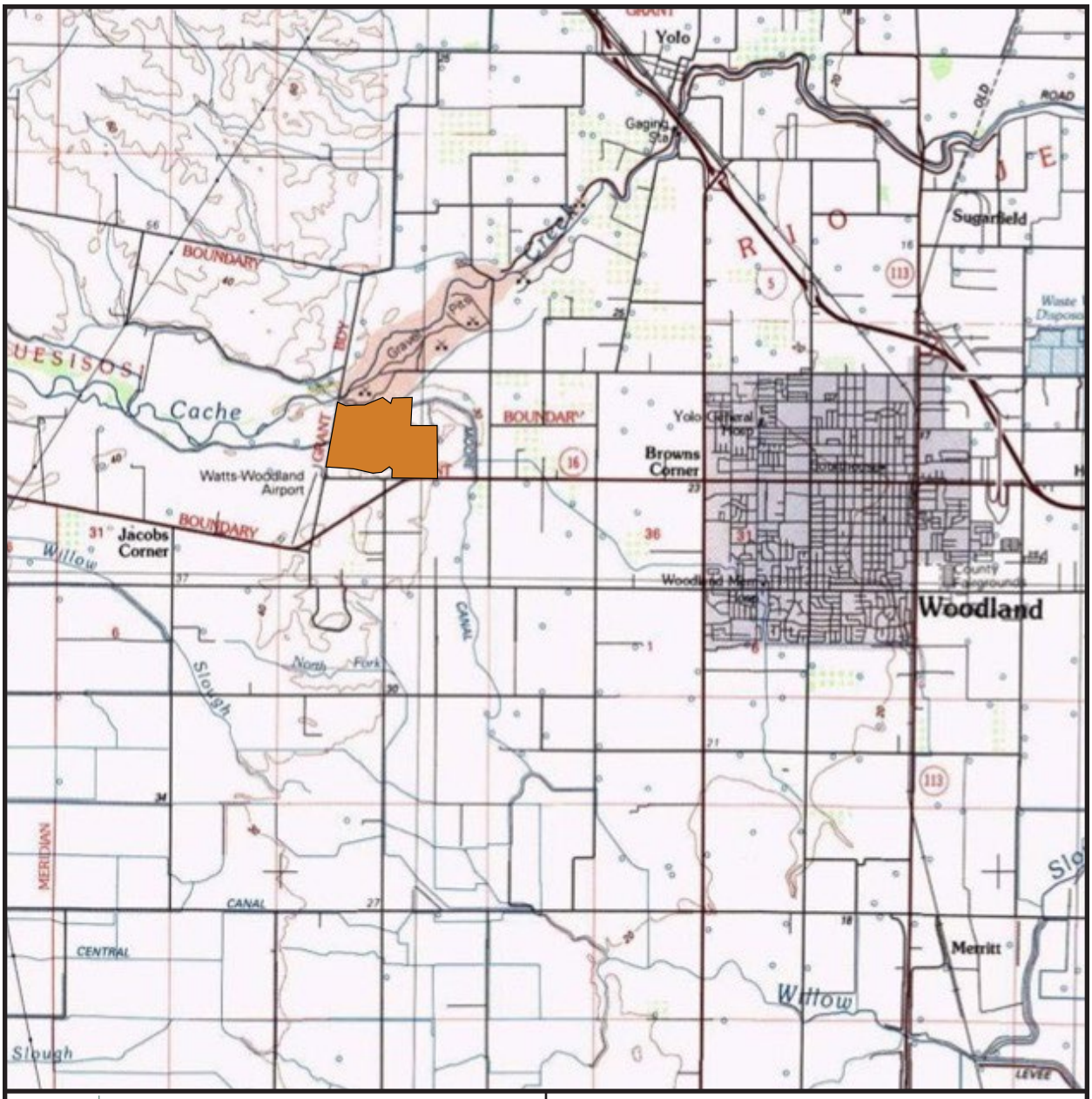
Agricultural Reclamation Objectives

Considering the additional requirements established by the Ordinance, the following objectives have been established for Project reclamation:

- Salvage and stockpiling of a sufficient amount of soil to provide the slope backfill and the prime agricultural land soil profile;
- Placement of a post-reclamation agricultural soil profile that will support production that meets the definition of prime agricultural land, relying in part upon the DOC description of prime farmland for guidance with respect to the characteristics of the soil profile;
- Establishment of a reclamation surface at least five feet higher than average annual high groundwater elevation at the Project site;

The present feasibility study also addresses several additional subjects:

- Determination of whether the soils of the upper pre-project soil profile differ sufficiently from the lower profile to merit segregation of "topsoil" and "subsoil" during salvage and stockpiling;
- Determination of the minimum thickness of salvaged soil that must be placed to achieve reclamation objectives; and
- Evaluation of possible concerns related to differences in temperature regime between the current elevation of agricultural fields and the post-reclamation topography.



Eco Synthesis

SCIENTIFIC & REGULATORY SERVICES INC

Teichert Shifler Project

Agricultural Reclamation Feasibility Study

Figure 1. Location Map

Project site (approximate)

Scale: Approximately 1:100,000 (1"=8,333')

North

1.3 Current Prime Agricultural Land Use

Data in this section was provided by the farming operation that leases the land that includes the project site. Crops planted on the Shifler site in 2009-2014 have included wheat, canola, tomatoes, and cucumbers. Selection of crop is made on the basis of various factors, but most notably the availability of irrigation water. Not only the amount but the mode of application of irrigation affects yields. For example, two large fields that had previously been planted with tomatoes and irrigated with surface water was subsequently equipped with subterranean drip irrigation, increasing the commercial yield by almost 25 percent. In 2013-2014, however, it was known early in the season that irrigation water would be in short supply or entirely unavailable, consequently, the same field was planted with wheat.

The present and recent agricultural use of the Shifler site is for annual row crops rather than trees, so the present discussion is directed primarily at that use, though reclamation to annual crop use does not preclude future conversion to tree crops, which are also commonly grown in the region and provide higher commercial yields than do row crops.

1.3.1 RECENT PRODUCTION

A summary of minimum and average yields for the crops that have been grown in the Project site from 2009 to 2014 are provided in Table 1-1 (following page). Some subareas of the site are consistently more productive than others, irrespective of irrigation, but for the purposes of evaluating agricultural reclamation, which will entail salvage, mixing, and replacement of soils, it is reasonable to present averages. Minimum yields for the least productive fields, and average acreage-weighted yields for all fields where a particular crop was grown, are provided.

See Section 5 for additional discussion of crop production.

Table 1-1. Summary of recent yields from agricultural fields within the proposed mining area (in tons/acre [t/ac] unless otherwise noted). Wheat yields are tons of grain.

Year	Wheat Minimum	Wheat Average	Tomatoes	Sunflower Seed
2009	2.1	2.10		
2010	3.65	3.79	41.81	
2011	3.06	3.06		
2012			52.43*	
2013	2.64	2.64	52.93*	
2014	1.01	2.23		1414 lbs/acre
2015	1.53	1.53		1523 lbs/acre
2016	2.78	2.78	55*	
Other				
canola	Yield is $1,350/acre (sold by acre, not by weight of harvest).			
cucumbers	12.64 t/ac	Only grown once.		
safflower	1.66 t/ac	Only grown in 2015		

* With subterranean drip irrigation system in use. 2010 irrigation had been via ditches.

2 SOIL STUDIES

2.1 Soil Survey

Virtually the entirety of the proposed mining area is mapped as Yolo series, a fine-silty series of Mollic Xerofluvents (NRCS, 2015). Yolo loam is a very fine textured loam with almost no textural differentiation (most layers of the typical pedon are silt loam, to a depth of 65 inches; only the [buried] Ab is silty clay loam), and only minor color difference, between the A horizon (10YR 3/2 and 3/3 moist) and the C horizon (2.5Y 4/4 and darker). There is no B horizon in Entisols. Though these colors are on different hue pages in the Munsell color book, examination of the relevant chips shows that the color difference is subtle. The A horizon is neutral (pH 6.7 to 7.3 in the reference pedon) and the C horizon is mildly alkaline (pH 7.4).

Yolo silt loam is well drained and, despite the fine texture (silty rather than particularly clayey), has moderate permeability. However, tillage pans that reduce permeability have developed over large areas of the series' extensive geographic occurrence. Uses identified in the official series description include row, field, and orchard crops. No cemented or strongly compacted tillage pan was observed in the test pits (see below).

Notably, the pedon description cites the presence of many to common very fine roots to significant depth (33 inches; fewer such roots at greater depths), and the presence of many very fine tubular pores all the way to the maximum observed depth (65 inches). Although the plow layer (Ap horizon, normally no more than 8-12 inches thick) is the most important soil layer for agriculture, lower soil layers are also important to productivity, especially in a water-limited environment such as California.

2.2 Soil Test Pits

In addition to the original exploratory borings, 19 soil pits (at locations shown in Figure 2) were excavated by hand, backhoe, and excavator to examine the soil profile and obtain samples for laboratory analysis, determine the rooting behavior of the current year's crops (wheat), and to record details that could be of importance in determining the approach to soil management. Sites for the test pits were scattered across the proposed mining area, with representation of the whole range of depth to commercial aggregate as revealed by test drilling. Observations were logged by strata that were recognizable visually or by texture, but laboratory samples were collected by one foot increments (or thicker in the case of deep samples obtained with an excavator or backhoe bucket). This sampling approach would be unconventional in a standard pedological soil study, where soil samples are analyzed by observed horizons. However, it is more useful for assessment of soil salvage and application for mine reclamation, because it is typically infeasible to adjust soil recovery depth at a resolution of fractions of a foot (or inches). If soil lifts are to be recovered and stockpiled separately, the practical increment thickness is one foot or more.

Sampling of the shallower pits (up to seven feet deep) was in increments of one foot. Sampling of the deepest pits (up to 14 feet deep) was in increments of greater thickness and was approximate. A total of 91 separate soil samples were sent for laboratory analysis of nutrient content and other parameters.

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Legend

✶TWSx Test Pit Location (approx.)

Teichert Shifler Project

Figure 2. Soils Test Pit Locations

Scale approximately 1:7,800 (1″=650′)

2.3 Results

The 22 exploratory boreholes within the Mining Area had an average overburden/topsoil depth of 10.9 feet (median 10.5 feet). All 27 boreholes (including five outside the Mining Area footprint) had an average overburden/topsoil depth of 12.5 feet (median 12.0 feet). The nature of this layer was elucidated by the laboratory results from the 19 additional soils test pits, which are summarized in Table 2-1 by depth increments. The complete set of all soil data is provided in Appendix A.

The test pits substantially confirmed the mapping of Yolo series loam throughout the proposed mining area, with some minor textural variations from the typical pedon that is described in the official series description. Most particularly, the observed soil texture based on actual particle size analysis (percent sand, silt, and clay per USDA definitions) was generally silty clay or silty clay loam rather than silt loam. Although some slight compaction below the plow depth was observed in some pits, there is no development of a pronounced tillage pan despite the clayey texture. This is a sign of good agricultural soil management.

With the exception of some slightly higher, but still quite moderate, results for nutrients that are best interpreted as being associated with normal agricultural applications of nitrogen, phosphorus, and potassium compounds in fertilizers, the laboratory results are remarkably consistent throughout the entire depth of soil and overburden that was studied for this soils analysis: essentially, it is all suitable for use as reclamation topsoil for the purpose of reclamation into prime agricultural land use. The five-to-six- foot depth increment for the first round of sampling shows notably lower nutrient values, however, this is the average of only two samples, one of which (TW12F) was 88 percent medium sand and therefore would be expected to have exceptionally low nutrient content. The other sample from this depth range (TWS4F) had similar values to samples from higher levels.

Laboratory results for pH consistently show a lower, but still nearly neutral, pH near the surface (mostly 6.5 to 7.0, with outliers as low as 5.9) and a slightly more alkaline pH lower in the soil profile. This is exactly as noted in the official soil description for Yolo soil.

Organic content of the soils is relatively low (average of less than 1.7 percent, even in the uppermost layer), but decreases only very slowly with increase in depth. Notwithstanding the low organic content, cation exchange capacity throughout the sampled depth is perfectly suitable for use as agricultural soil.

Finally, no redoximorphic features or other features (such as gley colors, depletion, and so on) suggestive of anaerobic conditions were encountered in soils at any depth in any of the soil test pits. This suggests that the present soil profile is not subject to prolonged seasonal saturation.

Table 2-1. Summary of laboratory analysis of soil samples from 19 test pits at the Shifler site (see Appendix A for complete results table). Mean values for cation saturation may not be strictly mathematically valid given the standard methodology used to compute these parameters, but provide a generally useful comparison of the likely results if samples from all test pits had been composited by depth increments. One sample from the entire soil study is not included below, but is present in the full data table in Appendix A. It was a single spuriously very sandy sample from the depth range of 5-6 feet at pit number 12 (88 percent sand). Unsurprisingly, levels of plant-available nutrients in that sample were much lower than in any other samples, including some from depths of up to about 14 or 15 feet.

Depth	Organic (% rating)	Est. N Release (lb/acre)	P (Weak Bray; ppm)[1]	P ($NaHCO_3$; ppm)[2]	K (ppm)	Mg (ppm)	Ca (ppm)	Na (ppm)	pH	CEC (meq/100 g)	Cation Saturation (%, computed)					Nitrate-N (ppm)	Sulfate-S (ppm)	Solube Salts (mmhos/cm)	Sand (%)	Silt (%)	Clay (%)	Texture
											K	Mg	Ca	H	Na							
Summary of samples from pits 1-12 (1-foot increments)																						
0-1′	1.1	52.5	32.6	25.9	218.6	959.3	1491.5	45.7	6.6	17.3	3.2	45.6	43.2	6.2	1.1	46.7	31.3	0.6	25	41	34	clay loam
1-2′	0.9	47.0	13.6	18.7	124.4	973.1	1519.3	54.4	7.1	16.2	1.9	49.3	46.8	0.5	1.4	28.3	15.8	0.4	26	40	34	clay loam
2-3′	0.8	45.2	7.4	11.4	95.1	989.3	1507.3	52.7	7.5	16.1	1.5	50.0	47.1	0.0	1.5	13.4	9.2	0.3	25	41	33	clay loam
3-4′	0.7	44.3	9.4	15.5	87.3	1000.1	1648.3	58.8	7.6	17.0	1.3	48.2	48.9	0.0	1.5	12.3	9.7	0.3	29	39	32	clay loam
4-5′	0.7	43.8	10.6	16.3	88.3	981.1	1778.3	64.5	7.7	17.5	1.3	46.5	50.6	0.0	1.6	16.1	11.8	0.3	33	40	27	(clay) loam
Summary of samples from pits 13 through 19 (2.5-foot increments). The first two rows below correspond approximately to the five rows of the section above.																						
0-2.5 ft	1.7	63	20	18	176	830	1497	30	6.8	13.9	3.0	43.9	47.6	4.7	0.8	20	6	0.3	25	38	37	clay loam
2.5-5 ft	1.6	61	8	14	80	949	1682	34	7.6	14.0	1.2	47.0	50.9	0.0	0.9	10	5	0.3	19	39	42	(silty) clay
5-7.5 ft	1.2	53	7	10	57	900	1548	33	7.9	13.1	1.0	47.9	50.2	0.0	0.9	10	3	0.3	32	34	33	clay loam
7.5-10 ft	1.3	56	6	11	62	986	1613	34	7.8	14.2	1.0	48.8	49.4	0.0	0.9	8	3	0.2	27	38	35	clay loam
>10 ft	1.1	52	7	9	64	939	1648	35	7.8	13.1	1.0	47.5	50.6	0.0	0.9	13	3	0.3	26	40	34	clay loam

[1] Weak Bray method is unreliable at pH >7.5; "n.a." is entered for these samples (values generally varied from 3 to 6: very low for agricultural soil).

[2] Olsen Method (sodium bicarbonate).

** Bicarbonate method is not reliable at pH <6.0, but value is provided anyway for this one sample.

The 2015 crop was winter wheat, which was selected to provide some commercial productivity in light of forecasts that irrigation water would be unavailable during the summer. A more commercially valuable crop such as tomatoes would have required irrigation water during the warmest part of the summer. The test pits confirmed the occurrence of living wheat roots and extensive very fine pores at depths throughout the soil profile, all the way down to five feet below the soil surface. In short, the test pits confirm that even a short-lived annual crop such as wheat utilizes a considerable depth of soil. Orchard crops, which are not currently grown on site, would be expected to utilize this depth of soil also.

Analyses for certain specific nutrients (e.g., nitrogen compounds) did not vary consistently with depth. To some extent, this is not surprising, because nutrient levels in crop fields, especially near the surface, are largely determined by the short-term and cumulative effects of application of fertilizer or other soil amendment (if any). Given that some of the individual fields within the proposed mining area are equipped with subterranean drip irrigation and others are not, and given that the cropping history of the various fields is not identical, variation in the nutrient analysis would be expected.

In general, organic matter content tends to be relatively low at all levels (less than 2.0 percent, often less than 1.0), magnesium content tends to be very high, and calcium and sodium content tends to be low. The levels of the three most important macronutrients (nitrogen, phosphorus, and potassium) are somewhat variable among the test pits and depths, but are customarily adjusted in agricultural practice by means of amendments.

At several of the test pits, a slight break in nutrient content was detected at about 24 inches, although others showed very little change in nutrient content from the surface to the bottom of the pit at a depth of four to six feet.

2.4 Prime Farmland Definition

The Ordinance definition of prime agricultural land is that of the Williamson Act, and is therefore based either upon very general soil characteristics or upon levels of commercial production (in terms of dollar value) or support of livestock. This definition consequently provides little guidance for the study of soil conditions on a particular site prior to mining or for the specification of the post-mining soil profile that would be expected to result in reclamation to prime agricultural land as defined by the Act and Ordinance. Accordingly, in making a reasonable inference as to the feasibility of agricultural reclamation, it is useful to consider a comparison of the characteristics of the soils that were observed in the Shifler test pits with the parameters noted in the DOC definition of Prime Farmland. For some parameters, the characteristics of the site's soils were derived from the NRCS soil survey data; for others, from the laboratory test results provided in Tables 1 and 2.

a. Water. *Definition:* Soils must have a xeric, ustic, or aridic moisture regime with available water capacity of at least 4.0 inches, and a developed irrigation water supply that is dependable and of adequate quality. *Shifler (NRCS):* Yolo series soil is a Xerorthent (xeric moisture regime) and has high available water capacity (about 11 inches). There is a developed irrigation system that is as dependable as the California climate permits, providing high quality irrigation water from the Moore Canal. Surface water allocations are provided by the Yolo County Flood Control and Water Conservation District (YCFCWCD).

b. Soil Temperature Range. *Definition*: Soils must have a frigid, thermic, or hyperthermic temperature regime (pergelic and cryic regimes are excluded). *Shifler* (NRCS): Yolo series has a thermic temperature regime.

c. Acid-Alkali Balance. *Definition*: Soils must have a pH between 4.5 and 8.4 in all horizons within a depth of 40 inches. *Shifler* (*laboratory*): Range of pH results for individual soil samples was 5.9 to 8.2.

d. Water Table. *Definition*: Soils have no water table or have a water table that is maintained at a sufficient depth during the cropping season to allow cultivated crops common to the area to be grown. *Shifler*: Yolo soils have a depth to water table of more than 200 cm (78.7 inches), which is sufficient to allow crops common to the area to be grown. In accordance with County ordinance, reclamation soil will be placed so as to maintain a minimum separation of five feet between the reclaimed soil surface and the average high groundwater level.

e. Soil Sodium Content. *Definition:* Soils can be managed so that, in all horizons within a depth of 40 inches, during part of each year the conductivity of the saturation extract is less than 4 mmhos/cm and the exchangeable sodium percentage is less than 15. *Shifler (laboratory):* Total conductivity from all soluble salts was 1.2 mmhos/cm or less in all samples. Exchangeable sodium was 3.2 percent or less in all samples.

f. Flooding. *Definition:* Flooding of the soil during the growing season occurs infrequently (less often than once every two years). *Shifler (NRCS):* Flooding rating for Yolo soil at the Shifler site is "none" meaning that the likelihood of flooding in any particular year is near zero.

g. Erodibility. *Definition:* The product of K (erodibility factor) multiplied by the percent of slope is less than 2.0. *Shifler (NRCS):* Yolo soil has a K factor of 0.43 (same value for whole soil or rock free), and reclaimed soil surface will be at a gradient of less than 4 percent (probably less than 1 percent), therefore the product will be less than 2.0.

h. Permeability. *Definition:* Soils must have a permeability rate of at least 0.15 cm/hour in the upper 20 inches if the mean annual soil temperature at 20 inches depth is less than 59 F. Permeability is not limiting if mean annual soil temperature is higher than 59 F. *Shifler (NRCS):* Yolo loam has a permeability of 3.24 cm/hour (may not be limiting anyway; mean annual temperature could not be ascertained).

i. Rock Fragment Content. *Definition:* In the upper six inches, soils must have less than 10 percent rock fragments coarser than three inches. *Shifler:* No rock fragments coarser than three inches were encountered in any soil test pits.

j. Rooting Depth. *Definition:* Soil has a minimum rooting depth of 40 inches. *Shifler (NRCS):* Soil survey data states that the depth to any type of restrictive layer is more than 200 cm (78.7 inches).

In summary, the soil survey data and laboratory results for general soil physical and hydrologic parameters, texture, organic and mineral nutrient content indicate that the entire sampled profile within the Mining Area, down to a depth of as much as 14 feet (maximum sampling depth), is suitable for use as the uppermost layer of a soil profile for reclamation of the site into prime farmland as defined by the DOC. Laboratory results indicate that it is not necessary to segregate a

"topsoil" and "subsoil" layer for successful reclamation as prime agricultural land. The thickness of the layer of salvaged soil that is placed on the agricultural surfaces must be at least 40 inches to meet the specification in item (j), above. Recommendations are discussed in Section 4.

Sufficient soils are available to recreate a soil profile that meets the DOC definition of prime farmland. As discussed elsewhere in this report, it is reasonable to infer that lands that meet the DOC definition of prime farmland will support the levels of production that meet or exceed those stated in the Williamson Act definition of prime agricultural land. Therefore, it is reasonable to conclude from the soils analysis provided above that reclamation into land meeting the Williamson Act definition of prime agricultural land is feasible.

3 CLIMATIC CONSIDERATIONS

The County received preliminary comments expressing concern about the possibility that cool air might pool in agricultural fields that are located in closed depressions at lower elevation than the pre-mining grades, and that this could adversely affect the feasibility of agricultural reclamation. The general principle that cooler air flows downward and can pool in topographic basins is well known, however, the climatologic literature on the subject generally pertains to large basins of many square miles in area (e.g., Salt Lake City basin). This section discusses results from monitoring of temperature in two experimental control locations and two locations that are topographically analogous to situations that will be created by the proposed Project. The proposed agricultural reclamation would not be located at the bottom of a simple large depression; instead, the agricultural field will be some tens of feet below grade, and a pond will be created at an even lower elevation (average grade separation of about 20 feet).

Temperature loggers were installed in the Shifler site and in three other locations in a parcel about one-half mile north of the Shifler site, where there is an agricultural field at unmodified grade (control), another agricultural field 40 feet below grade, and at an even lower level adjacent to that, where mining has left an area that is subject to ponding during a normal rainy season. This site is referred to as the "below-grade pond" even though it was not actually ponded throughout most of the temperature study; it was merely a basin at an elevation that was even lower than that of the below-grade field. Thus, the temperature study provides a comparison of two at-grade fields, to show what the regional range of variation is without alteration of topography, and temperature data from situations similar to the post-mining condition of the Shifler agricultural reclamation (that is, a below-grade field with an even lower depression adjacent to it).

Temperatures were recorded every 10 minutes from June 16, 2015, through February 3, 2016. This date range includes both the warmest and coldest months of the year, thus also of the growing season which is potentially year-round depending on the crops that are planted. Table 2 summarizes data for the whole period and for specific two-month periods. The full set of 33,383 lines of data is available digitally upon request.

Several relevant data comparisons were made between the temperatures at the at-grade control nearby to the below-grade sites and each other site (Shifler control, below-grade field, below-grade pond). Comparisons were made by subtracting each 10-minute temperature reading from the corresponding reading from the desired comparison site, then by averaging these results over the desired time ranges as shown in the table.

The below-grade field represents the future condition of the reclaimed Shifler prime agricultural land. Extracts from the whole data set were analyzed for daytime and nighttime for the two historically warmest months of the year (July-August) and the two coldest months (December-January). For simplicity of data processing, "daytime" was defined as the period from 6:00 AM to 5:50 PM, and "nighttime" was defined as 6:00 PM to 5:50 AM. We are confident that the results from using these definitions are sufficiently representative of the actual conditions during the sun-up and sun-down periods to support reasonable inferences about agricultural use.

Table 3-1. Summary of pairwise temperature comparisons (degrees Fahrenheit [° F] difference) between the control site and the Shifler present field and two nearby locations representative of proposed future mining topography. A positive number indicates that the site was warmer than the control; negative numbers, colder. Standard deviations are provided in parentheses.

Data range	Shifler	Below-grade field	Below-grade pond
All data (June 2015-February 2016)	1.00 (2.47)	-0.20 (2.15)	-0.67 (2.37)
July-August daytime	0.02 (2.09)	0.01 (2.32)	-0.60 (1.59)
July-August nighttime	1.03 (2.94)	0.25 (1.32)	0.45 (2.33)
December-January daytime	0.55 (1.57)	-1.78 (1.24)	-0.67 (1.87)
December-January nighttime	0.58 (1.17)	-2.14 (1.07)	-1.63 (2.13)

For the entire data set, the present Shifler field is one degree warmer than the control, but this difference is much smaller than the standard deviation, that is, the vast majority of values fall within the same ranges. The below-grade field (representative of the future condition of the reclaimed field) is only 0.2° F cooler than the control site, which is unlikely to be agriculturally important overall.

During the summer months, when the most temperature sensitive crops such as tomatoes or cucumbers are grown, the daytime temperatures of the below-grade field are insignificantly different from the control; likewise, the nighttime temperatures average 0.25° F warmer. Temperatures during the two coldest winter months would be expected to be 1.78° F cooler on average during the day and 2.14° F cooler during the night. While these differences are not statistically insignificant, from an actual agricultural perspective, they are unlikely to be important.

The winter row crop that has been grown in the past on the site is winter wheat, which is resistant to temperatures substantially colder than those observed, and indeed is most resistant to cold temperatures during the coldest part of the winter. Further, there is some reasonable concern that yield of woody crops such as vines and orchard fruits or nuts in California will be impaired due to increasing temperatures and consequent insufficiency of chilling hours. For these plants, the slightly lower winter temperatures of the reclaimed field that are expected on the basis of the current data set would actually be a benefit.

With respect to temperature, the DOC definition of prime farmland requires a frigid, thermic, or hyperthermic soil temperature regime. Though soil temperatures were not monitored, it is nearly certain that the soil temperature regime would remain thermic (and absolutely certain it would not become colder than frigid) even with the air temperature differences discussed here.

4 RECOMMENDATIONS

4.1 Overview

As noted above in Section 2, the nutrient analyses do not provide consistent guidance on the separation of different lifts of soil during pre-mining soil salvage. The test pit visual observations of the boundary between the A and C horizons revealed it to be found at an approximate depth of (18-) 24 inches (there is no B horizon in Entisols, including Xerofluvents). This is consistent with some laboratory analyses that showed a very slight shift in content of some nutrients at about 24 inches; however, others did not.

The test pits and observations of roots at considerable depths support a specification of replacing salvaged soil to a total depth of five feet on top of any other materials that might be applied to attain desired topographic grades. Given that pure sand was encountered in some test pits in highly productive fields at a depth of about five feet, that depth of salvaged soil would appear to be adequate for maintenance of long-term agricultural productivity.

The soils presently occurring on site have significant clay content, although the observations of structure and fine porosity show that there is a desirable degree of secondary aggregation to allow for adequate hydraulic conductivity and avoidance of saturation. Accordingly, to avoid excessive destruction of soil structure, soils should ideally be handled when they are as dry as possible, subject to air quality considerations pertaining to the possible generation of fugitive dust.

4.2 Salvage

The results of the present soil analysis indicate that the material available for salvage, down to a depth of at least ten feet, is all suitable for use as the uppermost layer of soil to support growth of agricultural crops common to the region. In terms of the observed characteristics of the soils and the parameters that were tested in the laboratory, there is no pronounced differentiation between an upper horizon and a lower one (or multiple horizons) for suitability as a prime farmland soil. In short, the laboratory results do not indicate that salvaged material should be segregated and stockpiled by lifts.

Accordingly, the recommended soil salvage procedure is for the entire ten foot depth of the soil profile and overburden to be salvaged as one supply of agricultural reclamation soil. In some portions of the site, the exploratory drilling showed the presence of commercial aggregate at depths of less than ten feet, so equipment operators should be attentive to the appearance and texture of the material as it is being salvaged, in order to avoid mixing any significant quantities of sand or gravel into the soil stockpile.

Yolo series soil has a high clay content, and although the in situ texture is friable, some portions of the Ap and upper C horizons, and the buried A horizon if one were to be present, are massive (not secondarily aggregated) in structure. Therefore, soil handling should take place when the soil is as dry as possible within the constraints of dust control considerations, so as to minimize the loss of soil structure.

After the initial recovery of a volume of soil sufficient to reclaim the final intended phase of operations, including construction of slopes and resoiling of areas to be future agricultural land, the remainder of the soil salvage can be placed directly for reclamation. However, at any point

where the active mining area exceeds the area that can be reclaimed with the stockpiled soil volume, then additional stockpiles shall be created to make up the potential future shortfall.

4.3 Stockpiling

A location where an ample stockpile of soil for reclamation of the final phase of reclamation can be left in place for the duration of the project operations should be selected on the basis of the pre-project exploratory drilling for commercial aggregate. Soil salvaged from the first phase of project operations should be stockpiled in this location and preferably moved a minimum number of times until the final phase of reclamation. Salvaged soil may not be used for purposes other than reclamation without prior County approval.

The soil stockpile should be constructed to meet the specifications provided by the Ordinance (Section 10-4.433): a maximum height of 40 feet or less, with slopes of 2h:1v or gentler, to minimize erosion and discourage use by bank swallows. During the bank swallow breeding season, slopes shall not exceed 1:1 even on a temporary basis: even when stockpiles are being disturbed for any other reason (soil removed or added), slopes shall be graded to a slope of 1:1 or less steep at the end of each work day. The top of the soil stockpile shall be graded to drain, at a slope of at least two percent (preferably three to five percent), so as to minimize the infiltration of rain water into the interior of the stockpile.

Soil stockpiles shall be seeded with cover vegetation to prevent wind and rain erosion. Since the laboratory results for the site showed that the available soils have relatively low organic content (many samples had less than one percent organic content rating), the more cover vegetation that is established, the better for future agricultural production.

4.4 Reclamation Soil Profile

The final depth of mining is currently expected to range from 40 to 110 feet below present grade.

Some mining will extend into groundwater; from this wet mining, fines will be separated from commercial aggregate and concentrated from slurry by settlement and evaporation. These waste fines will be used to backfill a portion of the mining area.

Once mining operations have attained the lowest depth from which useful aggregate material can be removed, a slurry of fines that are separated from the commercial aggregate during processing will be discharged onto the bottom of the mined area, so that the dried fines create a subgrade layer up to a the level where salvaged soil is placed to provide the agricultural soil profile. Although the waste fines are materials of a clayey to loamy texture and would be expected to be suitable for plant root growth, The discharge/placement of fines is expected to create an uneven or sloping upper surface, which should remain sloped but with a generally even surface so that the thickness of salvaged soil is more or less consistent. A sloping subgrade surface is preferable to a level one, because it creates a gradient that enhances lateral flow of subsurface water, thus minimizing the mounding of percolating water on top of the low-permeability fines.

To meet the DOC definition of the rooting zone of prime farmland, a minimum thickness of 40 of salvaged soil material (that is, soil recovered from the uppermost ten foot depth of the existing soil and overburden profile) must be placed directly, or from a stockpile, to create the final agricultural soil profile. This report recommends that this thickness be a minimum of four feet at all points,

which means a somewhat thicker layer of salvaged soil in places where the subgrade level (waste fines) slopes downward more steeply than does the agricultural surface. As always in reclamation, the thicker the placement of the uppermost growth medium, the better.

In order to facilitate irrigation, which is a key element in the DOC definition of prime farmland, the final surface of the areas intended to be used as agricultural land shall be graded to be nearly level, but to drain sufficiently as to prevent local ponding or saturation (for example, at a slope of one percent).

It is reasonable to expect that a reclamation soil profile meeting these recommendations would meet the definition of prime agricultural land (see Section 1.2.1).

4.5 Side Slopes

Mining will proceed to as close to the Mining Area boundary as is feasible, thus creating steep temporary pit side slopes. In all areas above average high groundwater level, these will be backfilled to a 2:1 or gentler slope to result in a permanent side slopes that can be revegetated to resist erosion. These side slope backfills consume considerable quantities of salvaged soil. When soil budgets and stockpile management tracking spreadsheets are established for the salvaged soil, this need should be continually accounted for, and, if necessary, as much non-agricultural fill material should be used to build the interior of the slopes as is feasible. A minimum thickness of one foot of salvaged soil should be placed to support erosion control revegetation.

price/ton in different counties [no price provided for Yolo Co.] but would produce $2,528 to $28,961/acre based on prices provided for other counties).

These figures suggest that it is feasible to reclaim prime agricultural land as defined by the Williamson Act and Ordinance at the Shifler site, by merely growing about one ton/acre of wheat, and that the projected production of 2.1 tons (equal or exceeding average for the lowest production year, 2009) easily meets that standard.

5 PRODUCTION

A summary of minimum and average yields for the crops that have been grown in the Project site from 2009 to 2014 are provided in Table 1-1 (Section 1.3), repeated here for convenience.

Table 1-1. Summary of recent yields from agricultural fields within the proposed mining area (in tons/acre [t/ac] unless otherwise noted).

Year	Wheat Minimum	Wheat Average	Tomatoes	Sunflower Seed
2009	2.1	2.10		
2010	3.65	3.79	41.81	
2011	3.06	3.06		
2012			52.43*	
2013	2.64	2.64	52.93*	
2014	1.01	2.23		
2015	1.53 (grain)	1.53 (grain)		1523 lbs/acre
2016	2.78 (grain)	2.78 (grain)	55*	
Other				
canola	Yield is $1,350/acre (sold by acre, not by weight of harvest).			
cucumbers	12.64 t/ac	Only grown once.		
safflower	1.66 t/ac	Only grown in 2015		

* With subterranean drip irrigation system in use. 2010 irrigation had been via ditches.

Section 10-5.601(c)(2) of the Ordinance requires an estimate of projected production of reclaimed agricultural lands. With the implementation of the reclamation recommendations in Section 4 of this report, along with application of irrigation (if water allocation is available) and fertilizer as is common agricultural practice in the Woodland area, it is reasonable to project that production would equal or exceed the lowest production level, averaged across the present cultivated Shifler land area on an acreage-weighted basis, for any of the five years for which records were available for the present study, namely, 2.1 tons/acre of wheat.

According to the California Department of Food and Agriculture (California County Agricultural Commissioners' Reports, Crop Year 2013-2014; CDFA, 2015), the average dollar value of one ton of wheat harvested in Yolo County in 2013-14 was $216.27, thus, the minimum projected yield would be worth about $432.54/acre, that is, more than twice the threshold to meet the Ordinance definition of prime agricultural land ($200/acre). All other row crops that have been grown on the Shifler site from 2009 to 2014 have much higher commercial yields (e.g., canola, $1,350/acre; tomatoes, minimum production of 41.81 t/ac x $83.59/t = $3,495/acre; cucumbers vary greatly in

6 CONCLUSIONS

This report provides information from the following sources:

- NRCS soil survey and data base;
- studies and laboratory analysis of soils in 19 test pits within the mining area;
- monitoring of temperatures at control sites and at sites that are analogous to the post-mining reclamation topography for the proposed project;
- crop production for five recent years; and
- crop values from the California Department of Agriculture summaries for 2013-2014.

This information supports the following conclusions:

- Ample quantities of soils that have suitable nutrient and textural qualities for use in agricultural reclamation are present and may be salvaged down to a depth of 10 feet without the need to segregate topsoil and subsoil. Average and median overburden depths both exceed 10 feet.
- The amount of available soil is sufficient to recreate a soil profile that meets the DOC definition of prime farmland; and such a soil profile can reasonably be expected to support levels of production that would equal or exceed the levels required to satisfy the Williamson Act definition of prime agricultural land.
- Projected crop production, based upon the average yield for the worst production year during the period 2009-2014, would be 2.1 tons/acre of wheat. This would have a commercial value of more than twice the threshold to meet the Wiliamson Act definition of prime agricultural land.
- The temperature regime of the proposed reclaimed agricultural field will be very similar to that of the present at-grade agricultural fields during the summer and will be slightly cooler during the winter. The latter difference is not expected to be agriculturally important for the common winter row crop (wheat) and may have a slight benefit in terms of chilling hours for wheat and for orchard crops if those are grown in the future.

Accordingly, this report concludes that it is feasible to reclaim prime agricultural land as proposed by the project's reclamation plan.

7 REFERENCES

California Department of Food and Agriculture (CDFA). 2015. California County Agricultural Commissioners' Reports Crop Year 2013-2014. Report dated December 31, 2015, prepared by CDFA, cooperating with the USDA National Agricultural Statistics Service, Pacific Region.

Natural Resources Conservation Service (NRCS). 2015. Custom Soil Resource Report for Yolo County, California. Report and data downloaded from WebSoilSurvey internet application on March 26, 2015 (http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx).

Appendix A:

Soils Test Pit Laboratory Results

Appendix A. Laboratory results for soil samples collected within the Mining Area of the Teichert Shifler Project site.

Sample	Organic (% rating)	Est. N Release (lb/acre)	P (Weak Bray; ppm)1	P (NaHCO3; ppm)2	K (ppm)	Mg (ppm)	Ca (ppm)	Na (ppm)	pH	CEC (meq/100g)	Cation saturation computed (%)					Nitrate-N (ppm)	Sulfate-S (ppm)	Solube Salts (mmhos/cm)	Sand (%)	Silt (%)	Clay (%)	
											K	Mg	Ca	H	Na							
TWS1A	2.6	82	16	17	198	1120	1869	31	7.1	19.2	2.6	48	48.6	0	0.7	67	34	1	16	42	42	
TWS1B	2	71	7	13	98	1095	1697	30	7.1	17.9	1.4	50.4	47.4	0	0.7	21	6	0.3	10	44	46	
TWS1C	1.8	67	4	8	43	1063	1522	36	7.5	16.6	0.7	52.6	45.7	0	1	4	2	0.2	10	48	42	
TWS1D	1.3	56	4	6	57	1110	1526	41	7.6	17.1	0.9	53.5	44.6	0	1	2	2	0.2	8	46	46	
TWS2A	1.7	65	17	22	91	871	1370	30	6.7	15	1.5	47.6	45.5	4.5	0.9	58	45	1.2	38	34	28	
TWS2B	0.9	48	4	4	39	661	1032	26	7.4	10.8	0.9	50.3	47.7	0	1	21	10	0.4	56	22	22	
TWS2C	0.7	43	6	5	39	503	1047	31	8	9.6	1	43.1	54.5	0	1.4	3	6	0.3	74	14	12	
TWS2D	0.4	39	5	9	41	521	1910	32	8.2	14.1	0.7	30.5	67.8	0	1	3	8	0.3	82	8	10	
TWS3A	1.6	61	17	12	119	885	1350	30	6.4	15.9	1.9	45.8	42.4	0.9	0.8	32	55	0.7	22	46	32	
TWS3B	1.3	56	9	8	69	881	1586	31	7.3	15.5	1.1	46.8	51.2	0	0.9	34	26	0.6	38	36	26	
TWS3C	1.6	61	3	3	75	1054	1445	43	7.6	16.3	1.2	53.3	44.4	0	1.1	2	8	0.2	18	48	34	
TWS3D	1.2	53	4	61	78	1087	1724	49	8	18	1.1	49.8	47.9	0	1.2	2	6	0.3	18	48	34	
TWS4A	0.8	46	36	47	156	696	1454	33	6.6	14.4	2.8	39.8	50.5	6	1	7	13	0.3	26	42	32	
TWS4B	0.2	33	7	18	82	1144	1759	54	7.2	18.6	1.1	50.5	47.1	0	1.3	17	17	0.4	14	46	40	
TWS4C	0.2	33	5	11	57	1157	1593	58	7.7	17.9	0.8	53.1	44.4	0	1.6	24	15	0.5	8	46	46	
TWS4D	1.3	57	6	28	49	1117	2134	73	7.7	20.3	0.6	45.3	52.5	0	1.6	27	13	0.6	24	42	34	
TWS4E	1.2	54	6	8	45	964	1994	81	8.1	18.3	0.6	43.2	54.2	0	1.9	25	16	0.3	38	38	24	
TWS4F	0.2	33	6	11	31	790	1613	97	8.2	15	0.5	43.2	53.5	0	2.8	14	15	0.4	46	30	24	
TWS5A	0.7	44	80	37	143	864	1435	38	6.7	15.5	2.4	45.9	46.2	4.5	1.1	41	43					
TWS5B	0.7	43	9	7	63	804	1219	36	7.1	13	1.2	50.8	46.7	0	1.2	51	21					
TWS5C	0.5	40	8	25	56	739	1194	37	7.3	12.3	1.2	49.2	48.3	0	1.3	27	9					
TWS5D	0.5	40	11	7	64	758	1179	35	7.4	12.4	1.3	50.1	47.3	0	1.2	21	9					
TWS5E	0.2	33	14	17	73	775	1186	42	7.7	12.7	1.5	50.3	46.7	0	1.4	10	8					
TWS6A	0.7	45	19	12	283	1099	1688	29	6.7	19.2	3.8	47.1	43.9	4.5	0.7	54	9					
TWS6B	0.3	36	7	21	136	1164	1773	34	7.1	18.9	1.8	50.6	46.8	0	0.8	22	5					
TWS6C	0.6	41	5	6	145	1318	1974	38	7.3	21.2	1.7	51.1	46.4	0	0.8	27	5					
TWS6D	0.4	39	5	8	77	1234	1750	40	7.4	19.3	1	52.7	45.4	0	0.9	18	6					
TWS6E	0.4	38	4	18	67	1210	2001	39	7.5	20.3	0.8	49.1	49.2	0	0.8	16	4					
TWS7A	0.8	45	37	32	360	893	1297	41	6.2	16.9	5.4	43.3	38.2	12	1	71	37	0.5	18	48	34	
TWS7B	0.8	46	19	11	169	873	1415	38	7	14.8	2.9	48.4	47.6	0	1.1	40	12	0.4	16	48	36	
TWS7C	0.8	46	14	20	144	982	1588	51	7.4	16.6	2.2	48.7	47.8	0	1.3	18	9	0.3	14	46	40	
TWS7D	0.5	40	12	10	130	995	1541	63	7.4	16.5	2	49.7	46.7	0	1.7	23	11	0.5	14	46	40	
TWS7E	0.5	40	9	19	116	1051	1458	81	7.5	16.6	1.8	52.2	43.9	0	2.1	28	12	0.6	20	48	32	
TWS8A	1	50	53	35	275	924	1388	38	5.9	18.5	3.8	41	37.4	17	0.9	67	41					
TWS8B	1.2	53	30	69	169	902	1422	42	6.7	15.8	2.7	46.8	44.8	4.5	1.1	40	17					
TWS8C	0.6	41	14	13	134	1103	1610	61	7.3	17.7	1.9	51.2	45.4	0	1.5	16	9					
TWS8D	0.8	47	40	10	162	1248	1765	84	7.2	19.9	2.1	51.7	44.4	0	1.8	17	11					
TWS8E	0.5	40	11	14	65	1056	1409	74	7.5	16.2	1	53.6	43.4	0	2	13	8					
TWS9A	0.7	44	38	27	273	1083	1558	76	6.6	18.8	3.7	47.3	41.3	6	1.8	35	36					
TWS9B	0.8	47	11	11	202	1123	1718	110	7.2	18.8	2.7	49.1	45.6	0	2.5	26	13					
TWS9C	0.7	44	4	7	128	1171	1736	85	7.5	19	1.7	50.7	45.6	0	2	9	11					
TWS9D	0.7	43	1	11	77	1119	1510	77	7.6	17.3	1.1	53.3	43.6	0	1.9	4	9					
TW10A	0.6	43	58	42	363	1054	1574	110	6.3	20	4.6	43.3	39.2	10.5	2.4	87	48					
TW10B	0.6	42	49	43	308	979	1613	131	6.9	17.7	4.4	45.4	45.4	1.5	3.2	39	39					
TW10C	0.8	46	18	12	172	659	1272	87	7.4	12.6	3.5	43.1	50.5	0	3	18	19					
TW10D	0.6	42	15	19	195	710	1691	91	7.5	15.2	3.3	38.5	55.6	0	2.6	22	24					
TW10E	1.9	68	29	32	233	827	1882	84	7.2	17.2	3.5	39.6	54.8	0	2.1	28	27					
TW11A	1.2	54	11	13	178	1023	1471	46	6.8	16.9	2.7	49.7	43.4	3	1.2	19	9	0.3	18	44	38	
TW11B	0.7	43	5	8	65	1016	1505	52	7.3	16.3	1	51.4	46.2	0	1.4	12	17	0.2	20	42	38	
TW11C	0.5	39	4	7	68	1056	1564	60	7.4	16.9	1	51.3	46.1	0	1.5	4	10	0.2	18	50	32	
TW11D	0.4	37	4	8	53	1161	1656	73	7.8	18.3	0.7	52.3	45.2	0	1.7	5	12	0.3	18	46	36	
TW11E	0.3	36	7	15	58	1133	2085	68	8	20.2	0.7	46.2	51.6	0	1.5	6	11	0.2	18	46	36	
TW12A	1	51	9	15	184	999	1444	46	6.6	17.1	2.8	48	42.1	6	1.2	22	5	0.3	36	30	34	
TW12B	0.8	46	6	11	93	1035	1493	69	7.1	16.5	1.4	51.6	45.2	0	1.8	17	7	0.4	28	40	32	
TW12C	0.5	41	4	20	80	1066	1542	45	7.3	16.9	1.2	52	45.6	0	1.2	9	7	0.2	36	36	28	
TW12D	0.4	39	6	9	64	941	1394	48	7.6	15.1	1.1	51.4	46.2	0	1.4	4	5	0.2	42	36	22	
TW12E	0.5	41	5	7	49	833	2211	47	8	18.2	0.7	37.6	60.6	0	1.1	3	8	0.2	56	28	16	
TW12F	0.1	33	6	8	27	390	824	24	8	7.5	0.9	42.8	54.9	0	1.4	3	3	0.2	88	6	6	

Test pits S13 through S19: sample A-D is 0 to 10 ft depth in ranges of 2.5 ft. Sample S13E is >10 ft; S14E is about 12-14 ft; S15E is 12-15 ft; S16E is >10 ft; S19E is >10 ft.

S13A	1.7	63	17	15	271	764	1146	23	6.4	14.1	4.9	44.7	40.7	9	0.7	7	3	0.3	24	44	32	clay loam
S13B	1.8	66	10	22	86	1179	1552	19	7.3	17.7	1.2	54.6	43.6	0	0.5	4	3	0.2	12	36	52	clay
S13C	1.4	58	5	9	58	1078	1666	20	7.8	17.4	0.9	50.9	47.7	0	0.5	3	2	0.2	28	38	34	clay loam
S13D	1.4	59	5	8	75	1222	1573	23	7.9	18.2	1.1	55.3	43.2	0	0.5	3	2	0.2	18	44	38	silty clay loam
S13E	1.5	59	5	8	74	1100	1865	29	7.9	18.7	1	48.5	49.9	0	0.7	3	2	0.3	16	42	42	silty clay
S14A	1.6	62	5	11	131	1249	1664	42	6.7	20	1.7	51.4	41.5	4.5	0.9	7	2	0.2	14	34	52	clay
S14B	1.3	55	9	11	103	1071	1324	19	7.7	15.8	1.7	55.9	41.9	0	0.5	6	2	0.2	28	30	42	clay
S14C	0.9	47	9	15	50	808	1238	18	7.9	13	1	51	47.4	0	0.6	2	1	0.1	42	26	32	clay loam
S14D	0.7	44	7	18	38	752	1287	19	7.8	12.8	0.8	48.4	50.2	0	0.6	2	1	0.2	46	26	28	sandy clay loam
S14E	0.5	40	6	8	26	685	1185	17	7.7	11.7	0.6	48.2	50.6	0	0.6	3	2	0.2	48	34	18	loam
S15A	1.6	63	22	20	171	705	1130	14	6	2.1	3.1	41.3	40.2	15	0.4	13	2	0.3	28	40	32	clay loam
S15B	1.9	68	8	12	135	1014	1760	56	7.1	0	1.9	47.1	49.6	0	1.4	31	5	0.3	16	38	46	clay
S15C	1.5	59	8	15	132	1075	1399	57	7.3	0	2.1	53.9	42.6	0	1.5	21	4	0.3	26	32	42	clay
S15D	1.2	55	8	12	125	1036	1389	48	7.3	0	2	53.3	43.4	0	1.3	21	4	0.3	26	38	36	clay loam
S15E	1.2	53	8	11	105	1021	1352	50	7.5	0	1.7	53.7	43.2	0	1.4	23	5	0.2	28	34	38	clay loam
S16A	1.3	55	32	27	170	747	1303	34	6.9	13.4	3.2	45.8	48.4	1.5	1.1	40	14	0.5	38	30	32	clay loam
S16B	1.9	67	9	10	91	770	1609	35	7.4	14.7	1.6	42.9	54.5	0	1	12	8	0.4	22	40	38	clay loam
S16C	1.3	55	5	11	52	776	1941	33	7.9	16.3	0.8	39	59.3	0	0.9	8	4	0.3	22	48	30	clay loam
S15D	1.7	63	5	10	57	811	1960	34	7.8	16.7	0.9	39.8	58.4	0	0.9	12	5	0.3	22	44	34	clay loam
S16E	1.4	58	5	8	54	763	2026	34	7.9	16.7	0.8	37.6	60.6	0	0.9	10	4	0.3	22	50	28	silt loam
S17A	1.4	58	26	21	153	785	1324	29	6.9	13.8	2.8	46.8	47.9	1.5	0.9	11	6	0.3	38	32	30	clay loam
S17B	1	50	7	22	39	832	1822	35	8	16.2	0.6	42.3	56.2	0	0.9	3	8	0.1	24	42	34	clay loam
S17C	0.7	43	6	6	39	628	1272	26	8.1	11.7	0.8	44.1	54.1	0	1	3	3	0.2	64	14	22	sandy clay loam
S17D	0.7	45	6	9	31	663	1643	27	8	13.8	0.6	39.4	59.2	0	0.8	7	4	0.2	44	30	26	loam
S18A	1.9	68	26	21	198	852	1492	35	6.9	15.3	3.3	45.7	48.5	1.5	1	6	5	0.2	18	44	38	silty clay loam
S18B	1.5	61	7	9	61	1070	1768	42	7.8	18	0.9	49	49.1	0	1	2	3	0.2	12	46	42	silty clay
S18C	1.6	62	7	8	39	1058	1543	35	8.1	16.7	0.6	52.2	46.2	0	0.9	2	2	0.2	16	42	42	silty clay
S18D	1.6	62	7	9	34	1160	1622	38	8.2	17.9	0.5	53.3	45.3	0	0.9	2	3	0.2	18	40	42	silty clay
S19A	2.2	73	10	14	135	705	2419	32	7.6	18.4	1.9	31.6	65.8	0	0.8	55	9	0.3	18	40	42	silty clay
S19B	1.5	59	8	9	45	707	1942	33	7.7	15.8	0.7	36.9	61.5	0	0.9	13	7	0.4	16	42	42	silty clay
S19C	1	50	6	9	30	879	1778	40	7.9	16.4	0.5	44.2	54.2	0	1.1	29	6	0.5	28	40	32	clay loam
S19D	1.7	64	7	10	77	1257	1820	52	7.9	19.8	1	52.1	45.8	0	1.1	12	3	0.2	14	42	44	silty clay
S19E	1	51	9	10	63	1124	1814	44	8	18.6	0.9	49.6	48.5	0	1	25	3	0.3	18	40	42	silty clay

APPENDIX B

Teichert Shifler Project – Financial Assurance Cost Estimae

Teichert Aggregates
Shifler Mining and Reclamation Project
Project Description (Moore Canal Avoidance Alternative)
June 2021

1. Introduction

The Teichert Shifler Mining & Reclamation project (Project), as originally proposed, involved a proposal to mine and reclaim approximately 277 acres of the 319-acre Shifler property ("Project Site") for the purpose of supplying Teichert's existing Woodland aggregate (rock, sand, and gravel) processing facility ("Woodland Plant"). The Project required the relocation of the existing Moore Canal, which currently bisects the Project Site, along the northern portion of the site. However, on April 6, 2021, the Board of Directors of the Yolo County Flood Control and Water Conservation District (YCFCWCD) voted to submit a letter to the County and Teichert indicating its preference that Teichert not relocate Moore Canal as part of the Project. In light of the YCFCWCD's action and letter, Teichert has elected to modify its application for the Project to proceed with the Moore Canal Avoidance Alternative instead of the original proposed project. The Moore Canal Avoidance Alternative would involve the mining and reclamation of approximately 264 acres of the 319-acre Project Site without relocating Moore Canal.

2. Project Location and Setting

Project Site

The Project Site is located approximately three miles west of the City of Woodland, in unincorporated Yolo County (Exhibit 1, Project Location). The Project Site consists of approximately 319.3 acres[1] (Exhibit 2, Project Site). The project site includes all or portions of four parcels[2] (APNs 025-120-032 (portion), 025-120-033, 025-430-001 (portion), and 025-430-002). The Project Site is generally bounded by County Road 94B to the west, Cache Creek to the north, and County Road 22 to the south.

The Project Site is currently in agricultural use. Moore Canal, a water conveyance structure owned and operated by the Yolo County Flood Control and Water Conservation District (YCFCWCD), bisects the Project Site from west to east. An existing electric conveyor formerly used to transport mined aggregate from Teichert's Storz mining site to the Woodland Plant lies along the northern boundary of the Project Site. Existing surface elevations on the Project Site range from approximately 98 to 112 feet above mean sea

[1] The Project Site consists of the proposed mining area and surrounding areas needed for setbacks, visual screening, noise and safety berms, aggregate conveyors, access roads, and other project-related uses. The four Shifler property parcels (APNs 025-120-032, 025-120-033, 025-430-001, and 025-430-002) in their entirety total approximately 442.4 acres. However, the portions of the Shifler property within the Cache Creek channel and on Monument Hill have been excluded from the Project Site. No disturbance is proposed to those portions of the Shifler property.

[2] The portions of the Moore Canal and Magnolia Canal that traverse the project site have been assigned APNs by Yolo County (APNs 025-120-010, 025-120-011, and 025-430-009), but these APNs are actually easements held by the Yolo County Flood Control and Water Conservation District (YCFCWCD).

level (MSL), with the proposed mining area elevations between approximately 103 and 112 feet above MSL.

Surrounding land uses include Teichert's Woodland Plant site to the northeast; agricultural land to the east; the Monument Hill Memorial Park cemetery and rural residential uses to the south; the Yolo Fliers Club golf course, the Watts-Woodland Airport, and Wild Wings residential subdivision and golf course to the southwest; and Teichert's Storz mining site and the Cache Creek Nature Preserve to the northwest.

Woodland Plant and Current Mining Sites

Teichert's Woodland Plant has been operating since the 1950s. Processing facilities include, but are not limited to, rock and asphalt plants. The processing plant and associated processing facilities of the Woodland Plant are located on the approximately 140-acre plant site, which is composed of four parcels (APNs 025-350-018 and -019; 025-120-039 and -041) (Exhibit 3, Vicinity Map.). The Woodland Plant has historically served the surrounding region, including, but not limited to, Yolo, Solano, and Sacramento counties.

The Woodland Plant is authorized to receive aggregate from the following approved mining sites: 1) Woodland Properties (ZF 95-095), consisting of the Muller, Coors, and Storz properties, with an approved mining area totaling 252 acres, all of which have completed mining and are currently being reclaimed; and 2) the Schwarzgruber site (ZF 2011-0035), with an approved mining area of 40 acres. (Exhibit 3.) Operations at the Woodland Plant are currently regulated by the Schwarzgruber surface mining permit (ZF 2011-0035) and development agreement (DA 12-152), as mining has been completed on all three Woodland Properties sites.

The remaining permitted aggregate reserves for the Woodland Plant are limited to the permitted reserves on the Schwarzgruber property. The current Schwarzgruber surface mining permit expires on January 1, 2028. However, these reserves could be exhausted in as soon as 2021, depending on market demand. Accordingly, Teichert is seeking an additional mining site to supply the Woodland Plant once existing permitted reserves are exhausted.

3. Project Objectives

Teichert identified the following objectives for the Project, as originally proposed:

- To permit an additional 277 ± acres of permitted mining area with approximately 35.25 million tons sold (41.6 million tons mined) of Portland Cement Concrete (PCC) grade aggregate reserves for mining and processing at Teichert's Woodland plant for a period of 30 years;

- To extend the life of the existing Woodland Plant consistent with the requested 30-year life of the Shifler surface mining permit and allow it to continue to operate as needed to meet market demand;

- To allow Teichert to transfer the Esparto Plant's current annual permitted volume of 1 million tons sold (1,176,471 tons mined) to the Woodland Plant once mining is complete at Esparto or the Esparto surface mining permit expires, whichever occurs first;

- To ensure that irrigation water deliveries in Moore Canal are not affected by the Project;

- To reclaim the mined land to agriculture and a mix of habitat uses, including pond, grassland, riparian woodland, and native landscape, in accordance with the requirements of Surface Mining and Reclamation Act (SMARA), the Yolo County Off-Channel Mining Plan (OCMP), Off-Channel Surface Mining Ordinance (OCSMO), Surface Mining Reclamation Ordinance (SMRO), and Agricultural Surface Mining and Reclamation Ordinance (ASMRO).

The Project, as originally proposed, was designed to achieve all of these objectives. However, because the YCFCWCD does not support relocation of Moore Canal, the Project has been revised as the Moore Canal Avoidance Alternative. The Moore Canal Avoidance Alternative meets all of the project objectives except for the second objective. Because of the reduction in aggregate available with this alternative, the Moore Canal Avoidance Alternative would not fully achieve the aggregate tonnage and volume goals of the second objective. However, the Moore Canal Avoidance Alternative could achieve up to 85% of the aggregate tonnage and volume goals of the second objective.

4. Project Characteristics

Mining Plan

Teichert seeks to permit the Project Site as an aggregate mining site that would supply the existing Woodland Plant, which is located adjacent to and north/northeast of the Project Site. The proposed mining and reclamation plans for the Project Site are described below. Please also refer to the summary provided in Table 1 (Summary Table).

Mining Area, Depth, Anticipated Reserves

Teichert proposes to mine approximately 264 ± acres of the 319.3-acre Project Site (Exhibit 4, Mining Plan). All of the proposed mining area would be off-channel and set back a minimum of 250-feet from Cache Creek. Depth of mining will vary depending on the location, quality, and quantity of aggregate reserves present. It is anticipated that the mining will occur up to a maximum depth of 5 feet below MSL elevation, approximately 110 feet below existing ground surface, near the northeastern corner of the mining area. The proposed depths of mining would be approximately 40 feet below existing ground

surface in the southeastern portion of the mining area, approximately 65 feet below existing ground surface in the northwestern corner of the mining area, and approximately 70 feet below existing ground surface in the southwestern corner of the mining area. The total amount of aggregate (sand and gravel) proposed to be mined will vary depending upon the quality, quantity, and location of aggregate onsite, but will not exceed 30 million tons (approximately 20 million cubic yards) sold (35.4 million tons mined). (These amounts represent a loss of approximately 5.25 million tons/3.5 million cubic yards sold compared to the original Project.) As discussed below, Teichert is seeking a thirty-year surface mining permit that would allow for maximum aggregate sales of up to 2.2 million tons in a given year.

Setbacks

As shown in Exhibit 4, mining activities on the Project Site will comply with the following minimum setbacks:

- 250 feet from existing channel bank of Cache Creek;
- 50 feet from the County Road 94B right-of-way on west side of property (with visual screening proposed along the right-of-way);
- 50 foot setback from Woodland Plant site to the north.

Section 10-4.429(d) of the OCSMO requires a minimum setback of 700 feet from the existing channel bank, but allows for that setback to be reduced to a minimum of 200 feet of unexcavated area with a demonstration that such a setback would not adversely affect channel stability. Moreover, the Cache Creek Technical Advisory Committee (TAC) has recommended a 250-foot setback from the top of bank. Consistent with the OCSMO requirement and the TAC's recommendation, the nearest mining activities would be located a minimum of 250 feet from the creek. The project application includes a geotechnical study that demonstrates that that the proposed setback meets the required factors of safety and would not adversely affect the stability of the Cache Creek channel (Geocon Consultants, Inc. 2021).

Section 10-4.429(c) of the OCSMO requires a setback of 1,000 feet from public rights-of-way and adjacent property lines of off-site residences, unless a landscaped buffer is provided to site-specific characteristics reduce potential aesthetic impacts. Where a landscaped buffer is proposed, setbacks for off-channel excavations may be reduced to a minimum of 50 feet from either the property line or adjoining right-of-way, whichever is greater. As discussed in further detail below, visual screening is proposed to shield views of the mining area from County Road 94B and County Road 22, as discussed in further detail below. Thus, a minimum 50-foot setback from those roads is required with the proposed visual screening. The Project would comply with these setbacks by providing a minimum 50-foot setback from County Road 94B to the west of the Project Site with visual screening consisting of berms and landscaping and a setback of approximately 400 feet or more from County Road 22 to the south of the Project Site with visual screening provided by existing topography and landscaping.

Also, a 50-foot setback is proposed between the Project Site and the adjacent Woodland Plant site to the north. In addition, the mining area is set back a minimum of 50 feet from the Moore and Magnolia canals.

Furthermore, Section 10-4.429(g) of the OCSMO provides the following additional requirements regarding the location of mining activities within unincorporated Yolo County:

> No mining activities shall occur within 2,000 feet of the community boundaries of Capay, Esparto, Madison, Woodland, and/or Yolo. This setback may be reduced by up to 500 feet when existing mature vegetation, proposed landscape buffers of a sufficient height and density to create a visual buffer (consisting of native species and fence-row habitat appropriate to the area), or other site-specific characteristics reduce potential incompatibilities between urban land uses and mining. Commercial mining shall not take place east of County Road 96.

Consistent with Section 10-4.429(g) of the OSCMO, the proposed mining area is not located within 2,000 feet of the community boundaries of Capay, Esparto, Madison, Woodland, or Yolo, nor is it located east of County Road 96.

As discussed in further detail below, berms and stockpiles could be located within mining setbacks, as necessary for noise attenuation, visual screening, and operational efficiency. However, no berms or stockpiles would be located within 100 feet of the top of bank of Cache Creek, as required by General Plan Policy CO-2.22.

In addition, several elderberry bushes located along the northern boundary of the project site near Cache Creek are potentially habitat for the endangered valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*), a threatened species under the federal Endangered Species Act (ESA). Consistent the United States Fish and Wildlife Service (USFWS) guidance for VELB, no disturbance would occur within 50 meters (165 feet) of the identified elderberry bushes.

Mining Slopes

Mining of the Project Site will comply with the following minimum slopes, as described as a ratio of horizontal to vertical:

- ¾:1 down to average low groundwater level during mining (52 feet MSL);
- 2:1 between average low groundwater level during mining (52 feet MSL) and 5 feet below average low groundwater level during mining (47 feet MSL);
- 1:1 below 5 feet below average low groundwater level during mining (47 feet MSL).

A slope stability analysis has been conducted by a Registered Civil Engineer documenting that the proposed mining slopes will exhibit adequate static and seismic factors of safety (Geocon Consultants, Inc. 2021.)

Visual Screening

Section 10-4.404 of the OCSMO requires that the visibility of mining operations, facilities, and landform alterations from public viewpoints and nearby residences be minimized through the use of berms, landscaping, or other measures. Consistent with this requirement, Teichert proposes the use of landscaping, consisting of vegetation and berms for visual screening of views of the proposed mining area from County Road 94B to the west and from County Road 22 to the south. (Exhibit 5, Visual Screening).

To screen views from County Road 94B, Teichert has already planted viewshed landscaping along the southern portion of the western perimeter of the mining area along County Road 94B. To screen the remaining views of the proposed mining area from County Road 94B, the northern section of the western perimeter of the mining area will be planted with native tree and shrub species prior to the commencement of mining.

To screen views from County Road 22, Teichert has already planted viewshed landscaping in a low spot that borders the southern boundary of the site along County Road 22. Additional visual screening along the rest of the project boundary that borders County Road 22 is not needed, as views of the mining area are obscured by the existing hilly topography of Monument Hill.

In addition, a visual screening program is proposed to screen views of the proposed mining operations from the Monument Hill Memorial Park cemetery to the south of the Project Site. If agreed upon by the cemetery, the visual screening would be planted on the cemetery property prior to commencement of mining on the Project Site.

Reclamation Plan

Summary of Reclamation Plan

Teichert proposes to reclaim the approximately 264-acre mining area portion of the Project Site to agriculture and habitat uses (Exhibit 6, Reclamation Plan). Approximately 113 acres of the 264-acre mining area will be reclaimed to agricultural use. The remainder of the mining area would be reclaimed to a pond with riparian woodland along the fringes/shoreline. Slopes would be reclaimed to grassland. The amount of each habitat type could vary depending on actual mining depths and groundwater elevations.

After mining has ceased on the Project Site, all mining equipment will be removed from the Project site. Reclamation of the Project Site will occur as soon as feasible. Once groundwater elevations have reached equilibrium, reclamation of the pit floor would occur. Overburden and processing fines generated from the Woodland Plant will be used to create any remaining slopes and benches within the mining area. Reclamation to habitat uses

(pond, riparian wetland, riparian oak woodland, and grassland/slopes) will include a minimum of 12 inches of soil (topsoil/overburden/silt) to be placed on all surfaces.

Agricultural reclamation will require the use of overburden and processing fines to raise the pit floor elevation above the average high groundwater level followed by the placement of a minimum of four feet of salvaged reclamation soils (stockpiled topsoil and upper layers of overburden) on the created land. Section 10-5.516 of the SMRO requires that reclaimed agricultural fields be located a minimum of five feet above the average high groundwater level. Average high groundwater levels would range from 75 feet MSL in the northwestern corner to 57 feet MSL in the southeastern corner of the western agricultural field and from 57 feet MSL in the northwestern corner to 47 feet MSL in the southeastern corner of the eastern agricultural field. (Luhdorff & Scalmanini Consulting Engineers 2016.) As required by the SMRO, the reclamation plan proposes reclaimed agricultural field elevations of a minimum of 5 feet above these average high groundwater elevations. An analysis that demonstrates the feasibility of the proposed agricultural reclamation has been conducted and is included as part of the reclamation plan for the Project, as required by Section 10.5-601(c)(2) of the SMRO. (EcoSynthesis 2017.)

Phasing

Section 10-5.522 of the SMRO requires that all proposed mining and reclamation plans include a phasing plan. The purpose of the phasing plan is to minimize the area of disturbed agricultural lands during each mining phase and to encourage the early completion of agricultural reclamation. Consistent with this requirement, mining and reclamation of the Project Site would occur in phases, as shown in Exhibit 7 (Phasing). Mining would commence in the northwestern corner of the site with the first phase being to the north of Moore Canal and the second phase being to the south of Moore Canal. Mining and reclamation would be generally proceed from west to east within each phase. This approach would allow agricultural reclamation of the western portion of the Project Site to occur during the mining of the eastern portion of the Project Site. Mining would occur in two phases: (Phase A (61.8 acres) and Phase B (202.3 acres). Reclamation would occur in three phases: Phase A (61.8 acres), Phase B (100.5 acres), Phase C (101.8 acres).

Reclamation Slopes

Reclamation of the Project Site will comply with the following minimum slopes, as described as a ratio of horizontal to vertical:

- 2:1 above average high reclaimed groundwater level (57 feet MSL at the reclaimed pond), except for reclaimed mining slopes that are adjacent to the Moore Canal, which will have a minimum slope of 3:1;
- 4:1 between average high reclaimed groundwater level (57 feet MSL) and 5 feet below average high reclaimed groundwater level (52 feet MSL);
- 2:1 between 5 feet below average high reclaimed groundwater level (52 feet MSL) and 5 feet below average low reclaimed groundwater level (42 feet MSL);
- 1:1 below 5 feet below average low reclaimed groundwater level (42 feet MSL).

A slope stability analysis has been conducted by a Registered Civil Engineer documenting that the proposed mining slopes will exhibit adequate static and seismic factors of safety (Geocon Consultants, Inc. 2021).

Surface Mining Permit Life

The duration of mining activities at the Project Site will vary depending on market demand and the quality and quantity of aggregate present onsite. The Project Site is proposed to be mined after completion of mining at the Schwarzgruber site that currently supplies the Woodland Plant. Mining of the Schwarzgruber site could be completed in as soon as 2021, depending on market demand. Thus, mining of the Project Site would commence in 2021 at the earliest. Mining of the aggregate reserves on the Project Site could take 20 years or longer, depending on market demand. OCMP Policy 2.4-3 limits surface mining permits to a maximum of 30 years, with the potential to extend the permit life by a maximum of 20 years with subsequent approvals. Accordingly, Teichert requests a permit duration of 30 years from the commencement of mining on the project site. Thus, if mining commenced in 2021, the permit would run until 2051. Reclamation activities could continue for an additional two years after the expiration of the surface mining permit.

TABLE 1
Shifler Mining and Reclamation Project
Summary Table

General Site Information	
Project Site	319.3 acres
Parcel APNs	APNs 025-120-032 (portion), 025-120-033, 025-430-001 (portion), and 025-430-002
Elevation	98 to 112 feet above mean sea level (MSL), 103 to 112 feet above MSL in the proposed mining area
General Plan Designation	Agriculture (AG), portion with Mineral Resource Overlay (MRO)
Zoning	Agricultural Intensive (A-N)
Current Land Use	Agriculture
Important Farmland?	Approximately 264 acres of Prime Farmland
Williamson Act Contract?	No.
Mining	
Mining Area	264 ± acres
Maximum Mining Depth	5 feet below MSL (110 feet below ground surface)
Average Mining Depth	Varies: approximately 40 feet below existing ground surface in the southeastern portion of the mining area, approximately 65 feet below existing ground surface in the northwestern corner of the mining area, and approximately 70 feet below existing ground surface in the southwestern corner of the mining area
Average high groundwater elevation (during mining)	60 feet above MSL (43 to 52 feet below ground surface)
Average low groundwater elevation (during mining)	52 feet above MSL (51 to 60 feet below ground surface)
Mining Slopes	¾:1 down to average low groundwater level during mining (52 feet MSL), 2:1 between average low groundwater level during

	mining (52 feet MSL) and 5 feet below average low groundwater level during mining (47 feet MSL), 1:1 below 5 feet below average low groundwater level during mining (47 feet MSL)
Mining Phasing	Two phases: 1) Phase A (61.8 acres) and 2) Phase B (202.3 acres)
Type of Minerals	Sand and gravel
Maximum Total Production	30 million tons (20 million cubic yards) sold/35.4 million tons mined (via Woodland Plant)
Maximum Annual Production	2.2 million tons sold/2,588,237 tons mined (via Woodland Plant)
Commencement of Mining	2021 at the earliest
Duration of Mining	up to 30 years, depending on market demand
Surface Mining Permit Expiration	30 years after commencement of mining, 2051 at the earliest
Reclamation	
Reclamation Area	264.1 ± acres
Average high groundwater elevation (post-reclamation pond level)	57 feet above MSL (41 to 55 feet below ground surface)
Average low groundwater elevation (post-reclamation pond level)	47 feet above MSL (51 to 65 feet below ground surface)
Reclamation Slopes	2:1 above average high reclaimed groundwater level (57 feet MSL) (except for reclaimed mining slopes adjacent to the Moore Canal, which will be 3:1), 4:1 between average high reclaimed groundwater level (57 feet MSL) and 5 feet below average high reclaimed groundwater level (52 feet MSL), 2:1 between 5 feet below average high reclaimed groundwater level (52 feet MSL) and 5 feet below average low reclaimed groundwater level (42 feet MSL), 1:1 below 5 feet below average low reclaimed groundwater level (42 feet MSL).
Reclamation Phasing	Three phases: Phase A (61.8 acres), Phase B (100.5 acres), Phase C (101.8 acres)
Duration of Reclamation	32 years or within two years after completion of mining
Completion of Reclamation	Two years after completion of mining, estimated 2053, if mining ends in 2051
Reclamation End Use	**Acreage**
Agriculture	113.2 acres
Grassland Slopes	32.8 acres
Pond	90.9 acres
Lower Riparian Woodland/Wetland	11.4 acres
Upper Riparian Woodland	13.3 acres
Access Road	2.5 acres
Total	**264.1 acres**

Aggregate Processing at the Woodland Plant

Conveyor Transport

Aggregate mined at the Project Site will be processed at Teichert's existing Woodland Plant, located adjacent to and north/northeast of the Project Site. An electric-powered conveyor will be used to transport mined aggregate from the Project Site to the Woodland Plant. A conveyor over-crossing of the Moore Canal would be constructed to

allow conveyor transport of mined aggregate to occur between the southern portion of the Project Site and the Woodland Plant.

Woodland Plant Regulated by Surface Mining Permits

The Woodland Plant is currently regulated by the surface mining permits and development agreements for the Woodland Properties and Schwarzgruber mining sites. Those entitlements require that the Woodland Plant cease operation upon expiration of those permits on January 1, 2028, unless additional mining sites, such as the Project Site, are permitted to supply the Woodland Plant. The Project includes a request for a mining permit and development agreement for the Project Site. If the Project were approved, the Woodland Plant would then be regulated by the terms of the surface mining permit requested for the Project Site once mining on the Schwarzgruber site has been completed or that permit expires, whichever occurs first.

Annual Production

The Schwarzgruber surface mining permit limits annual production at the Woodland Plant to 1 million tons sold (1,176,472 tons mined), averaged over a 10-year period. In order to meet temporary market demand, production may exceed this limitation by up to 20 percent (200,000 tons sold) in any year, provided that production over a consecutive 10-year period does not exceed 10 million tons sold. Thus, maximum permitted annual production at the Woodland Plant is 1.2 million tons sold (1,411,766 tons mined) pursuant to the Schwarzgruber surface mining permit.

As part of the Project, Teichert requests that it be allowed to transfer its annual production allotment from the Esparto Plant to the Woodland Plant, once mining of the Esparto site has been completed or the Esparto surface mining permit expires, whichever occurs first. The Esparto surface mining permit expires on January 1, 2028. Pursuant to that permit, the Esparto Plant is allowed to produce up to 1 million tons per year. The proposed transfer would allow the Woodland Plant to produce a maximum of 2.2 million tons sold (2,588,237 tons mined) in any one year, provided that production over a consecutive 10-year period does not exceed 20 million tons sold (23,529,430 tons mined).

Truck Traffic

Aggregate trucks going to and from the Woodland Plant currently access the site from its entrance on County Road 20. Trucks are required to use designated haul routes of County Road 20, County Road 96, and State Route 16 to and from Interstates 5 and 505 (Exhibit 8, Haul Routes). Local deliveries are allowed to use roads other than State Route 16, County Road 20, or County Road 96. No change to these designated haul routes is proposed as part of the Project. A traffic analysis of the Project was conducted as required by Section 10-4.502(b)(4) of the OCSMO. (Fehr & Peers Associates 2015.)

Surface Mining Permit Life

Teichert requests a 30-year surface mining permit to allow for the mining and processing of aggregate mined at the Project Site. Mining of the Project Site is not expected to commence until after existing reserves on the Schwarzgruber property has been exhausted, likely not until 2021 at the earliest. Therefore, the requested 30-year surface mining permit life would be from 2021 to 2051 or later if the commencement of mining is delayed beyond 2021. The current Schwarzgruber surface permit expires in 2028. To accommodate the processing of material mined at the Project Site, Teichert requests to extend the permitted life of the Woodland Plant from the current expiration date of 2028 (under the Schwarzgruber surface mining permit) to thirty years after the commencement of mining of the Project Site, consistent with the requested mining permit for the Project Site.

Operational Characteristics

Hours of Operation

Teichert's existing operations at the Woodland Plant and the associated Schwarzgruber mining site are governed by Condition 38 of the Schwarzgruber surface mining permit, which provides:

> The hours of operation for the mining site are 6:00 am to 6:00 pm Monday through Saturday. Occasional 24-hour operations to fulfill contract requirements are allowed within the regulations established in Section 10-4.421 of the mining ordinance. The hours of operation for the Teichert-Woodland plant are 6:00 am to 6:00 pm Monday through Friday. For the months of August, September, and October, hours may be extended to 10:00pm (Monday through Friday) and 6:00 am to 6:00 pm Saturday and/or Sunday subject to compliance with Section 10-4.421 of the Mining Ordinance.

No changes are proposed to these existing hours of operation for the Shifler mining site or Woodland Plant.

Employment

The Woodland Plant currently has 28 employees for aggregate processing activities occurring at the Woodland Plant site, for mining and reclamation activities occurring at the Schwarzgruber mining site, and for associated functions. These employees include 22 operating engineers, 1 teamster, 1 laborer, and 4 clerical staff. It is anticipated that the Project would require similar levels of employment for the continued operation of the Woodland Plant and mining/reclamation of the Project Site.

Employment at Teichert's Esparto Plant has varied historically depending on production. While the Esparto Plant is currently idle, it was operating at peak production as recently as April 2017. At peak production, the Esparto Plant employs 24 people, including 18 operating engineers, 1 teamster, 1 laborer, and 4 clerical staff. Once mining

ceases at the Esparto Plant, those employees would be transferred over to the Woodland Plant to accommodate the requested production increase. Thus, with the proposed transfer of the Esparto production allotment to the Woodland Plant, total employment at the Woodland Plant under peak production would consist of 52 people, including 40 operating engineers, 2 teamsters, 2 laborers, and 8 clerical staff.

Site Access

Mining equipment would access the Project Site from the Woodland Plant site via internal roads that connect with the Woodland Plant site (Exhibit 9 – Ingress and Egress). An existing over-crossing of the Moore Canal would allow mining equipment to cross the canal. Consistent with existing mining operations, an electric conveyor system will be used to transport the mined material to the Woodland Plant. Aggregate trucks would continue to access the Woodland Plant site via its existing entrance on County Road 20, using the existing haul routes discussed above.

Mining Characteristics

The first step of mining is the removal of overburden, i.e., the soil that overlays the sand and gravel proposed to be mined. Removal of overburden will be accomplished using scrapers, motor graders and bull dozers. Overburden will be progressively removed ahead of mining and stockpiled in setback areas and internal storage locations until retrieved for reclamation. The top layers of topsoil will be placed in temporary berms and/or stockpiles and seeded with naturalized annual grasses and forbs.

Aggregate above the groundwater will be harvested by scrapers and dozers. Aggregate mined below the water table will be extracted by a combination of equipment such as excavators, draglines, and potentially a floating dredge. Water trucks will be used to control dust. This mining process will be the same as currently employed by Teichert at other sites supplying the Woodland Plant.

Berms and Stockpiles

Berms and/or stockpiles could be located along the perimeter of mining areas, including within mining setbacks, to provide noise shielding of mining activities from nearby noise-sensitive uses and to allow mining to occur without the need to relocate berms and/or stockpiles before reclamation occurs. As required under the federal Mine Safety Health Administration (MSHA), a perimeter berm of a minimum of four feet in height would be located around the active mining area. In addition, berms would be used as noise barriers, as recommended in the noise analysis conducted by Bollard Acoustical Consultants. The noise berms required as mitigation for mining within 300 feet of the nearest sensitive receptors would be a minimum of eight feet high. (Bollard Acoustical Consultants 2015.)

As required by Section 10-4.433 of the OCSMO, soil stockpiles shall not exceed 40 feet in height with slopes no steeper than 2:1 horizontal to vertical. Stockpiles could be located within mining setbacks so as to allow mining to occur without the need to relocate

stockpiles before reclamation occurs. However, stockpiles would remain a minimum of 100 feet from the top of bank of Cache Creek, consistent with Yolo County General Plan Policy CO-2.22. Please refer to Exhibit 10 for a depiction of proposed stockpile locations.

Noise

Mining-related noise will comply with the standards outlined in Section 10-4.421 of the OCSMO. From 6 a.m. to 6 p.m., noise levels shall not exceed an average noise level equivalent (Leq) of 80 decibels (dBA) at the property boundaries and 60 dBA Leq for any nearby off-site residences or other noise-sensitive land uses. From 6 p.m. to 6 a.m., noise levels shall not exceed 65 dBA Leq at the property boundaries.

The nearest noise sensitive receptors to the Project Site consist of two rural residences located west of County Road 94B and one located east of the Project Site. As required by Section 10-4.502(b)(3) of the OCSMO, a noise analysis was conducted for the Project. The noise analysis recommends mitigation measures designed to ensure compliance with the OCSMO noise standards. These measures include the use of earthen berms along the Project Site boundary in areas where mining noise levels are projected to exceed OCSMO noise standards at the nearest sensitive receptors and/or limiting the occurrence of initial overburden removal activities in those areas to 6 a.m. to 6 p.m. (Bollard Acoustical Consultants 2015).

Flooding/Stormwater Management

The Project Site is not located within the 100-year or 200-year floodplains of Cache Creek (Cunningham Engineering 2016). As discussed previously, the mining area will be offset a minimum of 250 feet from the existing channel bank of Cache Creek. The enclosed geotechnical study demonstrates that that the proposed mining setback meets the required factors of safety and would not adversely affect the stability of the Cache Creek channel, as required by Section 10-4.429(d) of the OCSMO (Geocon Consultants, Inc. 2016).

The Project will be designed to prevent stormwater runoff from leaving the Project Site. The site will be graded to allow stormwater runoff to collect in the proposed mining pit, where it will gradually percolate or evaporate. At the conclusion of mining, the site would remain contoured so that stormwater runoff will be directed to the reclaimed mining area. Proposed stormwater detention basins located within the western and eastern reclaimed agricultural areas of the site will be sized to accommodate anticipated runoff from a minimum 20-year/1-hour storm, as required under Section 10-5.507 of the SMRO.

Disposition of Mining Waste

The proposed mining of sand and gravel is not anticipated to generate waste material. As discussed below, fine sediment, i.e., "fines," that would result from the processing of the mined material at the Woodland Plant would be removed from the settling ponds at the Woodland Plant and used for reclamation of the Project Site.

Water and Wastewater

The Project Site is currently provided with agricultural water from the YCFCWCD by way of the Moore Canal, which would continue to supply onsite agricultural activities during mining and after reclamation. There are two abandoned wells on the project site: one agricultural well located near the western boundary of the site and a domestic well located near the northern boundary of the site. The unused agricultural well could be retained as a monitoring well, but the domestic well is proposed to be removed during mining.

As occurs with existing mining operations associated with Teichert's Woodland Plant, water for aggregate processing and dust suppression would be supplied by two wells at the Woodland Plant site. Processing water would be recycled through the use of settling ponds located at the Woodland Plant site. The discharge of aggregate wash water to the settling ponds at the Woodland Plant site would continue to be regulated through Waste Discharge Requirements (WDRs) issued by the Central Valley Regional Water Quality Control Board (RWQCB). Also, Teichert is proposing modifications to the existing WDRs to allow for the use of fine sediment from aggregate processing (i.e., "fines") in the reclamation of the Project Site. The processing fines would be pumped from the Woodland Plant site as a slurry (mix of water and fines) and discharged into the mining area/pond in accordance with the requirements of the revised WDRs.

Potable water demand would be met through bottled drinking water, which would be provided at the adjacent Woodland Plant. Portable toilet facilities would be used at the Project Site and existing portable toilet facilities would continue to be used at the adjacent Woodland Plant.

Esparto Mining Site, Reclamation, and Plant Closure

The anticipated schedule for the mining, reclamation, and closure of Teichert's Esparto site would not be affected by the proposed Project. The Esparto surface mining permit is scheduled to expire on January 1, 2028, with or without the Project. However, closure of that site could occur sooner if Teichert determines that the existing permitted reserves are no longer economically feasible to mine. Reclamation and closure of the Esparto Plant and associated Reiff and Mast mining sites would occur in accordance with the approved reclamation plan for the Esparto facility.

Land Use Consistency

General Plan Designation

The Project Site is designated Agriculture (AG) under the Yolo County General Plan. A portion of the Project Site has a Mineral Resource Overlay (MRO). Teichert is requesting General Plan amendments (GPAs) to extend the MRO to cover the entire Project Site and to add the Project Site to the OCMP. The proposed GPAs are required in order to mine the Project Site.

Section 8-2.233(d) of the Yolo County Code requires that any GPA proposed by a private party first be authorized for further study by the Board of Supervisors. In accordance with this procedure, Teichert submitted a request for permission to file an application for the Project on September 19, 2014. The Board of Supervisors held a noticed public hearing regarding the proposed GPA on December 16, 2014. After hearing public comments, the Board of Supervisors voted in favor of authorizing further study regarding the proposed GPA.

Zoning

The Project Site is zoned Agricultural Intensive (A-N), which is consistent with the General Plan designation. As part of the Project, Teichert is requesting a rezone to add a Sand and Gravel Overlay (SG-O) zone to the Project Site. Surface mining operations are conditionally allowed in the A-N/SG-O zone with the approval of a surface mining permit. (Yolo County Code §§ 8-2.304, 8-2.906(g)(3), 10-4-501.) Consistent with this requirement, the proposed Project will include a request for a surface mining permit to mine the Project Site.

Reclamation End Uses

As discussed previously, the reclamation plan for the Project proposes to reclaim the site to agriculture and a mix of habitat uses, including pond, upper riparian woodland, lower riparian woodland/wetland, grassland, and native landscape. These uses are allowed under the Project Site's existing and proposed General Plan designation and zoning.

Agricultural Resources

Important Farmland

Under the State Department of Conservation's Farmland Mapping and Monitoring Program, the Project Site is designated "Prime Farmland" in the Yolo County Important Farmland 2016 map. (Department of Conservation 2017.) Mining and reclamation would be phased to minimize the temporal loss of Prime Farmland in the 264-acre mining area. Moreover, approximately 113 acres of Prime Farmland would be created as part of the proposed reclamation plan. The Project would result in the permanent net loss of approximately 151 acres of Prime Farmland. Teichert proposes to mitigate for the permanent loss of Prime Farmland by placing or purchasing agricultural conservation easements on existing Prime Farmland in Yolo County, consistent with Section 10-5.525 of the SMRO.

Williamson Act

The Project Site is not encumbered by a Williamson Act contract. Most of the Project Site (APNs 025-120-032 and 025-430-002) was subject to a Williamson Act

contract that expired at the end of January 2016. Thus, no mining will occur on Williamson Act lands.

Biological Resources

Special Status Species and Habitats

A biological resources assessment and a wetland delineation were conducted for the Project. The biological resources assessment identified potentially significant impacts to wetlands and waters of the United States and a number of special status species, including Valley elderberry longhorn beetle (VELB), western pond turtle, nesting white-tailed kite or Swainson's hawk, nesting northern harrier or short-eared hawk, other nesting raptors, nesting loggerhead shrike, nesting or roosting yellow-billed magpie, nesting tricolored blackbird, nesting birds protected under the Migratory Bird Treaty Act (MBTA), loss of foraging habitat for Swainson's hawk, white-tailed hawk, and tricolored blackbird, loss of winter foraging habitat for ferruginous hawk and merlin, loss of habitat for and disturbance to Chiroptera (bat) species) and oak woodland. (Teichert Materials 2018.) In addition, the wetland delineation identified a total of 1.855 acres of wetlands or waters of the U.S., although most of that acreage is associated with the Moore and Magnolia canals, which would not be affected by the Moore Canal Avoidance Alternative. (Ecorp Consulting 2012.) Mitigation measures are provided to reduce these impacts to a less than significant level.

Yolo Habitat Conservation Plan/Natural Communities Conservation Plan

The Yolo Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP) was approved in 2018 and will apply to the Project. The Project will comply with the HCP/NCCP with respect to impacts to covered biological resources. Consistent with the HCP/NCCP, mitigation could include the payment of fees, on or off-site mitigation, and/or a combination of the two. Please also refer to the biological resources assessment for more detail regarding proposed mitigation.

Net Gain

OCSMO Section 10-4.502(i) requires that an application for a surface mining permit include a proposal for providing a "net gain" to the County, as determined by the following criteria:

1) Reclamation to multiple or conjunctive uses;
2) Enhancement and enrichment of existing resources; and/or
3) Restoration of past sites where the requirements of reclamation at the time no longer meet community expectations in terms of good stewardship of the land.

The OCSMO also provides that "net gain" may include participation in an established program whose goals are consistent with the above criteria.

Consistent with this requirement, Teichert proposes a monetary contribution towards the Cache Creek Conservancy for its use in enhancing the Lower Cache Creek corridor. Additional net gains proposals are currently being negotiated with the County as a part of the development agreement for the Project.

5. Requested Entitlements

Teichert anticipates that the entitlements necessary to implement the Project could include, but not be limited to, the following:

- Approval by the Board of Supervisors of a General Plan amendment to extend the Mineral Resource Overlay over the entire Project Site;
- Approval by the Board of Supervisors of a Cache Creek Area Plan (CCAP) amendment to: 1) include the Project Site in the OCMP boundary, and 2) include tonnage not yet analyzed as part of the CCAP;
- Approval by the Board of Supervisors of a rezone of 319.3 acres of the Project Site to apply the Sand and Gravel Overlay (SG-O) to the Agricultural Intensive (A-N) base zone;
- Approval by the Planning Commission of a 30-year off-channel surface mining permit to: 1) allow surface mining on ±264 acres of the 319-acre the Project Site, 2) allow processing of aggregate from the Project Site at the Woodland Plant, and 3) increase the maximum permitted production at the Woodland Plant upon cessation of mining activities at the Esparto site or expiration of the Esparto surface mining permit (95-094), whichever occurs first;
- Approval by the Planning Commission of a reclamation plan for the Project Site;
- Approval by the Board of Supervisors of a development agreement for the Project Site;
- Approval of other County entitlements as determined by the County;
- Approval of Waste Discharge Requirements (WDRs) from the Central Valley RWQCB for the use of sediment pond fines from the Woodland Plant site for reclamation of the Project Site.

6. Project Justification

The currently permitted aggregate reserves for Teichert's Woodland Plant could be exhausted in as soon as two years. The Project would allow for the continued operation of Woodland Plant, which employs 28 people and supplies aggregate to help meet the projected local and regional demand for aggregate. Aggregate products will be needed to construct levees in environmentally sensitive areas and to repair, maintain, and construct existing and proposed infrastructure.

The Project Site is likely the only remaining source of PCC-grade aggregate that can feasibly supply the Woodland Plant. It is located adjacent to the Woodland Plant site, which allows for transport of mined material to the Woodland Plant via electric conveyors

rather than trucks using public roadways. Also, the site complies with all of the locational criteria in the OCMP and OCSMO. As required by the OCMP and OCSMO, the Project Site is located to the west of County Road 96 and is not located within 2,000 feet of the community boundaries of Capay, Madison, Esparto, Woodland, or Yolo. Moreover, the site is situated within the CCAP planning boundary.

The Project will provide for mining and reclamation of the site to current mining and reclamation standards, as provided in SMARA and the Yolo County OCSMO, SMRO, and ASMRO. The reclamation plan provides for a mix of agricultural and open space uses.

7. Technical Reports

Please also refer to the following technical reports that have been submitted as part of the Project application with reference to the OCSMO and SMRO provisions they are intended to satisfy:

- Teichert Materials and EcoSynthesis, Inc. – biological inventory and analysis, including wetlands delineation and analysis of feasibility of species, weed control, and irrigation for proposed screening landscaping. (OCSMO § 10-4.502(b)(1).)

- Luhdorff & Scalmanini Consulting Engineers – groundwater analysis, including groundwater monitoring program and well survey. (OCSMO § 10-4.502(b)(2).)

- Bollard Acoustical Consultants, Inc. – noise analysis, including map of noise contours. (OSCMO § 10-4.502(b)(3).).

- Fehr & Peers – traffic analysis. (OCSMO § 10-4.502(b)(4).)

- Geocon Consultants – geotechnical study for operational slopes steeper than 2:1 and any slopes designed to provide flood protection from Cache Creek, including measures to prevent breaching and pit capture (OCSMO § 10-4.502(b)(5).); engineering analysis of off-channel excavations located within 700 feet of the existing channel bank. (OCSMO § 10.4-502(b)(7)); and geotechnical study to ensure that reclaimed slopes are stable (SMRO § 10.5-601(c)(3).)

- Peak & Associates – cultural resources survey (OCSMO § 10-4.502(b)(6).)

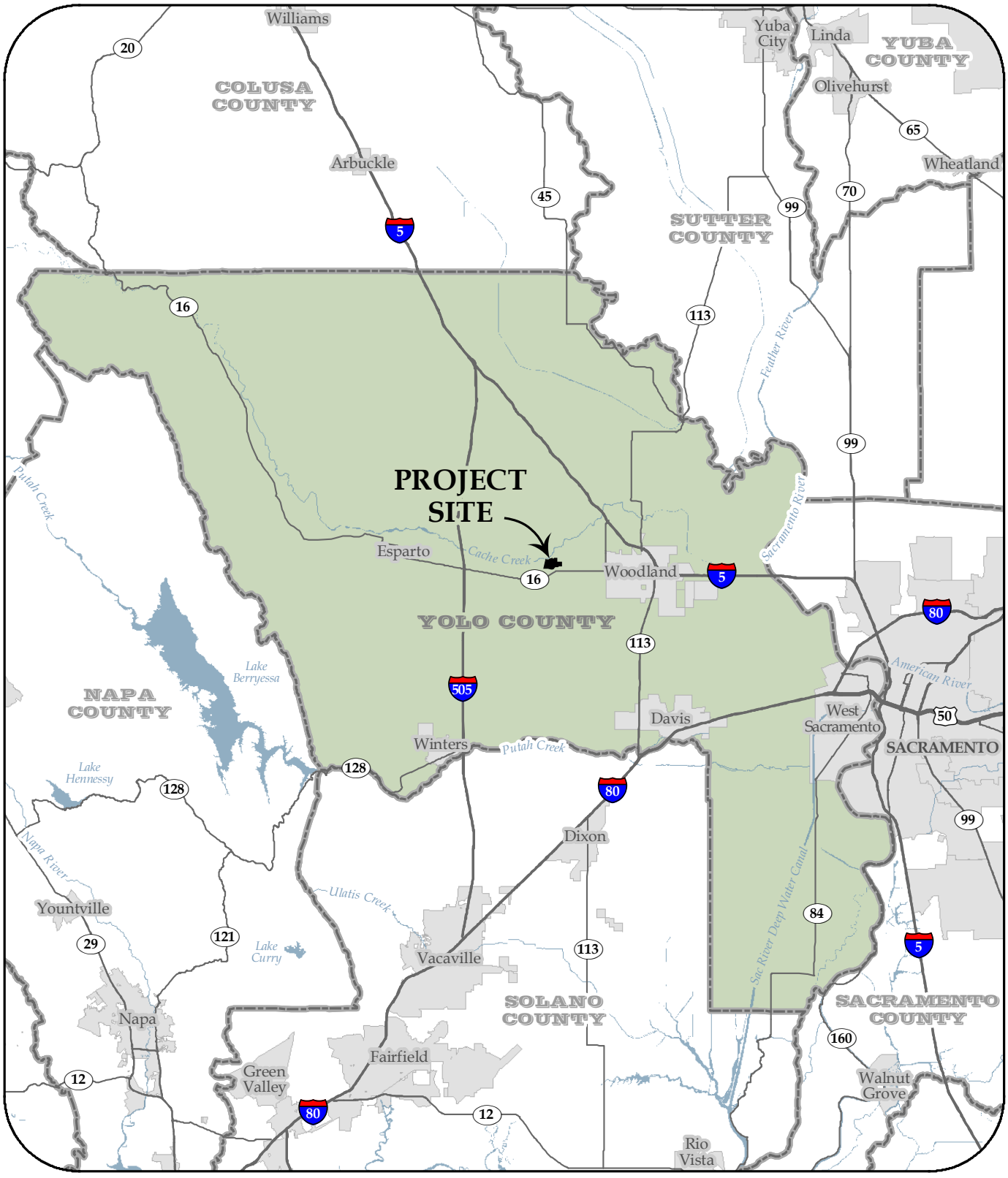
- Cunningham Engineering – engineering analysis of potential 100-year flood impacts. (OCSMO § 10.4-502(b)(8).)

- EcoSynthesis – soil analysis evaluating the methods and feasibility of agricultural reclamation (included as part of the reclamation plan). (SMRO §§ 10.5-601(c)(2) and ASMRO 10.8.502(a)(17).)

- ESA – air quality and greenhouse gas technical report.

Exhibits

1) Project Location
2) Project Site
3) Vicinity Map (showing location relative to Woodland Plant and other mining properties)
4) Mining Plan
5) Visual Screening
6) Reclamation Plan
7) Phasing
8) Haul Routes
9) Ingress and Egress
10) Proposed Stockpile Locations



TEICHERT MATERIALS

LEGEND:

- Highway
- Project Site
- City/ Community Boundaries
- County Boundaries
- Yolo County

0 4 8 Miles

DISCLAIMER:

The data was mapped for planning purposes only. No liability is assumed for the accuracy of the data shown.

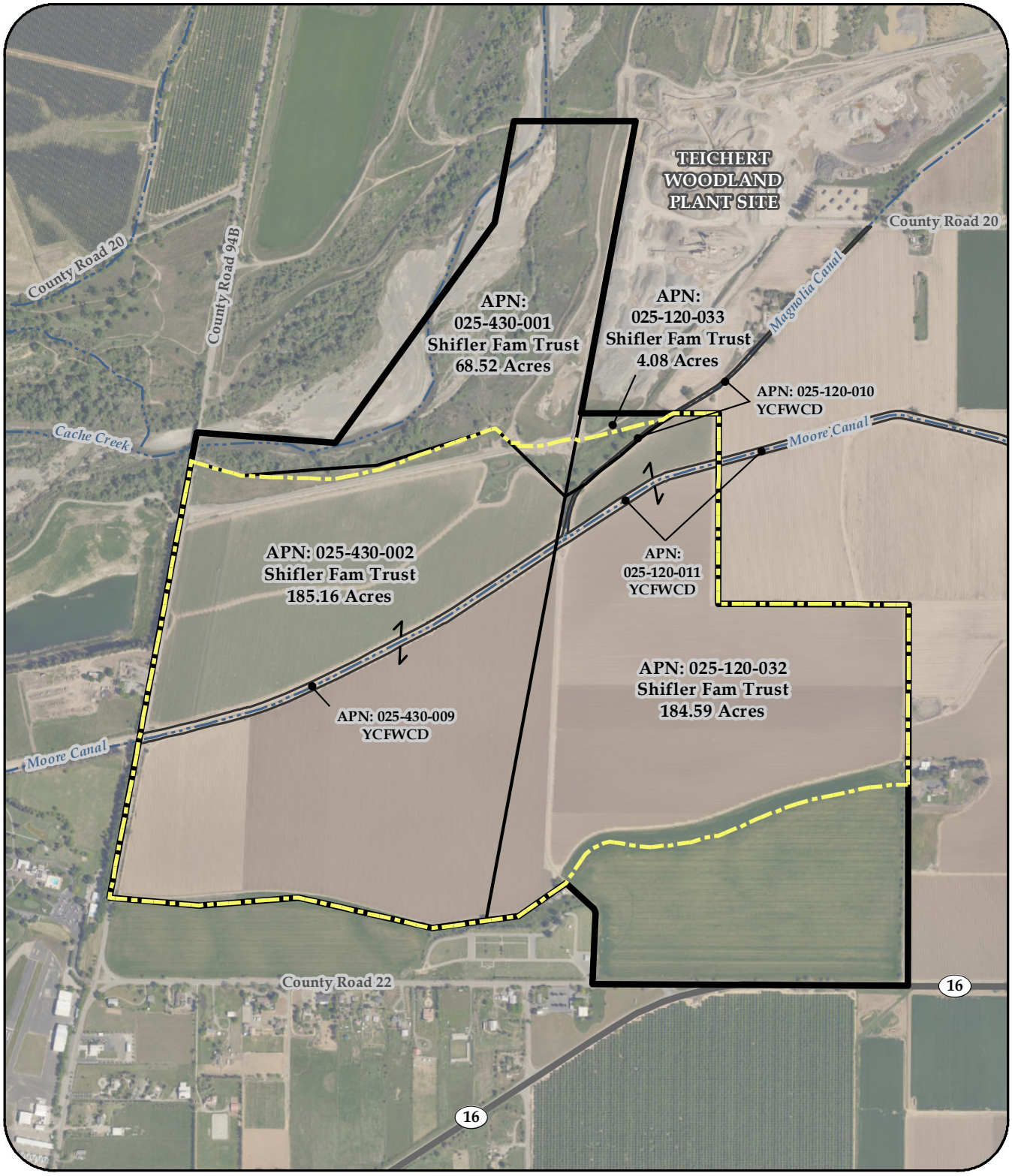
EXHIBIT 1

REGIONAL PROJECT LOCATION MAP

SHIFLER APPLICATION
TEICHERT MATERIALS

YOLO COUNTY, CALIFORNIA

C. Cornejo 5/14/2021 SHF_ProjectDesc_Ex1_ProjLoc_202105.mxd



TEICHERT MATERIALS

LEGEND:

- Project Site: ± 319.3 Acres
- Yolo County Flood Control & Water Conservation District (YCFWCD) Parcel Boundaries (Approximate)
- Project Parcel Boundaries
- Shifler Property Boundary

N

0 500 1,000 Feet

SOURCE:

Aerial Photography Provided by ESRI Basemaps & Affiliates (Yolo County: April 13, 2018)

DISCLAIMER:

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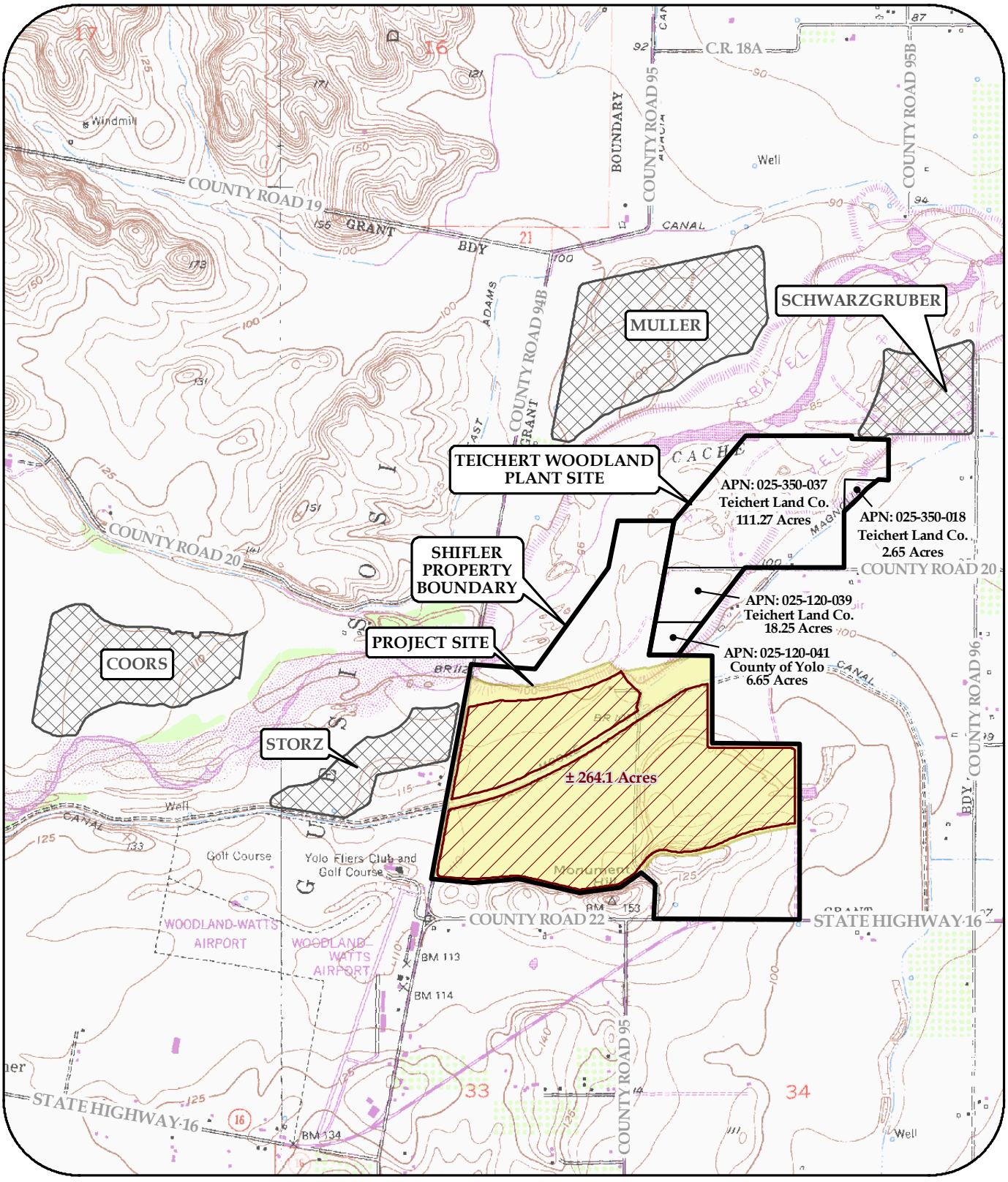
EXHIBIT 2

PROJECT SITE

SHIFLER APPLICATION
TEICHERT MATERIALS

YOLO COUNTY, CALIFORNIA

C. Cornejo 5/14/2021 SHF_ProjectDesc_Ex2_Site_202105.mxd



TEICHERT MATERIALS

LEGEND:

- Approved Mining Sites
- Proposed Mining Boundary
- Project Site
- Teichert Woodland Plant Site Parcel Boundaries
- Shifler & Woodland Plant Site Property Boundaries

0 0.2 0.4 Miles

SOURCE:
USGS 7.5' Topo Quad: Woodland & Madison

DISCLAIMER:
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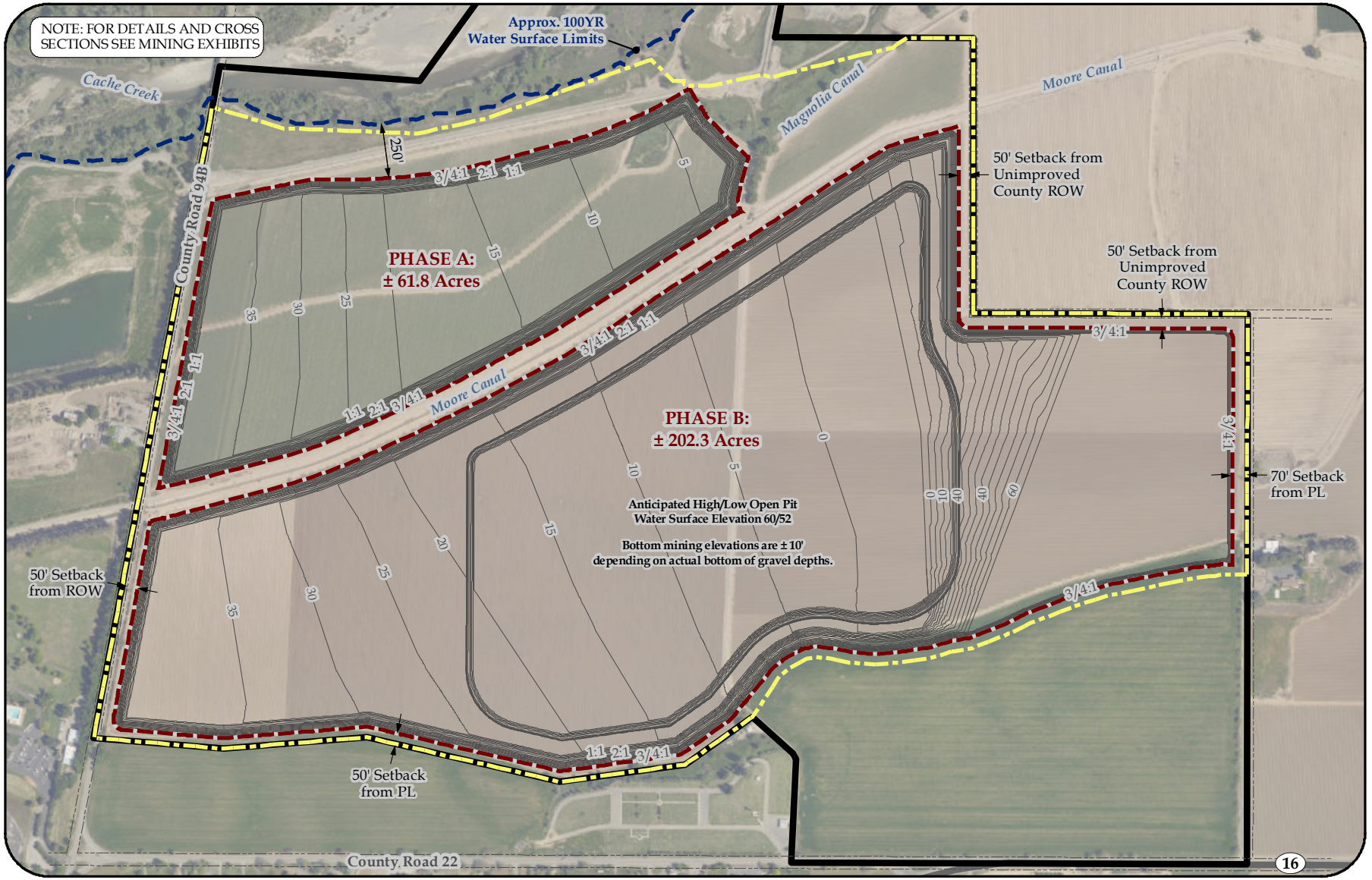
EXHIBIT 3

VICINITY MAP

SHIFLER APPLICATION TEICHERT MATERIALS

YOLO COUNTY, CALIFORNIA

C. Cornejo 6/15/2021 SHF_ProjectDesc_Ex3_Vicinity_202106.mxd



TEICHERT MATERIALS

LEGEND:

- Approx. 100YR Water Surface Limits
- Proposed Mining Contours
- Proposed Mining Phases: Total ± 264.1 Ac.
- Project Site
- Shifler Property Boundary

SOURCE:

- Approx. 100YR Water Surface Limits Per Separate Hydraulic Report by Cunningham Engineering (Jan. 26, 2016)
- Mining Contours Provided by Cunningham Engineering (June 2021)
- Aerial Photography Provided by ESRI Basemaps (Yolo County: April 13, 2018)

0 350 700 Feet

DISCLAIMER:

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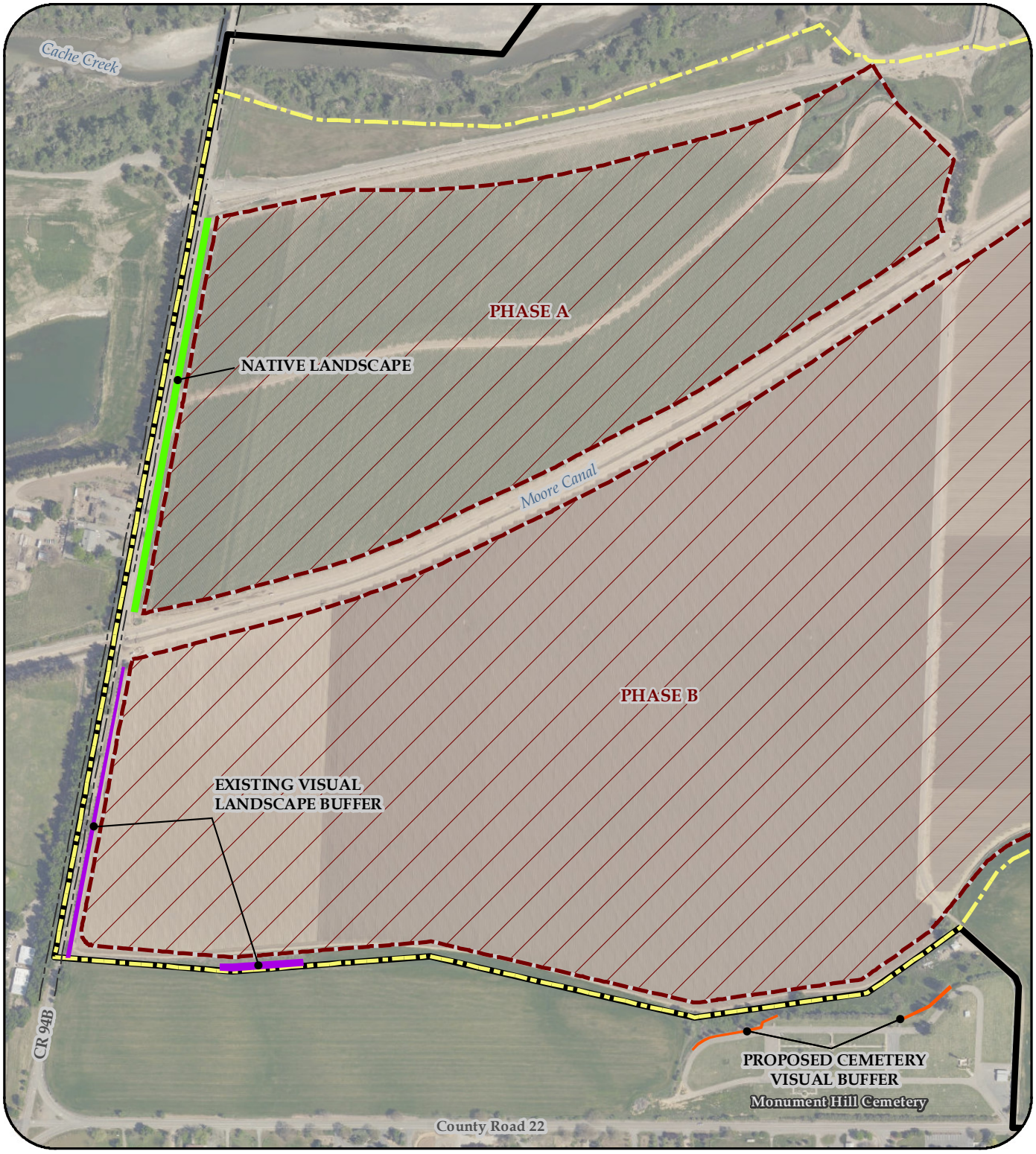
EXHIBIT 4

PROPOSED MINING PLAN

SHIFLER APPLICATION TEICHERT MATERIALS

YOLO COUNTY, CALIFORNIA

C. Cornejo 6/14/2021 SHF_ProjectDesc_Ex4_MinePlan_202106.mxd



TEICHERT MATERIALS

LEGEND:

- Proposed Cemetery Visual Buffer
- Existing Visual Landscape Buffer
- Native Landscape
- Proposed Mining Phases
- Project Site
- Shifler Property Boundary

0 250 500 Feet

SOURCE:

- Mining & Rec Provided by Cunningham Engineering (June 2021)
- Aerial Photography Provided by ESRI Basemaps (Yolo County: April 13, 2018)

DISCLAIMER:

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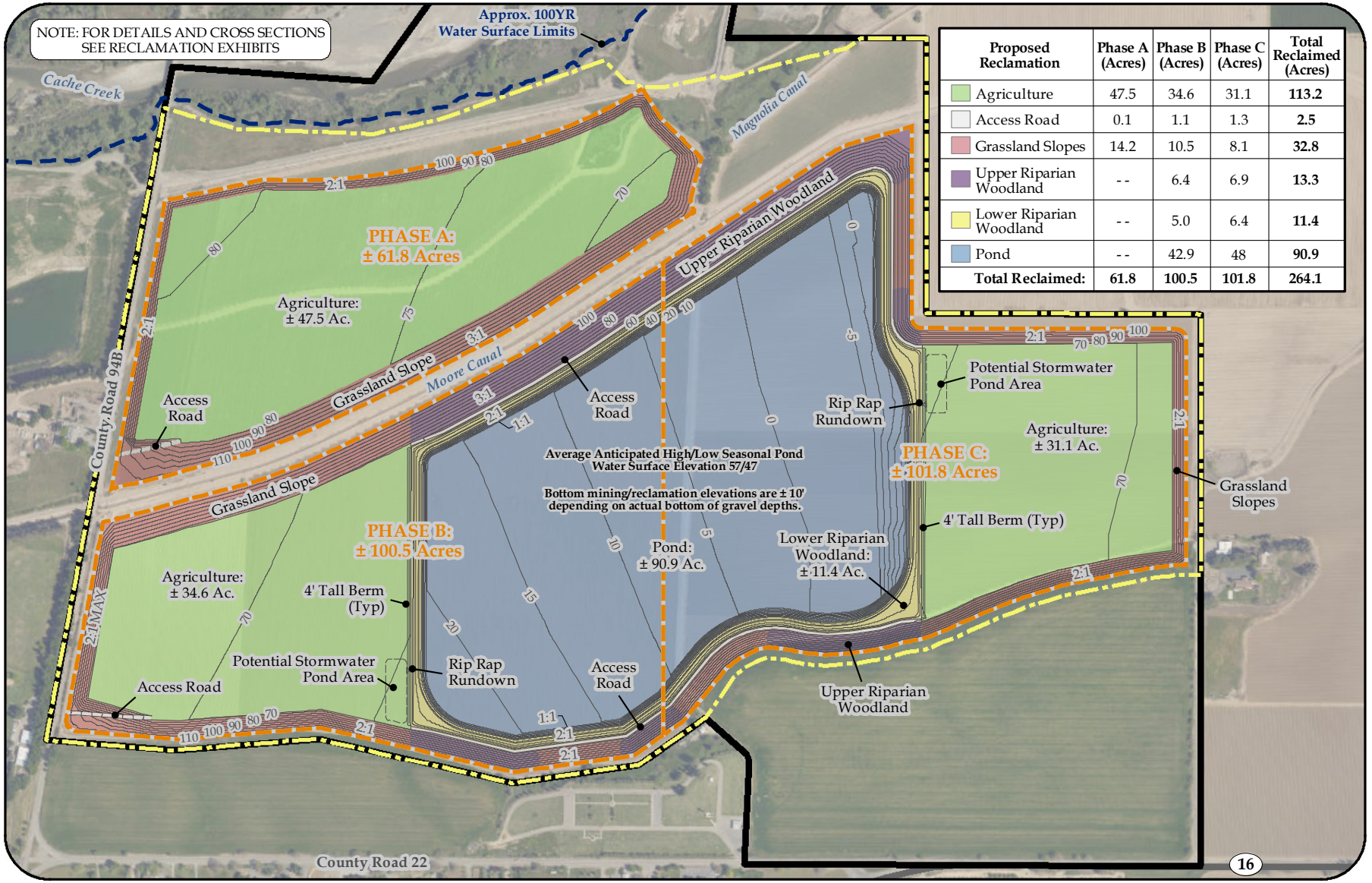
EXHIBIT 5

VISUAL SCREENING

SHIFLER APPLICATION TEICHERT MATERIALS

YOLO COUNTY, CALIFORNIA

C. Cornejo 6/15/2021 SHF_ProjectDesc_Ex5_VisualScreening_202106.mxd



Proposed Reclamation	Phase A (Acres)	Phase B (Acres)	Phase C (Acres)	Total Reclaimed (Acres)
Agriculture	47.5	34.6	31.1	**113.2**
Access Road	0.1	1.1	1.3	**2.5**
Grassland Slopes	14.2	10.5	8.1	**32.8**
Upper Riparian Woodland	--	6.4	6.9	**13.3**
Lower Riparian Woodland	--	5.0	6.4	**11.4**
Pond	--	42.9	48	**90.9**
Total Reclaimed:	**61.8**	**100.5**	**101.8**	**264.1**

TEICHERT MATERIALS

LEGEND:

- Approx. 100YR Water Surface Limits
- Proposed Reclamation Contours
- Proposed Reclamation Phases: Total ± 264.1 Ac.
- Project Site
- Shifler Property Boundary

SOURCE:

- Approx. 100YR Water Surface Limits Per Separate Hydraulic Report by Cunningham Engineering (Jan. 26, 2016)
- Reclamation Contours Provided by Cunningham Engineering (June 2021)
- Aerial Photography Provided by ESRI Basemaps (Yolo County: April 13, 2018)

N W E S

0 350 700 Feet

DISCLAIMER:

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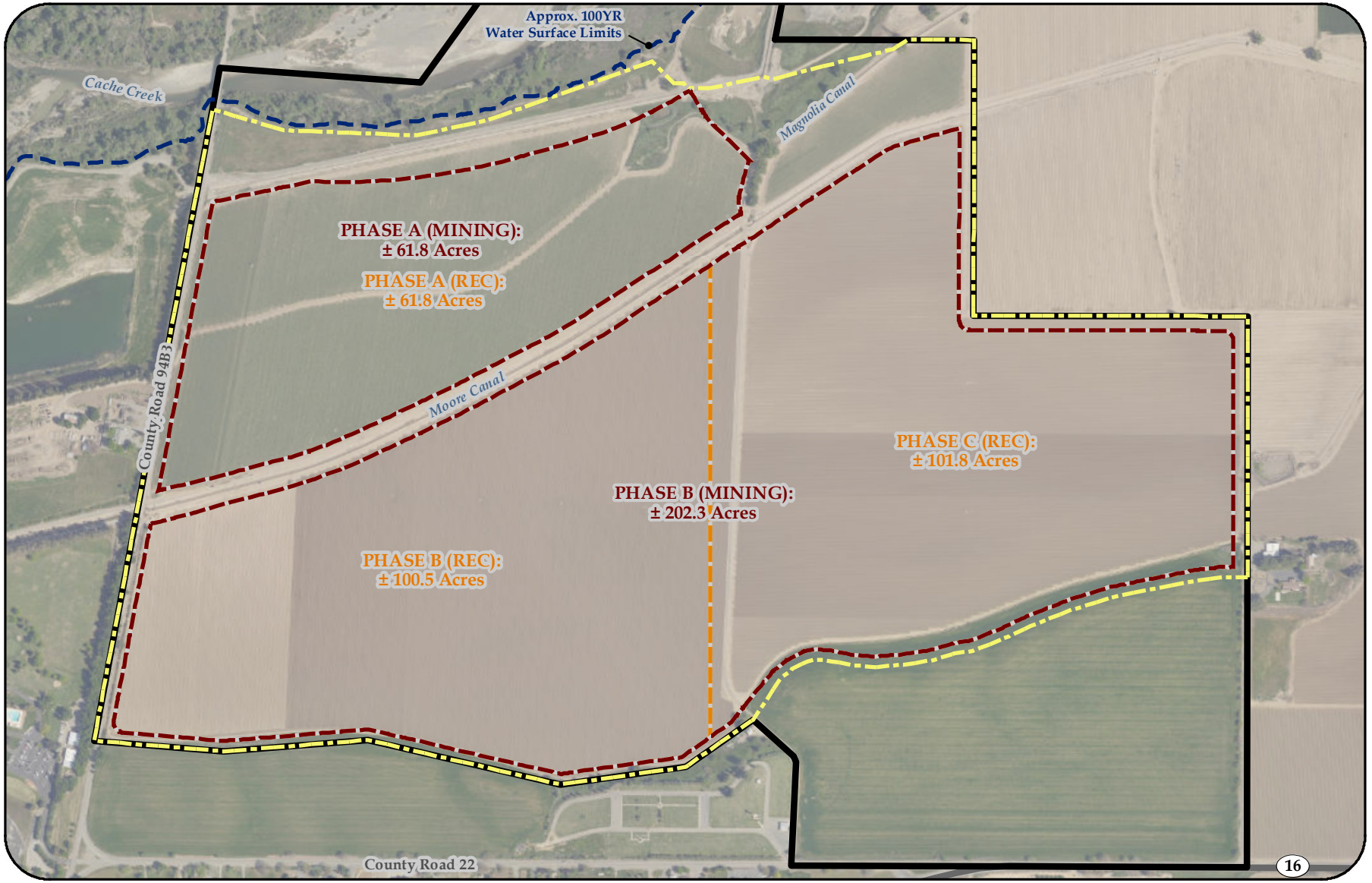
EXHIBIT 6

PROPOSED RECLAMATION PLAN

SHIFLER APPLICATION TEICHERT MATERIALS

YOLO COUNTY, CALIFORNIA

C. Cornejo 6/15/2021 SHF_ProjectDesc_Ex6_RecPlan_202106.mxd



TEICHERT MATERIALS

LEGEND:

- Approx. 100YR Water Surface Limits
- Proposed Mining: 2 Phases
- Proposed Reclamation: 3 Phases
- Project Site
- Shifler Property Boundary

SOURCE:

- Approx. 100YR Water Surface Limits Per Separate Hydraulic Report by Cunningham Engineering (Jan. 26, 2016)
- Mining & Rec Provided by Cunningham Engineering (June 2021)
- Aerial Photography Provided by ESRI Basemaps (Yolo County: April 13, 2018)

0 350 700 Feet

DISCLAIMER:

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EXHIBIT 7

PHASING

SHIFLER APPLICATION
TEICHERT MATERIALS

YOLO COUNTY, CALIFORNIA

C. Cornejo 6/15/2021 SHF_ProjectDesc_Ex7_Phasing_202106.mxd

TEICHERT MATERIALS

LEGEND:

- Section 1 Length: ± 14,050 ft.
- Section 2 Length: ± 5,290 ft.
- Teichert Aggregates Woodland Plant Site Property Boundary

0 0.3 0.6 Miles

DISCLAIMER:

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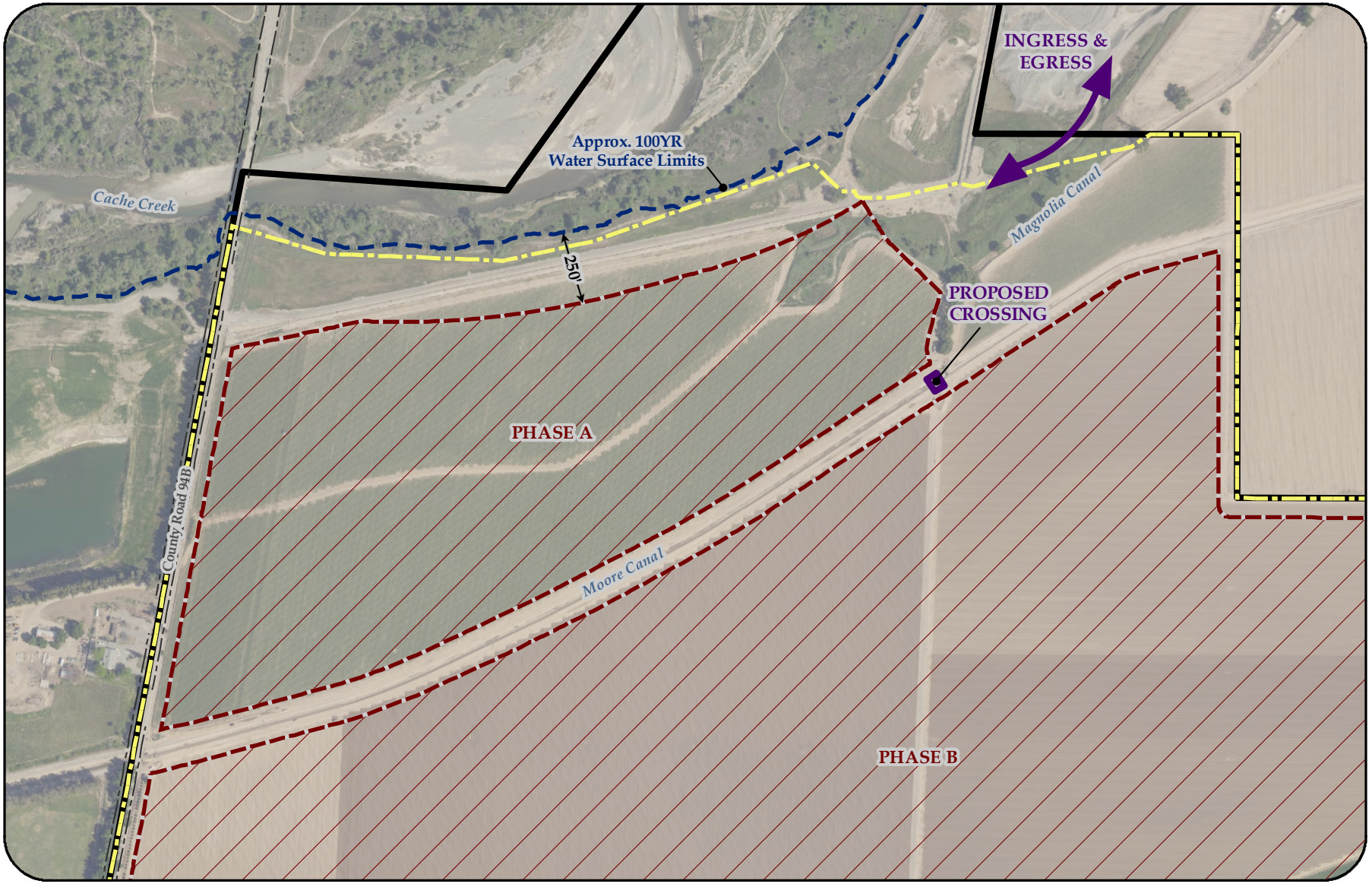
EXHIBIT 8

HAUL ROUTES

SHIFLER APPLICATION
TEICHERT MATERIALS

YOLO COUNTY, CALIFORNIA

C. Cornejo 5/14/2021 SHF_ProjectDesc_Ex8_HaulRoutes_202105.mxd



TEICHERT MATERIALS

LEGEND:

- Approx. 100YR Water Surface Limits
- Proposed Crossing and Ingress & Egress
- Proposed Mining Phases
- Project Site
- Shifler Property Boundary

SOURCE:

- Approx. 100YR Water Surface Limits Per Separate Hydraulic Report by Cunningham Engineering (Jan. 26, 2016)
- Mining Contours Provided by Cunningham Engineering (June 2021)
- Aerial Photography Provided by ESRI Basemaps (Yolo County: April 13, 2018)

0 250 500 Feet

DISCLAIMER:

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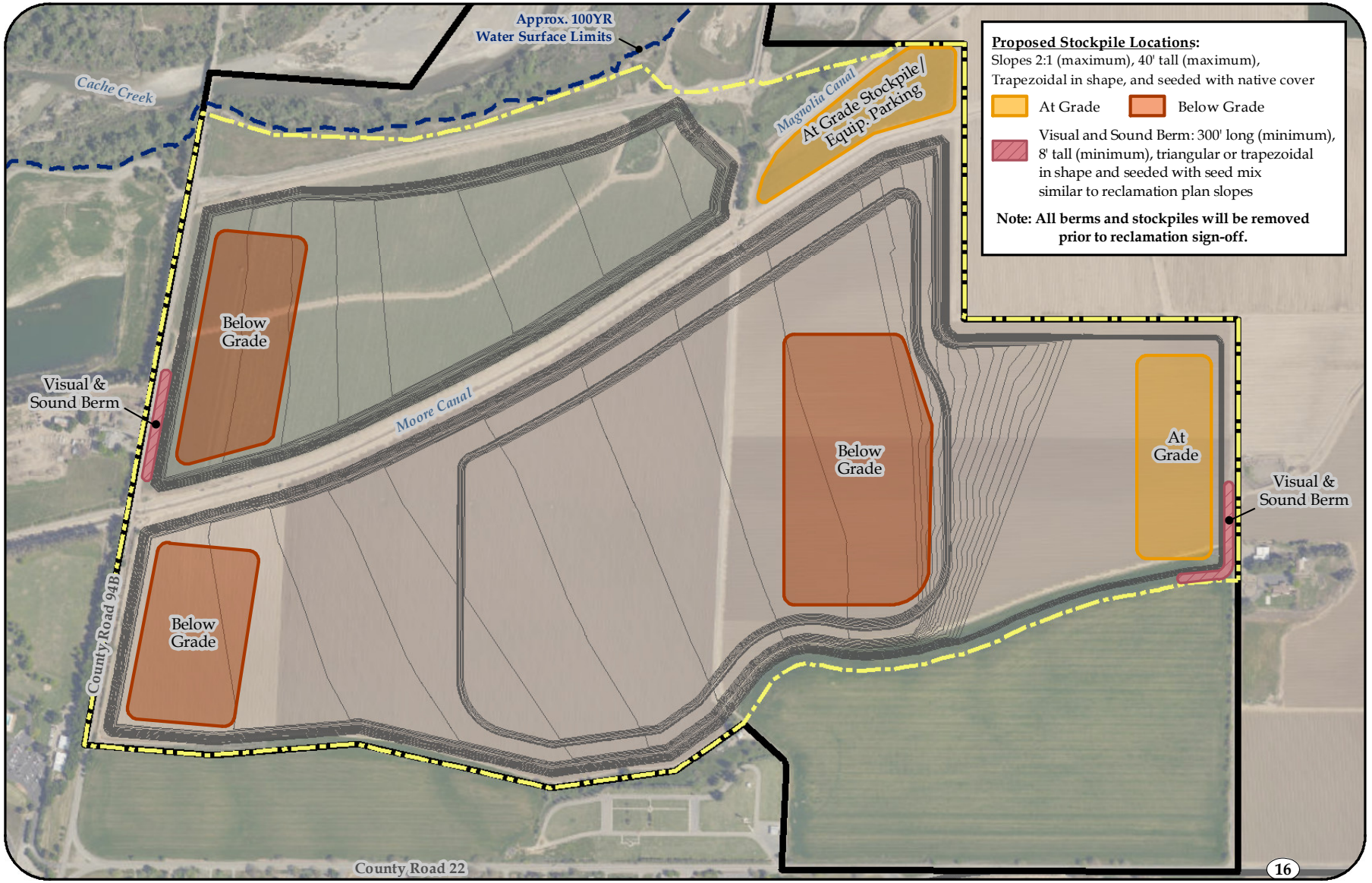
EXHIBIT 9

INGRESS AND EGRESS

SHIFLER APPLICATION TEICHERT MATERIALS

YOLO COUNTY, CALIFORNIA

C. Cornejo 6/15/2021 SHF_ProjectDesc_Ex9_IngressEgress_202106.mxd



Proposed Stockpile Locations:
Slopes 2:1 (maximum), 40' tall (maximum), Trapezoidal in shape, and seeded with native cover

At Grade | Below Grade

Visual and Sound Berm: 300' long (minimum), 8' tall (minimum), triangular or trapezoidal in shape and seeded with seed mix similar to reclamation plan slopes

Note: All berms and stockpiles will be removed prior to reclamation sign-off.

TEICHERT MATERIALS

LEGEND:

- Approx. 100YR Water Surface Limits
- Proposed Mining Contours
- Project Site
- Shifler Property Boundary

SOURCE:

- Approx. 100YR Water Surface Limits Per Separate Hydraulic Report by Cunningham Engineering (Jan. 26, 2016)
- Mining Contours Provided by Cunningham Engineering (June 2021)
- Aerial Photography Provided by ESRI Basemaps (Yolo County: April 13, 2018)

0 350 700 Feet

DISCLAIMER:

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EXHIBIT 10

PROPOSED STOCKPILE LOCATIONS

SHIFLER APPLICATION
TEICHERT MATERIALS

YOLO COUNTY, CALIFORNIA

C. Cornejo 6/15/2021 SHF_ProjectDesc_Ex10_Stockpile_202106.mxd

Project No. S9534-05-04
June 16, 2021

VIA ELECTRONIC MAIL

Jason Smith
A. Teichert & Sons, Inc.
Aggregate Resource Development
3500 American River Drive
Sacramento, California 95864

Subject: GEOTECHNICAL ADDENDUM
SHIFLER MINING AND RECLAMATION PROJECT
ALTERNATE A – MOORE CANAL AVOIDANCE
YOLO COUNTY, CALIFORNIA

References: *Slope Stability Evaluation – Teichert Shifler Mining and Reclamation Project, Yolo County, California,* Geocon Project No. S9534-05-04, May 25, 2016.

Off-Channel Mining Plan and Conceptual Off-Channel Reclamation Plan for Shifler Property, Yolo County, California, Cunningham Engineering, June 8, 2021.

Mr. Smith:

As requested, we have prepared this Geotechnical Addendum for the proposed Shifler Mining and Reclamation site located northeast of the intersection of County Roads 22 and 94B in Yolo County, California. The approximate site location is shown on the Vicinity Map, Figure 1.

This Addendum is intended to provide a summary of our review, conclusions, and recommendations for an alternative mining and reclamation operation ("Alternate A") where the existing Moore Canal would remain in its current location and mining/reclamation would occur on both sides of the canal.

BACKGROUND AND PURPOSE

Geocon previously prepared the referenced *Slope Stability Evaluation* report for the project (Geocon 2016). The purpose of our 2016 study was to evaluate subsurface conditions, evaluate pertinent geotechnical parameters, and to evaluate slope stability for proposed perimeter mining and reclamation slopes under static and dynamic (seismic) conditions with respect to the performance standards outlined in the Yolo County *Off-Channel Surface Mining and Reclamation Ordinances* (YCSMRO) and the California *Surface Mining and Reclamation Act* (SMARA).

The Shifler site occupies approximately 320 acres south of Cache Creek and east of County Road 94B. Teichert proposes to excavate the site for gravel mining operations. The proposed mining operations will require excavation of the site to a maximum pit bottom elevation of -5 feet mean sea level (MSL). Our previous 2016 *Slope Stability Evaluation* was based on the 2016 *Mining and Reclamation Plans* (Cunningham Engineering, 2016), which considered that the existing Moore Canal would be relocated to a newly constructed concrete-lined channel adjacent to the north and west boundaries of the proposed mining/reclamation area.[1] The new canal would be set back approximately 50 feet from the mining area.

[1] For the purposes of this letter, we call the 2016 mining/reclamation operations the "Original Plan."

Alternative A (Moore Canal Avoidance) is the current project alternative where the Moore Canal is not relocated and mining and reclamation occurs on both sides of the existing canal. Details of this alternative are shown on the referenced *Mining and Reclamation* plans prepared by Cunningham Engineering, dated June 8, 2021. The purpose of our additional evaluation was to determine if the "Alternate A" mining operation (leaving the Moore Canal at its existing location and mining on both sides) would result in more adverse slope stability or seepage conditions than what was analyzed by Geocon in 2016.

DISCUSSION AND CONCLUSIONS

Based on our review of the 2021 Mining and Reclamation Plans by Cunningham Engineering, the proposed slope inclinations (mining and reclamation) and the proposed mining depths are the same as the Original Plan. In addition, based on our review of subsurface exploration logs, the subsurface conditions within the existing Moore Canal alignment are substantially similar to those previously analyzed.

Based on our review, the "Alternate A" mining and reclamation option where the existing Moore Canal remains in its current location and mining/reclamation would occur on both sides of the canal does not result in more adverse slope stability and seepage conditions compared to the Original Plan.

CLOSURE

Our professional services are provided in general accordance with generally accepted geological principles and practices used in the site area at this time. No warranty is provided, express or implied.

Please contact us if you have any questions regarding this letter or if we can be of further service.

Respectfully Submitted,

GEOCON CONSULTANTS, INC.

Jeremy J. Zorne, PE, GE
Senior Engineer

Appendix D

114163

RECORDING REQUESTED BY
AND WHEN RECORDED MAIL TO:

Mr. Randy Sater
Teichert Land Co.
P. O. Box 13308
Sacramento, CA 95813

YOLO Recorder's Office
Freddie Oakley, County Recorder
DOC- 2003-0032880-00
Acct 102-Fidelity National Title
Thursday, JUN 05, 2003 15:42:00
Ttl Pd $91.00 Nbr-0000407465
VRB/R6/1-29

SPACE ABOVE LINE FOR RECORDER'S USE

EASEMENT AGREEMENT
(Sand and Gravel Mining Operations)

This Easement Agreement ("**Easement**") is executed this 5th day of June, 2003, by and between WILD WINGS, LLC, a California limited liability company ("**Grantor**") and TEICHERT LAND CO., a California corporation ("**Grantee**"), who agree as follows:

RECITALS

A. Grantor owns real property situated adjacent to Grantee's Property in an unincorporated portion of Yolo County, State of California, as more particularly described in **Exhibit A**, and also depicted in **Exhibit C** attached hereto ("**Grantor's Property**"). Grantor intends to develop Grantor's Property into a golf course and residential community consisting of approximately 337 single family residences called The Wild Wings Golf Community ("**Wild Wings**").

B. Grantee owns and leases real property situated in an unincorporated portion of Yolo County, State of California, as more particularly described in **Exhibits B-1, B-2, B-3, B-4 and B-5**, and also depicted in **Exhibit C** attached hereto ("**Grantee's Property**"). Grantee's Property is and will be used for the commercial extraction and processing of sand and gravel ("**Grantee's Business**"). Grantee's Business involves: (i) extracting, processing, crushing and transporting sand and gravel from reserves located on Grantee's Property in and around Cache Creek; (ii) the construction of above-ground conveyor systems bridging the Cache Creek channel between various parts of Grantee's Property; (iii) the operation of heavy equipment, haul trucks, water trucks, and other heavy machinery; (iv) the construction and operation of various processing and production plants, including without limitation, concrete plants, concrete recycling plants and asphalt plants; and (v) reclamation activities. Anticipated reclamation activities under current entitlements held by Grantee, including, but not limited to, the creation of open space habitat along the Cache Creek Channel, the creation of a recreational lake on the Storz Mining Site and restoration of the Coors Mining Site to agricultural uses. As is common in the sand and gravel mining industry, Grantee's Business and the entitlements presently held by Grantee will change as the operations are developed in the future so that the exact

future modification. Grantee has obtained and will obtain in the future modifications to existing entitlements and amendments thereto to conduct Grantee's Business on Grantee's Property. The future use of Grantee's Property for Grantee's Business will be referred to herein as "**Contemplated Uses.**"

C. The operation of Grantee's Business and Contemplated Uses in compliance with conditions of entitlements and permits may affect the use of Grantor's Property by, among other things, the intrusion over, through and under Grantor's Property of sound, vibration, light, dust, equipment and facilities exhaust and odors. In addition, the views from Grantor's Property over Grantee's Property may be obstructed, in whole or part, by, among other things, berms constructed on Grantee's Property, conveyor systems across Cache Creek, the use of heavy equipment and other processing and transportation structures and equipment which may be operated and constructed on Grantee's Property. The purpose of this Easement Agreement is to create an Easement in favor of Grantee to allow Grantee to fully pursue Grantee's Business and Contemplated Uses in a lawful manner in recognition of the fact that Grantee's Business operations and Contemplated Uses may affect the quiet use and enjoyment of Grantee's Property.

D. Grantor also desires to obtain from Grantee an easement over part of Grantee's Property to construct a drainage pipe for purposes of the collection and discharge of surface water which is necessary to satisfy the conditions to a final subdivision map for Wild Wings. Grantor and Grantee have agreed that Grantor will convey this Easement to Grantee in exchange for Grantee conveying to Grantor an easement over part of Grantee's Property for the drainage pipe pursuant to an "Easement Agreement (Drainage Pipe)" of even date herewith.

GRANT OF NONEXCLUSIVE EASEMENT

1. Grant of Nonexclusive Easement. For valuable consideration, the receipt of which is hereby acknowledged, Grantor hereby grants to Grantee a perpetual easement (the "**Easement**") as hereinafter described, appurtenant to Grantee's Property.

2. Description of Easement. The Easement shall be nonexclusive and shall commence upon execution of this Easement Agreement, the Grantee's concurrent execution and delivery to Grantor of the Easement Agreement (Drainage Pipe), the acquisition of title by Grantor to Grantor's Property, and the recording of the final subdivision map therefor. Provided Grantee operates Grantee's Business and Contemplated Uses in substantial compliance with applicable entitlement and permit requirements, Grantor hereby grants the right of Grantee to pass over, through and under Grantor's Property, sound, light, vibrations, dust, exhaust, odors and all other physical matters associated with Grantee's Business and Contemplated Uses and the right of Grantee to obstruct Grantor's view from Grantor's Property as a result of the operation of Grantee's Business and Contemplated Uses, including without limitation, the construction of berms, structures and plants in Grantee's Property and conveyor systems across Cache Creek to and from various locations of Grantee's Property. Grantor further agrees that: (a) as an incident to the Easement granted herein not to oppose existing operations of Grantee's Business and Contemplated Uses, in accordance with Grantee's existing entitlements and permits and renewals thereof; and (b) the lawful operation of Grantee's Business and Contemplated Uses does not and shall not be deemed to constitute a nuisance.

3. Notice to Purchasers. Grantor agrees that it will give notice to any person who acquires any interest in Grantor's Property, or any portion thereof, of the terms and conditions of this Easement Agreement, by delivering to such person a copy of this Easement Agreement. If the person acquiring an interest in Grantor's Property is a homebuilder who intends to construct a residence on one or more lots of Wild Wings, Grantor agrees to enter an agreement with the homebuilder making Grantee an express third party beneficiary thereof, requiring the homebuilder to give notice to any retail home purchaser of the terms of this Easement Agreement by delivering a copy of this Easement Agreement to such retail home purchaser.

4. Severability. If any term, provision, condition or covenant of this Easement Agreement or its application to any party or circumstance shall be held, to any extent, invalid or unenforceable, then the remainder of this Easement Agreement or the application of such term, provision, condition or covenant to any party or circumstances other than those as to whom or which it is held invalid or unenforceable, shall not be affected and shall be valid and enforceable to the fullest extent permitted by law.

5. Grantor's Retained Rights. Except for the matters addressed in this Easement, Grantor retains all other rights and remedies, whether under statute or common law. Nothing in this Easement Agreement shall affect or be construed to limit the County of Yolo's regulatory functions with respect to Grantee's Business and Grantee's Property

6. Enforcement; Binding on Successors. It is the intent of the parties that if any provision of this Easement Agreement is unenforceable as an incident of the Easement, it shall constitute a covenant running with the land pursuant to applicable law, including but not limited to Section 1468 of the Civil Code of the State of California and that each such covenant hereto to do or refrain from doing some act on Grantor's Property (a) is for the benefit of Grantee's Property and each and every portion thereof and is a burden upon Grantor's Property, (b) runs with each and every portion of Grantor's Property and Grantee's Property and (c) shall benefit or be binding upon each successive owner during the ownership of Grantee's Property or Grantor's Property, respectively, or any portion thereof; and each person having any interest therein derived in any manner through any owner of Grantor's Property or Grantee's Property or any portion thereof. If, for any reason, a provision of this Easement Agreement is not enforceable as an incident to the Easement or a covenant running with the land, the parties intend that such provision be enforceable as an equitable servitude.

7. Recitals The Recitals are material to and incorporated herein as part of this Easement Agreement.

8. Attorneys' Fees. In the action between Grantor and Grantee involving this Easement Agreement, the prevailing party shall be entitled to recover from the other party, in addition to damages, injunctive or other relief, if any, all costs and expenses (whether or not allowable as "costs" items by law), reasonably incurred at, before and after trial or on appeal, or in any bankruptcy proceeding, including without limitation, attorneys' fees, witnesses' fees (expert and otherwise), deposition costs, copying charges and other expenses.

IN WITNESS WHEREOF, Grantor and Grantee have executed this Easement Agreement on the date first above written.

GRANTOR:

WILD WINGS, LLC, a California limited liability company

By: _____

Its: member

By: _____

Its: member

GRANTEE:

TEICHERT LAND CO., a California corporation

By: _____

Its: Norman E. Eilert
Assistant Treasurer

By: _____

Its: Judson T. Riggs
President

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STATE OF CALIFORNIA)
)
COUNTY OF Santa Clara)

On January 1, 2003, before me, the undersigned notary public, personally appeared Lee H. Brandenburg,

[X] personally known to me
[ ] proved to me on the basis of satisfactory evidence

to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Signature Diane Kay Greer

DIANE KAY GREER
Commission # 1218418
Notary Public - California
Santa Clara County
My Comm. Expires May 6, 2003

STATE OF CALIFORNIA)
)
COUNTY OF San Bernardino)

On January 15, 2003, before me, the undersigned notary public, personally appeared Nicholas J. Coussoulis,

[X] personally known to me
[ ] proved to me on the basis of satisfactory evidence

to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Signature Sally Lynn Madrid

SALLY LYNN MADRID
Commission # 1233298
Notary Public - California
San Bernardino County
My Comm. Expires Sep 16, 2003

STATE OF CALIFORNIA)
)
COUNTY OF Sacramento)

On 1-20-03, before me, the undersigned notary public, personally appeared Norman E. Eilert,

[X] personally known to me
[ ] proved to me on the basis of satisfactory evidence

to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Signature Virginia M. Halstenrud

VIRGINIA M. HALSTENRUD
Commission # 1382377
Notary Public - California
Sacramento County
My Comm. Expires Oct 29, 2006

STATE OF CALIFORNIA)
)
COUNTY OF Sacramento)

On 1-20-03, before me, the undersigned notary public, personally appeared Judson T. Riggs,

[X] personally known to me
[ ] proved to me on the basis of satisfactory evidence

to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Signature Virginia M. Halstenrud

VIRGINIA M. HALSTENRUD
Commission # 1382377
Notary Public - California
Sacramento County
My Comm. Expires Oct 29, 2006

EXHIBIT A

Legal Description of Grantor's Property

EXHIBIT "ONE"

Parcel One:
All that portion of said land lying within the exterior boundary as shown on Parcel Map 3808, filed for record October 3, 1990, in Book 9 of parcel Maps, pages 102 and 103, Yolo County Official Records.

EXCEPTING THEREFROM that portion of said land known as the Moore Canal as described in the deed to Yolo County Flood Control and Water Conservation District, recorded November 1, 1967, in Book 866, page 535, Yolo County Records.

apn: 25-440-17

Parcel Two:
Beginning at the most Northerly corner of Parcel M as shown on that certain record of survey filed in Book 8 of Maps and Surveys, pages 44 and 45, Yolo County Records, said point also being on the Easterly line of the Gordon Grant; thence from said point of beginning, North 83° 53' 00" West 45.87 feet; thence along a curve to the right having a radius of 135.00 feet, a central angle of 95° 25' 00", an arc length of 224.82 feet; thence North 11° 32' 00" East 56.17 feet; thence along a curve to the left having a radius of 170.00 feet, a central angle of 93° 54' 15", an arc length of 278.62 feet; thence North 82° 22' 15" West 197.76 feet; thence along a curve to the left having a radius of 220.00 feet, a central angle of 47° 06' 15", an arc length of 180.87 feet; thence South 50° 31' 30" West 209.64 feet; thence along a curve to the left having a radius of 725.00 feet, a central angle of 15° 52' 30" an arc length of 200.88 feet; thence South 34° 39' 00" West 82.03 feet; thence South 37° 33' 50" West 690.91 feet; thence along a curve to the left having a radius of 244.23 feet, a central angle of 48° 32' 10" an arc length of 206.89 feet; thence South 10° 58' 20" East 22.30 feet; thence along a curve to the right having a radius of 491.42 feet, a central angle of 00° 02' 28", an arc length of 0.35 feet; thence North 79° 49' 50" East 67.38 feet; thence South 74° 35' 41" East 404.64 feet; thence South 18° 51' 01" West 2100.08 feet; thence North 79° 44' 30" West 169.44 feet to a point on the Westerly line of Tract 9 of that certain record of Survey of John Wolfskill Estate Lands filed in Book 4 of Maps and Surveys, page 57, Yolo County Records; thence along the said Westerly line of Tract 9, North 10° 15' 30" East 1865.00 feet to a point on the Southerly line of Parcel L as shown on said record of survey filed in Book 8 of Maps and Surveys, pages 44 and 45; thence along said Southerly line of Parcel L, North 79° 58' 00" West 2575.69 feet to the Southwesterly corner of said Parcel L; thence along the Westerly line of said Parcel L North 10° 14' 30" East 951.60 feet; thence leaving said Westerly line of Parcel L, South 27° 18' 10" East 243.22 feet; thence South 24° 58' 20" East 364.20 feet; thence South 35° 00' 00" East 314.75 feet; thence South 65° 01' 30" East 176.39 feet to the Southwesterly corner of Parcel E as shown on said record of survey filed in Book 8 of Maps and Surveys, pages 44 and 45; thence along the Westerly line of said Parcel E, North 17° 18' 00" East 249.61 feet to the Northwesterly corner of said Parcel E; thence North 30° 45' 00" West 283.06 feet; thence North 27° 11' 00" West 335.02 feet; thence North 08° 11' 00" East 153.08 feet; thence South 80° 55' 30" East 190.00 feet; thence South 72° 34' 50" East 389.29 feet; thence South 17° 50' 25" West 177.13 feet; thence South 77° 35' 53" East 197.00 feet; thence North 27° 21' 22" East 158.08 feet; South 62° 46' 30" East 514.36 feet; thence South 50° 28' 00" East 144.31 feet; South 72° 49' 30" East 212.15 feet; thence South 80° 10' 30" East 250.59 feet; thence North 72° 40' 10" East 339.28 feet; thence North 58° 13' 20" East 318.72 feet; thence North 59° 19' 00" East 161.40 feet; thence along a curve to the right having a tangent that bears North 39° 40' 24" East, a radius of 785.00 feet, a central angle of 10° 51' 06", an arc length of 148.68 feet; thence North 50° 31' 30" East 209.64 feet; thence along a curve to the right having a radius of 280.00 feet, a central angle of 47° 06' 15" an arc length of 230.19 feet; thence South 82° 22' 15" East 197.76 feet; thence along a curve to the right having a radius of 230.00 feet, a central angle of 66° 56' 30" an arc length of 268.72 feet; thence South 11° 32' 00" West

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170.50 feet; thence along a curve to the left having a radius of 100.00 feet, a central angle of 95° 25' 00", an arc length of 166.53 feet; thence South 83° 53' 00" East 48.63 feet to a point of the said Easterly line of the Gordon Grant; thence along the said Easterly line of the Gordon Grant, South 10° 15' 30" West 25.07 feet to the point of beginning.

EXCEPTING THEREFROM that portion of Parcel F as shown on that said certain record of Survey filed in Book 8 of Maps and Surveys, pages 44 and 45, described as follows:

Beginning at a point that is situate South 86° 54' 40" East 10.32 feet from the most Northwesterly corner of Parcel F as shown on that certain record of survey filed in Book 8 of Maps and Surveys, pages 44 and 45, Yolo County Records, said point also being on the Northerly line of said Parcel F; thence from said point of beginning and along the said Northerly line of Parcel F, South 86° 54' 40" East 543.83 feet; thence South 80° 12' 40" East 379.07 feet; thence South 77° 33' 30" East 488.94 feet; thence South 76° 41' 50" East 283.13 feet; thence leaving said Northerly line of Parcel F, along a curve to the left having a tangent that bears South 32° 33' 47" West, a radius of 304.23 feet, a central angle of 43° 32' 07" an arc length of 231.16 feet; thence South 10° 58' 20" East 21.79 feet to a point on the Southerly line of said Parcel F; thence along the said Southerly line of Parcel F, South 79° 49' 50" West 112.67 feet; thence North 76° 51' 30" West 908.73 feet; thence North 83° 53' 10" West 679.18 feet; thence North 65° 01' 30" West 36.25 feet; thence leaving said Southerly line of Parcel F, North 17° 18' 00" East 243.96 feet to the point of beginning.

Said land is also shown on that certain lot line adjustment map, recorded October 16, 1990 in Book 12 of Maps and Surveys, page 87, Yolo County Records.

ALSO EXCEPTING THEREFROM that portion of said land known as the Moore Canal as described in the deed to Yolo County Flood Control and Water Conservation District, recorded November 1, 1967, in Book 866, page 535, Yolo County Records.

apn: 25-440-17 25-440-43

Parcel Three:
Parcel One, Parcel Map No. 3248, for Bruce Watts, filed for record August 2, 1984, in Book 7 of parcel maps, at page 49, Yolo County Records.

apn: 25-191-61

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EXHIBITS B-1, B-2, B-3, B-4 and B-5

Legal Descriptions of Grantee's Property

Exhibit B-1

Haller

The land referred to herein is described as follows:

All that real property situated in the County of Yolo, State of California, described as follows:

BEGINNING at a point on the West line of said Rancho de Jesus Maria, distant thereon North 10° 37' 23" East 5461.23 feet from corner J. M. H. No. 1, being the Southwest corner thereof, said point of beginning being also distant North 10° 37' 23" East 361.70 feet from the most Southern corner of the parcel of land described in the deed to A. Teichert & Son, Inc., recorded November 10, 1964, in book 778 of Official Records, page 591; thence from said point of beginning along the Northern and Western lines of said A. Teichert & Son, Inc., property, the following courses and distances: North 84° 23' 06" East 229.85 feet; North 64° 14' 26" East 347.15 feet; North 23° 29' 38" East 400.85 feet; South 65° 42' 52" East 256.39 feet; North 19° 01' 55" East 673.85 feet; and North 23° 35' 30" East 725.74 feet to the Southern line of the parcel of land described in the Decree of Final Distribution rendered in the Estate of John Francis Cook, deceased, a certified copy of which was recorded July 23, 1947, in book 263 of Official Records, page 463; thence along said Southern line North 79° 22' 37" West 1100.00 feet to the Western line of said Rancho Rio de Jesus Maria; thence along said Western line, South 10° 37' 23" West 1974.25 feet to the point of beginning.

EXCEPTING THEREFROM, that portion thereof shown as Parcel 1, Parcel Map No. 2972, filed June 27, 1980, in book 5 of Parcel Maps, pages 52 and 53, Yolo County Records.

BOOK 1677 PAGE 739

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Haller

The land referred to herein is described as follows:

All that real property situated in the County of Yolo, State of California, described as follows:

Beginning at a 3" iron pipe monument located North 10° 37' 23" East 5099.23 feet and North 82° 36' 38" East 626.85 feet from corner J.M.H. No. 1 of the Rancho Rio Jesus Maria as said Rancho corner is shown on Record of Survey of Fred W. Haller property, recorded in Book 6 of Maps and Surveys, Page 35, Yolo County Records, and running thence from said point of beginning North 35° 05' 00" East 536.50 feet to a 3" iron pipe monument; thence North 26° 40' 28" East 532.62 feet to a 3" iron pipe monument; thence North 19° 47' 58" East 634.21 feet; thence North 14° 19' 11" East 516.89 feet; thence South 79° 22' 37" East 50.00 feet to a 2" iron pipe stamped N.O.G. 1880; thence South 14° 19' 11" West 2008.32 feet; thence South 82° 36' 38" West 446.26 feet to the point of beginning, and containing 6.65 acres, more or less.

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Haller

ALL THAT CERTAIN REAL PROPERTY SITUATE IN THE COUNTY OF YOLO, STATE OF CALIFORNIA, MORE SPECIFICALLY DESCRIBED AS FOLLOWS:

BEGINNING at a point located North 10° 37' 23" East, 5099.53 feet from the corner J.M.H. No. 1 of the Rancho Rio Jesus Maria, said Rancho corner is shown on the Record of Survey of Fred W. Haller property recorded in Book 6 of Maps and Surveys, at page 35, Yolo Count Records; said point being the most Northwesterly corner of that parcel of property deeded to A. Teichert & Son and recorded in Book 590 of Official Records, at page 114; thence, from said point of beginning North 82° 36' 38" East, on and along the Northerly line of s parcel of property deeded to A. Teichert & Son, 626.85 feet to a point on the boundary of parcel deeded to the County of Yolo and recorded in Book 592 of Official Records, page 47 thence, on and along the boundary of said County of Yolo parcel North 35° 05' 00" East, 536.50 feet; thence, North 26° 40' 28" East, 532.62 feet, thence, North 19° 47' 58" East, 634.21 feet; thence North 14° 19' 11" East, 516.89 feet to a point on the Northerly boundary of said Fred Haller property; thence, South 23° 35' 30" West, 785.74 feet; thenc South 19° 01' 55" West, 673.85 feet; thence, North 65° 42' 52" West, 256.39 feet; thence, South 23° 29' 38" West, 400.85 feet; thence South 64° 14' 26" West, 347.15feet; thence South 84° 23' 06" West, 229.85 feet to a point on the westerly line of said Rancho Rio Jesus Maria; thence, South 10° 37' 23" West, on and along said Westerly line of the Rancho, 361.70 feet to the point of beginning and containing 11.28 acres, more or less.

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(3)

Haller

ALL THAT CERTAIN REAL PROPERTY SITUATE IN THE COUNTY OF YOLO, STATE OF CALIFORNIA, MORE SPECIFICALLY DESCRIBED AS FOLLOWS:

"That portion of the Fred W. Haller property in the Rancho Rio Jesus Maria, Yolo County, California, as said Haller property is shown on Record of Survey Map of the Fred W. Haller Property, on file in the office of the County Recorder of said Yolo County, in Book 6 of Maps and Surveys, at page 35, described as follows:

"BEGINNING AT A POINT on the Westerly line of said Rancho Rio Jesus Maria, as shown on said Record of Survey, distant thereon N. 10° 37' 23" E. A distance of 3877.53 feet from Corner J. M. H. No. 1 of said Rancho; thence S. 85°52' 20" E. 963.75 feet; thence N. 35° 52' 20" E. 1885.52 feet; thence N. 10° 37' 23" E. 716.76 feet; thence N. 40° 16' 00" E. 1181.39 feet to a point on the southeasterly prolongation of the Southerly line of the John Francis Cook Property; thence No. 79° 22' 37" W. along said southerly line of said Cook Property and its southeasterly prolongation for a distance of 1196.18 feet; thence S. 14° 19' 11" W. 2465.33 feet; thence S. 80° 46' 26" West 1053.63 feet to a point on the westerly line of said Rancho Rio Jesus Maria; thence S. 10° 37' 23" W. along said westerly line for a distance of 740.00 feet to the point of beginning.

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Haller

The land referred to in this Policy is described as: All that real property in the County of Yolo, State of California, described as follows:

All that portion of the Rancho de Jesus Maria, shown on Map entitled "Record of Survey of the Fred W. Haller Property", on file in the office of the Recorder of Yolo County, California on March 8, 1951, in Book 6 of Maps and Surveys, at page 35, described as follows:

BEGINNING at J.M.H. No. 1 of the Rancho Rio Jesus Maria and running thence North 10° 37' 23" East 4617.53 feet along County Road 94-B to the true point of beginning of this description; thence from said point of beginning, continuing along County Road 94-B, North 10° 37' 23" East, 482.00 feet; thence leaving said County Road and running North 82° 36' 38" East, 1073.09; thence South 14° 19' 11" West 457.02 feet; thence South 80° 46' 26" West 1091.73 feet; thence continuing along said course South 80° 46' 26" East 31.90 feet to the point of beginning and containing 10.713 acres more or less.

Haller

The land referred to herein is described as follows:

All that real property situated in the County of Yolo, State of California, described as follows:

PARCEL ONE:

BEGINNING at an angle point in the Northwestern line of Lot 45, Clanton's Subdivision of Willow Oak Park, filed October 23, 1883, in book 35 of Deeds, page 396, Yolo County Records, said point of beginning being located North 10° 37' 23" East, along said Lot line, 716.76 feet from the Southwest corner of said Lot; thence from said point of beginning, North 89° 56' 44" West 848.25 feet; thence North 40° 16' East 1181.39 feet; thence South 79° 22' 37" East 745.32 feet to the Northwestern line of said Clanton's Subdivision of Willow Oak Park; thence South 40° 16' West, along said Northwestern line, 1002.39 feet to the point of beginning.

PARCEL TWO:

BEGINNING at a concrete monument on the Northwestern line of Clanton's Willow Oak Park Subdivision, filed October 23, 1883, in book 35 of Deeds, page 396, Yolo County Records, distant thereon North 40° 16' 00" East 1002.39 feet from the angle point in the Northwestern line of Lot 45 of said Clanton's Willow Oak Park; said angle point and said point of beginning and the following description being shown on a Record of Survey Map filed in book 7 of Maps and Surveys, page 13, Yolo County Records; thence North 40° 16' 00" East, along said Northwestern line, 801.79 feet; thence North 816.06 feet; thence South 57° 03' 16" West 2174.82 feet; thence South 79° 22' 37" East 1329.64 feet to the point of beginning.

JH/gr

4/52

m2do/84

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Exhibit B-2

Woodland

ALL THAT CERTAIN REAL PROPERTY SITUATE IN THE COUNTY OF YOLO, STATE OF CALIFORNIA, MORE SPECIFICALLY DESCRIBED AS FOLLOWS:

The South one-half of Lot 33, all of Lots 43 and 45, the West one-half of Lot 34, and that portion of Lot 44, lying Southerly of the Westerly projection of the line between the North one-half and the South one-half of said Lot 33, all in Clanton's Subdivision of Willow Oak Park, as shown on the official map thereof filed for record in the office of the Yolo County Recorder on October 23, 1881, in Book 35 of Deeds, at page 396.

NOTE: The acreage and dimensions of said Lots 34, 43 and 45 are computed to the center line of a 50 foot road adjoining on the South.

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Woodland

ALL THAT CERTAIN REAL PROPERTY SITUATE IN THE COUNTY OF YOLO, STATE OF CALIFORNIA, MORE SPECIFICALLY DESCRIBED AS FOLLOWS:

That portion of the East 1/2 of Lot 34 of Clanton's Subdivision of Willow Oak Park, according to the map thereof recorded in Book 35 of Deeds at page 396, records of Yolo County, California, described as follows: Beginning at a point on the north line of said Lot 34, distant N. 89° 52' 07" W. 158.36 feet from the Northeast corner of said Lot 34; thence N. 89° 52' 07" W. along the north line of said Lot 34 for a distance of 502.67 feet to the northwest corner of the East 1/2 of said Lot 34; thence S. 0° 29' 46" W. along the west line of the East 1/2 of said Lot 34 for a distance of 477.00 feet; thence N. 46° 37' 10" E. 308.10 feet; thence N. 39° 38' 30" E. 170.30 feet; thence N. 52° 37' 30" E. 219.23 feet to the point of beginning. Containing 2.648 acres of land more or less.

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Woodland

ALL THAT CERTAIN REAL PROPERTY SITUATE IN THE COUNTY OF YOLO, STATE OF CALIFORNIA, MORE SPECIFICALLY DESCRIBED AS FOLLOWS:

That portion of Lots 42 and 46 of Clanton's Subdivision of Willow Oak Park, according to the map thereof recorded on October 23, 1883, in Book 35 of Deeds, page 396, Records of Yolo County, California, described as follows:

Beginning at the Northwest Corner of said Lot 46; thence South 89° 56' 44" East along the north line of said Lots 46 and 42 for a distance of 1201.36 feet; thence South 37° 20' 46" West for a distance of 1659.08 feet to a point on the south line of said Lot 46; thence North 89° 56' 44" West along the south line of said Lot 46 for a distance of 442.43 feet to the Southwest Corner of said Lot 46; thence North 10° 37' 23" East along the west line of said Lot 46 for a distance of 1342.67 feet to the point of beginning, containing 24.904 acres of land, more or less.

BOOK 1677 PAGE 735

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Exhibit B-3

Stwz

The land referred to in this policy is described as follows:

All that real property situate in the County of Yolo, State of California, described as follows:

Tract 1, 2 and a portion of Tract 3, 4, 5 and 6 of The Survey of John Wolfskill Estate Lands in Rancho Cuesisosi, Township 10 North, Range 1 East, M.D.B.&M., Yolo County California as filed for record in Book 4 of Maps and Surveys, page 57 of Yolo County Records and being more particularly described as follows:

Beginning at the Southwest corner of said Tract 1 of the John Wolfskill Estate Lands and thence from said point of beginning North 10° 14' 15" East 779.31 feet along the Northerly projection of an old fence line to the Northwest corner of said Tract 1, lying in the channel of Cache Creek; thence along the line, as agreed upon between the "Storz Brothers" and the Kate Salisbury Estate as shown on that certain map filed for record in Book 9 of Maps and Surveys at page 22 of said Yolo County Records, the following courses:

North 89° 57' 30" East 71.00 feet; North 56° 12' 30" East 2185.51 feet; North 79° 06' 00" East 776.32 feet; South 81° 02' 30" East 280.19 feet; North 83° 58' 00" East 1037.46 feet; and North 77° 07' 53" East 296.21 feet to a point on the East line of said Tract 6, being the East line of the Gordon Grant as shown on that certain map filed for record in Book 8 of Maps and Surveys at page 90 of said Yolo County Records; thence along said Grant Line South 10° 16' 00" West 1438.21 feet; thence leaving said Grant line North 79° 44' 00" West 178.43 feet; thence South 77° 54' 21" West 939.69 feet; thence South 13° 38' 00" West 423.42 feet; thence South 58° 07' 00" West 452.56 feet to a point on the South line of said Tract 5, thence along the South line of said Tract 5, 4, 3, 2 and 1 the following courses; South 87° 10' 10" West 45.97 feet; North 80° 54' 45" West 852.05 feet; North 85° 08' 45" West448.89 feet; South 82° 57' 15" West 502.07 feet; South 78° 21' 15" West353.86 feet and South 79° 48' 10" West 376.26 feet to the point of beginning.

pi

Form No. 1990-4
All Policy Forms

Exhibit B-4

Coors

The land referred to in this policy is situated in the State of California
County of Yolo,

and is described as follows:

PARCEL 1:
Beginning at the Northeast corner of the Gordon Grant as shown on the Map filed in Book 8 of Maps and Surveys page 90 of Yolo County Records and running thence along the East line of the Gordon Grant, as shown on that certain Craig-Stephens map filed in Book 3, Maps and Surveys Page 16, South 10 deg. 16' West 6141.19 feet to a point on the North line of the John Wolfskill Estate Lands, Maps and surveys Book 4, page 57; thence along the Northerly line of the John Wolfskill Estate Lands, also being the Southerly line of the Craig-Stephens Map above mentioned, and being in the bed of Cache Creek, South 40 deg. 42' 30" West 812.53 feet; thence North 86 deg. 02' 30" West 396.00 feet; thence North 81 deg. 02' 30" West 1188.00 feet; thence South 56 deg. 12' 30" West 2574.00 feet; thence South 89 deg. 57' 30" West 71.00 feet to a point at the Northwest corner of the John Wolfskill Estate Lands; thence following the present center line of Cache Creek as determined by the existing high banks South 86 deg. 00' West 945.70 feet; thence South 85 deg. 06' West 1005.90 feet; thence South 86 deg. 45' 30" West 610.10 feet to a point; thence leaving said center line North 10 deg. 16' East 4525.90 feet along an old fence line as shown on said Craig-Stephens Map to a point marked by cased monument in the center of County Road 20; thence along the center line of said County Road 20 North 32 deg. 25' 48" West 425.10 feet; thence North 47 deg. 06' 18" West 423.70 feet; thence North 66 deg. 40' 18" West 313.00 feet; thence North 84 deg. 43' 48" West 506.9 feet; thence North 87 deg. 59' 18" West 165.00 feet; thence leaving said road center line and crossing Gordon Slough, South 02 deg. 38' 18" East 200.00 feet; thence along the South bank of said slough North 87 deg. 07' 18" West 415.38 feet; thence crossing said Slough North 02 deg. 38' 18" West 160.00 feet to a point in the center of said County Road 20; thence along the center line of said County Road South 87 deg. 21' 42" West 21.80 feet; thence North 77 deg. 40' 18" West 537.10 feet; thence South 83 deg. 39' 12" West 997.10 feet to a point marked by a cased monument; thence leaving said County Road, North 10 deg. 06' 45" East 2921.54 feet along an old fence line, being on the Westerly boundary as shown on said Craig-Stephens Map, to a point intersecting the P. G. & E. power line Right of Way as recorded in Book 89 of Deeds, page 397; thence along the Easterly line of said Right of Way North 32 deg. 17' 45" East 1884.00 feet to a point in the center line of County Road 19; thence along the center line of County Road 19, South 79 deg. 36' 03" East 9226.60 feet to the point of beginning.

EXCEPTING THEREFROM THE FOLLOWING:

DESCRIPTION Continued: Coors

Parcel "B" as depicted on that certain record of survey map made at the request of Carl E. Rodegerdts and filed for record in Map and Surveys Book 9, page 22, on July 27, 1962 in the Official Records of Yolo County, State of California and being more particularly described as follows:

Beginning at a point in the North line of the John Wolfskill Estate Lands that is situate South 40 deg. 42' 30" West 537.51 feet from the Northeast corner of said John Wolfskill Estate Lands as same appears on record on that Record of Survey Map of a portion of the Gordon Grant made for Russell Harriman and Kate Salisbury and filed for record on May 16, 1960 in Book 8 of Maps and Surveys at page 90 in the Official Records of said County and extending thence from said point of beginning along said North line of Wolfskill Estate Lands the following courses: South 40 deg. 42' 30" West 275.02 feet; thence North 86 deg. 02' 30" West 396.00 feet; thence North 81 deg 02' 30" West 462.93 feet to a newly established agreed property line; thence along said agreed property line, North 83 deg. 58' East 1037.46 feet to the point of beginning.

ALSO EXCEPTING THEREFROM 50% of all oil, gas, minerals and other hydrocarbon substances lying within or under the land above referred to, excluding from said reservations, however, all sand and gravel.

PARCEL 2:
Parcel "A" as depicted on that certain record of survey map made at the request of Carl E. Rodegerdts and filed for record in Maps and Surveys Book 9, at page 22 on July 27, 1962, in the Official Records of Yolo County, State of California and being more particularly described as follows:

Beginning at a point in the East line of the Gordon Grant marking the Northeast corner of John Wolfskill Estate Lands as same appears of record on that record of survey map of a portion of the Gordon Grant made for Russell Harriman and Kate Salisbury and filed for record on May 16, 1960, in Book 8 of Maps and Surveys at page 90, in the Official Records of said County and extending thence from said point of beginning along the East line of said Gordon Grant, South 10 deg. 16' West 347.85 feet to a newly established agreed property line; thence along said agreed property line South 77 deg. 07' 53" West 296.21 feet to the North line of said Wolfskill Estate Lands; thence along said North line of Wolfskill Estate Lands, North 40 deg. 42' 30" East 537.51 feet to the point of beginning.

EXCEPTING THEREFROM 50% of all oil, gas, minerals and other hydrocarbon substances lying within or under the land above referred to excluding from said reservation, however, all sand and gravel.

PARCEL 3:
Parcel "C" as depicted on that certain record of survey map made at the request of Carl E. Rodegerdts and filed for record in Maps and Surveys Book 9, at page 22 on July 27, 1962 in the Official Records of Yolo County, State of California and being more particularly described as follows:

Beginning at a point in the North line of the John Wolfskill Estate Lands, as same appears of record on that record of survey map of a portion of the Gordon Grant made for Russell Harriman and Kate Salisbury and filed for record on May 16, 1960 in Book 8 of Maps and Surveys at page 90 in the Official Records of said County, that is situate as follows:

DESCRIPTION Continued:

Commencing at a point in the East line of the Gordon Grant marking the Northeast corner of said John Wolfskill Estate Lands and extending thence from said point of commencement along the North line of said Wolfskill Estate Lands the following courses: South 40 deg. 42' 30" West 812.53 feet; thence North 86 deg. 02' 30" West 396.00 feet; thence North 81 deg. 02' 30" West 743.12 feet to an iron monument marking a point in a newly established agreed property line, which point is the true point of beginning of this description. Extending thence from said true point of beginning along said agreed property line South 79 deg. 06' West 776.32 feet to an iron pipe button head monument in the North line of said Wolfskill Estate Lands; thence along said North line of Wolfskill Estate Lands the following courses: North 56 deg 12' 30" East 388.49 feet; thence South 81 deg. 02' 30" East 444.88 feet to the point of beginning.

EXCEPTING THEREFROM 50% of all oil, gas, minerals and other hydrocarbon substances lying within or under the land above referred to, excluding from said reservation, however, all sand and gravel.

AND FURTHER EXCEPTING AND RESERVING FROM PARCELS 1, 2, AND 3 ABOVE an additional 25% of all oil, gas, minerals and other hydrocarbon substances lying within or under the land above referred to, excluding from said reservation, however, all sand and gravel.

Exhibit B-5

Muller

Farm property situated in the County of Yolo, State of California, described as:

PARCEL 1: Beginning at a 2" x 2" iron pipe set on the westerly boundary of Rancho Rio Jesus Maria and being marked J.M.H. 2; as shown on the record of survey of a portion of the John Francis Cook, Jr., property, filed in the office of the Recorder of Yolo County, California, on January 21, 1952, in Book 6 of maps and Surveys, at page 37; thence from said point of beginning North along the said westerly boundary of Rancho Rio Jesus Maria, 330 feet to a point; designated "J.M.H. '3', on the above mentioned record survey; thence North 89 degrees 58' 48" East 1082.40 feet to a point designated "J.M.H. '4'"; thence continuing along last named course 389.20 feet to the Southwest corner of Lot 6, as shown on the subdivision of the John Hoppin Tract, filed for record in the office of the Recorder of Yolo County, California, on February 17, 1900, in Book 3 of Maps and Surveys, at page 7; thence continuing along last named course, and along the South line of said Lot 6, 1679.71 feet to a point; thence South 6 degrees 27' 59" East 1408.97 feet to a point; thence South 28 degrees 14' West 593.99 feet to a point; thence South 300 feet to the most northerly corner of the property conveyed to A. Teichert & Son, Inc., by deed dated March 31, 1952, and recorded April 16, 1952, Recorder's File No. 2329; thence South 57 degrees 03' 16" West, along the northerly line of the said property conveyed

to A. Teichert & Son, Inc., 2174.82 feet to the most westerly corner thereof; thence North 79 degrees 22' 37" West 1761.86 feet to a point on the Westerly boundary of said Rancho Rio Jesus Maria; thence North 10 degrees 37' 23" East along the said westerly line of said Rancho, 2792.90 feet to the point of beginning.

Mueller

The land referred to herein is described as follows:

All that real property situated in the County of Yolo, State of California, described as follows:

Beginning at 2" x2" iron pipe set on the western boundary of Rancho Rio Jesus Maria and being marked J. M. H. 2; as shown on the record of survey of a portion of the John Francis Cook, Jr., property filed in the office of the Recorder of Yolo county, California, on January 31, 1952, in book 6 of Maps and Surveys, page 37; thence from said point of beginning north along the said western boundary of Rancho Rio Jesus Maria, 330 feet to a point designated "J. M. H. 3", on the above mentioned record survey; thence north 89° 58' 48" east 1082.40 feet to a point designated "J.M.H. 4"; thence continuing along last named course 389.20 feet to the south-west corner of Lot 6, as shown on the Subdivision of John Hoppin Tract, filed in the office of the Recorder of Yolo county, California, on February 17, 1900, in book 3 of Maps and Surveys, page 7; thence continuing along last named course, and along the south line of said Lot 6, 1679.71 feet to a point; thence south 6° 27' 59" east 1408.97 feet to a point; thence south 28° 14' west 593.99 feet to a point; thence south 300 feet to the most northern corner of the property conveyed to A. Teichert & Son, Inc., by deed recorded April 16, 1952, in book 363 of Official Records, page 306; thence south 57° 03' 16" west, along the northwestern line of the said property conveyed to A. Teichert & Son, Inc., 2174.82 feet to the most western corner thereof, being also the northern line of the parcel of land conveyed to Frederick Haller by deed recorded March 8, 1911, in book 77 of Deeds, page 205; thence along said line north 79° 22' 37" west 1761.86 feet to a point on the western boundary of said Rancho Rio Jesus Maria; thence north 10° 37' 23" east along the said western line of said Rancho, 2792.90 feet to the point of beginning.

Excepting therefrom, that portion thereof lying northerly of the centerline of County Road No. 19.

032880 JUN-58

Muller

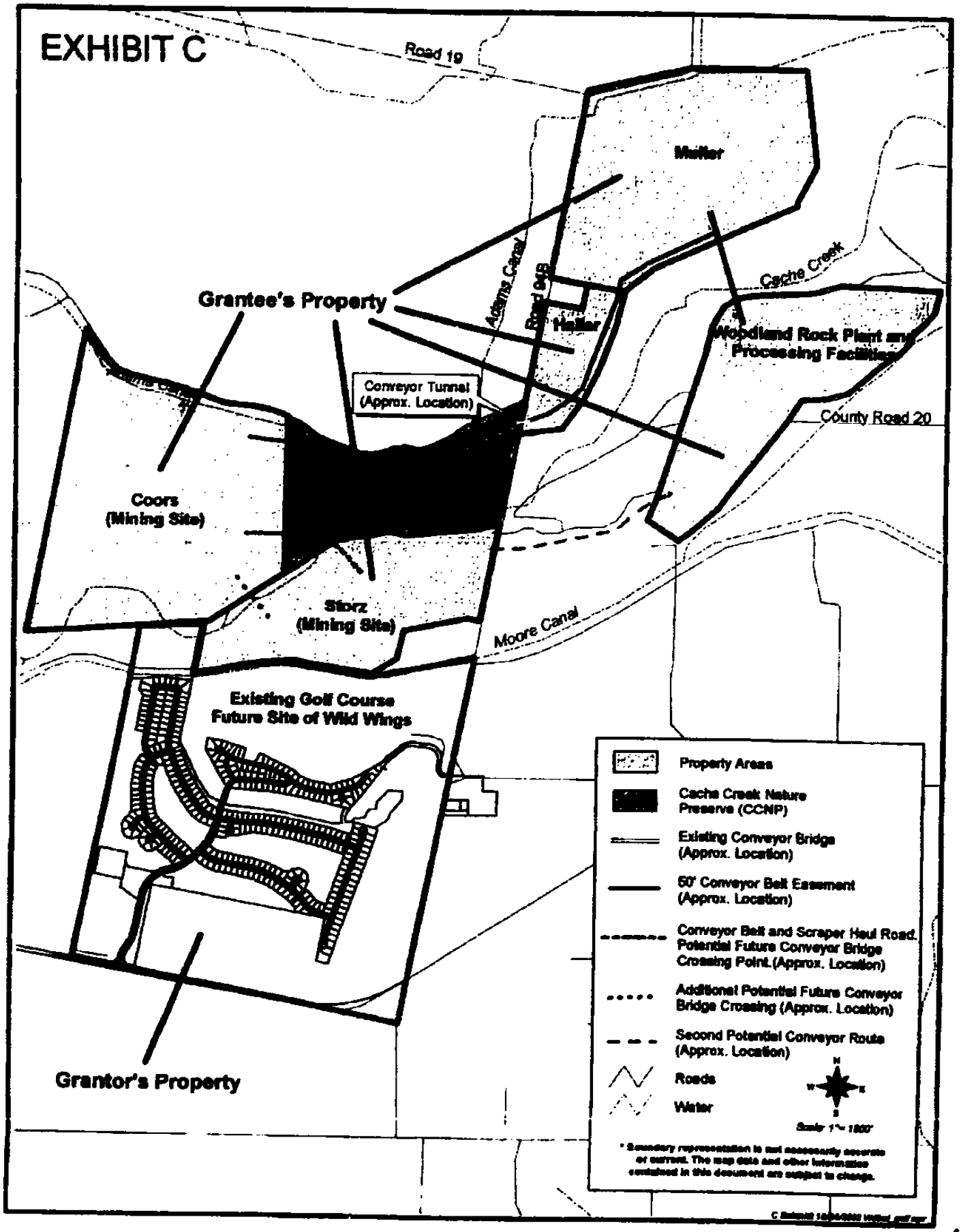
The land referred to herein is described as follows:

All that real property being a portion of projected Sections 21 and 22, Township 10 North, Range 1 East, M.D.B. &M., Yolo County, California, more particularly described as follows:

Beginning at a point that is the most Westerly property corner of the 36.46 Acre Parcel as shown on that certain Record of Survey filed in book 7, Maps and Surveys at page 13, Yolo County Records; thence from said point of beginning and along the northwesterly line of said 36.46 Acre Parcel N. 57° 03' 16" E., 2174.82 feet to the most northerly corner of said 36.46 Acre Parcel; thence North 232.77 feet; thence S. 65° 08' 45" W., 2271.19 feet; thence S. 51° 52' 22" W., 544.76 feet; thence S. 79° 22' 37" E., 675.87 feet to the point of beginning.

EXHIBIT C

Depiction of Grantor's Property and Grantee's Property



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Appendix E

Luhdorff & Scalmanini
Consulting Engineers

electronic submittal

Technical Memorandum

DATE: April 2, 2021 PROJECT: 10-1-074

TO: Mr. Jason Smith, Teichert Aggregates (JSmith@teichert.com)

FROM: Till Angermann, PG, CHG, Principal Hydrogeologist
Mohamed Nasser, PhD, Senior Engineer

SUBJECT: MOBILIZATION PROCESSES OF NATURAL ARSENIC IN GROUNDWATER AND THEIR APPLICABILITY TO THE SHIFLER PROPERTY AT TEICHERT'S WOODLAND FACILITY, YOLO COUNTY

History of Comprehensive Data Collection and Evaluation

In the context of Teichert's off-channel mining activities at is Woodland facility there is a robust record of comprehensive data collection, evaluation, predictive groundwater modeling. Importantly, the cumulative data record documenting over 20 years of mining activities plus pre-mining conditions shows no evidence or indication that mining operations have caused changes in groundwater levels or quality to date. This is congruent with predictions that were made as early as 1995 (LSCE 1995) and thereafter as mining activities progressed across the site from one property to the next. Proposed mining activities at the Shifler property are no different from previous and ongoing mining activities.

Luhdorff & Scalmanini Consulting Engineers (LSCE) has been providing professional services regarding groundwater resources in the context of off-channel aggregate mining operations to the Teichert corporation and other aggregate mining operations along Cache Creek since the mid-1980s. The early work was instrumental in comprehensively characterizing pre-mining groundwater conditions and provided insight into potential impacts on groundwater resources with the development of a numerical groundwater flow model (MODFLOW platform, developed by the U.S. Geological Survey). These efforts also helped inform the development of Yolo County's off channel mining ordinance, which sets forth robust groundwater and mining pit monitoring requirements for the duration of all mining phases (i.e., pre-mining, active mining, active reclamation, and post-reclamation). This includes sampling for arsenic as part of a much broader effort of metals sampling (i.e., Title 22 inorganics).

Mining activities have been occurring continuously for well over 20 years including the Coors, Storz, Haller, Muller, and Schwarzgruber properties. Most recently, potential impacts to groundwater resources due to wetpit mining and reclamation activities at the Shifler property

were comprehensively evaluated including the use of a calibrated numerical flow model including particle tracking for the analysis of multiple different mining and reclamation scenarios (LSCE 2016, 2019, 2020a). These analyses concluded very minor and local water level impacts and no impacts to groundwater quality. Importantly, similar predictions have been made in the past for other mining properties at the Woodland plant, most recently for the Schwarzgruber property (LSCE 2011) and have been demonstrated to be realistic by the ongoing monitoring program.

Mobilization via Direct Mining Activities

Mining activities proposed for the Shifler Property, such as the extraction of earthen materials (e.g., soil, overburden, aggregate, and fines such as silt and clay) and the washing of the extracted aggregate cause a disturbance to the natural state of these materials including the uppermost portion of the shallow aquifer. The potential for this disturbance to mobilize naturally occurring metals, including arsenic, was recognized by Teichert, Yolo County staff, and various stakeholders long before the first wet pit was created at the Teichert Woodland site. As a result, comprehensive groundwater quality monitoring activities, including extensive metals analyses, were initiated in the 1990s, approximately 10 years before the first wet pit was created.[1] This data collection effort also includes active mining excavations and efforts continue for ten years after active reclamation concludes (i.e., one year after all heavy equipment work has been completed in the vicinity of a mining pit).

The ongoing monitoring program and the results of the program are described in annual reports submitted to County of Yolo on an annual basis. These reports present the cumulative data record. The most recent of these reports (LSCE 2020b) and previous reports have concluded that the cumulative data record shows no evidence or indication that mining operations have caused changes in groundwater levels or quality to date.

Mobilization via Compaction of Interbedded Clays

Groundwater pumping from unconsolidated aquifer-aquitard systems has caused land subsidence in many parts of the world including the San Joaquin Valley (SGMA Data Viewer online resource). The mechanism is described in standard groundwater textbooks such as Bouwer (1978) and Freeze and Cherry (1979). In brief, the extraction of groundwater reduces hydraulic pressure and, thus, increases intergranular pressure in aquifers and other underground materials. This can lead to the compaction of these materials. Clays (e.g., aquitard material) are typically 1 to 2 orders of magnitude more compressible than sand (e.g., aquifer material). Therefore, the majority of land subsidence caused by this process is attributed to the compaction of clay material that is interbedded with aquifer materials. During the compaction of these clays, water drains from them into the adjacent aquifer materials. If the chemical makeup of water that is drained from the aquitard is sufficiently different from the aquifer, and if drainage occurs in sufficient quantity, water quality changes may manifest in the water extracted from the aquifer. This process was, for example, examined in the Mekong Delta in Vietnam where extreme regional over-pumping of an aquifer-aquitard system is reported to

[1] Groundwater level monitoring activities were initiated earlier in the 1980s.

have caused rapid land subsidence and the associated arsenic contamination of groundwater (Erban et al. 2013).

The mechanism of mobilization via compaction of interbedded clays has been of no concern in the Project area. There is no indication or reports of any significant historical pumping-induced land subsidence in the Project area (see SGMA Data Viewer referenced above). This is particularly insightful in the context of the historical groundwater level data record, which dates back to the 1940s and documents a wide range of water level variability, including deeper levels than seen in recent years (LSCE 2020b). As stated above, Teichert's cumulative data record shows no evidence or indication that mining operations have caused changes in groundwater levels to date. This is not surprising, given that an estimated 90% of the groundwater that Teichert extracts is almost immediately returned to groundwater on-site. Groundwater and pit-water monitoring activities will continue in accordance with the Yolo County Surface Mining and Reclamation Ordinance.

In addition, the Sustainable Groundwater Management Act of 2014 (SGMA) provides a robust framework to avoid undesirable results in the future (SGMA specifically identifies "significant and unreasonable land subsidence" as an undesirable result).

References

Bouwer, H. 1978. Groundwater Hydrology. McGraw-Hill Series in Water Resources and Environmental Engineering. ISBN 0-07-006715-5

Erban, L. E., S. M. Gorelick, H. A. Zebker, and S. Fendorf. 2013. Release of arsenic to deep groundwater in the Mekong Delta, Vietnam, linked to pumping-induced land subsidence, Proc. Natl. Acad. Sci. U. S. A., 110(34), 13,751–13,756, doi:10.1073/pnas.1300503110

Freeze, R. Allan and John A. Cherry. 1979. Groundwater. Prentice Hall. ISBN 0-13-365312-9

Luhdorff and Scalmanini Consulting Engineers. 1995. Groundwater Conditions in the Vicinity of Planned Wet-Pit Mining Operations, Teichert Aggregates' Woodland Properties. Report. November 1995. LSCE file 95-1-119.

Luhdorff and Scalmanini Consulting Engineers. 2011. Groundwater Conditions in the Vicinity of Planned Wet-Pit Mining Operations, Schwarzgruber Property. Report. April 25, 2011. LSCE file 10-1-074.

Luhdorff and Scalmanini Consulting Engineers. 2016. Groundwater Conditions in the Vicinity of Planned Wetpit Mining Operations, Shifler Property. Report. February 8, 2016. LSCE file 10-1-074.

Luhdorff and Scalmanini Consulting Engineers. 2019. Groundwater Conditions in the Vicinity of Planned Wet Pit Mining Operations, Shifler Property, Woodland. Technical Memorandum. December 9, 2019. LSCE file 10-1-074.

Luhdorff and Scalmanini Consulting Engineers. 2020a. Supplemental Analysis of Groundwater Conditions, Planned Mining and Reclamation Activities, Shifler Property, Woodland, Yolo County. Technical Memorandum. February 5, 2020. LSCE file 10-1-074

Luhdorff and Scalmanini Consulting Engineers. 2020b. 2020 Annual Report, Groundwater Conditions in the Vicinity of the Woodland Plant Site. Teichert Aggregates, Yolo County, CA. October 30, 2020. LSCE file 07-1-004.

SGMA Data Viewer: https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#landsub

Attachments

Resumes: T. Angermann and M. Nassar

Luhdorff & Scalmanini
Consulting Engineers

Till E. Angermann, P.G., C.H.G.

Principal Hydrogeologist

EDUCATION

M.S. Hydrologic Sciences,
University of California, Davis, CA 2001

B.S. Geology,
Freie Universität, Berlin, Germany 1993

PROFESSIONAL REGISTRATIONS

CA Professional Geologist No. 7789
CA Certified Hydrogeologist No. 853

PROFESSIONAL EXPERIENCE

Luhdorff & Scalmanini,
Consulting Engineers,
Woodland, CA

Principal Hydrogeologist	2014 - present
Senior Hydrogeologist	2011 - 2014
Project Hydrogeologist	2005 - 2011
Staff Hydrogeologist	2000 - 2005

University of California, Davis, CA
Department of Land, Air & Water Resources
Graduate Research Assistant 1998 - 2000

PROFESSIONAL AFFILIATIONS

Groundwater Resources Association of California

SUPPLEMENTAL INFORMATION

Selected peer-reviewed journal articles

Angermann, T.E., Wallender, W.W., Wilson, B.W., et al. 2002. Runoff from orchard floors – micro-plot field experiments and modeling. Journal of Hydrology 265: 178-194.

Joyce, B.A., Wallender, W.W., **Angermann, T.E.,** et al. 2004. Using Infiltration Enhancement and Soil Water Management to Reduce Diazinon in Runoff. Journal of the American Water Resources Association 40(4): 1063-1070.

Former reviewer

American Geophysical Union's Water Resources Research and American Society of Civil Engineers' Journal of Hydrologic Engineering

Specialization

Mr. Angermann has more than 20 years of professional experience as a hydrogeologist. His expertise includes (a) research methodology and conceptualization of hydrogeologic systems, (b) groundwater hydraulic, hydrologic, hydrogeologic, hydrochemical, analysis and computations, (c) parametric and nonparametric statistical evaluation of environmental data, (d) assessment of surface water/groundwater interactions, watershed hydrogeology, infiltration and runoff processes, (e) data quality objectives, groundwater sampling and testing protocols, (f) monitoring well design and design of effective monitoring well networks and programs, (g) ambient water quality evaluation, (h) nitrogen cycling, irrigated agriculture, and subsurface loading, (i) management of multi-facetted and contentious projects, (j) regulatory compliance, and (k) effective communicator of complex technical material to both professional and lay audiences.

Representative Professional Assignments

Estimation of Well Extraction

Mendota Pool Group – Estimated monthly extraction volumes from over 80 agricultural supply wells in Madera County from power records and well efficiency data obtained from pumping tests. Estimates were made in the context of a highly contentious 10-year water exchange, including groundwater pumping of up to 25,000 acre-feet annually. The localized groundwater extraction caused temporary groundwater level declines beneath adjacent stakeholders' agricultural land, which resulted in increased pumping costs. The pumping estimates were critical in the reimbursement computations for impacted stakeholders. The accuracy of estimated extraction volumes was checked against several wells that were equipped with totalizing flow meters and compared favorably. Stakeholders included the U.S. Bureau of Reclamation, several water districts, and private land owners. The work was conducted within a complex regulatory framework including several Environmental Assessments and an Environmental Impact Statement.

Innovative Monitoring Well Network Design

Dairy Cares – Conceptualization of a pioneering, industry-wide Representative Monitoring Program (RMP) in response to the Regional Water Quality Control Board's 2007 Dairy General Order saved the dairy industry millions of Dollars. The Dairy General Order was the Regional Board's first effort to address agricultural non-point source contamination of groundwater and it required groundwater conditions assessment on all Central Valley dairies including the installation of several thousands of monitoring wells. The RMP proposed to take advantage of key similarities between dairies while fully accounting for substantive differences with a customized network of 443 monitoring wells on a subset of 42 dairies

Representative Professional Assignments (cont.)

between Redding and Bakersfield. After initial dismissal of the RMP approach, the Regional Board's eventual approval marked a regulatory paradigm shift that subsequently shaped the development of General Orders under the Irrigated Lands Regulatory Program.

Technical Program Management

Central Valley Dairy Representative Monitoring Program (CVDRMP) - Developed and implemented a comprehensive Central Valley-wide technical program complementing the newly approved RMP. The program explicitly recognized that groundwater monitoring alone is not a suitable tool to evaluate on-farm management practices and would not suffice to identify "solutions and upgrades" as required by the Dairy General Order. Therefore, other investigative techniques were included such as targeted soil coring, several geophysical methods, traditional agronomic field studies, seepage rate quantification from earthen-lined liquid manure storage basins, and mass balance models. This effort corrected fundamental misconceptions and misinformation regarding specific sources of contamination on dairies, identified critical weaknesses in the regulatory approach, and ultimately resulted in the development of robust diagnostics and other proposed improvements that are expected to be considered for incorporation in a revised future Dairy General Order.

This project included the coordination of two external technical advisory committees, and technical briefings at the Governor's office and briefings of top administrators at the California Department of Food and Agriculture, the California Environmental Protection Agency, presentations to the State Water Board, Regional Water Board, and various stakeholder groups.

Agricultural Panel of Experts

State Water Resources Control Board – Served among eight experts. This panel was convened in May 2014 by the State Board in the context of Chapter 1 of the Second Extraordinary Session of 2008 (SBX2 1, Perata) to assess existing agricultural nitrate control programs and develop recommendations, as needed, to ensure that ongoing efforts are protective of groundwater quality. The final report was presented in September 2014.

Wastewater Detention Basin Seepage

CVDRMP and Sacramento Regional County Sanitation District – Used a novel investigation approach to quantify seepage rates of working, earthen-lined liquid manure basins on over 20 dairies and the Sacramento Regional County Sanitation District Wastewater Treatment Plant's effluent basins. The methodology is capable of quantifying daily seepage rates in the sub-millimeter realm and an associated uncertainty with specified confidence. The seepage investigations were highly successful, and results supported momentous conclusions, which guided the development of efficient and effective mitigation efforts.

Surface Water Hydrology

Napa County – Conducted a review of existing data sources and measurement efforts by different entities, compiled and evaluated findings, identified data gaps and redundancies, and provided guidance on (i) the design of a county-wide network of precipitation and streamflow monitoring stations and (ii) near-stream groundwater level monitoring for assessing surface water/groundwater interactions. The objectives of this work effort were to (i) improve the County's understanding of the major watersheds' responses to precipitation and natural and/or anthropogenic changes, (ii) help attain goals outlined in the Napa River Sediment TMDL and Habitat Enhancement Plan that pertain to instream sediment occurrence and temperature, and (iii) delineate an adequate data collection effort to continue the ongoing calibration of the County's extensive water quantity and water quality modeling efforts.

Luhdorff & Scalmanini
Consulting Engineers

Mohamed K. Nassar, PhD

Senior Engineer

EDUCATION

PhD, Civil and Environmental Engineering,
University of California, Davis CA 2015

M.S., Groundwater Hydraulics,
Cairo University 2004

B.S., Civil Engineering,
Cairo University 1999

PROFESSIONAL EXPERIENCE

Luhdorff & Scalmanini
Consulting Engineers
Senior Engineer *2021 - Present*
Project Engineer 2015 - 2020

University of California-Davis
Post-Doctoral Fellow 2016 - 2017

Teaching:

University of California, Davlis, 2015 - 2016
ECI141 (Hydraulics Lab), HYD146 (Hydrogeology and Contaminant Transport), HYD144 (Hydrogeology), ECI144 (Groundwater Systems Design), ECI114 (Probabilistic Systems Analysis for Civil Engineers), ECI271 (Inverse Problem), ECI272A, B, C (Advanced Hydrogeology-Flow, Transport, Reactive Transport).

Theoretical:

Teaching different UC-Davis courses at Civil and Environmental Engineering (CEE) and Land, Air, Water Resources (LAWR) departments at with focus in analytical and numerical groundwater flow and transport modeling.

COMPUTER SKILLS

- Hydrogeology forward modeling (flow, transport, reactive transport): MODFLOW, MT3DMS, MT3D-USGS, SEAWAT, PHREEQC, PHT3D, SHEMAT and HYDRUS
- Inverse modeling: UCODE
- Programming: FORTRAN, MATLAB, MathCAD.
- Geostatistics: GS+, SURFER.

Specialization

Mohamed's areas of specialization include modeling of groundwater flow, saltwater intrusion, fate and transport of solute, groundwater age, and multicomponent reactive transport in natural media and parameter estimation of mathematical models given different kind of observation data (head, age, and solute concentration), groundwater sustainability through quantification and simulation of groundwater age at regional scales. Mohamed worked on the transport simulations for the AID MZ Model for the CV-SALTS SNMP Archetype Management Zone project. Also, he developed the regional scale solute transport model for Westland water district to quantify unreasonable water quality key related to SGMA. Mohamed devolved a mathematical modeling of the dynamics of bio-chemical reaction on porous media properties (porosity and intrinsic permeability) during microbially-induced biocementation. These efforts have involved intensive use of a wide range of computer modeling tools including MODPATH, MODFLOW, MT3DMS, MT3D-USGS, SEAWAT, PHT3D, PHREEQC and UCODE. Mohamed is also experienced in using geostatistical tools to estimate required variables at unsampled locations.

Representative Professional Assignments

- Surface water-Groundwater interaction study at Sunol Valley Groundwater Basin
- Modeling of transport at Westland Basin, CA, USA for SGMA
- Modeling of groundwater flow at Tulare Lake Groundwater Basin, CA, USA for SGMA
- Groundwater-Surface water interaction of Feather River and Groundwater Basin, CA, USA.
- Modeling of flow and transport of Alta Irrigation District (AID) as management zone archetype, CA, USA.
- Modeling of regional saltwater intrusion of the Gulf of Taranto, Italy.
- Modeling of multicomponent reactive transport and biogeochemical process in natural media, CA, USA.
- Modeling of groundwater flow and age in the northern part of San Joaquin Valley, CA, USA.
- Modeling of salinity mixing to control salinity the Mendota Wildlife Area (MWA), CA, USA.
- Modeling of ground water flow at Teichert Woodland (Shifler Parcel), CA, USA.

Referenced Publications

Nassar, M.K., Deviyani Gurung, Mehrdad Bastani, Timothy R. Ginn, Babak Shafei, Michael G. Gomez, Charles M. R. Graddy, Doug C. Nelson, Jason T. DeJong (2018), **Large-Scale Experiments in Microbially Induced Calcite Precipitation (MICP):** Reactive Transport Model Development and Prediction, Water Resources Research, DOI: 10.1002/2017wr021488

Ginn, T. R., L.G. Schreyer, X. Sanchez-Vila, M.K. Nassar, A.A. Ali, S. Kräutle (2017), **Revisiting the Analytical Solution Approach to Mixing-Limited Equilibrium Multicomponent Reactive Transport Using Mixing Ratios:** Identification of Basis, Fixing an Error, and Dealing with Multiple Minerals, Water Resources Research, DOI: 10.1002/2017wr020759

Kamai, T., M. K. Nassar, K. E. Nelson and T. R. Ginn (2015), **Colloid Filtration Prediction by Mapping the Correlation-Equation Parameters from Transport Experiments in Porous Media**, Water Resour. Res., doi: 10.1002/2015WR017403

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Nassar, M.K., D. Gurung, M. Bastani, T.R. Ginn, M. Gomez, C. Graddy, D. Nelson, J. DeJong (2019), **"Modeling a large scale experiment in MICP using independently determined parameters"**, 11th International Conference on Porous Media & Annual Meeting (InterPore2019), May 6 - 10, 2019, Valencia, Spain.

Nassar, M. K., D. Gurung, M. Bastani, M. Gomez, C. Graddy, J. DeJong, D. Nelson, T.R. Ginn (2018), **"Large-Scale Experiments in Microbially-Induced Calcite Precipitation (MICP): Reactive Transport Model Development and Prediction",** ", EGU General Assembly, April 8-13, Vienna, Austria

Nassar, M. K., V. K. Grabert, Dalgish, B. J. Dickey, D. Moss, (2018) **"A Flow and Transport Model Developed as a Salt and Nitrate Management Analysis Tool for a Management Zone in California's Eastern Kings Subbasin",** 24th CWEMF ANNUAL MEETING "California Sustainability of Resources, the Environment & Lifestyle through Modeling" April 2-4 2018, Folsom-CA, USA.

Kamai, T., M. K. Nassar, K. E. Nelson, and T. R. Ginn (2017) **"Using data from colloid transport experiments to parameterize filtration model parameter",** EGU General Assembly 2017, April 23-28, Vienna, Austria.

August 08-09, 2016: Workshop in title of **"PHT3D Short Course –MICP Focused"** organized and presented by M. K. Nassar, D. Gurung, and T. R. Ginn, for participants in the NSF ERC Center for Biomediated and Bioinspired Geotechnics, Civil and Environmental Engineering Department, at UC Davis. This two-day workshop detailed the theory and mathematical modeling of the dynamics of bio-chemical reaction on porous media properties (porosity and intrinsic permeability) during microbially-induced biocementation. This process involves in-situ stimulation of native ureolytic bacteria which then serve as distributed catalyst for ureolysis of injected urea, leading to distributed calcite precipitation. We examined the mathematical modeling of experiments in the context of geotechnical manipulation of subsurface soil strength. The workshop involved description and teaching of the use of MODFLOW-PHT3D as well as presentation of the challenges of modeling the biotic phase. The workshop closed with focus on frontier engineering science questions involved in extending the model to application to real field problem.

Appendix F

From:	Jason Smith
To:	Elisa Sabatini
Cc:	htschudin; Jesse Yang; Matt Keasling
Subject:	Shifler Mining only North of the Moore Canal Alternative Suggestion
Date:	Wednesday, March 31, 2021 6:49:29 PM

Good Evening Elisa,

On January 21, 2021, the Yolo County Planning Commission held a public hearing for the purposes of receiving public comments on the Draft EIR for the Teichert Shifler Mining and Reclamation Project. During that meeting, a Planning Commissioner suggested mining only the northern portion of the project site, to the north of the existing Moore Canal. The apparent basis for this suggested alternative was his assertion that the soils to the south of the canal constituted prime farmland, whereas the soils to the north were not as good quality farmland.

Per the County's request, Teichert has assessed the feasibility of the suggested alternative. Mining only the portion of the mining area to the north of Moore Canal would reduce the size of the proposed mining area from approximately 277.1 acres to only 64.7 acres, as shown in DEIR Figure 3-6 This represents a nearly 77% reduction in the mining area. Moreover, it is estimated that reducing the mining area to only that area to the north of the canal would reduce total saleable reserves from approximately 35.25 million tons to approximately 7 million tons, an 80% reduction. By providing for only approximately 7 million tons of saleable reserves, this alternative would only provide enough reserves for an additional 5 to 10 years of life at the Woodland Plant, depending on market demand.

Teichert considers this alternative to be financially infeasible, because it would not provide enough saleable reserves or operational life to fully amortize the cost to permit, comply with conditions of approval and mitigation, and commence mining operations on the site.

Moreover, the proposed alternative would not achieve the following project objectives outlined on pages 3-10 of the DEIR:

- Project Objective 1: Permit an additional 277± acres of permitted mining area with approximately 35.25 million tons sold (41.6 million tons mined) of Portland Cement Concrete (PCC) grade aggregate reserves for mining and processing at Teichert's Woodland Plant for a period of 30 years.
- Project Objective 2: Extend the life of the existing Woodland Plant consistent with the requested 30-year life of the Shifler mining permit and allow the facility to continue to operate as need meet market demand.

For these reasons, Teichert considers this alternative suggestion to be infeasible.

Moreover, it should also be noted that the assumption that the northern portion of the project site is of lesser quality agricultural land than the southern portion is not supported by the NRCS soil mapping of the site As shown on Figure 4.2-1 of the DEIR, the bulk of the area to the north of the canal is composed of Yolo silt loam (Ya), the same Class I soil type that makes up nearly all of the area to the south of the canal.

Please let us know if you need additional information regarding this matter.

Jason

Jason A. Smith
Aggregate Resource Development
Santa Fe Aggregates
Office (916) 484-3317
Cell (916) 607-6445

Appendix G

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TEICHERT MATERIALS

March 31, 2021

Ms. Elisa Sabatini, Manager of Natural Resources
Yolo County Office of the County Administrator, Natural Resources Division
625 Court Street, Room 202
Woodland, California 95695

Re: Teichert Shifler Mining & Reclamation Project – Teichert's agricultural reclamation of aggregate mining sites in Yolo County

Dear Ms. Sabatini:

During the public comment period on the Draft Environmental Impact Report (DEIR) for Teichert's Shifler Mining and Reclamation project, several people expressed concern regarding Teichert's record and ability to successfully complete the proposed agricultural reclamation of its aggregate mining sites to productive agricultural use. The purpose of this letter is to address those comments by reviewing our track record with respect to agricultural reclamation of aggregate mining sites in Yolo County.

The State Mining and Geology Board (SMGB) Reclamation Regulations Section 3707(c) provides that reclamation of prime agricultural land shall be deemed complete when the productivity of the reclaimed land meets or exceeds that of the pre-mining condition or similar crop production in the area for two consecutive crop years. Thus, the applicable standard for determining whether agricultural reclamation is successful is whether the productivity of the land can meet or exceed the yields of the land under pre-mining conditions or the yields from similar land in the area for two consecutive crop years.

Since the original approval of the Cache Creek Area Plan (CCAP) in 1996, Teichert has completed mining on three properties that were proposed to be reclaimed to agricultural use in their respective reclamation plans: Haller, Muller, and Coors. Two of the three properties (Haller and Muller) have been successfully reclaimed to agriculture based on the demonstration of agricultural yields that met or exceeded pre-mining yields and/or those of similar land for two consecutive years: The Coors property is still being reclaimed. The locations of these sites are shown in the attached figure. Please refer to the attached table summarizing the agricultural production data from the three reclaimed agricultural properties. In addition, we have enclosed photos of each reclaimed site. Each property is discussed in further detail below.

Haller Property. The Haller property is a 35-acre property that pre-dates the CCAP. It was mined as part of one of the interim (short-term) off-channel mining projects that were approved in 1994, while the County was in the process of developing the CCAP. Mining on the Haller property ended in 1998. The property was subsequently reclaimed to agricultural land in accordance with its reclamation plan and has been in agricultural production since 2000. Agricultural yields on the Haller property met or exceeded productivity targets for three consecutive years from 2000 to 2002 when planted with sorghum/milo, wheat, and sunflower, respectively. The County deemed reclamation of the Haller property complete and released the reclamation bond on this property in 2003. Please refer to the attached photo of this reclaimed site.

Muller Property. The Muller property is an approximately 30-acre portion of the Muller mining site that was reclaimed to agricultural use. (The remaining approximately 98 acre of the site were reclaimed to open space and habitat uses.) Mining on the Muller property ended in 2005. The property was subsequently reclaimed to agricultural land in accordance with its reclamation plan. Agricultural yields on the Muller property met or exceeded productivity targets for two consecutive years in 2007 and 2008 when planted with wheat and again in 2010 and 2011 when planted with oat hay. The County deemed reclamation of the Haller property complete and released the reclamation bond on this property in 2013. Please refer to the attached photo of this reclaimed site.

Coors Property. The Coors property is an approximately 90-acre mining site that was reclaimed to agricultural use. Mining on the Coors property ended in 2012. The site was subsequently reclaimed to agriculture and has been in agricultural production since 2014. Thus far, the agricultural yields on the Coors property have yet to meet or exceed productivity standards for two consecutive years, although yields in 2020 appear to have done so. Therefore, this site is still in the process of being reclaimed until the required productivity targets are met for two consecutive crop years. Teichert continues to look at methods to boost the productivity of this property, including re-leveling the field on several occasions to correct drainage issues. Please refer to the attached photo of this site.

In addition to its aggregate mining sites in Yolo County, Teichert has been successful in reclaiming aggregate mining sites to productive agricultural use throughout northern California, including reclamation to almond orchards at the Traina East site in San Joaquin County. Please refer to the attached photo of that site.

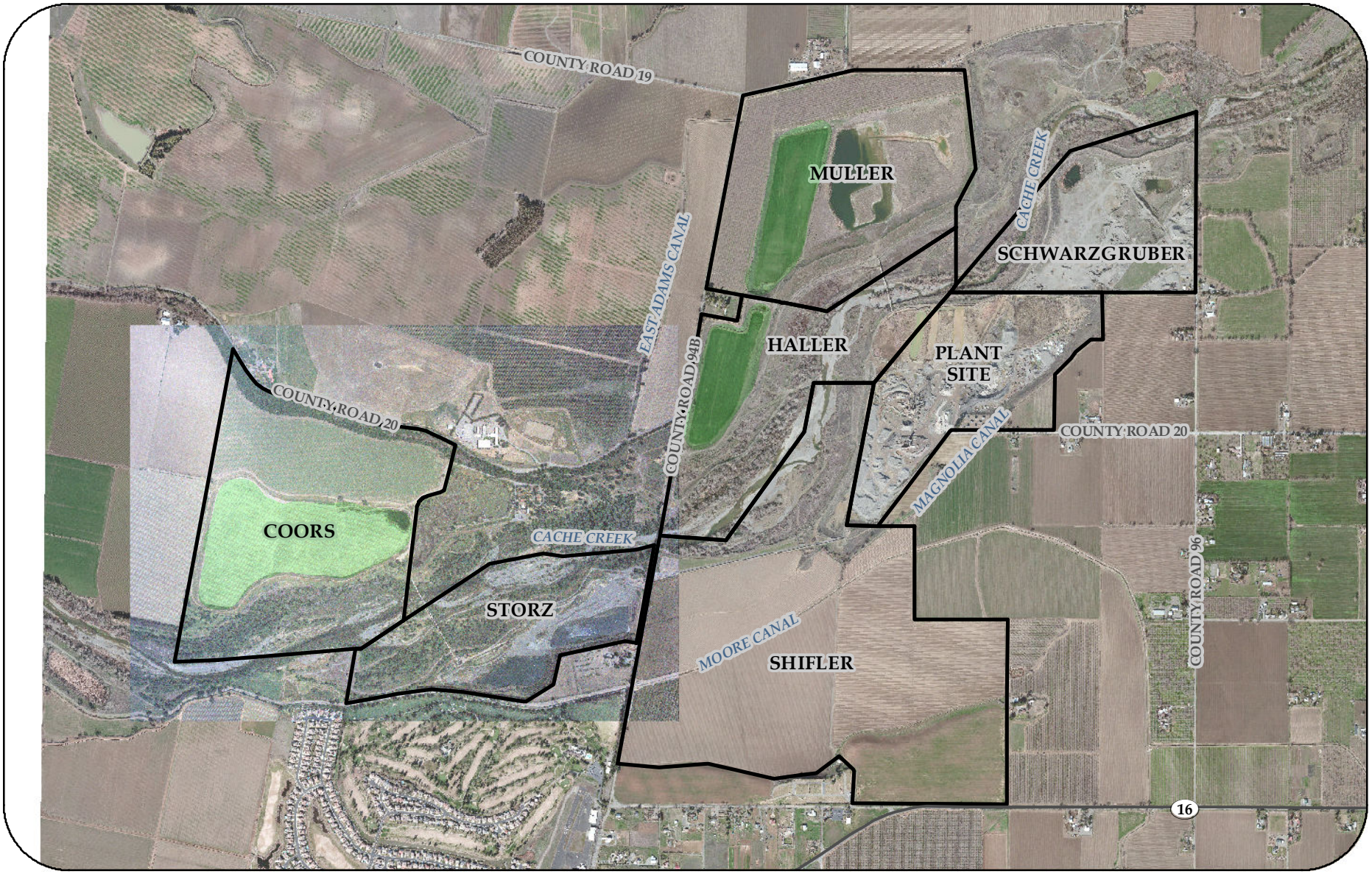
We trust that this information is helpful to the County. Please let us know if you need additional information regarding this matter.

Sincerely,

Jason Smith

Enclosures

cc: Heidi Tschudin, Contract Planner



35030 County Road 20, Woodland, CA 95695

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LEGEND:

Woodland Property Boundaries

SOURCE:

- Coors/Storz Ortho Provided by Point Co. (May 01, 2014)
- Background Ortho Provided by Digital Globe (Feb. 2012)

0 1,000 2,000 Feet

The data was mapped for assessment purposes only. No liability is assumed for the accuracy of the data shown.

SITE MAP

WOODLAND PROPERTIES TEICHERT MATERIALS

YOLO COUNTY, CALIFORNIA

C. Cornejo Rev. by R. Enes 04/09/2015 WDL_SiteMap_201504.mxd

Agricultural Production Data Table

			Yield (Tons/Acre)		
Site	Year	Crop	Actual	Performance Standard	Notes
Haller	2000	Sorghum	3.10	2.60	
Haller	2001	Wheat	2.87	2.74	Second Year Monitoring Complete
Muller 30	2007	Wheat	3.05	2.90	
Muller 30	2008	Wheat	3.15	2.90	Second Year Monitoring Complete
Coors	2014	Wheat	2.57	2.14	
Coors	2015	Wheat Hay	1.62	2.00	
Coors	2016	Wheat Hay	1.82	2.61	Water ponding observed, field laser leveling completed
Coors	2017	Cover Crop	-	-	Cover cropping to increase soil organic
Coors	2018	Cover Crop	-	-	Cover cropping to increase soil organic
Coors	2019	Safflower	0.57	1.44	
Coors	2019	Sorghum	1.94	2.00	
Coors	2020	Sorghum	2.30		Comparable yield data not available at time of annual report

Teichert Haller Reclamation

Teichert Muller Reclamation

Teichert Coors Reclamation

Teichert Traina East Reclamation

Appendix H

Eco Synthesis
SCIENTIFIC & REGULATORY SERVICES, INC.

MEMORANDUM

To: Jason Smith

From: Adrian Juncosa

Date: April 2, 2021

Subject: Shifler Project Agricultural Reclamation

This memorandum provides summary and additional discussion of the feasibility of reclamation into agricultural uses within the Shifler project site, which is a subject that I understand has been raised in public comments on the project's Draft EIR.

These comments are informed by 27 years of professional experience with mine reclamation, ecological restoration, and revegetation feasibility studies and specifications. This includes extensive experience throughout this same time period studying hundreds of soil profiles and plant rooting behavior within them.

I prepared the Teichert Shifler Project Agricultural Reclamation Feasibility Study ("Feasibility Study") which is included as Appendix A in the Shifler Mining and Reclamation Plan ("Reclamation Plan"). The Reclamation Plan takes the principles described in the Feasibility Study further, by including specific soil management procedures that are consistent with, but more detailed than, the recommendations made in the Feasibility Study.

Reclamation standards and practices improve continually, and this memorandum is directed primarily at the technical and regulatory foundation and proposed reclamation actions for the present project, which may differ from approaches utilized elsewhere in the past.

A portion of the proposed project site is designated to remain below the water table, that is, it will be open water after reclamation. Areas around the periphery of the site will remain as slopes, to be stabilized against erosion, and in other areas, habitat restoration is proposed. Methods to be utilized in these sloping and habitat restoration areas are discussed in detail in the Reclamation Plan. The text that follows pertains to the remaining interior area, which will be reclaimed to topography similar to the surfaces within the site that are farmed at present (level to gently sloping).

Prime Agricultural Land (Williamson Act)

The Feasibility Study discusses the definition of prime agricultural land (Williamson Act) and prime farmland (California Department of Conservation). Under Section 51201(c) of the Williamson Act, there are five alternative criteria, any one of which defines land as prime agricultural land. Two of these (NRCS land use capability class I or II, or Storie Index rating of 80 through 100) are based on soil characteristics, and others are based upon productivity. One of these is an annual carrying capacity of at least one animal unit per acre as defined by the USDA, the other two are based on annual crop production with a gross dollar value of at least two hundred dollars ($200) per acre either "normally" or in three of the previous five years.

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Considering the high cash value of some crops in several categories of economically useful plants, this latter standard is probably not difficult to meet even on rather poor soils, especially if irrigation water is available as is the case at the Shifler site. In addition, although the Storie Index was developed for application to in-situ soils, there is no intrinsic reason it could not be used to evaluate a reclamation soil profile. In this case, the somewhat generalized ratings it uses for physical profile, surface texture, slope, and other characteristics would result in the proposed post-reclamation circumstances at the Shifler site falling well within the required 80-100 rating range required to meet the Williamson Act definition. (In an interesting historical coincidence, Yolo loam is one of the soil series examples used in the original 1933 publication by Prof. Storie.)

Prime Farmland (California Department of Conservation)

I believe that a more rigorous (higher productivity) reclamation standard is provided by the California Department of Conservation (DOC) definition of prime farmland, which is based on a much more stringent and detailed evaluation of specific soil characteristics than the Williamson Act definition of prime agricultural land. The DOC definition establishes ten thresholds that must be attained or exceeded (water regime, temperature range, acid-alkali balance, water table, sodium content, flooding, erodibility, permeability, rock fragment content, and rooting depth; see the Feasibility Study or DOC website for full details). The Feasibility Study addresses each one of these in turn, explaining how the proposed reclamation actions can reasonably be expected to ensure attainment and thereby showing that the post-reclamation conditions in the reclaimed area will meet the State DOC definition of prime farmland. For convenience of the reader, this discussion of the ten characteristics, found in Section 2.4 of the Feasibility Study, is repeated here in its entirety. For some parameters, the characteristics of the site's Yolo loam soils were derived from the NRCS soil survey data; for others, from the laboratory test results provided in the Feasibility Study.

a. Water. *Definition:* Soils must have a xeric, ustic, or aridic moisture regime with available water capacity of at least 4.0 inches, and a developed irrigation water supply that is dependable and of adequate quality. *Shifler* (NRCS): Yolo series soil is a Xerorthent (xeric moisture regime) and has high available water capacity (about 11 inches). There is a developed irrigation system that is as dependable as the California climate permits, providing high quality irrigation water from the Moore Canal. Surface water allocations are provided by the Yolo County Flood Control and Water Conservation District (YCFCWCD).

b. Soil Temperature Range. *Definition:* Soils must have a frigid, thermic, or hyperthermic temperature regime (pergelic and cryic regimes are excluded). *Shifler* (NRCS): Yolo series has a thermic temperature regime.

c. Acid-Alkali Balance. *Definition:* Soils must have a pH between 4.5 and 8.4 in all horizons within a depth of 40 inches. *Shifler* (laboratory): Range of pH results for individual soil samples was 5.9 to 8.2.

d. Water Table. *Definition:* Soils have no water table or have a water table that is maintained at a sufficient depth during the cropping season to allow cultivated crops common to the area to be grown. *Shifler:* Yolo soils have a depth to water table of more than 200 cm (78.7 inches), which is sufficient to allow crops common to the area to be grown. In accordance with County ordinance, reclamation soil will be placed so as to maintain a minimum separation of five feet between the reclaimed soil surface and the average high groundwater level.

e. Soil Sodium Content. *Definition:* Soils can be managed so that, in all horizons within a depth of 40 inches, during part of each year the conductivity of the saturation extract is less than 4 mmhos/cm and the exchangeable sodium percentage is less than 15. *Shifler* (laboratory): Total conductivity from all soluble salts was 1.2 mmhos/cm or less in all samples. Exchangeable sodium was 3.2 percent or less in all samples.

f. Flooding. *Definition:* Flooding of the soil during the growing season occurs infrequently (less often than once every two years). *Shifler* (NRCS): Flooding rating for Yolo soil at the Shifler site is "none" meaning that the likelihood of flooding in any particular year is near zero.

g. Erodibility. *Definition:* The product of K (erodibility factor) multiplied by the percent of slope is less than 2.0. *Shifler* (NRCS): Yolo soil has a K factor of 0.43 (same value for whole soil or rock free), and reclaimed soil surface will be at a gradient of less than 4 percent (probably less than 1 percent), therefore the product will be less than 2.0.

h. Permeability. *Definition:* Soils must have a permeability rate of at least 0.15 cm/hour in the upper 20 inches if the mean annual soil temperature at 20 inches depth is less than 59 F. Permeability is not limiting if mean annual soil temperature is higher than 59 F. *Shifler* (NRCS): Yolo loam has a permeability of 3.24 cm/hour (may not be limiting anyway; mean annual temperature could not be ascertained).

i. Rock Fragment Content. *Definition:* In the upper six inches, soils must have less than 10 percent rock fragments coarser than three inches. *Shifler:* No rock fragments coarser than three inches were encountered in any soil test pits.

j. Rooting Depth. *Definition:* Soil has a minimum rooting depth of 40 inches. *Shifler* (NRCS): Soil survey data states that the depth to any type of restrictive layer is more than 200 cm (78.7 inches).

The Reclamation Plan (sections 6.1, 6.2, and 7.1) specifies the actions to be taken to implement the recommendations of the Feasibility Study throughout soil salvage, stockpiling, resoiling, and post-placement releveling of areas that are found to have settled so as to impair drainage or irrigation.

Regional Agricultural Soil Context

The regional soils context was outside the scope of the Feasibility Study but may be relevant to the ease of reclaiming the Shifler site to agricultural use, relative to other soils in nearby agricultural areas. In brief, Yolo loam (which constitutes nearly 100 percent of the soil to be salvaged and used in agricultural reclamation at the Shifler site) is more amenable to such use than other agricultural soils that are mapped by NRCS nearby. For a few examples, other soil series that are mapped near the Shifler site (directly across Cache Creek) and support ongoing agricultural production include Brentwood silty clay loam, Corning gravelly loam, and Rincon silty clay loam.

The typical pedon of Brentwood soil has a clay loam or heavy clay loam layer extending from 18 inches depth down to the alkaline silty clay loam C horizon at 50 inches. That of Corning soil has a gravelly surface layer and gravelly clay and clay loam below 21 inches to the bottom of the described profile. Rincon soil is clay to clay loam throughout, and is moderately alkaline below 40 inches. Thus, all these soils have extensive amounts of clay, and in comparison with the soils observed at the Shifler site, much less volume of soil available that is suitable for use in agricultural reclamation.

While clay and clay loam soils can be salvaged and reused in reclamation, they may require special handling to preserve soil structure and nutrient characteristics. The Yolo loam found at the Shifler site, in contrast, is a silt loam with excellent internal drainage and is therefore more amenable to salvage, stockpiling, and reuse. As described in the Feasibility Study, the soils found throughout the site have no cemented layers, or high rock fragment content, or excessive clay content, or high content of undesirable minerals or pH imbalance, or any other characteristic that suggests that they would not be highly suitable for use in agricultural reclamation.

As stated in Section 7.1.3 of the Reclamation Plan, a minimum thickness of four feet of reclamation soil will be placed above the subgrade in the agricultural reclamation area. Once again referring to the regional context, that is a thicker layer of suitable agricultural soil than is generally found in the other highly productive agricultural soils nearby. The laboratory testing results provided in the Feasibility Study show that the salvaged material is expected to have suitable mineral nutrient characteristics to support crop production with the application of normal agricultural practices.

Conclusions

To my knowledge, the approach taken by the Feasibility Study entailed a more thorough evaluation of existing conditions, soil restoration procedures, and farmland definitions than has hitherto been employed for any mining project proposed for prime agricultural land in California.

As documented in the Feasibility Study, extensive soil sampling and laboratory testing of textural and nutrient characteristics indicates that with feasible proposed soil salvage and replacement specifications, followed by agricultural practices that are normal for the project region (that is, potentially including normal soil amendments and irrigation practices), highly productive agricultural uses can be restored to the site after mining and reclamation are complete.

Therefore, it is reasonable to be confident that yields similar to those summarized and discussed in Section 5 of the Feasibility Study will be attained following reclamation of the agricultural portion of the Shifler site.

Appendix I

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TEICHERT MATERIALS

April 12, 2021

Ms. Elisa Sabatini, Manager of Natural Resources
Yolo County Office of the County Administrator, Natural Resources Division
625 Court Street, Room 202
Woodland, California 95695

Re: Teichert Shifler Mining & Reclamation Project – Teichert's commitment to reducing greenhouse gas emissions and climate change impacts

Dear Ms. Sabatini:

During the public comment period on the Draft Environmental Impact Report (DEIR) for Teichert's Shifler Mining and Reclamation project, comments were received expressing concerns regarding the project's greenhouse gas (GHG) emissions and contribution to climate change. In particular, the public comments referenced the County's recent passage of Resolution No 20-114.

As you know, last fall, the Yolo County Board of Supervisors declared a climate crisis requiring urgent and inclusive action (Resolution No. 20-114). As part of that Resolution, the Board reaffirmed and strengthened its commitment to combat climate change through an expeditious reduction in Yolo County's greenhouse gas emissions. Teichert applauds this policy objective, which is consistent with our own corporate priorities.

More specifically, Resolution No. 20-114 commits to "effect a just transition to an inclusive, equitable, sustainable, and resilient local economy while also supporting and advocating for regional, national, and international efforts necessary to reverse the climate, social justice, and economic crises." The Shifler mining and reclamation project is consistent with the stated objectives of the Resolution. It will help the County to achieve an inclusive, equitable and sustainable local economy while furthering its GHG reduction goals in the following ways:

1. **A local source of aggregate is essential to reducing GHG emissions. The Project would result in substantial GHG reductions when compared to other, more-distant aggregate mining locations.**

Aggregate-based construction material (concrete, rock, gravel and sand) is necessary for the construction and maintenance of nearly all development, including buildings, bridges, roadways, bike paths, and sidewalks. Aggregate products are the foundational material for all of the built environment. As such, every community needs access to aggregate materials.

One of the most climate-impactful aspects of construction is the transport of the materials. In California, 47% of CO2 emissions including 41% of GHG emissions come from transportation. GHG emissions associated with transporting aggregate can vary greatly depending on how close an aggregate mining site is located to its intended market. The closer the source, the shorter the haul distance – which, in turn, results in reduced vehicle miles travelled and reduced greenhouse gas emissions. For this reason, a local source of aggregate is essential to reducing GHG emissions.

The Project would allow for the continuation of aggregate mining and processing operations at Teichert's Woodland Plant and retain Teichert as an operator in Yolo County. The Woodland Plant is currently the closest aggregate mining and processing facility to its market area which includes nearly all of Yolo County, as well as portions of Natomas and Dixon. If the Project were not approved and existing reserves were to be exhausted, Yolo County's construction and roadway maintenance projects would have to obtain aggregate from more distant sources resulting in an increase in GHG emissions.

It is estimated that the average haul distance and the associated aggregate transport emissions would increase by 20% if that demand for aggregate were met by other aggregate sources in Yolo County that are less centrally located, such as those near Esparto. Haul distances and associated transport GHG emissions would increase by even more if demand for aggregate were met through importation from out-of-county sources. For example, there are aggregate mining operations in eastern Sacramento County and considerable sources of material in Yuba County; either location is a logical source from which to import aggregate material to Yolo County. However, GHG emissions associated with aggregate transport would increase by 92% if the demand for aggregate were met by importing aggregate from eastern Sacramento County and by 153% if the demand were met by importing aggregate from Yuba County. Clearly, this is not in the best interest of combatting global climate change.

The Project would ensure the continued availability of a local source of aggregate to supply the growing aggregate needs of Yolo County. Thus, the Project would result in a considerable reduction of GHG emissions from aggregate truck transport from more distant in-county and out-of-county sources.

2. Teichert's Shifler mining site and the continued operation of the Woodland Plant will help provide economic stability for the County by offering well-paying union jobs for its residents.

Teichert currently employs approximately 259 people from our Yolo County operations, where we have been a contributing member of the County economy since the 1950's. Between the offices north of Davis, a plant in Esparto, and a plant in Woodland, Teichert is a meaningful participant in Yolo County's economy. The Woodland Plant currently employs 28 individuals, including 22 operating engineers, one teamster, one laborer, and four clerical staff, the overwhelming majority of whom live in Woodland and unincorporated Yolo County. In addition to direct employment offered by Teichert, numerous third-party employees benefit from the aggregate product produced at this site, such as, truck drivers, construction workers, manufacturing plant workers, etc. As such, Teichert is and will continue to be an important provider and supporter of jobs throughout Yolo County. With President Biden's anticipated economic recovery plan emphasizing long-overdue repairs to the nation's infrastructure, the construction industry's role in the economic recovery will be a critical one.

3. Teichert is leading the industry with its commitments on reducing GHG emissions and combating climate change.

Teichert has long been committed to operating in the most environmentally friendly way possible by utilizing equipment that reduces GHG emissions, conserving energy, generating green

and carbon-free energy, managing energy usage away from peak demand periods, reducing waste and promoting sustainability, and supporting local non-profit organizations that share these values. This commitment to the environment is demonstrated everywhere that Teichert operates.

For example, in 2010, Teichert installed a 1.5-megawatt wind turbine at our Vernalis Plant near Tracy in San Joaquin County. The wind turbine can supply up to 20% of the total energy used at the plant, which has the effect of removing 1,300 metric tons of CO2 annually or the equivalent benefit of planting 300 acres of trees in the Tracy area. Closer to home, here in Yolo County, the Woodland Plant has installed a 70-kilowatt solar array in 2008 which has generated over 1.8 GWh of electricity; this is the equivalent of 2,469 metric tons of carbon offset. On an ongoing basis Teichert's environmental and engineering departments are evaluating our other sites for wind and solar power generation opportunities.

While operating as California's oldest active general contractor, Teichert continues to look at opportunities to innovate and meet the needs of the State. This includes the creation of the Teichert Energy & Utilities Group, including Teichert Solar to meet the growing demand of highly skilled contractors to offer turn-key solar solutions on time and on budget. Teichert Solar has installed facilities that provide over 100 megawatts of solar electricity in California.

As mentioned previously, a large percentage of carbon and GHG emissions come from material transportation. To help combat harmful exhaust emissions, state law requires companies to convert their vehicle fleets to comply with emission and performance requirement standards. Teichert has taken this charge to heart and is currently 20% ahead of the Tier 4 engine requirements thereby exceeding the state mandate.

Beyond our corporate commitments, in Yolo County specifically, Teichert has implemented a number of GHG-reducing and sustainable practices. For example:

- All aggregate material mined by Teichert in Yolo County is transported to the respective processing plants utilizing electric conveyor systems, thereby reducing the need for internal combustion engine powered equipment.
- Additionally, the rock processing plants have been converted to all-electric.
- The asphalt plant at our Woodland Plant has been upgraded to include additional insulation on the drum dryer and a computer managed frequency drive exhaust fan which both result in reduced energy demand required to operate the plant.
- Teichert utilizes Valley Clean Energy, which has a greener energy portfolio than PG&E, to provide electricity for the Esparto Plant and the office facilities at the Woodland Plant. At the Esparto Plant site, Teichert participates in a program that will take the plant off-line when estimated power demand in the region is forecast to be high. This allows for more efficient use of the existing regional energy infrastructure and helps to reduce the need for additional potentially less green power generation while helping prevent regional brownouts.
- The Woodland Plant site also operates a concrete and asphalt recycling operation which allows contractors to bring material that could otherwise end up at a landfill to our plant site where it can be recycled. The recycled material is able to replace the use of both new aggregate and asphalt oil. By recycling the asphalt oil material, it reduces the need for purchasing and transportation of refined asphalt oil and the

reuse of aggregate material maximizes the use of the mining site, prolonging the life of site reserves.

4. The Shifler mining and reclamation project will help further Yolo County's transition to a clean and inclusive economy

In addition to the Resolution No. 20-114, Yolo County has adopted a Climate Action Plan (CAP). The CAP includes targets, strategies and benchmarks all tailored to achieve its goals of implementing smart growth, reducing greenhouse gas emissions and responding to global climate change. Many of Teichert's actions to reduce greenhouse gas emissions and energy usage, as discussed previously, have helped Yolo County make progress on achieving its CAP goals.

The Shifler mine project provides an opportunity for Teichert to implement additional actions to help Yolo County progress toward reaching its climate goals. Specifically, in Measure E-1 the CAP identifies pursuing a community choice aggregation program as an aggressive program to increase the use of renewable energy resources. This measure includes a target to have 75% of customers purchasing a "light green" portfolio which contains 50% renewable sources, and 25% of customers purchasing a "deep green" portfolio which contains 100% renewable sources by 2030.

The goal of creating a community choice aggregation program has been reached through the formation of Valley Clean Energy (VCE) which is offering cleaner power to customers throughout Yolo County. As mentioned, Teichert already utilizes VCE to power its Esparto Plant. As part of this project, Teichert will transition its Woodland Plant to a green energy portfolio. We commit to transitioning the aggregate processing plant and office facilities to an energy portfolio that meets or exceeds the "light green" renewable levels by 2025 and "deep green" renewable levels of 100% renewable by 2030.

As discussed above, Teichert is committed to helping the County achieve its GHG reduction goals. And we reiterate the point that, the best way to reduce GHG emissions from construction and infrastructure maintenance is to retain a reliable local source of aggregate material that is being provided by a trusted community partner. Please let us know if you have any questions or need additional information regarding this matter.

Sincerely,

Jason Smith

Enclosures

cc: Heidi Tschudin, Contract Planner
Michael Smith, Teichert Aggregates
Taylor & Wiley

Appendix J

MEMORANDUM

To: Jason Smith, Teichert

From: Steve Greenfield, Cunningham Engineering Corporation (CEC)
Niki Crucillo, CEC

Date: March 31, 2021

Subject: Teichert Shifler – Response to Moore Canal EIR Comment

---

The purpose of this memo is to respond to comments regarding the proposed Moore Canal relocation provided by Lachi Richards (Richards), dated January 31, 2021, on the Draft EIR for the Teichert Shifler Mining and Reclamation Project. The comments expressed concern that the proposed relocation would flatten the slope of the canal resulting in an increase in water surface elevations, thereby exacerbating existing flooding that occurs in the Wildwings development west of Road 94B. In response to Richards' "Request 1", summarized below are the results of hydraulic calculations used to determine the design width of each of the proposed canal relocations in order to maintain equal or less upstream water surface elevations.

Methodology: Manning's Equation
Design Flow: 130 cfs (per Yolo County Flood and Water Control District)

Existing Moore Canal -

Side Slopes:	1.5:1	
Canal Length:	4,429 ft	(within the Shifler project area)
Longitudinal Slope:	0.000564 ft/ft	
Manning's n:	0.013	(concrete lined)
Bottom Width:	**10 ft**	
Depth:	2.41'	(water surface at east end of Rd 94B culvert)

Proposed Moore Canal -

Side Slopes:	1.5:1	
Canal Length:	5,402 ft	(within the Shifler project area)
Longitudinal Slope:	0.000463 ft/ft	
Manning's n:	0.013	(concrete lined)
Bottom Width:	**11.25 ft**	
Depth:	2.41'	(water surface at east end of Rd 94B culvert)

Proposed Moore Canal (Southern Alternative) –

Side Slopes:	1.5:1	
Canal Length:	10,299 ft	(within the Shifler project area)
Longitudinal Slope:	0.000243 ft/ft	
Manning's n:	0.013	(concrete lined)
Bottom Width:	**16.0 ft**	
Depth:	2.41'	(water surface at east end of Rd 94B culvert)

In addition to the design flow rate of 130 cfs, lesser flow rates were also analyzed to compare depths of flow between existing and proposed conditions. Proposed canal bottom widths have been rounded up to the nearest 0.25' for constructability purposes. This has resulted in a slight reduction in calculated water surface depths for lower flow conditions.

For example, in the existing condition, at a flow rate of 8.5 cfs there would be approximately 0.50 feet of water in the canal (for reference, the three existing Wildwings culverts are located approximately 0.5 feet above the canal bottom; hence a flow rate of approximately 8.5 cfs is the condition when said culverts are unimpeded). For comparison, at the same 8.5 cfs flow rate, the proposed canal would contain approximately 0.49 feet of water, and the Southern Alternative would contain approximately 0.48 feet of water.

Based on the above, the proposed Moore Canal relocation will be designed with an 11.25' bottom width to compensate for the reduction in longitudinal slope and maintain the same (or lower) water surface elevation at the upstream end of the Shifler property (i.e., downstream side of the Road 94B culvert). Similarly, if the Southern Alternative Moore Canal alignment is implemented, it will be designed with a 16.0' bottom width to maintain (or lower) said water surface elevation. In either scenario, based on the above calculations and discussion, the proposed canal alignment designs are not anticipated to increase the water surface elevation west of Road 94B.

Appendix K

Special Report 255

MINERAL LAND CLASSIFICATION OF THE TEICHERT SHIFLER PROPERTY, YOLO COUNTY, CALIFORNIA FOR PORTLAND CEMENT CONCRETE AGGREGATE

2021

California
Department of
Conservation
California Geological Survey

STATE OF CALIFORNIA

GAVIN NEWSOM

GOVERNOR

CALIFORNIA NATURAL RESOURCES AGENCY

WADE CROWFOOT

SECRETARY FOR NATURAL RESOURCES

DEPARTMENT OF CONSERVATION

DAVID SHABAZIAN

DIRECTOR

CALIFORNIA GEOLOGICAL SURVEY

STEVEN R. BOHLEN, PH.D., ACTING STATE GEOLOGIST

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"The Department of Conservation makes no warranties as to the suitability of this product for any particular purpose."

Special Report 255

MINERAL LAND CLASSIFICATION OF THE TEICHERT SHIFLER PROPERTY, YOLO COUNTY, CALIFORNIA FOR PORTLAND CEMENT CONCRETE AGGREGATE

By

Greg Marquis (PG 9608)

2021

CALIFORNIA GEOLOGICAL SURVEY'S PUBLIC INFORMATION OFFICES:

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320 West 4th Street, Suite 850
Los Angeles, CA 90013
(213) 239-0878

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FIGURES

Figure 1. Teichert Shifler Property Vicinity Map 1

Figure 2. Teichert Shifler Property Petition Mineral Resource Zone Map 6

EXECUTIVE SUMMARY

In response to a petition submitted by Teichert Materials under the provisions of the Surface Mining and Reclamation Act of 1975 (SMARA; Public Resources Code § 2712 et seq.), the State Geologist has investigated and subsequently reclassified the area proposed for mining within the Shifler Property (herein referred to as the project area), Yolo County, as Mineral Resource Zone 2 (MRZ-2) for Portland cement concrete (PCC) aggregate.

Sand, gravel, and crushed rock are “construction materials.” These materials, collectively referred to as aggregate, provide bulk and strength to PCC, asphaltic concrete, Class II Base, and other aggregate commodities such as subbase, drain rock, and fill. Because aggregate is a low unit-value, high bulk-weight commodity, it must be obtained from nearby sources to minimize economic and environmental costs associated with transportation. If nearby sources do not exist, transportation costs can quickly exceed the value of the aggregate. As transport distances increase, so do construction costs, fuel consumption, greenhouse gas emissions, air pollution, traffic congestion, and road maintenance costs.

To ensure that mineral materials will be available when needed and do not become inaccessible as a result of inadequate information during the land-use decision making process, the State Geologist identifies and classifies lands containing significant mineral deposits. The classification of these lands is published by the California Geological Survey (CGS) in Mineral Land Classification reports. These reports contain the assignment of MRZ classifications (MRZ-1, MRZ-2, MRZ-3, or MRZ-4) to areas based on geologic factors alone without regard for current land uses. Areas classified MRZ-2 contain significant mineral resources.

Petitions may be brought before the State Mining and Geology Board (SMGB) by any individual or organization to classify mineral lands that are claimed to contain significant mineral deposits. Petitions are preliminarily reviewed by the State Geologist to determine if the deposit meets the threshold value and other criteria required to qualify as MRZ-2. The threshold value for construction materials adjusted to 2020 dollars is $22 million.

Teichert Materials submitted a petition dated September 30, 2020 to the SMGB for classification of the Shifler Property, located approximately three miles west of the town of Woodland in Yolo County, just south of Cache Creek (Figure 1). The property consists of two parcels totaling 442 acres. The project area comprises 277 acres. The petitioner requested that the State Geologist reclassify the project area as MRZ-2 for PCC aggregate.

The project area is reclassified MRZ-2 in this report (Figure 2). The project area was most recently classified in CGS Special Report (SR) 245 in 2018. Portions of the project area were classified in SR 245 as not having significant mineral resources based on an analysis of surficial geologic mapping. The petition contains drill logs that show the presence of construction aggregate at mineable depths throughout the project area. The petition also references a third-party laboratory that concluded the project area aggregate was suitable for use in PCC based on petrographic analysis. In addition to evidence provided in the petition, adjacent properties—also located off-channel from Cache Creek—are being or have been mined for PCC aggregate. The value of the aggregate resource in the project area exceeds the threshold for a significant deposit of construction materials for the purpose of classification.

INTRODUCTION

The Teichert Shifler Property is a proposed aggregate mine located approximately three miles west of the City of Woodland in Yolo County, just south of Cache Creek (Figure 1). The property consists of two parcels totaling 442 acres. Approximately 277 acres are proposed for mining (herein referred to as the project area).

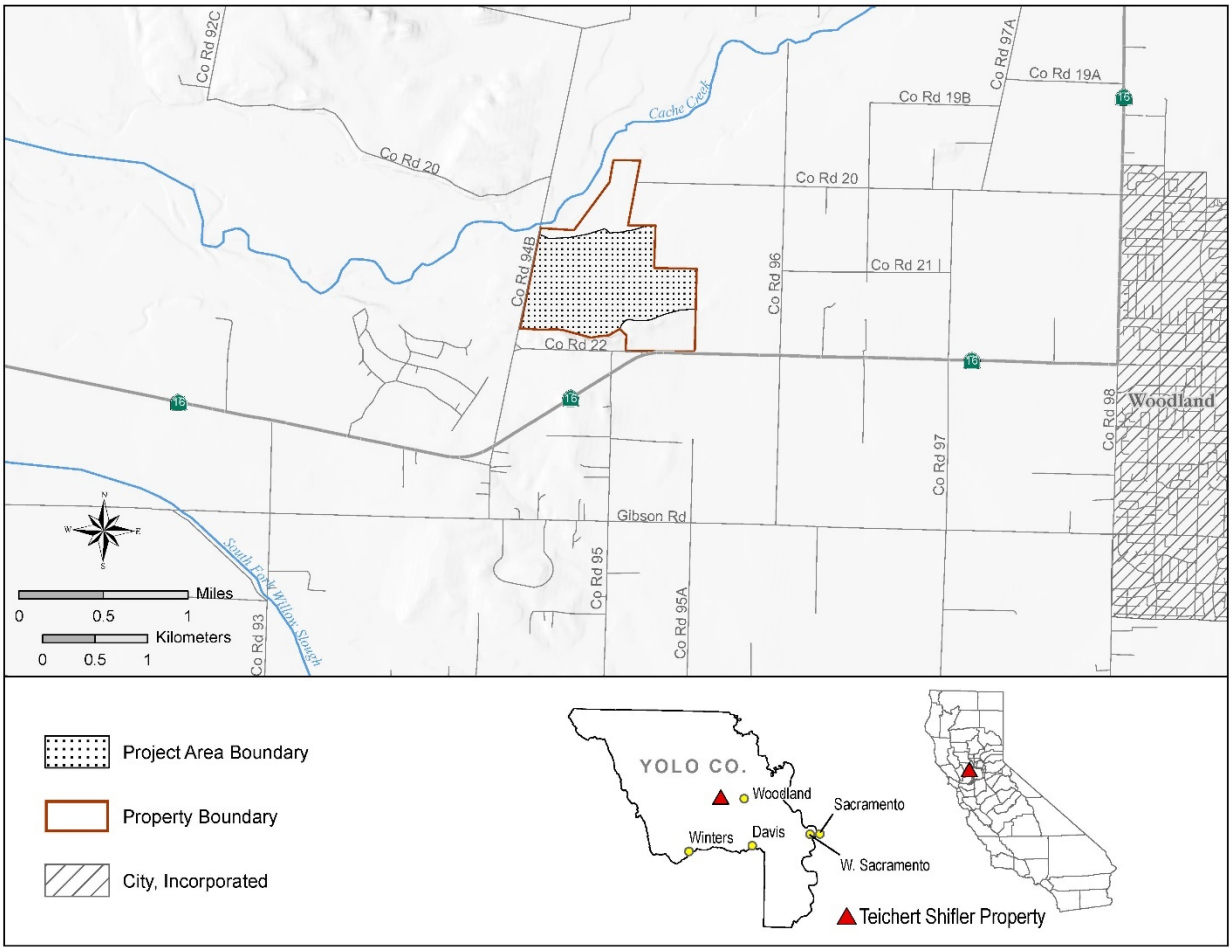

Figure 1. Teichert Shifler Property Vicinity Map

Teichert Materials submitted a classification petition for the Shifler Property to the State Mining and Geology Board (SMGB) dated September 30, 2020. The petition requested that the project area be reclassified as Mineral Resource Zone 2 (MRZ-2) for Portland cement concrete (PCC) aggregate resources under the provisions of the Surface Mining and Reclamation Act (SMARA). In accordance with the SMGB's *Guidelines for Classification and Designation of Mineral Lands* (2000), the SMGB then transmitted the petition to the State Geologist for preliminary evaluation. The State Geologist determined that the project area contains a resource of PCC aggregate that exceeds the threshold for a significant deposit of construction materials for the purpose of classification (Attachment A). After reviewing the State Geologist's preliminary evaluation, the SMGB accepted the petition on January 21, 2021.

The project area was most recently classified in the California Geological Survey (CGS) Special Report (SR) 245 based on previous classification and an analysis of surficial geologic mapping

(O'Neal and Gius, 2018). Approximately 90 acres of the northern portion of the project area were classified as MRZ-2 for concrete grade aggregate. Approximately 190 acres were classified as MRZ-3 and 1.5 acres as MRZ-1.

MINERAL LAND CLASSIFICATION

The Surface Mining and Reclamation Act of 1975

SMARA requires the State Geologist to classify land based on the presence, absence, or likely occurrence of significant mineral deposits in certain areas of the state that are subject to urban expansion, or other land uses that are incompatible with mining. The areas to be classified for mineral resources are set forth by the SMGB based on recommendations from the State Geologist and public input, and by the SMGB's acceptance of petitions for classification of specific properties. Petitions may be brought before the SMGB by any individual or organization to classify mineral lands that are claimed to contain significant mineral deposits.

The SMGB, upon receipt of the classification information, transmits the information to the appropriate lead agencies for incorporation into their general plans and for use in their land-use planning processes. The classification of these lands is published by CGS in Mineral Land Classification reports.

The primary goal of mineral land classification is to ensure that the mineral resource potential of the land is recognized and considered before local land-use decisions are made that could preclude development of the mineral resource. The availability of mineral resources is vital to California's economy. However, for most mineral commodities, economic deposits are rare, isolated occurrences. In addition, access to land for purposes of mineral exploration and mine development has become increasingly difficult because California is faced with growing land-use competition. As a consequence, local planning agencies are confronted with more complex land-use decisions. If California is to continue supplying raw materials for its construction industry, it is essential that areas containing significant mineral resources be identified so that this information can be incorporated into land-use planning decisions.

Mineral Resource Zone Categories

As set forth in Section 2761(b) of SMARA, the State Geologist shall classify land solely on the basis of geologic factors and without regard to existing land use. Areas subject to mineral land classification studies are divided by the State Geologist into various MRZ categories that reflect varying degrees of mineral resource potential as described below:

MRZ-1: Areas where available geologic information indicates that little likelihood exists for the presence of significant mineral resources.

MRZ-2: Areas where adequate information indicates that significant mineral resources are present, or where it is judged that a high likelihood for their presence exists. Land included in MRZ-2 is of prime importance because it contains known economic mineral deposits.

MRZ-3: Areas containing known mineral occurrences of undetermined mineral resource significance. Further exploration within these areas could result in the reclassification of specific localities into the MRZ-2 category.

MRZ-4: Areas where available geologic information is inadequate for assignment to any other MRZ category. Further exploration within these areas could result in the reclassification of land into the MRZ-1, MRZ-2, or MRZ-3 categories.

Classification Criteria

To be considered significant for the purpose of mineral land classification, a mineral deposit, or a group of mineral deposits that can be mined as a unit, must meet marketability and threshold value criteria adopted by the SMGB. Threshold values are intended to indicate in a general way the approximate minimum size of a mineral deposit that will be considered significant for classification and/or designation. The threshold value criteria vary for different minerals depending on their uniqueness and commodity-type category. The SMGB determined threshold value of the first marketable product in 1998 dollars to be $12.5 million for a construction aggregate deposit. In order to adjust the threshold value to account for inflation, this value is multiplied by an inflation factor from the U.S. Department of Labor Bureau of Labor Statistics' (California Department of Industrial Relations, Division of Labor Statistics website, 2020) estimated Consumer Price Index. The rounded threshold value in 2020 dollars is $22 million.

OVERVIEW OF CONSTRUCTION AGGREGATE

Sand, gravel, and crushed stone are "construction materials." These commodities, collectively referred to as aggregate, provide the bulk and strength to PCC, asphaltic concrete (AC, commonly called "black top"), plaster, and stucco. Aggregate provides approximately 60-75 percent of the volume of PCC (Portland Cement Association, 2021). Aggregate is also used as road base, subbase, railroad ballast, and fill.

The building and paving industries consume large quantities of aggregate and future demand for this commodity is expected to increase throughout California. The U.S. Geological Survey estimates that 46 percent of all sand and gravel produced in the U.S. is used in concrete (U.S. Geological Survey, 2021). PCC aggregate is indispensable to the building industry as a construction material.

Of the many grades of aggregate used, PCC aggregate must meet some of the most rigid engineering standards. Aggregate used in PCC must meet specifications to prevent premature deterioration of the concrete. These specifications set standards for the permissible amounts of deleterious substances and cover engineering requirements for size gradation, soundness and abrasion resistance. Laboratory tests of aggregate are used to scientifically evaluate the suitability of materials for use in concrete. Minimum standards for specific tests have been adopted by many government agencies such as the California Department of Transportation.

Because aggregate is a low unit-value, high bulk-weight commodity, it should be obtained from nearby sources to minimize the dollar cost to the aggregate consumer and other environmental and economic costs associated with transportation. If nearby sources do not exist, then transportation costs can quickly exceed the base line value of the aggregate. As transport distances increase, so do construction costs, fuel consumption, greenhouse gas (GHG) emissions, air pollution, traffic congestion, and road maintenance costs.

Factors Affecting Aggregate Deposit Quality

The two major factors that affect the quality of an aggregate deposit are the rock type and the degree of weathering of the deposit. Rock type determines the hardness, durability, and potential chemical reactivity of the rock when mixed with cement to make concrete. In alluvial sand and gravel deposits, rock type is variable and reflects the rocks present in the drainage basin of the stream or river. In crushed stone deposits, rock type is typically less variable, although in some types of deposits such as sandstones or volcanics, there may be significant variability of rock type within a deposit. Rock type may also influence aggregate shape. For example, some metamorphic rocks such as slates tend to break into thin platy fragments that are unsuitable for many aggregate uses while many volcanic and granitic rocks break into blocky fragments more suited to a wide variety of aggregate uses. Deposit type also affects aggregate shape. For example, in alluvial sand and gravel deposits the natural abrasive action of the stream rounds the edges of rock particles in contrast to the sharp edges of particles from crushed stone deposits.

Weathering is the in-place physical or chemical decay of rock materials at or near the earth's surface. Weathering commonly decreases the physical strength of the rock and may make the material suitable only for uses in which high strength and durability are not specified. Weathering may also alter the chemical composition of the aggregate making it less suitable for some aggregate uses. If weathering is severe, the material may not be suitable for use as construction aggregate. Typically, the older a deposit is, the more likely it is to have been weathered, and the severity of weathering commonly increases with increasing age of the deposit.

CLASSIFICATION OF THE PROPOSED TEICHERT SHIFLER PROPERTY

Geologic Summary

The project area is located near the western edge in the Great Valley Geomorphic Province. The Province consists of a sequence of marine and non-marine sediments that range in age from Jurassic to Holocene.

The project area, just south of Cache Creek, is underlain by quaternary alluvial deposits from the Coast Ranges to the west. The alluvium derives mainly from the Franciscan Formation and Great Valley Sequence (EIP Associates and others, 1995). Lithified sandstones and conglomerates from the Great Valley Sequence are an important source of abrasion-resistant gravels (EIP Associates and others, 1995). Alluvial deposits within the project area are unconsolidated and include gravels, sands, silts and clays. The same deposits are being or have been mined at sites adjacent to the west and northeast of the project area. The Teichert Materials Woodland Facility (processing plant) is also located adjacent to the north of the project area.

South of the project area, but within the Shifler Property is the contact with Tertiary Tehama Formation, based on the geologic map from Helley and Harwood (1985). This contact is evident as a bluff that rises 15-30 feet above the project level. The Tehama Formation in this area is generally a fine-grained alluvial deposit and is not considered economic for aggregate mining (Unsworth, 2021).

Material Quality

Boring logs and petrographic analysis results provided by the petitioner allow for a better understanding of the deposit quality within the project area.

Boring logs consist of 27 holes drilled to approximately 70 to 130 feet below ground surface. Overburden (soil) averages approximately 10 feet deep. Below the overburden, boring logs indicate the presence of sand and gravel deposits throughout the project area. Lenses of sand and gravel were observed at depths to approximately 100 feet. Teichert Materials also conducted materials testing, including sieve analysis, Los Angeles Rattler abrasion testing, and other measures that indicated an economic deposit of PCC aggregate (Unsworth, 2021).

Petrographic analysis was performed by a third-party laboratory on coarse and fine materials within the project area. The laboratory concluded that the rock types present were suitable for PCC aggregate, despite containing some deleterious rock for PCC, including chert.

Based on boring logs and the associated materials testing data, petrographic analysis, and the presence of aggregate mines adjacent to the site, CGS staff concludes the material present within the project area could meet the specifications for a variety of construction aggregate products including PCC aggregate.

Threshold Value

The Teichert Shifler Petition states that up to 35.5 million tons of aggregate would be mined in the project area based on the area, proposed pit depth, and waste factors derived from boring logs. The petition also states that the assumed average value of aggregate in the Sacramento area is $12/ton. The total resource value for the project area, based on assumptions in the petition, is $426 million. CGS staff independently estimated the resource within the project area and concur that it exceeds the threshold value of $22 million (2020 dollars) for a significant deposit of construction materials for the purpose of classification.

Property Evaluation

A field investigation of the project area by CGS staff on March 16, 2021, along with an evaluation of the subsurface information and materials test data provided by the petitioner, indicates the following:

1. Drill logs provided by the petitioner show the occurrence of sand and gravel resources at mineable depths within the project area.
2. Analysis provided by the petitioner indicates that much of the material within the project area meets quality specifications for PCC aggregate.
3. The deposit volume provided by the petitioner indicates the area contains PCC aggregate resources in excess of the threshold value of $22 million (2020 dollars) required for classification as MRZ-2.

CONCLUSIONS

In accordance with the mandates of the SMARA, the staff of CGS, under the direction of the State Geologist, has evaluated the Proposed Teichert Shifler Property, and concludes that significant PCC aggregate resources are present within the project area. These resources meet the suitability and threshold criteria established by the SMGB for inclusion into the MRZ-2 category for PCC aggregate. The project area is reclassified MRZ-2 for PCC aggregate (Figure 2).

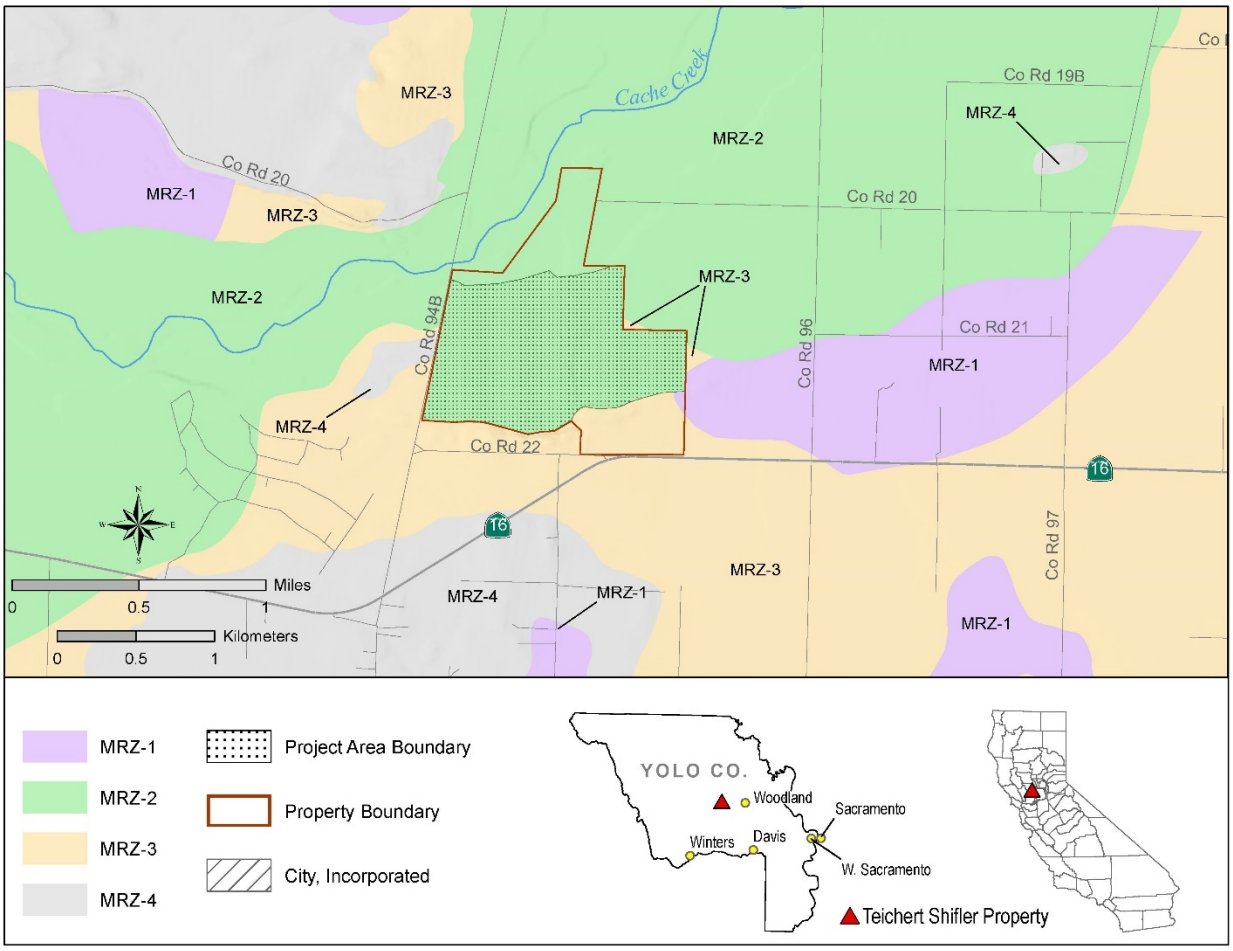

Figure 2. Teichert Shifler Property Petition Mineral Resource Zone Map

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ATTACHMENT A—PETITION MEMO FROM THE STATE GEOLOGIST TO THE STATE MINING AND GEOLOGY BOARD

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California
Department of Conservation
California Geological Survey

Gavin Newsom, Governor
David Shabazian, Director

801 K Street, MS 12-30, Sacramento, CA 95814
T: (916) 445-1825 | F: (916) 445-5718
conservation.ca.gov

MEMORANDUM

DATE: January 4, 2021

TO: Jeffrey Schmidt, Executive Office
State Mining and Geology Board

FROM: Steven R. Bohlen
Acting State Geologist DS SB

SUBJECT: PETITION FOR MINERAL LAND CLASSIFICATION – PROPOSED SHIFLER PROPERTY, YOLO, COUNTY

Teichert Materials submitted a petition dated September 30, 2020 to the State Mining and Geology Board (SMGB) for Mineral Land Classification of the Shifler Property, located approximately 3 miles west of the town of Woodland in Yolo County (Figure 1). The property consists of two parcels totaling 442 acres. Approximately 277 acres are proposed for mining (herein referred to as the project area). Approximately 90 acres of the northern portion of the project area were classified as MRZ-2 for concrete-grade aggregate in the California Geological Survey, Special Report 245, Mineral Land Classification: Concrete Aggregate in the Greater Sacramento Area Production-Consumption Region (M. O'Neal and F. Gius, 2018). Approximately 1.5 acres of the eastern portion of the project area were classified MRZ-1. The remainder of the project area was classified MRZ-3. The petitioner has requested that the State Geologist reclassify the entire project area as MRZ-2 for Portland cement concrete (PCC) aggregate.

The petition was reviewed by California Geological Survey geologist Greg Marquis using the revised "Guidelines for Classification and Designation of Mineral Lands" adopted by the SMGB in 2000. The following determinations were made during this preliminary review:

1) Drill logs provided by the petitioner show the occurrence of sand and gravel resources at mineable depths within the project area.

2) Analysis provided by the petitioner indicates that much of the material within the project area meets quality specifications for PCC aggregate.

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3) The deposit volume provided by the petitioner indicates the area contains PCC aggregate resources in excess of the threshold value of $20,000,000 (2020 dollars) required for classification as MRZ-2.

The petitioner has submitted a check for $5,000 for the preliminary review and petition application fee. If the SMGB accepts this petition, the petitioner will be asked to submit $15,500 which is the estimated cost to complete the classification study.

Based on the information presented by the petitioner and summarized above, I recommend that the SMGB accepts the Proposed Shifler Surface Mine Site Petition.

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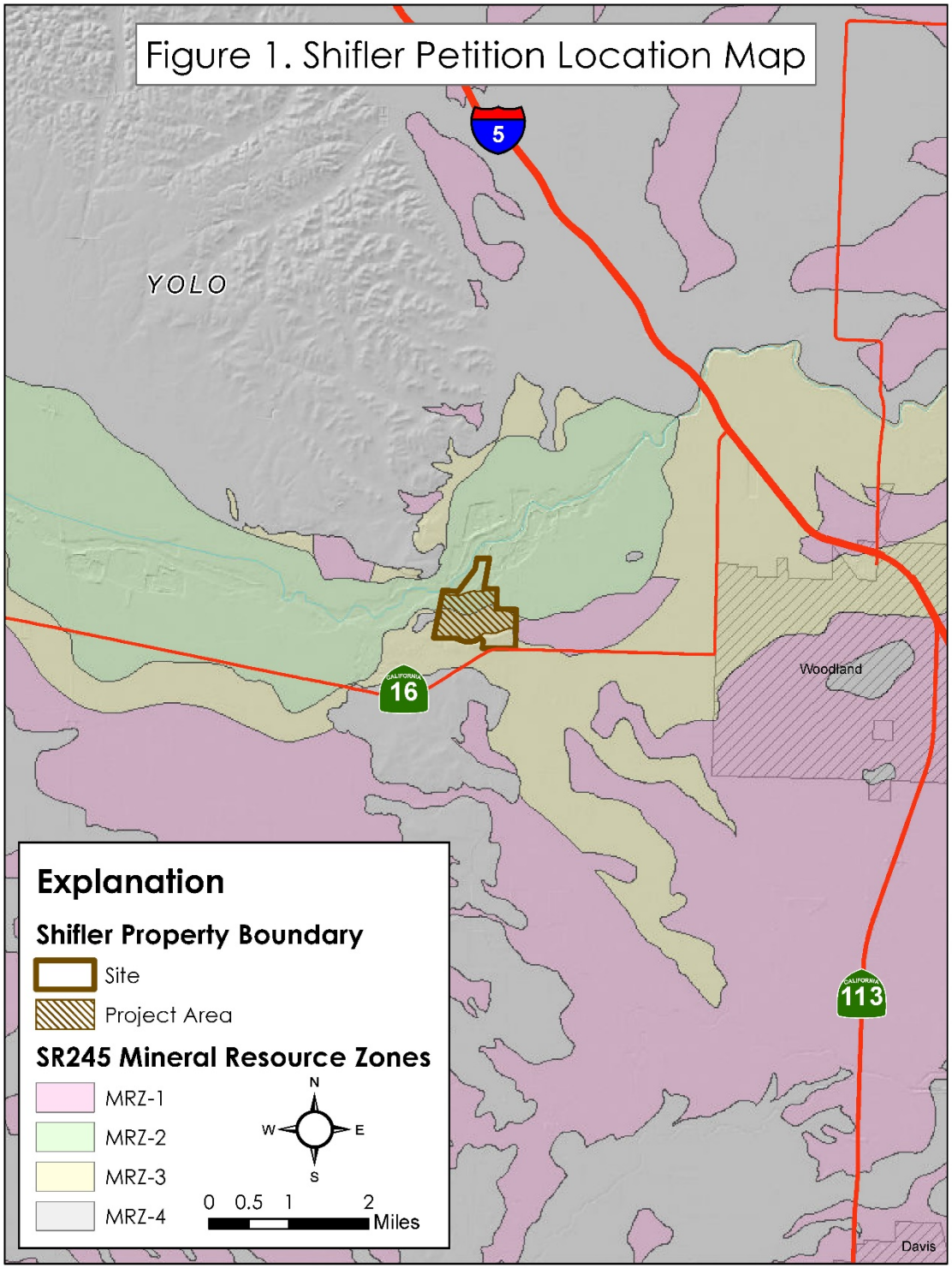


Appendix L

Groundwater Conditions in the Vicinity of Planned Wetpit Mining Operations

Shifler Property

February 2016

LUHDORFF & SCALMANINI
CONSULTING ENGINEERS

LUHDORFF & SCALMANINI
CONSULTING ENGINEERS

GROUNDWATER RESOURCES
HYDROLOGY · DEVELOPMENT · MANAGEMENT

February 8, 2016
File No. 10-1-074

Mr. Jason Smith
A.Teichert & Sons, Inc.
3500 American River Drive
P.O.Box 15002
Sacramento, CA 95851

SUBJECT: GROUNDWATER CONDITIONS IN THE VICINITY OF PLANNED WETPIT MINING OPERATIONS SHIFLER PROPERTY

Dear Mr. Smith:

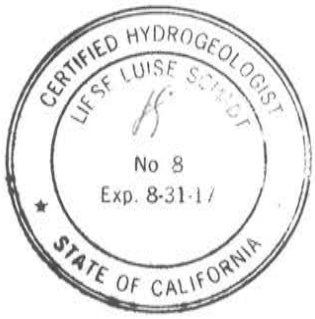
Per your request, we have prepared a report of groundwater conditions in the vicinity of the Shifler Property for inclusion with Teichert Aggregates' wetpit aggregate mining and reclamation application for the property. The report includes a description of groundwater conditions, in particular relative to Teichert's planned aggregate mining operations and reclamation, and provides an evaluation of potential impacts to groundwater from the proposed project. Also included are recommendations for groundwater monitoring at the Shifler property.

Please contact us with any questions you may have regarding the report.

Sincerely,

LUHDORFF AND SCALMANINI CONSULTING ENGINEERS

Liese L. Schadt
Senior Hydrogeologist
C.E.G. 1545; C.H.G. 8



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Groundwater Conditions in the Vicinity of Planned Wetpit Mining Operations

Shifler Property

Prepared for
Teichert Aggregates

Luhdorff and Scalmanini
Consulting Engineers
Woodland, California

February 2016

LSCE 10-1-074

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1. Introduction

In 1986, as part of its planning associated with aggregate production, management, and reclamation, Teichert Aggregates retained Luhdorff and Scalmanini, Consulting Engineers to investigate shallow groundwater elevations in the alluvial aggregate materials beneath and immediately adjacent to Cache Creek in the vicinity of its Woodland plant. The plant and adjacent mining properties, including the Shifler property, are shown in a map of the area of investigation (Figure 1). The monitored reach of the creek for that investigation, which has continued to the present, extends approximately two miles upstream and downstream of the Stevens Bridge at Road 94B. The area of investigation includes four properties originally planned and permitted for off-channel mining and reclamation (Coors, Muller, Storz, and Haller), the Schwarzgruber property permitted in fall 2012 for mining and reclamation, and the Shifler property currently proposed for off-channel mining and reclamation by Teichert Aggregates. All six Teichert Woodland properties are generally located adjacent to Cache Creek and extend up to one-half mile north and one mile south of the Creek.

As background, a group of piezometers had been installed in 1979 to monitor the Coors property for its previous owner. The piezometers were subsequently incorporated into the Teichert monitoring network, and an additional group of dedicated shallow monitoring wells was installed throughout the study area in June 1986 through 1987 to monitor the Teichert Woodland plant and surrounding properties. Additional dedicated shallow monitoring wells were installed during November 1992 to better define groundwater conditions beneath the Coors and Haller properties, and replacement monitoring wells have been installed around the Storz property as recently as 2009. All monitoring wells are located adjacent to the creek and completed in the shallow aquifer, which locally is composed of unconsolidated aggregate materials. The monitoring wells were to allow the regular measurement of shallow groundwater levels in order that seasonal fluctuations or other variations could be measured and recorded with time.

In addition to the shallow monitoring wells, three shallow water supply wells were included in the Teichert monitoring network (Schwarzgruber, Yolo Fliers Club West, and Stephens wells). Further, to complement the shallow monitoring wells, numerous water supply wells completed in the deep portion of the aquifer, which locally is composed of moderately consolidated alluvium, were included in the monitoring network. The groundwater level data collected from the monitoring network allows for comparisons between the shallow and deep aquifer system. Since the shallow aquifer is generally in direct hydraulic continuity with Cache Creek, whereas the deep aquifer is primarily pumped for agricultural and other irrigation water supply, the monitoring program was conceived to have three general objectives:

- provide local data on which to assess the impacts of historical aggregate mining that occurred in the creek channel;
- provide ongoing local data on which to base planning for off-channel mining and reclamation; and
- provide specific groundwater data from both the shallow and deep portions of the aquifer

system as a basis for differentiating between any direct effects of aggregate mining and other impacts on groundwater conditions.

Following completion of the monitoring wells in June 1986, groundwater levels were measured in the network of monitoring and water supply wells on a monthly basis until 1997, when the measuring frequency became quarterly. These data, as well as groundwater level data from area water supply wells monitored by the Yolo County Flood Control and Water Conservation District (YCFCWCD), are summarized in this report to highlight four areas of interest: 1) the variations in shallow and deep groundwater levels versus time; 2) the differences between shallow and deep groundwater levels; 3) groundwater elevations and the associated direction of groundwater movement beneath and adjacent to the creek at selected times; and 4) the relationship between shallow groundwater levels, the adjacent theoretical thalweg of Cache Creek, and aggregate materials relative to potential off-channel aggregate mining and reclamation. The groundwater level data have also been used in combination with aquifer characteristics and well yields to analyze the potential impacts of planned mining and reclamation projects on groundwater levels in nearby private water supply wells.

This report has been prepared to describe the historical groundwater conditions in the vicinity of the Shifler property and Teichert's other Woodland properties, based on the monitoring data described above, and provide an assessment of the potential impacts to groundwater levels and quality that might arise from the proposed mining and reclamation of the Shifler property. Following an Executive Summary (Chapter 2) of this investigation's key findings, the report provides a description of the following:

- the groundwater and pond water monitoring program used in the analysis (Chapter 3);
- hydrographs depicting groundwater levels in individual wells through time (Chapter 4);
- contour maps of equal groundwater elevation for selected periods (Chapter 4);
- the available information and data regarding water quality in the vicinity of Cache Creek and the six Teichert Woodland properties (Chapter 4);
- the relationship between shallow groundwater levels and off-channel aggregate materials toward reclamation planning for the Shifler property (Chapter 5);
- the predicted impacts on groundwater levels in the vicinity of the Shifler property that may derive from Teichert's proposed mining and reclamation plan (Chapter 6);
- recommendations for future groundwater monitoring (Chapter 7); and
- references utilized in the investigation (Chapter 8).

2. Executive Summary

Conclusions drawn from the groundwater level data obtained during the last several decades of monitoring in the vicinity of Teichert's Woodland properties can be summarized in the following findings:

- Groundwater elevations are partly influenced by the Plainfield Ridge in the vicinity of Road 94B. The Plainfield Ridge affects groundwater levels in a manner similar to a dam, with resultant groundwater levels west of the ridge (Coors property and the southern portion of the Haller property) generally higher in elevation and more stable than levels immediately to the east (beneath the Storz, Shifler, Muller, and Schwarzgruber properties and Teichert Woodland plant).

- Seasonal and long-term fluctuations in shallow groundwater levels have been observed across the area of investigation, likely in response to variations in climatic conditions, which in turn affect streamflow conditions, including recharge to the aquifer system, and groundwater pumping for irrigation supply.

- Deep groundwater levels vary greatly in response to seasonal pumping and are not directly indicative of groundwater conditions as affected by Cache Creek streamflow or local land use activities. Deep groundwater levels remain continuously separate from, and deeper than, groundwater levels in the shallow aquifer.

Groundwater quality on the Teichert Woodland properties has been monitored in accordance with mining permit conditions, with results indicating that general mineral and inorganic constituent concentrations do not limit the beneficial use of groundwater. Groundwater quality monitoring of organic compounds, including petroleum hydrocarbons and agricultural pesticides, has also been conducted under the permit conditions, with results indicating no impairment of groundwater quality. The results of sampling mining ponds on the Muller, Coors, and Storz properties have similarly indicated no impairment of groundwater quality.

Consideration was given to Teichert's expressed desire to develop a wetpit mining plan and reclamation plan for the Shifler property. Upon review of historical groundwater level hydrographs, contour maps, and lithologic logs of wells and borings for the property and surrounding area, it was determined that there are good data on which to describe groundwater levels and their relationship to aggregate materials beneath the Shifler property as input to wetpit mining and reclamation planning. In regard to the latter, the proposed reclamation is to below-grade agricultural land on the western and eastern portions of the property and a seasonal pond in the central portion. Input to Teichert’s reclamation planning can be based on the prediction that groundwater levels and, thus, the seasonal pond water levels, will vary seasonally and annually depending on hydrologic conditions over time.

Regarding the predicted reclaimed seasonal pond water levels, during stable hydrologic periods, those pond water elevations can be expected to fluctuate seasonally about ten feet, between approximately

47 and 57 feet, NAVD88, during the fall and spring, respectively. During wet hydrologic periods, spring high pond water elevations would be expected to reach approximately 66 feet, NAVD88; and in the event of prolonged wet conditions, spring high elevations could reach 70 feet NAVD88. During dry hydrologic conditions, pond water levels will likely exhibit a progressive annual decline with fall low elevations of about 42 feet NAVD88; and in the event of prolonged dry conditions, fall low elevations would be expected to decline further to about 37 feet NAVD88.

Regarding the predicted local groundwater levels following reclamation, an analysis was conducted to evaluate the potential impacts from the proposed reclamation to groundwater levels, specifically in the area encompassing water supply wells located within 1,000 feet of the mining boundary. This analysis is in accordance with the Yolo County Surface Mining Reclamation Ordinance (SMRO), specifically Section 10-5.503 (Yolo County Board of Supervisors, 1996). The results of the analysis, which were derived from a calibrated numerical groundwater flow model utilizing MODFLOW, indicate that post-reclamation groundwater levels would be expected to be higher west of the Shifler property and lower east of the property compared to non-project (baseline) levels. This prediction reflects the localized impedance of groundwater flow that is expected through the backfilled material of the reclaimed agricultural field areas. For water supply wells along the western boundary of the Shifler property, such as along County Road 94B, post-reclamation water levels would be expected to be as much as five feet higher; in water supply wells along the east and southeast boundary of the property, such as along County Road 22, post-reclamation water levels would be expected to be unaffected to as much as three feet lower. As such, based on the predicted groundwater levels, the proposed mining and reclamation is not expected to have adverse effects on the operation or performance of the nearby water supply wells, and the proposed setback distance between the wells and reclaimed seasonal pond is considered sufficiently protective of groundwater supply (levels).

An additional Yolo County requirement is to assess potential groundwater quality impacts from proposed aggregate mining projects, specifically to conduct a capture zone analysis for all domestic wells within 500 feet of the mining pond boundary. This requirement derives from the Yolo County Off-Channel Surface Mining Ordinance (OCSMO), specifically Section 10-4.427 (Yolo County Board of Supervisors, 1996). However, the capture zone analysis was not completed as part of this study due to the lack of any such wells within that proximity. Such a capture zone analysis, which would have been coupled with a particle tracking program, would have predicted the likelihood of individual domestic well pumping inducing the flow of water directly from the nearby mining pond to each well. In order to address water quality concerns, assessment was made of past and proposed mining and reclamation activities at the Teichert off-channel mining properties (including the proposed Shifler property), as well as the historical water quality monitoring results for the Teichert mining properties. This assessment indicates that mining and reclamation activities are protective of water quality; in fact, that no impacts to mining pond, reclaimed seasonal pond, or groundwater quality have been observed historically. Further, the proposed project will include groundwater level and quality monitoring, as well as mining pond and reclaimed seasonal pond water quality monitoring, at the Shifler property, in accordance with Yolo County OCSMO requirements, specifically Section 10-4.417. Thus, with past monitoring results as an indication of potential water quality impacts from the proposed Shifler project, and the planned water level and quality monitoring program, the proposed setback distance between nearby domestic water supply wells and the reclaimed seasonal pond is considered sufficient for protection of groundwater supply (quality).

3. Groundwater and Pond Monitoring Program

3.1 Well Monitoring

The groundwater monitoring network across the Teichert Woodland properties currently consists of over 26 monitoring wells and 13 water supply wells monitored by Teichert. In addition, numerous water supply wells near the Teichert Woodland properties are monitored by the YCFCWCD. The locations of these wells are shown in Figure 1, and the well characteristics and periods of record for water level and quality monitoring are listed in Table A1 of the Appendix.

On the **Haller** property (north of Shifler), four monitoring wells (TA-10, -11, -12, and -24) are completed in the shallow unconfined aquifer and have been monitored for groundwater levels.

On the **Muller** property (north of Shifler), three monitoring wells (TA-13, -13A, and -14) are completed in the shallow unconfined aquifer; a fourth well, Muller, is an agricultural well completed in the lower confined portion of the aquifer. All these wells have been monitored for groundwater levels, and wells TA-13A and TA-14 have been utilized for groundwater quality monitoring.

On the **Coors** property (west of Shifler), eight monitoring wells (TA-1A, -3A, -4, -5, -5A, -6, -22, and -23) are completed in the shallow unconfined aquifer; three water supply wells (Coors North, Teichert Domestic, and Muller #2) are completed in the lower confined portion of the aquifer. All these wells have been monitored for groundwater levels, and wells TA-1A, TA-3A, and TA-5A have been utilized for groundwater quality monitoring.

On or near the **Storz** property (west of Shifler), three monitoring wells (TA-8, -25, and -9R) and two water supply wells (Yolo Fliers Club West and the same Stephens well) are completed in the shallow unconfined aquifer; two other water supply wells (Yolo Fliers Club East and Storz) are completed in the lower confined (or semi-confined) portion of the aquifer. All these wells have been monitored for groundwater levels, and wells TA-9R and TA-25 and the Stephens well have been utilized for groundwater quality monitoring.

On the **Schwarzgruber** property (northeast of Shifler), one monitoring well (TA-18) and one water supply well (Schwarzgruber) are completed in the shallow unconfined aquifer; a third well (Schwarzgruber #2) is an industrial water supply well completed in the lower confined portion of the aquifer. All these wells have been monitored for groundwater levels, and well TA-18 and the Schwarzgruber well have been utilized for groundwater quality monitoring.

On the **Shifler** property itself, the Stephens water supply well is completed in the shallow unconfined aquifer and has been monitored for groundwater levels and quality.

At the **Teichert Woodland plant** (northeast of Shifler), three monitoring wells (TA-15, -16, and -17) are completed in the shallow unconfined aquifer; two water supply wells (Teichert Plant and Teichert Plant Domestic) are completed in lower confined portions of the aquifer. All these wells have been

monitored for groundwater levels, and well TA-17 and the Teichert Plant Domestic well have been utilized for groundwater quality monitoring.

At each well in the Teichert monitoring network, the elevations of the ground surface and well heads were surveyed to an accuracy of 0.01 foot and horizontal control was determined by GPS survey. For most YCFCWCD wells, reference point elevations have been estimated to an accuracy of several feet and horizontal control determined by aerial photographs and GPS survey. All water level measurements made by Teichert are made to one-hundredth of a foot, while those made by the YCFCWCD are to one-tenth of a foot.

Regarding the period of record and frequency of measuring water levels in the Teichert monitoring program wells, measurement of these wells commenced as early as 1986 on a monthly basis until 1997, when the frequency was reduced to a quarterly basis. The YCFCWCD wells have data records as early as the 1940s and are measured on a semi-annual basis (spring and fall).

Regarding the water quality sampling of the Teichert monitoring program wells, selected up-gradient and down-gradient shallow wells for each property are sampled during the first two years of active mining on a semi-annual basis. During subsequent mining and active reclamation of the property, the wells are sampled annually. Following reclamation of a property, the sampling frequency is reduced to a biennial basis. Groundwater quality sampling commenced at least six months prior to the removal of overburden at each Teichert property, from 1997 (Muller), 2005 (Coors), and 2009 (Storz). In addition, although mining has yet to be commenced by Teichert at the Schwarzgruber property, groundwater quality sampling for the property began in 2012. The number, depth, and location of wells for sampling, as well as the commencement and progression of sampling frequency described above, is per Yolo County OCSMO requirements, specifically Section 10-4.417.

The groundwater quality analyses include a full suite of chemical constituents, specifically general minerals and inorganics (per Title 22 requirements); total petroleum hydrocarbons as diesel and motor oil (TPH-diesel/motor oil); the aromatic hydrocarbons benzene, toluene, ethyl benzene, and xylenes (BTEX); organophosphorus pesticides and organochlorine herbicides; and total coliform with E. coli confirmation. Following completion of reclamation of the properties, the analyses change to a reduced suite of constituents, including pH, temperature, nutrients (phosphorus and nitrogen), total dissolved solids (TDS), total coliform (with E. coli confirmation), and biological oxygen demand (BOD). The chemical constituent analyses listed above are also per Yolo County OCSMO requirements, Section 10-4.417.

3.2 Pond Monitoring

Since 2005, the progressive wetpit mining on the Muller, Coors, and Storz properties of aggregate materials, which comprised portions of the shallow aquifer, created ponds on each property with pond water levels that reflected the local shallow groundwater levels. According to the Yolo County OCSMO, Section 10-4.417, during active wetpit mining, and as mining progressed to active reclamation of the ponds, water quality sampling and analyses have been conducted on a semi-annual basis. The pond sampling periods of record commence in 2005 (Muller), 2007 (Coors), and 2011 (Storz). Since completing reclamation of the Muller property to agricultural field and seasonal pond

in 2010, the pond continues to be sampled on a biennial basis. Following complete reclamation of the Coors property to agricultural field in 2015, no pond remained to be sampled. With the future transition of active mining to active reclamation at the Storz property, the existing mining pond continues to be sampled on a semi-annual basis. The water quality sampling conducted in the Muller, Coors, and Storz ponds have been on a schedule in accordance with the Yolo County OCSMO, Section 10-4.417.

Also according to OCSMO Section 10-4.417, the mining pond and reclaimed seasonal pond water quality analyses conducted in the Muller, Coors, and Storz ponds have been the same as for the groundwater quality monitoring described above, with a full suite of chemical constituent analyses during active mining and reclamation, and a reduced suite following reclamation.

4. Groundwater and Pond Water Conditions

Historical groundwater level data on and in the vicinity of the Shifler property were analyzed to provide input to Teichert's off-channel mining planning for the property. Toward this objective, hydrographs of groundwater levels in selected shallow and deep wells were prepared and are presented in this Section, as are contour maps of equal groundwater elevation for selected periods of time. Hydrographs of general mineral constituent concentrations in selected wells on the Teichert Woodland properties are also included in this Section. Groundwater level hydrographs for all Teichert monitoring network wells and nearby YCFCWCD wells are provided in the Appendix; additionally, all available groundwater level and quality data from the Teichert monitoring network wells are provided in Tables A2 and A3, respectively, of the Appendix (LSCE, 2015).

4.1 Shallow Groundwater Levels

In the study area encompassing the Shifler property, groundwater conditions have varied with the Teichert Woodland properties. Shallow groundwater levels beneath the Shifler property have been observed to fluctuate seasonally and over the long-term since monitoring on the property began in 1987. Groundwater levels in the Stephens water supply well, which is completed in the uppermost aggregate materials proposed for mining, were lowest during the 1987-92 drought and highest during the 1993-98 wet period and in 2006. Seasonal fluctuations varied from about 10 feet during the comparatively-stable hydrologic conditions observed since 1998, to as much as 15 feet during the 1993-98 wet period and as little as four feet during the prolonged dry conditions in the early 1990s. The historical groundwater levels in the Stephens well are shown in a hydrograph (Figure 2).

Beneath the nearby Muller, Storz, Haller, and Schwarzgruber properties, which are located east of the Plainfield Ridge, similar groundwater level fluctuations have been observed, both seasonally and over the long-term. Shallow monitoring and/or water supply wells on these properties completed in the uppermost aggregate materials have been monitored since as early as 1986, and those groundwater elevation data are shown in composite hydrographs by property (Figures 3, 4, 5, and 6). Groundwater levels beneath the Muller and Storz properties, as seen in Figures 3 and 4, respectively, fluctuate such that the most shallow wells (Muller TA-11 and -13, Storz TA-7 and -8) repeatedly go dry during drought, shorter dry periods, and following each spring. The deeper monitoring well TA-13A shows long-term and seasonal groundwater level fluctuations similar to those beneath the Shifler property (as seen in the Stephens water supply well). Groundwater levels at the Haller and Schwarzgruber properties, as seen in Figures 5 and 6, respectively, also fluctuate in a manner similar to those at the Shifler property.

Further upstream and west of the Plainfield Ridge, the Coors property has had groundwater levels instead show a long-term stability with minor seasonal fluctuation (typically less than three feet), as illustrated in a composite groundwater elevation hydrograph for the Coors monitoring wells (Figure 7). As will be discussed later in this Section, groundwater generally flows from west-northwest to east-southeast, and groundwater beneath the Coors property is directed toward Cache Creek by the adjacent Dunnigan Hills and partially dammed behind the Plainfield Ridge. In fact, as shown in

Figure 5, this effect on groundwater levels extends as far east as the western-most portion of the Haller property at monitoring well TA-10, in which seasonal water level fluctuations are typically less than two feet.

The variation in long-term and seasonal groundwater level fluctuations across the area of investigation can be seen in a map of the Shifler property and vicinity with groundwater level hydrographs from selected area shallow wells (Figure 8). In particular, it is apparent that water level fluctuations beneath the Shifler property are similar to those in the surrounding areas where wells have been monitored by the YCFCWCD as far back as the 1950s.

4.2 Deep Groundwater Levels

Groundwater levels in the deep water supply wells exhibit a similar pattern of seasonal fluctuations in response to summer pumping for irrigation and subsequent winter recovery. Further, they show similarities in long-term fluctuations with declines in drought or dry periods, apparently due to increased dependence on groundwater, and partial or full recovery during wet periods, likely due to greater availability of surface water deliveries from the YCFCWCD. Seasonal and long-term groundwater level fluctuations can be seen in a map of the area of investigation with groundwater level hydrographs from selected area deep wells (Figure 9). Groundwater elevations in the deep wells are also typically lower than those in shallow wells, and with greater seasonal fluctuation, as can be seen for example in the composite groundwater level hydrograph for the shallow Stephens well, which is 75 feet deep, and the deep Storz well, which is 168 feet deep (Figure 10).

Of significance at this point, with particular regard to the matter of aggregate extraction from the shallow aquifer, is the fact that deep groundwater levels are significantly influenced by seasonal pumping conditions and not directly indicative of shallow groundwater conditions. Instead, shallow groundwater conditions are directly related to and affected by the direct recharge of streamflow and other surface waters, as well as the percolation of agricultural return flows, to the shallow aquifer. While the deep aquifer experiences significant seasonal water level fluctuations, on the order of 25 to 40 feet in some deep wells, the shallow aquifer levels have remained relatively stable, as its water levels generally respond quickly to streamflow and other surface activities but not directly to deep pumping.

4.3 Groundwater Elevation Contour Map Analysis

Based on an assessment of groundwater level hydrographs and hydrogeologic information from the area of investigation, a series of maps showing contours of equal groundwater elevation at selected time periods was developed. Specifically, the contour maps were developed for those periods when groundwater levels were at either long-term highs or lows: spring 1986, fall 1992, spring 1998, spring 2006, and fall 2008 (Figures 11 through 15).

The contours of equal groundwater elevation for spring 1986 seen in Figure 11 indicate groundwater flowed generally in an east-southeasterly direction with some steepening of the gradient across the Plainfield Ridge area. By fall 1992, which comprised the sixth and last consecutive year of a prolonged drought period in the area, groundwater continued to flow in an east-southeasterly

direction; however, groundwater elevations had declined in the western part of the area and were substantially lower in the eastern portion, including beneath the Shifler property, as seen in Figure 12. Following several years of above-average rainfall generally from 1993 through 1998, groundwater levels by spring 1998 had recovered to those observed in spring 1986, as shown in Figure 13 (area of coverage truncated due to limited access to wells in saturated fields, which in turn limited groundwater level data collection).

Groundwater levels in spring 2006, another long-term high, were similar and even slightly higher than in spring 1998, as illustrated in Figure 14; groundwater flowed generally in an east-southeasterly direction with some steepening of the gradient across the Plainfield Ridge area. More recently, and following below-average rainfall during years 2007 and 2008, groundwater elevations by fall 2008 had declined substantially, including beneath the Shifler property. As seen in Figure 15, however, groundwater continued to flow in an east-southeasterly direction and groundwater levels did not decline to the degree observed in fall 1992.

4.4 Groundwater and Pond Water Quality

Since the initial permitting of and commencement of mining on the Teichert Woodland properties, groundwater quality monitoring has been conducted on at least a semi-annual basis in selected shallow monitoring wells located up- and down-gradient from the Muller, Coors, Storz, Shifler (up-gradient only), and, most recently, Schwarzgruber properties. All wells sampled are immediately adjacent to, and well within 500 feet of, their respective mining properties, thus providing for the earliest detection of any groundwater quality impacts from mining (see Figure 1). Groundwater samples are analyzed for general mineral and inorganic constituents, aromatic and petroleum hydrocarbons, pesticides, and coliform bacteria, as specified in the Yolo County OCSMO, Section 10-4.417, and implemented through Teichert's mining permit conditions.

The results of general mineral analyses indicate that shallow groundwater in the area is of a magnesium/calcium bicarbonate quality, as can be seen in a graph of general mineral constituent concentrations in the Stephens well (Figure 16). Since monitoring in this well began in 2009, the water quality in the well, which is located up-gradient of the Shifler property and down-gradient from the Storz property, has been stable with bicarbonate concentrations between 300 and 410 mg/L and all other main constituent concentrations between 40 and 110 mg/L.

Examination of the monitoring results from all network wells indicates that general mineral concentrations in groundwater are well below drinking water standards, with the exception of total dissolved solids (TDS) and electrical conductivity (EC) in some wells. The standards for TDS and EC are secondary standards (for taste/odor) at 500 mg/L and 900 uS/cm, respectively. As can be seen in a graph of TDS values in area wells (Figure 17a), the lowest values are beneath the Muller and Schwarzgruber properties adjacent to Cache Creek, generally less than 400 mg/L. Groundwater beneath the Coors, Storz, and Shifler properties has ranged in value more broadly, between 450 and 800 mg/L.

Nitrate (reported as NO3-NO3) is the most notable chemical constituent present in groundwater across the area because the water quality standard, 45 mg/L, is health based. Nitrate concentrations are

generally less than 30 mg/L across the area and typically below 15 mg/L in most wells. The lowest concentrations are beneath the Muller, Coors, and Schwarzgruber properties, generally between non-detect (less than 2 mg/L) and 15 mg/L. Groundwater samples from the Stephens well, which is located down-gradient from the Storz property, show the highest concentrations that approach the standard with values between 2 and 40 mg/L. The range of nitrate concentrations observed across the area is illustrated in a graph of nitrate concentrations in area wells (Figure 17b).

In all network wells, the results of inorganics analyses are typically non-detect or well below drinking water standards, including the metals arsenic, chromium, copper, zinc, and lead; the metals selenium, cadmium, and mercury have consistently been non-detect since monitoring began in 1995. Likewise, aromatic hydrocarbons (BTEX) have never been detected in groundwater samples. Total petroleum hydrocarbons as diesel/motor oil and pesticides (organophosphorus pesticides and chlorinated herbicides) have only very rarely been detected in samples at the Coors, Muller, and Storz properties; however, the results of confirmation and all subsequent samplings were non-detect or indicated a chromatographic pattern uncharacteristic of petroleum compounds, indicating possible mis-identification of naturally occurring organic compounds of similar molecular weights. Coliform bacteria, which are ubiquitous in the environment, have sporadically been detected in wells that have not undergone disinfection, and these bacteria are typically limited to the well structure alone (Kranowski et.al., 1990).

The general mineral and inorganics constituents in each property pond are generally similar to those observed in the groundwater sampled from adjacent shallow wells. The overall measures of salinity, including TDS and EC, are slightly lower in value in pond waters, as are nitrate concentrations. The range of TDS and nitrate concentrations in the property ponds is illustrated in two water quality graphs (Figures 18a and 18b). .Further, pH values are somewhat higher in the pond waters, to the point where concentrations of bicarbonate and carbonate are lower and higher, respectively, in pond waters. Pond water quality reflects both the inflow of groundwater to fill and flow through the ponds (thus, similar mineral and inorganics constituents), as well as the capture of precipitation (thus, lowered salinity and nitrate concentrations) and exposure to the atmosphere (thus, raising pH, lowering bicarbonate concentrations, and raising carbonate concentrations).

Aromatic hydrocarbons have never been detected in pond samples, with the sole exception of the Storz Pond in fall 2014, when toluene was reported at a concentration just above the reporting limit and followup sampling indicated BTEX (including toluene) concentrations were non-detect. Pesticides and herbicides have not been detected in pond samples, with one exception of the Coors Pond in fall 2008, when a single herbicide, Dichloroprop, was detected at a concentration close to the reporting limit. In both cases, BTEX and herbicide constituents have not been detected since. Total petroleum hydrocarbons as diesel/motor oil have only very rarely been detected in samples at the Coors, Muller, and Storz properties; however, the results of confirmation and all subsequent samplings were non-detect or indicated mis-identification of naturally occurring organic compounds of similar molecular weights. Coliform bacteria, including fecal coliform bacteria (which include E. Coli), are regularly reported in all pond samples. The occurrence of these bacteria can be expected in any open body of water like the property ponds.

Thus, the groundwater and pond water quality results indicate that general mineral and inorganic constituent concentrations do not limit the beneficial use of water; further, the results of analyses for organic compounds (aromatic and petroleum hydrocarbons, pesticides) indicate no impairment of water quality.

It is important to note that Teichert's mining and reclamation procedures to date have implemented the best management practice of collecting and diverting surface water runoff away from mining areas. Teichert mining and reclamation permits issued by Yolo County have included conditions requiring such practice with the objective of protecting water quality, specifically by precluding the introduction of chemical compounds, both naturally occurring and man-made, to mining areas.

Further, overall groundwater quality protection is derived from the natural "filtering" effects of surficial soils and aggregate materials on water percolating through them, as described herein by addressing four categories of water quality parameters:

- General mineral constituents move conservatively through porous media, with the exception of some cations (calcium and magnesium versus sodium) which can exchange in the soil profile. In general, it can be expected that general mineral constituents in percolating water will ultimately mix with those already dissolved in groundwater.

- Any heavy metals in percolating water can generally be expected to adsorb near the soil/water interface and not penetrate deeply into the aquifer. Certainly, such adsorption is affected by both the geochemical environment in the immediate subsurface and the relative solubility of specific metals in the water.

- Organic chemicals are much greater in number and type than general mineral and metal constituents; they are also quite variable in their movement through porous media. In general, the movement of organics is affected by the solubility of each specific constituent and by the organic matter in the soil matrix; some organics move easily (e.g., solvents), while others can be readily adsorbed in the soil (e.g., organochlorine pesticides). Undoubtedly, the best management of organics is to control their introduction to land areas rather than to expect the soil profile to prevent their deep percolation to groundwater.

- Bacteriological constituents are generally recognized to have limited movement in all types of porous media, as possibly best illustrated by the requirement for sanitary sealing of domestic water wells. Bacterial "problems" in groundwater are typically associated with and limited to well structures, which can be disinfected and thus controlled, rather than the aquifer.

Thus, collectively, Teichert's management practices and the natural soil mechanisms appear to have provided groundwater and pond water quality protection in the Teichert Woodland Plant area.

5. Groundwater and Pond Levels and Potential Off-Channel Mining

Based on analysis of historical groundwater level and climatological data, in conjunction with lithologic information from well and boring logs, from the Teichert Woodland plant area, consideration is given to potential aggregate mining and reclamation alternatives for the Shifler property. Specifically, Teichert has expressed its intent to develop a wetpit mining plan for the property with reclamation to two areas of below-grade agricultural land with a central seasonal pond, and this Section of the report provides groundwater-related input to those plans.

Groundwater level data specific to the Shifler property from the Stephens well are available from 1987 through the present on a monthly to quarterly basis. Examination of these data indicates that groundwater levels fluctuate seasonally from 10 to more than 15 feet, as illustrated by the groundwater level hydrograph for the well (Figure 19). Further, long-term water level fluctuations reflect the regional climatological conditions, as can be seen when comparing Figure 19 to a graph of historical precipitation in the Sacramento area, specifically the cumulative departure from mean precipitation curve (Figure 20), and a graph of historical stream discharge in Cache Creek (Figure 21). Groundwater levels declined on the Shifler property to near historical lows during the prolonged drought from 1987 through 1992, then recovered to near historical highs during a subsequent prolonged wet period through 1998 on the order of 25 feet, to an elevation reaching almost 75 feet, NAVD88. Subsequently, water levels beneath the property mostly showed minor individual-year fluctuations but overall relative stability at elevations well within the range of drought and wet year extremes, reflecting the pattern of local climatological conditions. This included a sharp rise to the historical high in groundwater levels during 2006 that corresponded to higher than average rainfall that year. Most recently, beginning in 2011, groundwater levels declined sharply to the historical low by fall 2014 with only minor recovery during 2015.

As seen in Figure 8, groundwater levels in numerous area wells show long-term fluctuations similar to those observed in the Shifler property well, including declines during the 1987-92 drought, recovery during the 1993-98 wet period, relative stability during 1999 through 2008, and the sharp decline through 2014. Over the long term, groundwater levels in the Teichert Woodland plant area have reflected regional climatogical conditions, though not in direct response to incident precipitation. Rather, precipitation records are useful as a broad indicator of climatogical conditions because the regional distribution of precipitation historically affects the amount and availability of water for storage and release from Clear Lake and Indian Valley Reservoir, both of which feed Cache Creek through the adjacent Capay Valley and across the Sacramento Valley. This in turn affects the availability of water for recharge from the creek to the aquifer system and for diversion by YCFCWCD from the creek to area farmers for irrigation purposes. The latter affects the amount of groundwater pumping required to meet remaining irrigation requirements, and the overall amounts of water recharged to and pumped from the aquifer system affect area groundwater levels in any given year and on a long-term basis.

Based on this understanding of historical groundwater level and climatological conditions in the area, and as input to Teichert's mining planning efforts for the Shifler property, estimations were made of the groundwater levels that may reasonably be expected during mining. These include contour maps of equal groundwater elevation under "average" or typical fall low and spring high groundwater conditions (Figures 22 and 23, respectively), as well as during recent historical low and high groundwater conditions (Figures 24 and 25, respectively). Estimations were also made of the pond levels that may reasonably be expected during mining, including during stable, drier, and wetter climatological periods.

The estimated groundwater and pond levels during mining incorporate Teichert's proposed operations:

- mining is to be conducted to bottom elevations ranging from –5 to 65 feet, NAVD88;
- surface runoff will be diverted away from the mined area and pond; and
- water usage would be expected to increase to accommodate the increase in aggregate extraction proposed for the Shifler project, from as much as 1.2 MTY to as much as 2.2 MTY under the current mining permits and the proposed Shifler project, respectively.

During wetpit mining, groundwater and pond levels can be expected to fluctuate depending on climatological conditions as follows:

a) During stable hydrologic periods, when annual precipitation varies only moderately from the long-term average, pond levels will likely fluctuate seasonally about 8 feet. Based on groundwater level data from the most recent stable hydrologic period (from water years 1999 through 2011, see Figures 8, 19 and 20), groundwater levels would decrease from the northwest to eastern portions of the property and, as mining progresses, a pond would form with pond elevations expected to fluctuate between approximately 52 and 60 feet, NAVD88, in fall and spring, respectively (see Figures 22 and 23).

b) During drier climatological periods, when annual precipitation is substantially below the long-term average for several consecutive years, pond levels will likely fluctuate seasonally from 4 to 8 feet with a progressive annual decline. Based on groundwater level data from a recent dry period (1987 through 1992), groundwater levels would be lower with a steeper gradient than during average conditions, and fall low pond elevations would be expected to decline to approximately 50 feet, NAVD88. In the event of prolonged dry conditions, fall pond levels could decline to 45 feet, NAVD88 (Figure 24).

c) During wetter climatological periods, when annual precipitation substantially exceeds the long-term average for several consecutive years, pond levels will likely fluctuate seasonally from 12 to 15 feet. Based on groundwater level data from the most recent wet period (1995 through 1998) and in 2006,

groundwater levels would be higher with a more shallow gradient than during average conditions, and spring high pond elevations would be expected to reach approximately 65 feet, NAVD88. In the event of prolonged wet conditions, seasonal pond level fluctuations could exceed 15 feet with spring high elevations reaching 70 feet, NAVD88 (Figure 25).

Implicit to this prediction is that seasonal and long-term fluctuations in area groundwater levels, and thus pond levels, are expected to primarily reflect variations in precipitation, discharge in and diversions from Cache Creek, and area groundwater pumping for agricultural and industrial water supply. It is also based on the assumption that no substantial change in land use (and associated water demand and supply) will occur on properties immediately surrounding the Shifler property. To a much smaller extent, pond levels may be affected by precipitation captured at and evaporation from the pond surface.

Evaluation of the aggregate materials at the Shifler property in relation to the groundwater level conditions described above indicates that the relative sections of unsaturated and saturated aggregate can be expected to vary greatly during the proposed mining. In the event that groundwater levels rose to those observed during the recent spring high levels of 2006, the lowermost portions of the aggregate would become saturated in the northwest and central parts of property, approximately the basal 22 feet in the northwest and the basal 30 feet in the central part. The aggregate materials beneath the eastern part are more shallow and would remain fully unsaturated. Alternatively, if groundwater levels declined to those observed during the recent fall low levels of 1992 (or 2009), almost the entire thickness of aggregate would be unsaturated. However, under some typical or average conditions, portions of the basal aggregate deposits in the northwest and central parts of the property would be expected to remain saturated, approximately 10 feet during the fall and 15 (northwest) to 20 feet (central) during the spring.

6. Potential Wetpit Mining Impacts

Teichert's proposed wetpit aggregate mining of the Shifler property is to be conducted to base elevations ranging from 65 feet to possibly as deep as -5 feet, NAVD88. Reclamation is proposed to be to below-grade agricultural land on the western- and eastern-most portions of the property, with a seasonal pond in the remaining central portion. The reclaimed seasonal pond will have the same bottom elevation as the central portion of the mining pond but with backfilled sideslopes. Reclamation to agricultural land and a seasonal pond will be completed utilizing finer materials washed from the desired aggregate materials at the Teichert Woodland Plant. During and following reclamation of the Shifler pond, surface runoff will be diverted away from the pond, and discharge to and pumping from the pond will be conducted by Teichert as needed. Depending on Teichert's future mining operations, water usage during and following reclamation may be expected to range from the demand associated with Teichert's mining permits to none at plant closure.

The potential impacts on groundwater levels and quality from the proposed reclamation of the Shifler property were analyzed as part of this study. According to the Yolo County SMRO (Section 10-5.503) and OCSMO (Section 10-4.427) requirements, the following analyses are to be completed as input to the reclamation planning for proposed wetpit mining projects:

- Water Supply Well Identification: Identify and determine characteristics of active off-site wells within 1,000 feet of the proposed wetpit mining boundary and domestic wells within 500 feet of the pit boundary (OCSMO Sec. 10-4.427);

- Potential Groundwater Level Impacts: Demonstrate using MODFLOW that the proposed wetpit mining project, in this case the reclamation of the mining pond to agricultural land and a seasonal pond, will not adversely impact active off-site wells within 1,000 feet of the pond boundary (SMRO Sec. 10-5.503); and

- Potential Groundwater Quality Impacts: Conduct a capture zone analysis for domestic wells within 500 feet of the pond boundary (OCSMO Sec. 10-4.427).

The first two of these analyses were completed as part of this investigation, with the results described below. The third requirement regarding capture zone analysis (OCSMO Sec. 10-4.427) was not applicable as no domestic water supply wells are located within the specified boundary (within 500 feet) around the pond. However, in order to address water quality concerns, assessment was made of mining and reclamation activities at the Teichert off-channel mining properties, as well as of the historical water quality conditions at those properties, in Section 4.4 of this report. Additional discussion of this assessment is provided below.

6.1 Water Supply Well Identification

Teichert's approach to these analyses is conservative in including active off-site water supply wells located within 1,000 feet of the proposed mining boundary. This is in contrast to the Yolo County SMRO (Section 10-5.503) requirement to include wells within 1,000 feet of the future mining pond boundary, which would encompass a smaller area and exclude many of the wells included in these analyses.

As such, there are potentially as many as 21 active off-site water supply wells within 1,000 feet of the proposed mining boundary. During 2015, Teichert contacted and requested water supply well information from neighboring landowners within 1,000 feet of the proposed mining boundary by way of original and followup letters. The well and water usage information provided by the neighbors responding to Teichert's request were incorporated into these analyses of potential impacts. It was then necessary to estimate the location, characteristics, and usage of additional water supply wells within the mining boundary for incorporation into these analyses. Publically available Yolo County parcel maps and aerial photos were utilized to estimate the location of additional wells, with the assumption that each individual parcel had a water supply well. Well depth and water usage for the additional wells were estimated based on known information about similar water supply wells in the area. Pertinent information about the off-site water supply wells included for these analyses is provided in Table 1, including well depth, aquifer production zones (MODFLOW model layers), and pumping rates.

6.2 Potential Groundwater and Seasonal Pond Water Level Impacts

As specified by the Yolo County SMRO (Section 10-5.503), the required method of investigating potential impacts on groundwater from the backfilling of mined parcels includes using a MODFLOW model to simulate those impacts. In addition, setback distances between ponds and nearby off-site domestic wells can be 500 feet or sufficient to avoid coincidence of the Shifler pond and the capture zones of those wells. For the Shifler property, changes in groundwater levels due to the proposed backfilling associated with the reclamation of the mining pond to agricultural land and a seasonal pond were simulated, in particular at the active off-site water supply well locations.

A steady-state numerical model was developed based on a previous model (LSCE, 2011) to conduct the groundwater level simulations. The model is a three-dimensional groundwater flow model, which uses a finite-difference modeling code called MODFLOW (McDonald and Harbaugh, 1988) written by the U.S. Geological Survey. MODFLOW uses a collection of subroutines called "packages" to simulate different groundwater flow components such as aquifer characteristics, well pumping, and recharge/discharge such as from/to streams.

The model area is approximately 14 square miles in size and encompasses the southern portion of the Dunnigan Hills, the northern portion of the Plainfield Ridge, and an approximately 4.5-mile length of Cache Creek in the vicinity of Highway 16 and County Road 94B. Previous reports identify a shallow, unconfined aquifer beneath the area composed of highly permeable alluvial material, which is underlain by a semi-confined to confined aquifer comprised of moderately consolidated alluvium. The thickness of the shallow alluvium, which includes the aggregate materials proposed for mining, varies in the area due to the Dunnigan Hills and Plainfield Ridge, which are comprised of upwarped

sections of the moderately consolidated alluvium. The aquifer system, comprised of the shallow alluvial material and two upper portions of the moderately consolidated alluvium (to approximate depths of 250 and 580 feet), were simulated in the model as layers 1, 2, and 3, respectively.

Groundwater flow into the model area occurs from the west-northwest from the alluvial deposits. Three maps showing contours of equal groundwater elevation in September 2008 in the three model layers illustrate the groundwater flow directions, the differences in groundwater elevations, and the model calibration well locations within the model grid area (Figures 26a, b, and c).

The dimensions of the model are 17,500 feet by 22,000 feet, and it consists of three layers of uniform thicknesses divided into 70 rows and 88 columns. The model contains 18,480 active cells that are 250 feet by 250 feet. Model boundary conditions consist of a general-head boundary along each edge of the model in each layer, and general-head cell elevations were based on contours of measured heads for September 2008. Flow into the model occurs primarily from the general-head cells along the model's west and north edges, and from deep percolation (recharge) of a portion of applied irrigation. Flow out of the model occurs through the general-head cells along the model's east and south edges, and from the pumping of groundwater for agricultural, industrial, and domestic uses. In the scenario simulating the effects of the Shifler property reclamation, groundwater flow through the backfilled agricultural lands is simulated by low hydraulic conductivity values in those model cells, and flow through the pond is simulated by extremely low and high hydraulic conductivity values representing the backfilled sides and pond, respectively, specified in layer 1. Inflow to and outflow from the model both occur across the river cells in layer 1 representing Cache Creek.

Input parameters for the model included aquifer (layer) top and bottom elevations, starting heads, hydraulic conductivity, leakance, river bed conductance, recharge, and well pumping. The parameters are summarized in Table 2 and discussed briefly below.

- **Aquifer Top and Bottom -** The top of layer 1 is represented by the water table, which fluctuates depending on hydrologic conditions because the aquifer is unconfined. The bottom of layer 1 was estimated as 110 feet below ground surface, the bottom of layer 2 was specified as 140 feet below the bottom of layer 1, and the bottom of layer 3 was specified as 330 feet below the bottom of layer 2. The model was structured as such based on aggregate materials thicknesses beneath the area, derived from Teichert's field determined lithology reports, and typical well depths in the area, derived from Teichert and Yolo County well databases and landowner well records. This model structure is also based on Teichert's mining plan for the Shifler property, to possibly mine to the base of aggregate. As a result, the model layering facilitates simulating the proposed mining and reclamation within layer 1 as well as the groundwater pumping from layers 2 and 3.

- **Starting Heads -** The starting heads were primarily designated based on contoured groundwater elevations measured in Teichert's existing monitoring network wells and in the YCFCWCD water supply well network during September 2008. This time period represents the "average, historic low groundwater levels" specified in the Yolo County SMRO (Section 10-5.503). Input of the stage along Cache Creek was estimated as one foot to 2-1/2 feet above

the fixed theoretical thalweg elevations in order to represent the minimal flow in the Creek during September 2008.

- **Hydraulic Conductivity -** Values of hydraulic conductivity were calculated from aquifer transmissivity values derived from well tests conducted on two Teichert Woodland plant area water supply wells (deeper wells completed in layer 2) and four Teichert Esparto plant area water supply wells (completed in aquifer materials similar to layer 1). Additionally, well test data from the Rodgers Domestic and Rodgers Domestic New wells were utilized to calculate hydraulic conductivity values for layer 2. Hydraulic conductivities of 200 and 400 feet/day were initially selected for the broad model area and the Cache Creek aggregate deposits, respectively, of layer 1; a value of 26.7 feet/day was initially selected for the entire model area in layers 2 and 3. However, hydraulic conductivity values in layer 1 were varied during model calibration, with the Cache Creek aggregate deposits at 150 feet/day and the remaining model area at 100 feet/day. Hydraulic conductivity in layers 2 and 3 remained homogeneous. For simulation of the Shifler mining/reclamation scenario, values of 2.67 feet/day and 40,000 feet/day were used to simulate the backfilled pit side slopes and pond, respectively.

- **Leakance -** A value of $1x10^{-4}$ day^{-1} was initially selected for the leakance between layers, then lowered to $1x10^{-3}$ day^{-1} during calibration procedures, but ultimately kept at the initial value of $1x10^{-4}$ day^{-1} throughout the model area.

- **River Bed Conductance -** A conductance value for the bed of Cache Creek of 6,250 $feet^2$/day was calculated from a conductivity of 1 foot/day, a length and width in each river cell of 250 feet and 50 feet, respectively, and a bed thickness of 2 feet. The conductivity value was originally derived from a calibrated model encompassing Putah Creek, to the south of Cache Creek.

- **Recharge -** An areal recharge value of $1.7x10^{-3}$ feet/day was estimated as one-quarter of the average applied water for crops grown in the model area, and represented deep percolation of applied water beyond the consumptive use of the crops (agricultural return flows).

- **Pumping –** The average flow rates in 37 water supply wells were simulated in the model, ranging from approximately 10 gpm to 450 gpm, with a cumulative pumping rate of about 2,700 gpm, which reflects average water use (accommodating typical operating times per day and week) in the model area for domestic, irrigation, and industrial purposes. The water use estimates were based on landowner reports and review of current land use in the area and are summarized in Table 3.

Calibration of the model was performed by varying the initial input parameters, specifically the hydraulic conductivity of all layers (active cells), the conductance values of all layers (general head cells), the leakances between layers, and the conductance of the Cache Creek streambed. This was done until simulated heads matched the measured water levels as closely as possible. The accuracy of model calibration is shown in Table 4 and was determined by comparing the simulated and measured head in 24 wells located on and around the Teichert Woodland plant area. Comparison of a map showing contours of equal simulated groundwater elevations in layer 1 (Figure 26a) with the

September 2008 measured groundwater elevation contours in Figure 15 also illustrates the degree of model calibration. Maps showing contours of equal simulated groundwater elevations in layers 2 and 3 are also provided (see Figures 26b and 26c, respectively). The calibration error shown in Table 4, specifically for model layer 1, ranges from -11.6 feet at well TA-1A (simulated head lower than measured head) to 17.6 feet at well TA-13A (simulated head higher than measured head). The model more often simulated the groundwater levels in layer 1 below the observed groundwater levels, and the overall mean head difference was about -3.5 feet. In contrast, the model simulated the groundwater levels in layers 2 and 3 well above the observed groundwater levels. However, given the objectives of the model of simulating the effects of the proposed Shifler mining and reclamation project (in model layer 1) on groundwater levels, the calibration errors are considered acceptable,.

The calibrated model was used to simulate the effect of the proposed Shifler reclamation on groundwater levels beneath the Teichert Woodland plant area. With respect to the model design, the mining and reclamation of the Shifler property would occur in layer 1 only. The bottom of the reclaimed agricultural land and seasonal pond would be near the base of layer 1, and layer 2 would remain undisturbed by mining. One scenario was simulated with the model, specifically the full reclamation of the Shifler mining pond as described above.

The potential mining impacts predicted for the reclamation scenario can be seen in the contour maps of equal simulated head in layer 1 (Figure 27) and of simulated contours of equal groundwater level change for layers 1, 2, and 3 (Figures 28a, b, and c, respectively). The model results indicate that groundwater flow will be slightly impeded by the backfilled agricultural land and seasonal pond side slopes in layer 1, causing a groundwater level rise in the upgradient direction (west) and a minor decline in the downgradient direction (east). The change in groundwater levels, which is measured by comparing the simulated heads from the reclamation scenario to the calibrated (baseline) model heads in the 21 off-site water supply wells near the Shifler property (those listed in Table 1), is summarized in Table 5.

The simulated impact of mining and reclaiming the Shifler property includes groundwater level declines extending downgradient (southeast) approximately one mile from the pit and groundwater increases extending an equal distance in the upgradient direction (northwest). The magnitude of the simulated maximum change in groundwater levels in layer 1 is on the order of 5 feet of increase and 4 feet of decline immediately upgradient and downgradient, respectively, of the Shifler property. The predicted impact on groundwater levels in layer 2 is smaller than in layer 1, with a maximum decline of approximately 2.5 feet. The predicted impact on groundwater levels in layer 3 is smaller yet, with a maximum decline of approximately 2 foot. Layer 3 represents the portion of the moderately consolidated alluvium in which all but one of the 21 off-site water supply wells near the Shifler property (see Table 5) are thought to be primarily completed. Importantly, the simulated water level change in those 21 wells ranges from a rise of 4.1 feet upgradient from the property (Storz well, completed in model layer 2 only) to a decline of 2.0 to 2.5 feet downgradient from the property (well APN 025-200-18, thought to be completed in layers 2 and 3). Changes such as these are not expected to have any adverse effects on well operations or performance.

While the model simulations described above predict the type, magnitude, and location of groundwater level changes that might be expected to result from the proposed mining and reclamation,

an additional use of the model was to predict the average spring high groundwater levels beneath the Shifler property following its reclamation. A map of the contours of predicted groundwater elevation, average spring high conditions, post-reclamation (Figure 29) was prepared in order to provide input to Teichert's reclamation planning, particularly toward the agricultural lands reclamation. The map shows the steepening of groundwater levels on both sides of the reclaimed Shifler property, rising in the upgradient direction and declining in the downgradient direction, and the flat water surface of the central seasonal pond. The predicted groundwater elevations are similar to (although steeper than) those observed in spring 1986 (see Figure 11).

In addition, estimations were made of the reclaimed seasonal pond water levels that may reasonably be expected during, including during stable, drier, and wetter climatological periods.

The estimated pond water levels following project reclamation incorporate Teichert's proposed operations:

- reclamation is to be to below-grade agriculture on the western- and eastern-most portions of the property, with seasonal pond on the remaining central portion;
- the reclaimed seasonal pond will have the same bottom elevation as the central portion of the mining pond (possibly -5 to 20 feet) but with backfilled sideslopes; and
- surface runoff will be diverted away from the reclaimed seasonal pond.

Following reclamation to the seasonal pond, pond level fluctuations can be expected to depend on climatological conditions as follows:

a) During stable hydrologic periods, pond elevations will likely fluctuate seasonally between approximately 47 and 57 feet, NAVD88, in fall and spring, respectively.

b) During wetter hydrologic periods, spring high pond elevations would be expected to reach approximately 66 feet, NAVD88; and in the event of prolonged wet conditions, spring high elevations could reach 70 feet NAVD88.

c) During drier hydrologic periods, pond levels will likely exhibit a progressive annual decline with fall low elevations of about 42 feet, NAVD88; and in the event of prolonged dry conditions, fall pond elevations would be expected to decline further to 37 feet, NAVD88.

It is important to note that these predictions are based on the assumption that no substantial change in land use (and associated water demand and supply) will occur on properties immediately surrounding the Shifler property. Further, pond level fluctuations in the reclaimed seasonal pond may be delayed relative to groundwater level fluctuations due to planned backfilling of the mined sideslopes with fine materials that can be expected to impede groundwater flow to a certain extent.

6.3 Potential Groundwater Quality Impacts

As described in Section 4.4 of this report, assessment made of the historical groundwater and pond water quality record for the Teichert Woodland properties indicates no limitations in the beneficial use of water or impairment of water quality. Teichert's mining and reclamation procedures have implemented the best management practice of collecting and diverting surface water runoff away from mining areas, per Yolo County permit conditions, with the objective of precluding the introduction of chemical compounds to those areas and, thus, protecting water quality. Further, consideration was made of the natural mechanisms protecting water quality, specifically the filtering effects of surficial soil and aggregate material on water as it percolates through them. Collectively, Teichert's management practices and the natural soil mechanisms appear to have provided groundwater and pond water quality protection in the Teichert Woodland Plant area.

For the proposed Shifler project, Teichert's mining and reclamation plans include the same best management practice of collecting/diverting surface water runoff away from the mining area. Further, soil and aggregate materials at the Shifler property are similar to those across the Teichert Woodland properties. Thus, it can reasonably be expected that the proposed Shifler project will be sufficiently protective of water quality, without resulting limitations in the beneficial use of water or impairment of water quality. A groundwater and pond water monitoring program required for the Shifler property under the Yolo County OCSMO, Section 10-4.417, as described in the following section, will facilitate assessment of the water quality conditions during mining and reclamation activities.

6.4 Summary

In summary, the potential impacts from the proposed project on groundwater levels, as predicted by the numerical groundwater flow model, are small, ranging from a rise of about four feet to a decline of about two feet in the 21 off-site water supply wells near the Shifler property. Thus, in accordance with the Yolo County SMRO (Section 10-5.503), the planned setback distances between these wells and the Shifler project are sufficient to protect groundwater levels, well operations, and well performance. No impacts to pond or groundwater quality have been observed historically at the Teichert Woodland mining properties, and the proposed Shifler project includes the same best management plans for protecting water quality during mining and reclamation. Thus, the planned project management practices can be considered sufficient to protect water quality.

7. Recommended Monitoring Program

The Yolo County OCSMO, Section 10-4.417, requires the development and maintenance of a groundwater monitoring program for planned wetpit mining projects. For the Shifler project, the monitoring program would include, at a minimum, five monitoring wells around the Shifler property: one upgradient and four on side-gradient or downgradient portions of the property. The wells are to be monitored for water levels on a quarterly basis; in addition, three of the five wells (one upgradient and two downgradient) are to be monitored for water quality initially on a semi-annual basis and subsequently on an annual basis. Corresponding monitoring of the pond water quality will be conducted according to Yolo County OCSMO (Sec. 10-4.417). The following is a discussion of the groundwater monitoring program proposed for the Shifler property, including the proposed wells, water quality analyses, and frequencies.

7.1 Monitoring Network

As has been described previously in this report, a groundwater monitoring network of wells for water level measurements has been in place across the Teichert Woodland properties since 1986. The network consists of 26 monitoring wells and 13 water supply wells monitored by Teichert, as shown on Figure 1. Most of the monitoring wells are of a shallow depth (20 - 75 feet), and this includes on the Shifler property the Stephens water supply well, which is recommended to serve as the required upgradient well. A second well just north of the Shifler property, monitoring well TA-15, is recommended to serve as one of the other four required wells (side-gradient, for water levels only). Beyond these however, no known shallow wells exist around other portions of the property, so it is necessarily recommended that three additional shallow monitoring wells be installed on the eastern and southeastern portions of the Shifler property (one side-gradient for water levels and two downgradient for water levels and quality). Since the complete section of aggregate deposits in the easternmost part of the property are unsaturated most of the time, it may be necessary to deepen those monitoring wells to include some of the underlying moderately consolidated alluvium. The recommended monitoring well installation can be coordinated with Teichert's mining and reclamation planning such that the wells are available for monitoring purposes at least six months prior to the commencement of overburden removal on the Shifler property.

7.2 Groundwater Level and Quality Monitoring

Upon completion of the Shifler property monitoring well network, it is recommended that groundwater level monitoring commence on a quarterly basis (five wells), and that water quality monitoring be initially implemented on a semi-annual basis (three wells), in accordance with the Yolo County OCSMO (Section 10-4.417). The recommended water quality constituents are general minerals and inorganics (Title 22; includes nitrate); aromatic hydrocarbons benzene, toluene, ethylbenzene, and xylenes (BTEX); total petroleum hydrocarbons (TPH) as diesel and motor oil; two pesticide scans, organophosphorus pesticides and organochlorine herbicides (EPA Methods 8140 and 8150, respectively); and total coliform (with fecal coliform and E. Coli confirmation). The wells proposed for water quality monitoring are the existing Shifler water supply well (upgradient) and two new monitoring wells to be installed downgradient from the mining area.

8. References

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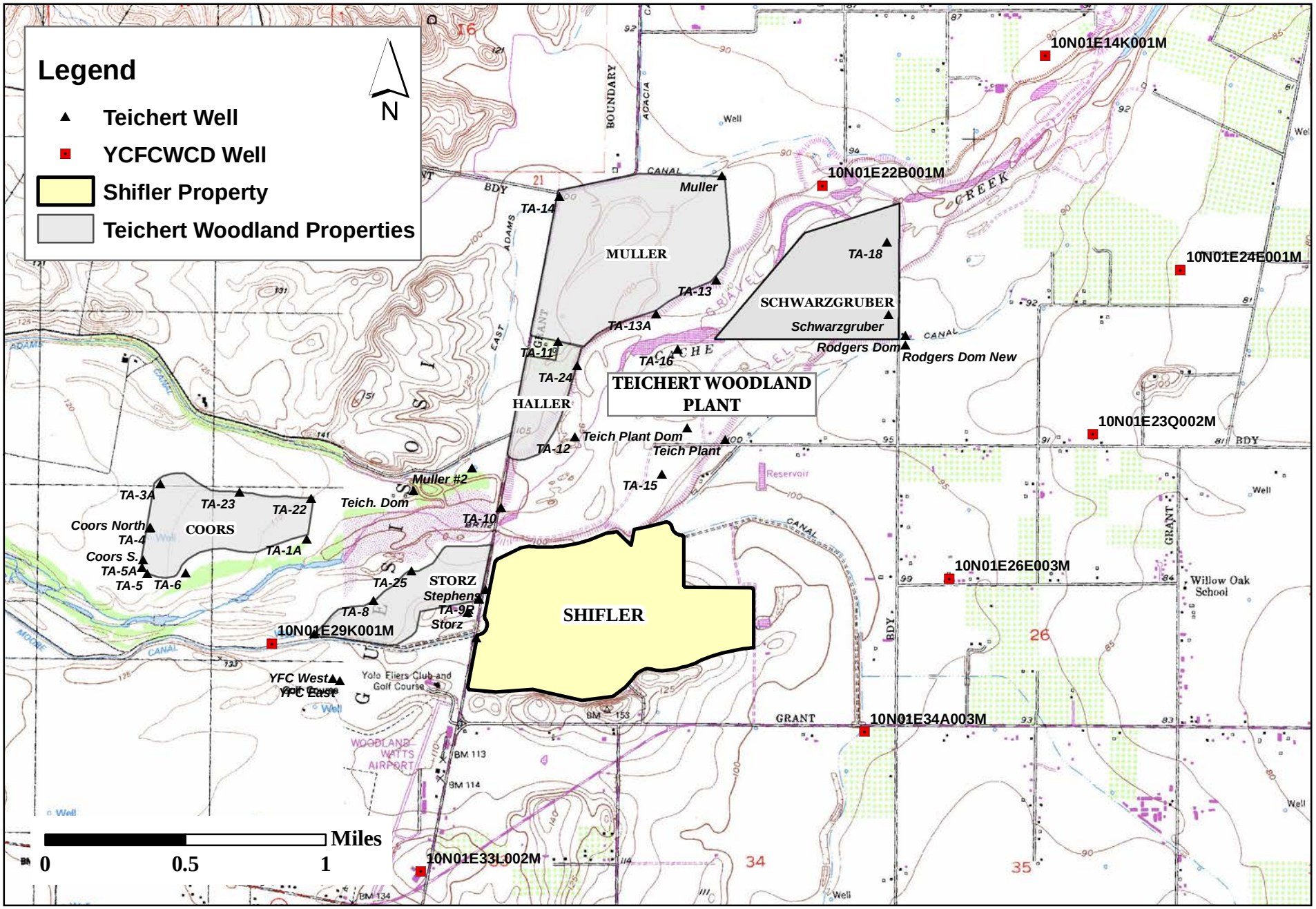

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Figure 1
Shifler Property and Monitoring Network Wells
Teichert Woodland Plant Area

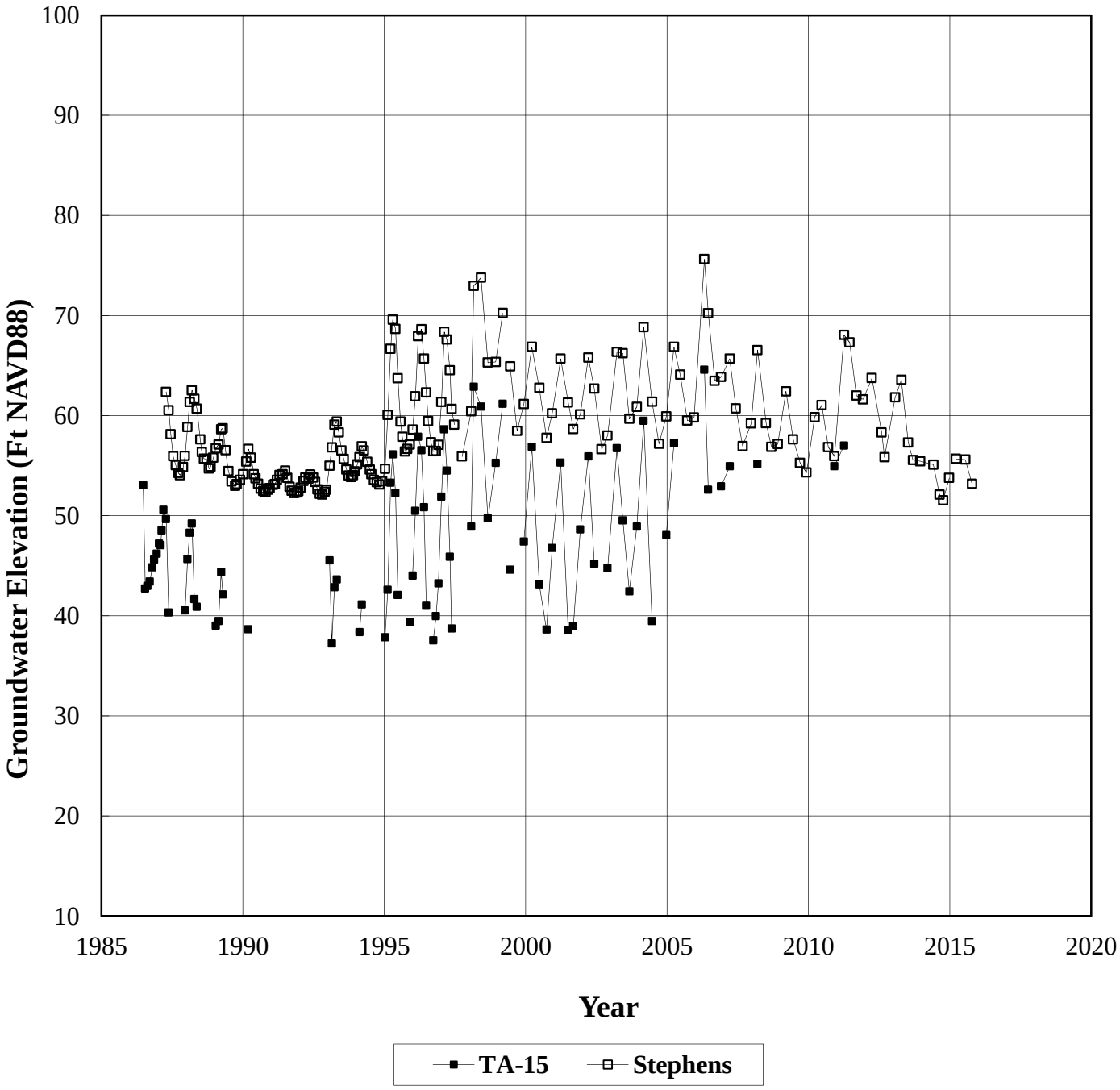

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Figure 2
Groundwater Elevations, Shifler Property
Teichert Woodland Plant Area

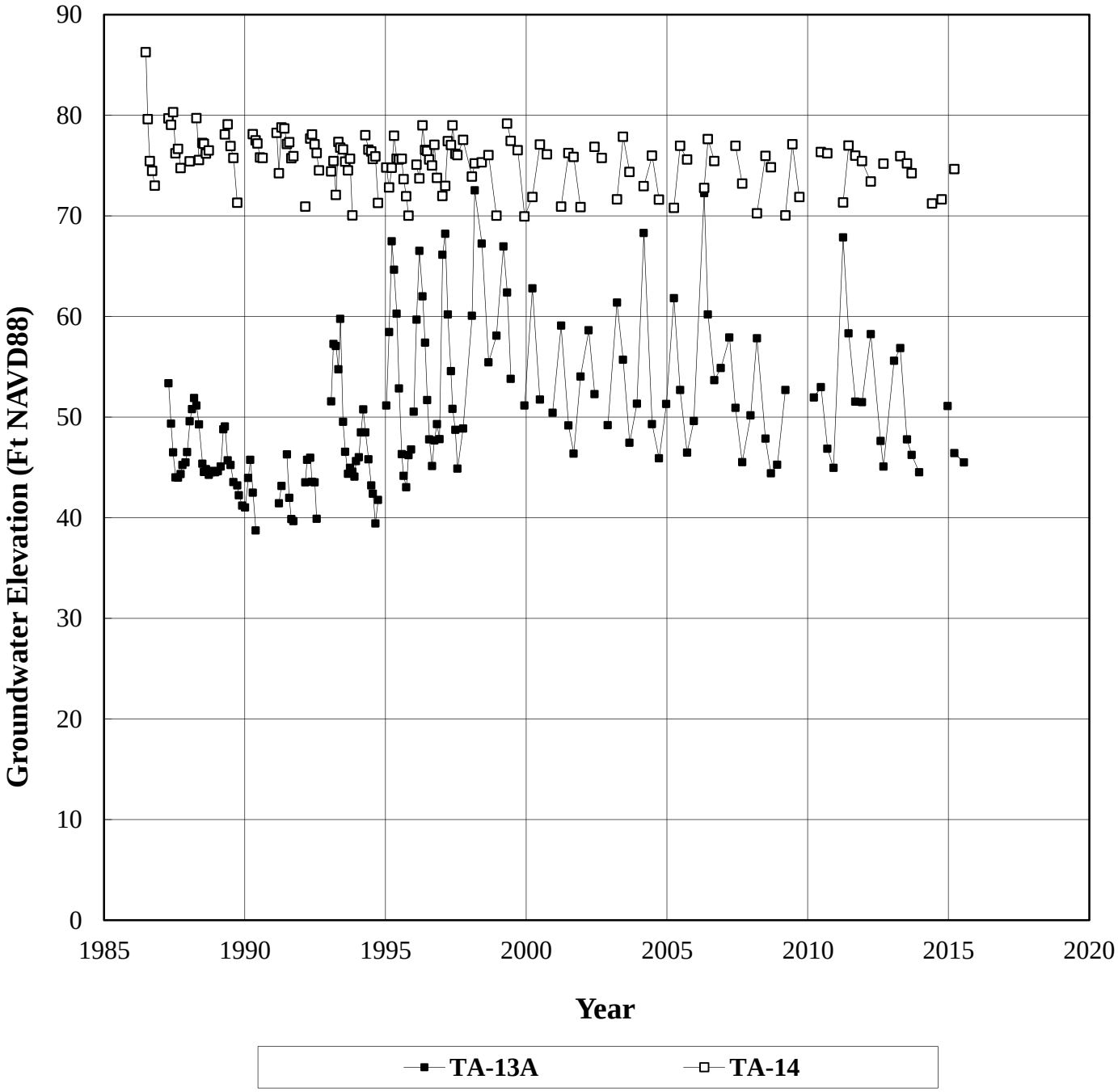

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Figure 3
Groundwater Elevations, Muller Property
Teichert Woodland Plant Area

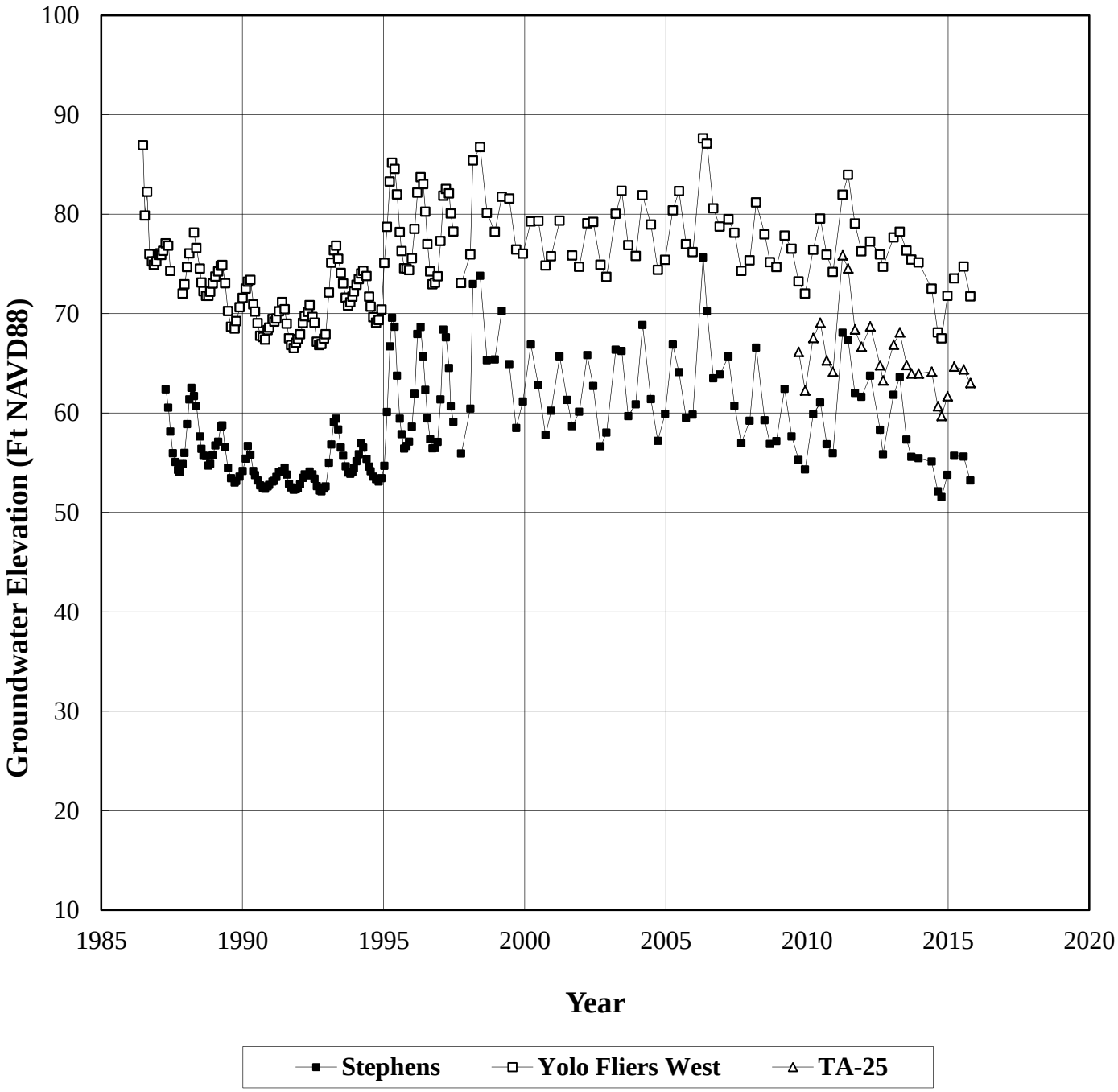

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Figure 4
Groundwater Elevations, Storz Property
Teichert Woodland Plant Area

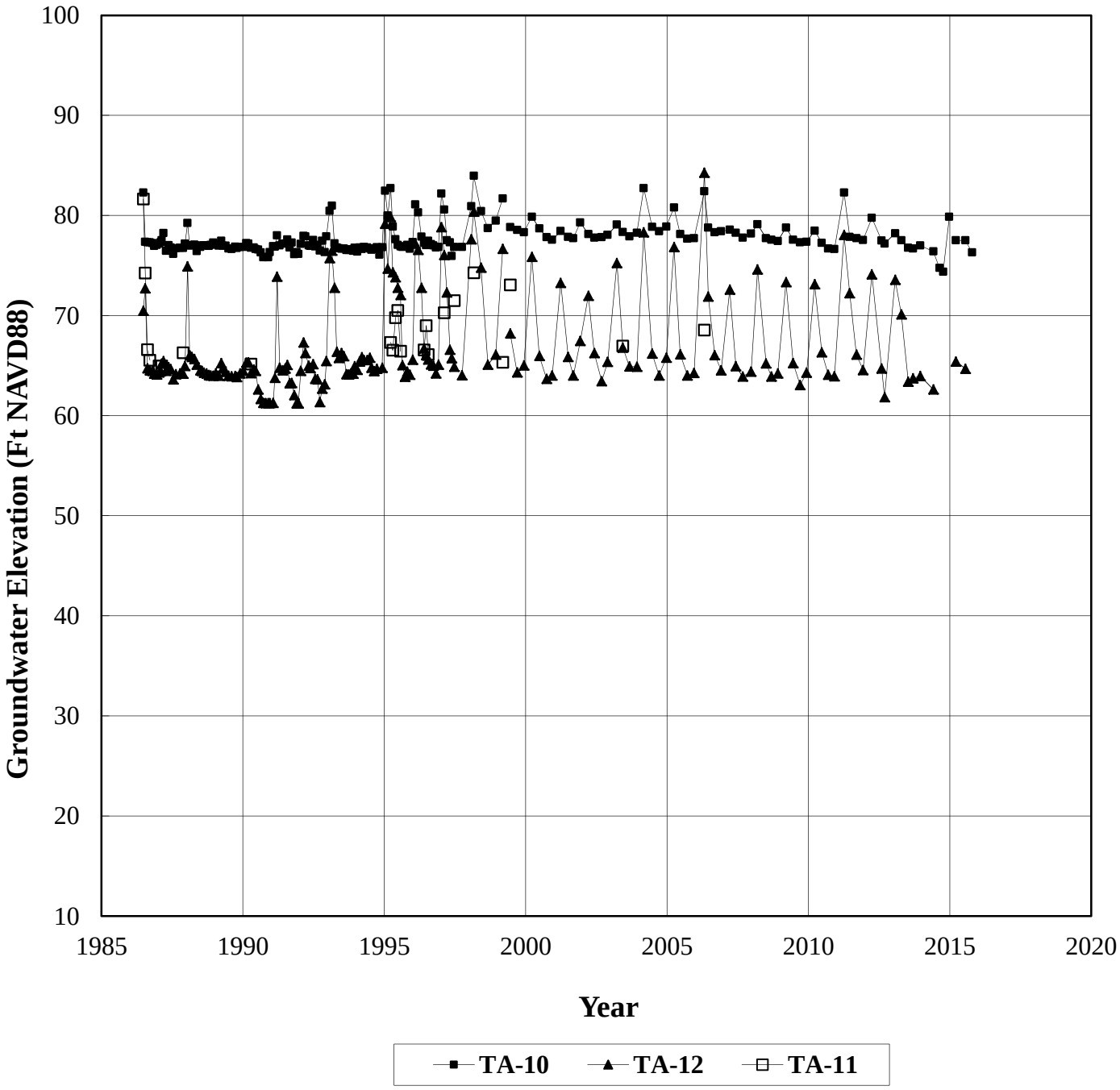

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Figure 5
Groundwater Elevations, Haller Property
Teichert Woodland Plant Area

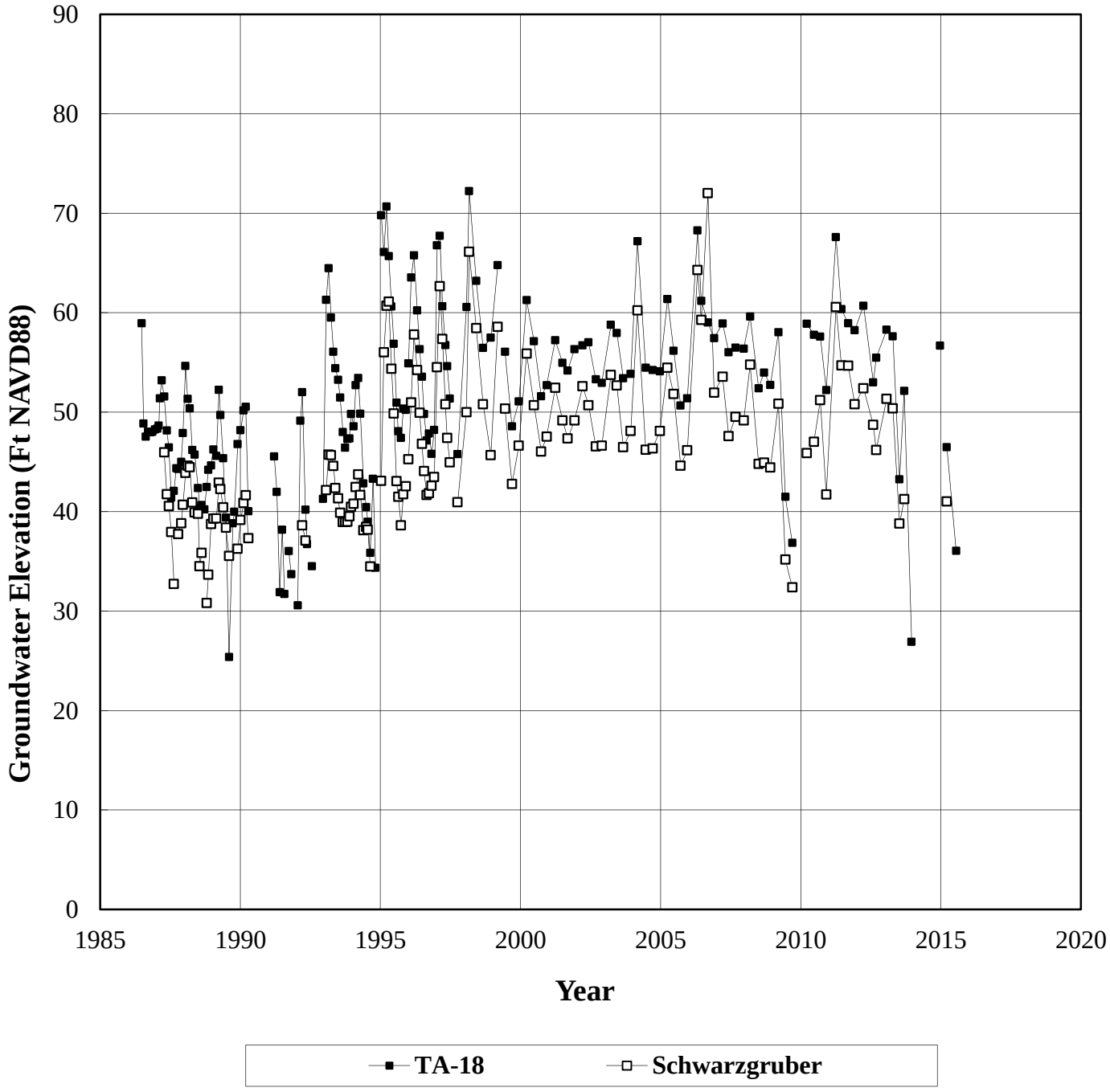

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Figure 6
Groundwater Elevations, Schwarzgruber Property
Teichert Woodland Plant Area

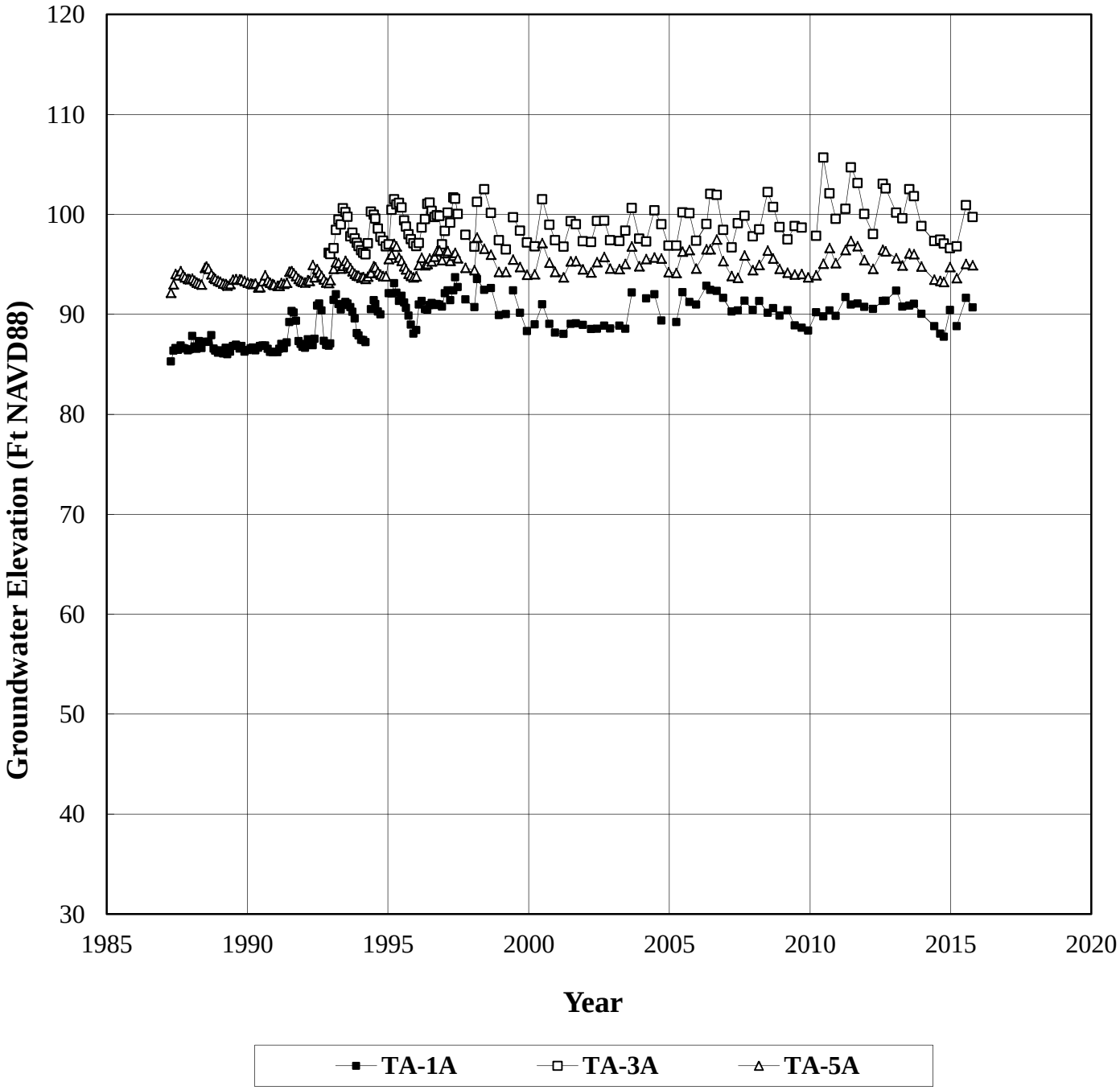

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Figure 7
Groundwater Elevations, Coors Property
Teichert Woodland Plant Area

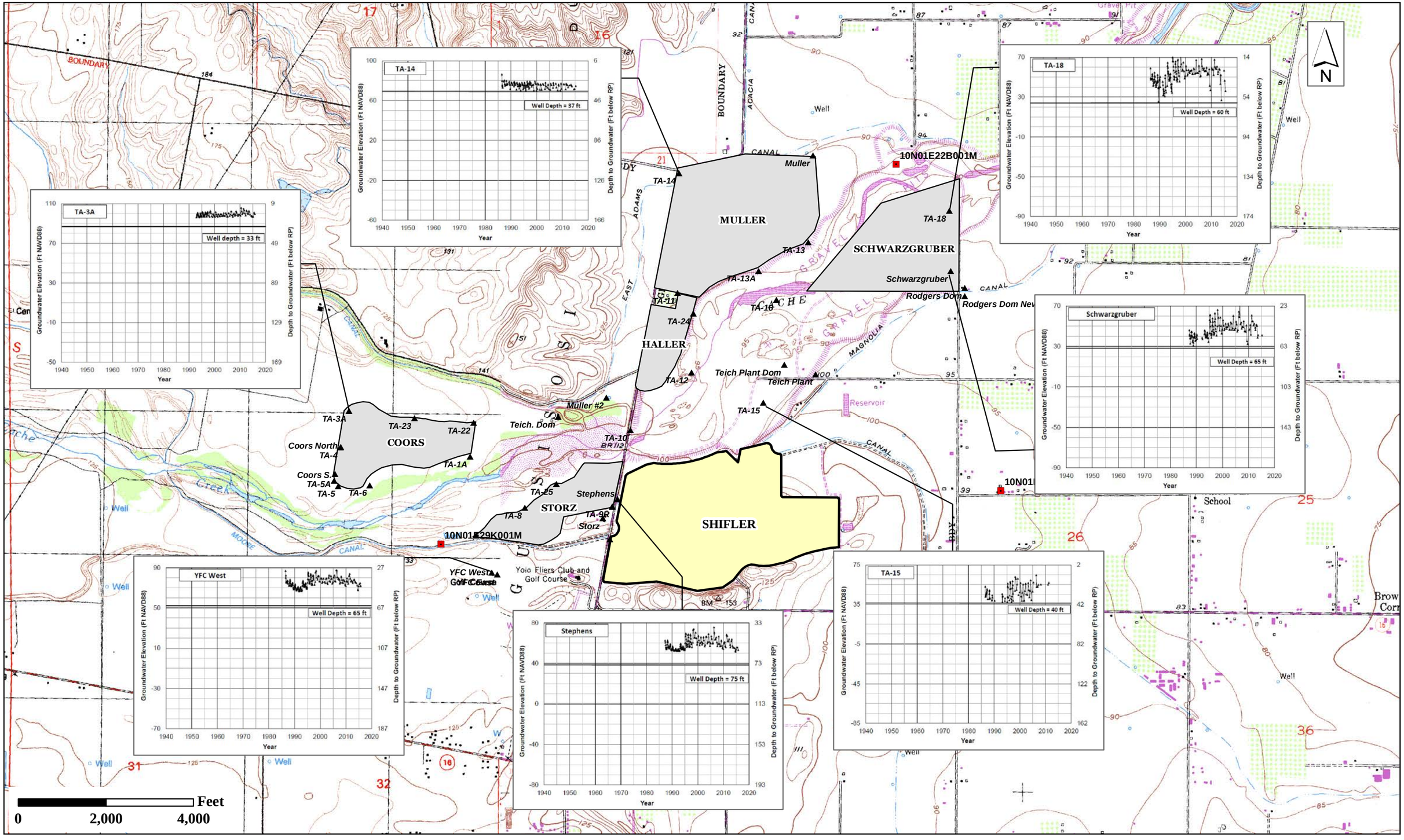

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Figure 8
Historical Groundwater Levels, Shallow Wells
Teichert Woodland Plant Area

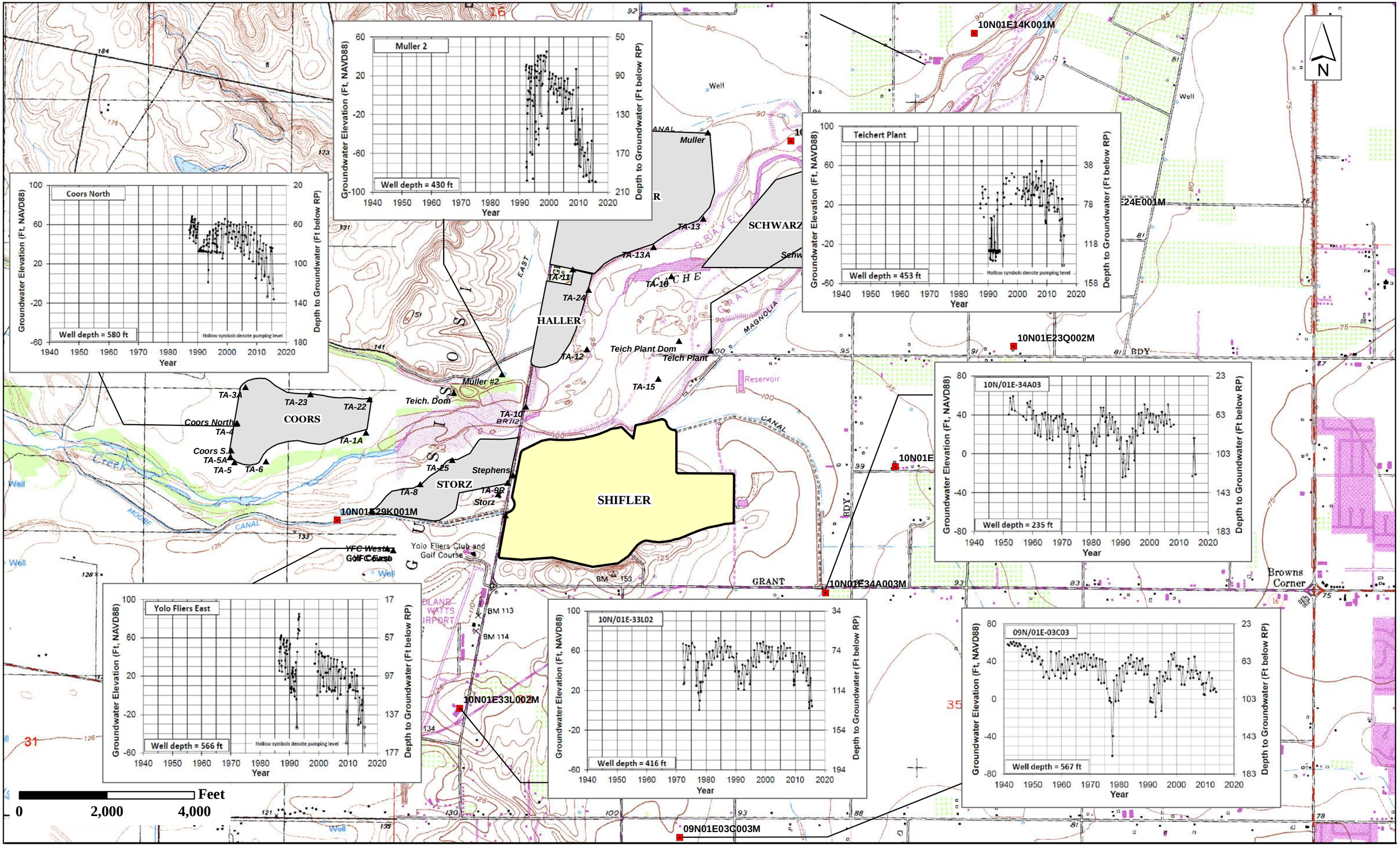

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Figure 9
Historical Groundwater Levels, Deep Wells
Teichert Woodland Plant Area

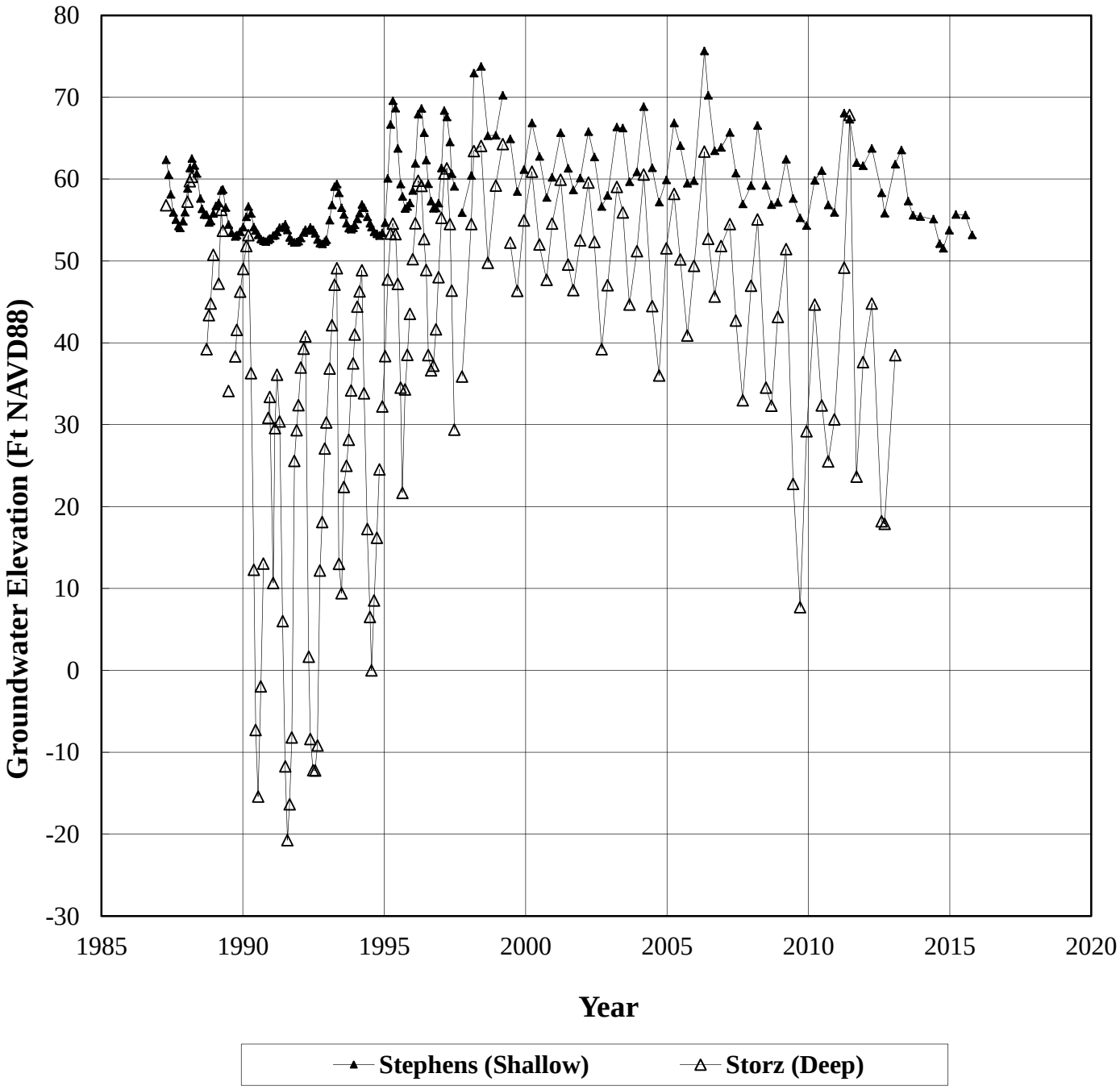

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Figure 10
Groundwater Levels, Shallow and Deep, Shifler Property
Teichert Woodland Plant Area

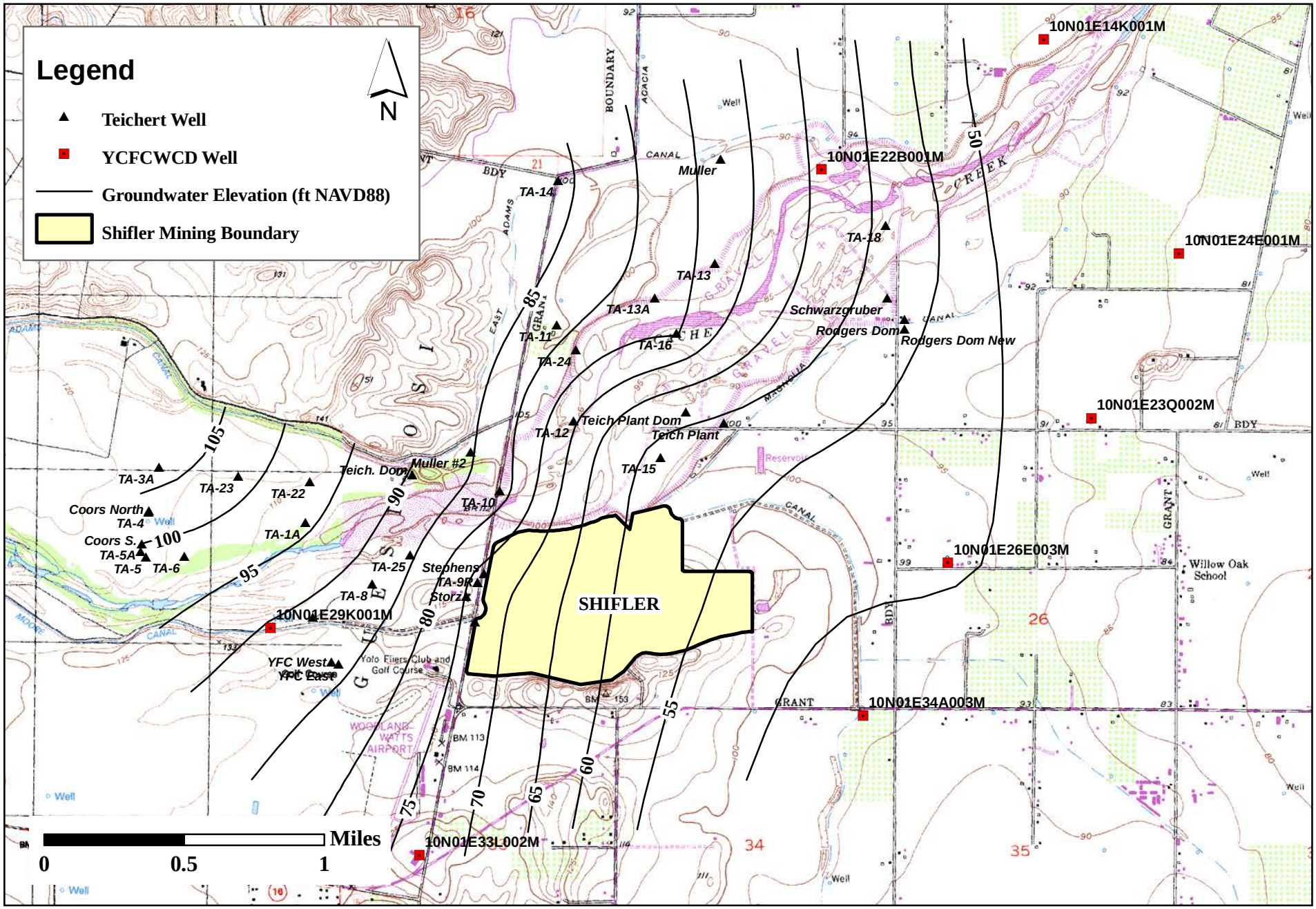

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Figure 11

Contours of Equal Groundwater Elevation, Spring 1986

Teichert Woodland Plant Area

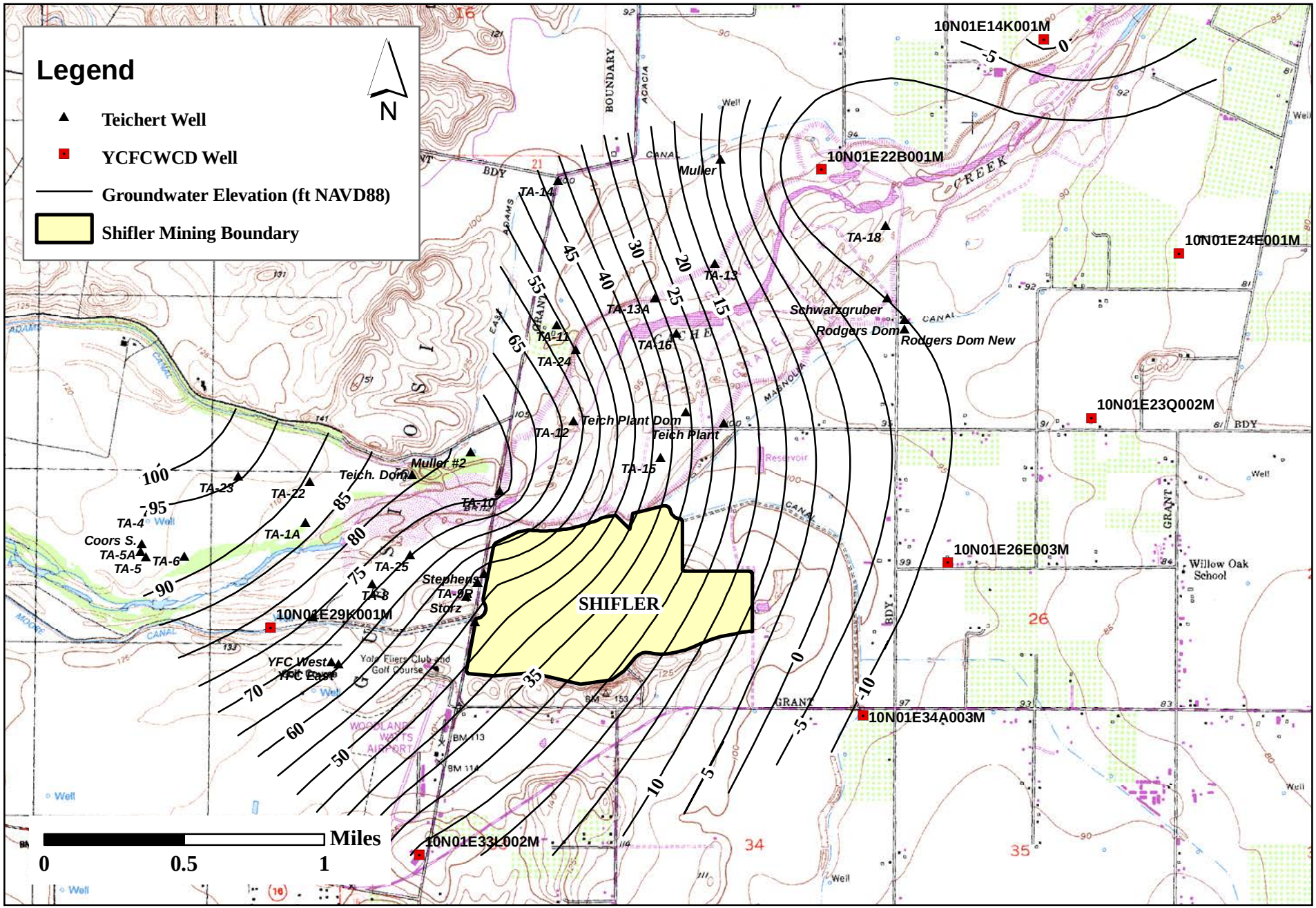

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Figure 12

Contours of Equal Groundwater Elevation, Fall 1992

Teichert Woodland Plant Area

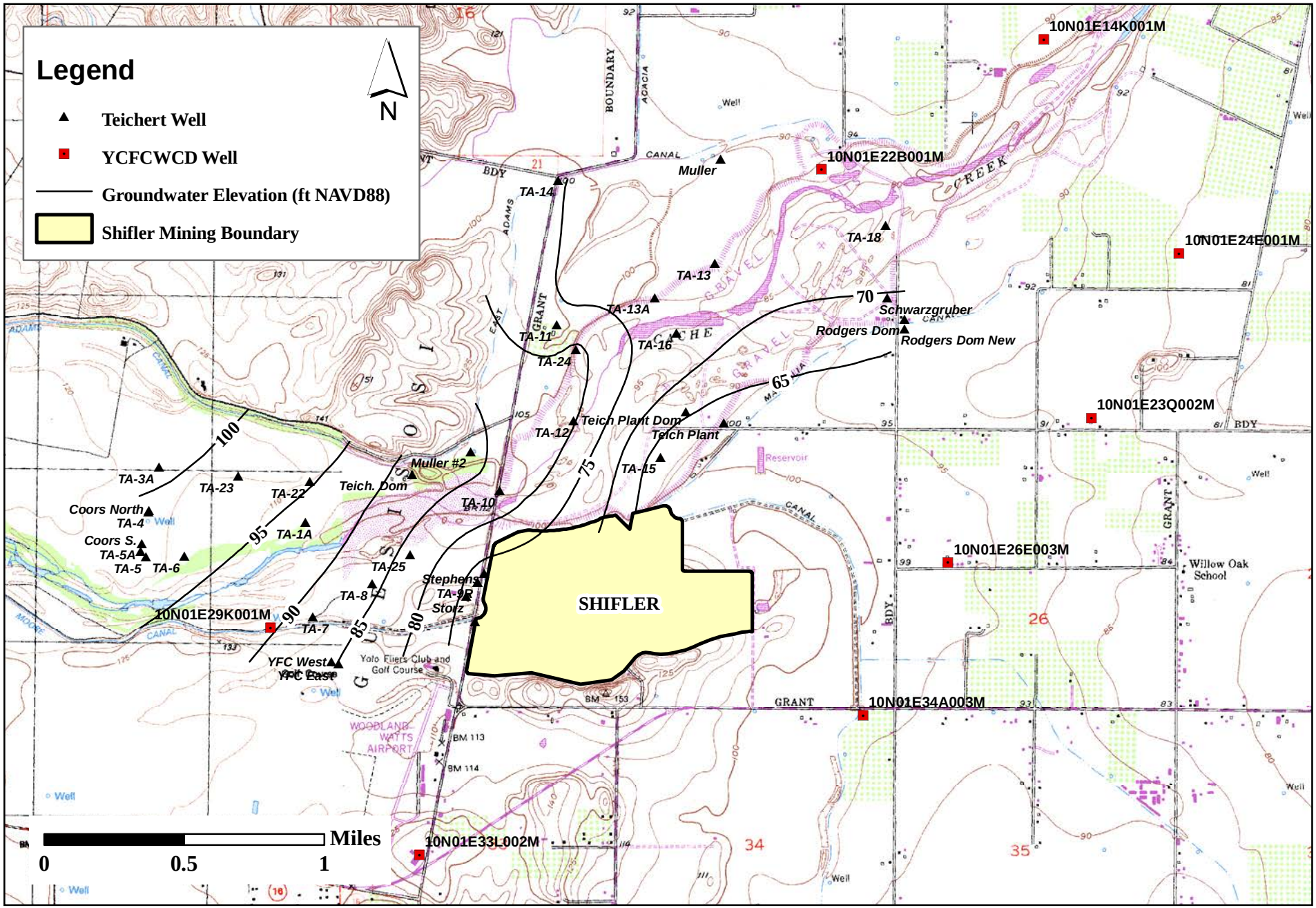

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Figure 13

Contours of Equal Groundwater Elevation, Spring 1998

Teichert Woodland Plant Area

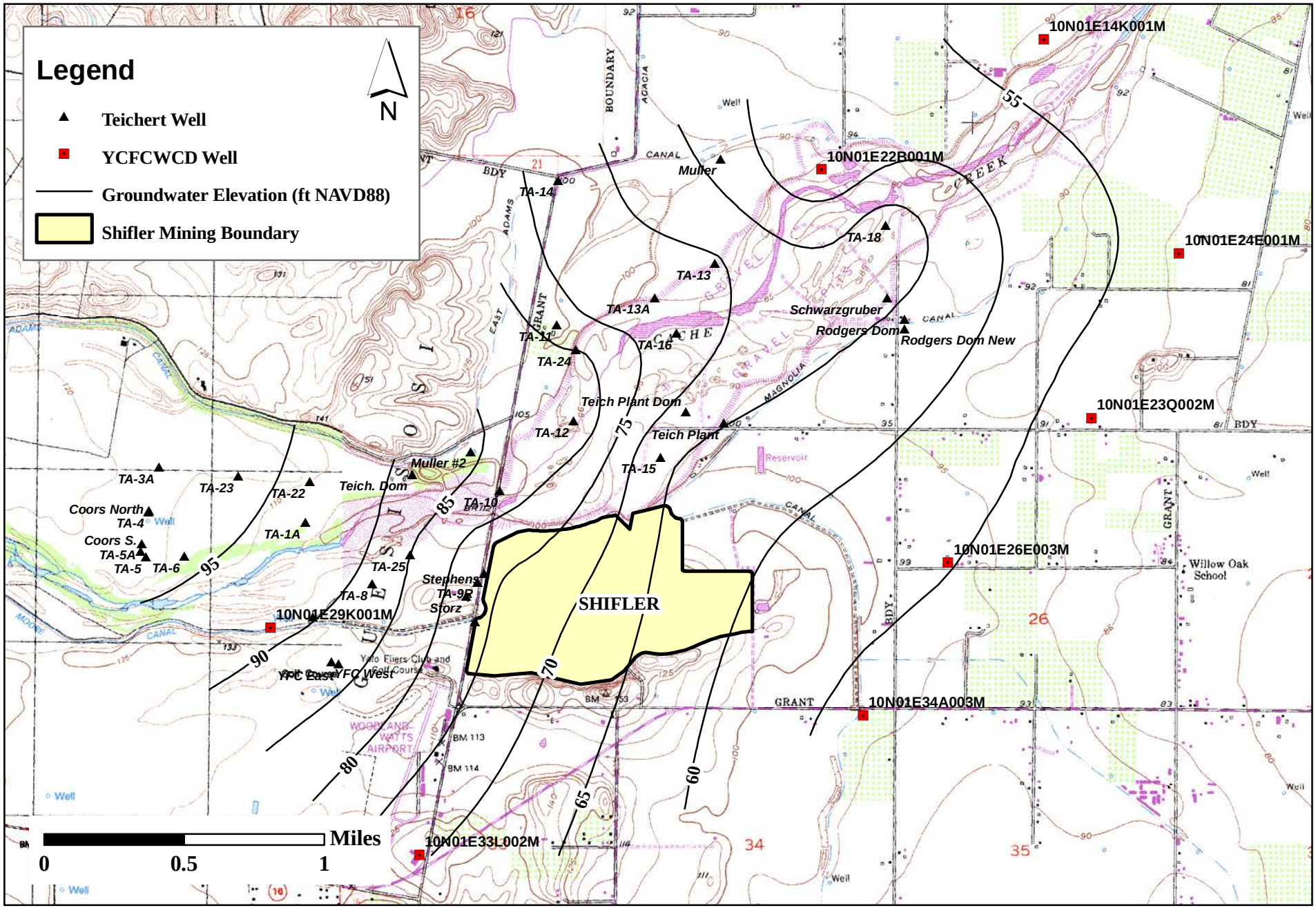

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Figure 14

Contours of Equal Groundwater Elevation, Spring 2006

Teichert Woodland Plant Area

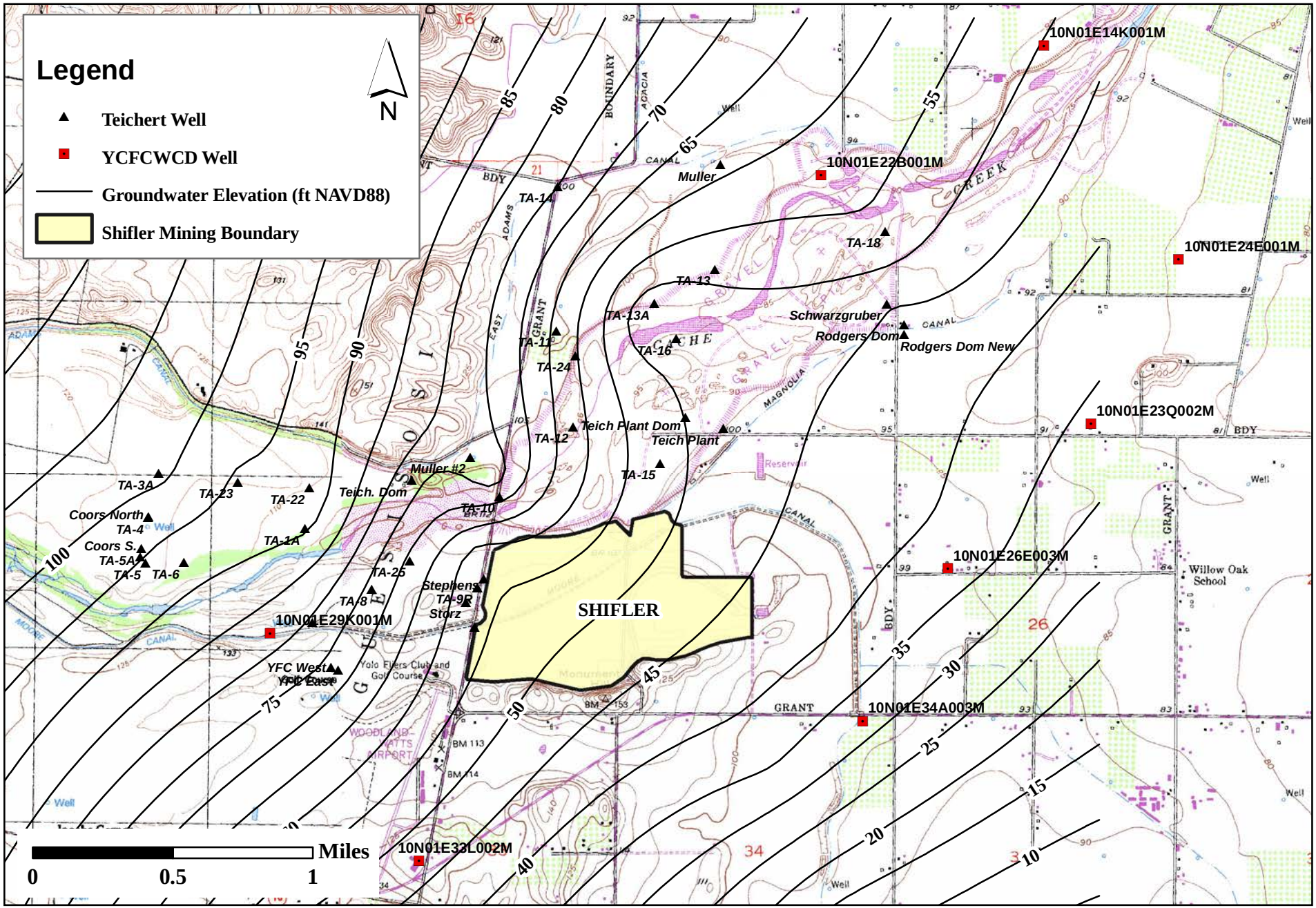

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Figure 15

Contours of Equal Groundwater Elevation, Fall 2008

Teichert Woodland Plant Area

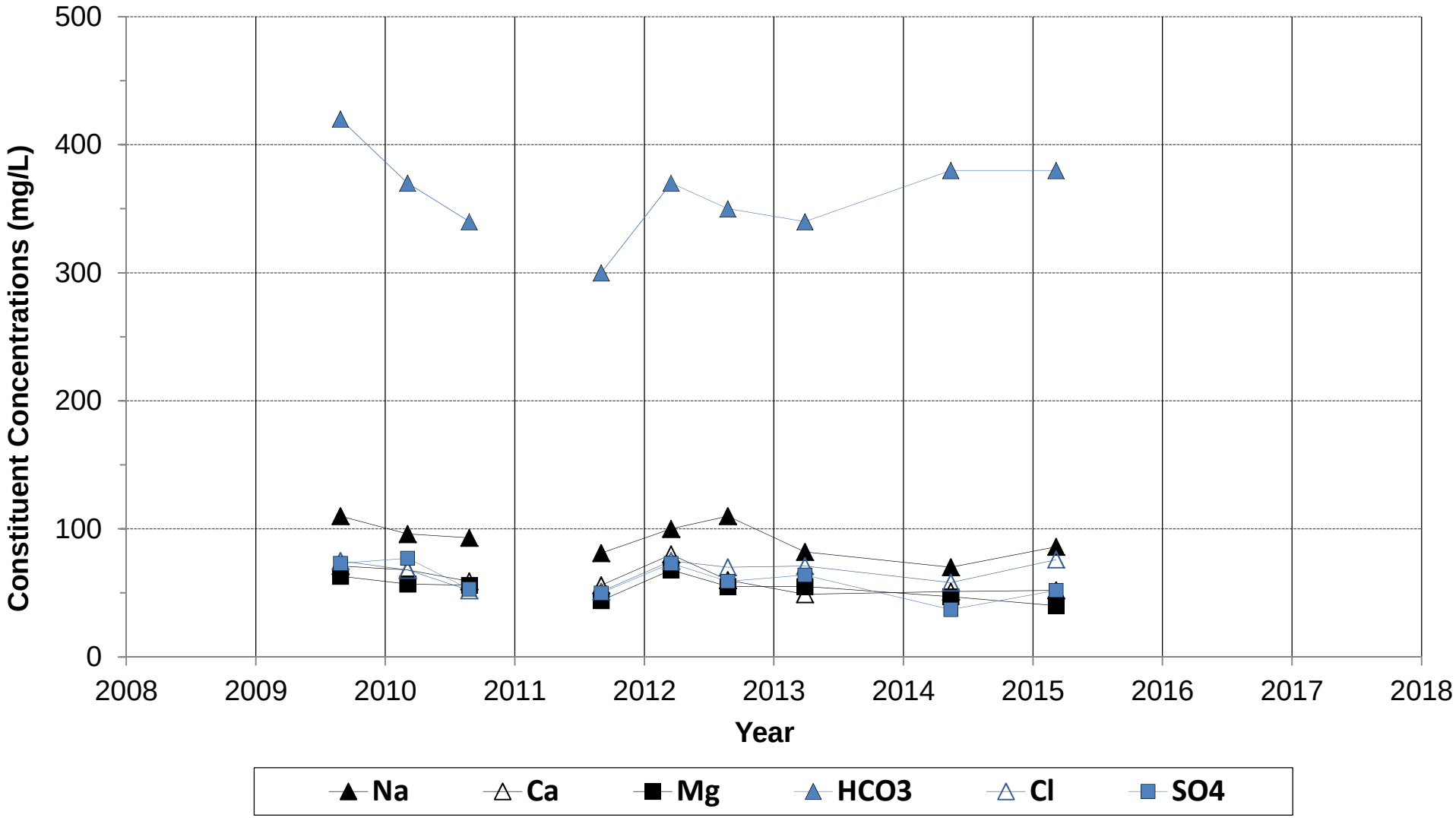

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Figure 16
General Mineral Concentrations, Stephens Well
Teichert Woodland Plant Area

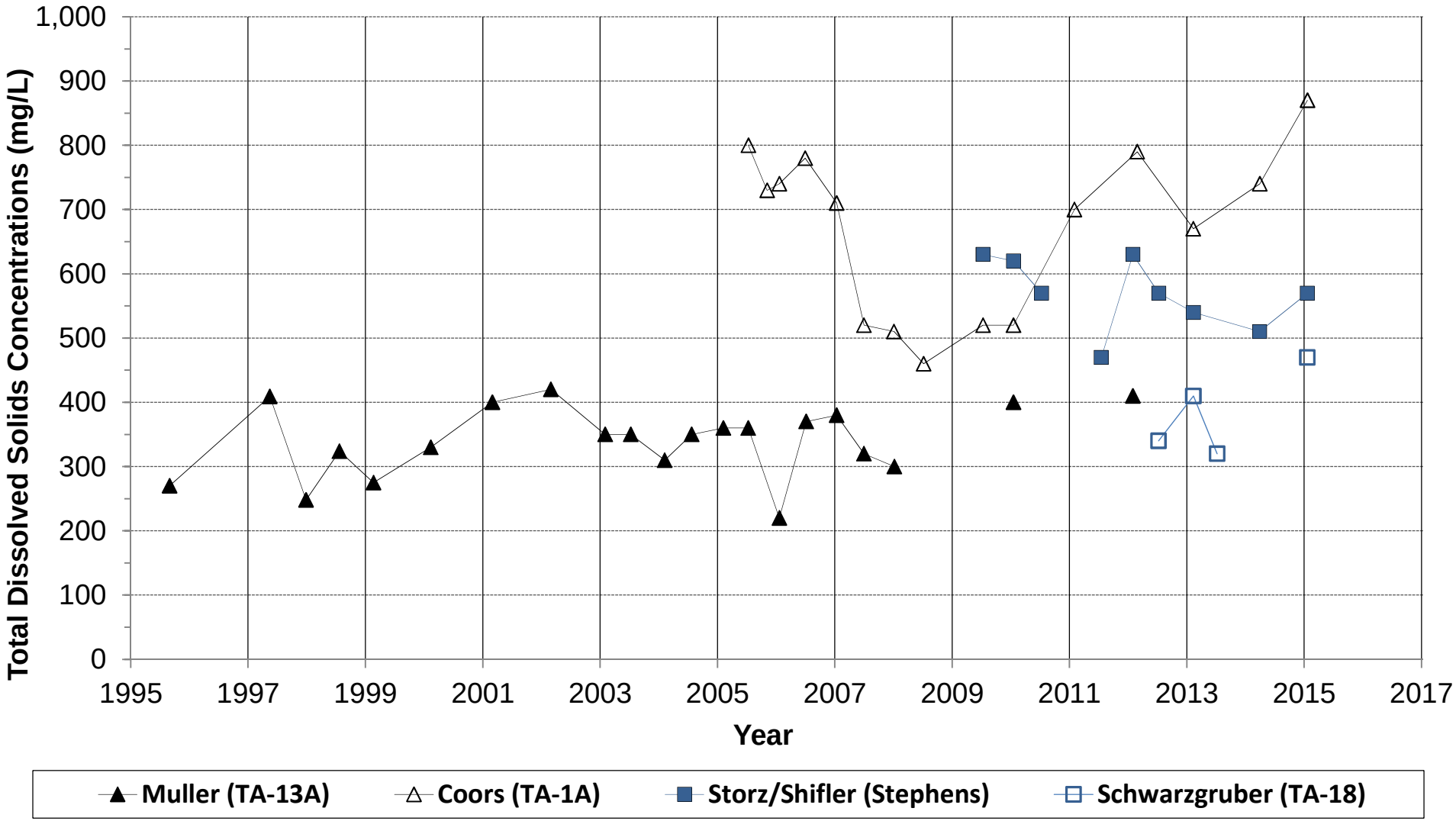

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Figure 17a
Total Dissolved Solids Concentrations in Groundwater
Teichert Woodland Plant Area

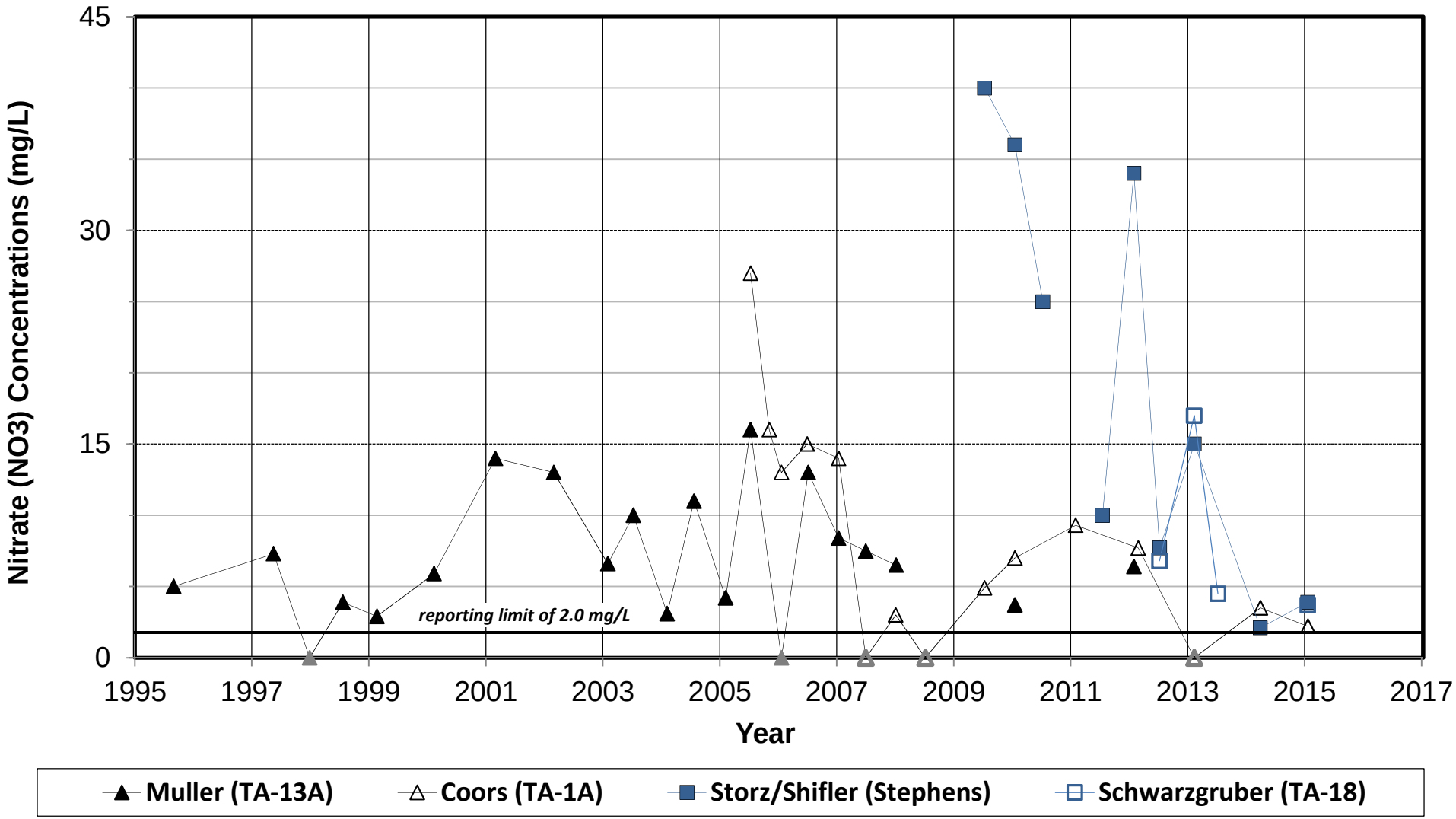

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Figure 17b
Nitrate Concentrations in Groundwater
Teichert Woodland Plant Area

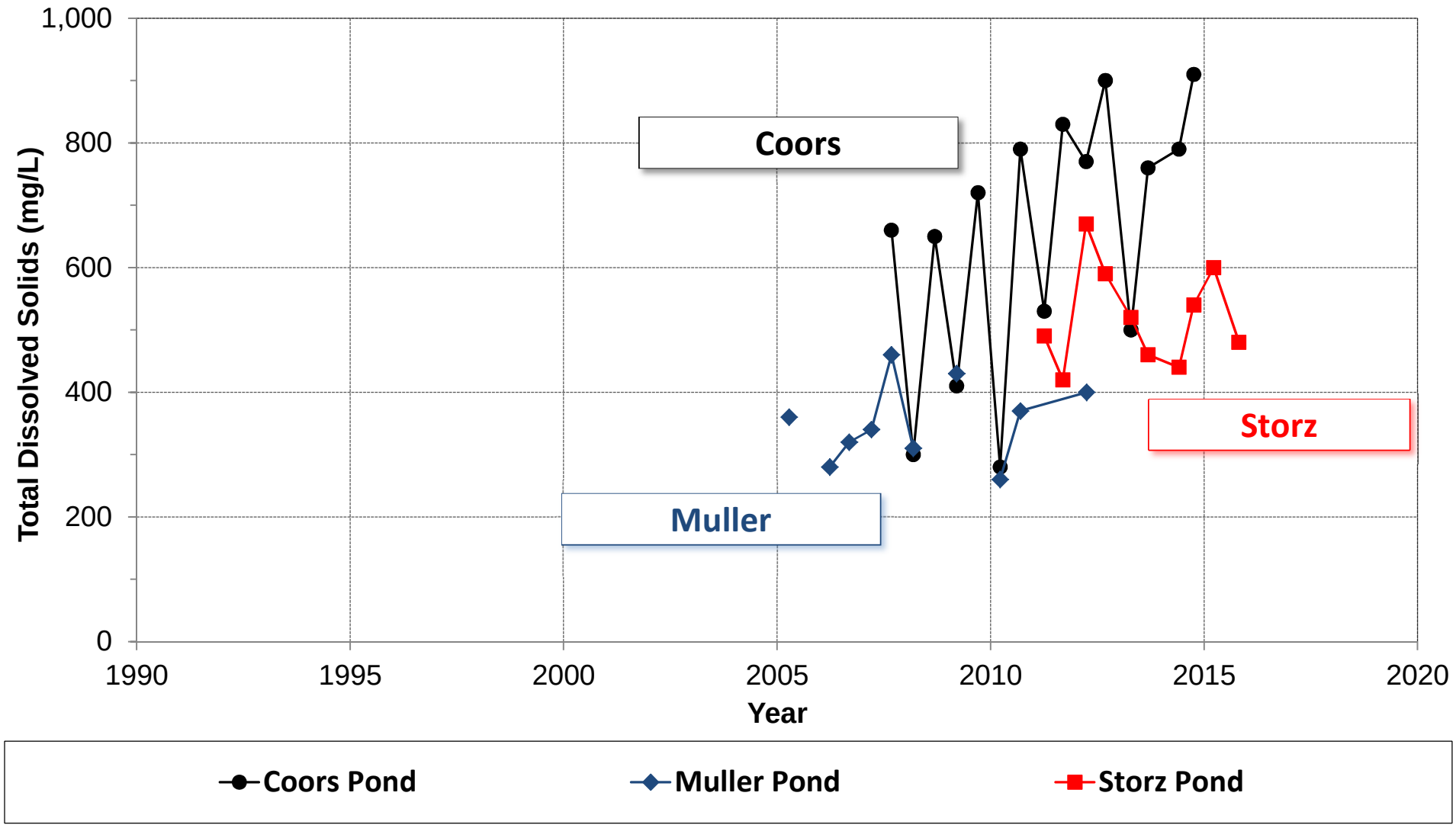

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Figure 18a
Total Dissolved Solids Concentrations in Pond Water
Teichert Woodland Plant Area

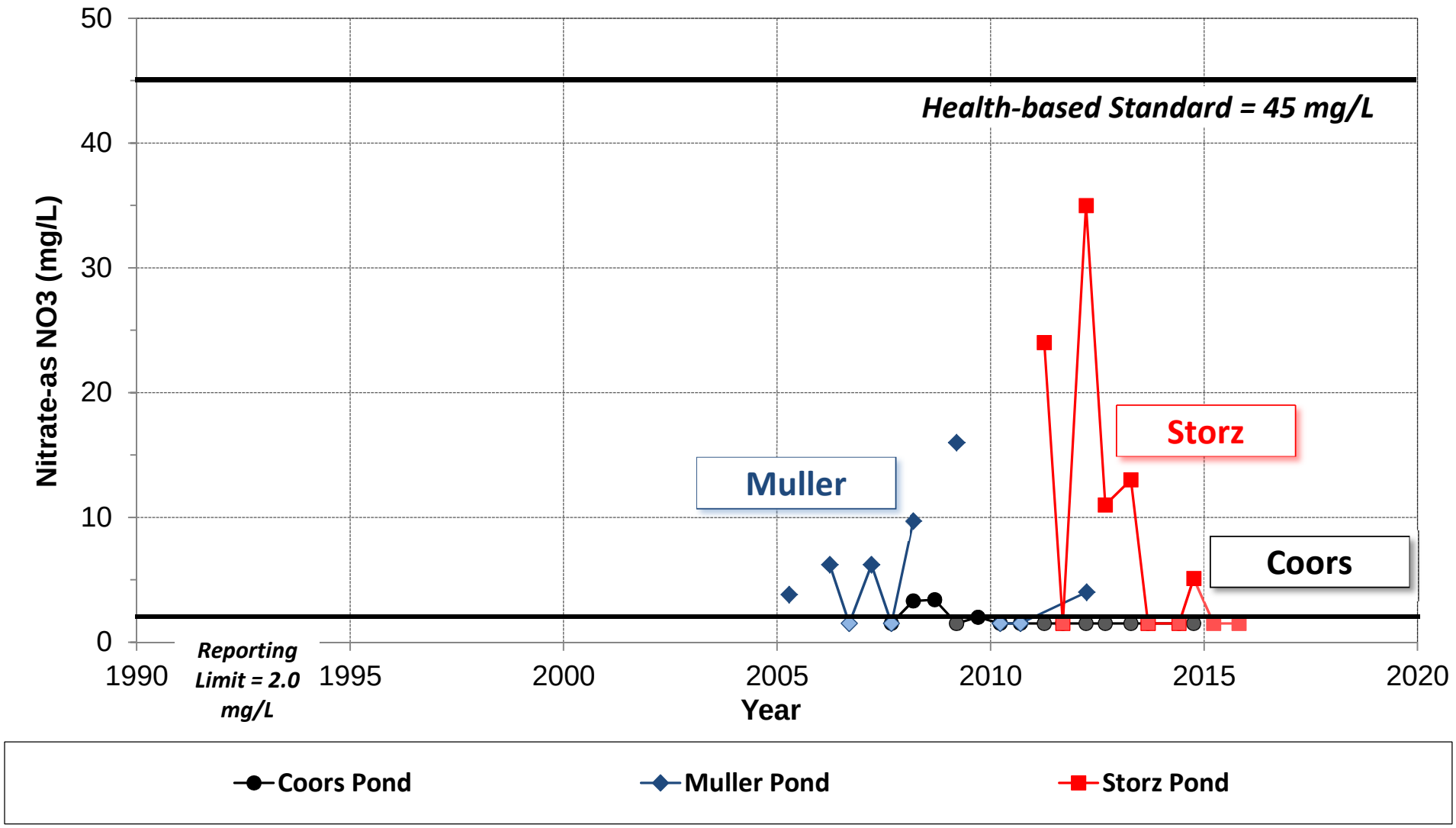

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Figure 18b
Nitrate Concentrations in Pond Water
Teichert Woodland Plant Area

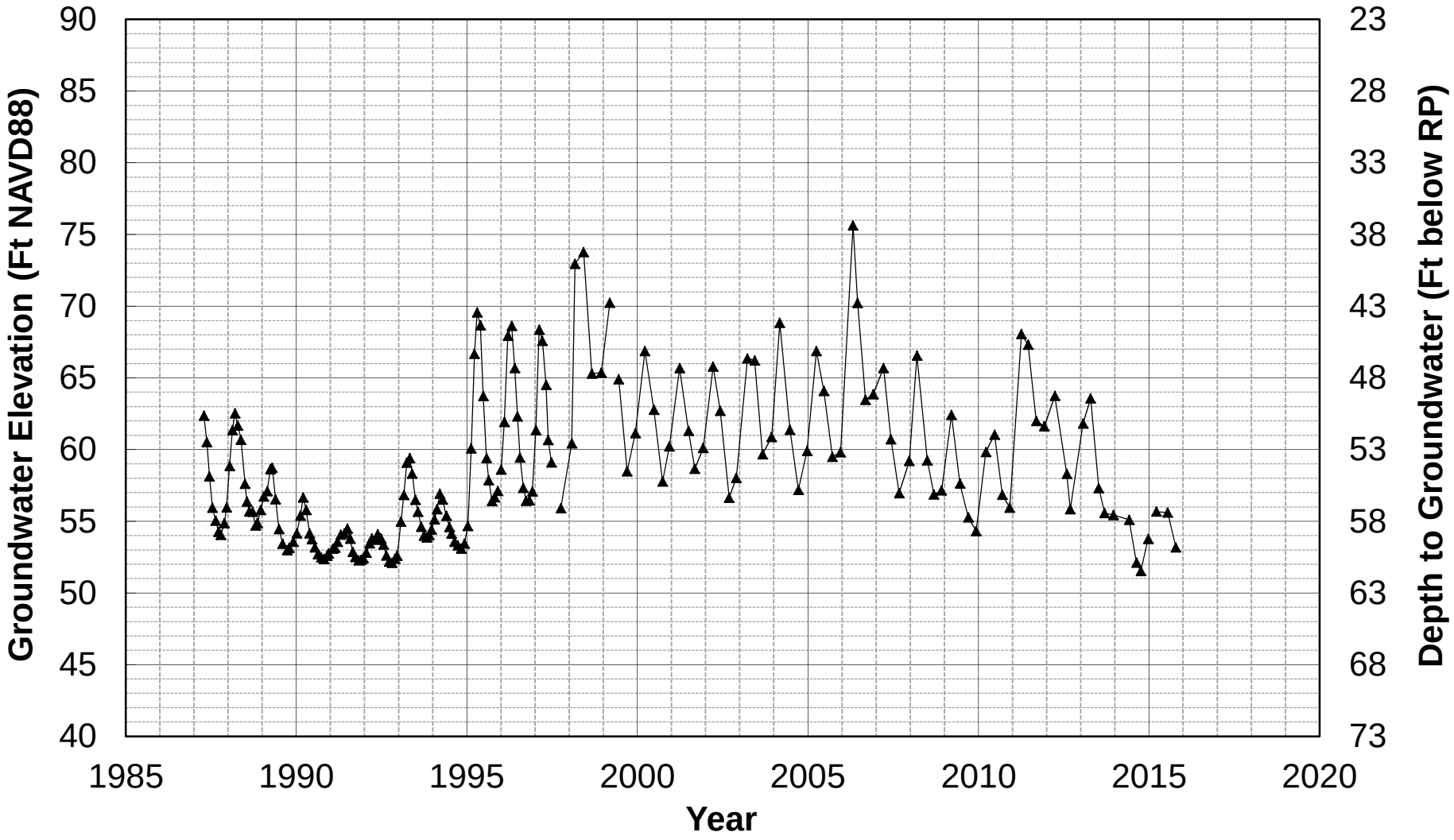

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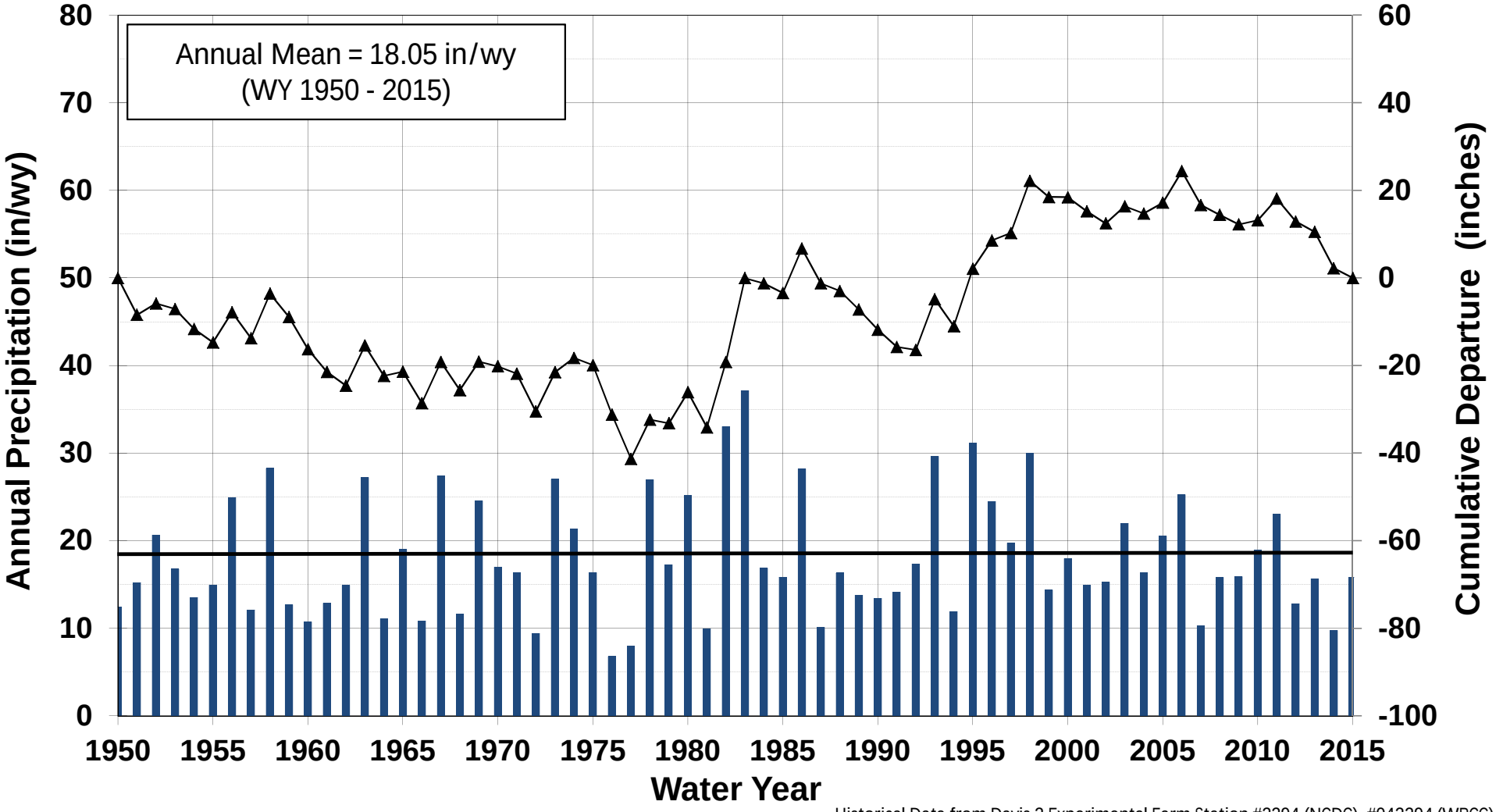
Figure 19
Groundwater Levels, Shifler Property Shallow Well (Stephens)
Teichert Woodland Plant Area



Historical Data from Davis 2 Experimental Farm Station #2294 (NCDC), #042294 (WRCC)

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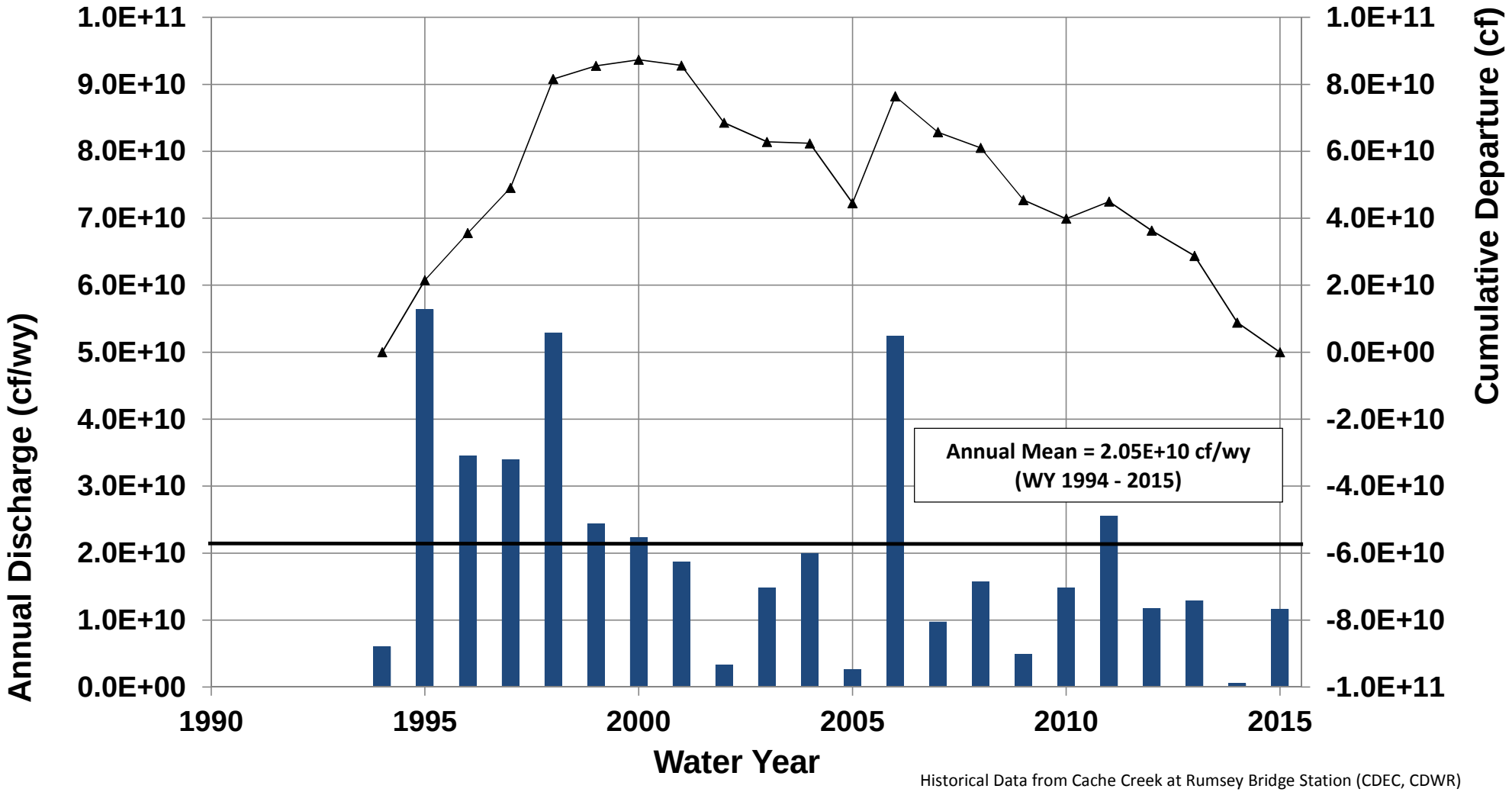
Figure 20
Sacramento Area Historical Precipitation
Teichert Woodland Plant Area



Historical Data from Cache Creek at Rumsey Bridge Station (CDEC, CDWR)

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Figure 21
Historical Stream Discharge, Cache Creek at Rumsey Bridge
Teichert Woodland Plant Area

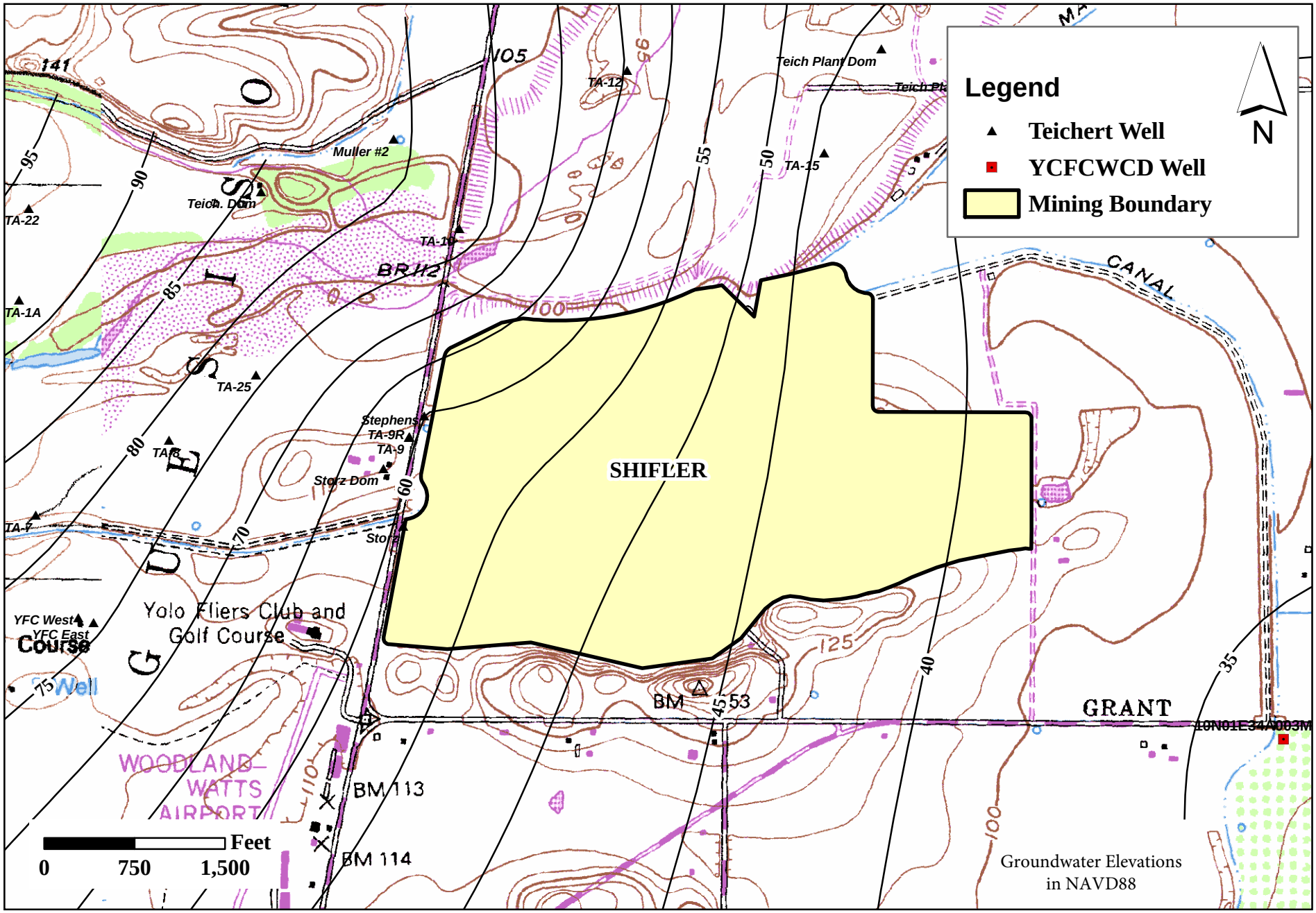

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Figure 22
Contours of Equal Groundwater Elevation, Typical Fall Low
Teichert Shifler Property

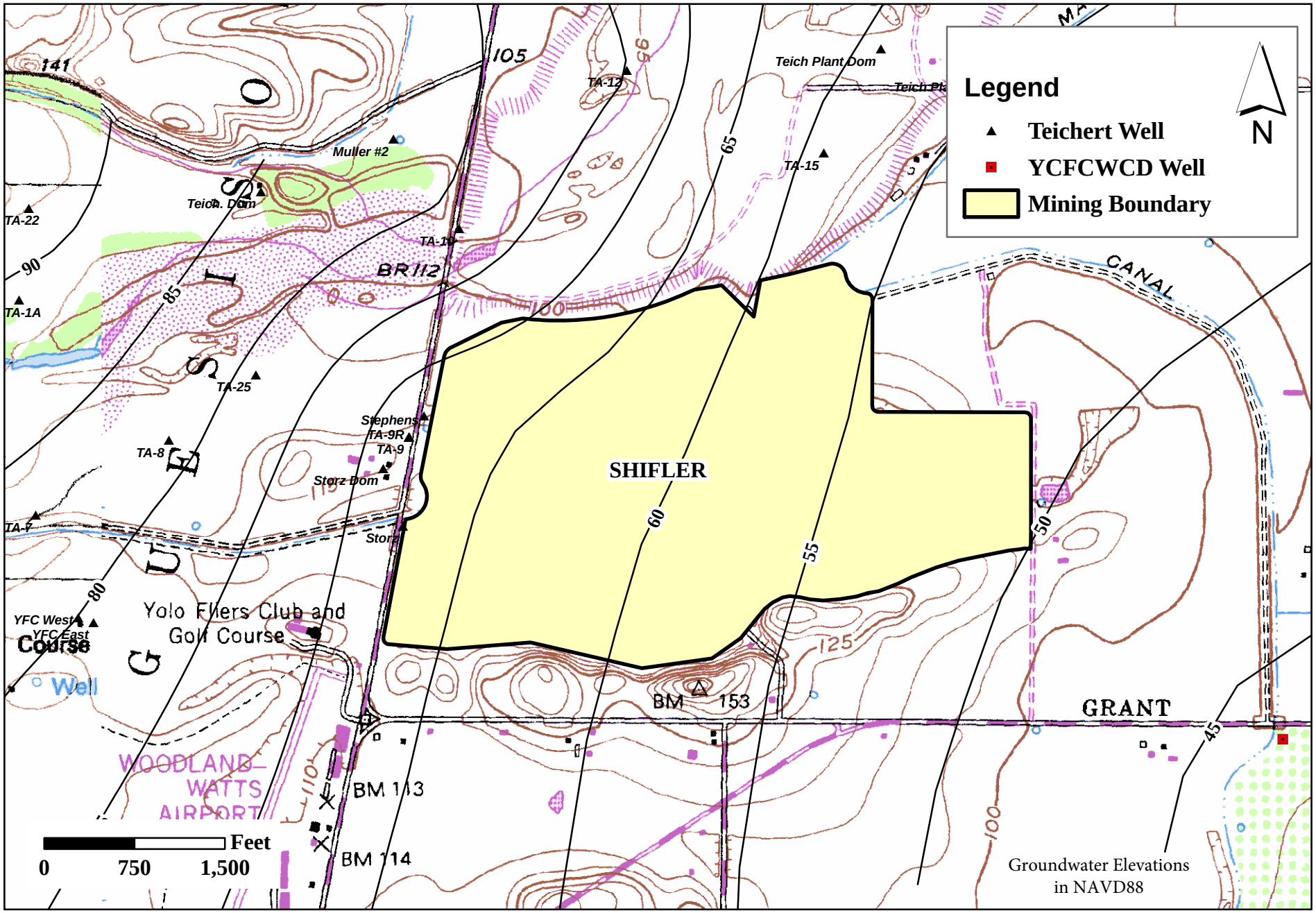

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Figure 23

Contours of Equal Groundwater Elevation, Typical Spring High

Teichert Shifler Property

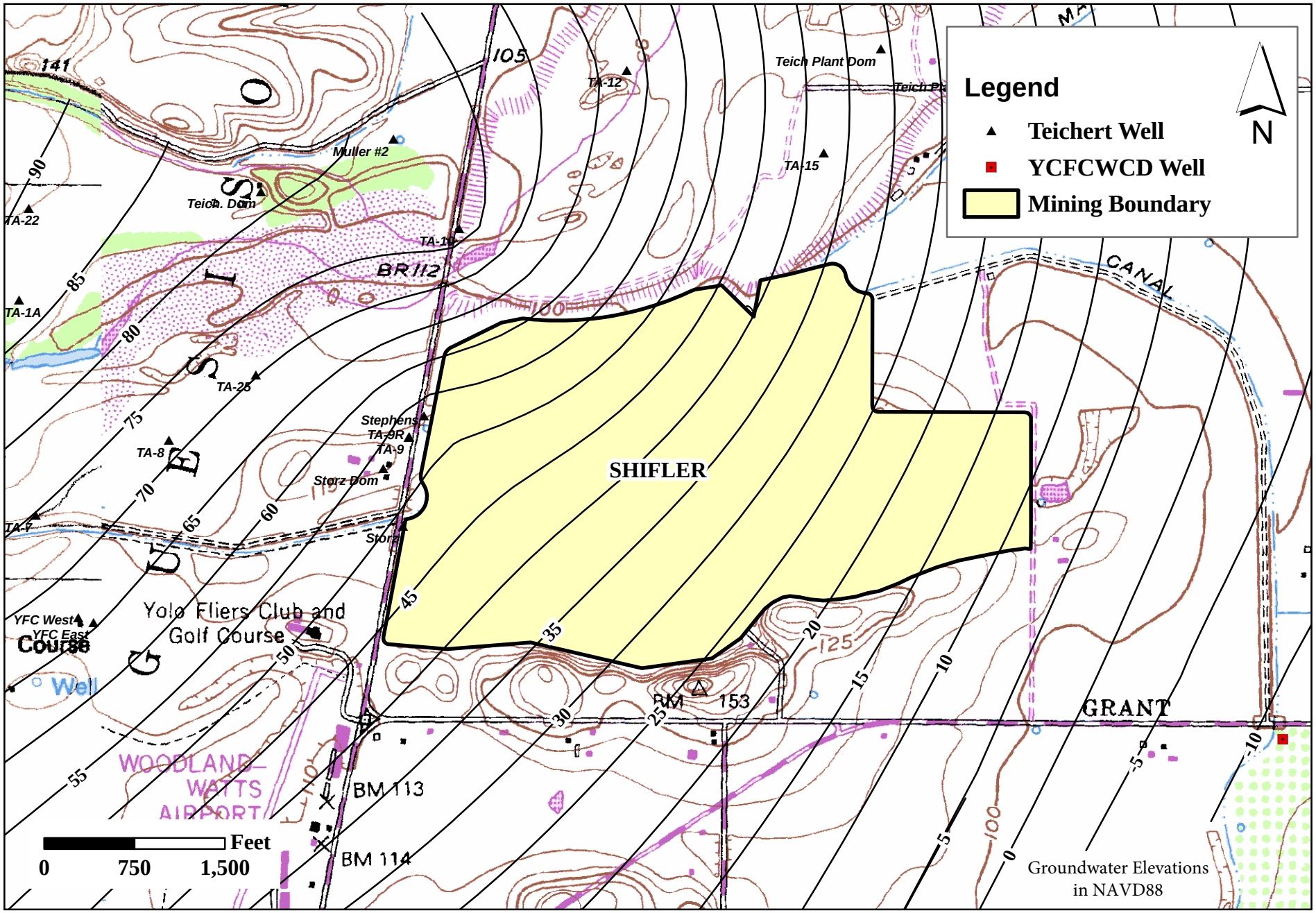

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Figure 24

Contours of Equal Groundwater Elevation, Recent Historical Low, Fall 1992

Teichert Shifler Property

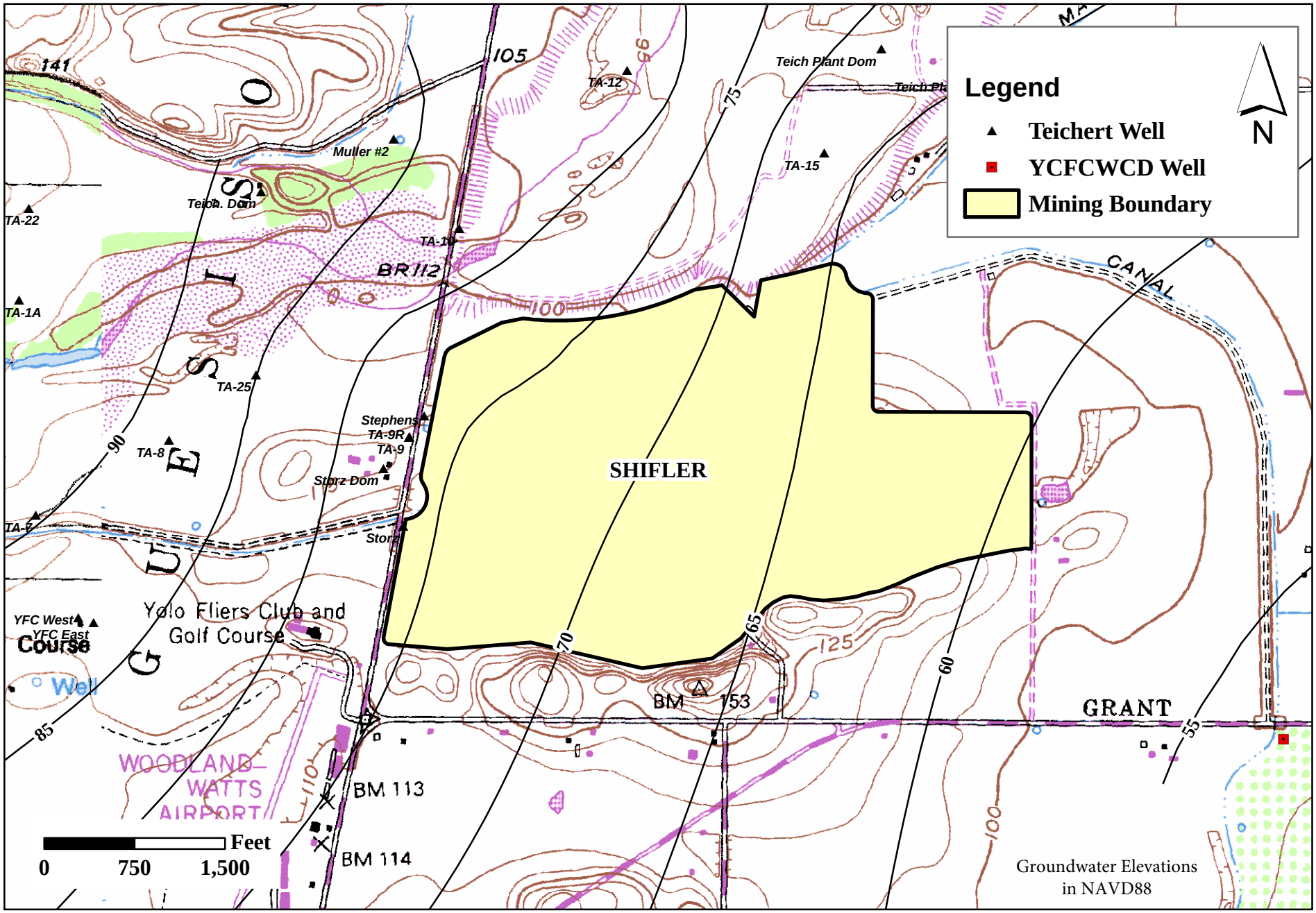

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Figure 25

Contours of Equal Groundwater Elevation, Recent Historical High, Spring 2006

Teichert Shifler Property

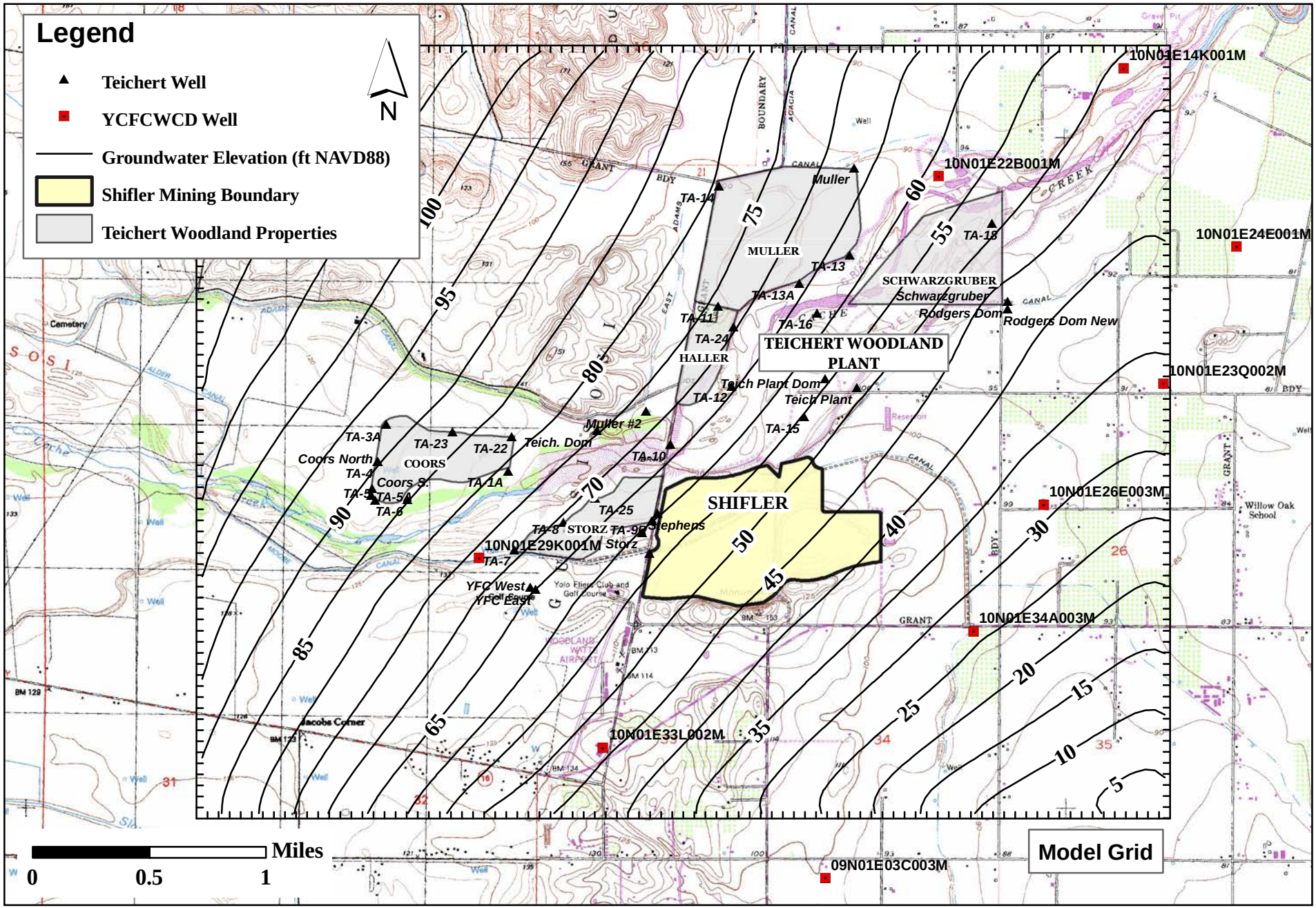

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Figure 26a

Simulated Contours, Equal Groundwater Elevation, Layer 1, Baseline Model

Teichert Woodland Plant Area

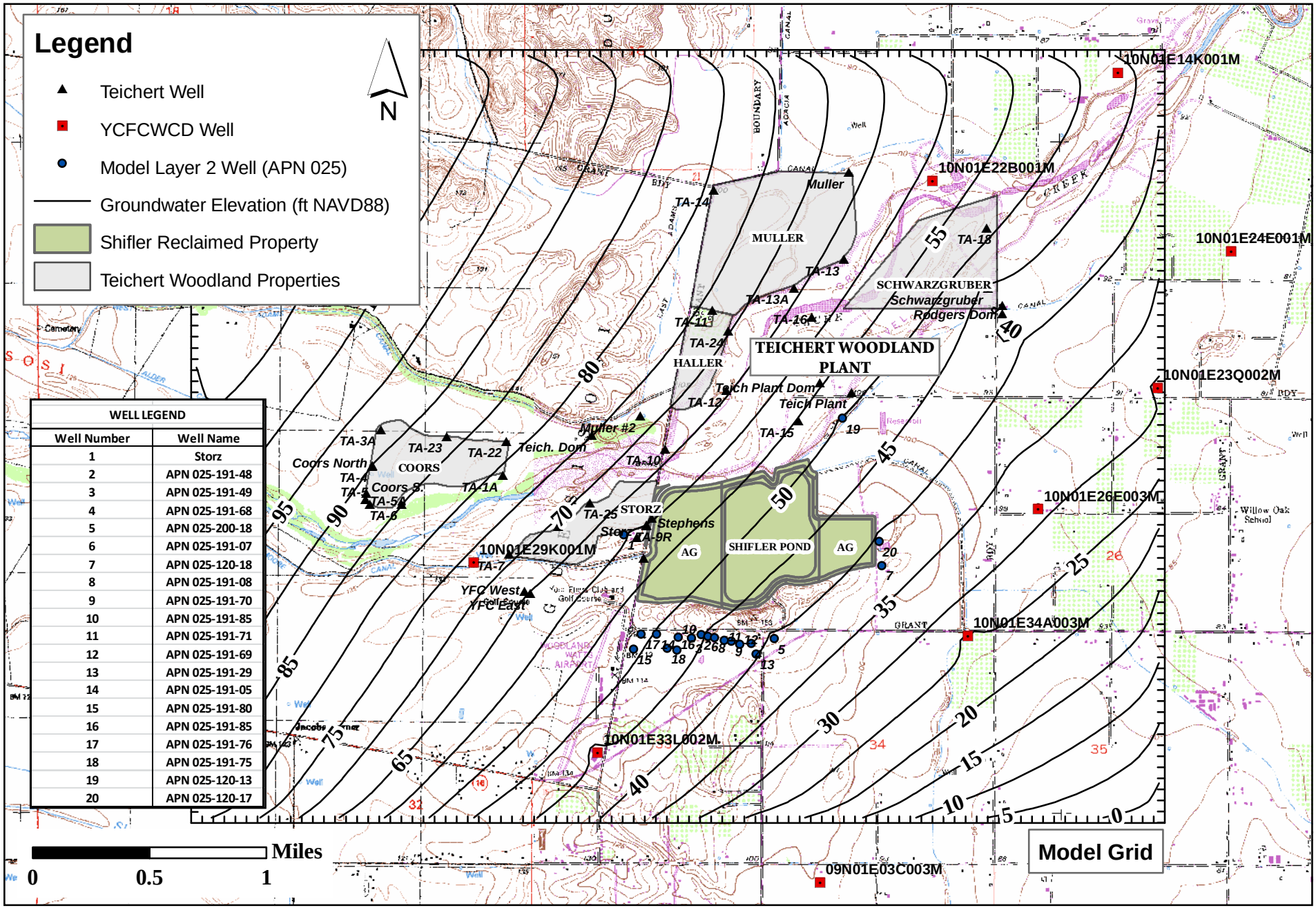

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Figure 26b

Simulated Contours, Equal Groundwater Elevation, Layer 2, Baseline Model

Teichert Woodland Plant Area

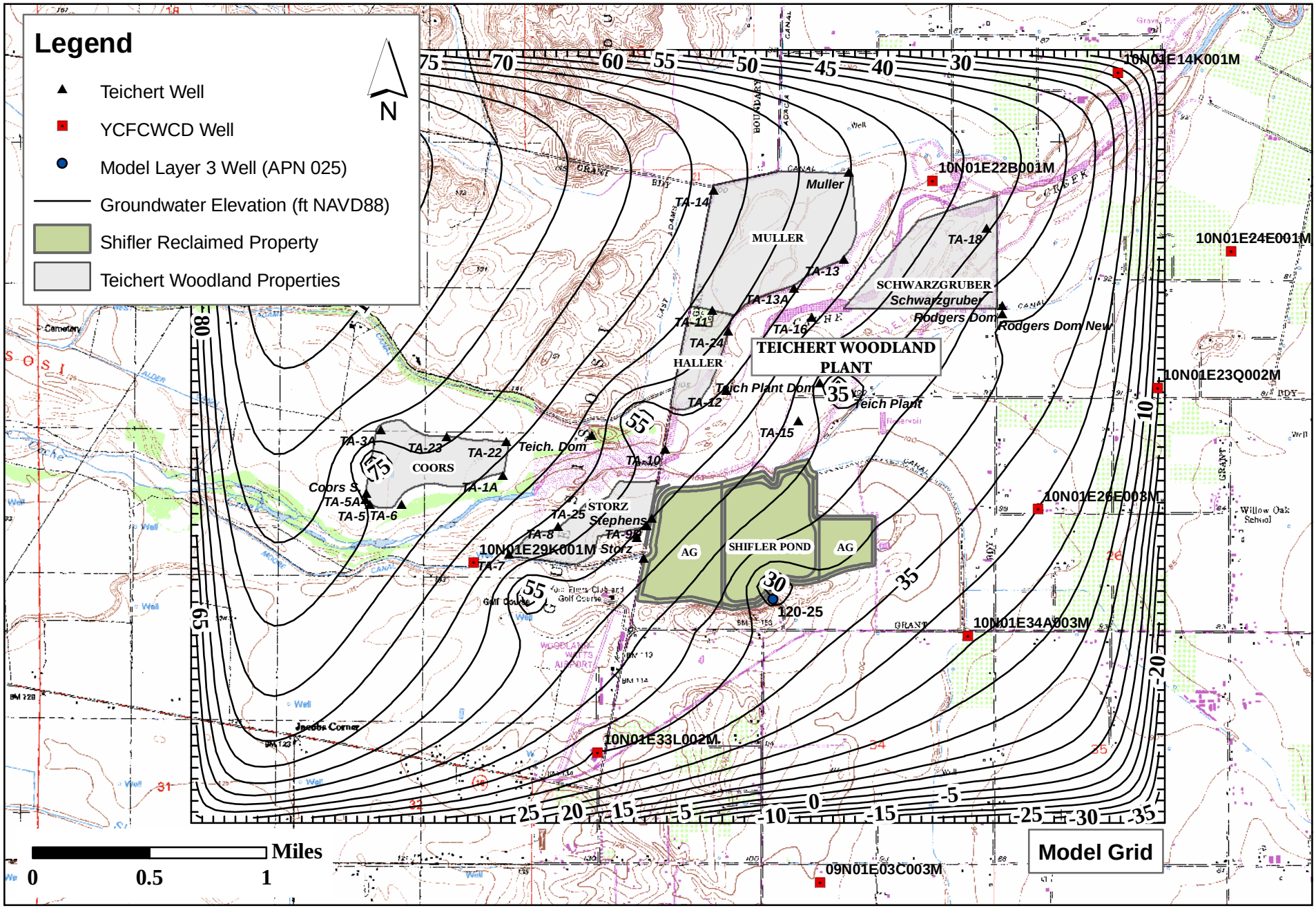

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Figure 26c

Simulated Contours, Equal Groundwater Elevation, Layer 3, Baseline Model

Teichert Woodland Plant Area

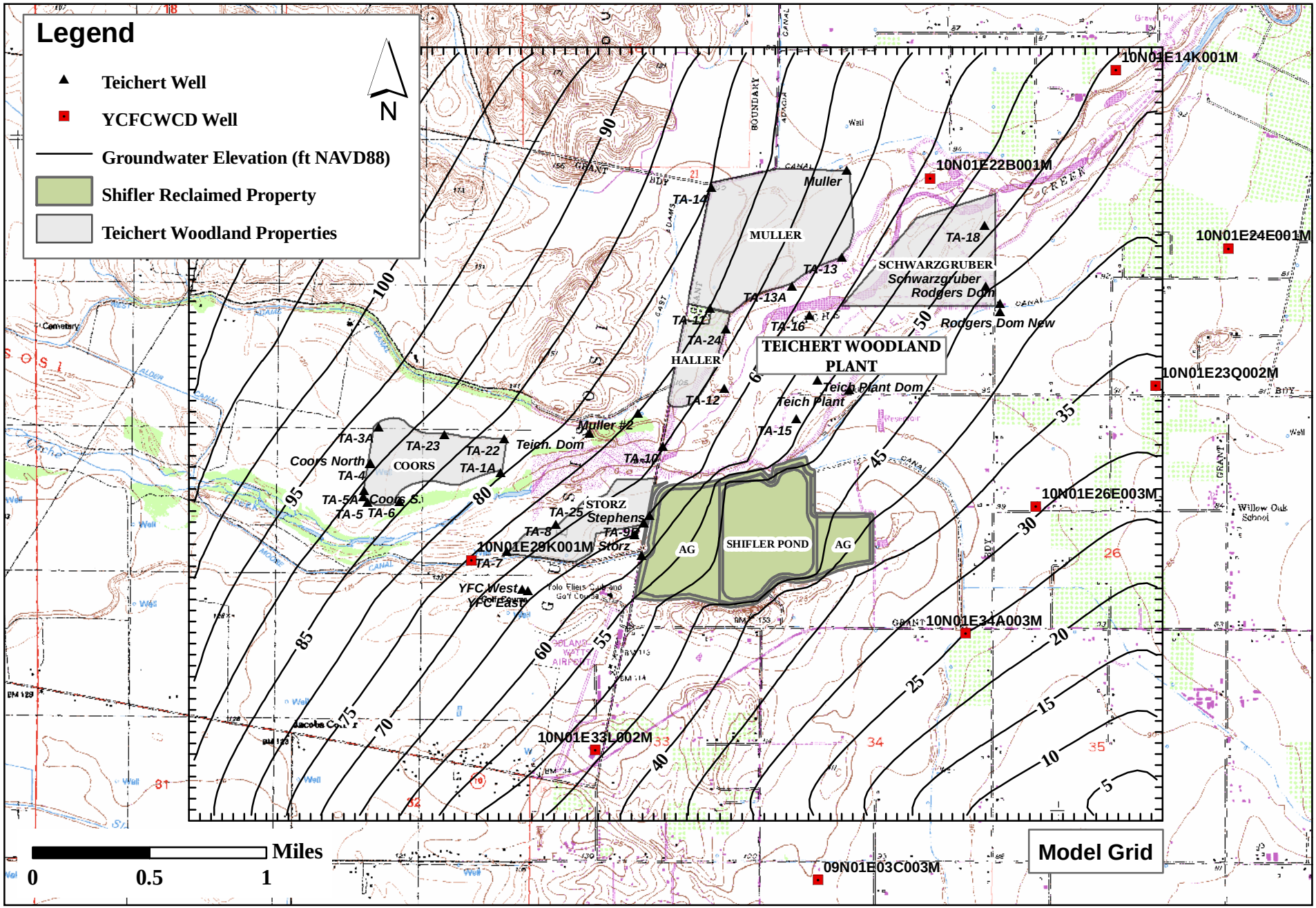

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Figure 27

Simulated Contours, Equal Groundwater Elevation, Layer 1, Reclaimed Project Teichert Woodland Plant Area

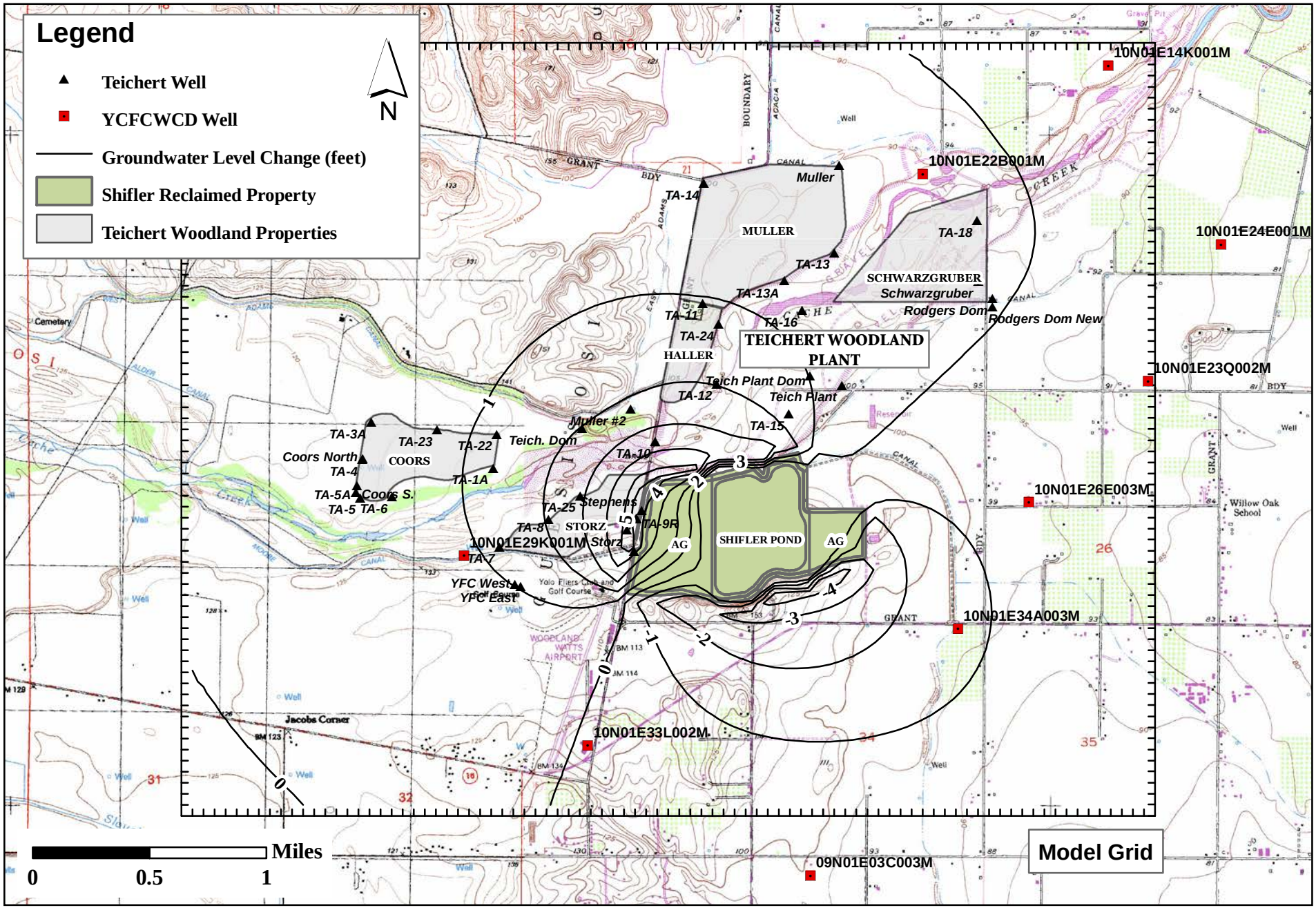

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Figure 28a

Simulated Contours, Equal Groundwater Level Change, Layer 1, Baseline vs Reclaimed
Teichert Woodland Plant Area

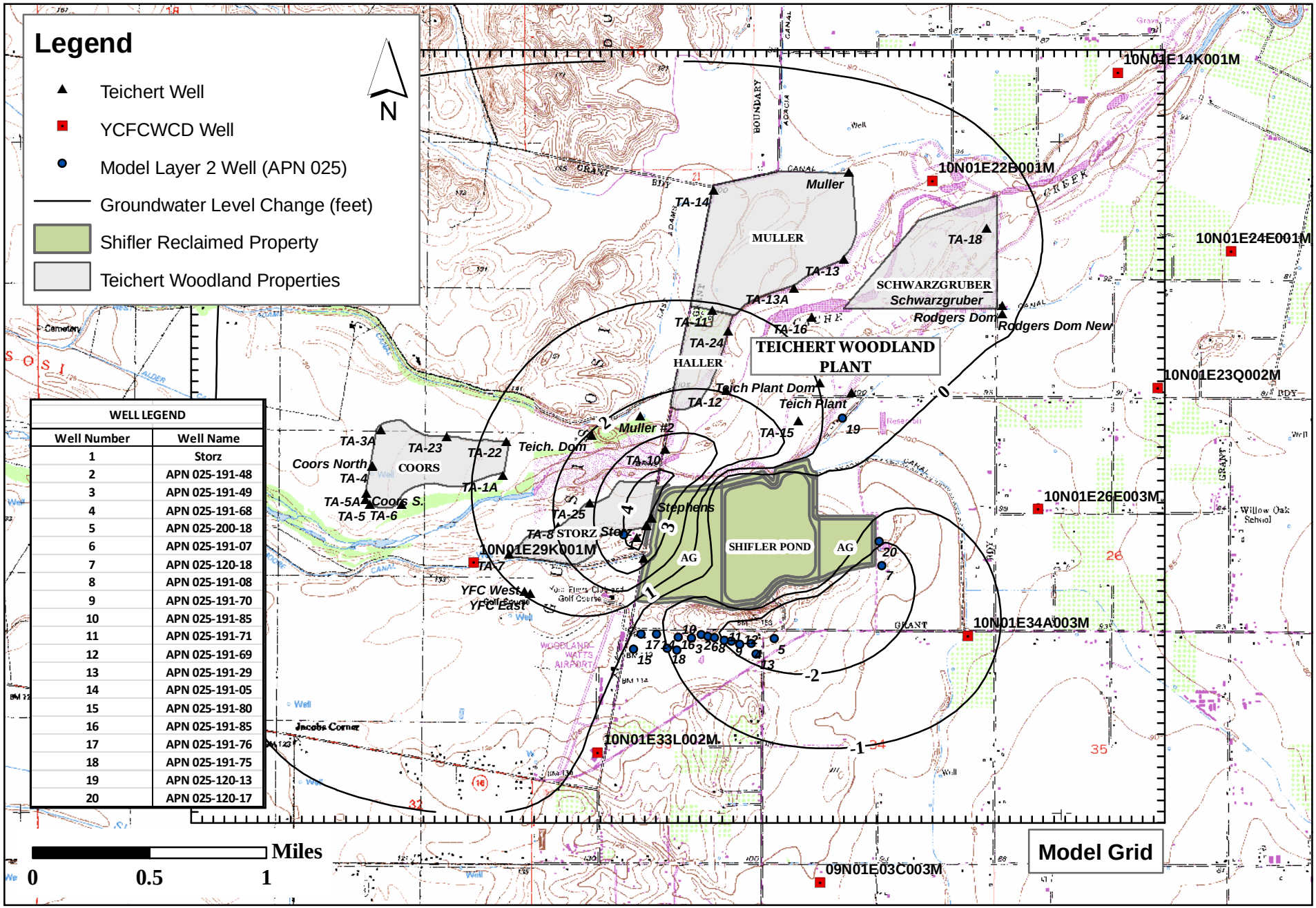

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Figure 28b

Simulated Contours, Equal Groundwater Level Change, Layer 2, Baseline vs Reclaimed

Teichert Woodland Plant Area

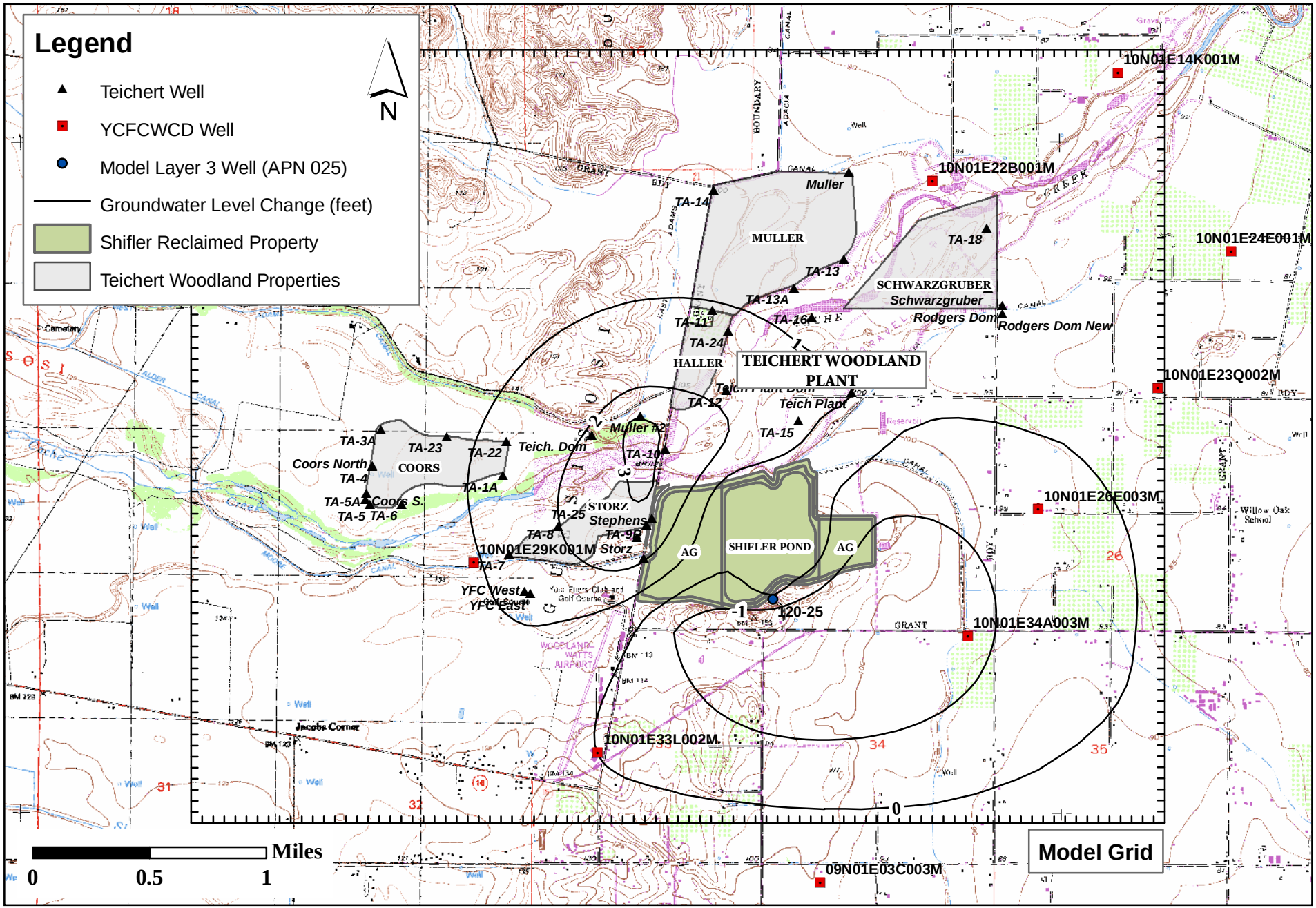

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Figure 28c

Simulated Contours, Equal Groundwater Level Change, Layer 3, Baseline vs Reclaimed

Teichert Woodland Plant Area

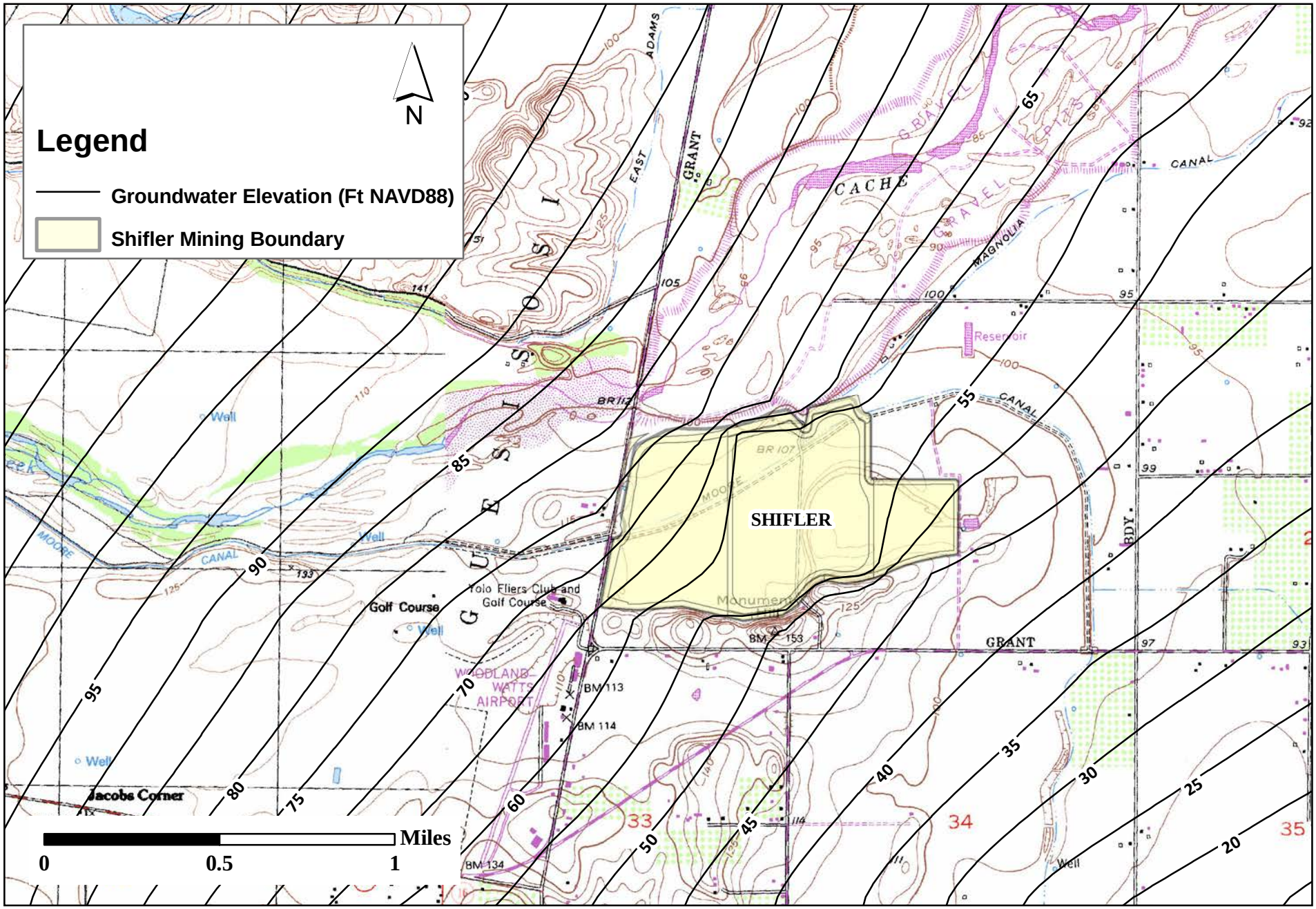

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Figure 29
Contours of Predicted Groundwater Elevation, Average Spring High, Post-Reclamation
Shifler Property, Teichert Woodland Plant Area

Table 1
Characterization of Active Off-Site Water Supply Wells
near the Shifler Property

Well Name	Well Use	Easting (NAD83)	Northing (NAD83)	Reference Point Elevation (Feet, NAVD88)	Well Depth (Feet)	Depth Reported	Model Row	Model Column	Bottom Model Layer	Top Layer Model Layer	Pumping (gpm)	Percent Pumping in Layer 1	Percent Pumping in Layer 2	Percent Pumping in Layer 3
Storz	Domestic/Irrigation	6599090.868000	2010878.849000	115.40	168	Yes	44	40	2	2	40	0	100	0
APN 025-191-48	Domestic	6600831.507950	2008624.547740	127	310	No	53	46	3	2	20	0	30	70
APN 025-191-49	Domestic	6600612.678610	2008537.907270	123	310	No	53	46	3	2	20	0	30	70
APN 025-191-68	Domestic	6601966.871150	2008422.344840	122	310	No	53	51	3	2	20	0	30	70
APN 025-200-18	Domestic/Irrigation	6602481.762310	2008532.606590	122	310	Yes	53	53	3	2	40	0	30	70
APN 025-191-07	Domestic	6600987.437170	2008585.087810	119	310	No	53	47	3	2	20	0	30	70
APN 025-120-18	Domestic	6604919.824710	2010187.513990	108	300	Yes	46	63	3	2	20	0	30	70
APN 025-191-08	Domestic	6601131.929560	2008557.629400	118	310	No	53	48	3	2	20	0	30	70
APN 025-191-70	Domestic	6601513.455300	2008472.994090	117	310	No	53	49	3	2	20	0	30	70
APN 025-191-85	Domestic	6600312.886030	2008566.593480	116	310	No	53	45	3	2	20	0	30	70
APN 025-191-71	Domestic	6601357.846860	2008488.415360	116	310	No	53	49	3	2	20	0	30	70
APN 025-191-69	Domestic	6601707.979200	2008399.000540	116	310	No	53	50	3	2	20	0	30	70
APN 025-191-29	Domestic	6602078.870330	2008179.974100	116	310	No	54	52	3	2	20	0	30	70
APN 025-191-05	Domestic	6599829.194780	2008631.430160	114	310	No	52	42	3	2	20	0	30	70
APN 025-191-80	Industrial	6599308.985150	2008289.067840	113	310	No	54	40	3	2	30	0	30	70
APN 025-191-85	Domestic	6600284.779780	2008270.107820	113	310	No	54	45	3	2	20	0	30	70
APN 025-191-76	Domestic	6599479.491850	2008628.733010	112	310	No	53	41	3	2	20	0	30	70
APN 025-191-75	Domestic	6600070.317070	2008316.040530	112	310	No	53	44	3	2	20	0	30	70
APN 025-120-13	Domestic	6604021.536600	2013518.295640	101	300	Yes	34	59	3	2	20	0	30	70
APN 025-120-17	Irrigation	6604853.899510	2010730.641990	99	300	Yes	44	63	3	2	40	0	30	70
APN 025-120-25	Irrigation	6602452.030950	2009426.787670	107	500	Yes	49	53	3	3	155	0	0	100

Table 2
Summary of Calibrated Model Parameters
Teichert Woodland Plant Area

Parameters	Baseline	Reclamation Scenario
Layer 1 bottom elevation (feet, NAVD88)	Ground surface minus 110 feet	Ground surface minus 110 feet
Layer 2 bottom elevation (feet, NAVD88)	Base of Layer 1 Contours minus 140 feet	Base of Layer 1 Contours minus 140 feet
Layer 3 bottom elevation (feet, NAVD88)	Base of Layer 2 Contours minus 330 feet	Base of Layer 2 Contours minus 330 feet
Layer 1 hydraulic conductivity (feet/day)		
Central portion of grid (Cache Creek Aggregate)	150	150
North and south portions of grid	100	100
Reclaimed pits - backfill	- - -	2.67
Reclaimed pits - pond	- - -	40,000
Layers 2 and 3 hydraulic conductivity (feet/day)	26.7	26.7
Leakance between layers (1/day)	0.0001	0.0001
General head cells		
Conductance (feet^2/day)	10,000	10,000
Head in Layer 1 (feet, NAVD88)	September 2008 Groundwater Level Contours	September 2008 Groundwater Level Contours
Head in Layer 2 (feet, NAVD88)	Layer 1 Head Contours minus 5 to 25 feet	Layer 1 Head Contours minus 5 to 25 feet
Head in Layer 3 (feet, NAVD88)	Layer 2 Head Contours minus 20 to 30 feet	Layer 2 Head Contours minus 20 to 30 feet
Recharge to Layer 1 (feet/day)	0.0017	0.0017
Cache Creek		
Conductance (feet^2/day)	6,250	6,250
Stage (feet above theoretical thalweg,NAVD88)	2.5 feet at west boundary to 1 foot at Stevens Bridge	2.5 feet at west boundary to 1 foot at Stevens Bridge
Pumpage		
37 Wells simulated with total flow in gpm (feet^3/day)	2700 gpm (519,900 ft^3/day)	2700 gpm (519,900 ft^3/day)

Table 3
Simulated Pumping in Model
Teichert Woodland Plant Area

Well Name	Well Use	Well Depth (Feet)	Bottom Model Layer	Top Layer Model Layer	Model Row	Model Column	Pumping (gpm)	Pumping (ft^3/dy)	Percent Pumping in Layer 1	Percent Pumping in Layer 2	Percent Pumping in Layer 3
Teichert Domestic	Irrigation	108	1	1	35	39	10	2,110	100	0	0
10N/01E-26E3	Irrigation	142	2	2	39	76	155	30,000	0	100	0
Storz	Domestic/Irrigation	168	2	2	44	40	40	7,700	0	100	0
Winther Dom	Domestic	160	2	2	26	73	20	3,850	0	100	0
Rodgers Dom New (S)	Domestic	165	2	2	24	74	20	3,850	0	100	0
Rodgers Dom (N)	Domestic	165	2	2	23	74	20	3,850	0	100	0
Schwarzgruber #2	Industrial	198	2	2	22	72	30	6,015	0	100	0
10N/01E-23Q2	Irrigation	216	2	2	31	88	155	30,000	0	100	0
Rodgers Ag	Irrigation	220	2	2	24	73	155	30,000	0	100	0
Mezger	Domestic	230	2	2	25	47	20	3,850	0	100	0
10N/01E-34A03	Irrigation	235	2	2	54	71	155	30,000	0	100	0
APN 025-191-48	Domestic	310	3	2	53	46	20	3,850	0	30	70
APN 025-191-49	Domestic	310	3	2	53	46	20	3,850	0	30	70
APN 025-191-68	Domestic	310	3	2	53	51	20	3,850	0	30	70
APN 025-200-18	Domestic/Irrigation	310	3	2	53	53	40	7,700	0	30	70
APN 025-191-07	Domestic	310	3	2	53	47	20	3,850	0	30	70
APN 025-120-18	Domestic	300	3	2	46	63	20	3,850	0	30	70
APN 025-191-08	Domestic	310	3	2	53	48	20	3,850	0	30	70
APN 025-191-70	Domestic	310	3	2	53	49	20	3,850	0	30	70
APN 025-191-85	Domestic	310	3	2	53	45	20	3,850	0	30	70
APN 025-191-71	Domestic	310	3	2	53	49	20	3,850	0	30	70
APN 025-191-69	Domestic	310	3	2	53	50	20	3,850	0	30	70
APN 025-191-29	Domestic	310	3	2	54	52	20	3,850	0	30	70
APN 025-191-05	Domestic	310	3	2	52	42	20	3,850	0	30	70
APN 025-191-80	Industrial	310	3	2	54	40	30	6,015	0	30	70
APN 025-191-85	Domestic	310	3	2	54	45	20	3,850	0	30	70
APN 025-191-76	Domestic	310	3	2	53	41	20	3,850	0	30	70
APN 025-191-75	Domestic	310	3	2	53	44	20	3,850	0	30	70
APN 025-120-13	Domestic	300	3	2	34	59	20	3,850	0	30	70
APN 025-120-17	Irrigation	300	3	2	44	63	40	7,500	0	30	70
Muller #3	Irrigation	320	3	2	26	74	155	30,000	0	30	70
10N/01E-33L02	Irrigation	395	3	2	64	37	155	30,000	0	30	70
Muller #2	Irrigation	430	3	3	34	41	155	30,000	0	0	100
Teichert Plant	Industrial	453	3	3	31	59	450	86,250	0	0	100
APN 025-120-25	Irrigation	500	3	3	49	53	155	30,000	0	0	100
YFC East	Irrigation	566	3	3	50	31	260	49,650	0	0	100
Coors North	Irrigation	580	3	3	38	17	155	30,000	0	0	100
						Total	**2,695**	**519,940**			

Table 4
Model Calibration Comparison of Simulated and Observed Groundwater Levels, September 2008

Well Name	Well Use	Model Layer	Model Row	Model Column	Simulated Head (Ft, NAVD88)	Measured Head* (Ft, NAVD88)	Difference (Feet)	Average Mean Difference by Layer (Feet)
Teichert Dom	Domestic	1	35	39	75	73.42	1.6	
TA-18	Observation	1	17	72	51	53.98	-3.0	
Schwarzgruber	Observation	1	22	73	45	44.92	0.1	
Stephens	Observation	1	41	42	60	56.87	3.1	
TA-13A	Observation	1	23	55	62	44.42	17.6	
YFC West	Observation	1	49	30	66	75.15	-9.1	
TA-12	Observation	1	31	48	65	63.91	1.1	
TA-14	Observation	1	13	48	79	74.82	4.2	
TA-10	Observation	1	35	43	66	77.58	-11.6	
TA-1/1A	Observation	1	39	29	79	90.60	-11.6	
TA-22	Observation	1	36	29	82	93.26	-11.3	
TA-23	Observation	1	35	24	87	94.00	-7.0	
TA-3/3A	Observation	1	35	18	93	100.74	-7.7	
TA-5/5A	Observation	1	41	16	88	95.58	-7.6	
TA-6	Observation	1	41	19	85	92.93	-7.9	
TA-4	Observation	1	38	17	90	97.54	-7.5	**-3.5**
10N/01E-26E3	Irrigation	2	39	76	31	28.77	2.2	
Storz	Domestic/Irrigation	2	44	40	60	32.34	27.7	
Schwarzgruber #2	Industrial	2	22	72	45	15.89	29.1	
10N/01E-23Q2	Irrigation	2	31	88	29	26.57	2.4	**15**
Muller #2	Irrigation	3	34	41	50	-4.40	54.4	
Teichert Plant	Industrial	3	31	59	47	8.00	39.0	
YFC East	Irrigation	3	50	31	55	17.13	37.9	
Coors North	Irrigation	3	38	17	75	22.18	52.8	**46**

***Groundwater Elevations, September 2008 (NAVD88)**

Table 5
Simulated Impacts to Groundwater Levels
in Active Off-Site Water Supply Wells near the Shifler Property
Baeline vs. Reclaimed Scenario

Well Name	Well Use	Model Layer	Model Row	Model Column	Groundwater Elev. Post-Project Reclamation (NAVD88)	Groundwater Elev. Baseline Calibrated (NAVD88)	Change in Groundwater Elev. by Layer (Feet)	Change in Groundwater Elev. by Well (Feet)
Storz	Domestic/Irrigation	2	44	40	63.7	59.6	4.1	4.1
APN 025-191-48	Domestic	2	53	46	44.0	45.7	-1.7	-1.5
		3	53	46	43.6	45.0	-1.4	
APN 025-191-49	Domestic	2	53	46	44.0	45.7	-1.7	-1.5
		3	53	46	43.6	45.0	-1.4	
APN 025-191-68	Domestic	2	53	51	39.4	41.7	-2.3	-2.1
		3	53	51	38.4	40.3	-1.9	
APN 025-200-18	Domestic/Irrigation	2	53	53	37.4	39.9	-2.5	-2.2
		3	53	53	36.1	38.1	-2.0	
APN 025-191-07	Domestic	2	53	47	43.2	45.0	-1.9	-1.7
		3	53	47	42.8	44.3	-1.6	
APN 025-120-18	Domestic	2	46	63	36.1	38.3	-2.2	-2.0
		3	46	63	36.2	37.9	-1.7	
APN 025-191-08	Domestic	2	53	48	42.2	44.1	-2.0	-1.8
		3	53	48	41.6	43.3	-1.7	
APN 025-191-70	Domestic	2	53	49	40.9	43.0	-2.1	-1.9
		3	53	49	40.3	42.0	-1.8	
APN 025-191-85	Domestic	2	53	45	45.4	46.9	-1.5	-1.4
		3	53	45	45.1	46.3	-1.2	
APN 025-191-71	Domestic	2	53	49	40.9	43.0	-2.1	-1.9
		3	53	49	40.3	42.0	-1.8	
APN 025-191-69	Domestic	2	53	50	40.2	42.4	-2.2	-2.0
		3	53	50	39.5	41.3	-1.8	
APN 025-191-29	Domestic	2	54	52	37.9	40.3	-2.4	-2.2
		3	54	52	37.1	39.1	-2.0	
APN 025-191-05	Domestic	2	52	42	50.6	51.1	-0.5	-0.3
		3	52	42	50.4	50.6	-0.2	
APN 025-191-80	Industrial	2	54	40	51.4	51.4	0.0	0.0
		3	54	40	50.9	50.8	0.0	
APN 025-191-85	Domestic	2	54	45	45.0	46.4	-1.4	-1.3
		3	54	45	44.5	45.7	-1.2	
APN 025-191-76	Domestic	2	53	41	51.1	51.3	-0.2	-0.1
		3	53	41	50.7	50.8	-0.1	
APN 025-191-75	Domestic	2	53	44	46.9	48.1	-1.2	-1.1
		3	53	44	46.6	47.6	-1.0	
APN 025-120-13	Domestic	2	34	59	50.6	49.9	0.7	0.7
		3	34	59	48.4	47.7	0.8	
APN 025-120-17	Irrigation	2	44	63	37.9	39.5	-1.6	-1.5
		3	44	63	37.7	39.0	-1.3	
APN 025-120-25	Irrigation	3	49	53	19.1	18.1	1.0	1.0

APPENDIX

Table A1
Teichert and YCFCWCD Monitoring Network Information
Teichert Aggregates Woodland Plant Area

Well Network

Well Name	Well Type	Current Status	Easting (NAD 83)	Northing (NAD 83)	Reference Point Elevation (Feet, NAVD88)	Well Depth (Feet)	Periods of Record (Levels)	Periods of Record (Quality)	Monitoring and Reporting Entity	Note Code
TA-1A	Monitoring	NA	6,596,353.559	2,012,240.070	112.96	39.7	1987 - 2015	2005 - 2015	Teichert	
TA-1	Monitoring	NA	6,596,353.559	2,012,240.070	112.72	23.9	1986 - 1989	- - -	Teichert	1
TA-3A	Monitoring	NA	6,593,592.840	2,013,271.854	119.06	33.0	1992 - 2015	2005 - 2007	Teichert	
TA-3	Monitoring	NA	6,593,592.840	2,013,271.854	121.33	20.7	1986 - 1993	- - -	Teichert	1
TA-4	Monitoring	NA	6,593,395.982	2,012,443.672	121.97	28.6	1986 - 2015	- - -	Teichert	1
TA-5A	Monitoring	NA	6,593,246.394	2,011,687.500	121.00	34.3	1987 - 2015	1995 - 2015	Teichert	
TA-5	Monitoring	NA	6,593,335.232	2,011,588.210	119.72	27.9	1986 - 2015	- - -	Teichert	1
TA-6	Monitoring	NA	3,594,064.231	2,011,596.049	118.12	28.4	1986 - 2015	- - -	Teichert	1
TA-7	Monitoring	NA	6,596,495.252	2,010,447.499	113.71	35.0	1986 - 1986	- - -	Teichert	1
TA-8	Monitoring	NA	6,597,595.911	2,011,068.992	112.69	32.3	1986 - 2015	- - -	Teichert	1
TA-9R	Monitoring	NA	6,599,597.971	2,011,102.202	114.26	71.8	1987 - 2015	1992 - 1995	Teichert	1
TA-9	Monitoring	NA	6,599,597.971	2,011,102.202	114.24	50.0	1986 - 2015	- - -	Teichert	1
TA-10	Monitoring	NA	6,600,001.230	2,012,833.841	105.79	36.3	1986 - 2015	- - -	Teichert	1
TA-11	Monitoring	NA	6,601,085.682	2,015,970.833	104.64	39.8	1986 - 2015	- - -	Teichert	1
TA-12	Monitoring	NA	6,601,403.237	2,014,158.845	96.98	36.3	1986 - 2015	- - -	Teichert	1
TA-13A	Monitoring	NA	6,602,927.500	2,016,472.184	99.83	61.5	1987 - 2015	1995 - 2015	Teichert	
TA-13	Monitoring	NA	6,604,070.698	2,017,114.992	95.81	39.6	1986 - 2015	- - -	Teichert	1
TA-14	Monitoring	NA	6,601,118.400	2,018,700.842	106.25	37.0	1986 - 2015	1992 - 2015	Teichert	
TA-15	Monitoring	NA	6,603,031.427	2,013,458.300	77.04	40.0	1986 - 2015	- - -	Teichert	1
TA-16	Monitoring	NA	6,603,335.510	2,015,813.980	96.98	40.2	1986 - 2015	- - -	Teichert	1
TA-17	Monitoring	NA	6,604,880.000	2,014,934.000	73.35	34.0	1986 - 2015	- 1992	Teichert	1
TA-18	Monitoring	NA	6,607,284.738	2,017,834.784	84.43	59.8	1986 - 2015	2012 - 2015	Teichert	
TA-22	Monitoring	NA	6,596,440.720	2,013,008.912	115.48	39.0	1992 - 2015	- - -	Teichert	1
TA-23	Monitoring	NA	6,595,092.555	2,013,115.726	116.87	33.0	1992 - 2015	- - -	Teichert	1
TA-24	Monitoring	NA	6,601,446.540	2,015,497.387	119.06	45.0	1992 - 2015	- - -	Teichert	1
TA-25	Monitoring	NA	6,598,321.777	2,011,614.577	110.53	71.2	2009 - 2015	2009 - 2015	Teichert	
YFC-West	Water Supply	Inactive	6,596,845.242	2,009,602.955	116.91	65	1986 - 2015	- - -	Teichert	1
Stephens	Water Supply	Inactive	6,599,721.321	2,011,828.482	112.62	75	1987 - 2015	2009 - 2015	Teichert	
Schwarzgruber	Water Supply	Inactive	6,607,315.531	2,016,472.184	95.25	65	1987 - 2015	2012 - 2015	Teichert	
Coors North	Irrigation	Inactive	6,593,416.229	2,012,435.273	119.88	580	1987 - 2015	- - -	Teichert	1
Coors South	Irrigation	Inactive	6,593,270.563	2,011,845.972	119.58	630	1987 - 1990	- - -	Teichert	1
YFC-East	Irrigation	Active	6,596,976.775	2,009,563.983	116.86	566	1986 - 2015	- - -	Teichert	1
Storz	Water Supply	Active	6,599,553.841	2,010,932.897	115.40	168	1987 - 2015	- - -	Teichert	1
Muller	Irrigation	Inactive	6,604,170.776	2,019,093.456	95.65	- - -	1991 - 2015	- - -	Teichert	1, 2
Muller #2	Irrigation	Active	6,599,463.265	2,013,577.624	109.67	430	1992 - 2015	- - -	Teichert	1
Schwarzgruber #2	Industrial	Active	6,607,315.531	2,016,472.184	94.54	198	1991 - 2015	- - -	Teichert	1
Teichert Plant	Industrial	Active	6,604,232.362	2,014,116.505	97.73	453	1987 - 2015	- - -	Teichert	1
Teichert Plant Domestic	Water Supply	Active	6,603,516.420	2,014,332.057	97.54	- - -	1998 - 2015	- 1995	Teichert	1, 2
Teichert Domestic	Water Supply	Active	6,598,363.371	2,013,141.707	110.79	108	1991 - 2015	- - -	Teichert	1
09N/1E-03C3	Water Supply	Unknown	6,603,535.812	2,003,025.135	102.78	567	1941 - 2015	- - -	YCFCWCD	1, 3
10N/1E-14K1	Water Supply	Unknown	6,610,259.000	2,021,345.000	92.8	77	1957 - 2015	- - -	YCFCWCD	1, 3
10N/1E-23Q2	Water Supply	Unknown	6,611,157.000	2,014,209.000	91.8	220	1950 - 2015	- - -	YCFCWCD	1, 3
10N/1E-24E1	Water Supply	Unknown	6,612,807.000	2,017,307.000	88.8	194	1950 - 2015	- - -	YCFCWCD	1, 3
10N/1E-26E3	Water Supply	Unknown	6,608,451.000	2,011,472.000	100.8	142	1956 - 2015	- - -	YCFCWCD	1, 3
10N/1E-29K1	Water Supply	Unknown	6,595,693.000	2,010,251.000	113.8	336	1951 - 2015	- - -	YCFCWCD	1, 3
10N/1E-33L2	Water Supply	Unknown	6,598,497.000	2,005,957.000	134.3	416	1972 - 2015	- - -	YCFCWCD	1, 3
10N/1E-34A3	Water Supply	Unknown	6,606,845.000	2,008,551.000	102.8	242	1951 - 2015	- - -	YCFCWCD	1, 3

Ponds

Pond Name	Pond Type	Current Status	Period of Record (Quality)	Monitoring and Reporting Entity	Note Code
Muller	Wet Pit	Reclamation complete, backfilled agricultural land and restored wetland	2005 - 2015	Teichert	
Coors	Wet Pit	Reclamation complete, backfilled entirely to agricultural land	2007 - 2014	Teichert	
Storz	Wet Pit	Active	2011 - 2015	Teichert	

1) Well monitored for groundwater levels only, not used for groundwater quality monitoring

2) Well depth unknown

3) Reference Point Elevations updated October 2015, from Yolo County WRID

Table A2
Depth-to-Water Measurements – Teichert Aggregates, Woodland Properties

(all measurements in feet below reference point)

Date	TA-1	TA-1A	TA-3	TA-3A	TA-4	TA-5	TA-5A	TA-6	TA-7	TA-8	TA-9	TA-9R	TA-10	TA-11	TA-12	TA-13	TA-13A	TA-14	TA-15	TA-16	TA-17	TA-18	TA-22	TA-23	TA-24	TA-25	Coors North	Coors South	YFC-West	YFC-East	Storz	Stephens	Muller	Muller #2	Schwarz-gruber	Schwarz-gruber #2	Teichert Dom	Teichert Plant Dom	Teichert Plant	Teichert Plant New
6/26/1986	17.00		14.00	--	20.00	20.20		19.80	24.00	23.50	41.00		23.50	23.00	26.50			20.00	24.00	21.50	29.00	25.50							30.00	81.00											
7/21/1986	22.43			--	26.93	25.43		24.82	32.06				28.42	30.40	24.24			26.64	34.31	28.27		35.57							37.05	91.40											
8/18/1986	23.50			--	27.58	25.96		25.21					28.48	38.06	32.25	40.85		30.80	34.05	29.80		36.90							34.68	83.85											
9/18/1986	23.53		20.41	--	27.95	26.23		25.38					28.48	39.10	32.45			31.79	33.62	28.06	51.25	36.40							40.94	71.62											
10/20/1986				--		26.49		25.38					28.54		32.50			33.25	32.21	26.21	48.86	36.46							41.67	68.42											
11/14/1986	23.68		20.38	--	28.33	26.58		25.58					28.83		32.79				31.42	26.35	47.92	36.39							42.00	66.21											
12/16/1986	23.70		20.33	--	28.18	26.85		25.59					28.74		32.85				30.83	28.82	47.10	36.16							41.66	58.82											
1/16/1987	23.60		20.13	--	28.08	26.52		25.51					28.60	39.68	32.66				29.83		46.06	36.10							41.02	56.19											
2/3/1987	23.60		20.30	--	28.08	26.54		25.48					28.47		32.52				30.00		46.21	35.79							40.88	56.90											
2/18/1987	23.60		20.30	--	28.08	27.00		25.63					28.27	39.68	31.79				28.52	26.13	38.58	33.04							41.02	56.02											
3/13/1987	23.60		20.48	--	28.43	26.00		25.73					27.55		31.53				26.45	25.69	38.75	31.24							40.60	54.45											
4/17/1987		27.67		--			28.85	26.85				50.96	29.32		32.51		46.47	26.58	27.38	26.02	42.22	32.86					65.52	67.06	39.85	80.88	58.59	50.25			49.30				76.60	
5/19/1987		26.61		--	28.18	27.25	28.00	26.33				52.60	28.75		32.14		50.48	27.20	36.72	28.48		36.26					73.81	75.00	40.09	86.46		52.09			53.50				81.69	
6/15/1987		26.35		--	26.89	25.88	26.96	24.30				54.97	28.98		32.33		53.34	25.96		30.30		37.98					65.30	66.51	42.62	92.31		54.49			54.69					
7/17/1987		26.52		--	26.10		27.10	25.27				57.30	29.64		33.34		55.82	30.03		27.16		43.01					68.49	69.60				56.68			57.30					
8/20/1987		26.07		--	27.10	25.66	26.69	24.89				58.33	29.07		32.84		55.84	29.60		26.57		42.35					67.80	68.34				57.57			62.52					
9/21/1987		26.34		--	27.42	25.96	27.09	25.23				58.95					55.49	31.50		27.64		40.07					63.46	64.10				58.35								
10/14/1987		26.39		--	27.91	26.17	27.30	25.33				59.18	29.02		32.75		54.59			25.93		40.15					61.43	62.24				58.57			57.51					
11/23/1987		26.57		--	27.62	26.29	27.44	25.32				58.44	29.05	38.35	32.79		54.34			27.16		39.43					57.74	58.65	44.92	64.21		57.76			56.43					
12/15/1987		26.46	20.50	--	28.20	26.32	27.49	25.37				57.39	28.60		32.01		53.30		36.52	29.38		36.52					56.11	57.06	43.98	62.38		56.66			54.56					
1/18/1988	23.46	25.13	20.47	--	28.26	26.25	27.43	24.98				54.64	26.54		22.07		50.26	30.83	31.39		38.43	29.79					53.57	54.61	42.23	58.70	58.16	53.76			51.36				59.48	
2/16/1988	23.23	26.19	20.46	--	28.28	26.47	27.64	25.48				52.25	28.81		30.95		49.03		28.74		46.70	33.09					52.20	53.28	40.87	60.00	55.67	51.27			50.64				65.75	
3/15/1988		26.42		--	27.53		27.81	25.67				50.93	28.75		31.10		47.94		27.82	26.19	46.39	34.04					51.43	51.06			55.13	50.10			50.80				71.52	
4/15/1988	23.31	25.65	20.46	--	28.32	26.76	27.92	25.92		31.80		51.51	28.71		31.31		48.67	26.53	35.37	24.82		38.24					54.98	55.94	38.78	66.98		50.94			54.32					
5/17/1988	23.30	26.35	20.47	--	28.32	26.43	28.01	26.02				52.70	29.35		31.88		50.55	30.71	36.15	27.20		38.69					57.49	58.39	40.33	72.58		51.93			55.34					
6/30/1988	23.37	25.71	20.04	--	26.02	25.25	26.35	24.65				55.53	28.93		32.46		54.47	29.02		28.76		42.07					71.08	73.35	42.39	80.72		55.00			55.47				90.36	
7/20/1988	23.39	25.72	20.49	--	26.02	25.12	26.22	24.46				56.82	28.77		32.51		55.28	29.09		31.82		44.02					70.67	72.55	43.79	100.47		56.25			60.73					
8/16/1988	23.40	25.73	20.49	--	26.54	25.33	26.46	24.52				57.57	28.78		32.67		55.01	30.06		25.88		43.78					67.05	68.12	44.67	88.15		56.93			59.39					
9/20/1988	23.43	25.04	20.49	--	27.55	25.84	26.99	25.03				57.72	28.79		32.76		55.56	29.75		27.01		44.20					76.89	78.00	45.14	88.05	76.18	56.96								
10/21/1988	23.44	26.39	20.49	--	27.97	25.18	27.33	25.33				58.57	28.84		32.92		55.32			25.09		41.97					62.60	63.62	45.14	73.78	72.02	57.92			64.44					
11/11/1988	23.46	26.61	20.50	--	28.14	26.31	27.46	25.36				58.39	28.74		32.97		55.19			25.41		40.23					61.04	62.04	44.73	70.29	70.59	57.73			61.59					
12/16/1988	23.50	26.80	20.50	--	28.27	25.47	27.63	25.47				57.49	28.49		32.99		55.31			32.50		39.78					58.02	58.93	43.89	65.90	64.65	56.83			56.50					
1/16/1989	23.45	26.57	20.50	--	28.33	26.57	27.74	25.56				56.57	28.65		32.73		55.21		38.03			38.19					55.93	56.87	43.20	61.94		55.90			55.97				62.29	
2/23/1989	23.48	26.87	20.50	--	28.36	26.77	27.92	25.74				56.18	28.80		32.98		54.74		37.56	34.43		38.84					54.33	55.33	42.68	59.91	68.18	55.52			55.92					
3/28/1989	23.48	26.32	20.50	--	28.40	26.79	27.96	25.82				54.85	28.33		31.73		51.05		32.68	30.75		32.18					54.07	55.01	42.12	59.68	59.14	54.00			52.34					
4/18/1989	23.47	26.95	20.51	--	28.42	26.92	28.13	26.00				54.23	28.82		32.28		50.76	28.17	34.92	30.94		34.72					64.45	66.08	42.03	74.03	61.71	53.89			52.98				77.18	
5/23/1989	23.47	26.70	20.52	--	28.34	26.84	27.96	23.12				56.48	28.81		32.61		54.12	27.16		32.86		39.05					78.72	78.29	43.87	95.04		56.09			54.81					
6/29/1989	23.44	26.14	20.23	--	28.28	26.41	27.53	25.58				58.78	29.09		32.98		54.59	29.33		31.15		45.03					71.86	72.53	46.66		81.28	58.16			56.86					
8/8/1989	--	26.00	20.50	--	28.04	26.34	27.48	25.54				59.75	29.15		33.05		56.28	30.51		27.53		59.05					73.43	73.77	48.25	98.58		59.19			59.70					
9/25/1989	--	26.38	20.51	--	28.10	26.36	27.51	25.42				60.14	28.90		33.02		56.61	34.94		32.23		45.61					70.42	70.86	48.44		77.04	59.63								
10/16/1989	--	26.14	20.51	--	28.15	26.38	27.53	25.40				60.09	29.04		33.11		57.59					44.44					67.62	68.13	47.68		73.79	59.47								
11/28/1989	--	26.70	20.51	--	28.23	26.49	27.66	25.38				59.55	28.94		32.77		58.62					37.65					64.59	65.22	46.28	69.42	69.14	59.04			58.99					
1/5/1990	--	26.55	20.52	--	28.30	26.64	27.82	25.68				59.00	28.94		32.50		58.81					36.25					61.88	62.47	45.34	67.30	66.36	58.47			56.09				70.74	
2/14/1990	--	26.36	20.54	--	28.30	26.72	27.91	26.63				57.85	28.54		31.67		55.87					34.26					59.28	60.08	44.42	65.07	63.58	57.22			54.39					
3/14/1990	--	26.29	20.52	--	28.33	26.73	27.97	25.68				56.61	28.59		31.64		54.08		38.38		26.34	33.89					58.01	58.68	43.73	63.27	62.24	55.96			53.61					
4/16/1990	--	26.56	20.48	--	28.35	26.73	27.92	25.98				57.34	29.01	39.50	32.74		57.33	28.14				44.39					87.20		43.54	110.00	79.10	56.83			57.92					
5/23/1990	--	26.32	20.42	--	28.35	27.10	28.31	26.30				59.03	28.98		32.36		61.09	28.75			21.44						87.54	89.83	46.00	109.48	103.10	58.47							125.00	
6/15/1990	--	26.13	20.48	--	28.36	27.13	28.28	26.45				59.44	29.14		32.49			29.05			21.23						87.19	--	46.73	109.35	122.69	58.88							123.89	
7/18/1990	--	26.07	20.48	--	28.37	26.59	27.69	25.94				60.00	29.19		34.36			30.45									87.00	--	47.89	114.33	130.82	59.43							124.28	
8/21/1990	--	26.07	20.49	--	27.80	25.88	27.10	24.80				60.51	29.48		35.31			30.51									86.45	--	49.16	110.29	117.34	59.92							111.79	
9/24/1990	--	26.42	20.48	--	28.12	26.38	27.60	25.64				60.63	29.96		35.69						20.06						85.40	--	49.29	113.58	102.35	60.15							132.00	
10/24/1990	--	26.73	20.48	--	28.27	26.69	27.84	25.92				60.48	29.95		35.72						19.77						86.98	--	49.54	107.82		60.25							125.30	
11/26/1990	--	26.74	20.49	--	28.27	26.73	27.98	25.90				60.59	29.98		35.72						20.67						86.45	--	48.59	94.58	84.56	60.03							133.56	
12/14/1990	--	26.73	20.49	--	28.33	26.85	28.05	25.92				60.42	29.45		35.72						20.59						84.47	--	48.33	90.40	82.01	59.87							124.72	
1/28/1991	--	26.74	20.49	--	28.35	26.94	28.16	25.91					28.85		35.71												86.45	--	47.48	92.27	104.72	59.53							91.26	
2/19/1991	--	26.41	20.49	--	28.40	26.97	28.16	26.00				59.98	28.91		33.19			28.01									86.97	--	47.73	97.11	85.81	59.45							124.22	
3/19/1991	--	25.92	20.49	--	28.37	26.54	27.86	25.61				59.67	27.77		23.10		58.39	32.01			17.43	38.88					83.07	--	47.41	88.24	79.28	59.05							123.80	
4/22/1991	--	26.36	20.49	--	28.32	26.76	27.95	25.79				59.21	28.77		32.20		56.67	27.47			18.55	42.44					86.52	--	46.69	98.20	85.00	58.55				90.70			93.00	
5/30/1991	--	25.77	20.49	--	28.33	26.68	27.84	25.77				58.95	28.60		32.45			27.58			19.95	52.54					87.49	--	45.77	109.75	109.39	58.47				112.25			124.38	

Table A2
Depth-to-Water Measurements – Teichert Aggregates, Woodland Properties

(all measurements in feet below reference point)

Date	TA-1	TA-1A	TA-3	TA-3A	TA-4	TA-5	TA-5A	TA-6	TA-7	TA-8	TA-9	TA-9R	TA-10	TA-11	TA-12	TA-13	TA-13A	TA-14	TA-15	TA-16	TA-17	TA-18	TA-22	TA-23	TA-24	TA-25	Coors North	Coors South	YFC-West	YFC-East	Storz	Stephens	Muller	Muller #2	Schwarz-gruber	Schwarz-gruber #2	Teichert Dom	Teichert Plant Dom	Teichert Plant	Teichert Plant New
7/2/1991	--	23.75	20.38	--	27.15	25.63	26.73	24.95				58.71	28.59		32.28		53.54	29.10			18.64	46.25					86.26	--	46.49	110.20	127.11	58.13	258.37			124.31			124.21	
7/31/1991	--	22.64	20.35	--	26.98	25.53	26.67	24.62				59.49	28.20		31.90		57.85	28.94			18.92	52.72					86.04	--	47.95	110.85	136.13	58.84	121.34			128.49	77.43		134.37	
8/28/1991	--	22.78	20.05	--	27.37	25.75	26.89	24.71				60.28	29.00		33.75		59.96	30.52			19.18						87.25	--	49.41	112.13	131.74	59.75	109.14			123.00	68.21		124.69	
9/25/1991	--	23.62	20.45	--	27.67	26.00	27.16	25.03				60.76	28.50		33.71	30.29	60.16	30.31			20.04	48.39					87.08	--	50.09	118.05	123.60	60.12	106.60			111.33	65.62		126.15	
10/29/1991	--	25.65	20.47	--	28.12	26.29	27.45	25.21				60.98	29.65		34.93						21.05	50.71					87.45	--	50.41	102.56	89.80	60.35	105.91			101.71	65.53		125.06	
11/26/1991	--	25.94	20.44	--	28.12	26.46	27.62	25.32				60.91	29.44		35.74												87.48	--	49.86	102.68	86.07	60.31	104.29			96.83	63.21		124.20	
12/19/1991	--	26.20	20.45	--	28.18	26.55	27.74	25.40				60.68	29.64		35.74												86.43	--	49.49	94.83	83.00	60.19	103.37			93.78	62.87		123.75	
1/20/1992	--	26.32	20.07	--	28.23	26.63	27.81	25.60				60.43	28.63		32.50						31.72	53.86					82.00	--	48.99	90.90	78.42	59.82	101.98	83.9		89.90	59.93		89.15	
2/25/1992	--	25.46	19.37	--	28.34	26.38	27.57	25.41				59.73	27.84		29.66		56.32	35.33			18.26	35.29					77.76	--	47.86	90.44	76.10	59.16	97.71	80.2		85.57	56.27		123.65	
3/19/1992	--	25.73	19.06	--	28.35	26.47	27.66	25.48				59.41	27.89		30.73		54.08				19.10	32.43					75.59	--	47.18	82.58	74.60	58.81	94.82	78.4	56.63	80.82	54.63		123.73	
4/30/1992	--	26.05	19.44	--	28.35	26.31	26.05	25.53				59.48	28.77		31.98		53.88	28.57			21.18	44.24						--	46.75	120.70	113.73	58.91	112.72	183.8	58.15	93.36	66.06		115.73	
5/22/1992	--	25.41		--	28.25	26.16	27.29	24.99				58.95	28.84		32.21		56.26	28.16				47.69						--	46.07	149.58	123.79	58.51	111.45	178.3		109.11	72.84		123.98	
6/26/1992	--	22.09	18.30	--	26.74	25.30	26.47	24.28				59.43	28.24		31.83		56.32	29.14									87.01	--	47.27		127.58	58.81	113.99	197.7		123.53	78.36		134.65	
7/22/1992	--	21.89	18.94	--	27.31	25.56	26.83	24.72				59.94	28.89		33.30		59.93	30.00				49.91					86.93	--	47.84	150.73	127.62	59.25	114.22	144.1		128.89	78.16		125.92	
8/21/1992	--	22.59	18.23	--	27.73	25.99	27.15	24.98				60.54	28.73		33.35			31.74									87.42	--	49.76	71.73	124.58	60.00	112.15	128.9		124.57	78.62		130.71	
9/22/1992	--	25.61	18.30	--	28.10	26.37	27.51	25.44				61.08	29.29		35.62												87.30	--	50.08		103.21	60.43	111.22	120.5		115.41	71.28		127.06	
10/21/1992	--	26.03	18.30	--	28.22	26.65	27.82	25.70				61.15	28.31		34.27												87.50	--	49.98	57.75	97.29	60.52	110.76	114.5		107.61	72.64		125.85	
11/24/1992	--	26.12	17.59	22.92	28.29	26.68	27.86	25.68				60.88	29.46		33.85								25.35	24.58			87.14	--	49.43	52.36	88.30	60.24	108.91	105.1		99.98	65.00		124.65	
12/15/1992	--	25.88		23.05	28.31	26.38	27.57	25.42				60.68	27.87		31.52						20.24	43.16	25.27	24.69				--	49.00	48.08	85.12	60.03	106.83			96.37	62.31		126.63	
1/25/1993	--	21.52	18.14	22.44	28.26	25.24	26.44	24.44		30.95		58.45	25.33		21.23	25.68	48.28	31.84	31.51	28.95	16.59	23.14	22.45	23.50			81.16	--	44.81	38.61	78.52	57.64	100.83	92.4	53.10	85.55	55.00		82.91	
2/25/1993	--	20.95	--	20.61	26.99	24.59	25.79	23.77		30.27		56.55	24.82		20.50	24.16	42.55	30.80	39.80	27.95	16.05	19.96	21.73	22.40	47.39		75.35	--	41.79	37.23	73.24	55.79	92.74	86.2	49.52	74.03	51.98		73.08	
3/29/1993	--	21.94	--	19.58	25.91	24.72	25.86	23.77				54.21	28.58		24.21	39.50	42.76	34.18	34.20		19.58	24.92	21.93	21.63			71.02	--	40.55	32.38	68.30	53.54	85.81	81.7	49.56	66.04	50.20		65.62	
4/29/1993	--	22.47	--	20.08	26.79	25.26	26.41	24.20				53.71	28.99		30.60	40.79	45.08	28.90	33.42		20.24	28.36	21.84	22.17			79.08	--	40.10	35.15	66.27	53.22	249.59	79.7	50.66	69.97	49.73		126.38	
5/25/1993	--	22.03	--	18.45	26.17	24.90	26.15	24.00				54.80	29.06		31.20		40.08	29.47			21.17	30.01	20.97	20.93			87.90	--	41.41	49.47	102.38	54.29	94.13	106.2	52.89	85.45	61.09		124.59	
6/29/1993	--	21.74	--	18.83	25.51	24.49	25.65	23.63				56.68	29.11		30.71		50.31	29.65			20.15	31.18	20.77	20.67			87.83	--	42.83		105.99	56.12	98.98	114.0	53.91	96.22	62.32		124.35	
7/27/1993	--	21.88	--	19.31	25.80	24.82	25.96	23.88				57.52	29.10		31.02		53.29	30.86			21.20	32.95	21.19	21.32			118.46	--	43.90		93.00	56.95	95.05	168.4	55.37	98.25	66.91		124.36	
8/31/1993	--	22.24	--	21.27	26.67	25.25	26.38	24.35				58.61	29.25		32.83		55.46	31.74			20.53	36.42	21.65	22.08			106.35	--	45.33		90.40	58.01	94.82	108.3	56.29	89.00	75.98		124.43	
9/28/1993	--	22.70	--	20.91	27.20	25.42	26.69	24.62				59.17	29.25		32.85		54.87	30.58			20.91	38.01	22.33	22.57			86.90	--	46.13		87.22	58.62	92.51	102.5	56.30	84.04	74.75		125.21	
10/28/1993	--	23.37	--	21.46	27.59	25.78	26.94	24.71				59.30	29.17		32.77		55.26	36.20			21.02	37.13	23.33	23.19			82.49	--	45.78		81.20	58.75	90.66	95.5	56.27	77.20	60.75		124.10	
11/24/1993	--	24.84	--	21.91	27.99	25.93	27.11	24.79				59.12	29.33		32.78		55.76					37.06	24.02	23.69			79.30	--	45.23		77.91	58.57	89.74	91.4	55.73	73.36	57.55		124.21	
12/16/1993	--	25.09	--	22.24	28.09	25.94	27.15	24.94				58.76	29.02		32.03		54.20				21.08	34.61	24.44	24.02			74.77	--	44.70		74.36	58.19	88.12	87.5	54.78	70.74	55.64		125.62	
1/19/1994	--	25.51	--	22.66	28.16	26.14	27.33	25.00				58.08	29.40		32.40		53.81					35.85	25.03	24.38			70.95	--	44.03		70.97	57.49	84.89	83.1	54.46	68.98	54.27			
2/15/1994	--	25.55	--	22.90	28.17	26.08	27.26	25.01				57.42	28.99		31.58		51.36		38.68		20.89	31.73	25.04	24.54			68.70	--	43.46		69.12	56.77	83.27	80.1	52.79	65.70	52.33			
3/18/1994	--	25.74	--	23.07	28.17	26.19	27.44	25.17				56.37	29.15		31.13		49.07		35.92			31.00	25.15	24.61			66.98	--	42.89	188.99	66.54	55.70	81.42	115.5	51.50	66.09	51.32			
4/15/1994	--		--	21.96	28.10	26.02	27.23	24.99				56.68	28.94		31.43		51.36	28.25				34.60	23.54	23.27				--	42.64		81.55	56.11		170.7	53.58	86.12	68.55			
5/26/1994	--	22.45	--	18.80	26.95	25.72	26.86	24.69				57.77	28.99		31.43	39.75	54.03	29.68			24.63	41.59	22.33	21.81				--	43.16		98.13	57.24			57.12	102.97	88.18			
6/30/1994	--	21.54	--	19.09	26.08	25.04	26.19	23.92				58.61	29.09		31.18		56.61	29.87				43.97	21.20	21.27			88.19	--	45.23		108.87	58.02		196.1	56.78	115.33	82.72			
7/21/1994	--	21.93	--	19.49	26.38	25.14	26.29	24.16				59.07	29.22		32.19		57.45	30.61				45.44	21.57	21.65				--	46.24		115.39	58.48			57.08	119.19	82.87			
8/23/1994	--	22.69	--	20.50	27.14	25.56	26.75	24.50				59.61	29.14		32.54		60.41	30.34				48.58	22.02	22.20				--	47.29		106.85	59.04			60.77	111.78	85.02			
9/27/1994	--	22.96	--	21.32	27.61	25.84	27.02	24.82				59.77	28.97		32.29		58.05	34.97				41.12	22.08	22.62				--	47.84		99.20	59.29		121.0		102.31	81.75			
10/31/1994	--		--	21.70	27.88	25.99	27.17	24.86				60.07	29.70								21.26	50.08	23.48	23.34			86.85	--	47.58		90.85	59.52		109.5		93.24	65.78			
11/1/1994	--		--																									--													
12/6/1994	--		--	22.28	28.08	26.01	27.20	24.91				59.73	28.97		32.19						20.55		24.39	24.04			86.89	--	46.52		83.15	59.18				87.04	61.64			
1/12/1995	--	20.86	--	22.06	27.57	24.19	25.46	23.26		26.17		58.68	23.31		17.82	23.76	48.67	31.45	39.20	26.14	14.80	14.64	23.03	23.74			78.84	--	41.82		77.01	57.95		91.9	52.17	78.22	55.06		79.21	
2/16/1995	--	20.87	--	18.61	25.11	23.90	25.02	23.20		30.76		53.22	25.80		22.28	32.76	41.37	33.44	34.44	32.51	16.74	18.34	21.36	21.12			71.25	--	38.21		67.65	52.54		83.9	39.22	63.65	48.95		65.66	
3/24/1995	--	19.86	--	17.55	23.96	22.73	23.96	22.34		28.86	46.82	46.84	23.07	37.32	17.14	25.43	32.35	31.48	23.76	28.08	12.18	13.75	20.56	20.34	43.35		65.91	--	33.64		62.05	45.94		78.3	34.54	55.60	42.10		56.65	
4/21/1995	--	20.80	--	18.06	23.94	23.15	24.22	22.61		29.17	43.57	43.91	26.91	38.10	22.66	28.88	35.19	28.30	20.91	30.95	12.36	18.73	20.85	20.48	45.40		65.03	--	31.74		60.82	43.05		85.2	34.14	58.15	42.97			
5/26/1995	--	21.63	--	17.91	25.00	24.17	25.31	23.24		29.72	44.39	44.60	28.17	34.86	23.15	40.45	39.55	30.58	24.77	38.29	13.13	23.82	21.01	20.64			78.66	--	32.38		62.13	43.96		137.2	40.89	68.77	44.50			
6/26/1995	--	21.10	--	18.38	25.28	24.48	25.66	23.30		31.52	49.06	49.11	28.74	34.12	24.19		46.99	30.66	34.97		20.00	27.57	20.69	20.64				--	34.93		68.19	48.88		147.3	45.39	79.99	55.70		70.39	
7/31/1995	--	21.79	--	19.67	26.18	25.02	26.20	23.92				53.57	28.88	38.21	24.92		53.52	30.58				33.48	21.28	21.36				--	38.71		80.85	53.21		155.0	52.19	106.65	61.22			
8/23/1995	--	22.33	--	20.28	26.78	25.33	26.49	24.23				55.22	28.95		31.93		55.67	32.60				36.35	21.92	21.92				--	40.64		93.71	54.75			53.77	83.04	65.87			
9/27/1995	--	23.10	--	21.05	27.49	25.76	26.94	24.71				56.81	28.88		33.09		56.81	34.31				37.02	22.90	22.89			87.48	--	42.36		81.08	56.21		100.0	56.62	75.77	57.80			
10/27/1995	--	24.00	--	21.54	27.84	25.98	27.14	24.99				56.62	28.74		32.57		53.62	36.22				34.07	23.48	23.41			79.74	--	42.40		76.85	55.95		91.4	53.49	68.94	54.77			
11/28/1995	--	24.89	--	21.97	28.11	26.13	27.30	25.12				56.19	29.11		32.88		53.06		37.70		31.71	34.21	24.30	23.90			74.18	--	42.55		71.84	55.51		85.2	52.69	64.83	52.41			
12/1/1995	--		--																									--													
1/3/1996	--	24.55	--	22.24	27.97	26.01	27.19	24.97				54.68	28.44		31.39		49.29		33.04		22.30	29.53	24.27	24.04			68.56	--	41.35		65.16	54.01		79.4	49.98	59.88	48.46			
2/7/1996	--	22.00	--	21.94	27.51	24.82	26.05	23.85		26.88		51.54	24.69		19.79	26.17	40.15	31.16	26.55	31.52	15.07	20.90	23.46	23.66			63.85	--	38.40		60.80	50.69		74.6	44.28	54.92	44.13		56.91	
3/15/1996	--	21.63	--	20.40	25.89	24.20	25.35	23.41		29.17	45.72	45.57	25.49		20.41	26.93	33.30	32.54	19.16	29.60	12.23	18.67	22.41	22.46	44.32		59.26	--	34.75		55.60	44.68		69.3	37.45	48.63	40.09		50.73	
4/26/1996	--	22.45	--	19.54	26.25	24.91	26.09	23.85		29.94	44.62	44.81	27.90		24.20	39.58	37.83	27.26	20.50	35.26	11.64	24.20	22.74	22.13	47.01		88.04	--	33.19		56.21	43.99		70.4	41.02	55.74	40.93			

Table A2
Depth-to-Water Measurements – Teichert Aggregates, Woodland Properties

(all measurements in feet below reference point)

Date	TA-1	TA-1A	TA-3	TA-3A	TA-4	TA-5	TA-5A	TA-6	TA-7	TA-8	TA-9	TA-9R	TA-10	TA-11	TA-12	TA-13	TA-13A	TA-14	TA-15	TA-16	TA-17	TA-18	TA-22	TA-23	TA-24	TA-25	Coors North	Coors South	YFC-West	YFC-East	Storz	Stephens	Muller	Muller #2	Schwarz-gruber	Schwarz-gruber #2	Teichert Dom	Teichert Plant Dom	Teichert Plant	Teichert Plant New
5/28/1996	--	22.51	--	18.03	25.61	24.78	25.95	23.60		30.32	47.24	47.38	28.52	38.08	30.26		42.43	29.71	26.21		15.08	28.11	22.45	21.80			66.57	--	33.90		62.70	46.94		150.3	45.31	68.27	45.91				
6/26/1996	--	22.05	--	17.89	25.04	24.16	25.42	23.14		31.75		49.92	28.75	35.65	30.92		48.15	29.81	36.04		21.24	30.86	21.90	21.21			81.11	--	36.66		66.50	50.30		144.1	48.44	82.57	49.57				
7/23/1996	--	21.83	--	18.71	25.49	24.55	25.70	23.35				53.52	28.33	38.53	31.36		52.04	30.65			20.96	34.62	21.80	21.19			88.67	--	39.94		76.90	53.18		161.0	51.18	83.42	54.75				
8/27/1996	--	22.04	--	19.33	24.92	24.15	25.25	23.19				55.93	28.65		31.85		54.70	31.24			21.18	37.28	21.96	21.57			87.70	--	42.67		78.75	55.29			53.57	74.93	68.80				
9/26/1996	--	21.94	--	19.16	24.45	23.63	24.70	22.96				51.08	28.79		31.99		52.16	29.19	39.50		20.04	36.59	21.94	21.48			82.75	--	43.98		78.19	56.19		94.7	53.41	70.41	54.55				
10/30/1996	--	21.99	--	19.23	24.42	23.56	24.63	22.85				56.90	28.98		32.76		50.53	32.47	37.09		16.24	38.63	21.93	21.60			70.88	--	43.82		73.74	56.15		87.3	52.66	63.17	51.98				
12/2/1996	--	22.19	--	22.05	25.77	24.42	25.58	23.39				49.57	28.95		31.89		52.02		33.80		18.89	36.22	22.49	22.11			66.23	--	43.17		67.38	55.54		129.1	51.77	60.05	49.07				
1/9/1997	--	20.86	--	20.71	25.92	23.59	24.88	22.92		26.96		52.06	23.59		18.15	24.24	33.70	34.28	25.15	30.00	15.14	17.66	22.01	22.20	45.75		61.55	--	39.63		60.12	51.27		72.8	40.74	53.11	41.43				
2/14/1997	--	20.57	--	18.89	24.76	23.52	24.66	22.58		28.23	45.21	45.23	25.21	34.35	20.93	27.13	31.60	33.27	18.41	29.52	9.29	16.70	20.92	20.84	41.58		57.78	--	35.07		54.72	44.25		68.6	32.58	46.67	37.85				
3/20/1997	--	21.55	--	19.91	25.80	24.35	25.66	23.22		29.22	45.58	45.76	28.27		24.67	39.16	39.63	28.84	22.54	37.64	13.06	23.78	21.62	21.69			60.32	--	34.40		54.08	45.03		68.3	37.89	54.47	38.80		53.57		
4/28/1997	--	20.58	--	17.38	24.28	23.93	25.13	22.60		30.44	48.57	48.67	28.47		30.39		45.27	29.22	31.16		16.27	27.68	21.01	21.00				--	34.82		60.89	48.10		85.4	44.45	72.88	43.46				
5/21/1997	--	19.26	--	17.51	24.42	23.64	24.84	22.27				51.36	29.84		31.23		49.02	27.27	38.31		16.01	29.80	19.25	18.23			88.39	--	36.86		69.03	51.96		100.0	47.85	81.05	48.22				
6/25/1997	--	20.23	--	19.01	25.27	24.11	25.38	23.06				53.77	28.94	33.15	32.09		51.10	30.10			15.77	33.07	20.32	20.16			88.41	--	38.67		85.99	53.52		131.6	50.30	90.50	50.54				
7/23/1997	--		--														54.94	30.21										--													
10/3/1997	--	21.47	--	21.12	26.99	25.15	26.34	23.97				51.66	28.94		32.95		50.97	28.70				38.66	21.48	21.99			88.35	--	43.85		79.50	56.71		98.1	54.31	71.76	53.07		77.15		
1/28/1998	--	22.25	--	22.30	27.95	25.35	26.58	24.38					24.87		19.35	28.75	39.77	32.36	28.12	33.29	15.85	23.85	23.23	23.62			64.14	--	40.97		60.89	52.19		74.3	45.25	55.22	44.20				
3/3/1998	--	19.44	--	17.80	23.60	22.20	23.31	21.67		26.54	41.02	40.83	21.83	30.37	16.59	23.87	27.30	31.05	14.16	24.12	6.46	12.19	20.15	19.74	37.80		59.23	--	31.51		51.97	39.66		68.8	29.13	43.18	32.28		45.88		
6/4/1998	--	20.51	--	16.56	24.06	23.30	24.45	22.32		27.91	39.36	39.64	25.36		22.18	33.96	32.58	30.93	16.14	22.67	11.86	21.23	20.79	20.28	44.13		94.50	--	30.17		51.33	38.84		69.0	36.79	49.40	35.42				
8/31/1998	--	20.33	--	18.92	25.01	23.85	25.04	22.64				48.06	27.05		31.89		44.38	30.22	27.32	33.69	19.55	27.96	20.64	20.35			89.06	--	36.79	84.01	65.60	47.32		85.0	44.46	65.03	44.24				
12/11/1998	--	23.05	--	21.66	27.57	25.52	26.75	24.22				48.26	26.30		30.88		41.74	36.23	21.76	38.29	16.19	26.93	24.34	23.52			59.98	--	38.70	71.81	56.19	47.26		70.4	49.56	42.75	40.81	58.23	49.53		
3/11/1999	--	22.94	--	22.58	28.05	25.55	26.75	24.56		27.69	43.39	43.47	24.10	39.32	20.31	30.96	32.88		15.87	27.59	12.29	19.65	24.55	24.16	43.26		54.17	--	35.17	63.55	51.13	42.37		64.6	36.67	47.41	36.21	54.77			
4/29/1999	--		--														37.45	27.09										--													
6/15/1999	--	20.58	--	19.35	25.66	24.34	25.51	23.23				48.33	26.96	31.57	28.76		46.02	28.80	32.43	34.69		28.35	20.79	20.52			69.67	--	35.35	116.75	63.16	47.71		143.6	44.89	80.74	37.62	70.24	66.80		
9/13/1999	--	22.80	--	20.70	26.74	25.10	26.27	24.09					27.24		32.66			29.73		38.00		35.86	21.82	22.45			69.88	--	40.49	92.20	69.06	54.14		106.0	52.47	72.33	46.94	78.33			
12/10/1999	--	24.65	--	21.88	27.82	25.86	27.04	24.65					27.48		31.95		48.68	36.30	29.62		17.48	33.35	23.19	23.45			62.25	--	40.89	74.35	60.44	51.47		93.1	48.61	57.01	43.47	66.78	61.14		
3/22/2000	--	23.97	--	22.28	28.09	25.78	26.98	24.69		28.73		46.80	25.91		21.10	36.26	37.03	34.38	20.17	34.71	11.94	23.17	23.49	23.57	47.02		56.97	--	37.66	70.77	54.49	45.75		86.4	39.37	49.18	40.99	57.77			
6/26/2000	--	21.95	--	17.56	23.58	21.30	23.87	21.18					27.08		31.01		48.10	29.17	33.91			27.31	20.69	19.55			77.69	--	37.60	113.15	63.39	49.85		103.4	44.55	80.63	43.35	70.94	63.04		
9/27/2000	--	23.91	--	20.10	26.15	24.68	25.83	23.59				47.80	27.96		33.29			30.14	38.42			32.84	22.13	22.06			68.23	--	42.09	95.72	67.70	54.85		100.7	49.21	67.54	46.68	77.40			
12/8/2000	--	24.80	--	21.64	27.56	25.53	26.75	24.30					28.22		32.97		49.39		30.27			31.71	23.19	23.24			61.29	--	41.15	72.89	60.81	52.40		92.6	47.70	56.94	43.00	69.09			
3/29/2001	--	24.92	--	22.30	28.20	26.07	27.29	24.90		30.38			27.35		23.70		40.74	35.34	21.74	37.26		27.19	23.90	23.93			57.74	--	37.59	76.10	55.47	46.94		88.0	42.81	50.82	38.51	76.71			
7/2/2001	--	23.91	--	19.74	26.06	24.54	25.70	23.56					27.92		31.10		50.67	30.01	38.50			29.47	21.64	21.43			73.66	--		98.50	65.84	51.31		107.4	46.07	83.07	43.57	77.17	71.84		
9/7/2001	--	23.86	--	20.05	25.97	24.51	25.68	23.47					28.06		32.97		53.45	30.41	38.05			30.24	21.90	21.82			74.82	--	41.08	107.48	68.94	53.96		108.8	47.90	68.95	46.25	74.40	69.58	71.49	
12/6/2001	--	24.02	--	21.76	27.21	25.28	26.50	24.06					26.48		29.52		45.81	35.39	28.42			28.09	23.21	23.28			66.42	--	42.21	77.29	62.87	52.51		97.9	46.09	56.75	44.07	70.94	63.69	135.79	
3/21/2002	--	24.44	--	21.84	27.25	25.61	26.81	24.42		31.80		47.86	27.66		24.99		41.20		21.12	38.16		27.72	23.88	23.55			59.89	--	37.84	76.45	55.80	46.82		90.3	42.65	49.79	39.64	61.46	49.50	53.66	
6/6/2002	--	24.42	--	19.71	25.89	24.63	25.77	23.60					28.00		30.73		47.56	29.40	31.84	38.34		27.41	22.38	21.99			67.45	--	37.70	93.70	63.06	49.92		103.7	44.55	82.58	41.24	75.56	66.66	75.31	
9/9/2002	--	24.09	--	19.70	25.54	24.17	25.27	23.13					27.95		33.54			30.50				31.13	21.82	21.72			84.55	--	42.02	112.64	76.16	55.98		116.8	48.70	74.44	47.72	81.79	78.67	147.94	
11/25/2002	--	24.37	--	21.65	27.26	25.29	26.42	24.12					27.72		31.60		50.63		32.29			31.48	23.16	23.14			72.58	--	43.22	93.37	68.35	54.60		105.3	48.62	60.02	45.78	73.01	61.32	67.49	
3/24/2003	--	24.09	--	21.73	27.32	25.27	26.48	24.07		30.96		47.08	26.70		21.72	35.17	38.45	34.61	20.30	35.40		25.65	23.24	23.27			61.14	--	36.88	76.10	56.35	46.26		92.6	41.51	49.26	37.38	63.08	49.68	55.50	
6/10/2003	--	24.40	--	20.69	26.13	24.82	25.95	23.84				47.16	27.44	37.68	30.18		44.14	28.38	27.52	38.33		26.46	22.71	23.18			81.63	--	34.58	108.59	59.48	46.40		102.5	42.56	76.87	36.73	72.32	64.40	74.00	
9/2/2003	--	20.79	--	18.43	24.10	23.17	24.21	22.12					27.87		32.07		52.37	31.89	34.60			31.02	21.03	20.44			78.12	--	40.05	110.57	70.73	52.94		109.9	48.77	68.72	42.02	79.02	72.34	147.19	
12/8/2003	--		--	21.49	26.91	24.95	26.18	23.69					27.52		32.09		48.51		28.12			30.59	22.56	22.63			67.54	--	41.13	89.69	64.21	51.75		101.8	47.13	56.37	42.10	71.17	63.41	138.79	
3/5/2004	--	21.36	--	21.77	26.58	24.26	25.47	23.33		26.97		44.98	23.06		18.65	25.69	31.54	33.30	17.57	27.48		17.25	22.41	22.78	43.00		59.76	--	35.02	78.51	54.85	43.78		92.1	35.03	46.91	33.84	58.69	46.49	52.06	
6/21/2004	--	20.97	--	18.65	25.38	24.11	25.32	22.94					26.92		30.77		50.54	30.28	37.57			29.96	20.54	20.43			83.50	--	37.96	112.54	70.90	51.24		128.9	49.02	84.62	41.62	82.02	78.44	150.64	
9/20/2004	--	23.58	--	20.06	25.66	24.12	25.42	22.98					27.36		32.96		53.93	34.63				30.19	21.73	21.52			87.35	--	42.52	111.41	79.38	55.43		124.0	48.90	68.59	47.60	81.33	68.22	76.26	
12/22/2004	--		--	22.19	27.71	25.57	26.78	24.28					26.89		31.19		48.53		28.99			30.33	22.97	23.33			70.44	--	41.51	87.03	63.86	52.71		103.2	47.14	55.98	42.40	69.32	56.67	61.28	
4/1/2005	--	23.74	--	22.18	27.83	25.61	26.85	24.43				46.93	25.00		20.14	33.55	38.00	35.47	19.79	33.08		23.07	23.15	23.44	47.42		61.99	--	36.54	79.53	57.19	45.75		95.1	40.79	48.51	37.18	61.70	54.81	127.33	
6/20/2005	--	20.75	--	18.87	24.55	23.58	24.72	22.49		31.34		49.03	27.66		30.85		47.13	29.30				28.25	21.09	20.92			77.07	--	34.59	112.02	65.19	48.53		112.2	43.43	77.37	42.27	76.71	67.37	72.57	
9/19/2005	--	21.72	--	18.95	24.60	23.44	24.58	22.38				49.00	28.10		32.96		53.36	30.65		38.20		33.75	20.98	20.64			91.11	--	39.93	108.56	74.50	53.12		124.7	50.62	68.44	43.77	85.95	68.28	77.88	
12/15/2005	--	22.00	--	21.71	27.21	25.19	26.42	23.90	--				28.05		32.71		50.23			33.41		33.04	22.74	22.92			70.91	--	40.75	86.89	65.98	52.80		106.0	49.09	57.17	41.77	72.09	60.42	70.90	
4/28/2006	--	20.12	--	20.03	25.22	23.17	24.48	22.34	--	23.68	37.90	38.18	23.38	36.08	12.69	25.10	27.58	33.47	12.46	24.06		16.16	21.22	21.25	38.50		57.45	--	29.30	79.97	52.04	36.98		92.6	30.95	41.42	30.22	55.23	44.07	56.46	
6/16/2006	--	20.53	--	17.02	24.17	23.39	24.49	22.14	--	26.60		42.94	27.01		25.08	40.59	39.62	28.63	24.45	38.48		23.23	20.60	20.27			72.58	--	29.83	120.16	62.69	42.40		123.5	35.98	65.16	32.95	67.47	57.87	67.25	
9/8/2006	--	20.62	--	17.11	23.14	22.41	23.52	21.55	--			--	27.47		30.94		46.16	30.82				25.42	21.05	20.36			80.32	--	36.34	92.29	69.74	49.15		114.1	23.23	62.88	39.64	71.40	62.60	75.25	
11/30/2006	--	21.33	--	20.62	26.30	24.45	25.67	23.31	--			--	27.36		32.44		44.94		24.11			27.00	22.15	22.19			80.01	--	38.18	90.50	63.56	48.76		106.9	43.29	51.99	38.79	67.47	60.40	143.08	
3/21/2007	--	22.69	--	22.37	27.84	25.99	27.18	24.85	--			--	27.22		24.39		41.91		22.10	36.73		25.51	23.61	23.80			60.80	--	37.42	90.06	60.88	46.93		108.3	41.70	51.10	37.08	65.16	50.90	56.95	
6/8/2007	--	22.58	--	19.96	27.61	26.22	27.36	25.88	--			--	27.53		32.04		48.90	29.28				28.40	22.45	23.03			94.74	--	38.80	116.06	72.66	51.90		123.5	47.66	85.63	37.45	82.25	70.46	75.75	

Table A2
Depth-to-Water Measurements – Teichert Aggregates, Woodland Properties

(all measurements in feet below reference point)

Date	TA-1	TA-1A	TA-3	TA-3A	TA-4	TA-5	TA-5A	TA-6	TA-7	TA-8	TA-9	TA-9R	TA-10	TA-11	TA-12	TA-13	TA-13A	TA-14	TA-15	TA-16	TA-17	TA-18	TA-22	TA-23	TA-24	TA-25	Coors North	Coors South	YFC-West	YFC-East	Storz	Stephens	Muller	Muller #2	Schwarz-gruber	Schwarz-gruber #2	Teichert Dom	Teichert Plant Dom	Teichert Plant	Teichert Plant New
9/4/2007	--	21.59	--	19.19	24.75	24.10	25.10	23.85	--			--	28.00		33.08		54.31	33.04				27.94	21.71	22.00			87.75	--	42.64	99.45	82.42	55.66		136.5	45.71	76.41	43.84	87.80	79.14	143.85
12/21/2007	--	22.53	--	21.26	26.94	25.44	26.58	24.85	--			--	27.59		32.59		49.66			38.28		28.04	23.36	23.50			70.31	--	41.56	82.20	68.43	53.41		109.0	46.09	57.46	40.99	72.32	58.64	63.96
3/13/2008	--	21.63	--	20.57	26.42	24.91	26.07	24.22	--		50.06	--	26.68		22.38	38.93	41.99	36.00	21.88			24.81	22.48	22.72			62.52	--	35.75	87.42	60.32	46.07		104.4	40.48	50.67	33.47	46.93	33.47	55.24
7/1/2008	--	22.82	--	16.83	23.56	23.64	24.62	24.54	--			--	28.05		31.76		51.97	30.30		37.91		32.02	23.29	23.03				--	38.94		80.85	53.37	72.24		50.44	88.42	34.07	72.75	78.89	84.98
9/10/2008	--	22.36	--	18.32	24.43	24.43	25.42	25.19	--			--	28.21		33.07		55.41	31.43				30.45	22.22	22.87			97.70	--	41.76	99.73	83.06	55.75	74.49	135.8	50.33	78.65	41.37	72.56		83.74
12/1/2008	--	23.09	--	20.34	26.22	25.37	26.44	25.44	--			--	28.35		32.77		54.57			37.95		31.69	23.94	24.43			75.76	--	42.23	99.03	72.22	55.47	66.13	160.3	50.81	62.37	41.93		63.98	68.73
3/17/2009	--	22.55	--	21.56	27.24	25.66	26.83	25.10	--			--	27.00		23.64		47.14	36.20				26.40	23.61	24.12			68.40	--	39.08	89.00	63.93	50.20	58.60	82.7	44.39	54.07	35.40	51.03	54.79	59.57
6/16/2009	--	24.08	--	20.22	27.96	25.80	27.02	26.77	--			--	28.22		31.74			29.13		33.74		42.95	24.30	23.75				--	40.40	166.50	92.63	54.99	78.17	155.7	60.07	99.57	46.06		93.88	152.44
9/14/2009	--	24.30	--	20.39	26.69	25.92	26.96	27.52	--			--	28.48		33.93			34.38		37.78		47.57	24.84	23.87		44.38	114.78	--	43.70	133.77	107.68	57.35	88.09	159.8	62.85	96.75	50.82		96.29	101.91
12/7/2009	--	24.60	--		27.51	26.21	27.31	27.07	--			--	28.43		32.69								26.01	24.58		48.28	87.10	--	44.91	112.62	86.20	58.30	79.19	102.1		77.05	49.90		80.40	84.21
3/22/2010	--	22.77	--	21.20	27.51	25.96	27.10	25.81	--	26.47		--	27.31		23.85	39.65	47.88				--	25.54	23.83	23.54		42.98	76.86	--	40.50	109.24	70.71	52.78	66.15	182.4	49.36	60.14	38.89	56.69	61.11	66.32
6/22/2010	--	23.18	--	13.37	24.50	24.89	25.94	26.43	--			--	28.53		30.65		46.85	29.92				26.66	22.14	19.43		41.45	88.40	--	37.37	107.00	83.03	51.58	71.91	145.0	48.22	88.72	38.11	66.61	75.83	83.17
9/13/2010	--	22.58	--	16.97	22.90	23.37	24.37	25.01	--			--	29.08		32.89		52.97	30.04				26.83	21.50	21.25		45.24	99.97	--	41.00	105.46	89.86	55.77	78.54	183.6	44.04	78.46	44.09	75.04	83.16	130.95
12/1/2010	--	23.12	--	19.51	25.28	24.80	25.88	25.08	--			--	29.14		33.03		54.88		22.09		--	32.20	22.78	22.56		46.38	84.84	--	42.72	108.42	84.75	56.68	71.20	166.1	53.53	66.30	45.78		68.63	74.32
4/5/2011	--	21.24	--	18.51	24.42	23.45	24.57	23.79	--	23.69		--	23.49		18.92	25.69	31.98	34.93	20.03	27.07	--	16.83	21.56	21.03	45.68	34.67	71.20	--	34.96	93.30	66.20	44.56	55.24	124.2	34.68	49.57	34.09	46.53	55.88	137.72
6/16/2011	--	21.98	--	14.35	21.55	22.80	23.67	24.17	--			--	27.92		24.75		41.52	29.27	--	37.35	--	24.07	20.43	19.12		36.00	94.56	--	32.98	98.12	47.56	45.31	59.42	163.6	40.55	71.26	31.18		63.61	73.21
9/12/2011	--	21.88	--	15.92	22.38	23.25	24.19	24.26	--			--	28.07		30.89		48.29	30.28	--		--	25.48	19.77	18.73		42.13	116.45	--	37.87	111.24	91.74	50.62	67.73	193.8	40.57	67.69	42.96		66.95	75.83
12/6/2011	--	22.22	--	19.03	21.70	24.50	25.58	24.58	--			--	28.23		32.42		48.35	30.80	--		--	26.18	20.91	20.89		43.87	86.39	--	40.65	111.08	77.74	51.00	60.42	172.5	44.45	55.76	41.89	53.99	62.52	137.51
3/29/2012	--	22.42	--	21.03	26.45	25.27	26.44	24.93	--			--	26.03		22.86		41.58	32.85	--	34.00	--	23.72	21.78	22.15		41.82	79.30	--	39.68	89.84	70.59	48.87	56.12	168.8	42.84	53.01	39.94	49.02	53.02	58.57
8/3/2012	--	21.63	--	16.01	23.15	23.53	24.53	24.43	--			--	28.30		32.27		52.20		--		--	31.43	19.35	18.16		45.74	112.70	--	40.97	119.98	97.19	54.31	77.90	193.1	46.53	87.13	45.30		80.75	89.16
9/10/2012	--	21.60	--	16.48	23.25	23.69	24.69	24.76	--			--	28.61		35.13		54.75	31.06	--		--	28.96	19.32	18.45		47.25	111.40	--	42.22	112.19	97.51	56.78	78.30	191.9	49.06	79.80	46.02	75.58	85.03	146.50
1/25/2013	--	20.59	--	18.90	24.95	24.33	25.40	24.23	--			--	27.57		23.39		44.24		--		--	26.14	23.93	24.00		43.67	80.50	--	39.27	96.53	76.90	50.80	60.40	158.4	43.90	55.70	39.80	62.69		141.64
4/15/2013	--	22.20	--	19.45	25.63	25.05	26.11	25.17	--			--	28.27		26.85		42.97	30.31	--		--	26.80	24.49	24.93		42.42	93.80	--	38.68	112.67	--	49.05	59.90	176.2	44.87	62.50	40.38		59.16	68.90
7/12/2013	--	22.09	--	16.56	23.67	23.99	24.90	24.98	--			--	29.01		33.58		52.05	31.05	--		--	41.19	23.21	22.42		45.70	133.70	--	40.58	147.68	--	55.30	78.80	198.3	56.45	95.90	47.13		84.93	91.52
9/12/2013	--	21.92	--	17.25	23.85	24.02	24.98	24.99	--			--	29.10		33.24		53.59	32.01	--		--	32.28	23.21	22.70		46.55	132.90	--	41.50	141.36	--	57.05	81.10	199.1	54.00	83.63	47.68		82.40	89.50
12/16/2013	--	22.91	--	20.24	26.25	25.10	26.21	24.99	--			--	28.79		33.02		55.31		--		--	57.51	25.91	26.01		46.55	113.10	--	41.78	118.98	--	57.18	73.50	189.6		70.75	46.43	71.46	70.91	77.90
6/2/2014	--	24.14	--	21.73	27.85	26.47	27.52	26.93	--			--	29.38		34.37			35.02	--		--		27.84	27.68		46.39	>300	--	44.41	145.28	--	57.52	83.50	156.6		98.44	47.02	--	93.32	148.56
8/20/2014	--	24.89	--	21.59	27.89		27.65	27.35	--			--	31.03						--		--		29.20	28.30		49.86	83.12	--	48.83	126.80	--	60.51	105.10	197.7		118.11	54.38	--	113.90	119.70
10/6/2014	--	25.20	--	21.98	27.81		27.75	27.35	--			--	31.42					34.62	--		--		29.78	28.51		50.82	83.40	--	49.42	121.35	--	61.08	101.80			108.29	47.60	--	109.80	114.40
12/23/2014	--	22.53	--	22.46	27.64	25.00	26.28	24.39	--	25.11	--	--	25.93				48.74		--	34.68	--	27.75	27.74	27.81	20.56	48.83	87.09	--	45.15	132.55	--	58.85	91.90			92.21	47.99	--	92.34	96.08
2/6/2015	--		--			--			--		--	--							--		--							--			--					--			
3/20/2015	--	24.15	--	22.27	26.24	26.22	27.37	25.65	--		--	--	28.27		31.57		53.41	31.61	--		--	37.95	28.36	27.93		45.86	83.90	--	43.38	109.48	--	56.94			54.23	74.52	46.46	--	71.87	77.93
7/20/2015	--	21.33	--	18.15	25.02	24.96	25.95	26.09	--		--	--	28.27		32.29		54.33		--		--	48.37	23.32	22.81		46.15	125.25	--	42.18	150	--	57.01	96.30			118.02	49.04	--	139.23	
10/15/2015	--	22.27	--	19.33	25.79	24.94	26.08	25.60	--		--	--	29.47						--		--		25.10	25.00		47.53	136.32	--	45.20	169.03	--	59.43	97.54	199.1		106.00	49.46		109.2	

Table A2
Calculated Water Level Elevations – Teichert Aggregates, Woodland Properties

(all elevations in Feet, NAVD88)

Date	TA-1	TA-1A	TA-3	TA-3A	TA-4	TA-5	TA-5A	TA-6	TA-7	TA-8	TA-9	TA-9R	TA-10	TA-11	TA-12	TA-13	TA-13A	TA-14	TA-15	TA-16	TA-17	TA-18	TA-22	TA-23	TA-24	TA-25	Coors North	Coors South	YFC-West	YFC-East	Storz	Stephens	Muller	Muller #2	Schwarz-gruber	Schwarz-gruber #2	Teichert Teichert Dom	Teichert Plant Dom	Teichert Teichert Plant	Teichert Plant New
6/26/1986	95.72		107.33		101.97	99.52		98.32	89.71	89.19	73.24		82.29	81.64	70.48			86.25	53.04	75.48	61.94	58.93							86.91	35.86												
7/21/1986	90.29				95.04	94.29		93.30	81.65				77.37	74.24	72.74			79.61	42.73	68.71		48.86							79.86	25.46												
8/18/1986	89.22				94.39	93.76		92.91					77.31	66.58	64.73	54.96		75.45	42.99	67.18		47.53							82.23	33.01												
9/18/1986	89.19		100.92		94.02	93.49		92.74					77.31	65.54	64.53			74.46	43.42	68.92	39.69	48.03							75.97	45.24												
10/20/1986						93.23		92.74					77.25		64.48			73.00	44.83	70.77	42.08	47.97							75.24	48.44												
11/14/1986	89.04		100.95		93.64	93.14		92.54					76.96		64.19				45.62	70.63	43.02	48.04							74.91	50.65												
12/16/1986	89.02		101.00		93.79	92.87		92.53					77.05		64.13				46.21	68.16	43.84	48.27							75.25	58.04												
1/16/1987	89.12		101.20		93.89	93.20		92.61					77.19	64.96	64.32				47.21		44.88	48.33							75.89	60.67												
2/3/1987	89.12		101.03		93.89	93.18		92.64					77.32		64.46				47.04		44.73	48.64							76.03	59.96												
2/18/1987	89.12		101.03		93.89	92.72		92.49					77.52	64.96	65.19				48.52	70.85	52.36	51.39							75.89	60.84												
3/13/1987	89.12		100.85		93.54	93.72		92.39					78.24		65.45				50.59	71.29	52.19	53.19							76.31	62.41												
4/17/1987		85.29					92.15	91.27				63.30	76.47		64.47		53.36	79.67	49.66	70.96	48.72	51.57					54.36	52.52	77.06	35.98	56.81	62.37			45.95			21.13		
5/19/1987		86.35			93.79	92.47	93.00	91.79				61.66	77.04		64.84		49.35	79.05	40.32	68.50		48.17					46.07	44.58	76.82	30.40		60.53			41.75			16.04		
6/15/1987		86.61			95.08	93.84	94.04	93.82				59.29	76.81		64.65		46.49	80.29		66.68		46.45					54.58	53.07	74.29	24.55		58.13			40.56					
7/17/1987		86.44			95.87		93.90	92.85				56.96	76.15		63.64		44.01	76.22		69.82		41.42					51.39	49.98				55.94			37.95					
8/20/1987		86.89			94.87	94.06	94.31	93.23				55.93	76.72		64.14		43.99	76.65		70.41		42.08					52.08	51.24				55.05			32.73					
9/21/1987		86.62			94.55	93.76	93.91	92.89				55.31					44.34	74.75		69.34		44.36					56.42	55.48				54.27								
10/14/1987		86.57			94.06	93.55	93.70	92.79				55.08	76.77		64.23		45.24			71.05		44.28					58.45	57.34				54.05			37.74					
11/23/1987		86.39			94.35	93.43	93.56	92.80				55.82	76.74	66.29	64.19		45.49			69.82		45.00					62.14	60.93	71.99	52.65		54.86			38.82					
12/15/1987		86.50	100.83		93.77	93.40	93.51	92.75				56.87	77.19		64.97		46.53		40.52	67.60		47.91					63.77	62.52	72.93	54.48		55.96			40.69					
1/18/1988	89.26	87.83	100.86		93.71	93.47	93.57	93.14				59.62	79.25		74.91		49.57	75.42	45.65		52.51	54.64					66.31	64.97	74.68	58.16	57.24	58.86			43.89			38.25		
2/16/1988	89.49	86.77	100.87		93.69	93.25	93.36	92.64				62.01	76.98		66.03		50.80		48.30		44.24	51.34					67.68	66.30	76.04	56.86	59.73	61.35			44.61			31.98		
3/15/1988		86.54			94.44		93.19	92.45				63.33	77.04		65.88		51.89		49.22	70.79	44.55	50.39					68.45	68.52			60.27	62.52			44.45			26.21		
4/15/1988	89.41	87.31	100.87		93.65	92.96	93.08	92.20	80.89			62.75	77.08		65.67		51.16	79.72	41.67	72.16		46.19					64.90	63.64	78.13	49.88		61.68			40.93					
5/17/1988	89.42	86.61	100.86		93.65	93.29	92.99	92.10				61.56	76.44		65.10		49.28	75.54	40.89	69.78		45.74					62.39	61.19	76.58	44.28		60.69			39.91					
6/30/1988	89.35	87.25	101.29		95.95	94.47	94.65	93.47				58.73	76.86		64.52		45.36	77.23		68.22		42.36					48.80	46.23	74.52	36.14		57.62			39.78			7.37		
7/20/1988	89.33	87.24	100.84		95.95	94.60	94.78	93.66				57.44	77.02		64.47		44.55	77.16		65.16		40.41					49.21	47.03	73.12	16.39		56.37			34.52					
8/16/1988	89.32	87.23	100.84		95.43	94.39	94.54	93.60				56.69	77.01		64.31		44.82	76.19		71.10		40.65					52.83	51.46	72.24	28.71		55.69			35.86					
9/20/1988	89.29	87.92	100.84		94.42	93.88	94.01	93.09				56.54	77.00		64.22		44.27	76.50		69.97		40.23					42.99	41.58	71.77	28.81	39.22	55.66								
10/21/1988	89.28	86.57	100.84		94.00	94.54	93.67	92.79				55.69	76.95		64.06		44.51			71.89		42.46					57.28	55.96	71.77	43.08	43.38	54.70			30.81					
11/11/1988	89.26	86.35	100.83		93.83	93.41	93.54	92.76				55.87	77.05		64.01		44.64			71.57		44.20					58.84	57.54	72.18	46.57	44.81	54.89			33.66					
12/16/1988	89.22	86.16	100.83		93.70	94.25	93.37	92.65				56.77	77.30		63.99		44.52			64.48		44.65					61.86	60.65	73.02	50.96	50.75	55.79			38.75					
1/16/1989	89.27	86.39	100.83		93.64	93.15	93.26	92.56				57.69	77.14		64.25		44.62		39.01			46.24					63.95	62.71	73.71	54.92		56.72			39.28			35.44		
2/23/1989	89.24	86.09	100.83		93.61	92.95	93.08	92.38				58.08	76.99		64.00		45.09		39.48	62.55		45.59					65.55	64.25	74.23	56.95	47.22	57.10			39.33					
3/28/1989	89.24	86.64	100.83		93.57	92.93	93.04	92.30				59.41	77.46		65.25		48.78		44.36	66.23		52.25					65.81	64.57	74.79	57.18	56.26	58.62			42.91					
4/18/1989	89.25	86.01	100.82		93.55	92.80	92.87	92.12				60.03	76.97		64.70		49.07	78.08	42.12	66.04		49.71					55.43	53.50	74.88	42.83	53.69	58.73			42.27			20.55		
5/23/1989	89.25	86.26	100.81		93.63	92.88	93.04	95.00				57.78	76.98		64.37		45.71	79.09		64.12		45.38					41.16	41.29	73.04	21.82		56.53			40.44					
6/29/1989	89.28	86.82	101.10		93.69	93.31	93.47	92.54				55.48	76.70		64.00		45.24	76.92		65.83		39.40					48.02	47.05	70.25		34.12	54.46			38.39					
8/8/1989		86.96	100.83		93.93	93.38	93.52	92.58				54.51	76.64		63.93		43.55	75.74		69.45		25.38					46.45	45.81	68.66	18.28		53.43			35.55					
9/25/1989		86.58	100.82		93.87	93.36	93.49	92.70				54.12	76.89		63.96		43.22	71.31		64.75		38.82					49.46	48.72	68.47		38.36	52.99								
10/16/1989		86.82	100.82		93.82	93.34	93.47	92.72				54.17	76.75		63.87		42.24					39.99					52.26	51.45	69.23		41.61	53.15								
11/28/1989		86.26	100.82		93.74	93.23	93.34	92.74				54.71	76.85		64.21		41.21					46.78					55.29	54.36	70.63	47.44	46.26	53.58			36.26					
1/5/1990		86.41	100.81		93.67	93.08	93.18	92.44				55.26	76.85		64.48		41.02					48.18					58.00	57.11	71.57	49.56	49.04	54.15			39.16			26.99		
2/14/1990		86.60	100.79		93.67	93.00	93.09	91.49				56.41	77.25		65.31		43.96					50.17					60.60	59.50	72.49	51.79	51.82	55.40			40.86					
3/14/1990		86.67	100.81		93.64	92.99	93.03	92.44				57.65	77.20		65.34		45.75		38.66		47.01	50.54					61.87	60.90	73.18	53.59	53.16	56.66			41.64					
4/16/1990		86.40	100.85		93.62	92.99	93.08	92.14				56.92	76.78	65.14	64.24		42.50	78.11				40.04					32.68		73.37	6.86	36.30	55.79			37.33					
5/23/1990		86.64	100.91		93.62	92.62	92.69	91.82				55.23	76.81		64.62		38.74	77.50			51.91							32.34	29.75	70.91	7.38	12.30	54.15						-27.27		
6/15/1990		86.83	100.85		93.61	92.59	92.72	91.67				54.82	76.65		64.49			77.20			52.12							32.69		70.18	7.51	-7.29	53.74						-26.16		
7/18/1990		86.89	100.85		93.60	93.13	93.31	92.18				54.26	76.60		62.62			75.80									32.88		69.02	2.53	-15.42	53.19						-26.55		
8/21/1990		86.89	100.84		94.17	93.84	93.90	93.32				53.75	76.31		61.67			75.74									33.43		67.75	6.57	-1.94	52.70						-14.06		
9/24/1990		86.54	100.85		93.85	93.34	93.40	92.48				53.63	75.83		61.29						53.29						34.48		67.62	3.28	13.05	52.47						-34.27		
10/24/1990		86.23	100.85		93.70	93.03	93.16	92.20				53.78	75.84		61.26						53.58						32.90		67.37	9.04		52.37						-27.57		
11/26/1990		86.22	100.84		93.70	92.99	93.02	92.22				53.67	75.81		61.26						52.68						33.43		68.32	22.28	30.84	52.59						-35.83		
12/14/1990		86.23	100.84		93.64	92.87	92.95	92.20				53.84	76.34		61.26						52.76						35.41		68.58	26.46	33.39	52.75						-26.99		
1/28/1991		86.22	100.84		93.62	92.78	92.84	92.21					76.94		61.27												33.43		69.43	24.59	10.68	53.09						6.47		
2/19/1991		86.55	100.84		93.57	92.75	92.84	92.12				54.28	76.88		63.79			78.24									32.91		69.18	19.75	29.59	53.17						-26.49		

Table A2
Calculated Water Level Elevations – Teichert Aggregates, Woodland Properties

(all elevations in Feet, NAVD88)

Date	TA-1	TA-1A	TA-3	TA-3A	TA-4	TA-5	TA-5A	TA-6	TA-7	TA-8	TA-9	TA-9R	TA-10	TA-11	TA-12	TA-13	TA-13A	TA-14	TA-15	TA-16	TA-17	TA-18	TA-22	TA-23	TA-24	TA-25	Coors North	Coors South	YFC-West	YFC-East	Storz	Stephens	Muller	Muller #2	Schwarz-gruber	Schwarz-gruber #2	Teichert Dom	Teichert Plant Dom	Teichert Plant Teichert	Teichert Plant New
3/19/1991		87.04	100.84		93.60	93.18	93.14	92.51				54.59	78.02		73.88		41.44	74.24			55.92	45.55					36.81		69.50	28.62	36.12	53.57						-26.07		
4/22/1991		86.60	100.84		93.65	92.96	93.05	92.33				55.05	77.02		64.78		43.16	78.78			54.80	41.99					33.36		70.22	18.66	30.40	54.07				3.84		4.73		
5/30/1991		87.19	100.84		93.64	93.04	93.16	92.35				55.31	77.19		64.53			78.67			53.40	31.89					32.39		71.14	7.11	6.01	54.15				-17.71		-26.65		
7/2/1991		89.21	100.95		94.82	94.09	94.27	93.17				55.55	77.20		64.70		46.29	77.15			54.71	38.18					33.62		70.42	6.66	-11.71	54.49				-29.77		-26.48		
7/31/1991		90.32	100.98		94.99	94.19	94.33	93.50				54.77	77.59		65.08		41.98	77.31			54.43	31.71					33.84		68.96	6.01	-20.73	53.78	-25.69			-33.95	33.36	-36.64		
8/28/1991		90.18	101.28		94.60	93.97	94.11	93.41				53.98	76.79		63.23		39.87	75.73			54.17						32.63		67.50	4.73	-16.34	52.87	-13.49			-28.46	42.58	-26.96		
9/25/1991		89.34	100.88		94.30	93.72	93.84	93.09				53.50	77.29		63.27	65.52	39.67	75.94			53.31	36.04					32.80		66.82	-1.19	-8.20	52.50	-10.95			-16.79	45.17	-28.42		
10/29/1991		87.31	100.86		93.85	93.43	93.55	92.91				53.28	76.14		62.05						52.30	33.72					32.43		66.50	14.30	25.60	52.27	-10.26			-7.17	45.26	-27.33		
11/26/1991		87.02	100.89		93.85	93.26	93.38	92.80				53.35	76.35		61.24												32.40		67.05	14.18	29.33	52.31	-8.64			-2.29	47.58	-26.47		
12/19/1991		86.76	100.88		93.79	93.17	93.26	92.72				53.58	76.15		61.24												33.45		67.42	22.03	32.40	52.43	-7.72			0.76	47.92	-26.02		
1/20/1992		86.64	101.26		93.74	93.09	93.19	92.52				53.83	77.16		64.48						41.63	30.57					37.88		67.92	25.96	36.98	52.80	-6.33	25.77		4.64	50.86	8.58		
2/25/1992		87.50	101.96		93.63	93.34	93.43	92.71				54.53	77.95		67.32		43.51	70.92			55.09	49.14					42.12		69.05	26.42	39.30	53.46	-2.06	29.45		8.97	54.52	-25.92		
3/19/1992		87.23	102.27		93.62	93.25	93.34	92.64				54.85	77.90		66.25		45.75				54.25	52.00					44.29		69.73	34.28	40.80	53.81	0.83	31.32	38.62	13.72	56.16	-26.00		
4/30/1992		86.91	101.89		93.62	93.41	94.95	92.59				54.78	77.02		65.00		45.95	77.68			52.17	40.19							70.16	-3.84	1.67	53.71	-17.07	-74.16	37.10	1.18	44.73	-18.00		
5/22/1992		87.55			93.72	93.56	93.71	93.13				55.31	76.95		64.77		43.57	78.09				36.74							70.84	-32.72	-8.39	54.11	-15.80	-68.62		-14.57	37.95	-26.25		
6/26/1992		90.87	103.03		95.23	94.42	94.53	93.84				54.83	77.55		65.15		43.51	77.11									32.87		69.64		-12.18	53.81	-18.34	-88.02		-28.99	32.43	-36.92		
7/22/1992		91.07	102.39		94.66	94.16	94.17	93.40				54.32	76.90		63.68		39.90	76.25				34.52					32.95		69.07	-33.87	-12.22	53.37	-18.57	-34.43		-34.35	32.63	-28.19		
8/21/1992		90.37	103.10		94.24	93.73	93.85	93.14				53.72	77.06		63.63			74.51									32.46		67.15	45.13	-9.18	52.62	-16.50	-19.18		-30.03	32.17	-32.98		
9/22/1992		87.35	103.03		93.87	93.35	93.49	92.68				53.18	76.50		61.36												32.58		66.83		12.19	52.19	-15.57	-10.87		-20.87	39.51	-29.33		
10/21/1992		86.93	103.03		93.75	93.07	93.18	92.42				53.11	77.48		62.71												32.38		66.93	59.11	18.11	52.10	-15.11	-4.86		-13.07	38.15	-28.12		
11/24/1992		86.84	103.74	96.14	93.68	93.04	93.14	92.44				53.38	76.33		63.13								90.13	92.29			32.74		67.48	64.50	27.10	52.38	-13.26	4.61		-5.44	45.79	-26.92		
12/15/1992		87.08		96.01	93.66	93.34	93.43	92.70				53.58	77.92		65.46						53.11	41.27	90.21	92.18					67.91	68.78	30.28	52.59	-11.18			-1.83	48.48	-28.90		
1/25/1993		91.44	103.19	96.62	93.71	94.48	94.56	93.68		81.74		55.81	80.46		75.75	70.13	51.55	74.41	45.53	68.03	56.76	61.29	93.03	93.37			38.72		72.10	78.25	36.88	54.98	-5.18	17.32	42.15	8.99	55.79	14.82		
2/25/1993		92.01		98.45	94.98	95.13	95.21	94.35		82.42		57.71	80.97		76.48	71.65	57.28	75.45	37.24	69.03	57.30	64.47	93.75	94.47	71.67		44.53		75.12	79.63	42.16	56.83	2.91	23.44	45.73	20.51	58.81	24.65		
3/29/1993		91.02		99.48	96.06	95.00	95.14	94.35				60.05	77.21		72.77	56.31	57.07	72.07	42.84		53.77	59.51	93.55	95.24			48.86		76.36	84.48	47.10	59.08	9.84	27.94	45.69	28.50	60.59	32.11		
4/29/1993		90.49		98.98	95.18	94.46	94.59	93.92				60.55	76.80		66.38	55.02	54.75	77.35	43.62		53.11	56.07	93.64	94.70			40.80		76.81	81.71	49.13	59.40	-153.94	30.02	44.59	24.57	61.06	-28.65		
5/25/1993		90.93		100.61	95.80	94.82	94.85	94.12				59.46	76.73		65.78		59.75	76.78			52.18	54.42	94.51	95.94			31.98		75.50	67.39	13.02	58.33	1.52	3.46	42.36	9.09	49.70	-26.86		
6/29/1993		91.22		100.23	96.46	95.23	95.35	94.49				57.58	76.68		66.27		49.52	76.60			53.20	53.25	94.71	96.20			32.05		74.08		9.41	56.50	-3.33	-4.28	41.34	-1.68	48.47	-26.62		
7/27/1993		91.08		99.75	96.17	94.90	95.04	94.24				56.74	76.69		65.96		46.54	75.39			52.15	51.48	94.29	95.55			1.42		73.01		22.40	55.67	0.60	-58.68	39.88	-3.71	43.88	-26.63		
8/31/1993		90.72		97.79	95.30	94.47	94.62	93.77				55.65	76.54		64.15		44.37	74.51			52.82	48.01	93.83	94.79			13.53		71.58		25.00	54.61	0.83	1.38	38.96	5.54	34.81	-26.70		
9/28/1993		90.26		98.15	94.77	94.30	94.31	93.50				55.09	76.54		64.13		44.96	75.67			52.44	46.42	93.15	94.30			32.98		70.78		28.18	54.00	3.14	7.15	38.95	10.50	36.04	-27.48		
10/28/1993		89.59		97.60	94.38	93.94	94.06	93.41				54.96	76.62		64.21		44.57	70.05			52.33	47.30	92.15	93.68			37.39		71.13		34.20	53.87	4.99	14.20	38.98	17.34	50.04	-26.37		
11/24/1993		88.12		97.15	93.98	93.79	93.89	93.33				55.14	76.46		64.20		44.07					47.37	91.46	93.18			40.58		71.68		37.49	54.05	5.91	18.24	39.52	21.18	53.24	-26.48		
12/16/1993		87.87		96.82	93.88	93.78	93.85	93.18				55.50	76.77		64.95		45.63				52.27	49.82	91.04	92.85			45.11		72.21		41.04	54.43	7.53	22.17	40.47	23.80	55.15	-27.89		
1/19/1994		87.45		96.40	93.81	93.58	93.67	93.12				56.18	76.39		64.58		46.02					48.58	90.45	92.49			48.93		72.88		44.43	55.13	10.76	26.56	40.79	25.56	56.52			
2/15/1994		87.41		96.16	93.80	93.64	93.74	93.11				56.84	76.80		65.40		48.47		38.36		52.46	52.70	90.44	92.33			51.18		73.45		46.28	55.85	12.38	29.56	42.46	28.84	58.46			
3/18/1994		87.22		95.99	93.80	93.53	93.56	92.95				57.89	76.64		65.85		50.76		41.12			53.43	90.33	92.26			52.90		74.02	-72.13	48.86	56.92	14.23	-5.87	43.75	28.45	59.47			
4/15/1994				97.10	93.87	93.70	93.77	93.13				57.58	76.85		65.55		48.47	78.00				49.83	91.94	93.60					74.27		33.85	56.51		-60.99	41.67	8.42	42.24			
5/26/1994		90.51		100.26	95.02	94.00	94.14	93.43				56.49	76.80		65.55	56.06	45.80	76.57			48.72	42.84	93.15	95.06					73.75		17.27	55.38			38.13	-8.43	22.61			
6/30/1994		91.42		99.97	95.89	94.68	94.81	94.20				55.65	76.70		65.80		43.22	76.38				40.46	94.28	95.60			31.69		71.68		6.53	54.60		-86.40	38.47	-20.79	28.07			
7/21/1994		91.03		99.57	95.59	94.58	94.71	93.96				55.19	76.57		64.79		42.38	75.64				38.99	93.91	95.22					70.67		0.01	54.14			38.17	-24.65	27.92			
8/23/1994		90.27		98.56	94.83	94.16	94.25	93.62				54.65	76.65		64.44		39.42	75.91				35.85	93.46	94.67					69.62		8.55	53.58			34.48	-17.24	25.77			
9/27/1994		90.00		97.74	94.36	93.88	93.98	93.30				54.49	76.82		64.69		41.78	71.28				43.31	93.40	94.25					69.07		16.20	53.33		-11.33		-7.77	29.04			
10/31/1994				97.36	94.09	93.73	93.83	93.26				54.19	76.09								52.09	34.35	92.00	93.53			33.03		69.33		24.55	53.10		0.22		1.30	45.01			
11/1/1994																																									
12/6/1994				96.78	93.89	93.71	93.80	93.21				54.53	76.82		64.79						52.80		91.09	92.83			32.99		70.39		32.25	53.44				7.50	49.15			
1/12/1995		92.10		97.00	94.40	95.53	95.54	94.86		86.52		55.58	82.48		79.16	72.05	51.16	74.80	37.84	70.84	58.55	69.79	92.45	93.13			41.04		75.09		38.39	54.67		17.78	43.08	16.32	55.73	18.52		
2/16/1995		92.09		100.45	96.86	95.82	95.98	94.92		81.93		61.04	79.99		74.70	63.05	58.46	72.81	42.60	64.47	56.61	66.09	94.12	95.75			48.63		78.70		47.75	60.08		25.75	56.03	30.89	61.84	32.07		
3/24/1995		93.10		101.51	98.01	96.99	97.04	95.78		83.83	67.42	67.42	82.72	67.32	79.84	70.38	67.48	74.77	53.28	68.90	61.17	70.68	94.92	96.53	75.71		53.97		83.27		53.35	66.68		31.41	60.71	38.94	68.69	41.08		
4/21/1995		92.16		101.00	98.03	96.57	96.78	95.51		83.52	70.67	70.35	78.88	66.54	74.32	66.93	64.64	77.95	56.13	66.03	60.99	65.70	94.63	96.39	73.66		54.85		85.17		54.58	69.57		24.48	61.11	36.39	67.82			
5/26/1995		91.33		101.15	96.97	95.55	95.69	94.88		82.97	69.85	69.66	77.62	69.78	73.83	55.36	60.28	75.67	52.27	58.69	60.22	60.61	94.47	96.23			41.22		84.53		53.27	68.66		-27.50	54.36	25.77	66.29			
6/26/1995		91.86		100.68	96.69	95.24	95.34	94.82		81.17	65.18	65.15	77.05	70.52	72.79		52.84	75.59	42.07		53.35	56.86	94.79	96.23					81.98		47.21	63.74		-37.66	49.86	14.55	55.09	27.34		
7/31/1995		91.17		99.39	95.79	94.70	94.80	94.20				60.69	76.91	66.43	72.06		46.31	75.67				50.95	94.20	95.51					78.20		34.55	59.41		-45.29	43.06	-12.11	49.57			
8/23/1995		90.63		98.78	95.19	94.39	94.51	93.89				59.04	76.84		65.05		44.16	73.65				48.08	93.56	94.95					76.27		21.69	57.87			41.48	11.50	44.92			
9/27/1995		89.86		98.01	94.48	93.96	94.06	93.41				57.45	76.91		63.89		43.02	71.94				47.41	92.58	93.98			32.40		74.55		34.32	56.41		9.69	38.63	18.77	52.99			
10/27/1995		88.96		97.52	94.13	93.74	93.86	93.13				57.64	77.05		64.41		46.21	70.03				50.36	92.00	93.46			40.14		74.51		38.55	56.67		18.24	41.76	25.60	56.02			

Table A2
Calculated Water Level Elevations – Teichert Aggregates, Woodland Properties

(all elevations in Feet, NAVD88)

Date	TA-1	TA-1A	TA-3	TA-3A	TA-4	TA-5	TA-5A	TA-6	TA-7	TA-8	TA-9	TA-9R	TA-10	TA-11	TA-12	TA-13	TA-13A	TA-14	TA-15	TA-16	TA-17	TA-18	TA-22	TA-23	TA-24	TA-25	Coors North	Coors South	YFC-West	YFC-East	Storz	Stephens	Muller	Muller #2	Schwarz-gruber	Schwarz-gruber #2	Teichert Dom	Teichert Plant Dom	Teichert Plant	Teichert Plant New
11/28/1995		88.07		97.09	93.86	93.59	93.70	93.00				58.07	76.68		64.10		46.77		39.34		41.64	50.22	91.18	92.97			45.70		74.36		43.56	57.11		24.48	42.56	29.71	58.38			
12/1/1995																																										
1/3/1996		88.41		96.82	94.00	93.71	93.81	93.15				59.58	77.35		65.59		50.54		44.00		51.05	54.90	91.21	92.83			51.32		75.56		50.24	58.61		30.25	45.27	34.66	62.33			
2/7/1996		90.96		97.12	94.46	94.90	94.95	94.27		85.81		62.72	81.10		77.19	69.64	59.68	75.09	50.49	65.46	58.28	63.53	92.02	93.21			56.03		78.51		54.60	61.93		35.10	50.97	39.62	66.66		40.82	
3/15/1996		91.33		98.66	96.08	95.52	95.65	94.71		83.52	68.52	68.69	80.30		76.57	68.88	66.53	73.71	57.88	67.38	61.12	65.76	93.07	94.41	74.74		60.62		82.16		59.80	67.94		40.42	57.80	45.91	70.70		47.00	
4/26/1996		90.51		99.52	95.72	94.81	94.91	94.27		82.75	69.62	69.45	77.89		72.78	56.23	62.00	78.99	56.54	61.72	61.71	60.23	92.74	94.74	72.05		31.84		83.72		59.19	68.63		39.26	54.23	38.80	69.86			
5/28/1996		90.45		101.03	96.36	94.94	95.05	94.52		82.37	67.00	66.88	77.27	66.56	66.72		57.40	76.54	50.83		58.27	56.32	93.03	95.07			53.31		83.01		52.70	65.68		-40.67	49.94	26.27	64.88			
6/26/1996		90.91		101.17	96.93	95.56	95.58	94.98		80.94		64.34	77.04	68.99	66.06		51.68	76.44	41.00		52.11	53.57	93.58	95.66			38.77		80.25		48.90	62.32		-34.43	46.81	11.97	61.22			
7/23/1996		91.13		100.35	96.48	95.17	95.30	94.77				60.74	77.46	66.11	65.62		47.79	75.60			52.39	49.81	93.68	95.68			31.21		76.97		38.50	59.44		-51.29	44.07	11.12	56.04			
8/27/1996		90.92		99.73	97.05	95.57	95.75	94.93				58.33	77.14		65.13		45.13	75.01			52.17	47.15	93.52	95.30			32.18		74.24		36.65	57.33			41.68	19.61	41.99			
9/26/1996		91.02		99.90	97.52	96.09	96.30	95.16				63.18	77.00		64.99		47.67	77.06	37.54		53.31	47.84	93.54	95.39			37.13		72.93		37.21	56.43		15.01	41.84	24.13	56.24			
10/30/1996		90.97		99.83	97.55	96.16	96.37	95.27				57.36	76.81		64.22		49.30	73.78	39.95		57.11	45.80	93.55	95.27			49.00		73.09		41.66	56.47		22.40	42.59	31.37	58.81			
12/2/1996		90.77		97.01	96.20	95.30	95.42	94.73				64.69	76.84		65.09		47.81		43.24		54.46	48.21	92.99	94.76			53.65		73.74		48.02	57.08		-19.41	43.48	34.49	61.72			
1/9/1997		92.10		98.35	96.05	96.13	96.12	95.20		85.73		62.20	82.20		78.83	71.57	66.13	71.97	51.89	66.98	58.21	66.77	93.47	94.67	73.31		58.33		77.28		55.28	61.35		36.84	54.51	41.43	69.36			
2/14/1997		92.39		100.17	97.21	96.20	96.34	95.54		84.46	69.03	69.03	80.58	70.29	76.05	68.68	68.23	72.98	58.63	67.46	64.06	67.73	94.56	96.03	77.48		62.10		81.84		60.68	68.37		41.11	62.67	47.87	72.94			
3/20/1997		91.41		99.15	96.17	95.37	95.34	94.90		83.47	68.66	68.50	77.52		72.31	56.65	60.20	77.41	54.50	59.34	60.29	60.65	93.86	95.18			59.56		82.51		61.32	67.59		41.34	57.36	40.07	71.99		44.16	
4/28/1997		92.38		101.68	97.69	95.79	95.87	95.52		82.25	65.67	65.59	77.32		66.59		54.56	77.03	45.88		57.08	56.75	94.47	95.87					82.09		54.51	64.52		24.25	50.80	21.66	67.33			
5/21/1997		93.70		101.55	97.55	96.08	96.16	95.85				62.90	75.95		65.75		50.81	78.98	38.73		57.34	54.63	96.23	98.64			31.49		80.05		46.37	60.66		9.69	47.40	13.49	62.57			
6/25/1997		92.73		100.05	96.70	95.61	95.62	95.06				60.49	76.85	71.49	64.89		48.73	76.15			57.58	51.36	95.16	96.71			31.47		78.24		29.41	59.10		-21.95	44.95	4.04	60.25			
7/23/1997																	44.89	76.04																							
10/3/1997		91.49		97.94	94.98	94.57	94.66	94.15				62.60	76.85		64.03		48.86	77.55				45.77	94.00	94.88			31.53		73.06		35.90	55.91		11.54	40.94	22.78	57.72		20.58	
1/28/1998		90.71		96.76	94.02	94.37	94.42	93.74					80.92		77.63	67.06	60.06	73.89	48.92	63.69	57.50	60.58	92.25	93.25			55.74		75.94		54.51	60.43		35.33	50.00	39.32	66.59			
3/3/1998		93.52		101.26	98.37	97.52	97.69	96.45		86.15	73.22	73.43	83.96	74.27	80.39	71.94	72.53	75.20	62.88	72.86	66.89	72.24	95.33	97.13	81.26		60.65		85.40		63.43	72.96		40.88	66.12	51.36	78.51		51.85	
6/4/1998		92.45		102.50	97.91	96.42	96.55	95.80		84.78	74.88	74.62	80.43		74.80	61.85	67.25	75.32	60.90	74.31	61.49	63.20	94.69	96.59	74.93		25.38		86.74		64.07	73.78		40.65	58.46	45.14	75.37			
8/31/1998		92.63		100.14	96.96	95.87	95.96	95.48				66.20	78.74		65.09		55.45	76.03	49.72	63.29	53.80	56.47	94.84	96.52			30.82		80.12	32.85	49.80	65.30		24.71	50.79	29.51	66.55			
12/11/1998		89.91		97.40	94.40	94.20	94.25	93.90				66.00	79.49		66.10		58.09	70.02	55.28	58.69	57.16	57.50	91.14	93.35			59.90		78.21	45.05	59.21	65.36		39.26	45.69	51.79	69.98	39.31	48.20	
3/11/1999		90.02		96.48	93.92	94.17	94.25	93.56		85.00	70.85	70.79	81.69	65.32	76.67	64.85	66.95		61.17	69.39	61.06	64.78	90.93	92.71	75.80		65.71		81.74	53.31	64.27	70.25		45.04	58.58	47.13	74.58	42.77		
4/29/1999																	62.38	79.16																							
6/15/1999		92.38		99.71	96.31	95.38	95.49	94.89				65.93	78.83	73.07	68.22		53.81	77.45	44.61	62.29		56.08	94.69	96.35			50.21		81.56	0.11	52.24	64.91		-33.97	50.36	13.80	73.17	27.30	30.93	
9/13/1999		90.16		98.36	95.23	94.62	94.73	94.03					78.55		64.32			76.52		58.98		48.57	93.66	94.42			50.00		76.42	24.66	46.34	58.48		3.69	42.78	22.21	63.85	19.21		
12/10/1999		88.31		97.18	94.15	93.86	93.96	93.47					78.31		65.03		51.15	69.95	47.42		55.87	51.08	92.29	93.42			57.63		76.02	42.51	54.96	61.15		16.62	46.64	37.53	67.32	30.76	36.59	
3/22/2000		88.99		96.78	93.88	93.94	94.02	93.43		83.96		67.46	79.88		75.88	59.55	62.80	71.87	56.87	62.27	61.41	61.26	91.99	93.30	72.04		62.91		79.25	46.09	60.91	66.87		23.32	55.88	45.36	69.80	39.77		
6/26/2000		91.01		101.50	98.39	98.42	97.13	96.94					78.71		65.97		51.73	77.08	43.13			57.12	94.79	97.32			42.19		79.31	3.71	52.01	62.77		6.23	50.70	13.91	67.44	26.60	34.69	
9/27/2000		89.05		98.96	95.82	95.04	95.17	94.53				66.46	77.83		63.69			76.11	38.62			51.59	93.35	94.81			51.65		74.82	21.14	47.70	57.77		9.00	46.04	27.00	64.11	20.14		
12/8/2000		88.16		97.42	94.41	94.19	94.25	93.82					77.57		64.01		50.44		46.77			52.72	92.29	93.63			58.59		75.76	43.97	54.59	60.22		17.08	47.55	37.60	67.79	28.45		
3/29/2001		88.04		96.76	93.77	93.65	93.71	93.22		82.31			78.44		73.28		59.09	70.91	55.30	59.72		57.24	91.58	92.94			62.14		79.32	40.76	59.93	65.68		21.70	52.44	43.72	72.28	20.83		
7/2/2001		89.05		99.32	95.91	95.18	95.30	94.56					77.87		65.88		49.16	76.24	38.54			54.96	93.84	95.44			46.22			18.36	49.56	61.31		2.30	49.18	11.47	67.22	20.37	25.89	
9/7/2001		89.10		99.01	96.00	95.21	95.32	94.65					77.73		64.01		46.38	75.84	38.99			54.19	93.58	95.05			45.06	75.83	9.38	46.46	58.66		0.91	47.35	25.59	64.54	23.14	28.15	26.05
12/6/2001		88.94		97.30	94.76	94.44	94.50	94.06					79.31		67.46		54.02	70.86	48.62			56.34	92.27	93.59			53.46	74.70	39.57	52.53	60.11		11.77	49.16	37.79	66.72	26.60	34.04	-38.25
3/21/2002		88.52		97.22	94.72	94.11	94.19	93.70		80.89		66.40	78.13		71.99		58.63		55.92	58.82		56.71	91.60	93.32			59.99	79.07	40.41	59.60	65.80		19.39	52.60	44.75	71.15	36.08	48.23	43.88
6/6/2002		88.54		99.35	96.08	95.09	95.23	94.52					77.79		66.25		52.27	76.85	45.20	58.64		57.02	93.10	94.88			52.43	79.21	23.16	52.34	62.70		6.00	50.70	11.96	69.55	21.98	31.07	22.23
9/9/2002		88.87		99.36	96.43	95.55	95.73	94.99					77.84		63.44			75.75				53.30	93.66	95.15			35.33	74.89	4.22	39.24	56.64		-7.17	46.55	20.10	63.07	15.75	19.06	-50.40
11/25/2002		88.59		97.41	94.71	94.43	94.58	94.00					78.07		65.38		49.20		44.75			52.95	92.32	93.73			47.30	73.69	23.49	47.05	58.02		4.38	46.63	34.52	65.01	24.53	36.41	30.05
3/24/2003		88.87		97.33	94.65	94.45	94.52	94.05		81.73		67.18	79.09		75.26	60.64	61.38	71.64	56.74	61.58		58.78	92.24	93.60			58.74	80.03	40.76	59.05	66.36		17.08	53.74	45.28	73.41	34.46	48.05	42.04
6/10/2003		88.56		98.37	95.84	94.90	95.05	94.28				67.10	78.35	66.96	66.80		55.69	77.87	49.52	58.65		57.97	92.77	93.69			38.25	82.33	8.27	55.92	66.22		7.15	52.69	17.67	74.06	25.22	33.33	23.54
9/2/2003		92.17		100.63	97.87	96.55	96.79	96.00					77.92		64.91		47.46	74.36	42.44			53.41	94.45	96.43			41.76	76.86	6.29	44.67	59.68		-0.24	46.48	25.82	68.77	18.52	25.39	-49.65
12/8/2003				97.57	95.06	94.77	94.82	94.43					78.27		64.89		51.32		48.92			53.84	92.92	94.24			52.34	75.78	27.17	51.19	60.87		7.84	48.12	38.17	68.69	26.37	34.32	-41.25
3/5/2004		91.60		97.29	95.39	95.46	95.53	94.79		85.72		69.28	82.73		78.33	70.12	68.29	72.95	59.47	69.50		67.18	93.07	94.09	76.06		60.12	81.89	38.35	60.55	68.84		17.55	60.22	47.63	76.95	38.85	51.24	45.48
6/21/2004		91.99		100.41	96.59	95.61	95.68	95.18					78.87		66.21		49.29	75.97	39.47			54.47	94.94	96.44			36.38	78.95	4.32	44.50	61.38		-19.18	46.23	9.92	69.17	15.52	19.29	-53.10
9/20/2004		89.38		99.00	96.31	95.60	95.58	95.14					78.43		64.02		45.90	71.62				54.24	93.75	95.35			32.53	74.39	5.45	36.02	57.19		-14.33	46.35	25.95	63.19	16.21	29.51	21.28
12/22/2004				96.87	94.26	94.15	94.22	93.84					78.90		65.79		51.30		48.05			54.10	92.51	93.54			49.44	75.40	29.83	51.54	59.91		6.46	48.11	38.56	68.39	28.22	41.06	36.26
4/1/2005		89.22		96.88	94.14	94.11	94.15	93.69				67.33	80.79		76.84	62.26	61.83	70.78	57.25	63.90		61.36	92.33	93.43	71.64		57.89	80.37	37.33	58.21	66.87		14.54	54.46	46.03	73.61	35.84	42.92	-29.79
6/20/2005		92.21		100.19	97.42	96.14	96.28	95.63		81.35		65.23	78.13		66.13		52.70	76.95				56.18	94.39	95.95			42.81	82.32	4.84	50.21	64.09		-2.57	51.82	17.17	68.52	20.83	30.36	24.97
9/19/2005		91.24		100.11	97.37	96.28	96.42	95.74				65.26	77.69		64.02		46.47	75.60		58.78		50.68	94.50	96.23			28.77	76.98	8.30	40.90	59.50		-15.02	44.63	26.10	67.02	11.59	29.45	19.66

Table A2
Calculated Water Level Elevations – Teichert Aggregates, Woodland Properties

(all elevations in Feet, NAVD88)

Date	TA-1	TA-1A	TA-3	TA-3A	TA-4	TA-5	TA-5A	TA-6	TA-7	TA-8	TA-9	TA-9R	TA-10	TA-11	TA-12	TA-13	TA-13A	TA-14	TA-15	TA-16	TA-17	TA-18	TA-22	TA-23	TA-24	TA-25	Coors North	Coors South	YFC-West	YFC-East	Storz	Stephens	Muller	Muller #2	Schwarz-gruber	Schwarz-gruber #2	Teichert Dom	Teichert Plant Dom	Teichert Plant	Teichert Plant New
12/15/2005		90.96		97.35	94.76	94.53	94.58	94.22					77.74		64.27		49.60			63.57		51.39	92.74	93.95			48.97		76.16	29.97	49.42	59.82		3.69	46.16	37.37	69.02	25.45	37.31	26.64
4/28/2006		92.84		99.03	96.75	96.55	96.52	95.78		89.01	76.34	76.08	82.41	68.56	84.29	70.71	72.25	72.78	64.58	72.92		68.27	94.26	95.62	80.56		62.43		87.61	36.89	63.36	75.64		17.08	64.30	53.12	80.57	42.31	53.66	41.08
6/16/2006		92.43		102.04	97.80	96.33	96.51	95.98		86.09		71.32	78.78		71.90	55.22	60.21	77.62	52.59	58.50		61.20	94.88	96.60			47.30		87.08	-3.30	52.71	70.22		-13.87	59.27	29.38	77.84	30.07	39.86	30.29
9/8/2006		92.34		101.95	98.83	97.31	97.48	96.57					78.32		66.04		53.67	75.43				59.01	94.43	96.51			39.56		80.57	24.57	45.66	63.47		-4.40	72.02	31.66	71.15	26.14	35.13	22.29
11/30/2006		91.63		98.44	95.67	95.27	95.33	94.81					78.43		64.54		54.89		52.93			57.43	93.33	94.68			39.87		78.73	26.36	51.84	63.86		2.76	51.96	42.55	72.00	30.07	37.33	-45.54
3/21/2007		90.27		96.69	94.13	93.73	93.82	93.27					78.57		72.59		57.92		54.94	60.25		58.92	91.87	93.07			59.08		79.49	26.80	54.52	65.69		1.38	53.55	43.44	73.71	32.38	46.83	40.59
6/8/2007		90.38		99.10	94.36	93.50	93.64	92.24					78.26		64.94		50.93	76.97				56.03	93.03	93.84			25.14		78.11	0.80	42.74	60.72		-13.87	47.59	8.91	73.34	15.29	27.27	21.79
9/4/2007		91.37		99.87	97.22	95.62	95.90	94.27					77.79		63.90		45.52	73.21				56.49	93.77	94.87			32.13		74.27	17.41	32.98	56.96		-26.81	49.54	18.13	66.95	9.74	18.59	-46.31
12/21/2007		90.43		97.80	95.03	94.28	94.42	93.27					78.20		64.39		50.17			58.70		56.39	92.12	93.37			49.57		75.35	34.66	46.97	59.21		0.68	49.16	37.08	69.80	25.22	39.09	33.58
3/13/2008		91.33		98.49	95.55	94.81	94.93	93.90			64.18		79.11		74.60	56.88	57.84	70.25	55.16			59.62	93.00	94.15			57.36		81.16	29.44	55.08	66.55		5.30	54.77	43.87	77.32	50.61	64.26	42.30
7/1/2008		90.14		102.23	98.41	96.08	96.38	93.58					77.74		65.22		47.86	75.95		59.07		52.41	92.19	93.84					77.97		34.55	59.25	23.41		44.81	6.12	76.72	24.79	18.84	12.56
9/10/2008		90.60		100.74	97.54	95.29	95.58	92.93					77.58		63.91		44.42	74.82				53.98	93.26	94.00			22.18		75.15	17.13	32.34	56.87	21.16	-26.11	44.92	15.89	69.42	24.98		13.80
12/1/2008		89.87		98.72	95.75	94.35	94.56	92.68					77.44		64.21		45.26			59.03		52.74	91.54	92.44			44.12		74.68	17.83	43.18	57.15	29.52	-50.60	44.44	32.17	68.86		33.75	28.81
3/17/2009		90.41		97.50	94.73	94.06	94.17	93.02					78.79		73.34		52.69	70.05				58.03	91.87	92.75			51.48		77.83	27.86	51.47	62.42	37.05	27.02	50.86	40.47	75.39	46.51	42.94	37.97
6/16/2009		88.88		98.84	94.01	93.92	93.98	91.35					77.57		65.24			77.12		63.24		41.48	91.18	93.12					76.51	-49.64	22.77	57.63	17.48	-45.98	35.18	-5.03	64.73		3.85	-54.90
9/14/2009		88.66		98.67	95.28	93.80	94.04	90.60					77.31		63.05			71.87		59.20		36.86	90.64	93.00		66.15	5.10		73.21	-16.91	7.72	55.27	7.56	-50.14	32.40	-2.21	59.97		1.44	-4.37
12/7/2009		88.36			94.46	93.51	93.69	91.05					77.36		64.29								89.47	92.29		62.25	32.78		72.00	4.24	29.20	54.32	16.46	7.61		17.49	60.89		17.33	13.33
3/22/2010		90.19		97.86	94.46	93.76	93.90	92.31		86.22			78.48		73.13	56.16	51.95					58.89	91.65	93.33		67.55	43.02		76.41	7.62	44.69	59.84	29.50	-72.73	45.89	34.40	71.90	40.85	36.62	31.22
6/22/2010		89.78		105.69	97.47	94.83	95.06	91.69					77.26		66.33		52.98	76.33				57.77	93.34	97.44		69.08	31.48		79.54	9.86	32.37	61.04	23.74	-35.35	47.03	5.82	72.68	30.93	21.90	14.37
9/13/2010		90.38		102.09	99.07	96.35	96.63	93.11					76.71		64.09		46.86	76.21				57.60	93.98	95.62		65.29	19.91		75.91	11.40	25.54	56.85	17.11	-73.93	51.21	16.08	66.70	22.50	14.57	-33.41
12/1/2010		89.84		99.55	96.69	94.92	95.12	93.04					76.65		63.95		44.95		54.95			52.23	92.70	94.31		64.15	35.04		74.19	8.44	30.65	55.94	24.45	-56.46	41.72	28.24	65.01		29.10	23.22
4/5/2011		91.72		100.55	97.55	96.27	96.43	94.33		89.00			82.30		78.06	70.12	67.85	71.32	57.01	69.91		67.60	93.92	95.84	73.38	75.86	48.68		81.95	23.56	49.20	68.06	40.41	-14.56	60.57	44.97	76.70	51.01	41.85	-40.18
6/16/2011		90.98		104.71	100.42	96.92	97.33	93.95					77.87		72.23		58.31	76.98		59.63		60.36	95.05	97.75		74.53	25.32		83.93	18.74	67.84	67.31	36.23	-53.88	54.70	23.28	79.61		34.12	24.33
9/12/2011		91.08		103.14	99.59	96.47	96.81	93.86					77.72		66.09		51.54	75.97				58.95	95.71	98.14		68.40	3.43		79.04	5.62	23.66	62.00	27.92	-84.09	54.68	26.85	67.83		30.78	21.71
12/6/2011		90.74		100.03	100.27	95.22	95.42	93.54					77.56		64.56		51.48	75.45				58.25	94.57	95.98		66.66	33.49		76.26	5.78	37.66	61.62	35.23	-62.84	50.80	38.78	68.90	43.55	35.21	-39.97
3/29/2012		90.54		98.03	95.52	94.45	94.56	93.19					79.76		74.12		58.25	73.40		62.98		60.71	93.70	94.72		68.71	40.58		77.23	27.02	44.81	63.75	39.53	-59.13	52.41	41.53	70.85	48.52	44.71	38.97
8/3/2012		91.33		103.05	98.82	96.19	96.47	93.69					77.49		64.71		47.63					53.00	96.13	98.71		64.79	7.18		75.94	-3.12	18.21	58.31	17.75	-83.43	48.72	7.41	65.49		16.98	8.38
9/10/2012		91.36		102.58	98.72	96.03	96.31	93.36					77.18		61.85		45.08	75.19				55.47	96.16	98.42		63.28	8.48		74.69	4.67	17.89	55.84	17.35	-82.23	46.19	14.74	64.77	21.96	12.70	-48.96
1/25/2013		92.37		100.16	97.02	95.39	95.60	93.89					78.22		73.59		55.59					58.29	91.55	92.87		66.86	39.38		77.64	20.33	38.50	61.82	35.25	-48.73	51.35	38.84	70.99	34.85		-44.10
4/15/2013		90.76		99.61	96.34	94.67	94.89	92.95					77.52		70.13		56.86	75.94				57.63	90.99	91.94		68.11	26.08		78.23	4.19		63.57	35.75	-66.53	50.38	32.04	70.41		38.57	28.64
7/12/2013		90.87		102.50	98.30	95.73	96.10	93.14					76.78		63.40		47.78	75.20				43.24	92.27	94.45		64.83	-13.82		76.33	-30.82		57.32	16.85	-88.63	38.80	-1.36	63.66		12.80	6.02
9/12/2013		91.04		101.81	98.12	95.70	96.02	93.13					76.69		63.74		46.24	74.24				52.15	92.27	94.17		63.98	-13.02		75.41	-24.50		55.57	14.55	-89.43	41.25	10.91	63.11		15.33	8.04
12/16/2013		90.05		98.82	95.72	94.62	94.79	93.13					77.00		63.96		44.52					26.92	89.57	90.86		63.98	6.78		75.13	-2.12		55.44	22.15	-79.93		23.79	64.36	26.08	26.82	19.64
6/2/2014		88.82		97.33	94.12	93.25	93.48	91.19					76.41		62.61			71.23					87.64	89.19		64.14	<-180.12		72.50	-28.42		55.10	12.15	-46.93		-3.90	63.77		4.41	-51.02
8/20/2014		88.07		97.47	94.08		93.35	90.77					74.76										86.28	88.57		60.67	36.76		68.08	-9.94		52.11	-9.45	-88.03		-23.57	56.41		-16.17	-22.16
10/6/2014		87.76		97.08	94.16		93.25	90.77					74.37					71.63					85.70	88.36		59.71	36.48		67.49	-4.49		51.54	-6.15			-13.75	63.19		-12.07	-16.86
12/23/2014		90.43		96.60	94.33	94.72	94.72	93.73		87.58			79.86				51.09			62.30		56.68	87.74	89.06	98.50	61.70	32.79		71.76	-15.69		53.77	3.75			2.33	62.80		5.39	1.46
2/6/2015	--		--			--			--		--	--		--							--						--			--								--			
3/20/2015		88.81		96.79	95.73	93.50	93.63	92.47					77.52		65.41		46.42	74.64				46.48	87.12	88.94		64.67	35.98		73.53	7.38		55.68			41.02	20.02	64.33		25.86	19.61
7/20/2015		91.63		100.91	96.95	94.76	95.05	92.03					77.52		64.69		45.50					36.06	92.16	94.06		64.38	-5.37		74.73	-33.14		55.61	-0.65			-23.48	61.75		-41.50	
10/15/2015		90.69		99.73	96.18	94.78	94.92	92.52					76.32										90.38	91.87		63.00	-16.44		71.71	-52.17		53.19	-1.89	-89.43		-11.46	61.33		-11.47	

Table A3
Water Quality – Conventional Constituents
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

Sampling Point	Date	pH (standard pH-units)	TDS	EC (µS/cm)	Na	Ca	Mg	K	Cl	SO4	F	Alkalinity HCO3 as CaCO3	Alkalinity CO3 as CaCO3	Alkalinity OH as CaCO3	Alkalinity Total as CaCO3	Total Hardness as CaCO3	NO3 as NO3	NO2 as N	BOD	Total P	MBAS	Coliform Total (MPN/100 mL)	Coliform Fecal (MPN/100 mL)	Coliform E. Coli (MPN/100 mL)
MCL[1]		*6.5/8.5*	*500*	*900*					*250*	*250*	2						45	1			*0.5*			
TA-1A	9/16/2005	7.15	**800**	**1,300**	99	72	100	<1.0	45	78	0.68	640	<5.0	<5.0	640	610	27	-	-	-	-	<2	<2	-
TA-1A	1/11/2006	7.29	**730**	**1,200**	99	62	94	<1.0	28	60	0.66	620	<5.0	<5.0	620	540	16	-	-	-	-	<2	<2	-
TA-1A	3/28/2006	7.20	**740**	**1,200**	99	64	96	<1.0	17	63	0.78	610	<5.0	<5.0	610	560	13	-	-	-	-	<2	<2	-
TA-1A	9/5/2006	7.15	**780**	**1,200**	140	72	98	1.6	27	60	0.68	670	<5.0	<5.0	670	580	15	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	3/19/2007	7.06	**710**	**1,200**	99	63	96	1.0	24	65	0.63	650	<5.0	<5.0	650	550	14	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	9/5/2007	7.10	**520**	**910**	73	48	72	<1.0	29	27	0.73	480	<5.0	<5.0	480	420	<2.0	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	3/10/2008	7.00	**510**	870	64	48	70	<1.0	27	38	0.66	420	<5.0	<5.0	420	410	3.0	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	9/11/2008	7.01	460	770	57	44	64	<1.0	27	19	0.60	420	<5.0	<5.0	420	370	<2.0	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	9/15/2009	6.98	**520**	**900**	57	52	77	<1.0	28	34	0.34	460	<5.0	<5.0	460	450	4.9	-	-	-	-	13	<1.8	<1.8
TA-1A	3/24/2010	7.12	**520**	870	62	42	70	<1.0	36	66	0.66	400	<5.0	<5.0	400	390	7.0	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	4/7/2011	7.03	**700**	**1,200**	86	56	93	<1.0	43	80	0.57	570	<5.0	<5.0	570	520	9.3	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	5/1/2012	7.68	**790**	870	100	66	100	<1.0	39	74	0.67	680	<5.0	<5.0	680	580	7.7	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	4/16/2013	7.26	**670**	**1,200**	85	57	96	<1.0	39	29	0.65	620	<5.0	<5.0	620	570	<2.0	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	6/3/2014	7.24	**740**	**1,400**	84	65	87	<1.0	31	53	0.66	750	<5.0	<5.0	750	520	3.5	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	3/27/2015	7.10	**870**	**1,400**	97	63	79	<1.0	41	110	0.93	640	<5.0	<5.0	640	490	2.2	-	8.3	0.14	-	7.8	<1.8	<1.8
TA-3A	9/16/2005	8.45	410	660	66	33	40	1.9	31	48	0.47	240	14	<5.0	250	250	34	-	-	-	-	<2	<2	-
TA-3A	3/28/2006	*Well goes dry during purging. No sample retrieved.*																						
TA-3A	9/5/2006	*Well goes dry during purging. No sample retrieved.*																						
TA-3A	9/6/2007	7.56	**750**	**1,200**	80	74	110	1.0	29	51	0.54	620	<5.0	<5.0	620	620	23	-	-	-	-	23	<1.8	<1.8
TA-5A	11/6/1995	7.7	**630**	**1,200**	75	77	73	2.3	57	85	0.31	-	-	-	410	520	**63**	ND	-	-	-	ND	ND	-
TA-5A	3/19/2007	6.96	**690**	**1,100**	77	81	86	2.2	23	47	0.32	620	<5.0	<5.0	620	560	19	-	-	-	-	<1.8	<1.8	<1.8
TA-5A	3/10/2008	7.03	**680**	**1,100**	72	84	86	2.2	34	52	0.40	540	<5.0	<5.0	540	570	16	-	-	-	-	<1.8	<1.8	<1.8
TA-5A	9/11/2008	7.13	**720**	**1,100**	74	90	89	2.2	38	68	0.36	570	<5.0	<5.0	570	590	21	-	-	-	-	<1.8	<1.8	<1.8
TA-5A	9/15/2009	7.13	**710**	**1,200**	78	88	93	2.2	42	67	0.23	600	<5.0	<5.0	600	610	23	-	-	-	-	2.0	<1.8	<1.8
TA-5A	3/24/2010	7.17	**720**	**1,200**	73	78	87	2.1	62	71	0.38	540	<5.0	<5.0	540	550	18	-	-	-	-	<1.8	<1.8	<1.8
TA-5A	4/7/2011	7.16	**640**	**1,100**	67	75	83	1.9	39	62	0.31	530	<5.0	<5.0	530	530	35	-	-	-	-	<1.8	<1.8	<1.8
TA-5A	5/1/2012	7.25	**650**	**1,100**	68	75	83	1.9	31	56	0.39	600	<5.0	<5.0	600	530	24	-	-	-	-	<1.8	<1.8	<1.8
TA-5A	4/16/2013	7.26	**710**	**1,300**	65	85	100	1.9	43	73	0.41	600	<5.0	<5.0	600	620	22	-	-	-	-	<1.8	<1.8	<1.8
TA-5A	6/3/2014	7.33	**700**	**1,300**	66	82	78	2.1	39	64	0.52	580	<5.0	<5.0	580	530	18	-	-	-	-	<1.8	<1.8	<1.8
TA-5A	3/27/2015	7.29	**760**	**1,300**	71	77	69	1.6	45	64	0.65	550	<5.0	<5.0	550	480	15	-	5.0	2.0	-	46	<1.8	<1.8
TA-9R	Spring '92	7.7	**890**	**1,270**	97.4	82	64.8	-	130	92.4	0.13	487	ND	ND	487	380	25	-	-	-	0.06	-	-	-
TA-9R	11/8/1995	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	ND	-
TA-13A	11/7/1995	7.8	270	620	38	37	32	2.7	34	23	0.17	-	-	-	230	230	5	ND	-	-	-	ND	ND	-
TA-13A	7/23/1997	7.8	409	639	40	50	40	2.9	29	41	0.26	274	ND	-	274	288	7.3	-	-	-	-	23	ND	-
TA-13A	3/5/1998	7.6	248	387	17	38	28	2.2	11	21	0.16	201	ND	-	201	185	ND	-	-	-	-	2	ND	-
TA-13A	9/29/1998	7.6	324	507	27	37	29	2.6	23	26	0.17	206	ND	-	208	212	3.9	-	-	-	-	ND	ND	-
TA-13A	4/29/1999	7.4	275	430	26	42	31	4.2	20	30	0.16	214	ND	-	214	231	2.9	-	-	-	-	4	ND	-
TA-13A	4/19/2000	7.8	330	540	37	45	33	2.8	36	35	0.13	210	ND	-	210	250	5.9	-	-	-	-	ND	ND	-

Table A3
Water Quality – Conventional Constituents
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

													Alkalinity			Total								Coliform		
Sampling Point	Date	pH (standard pH-units)	TDS	EC (µS/cm)	Na	Ca	Mg	K	Cl	SO4	F	HCO3 as CaCO3	CO3 as CaCO3	OH as CaCO3	Total as CaCO3	Hardness as CaCO3	NO3 as NO3	NO2 as N	BOD	Total P	MBAS	Total (MPN/100 mL)	Fecal (MPN/100 mL)	E. Coli (MPN/100 mL)
MCL[1]		*6.5/8.5*	*500*	*900*					*250*	*250*	2						45	1			*0.5*			
TA-13A	5/7/2001	7.6	400	690	54	49	40	2.7	69	57	0.13	220	ND	-	220	290	14	-	-	-	-	ND	ND	-
TA-13A	5/7/2002	7.6	420	690	52	56	45	2.4	57	43	0.11	240	ND	ND	240	320	13	-	-	-	-	ND	ND	-
TA-13A	4/9/2003	7.71	350	600	42	51	41	2.6	39	38	ND	270	ND	ND	270	290	6.6	-	-	-	-	13	ND	ND
TA-13A	9/15/2003	7.58	350	550	42	41	32	2.4	33	27	0.18	250	ND	ND	250	240	10	-	-	-	-	ND	ND	ND
TA-13A	4/14/2004	7.51	310	510	30	44	32	1.6	31	33	0.17	240	ND	ND	240	240	3.1	-	-	-	-	2.0	ND	ND
TA-13A	9/28/2004	7.50	350	610	49	49	38	3.0	35	30	0.28	260	ND	ND	260	280	11	-	-	-	-	ND	ND	ND
TA-13A	4/14/2005	7.50	360	560	41	46	36	2.3	35	36	0.15	250	<5.0	<5.0	250	270	4.2	-	-	-	-	13	2.0	2.0
TA-13A	9/15/2005	7.49	360	640	51	48	38	2.7	38	34	0.16	280	<5.0	<5.0	280	280	16	-	-	-	-	<2	<2	-
TA-13A	3/28/2006	7.46	220	370	18	36	24	2.3	11	17	0.16	180	<5.0	<5.0	180	190	<2.0	-	-	-	-	130	<2	-
TA-13A	9/11/2006	7.13	370	610	31	50	32	3.3	36	40	0.15	260	<5.0	<5.0	260	260	13	-	-	-	-	>1,600	920	280
TA-13A	3/20/2007	7.13	380	710	56	48	39	2.6	67	42	0.12	240	<5.0	<5.0	240	280	8.4	-	-	-	-	<1.8	<1.8	<1.8
TA-13A	9/5/2007	7.41	320	590	47	40	32	2.7	29	26	0.17	250	<5.0	<5.0	250	230	7.5	-	-	-	-	<1.8	<1.8	<1.8
TA-13A	3/12/2008	7.21	300	510	33	41	29	2.5	33	31	0.16	190	<5.0	<5.0	190	220	6.5	-	-	-	-	170	7.8	4.5
TA-13A	9/15/2009	*Insufficient water in well. No sample retrieved.*																						
TA-13A	3/23/2010	7.37	400	700	53	42	36	2.3	60	50	0.13	220	<5.0	<5.0	220	250	3.7	-	-	-	-	2.0	<1.8	<1.8
TA-13A	9/16/2010	*Biennial sampling conducted in March 2010*																						
TA-13A	4/4/2012	7.62	410	730	70	54	44	2.8	79	37	0.17	230	<5.0	<5.0	230	320	6.4	-	<3.0	<0.050	-	<1.8	<1.8	<1.8
TA-13A	9/12/2012	*Biennial sampling conducted in April 2012*																						
TA-13A	6/2/2014	*Well dry. No sample retrieved.*																						
TA-13A	10/6/2014	*Well dry. No sample retrieved.*																						
TA-13A	3/27/2015	*Insufficient water in well. No sample retrieved (followup attempt to sample since well was dry in 2014)*																						
TA-14	3/1/1992	7.9	481	614	36.8	42.7	33	-	41.6	26.9	0.25	291	ND	ND	291	252	7	-	-	-	ND	-	-	-
TA-14	7/23/1997	7.7	278	435	34	34	26	1.1	18	17	0.38	218	ND	-	218	191	1.6	-	-	-	-	ND	ND	-
TA-14	3/5/1998	8	260	407	32	34	29	3	18	16	0.3	202	ND	-	201	203	2.3	-	-	-	-	ND	ND	-
TA-14	9/29/1998	7.8	297	464	30	34	25	1.2	18	20	0.31	199	ND	-	196	188	1.4	-	-	-	-	4	2	-
TA-14	4/29/1999	7.4	268	418	29	37	27	1.1	22	19	0.24	204	ND	-	204	201	4	-	-	-	-	17	ND	-
TA-14	9/14/1999	7.7	288	426	30	31	24	1.1	17	15	0.27	196	ND	-	196	178	ND	-	-	-	-	17	9	-
TA-14	4/19/2000	7.7	270	430	35	34	25	1.4	16	18	0.22	200	ND	-	200	190	3	-	-	-	-	4	4	-
TA-14	9/19/2000	7.9	270	440	33	32	25	1	13	15	0.16	190	ND	-	190	180	ND	-	-	-	-	ND	ND	-
TA-14	5/7/2001	7.7	250	430	34	34	26	1.1	15	15	0.23	180	ND	-	180	140	3.3	-	-	-	-	17	2	-
TA-14	9/20/2001	7.5	280	450	34	33	25	1.2	14	13	0.18	200	ND	-	200	180	ND	-	-	-	-	ND	ND	-
TA-14	5/7/2002	7.7	270	400	34	36	27	1.2	16	13	0.2	190	ND	ND	190	200	3	-	-	-	-	2	2	-
TA-14	9/25/2002	7.5	270	440	32	38	27	1.1	15	11	0.39	200	ND	ND	200	210	ND	-	-	-	-	ND	ND	-
TA-14	9/15/2003	7.62	270	430	29	34	24	1.5	16	12	0.29	210	ND	ND	210	190	ND	-	-	-	-	17	ND	ND
TA-14	4/14/2004	7.77	260	420	27	35	25	ND	19	13	0.32	220	ND	ND	220	190	3.9	-	-	-	-	14	6.0	6.0
TA-14	9/28/2004	*Well goes dry during purging. No sample retrieved.*																						
TA-14	4/14/2005	*Well goes dry during purging. No sample retrieved.*																						
TA-14	9/15/2005	7.44	280	450	30	38	27	1.0	18	14	0.26	210	<5.0	<5.0	210	210	<2.0	-	-	-	-	4.0	<2	-
TA-14	4/26/2006	7.59	280	440	29	38	28	1.0	18	14	0.26	220	<5.0	<5.0	220	210	3.7	-	-	-	-	13	13	13
TA-14	9/11/2006	7.37	260	440	33	34	24	1.3	18	15	0.24	240	<5.0	<5.0	240	180	<2.0	-	-	-	-	2.0	2.0	2.0

Table A3
Water Quality – Conventional Constituents
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

												Alkalinity				Total							Coliform		
Sampling Point	Date	pH (standard pH-units)	TDS	EC (µS/cm)	Na	Ca	Mg	K	Cl	SO4	F	HCO3 as CaCO3	CO3 as CaCO3	OH as CaCO3	Total as CaCO3	Hardness as CaCO3	NO3 as NO3	NO2 as N	BOD	Total P	MBAS	Total (MPN/100 mL)	Fecal (MPN/100 mL)	E. Coli (MPN/100 mL)
MCL[1]		*6.5/8.5*	*500*	*900*					*250*	*250*	2						45	1			*0.5*			
TA-14	3/20/2007	*Well is dry. No sample retrieved.*																						
TA-14	9/6/2007	7.30	230	450	29	36	27	1.2	18	15	0.26	210	<5.0	<5.0	210	200	2.3	-	-	-	-	<1.8	<1.8	<1.8
TA-14	3/12/2008	*Well goes dry during purging. No sample retrieved.*																						
TA-14	9/11/2008	*Insufficient water in well. No sample retrieved.*																						
TA-14	9/15/2009	*Insufficient water in well. No sample retrieved.*																						
TA-14	3/22/2010	*Well is dry. No sample retrieved. Biennial sampling conducted in September 2010*																						
TA-14	9/16/2010	7.39	310	530	33	44	36	1.4	23	19	0.22	220	<5.0	<5.0	220	260	<2.0	-	-	-	-	<1.8	<1.8	<1.8
TA-14	4/4/2012	*Insufficient water in well. No sample retrieved.*																						
TA-14	9/12/2012	*Insufficient water in well. No sample retrieved.*																						
TA-14	6/2/2014	*Insufficient water in well. No sample retrieved.*																						
TA-14	10/6/2014	*Insufficient water in well. No sample retrieved.*																						
TA-14	3/27/2015	*Insufficient water in well. No sample retrieved (followup attempt to sample since well water level was too low to sample in 2014)*																						
TA-17	Spring '92	7.7	477	618	46.3	37.1	30.7	-	44.8	36.8	0.14	275	ND	ND	275	202	4	-	-	-	ND	-	-	-
TA-25	9/15/2009	7.65	430	730	54	56	42	3.5	55	64	<0.10	270	<5.0	<5.0	270	320	9.7	-	-	-	-	4.5	<1.8	<1.8
TA-25	3/23/2010	7.48	470	800	53	55	44	2.6	48	52	0.13	310	<5.0	<5.0	310	320	7.4	-	-	-	-	<1.8	<1.8	<1.8
TA-25	9/14/2010	7.55	**500**	840	66	68	59	3.1	52	54	0.16	310	<5.0	<5.0	310	410	8.9	-	-	-	-	<1.8	<1.8	<1.8
TA-25	4/7/2011	7.58	460	840	53	61	47	2.4	59	60	0.10	350	<5.0	<5.0	350	350	7.5	-	-	-	-	<1.8	<1.8	<1.8
TA-25	9/15/2011	7.62	**500**	810	65	72	53	2.7	64	57	<0.10	340	<5.0	<5.0	340	400	6.5	-	-	-	-	<1.8	<1.8	<1.8
TA-25	5/1/2012	7.32	480	840	59	67	51	2.8	56	55	0.13	360	<5.0	<5.0	360	380	5.7	-	-	-	-	<1.8	<1.8	<1.8
TA-25	9/12/2012	7.54	**570**	**950**	68	84	61	3.1	66	62	0.18	350	<5.0	<5.0	350	460	8.1	-	-	-	-	<1.8	<1.8	<1.8
TA-25	4/16/2013	7.56	470	840	55	58	49	2.5	57	56	0.15	330	<5.0	<5.0	330	350	11	-	-	-	-	<1.8	<1.8	<1.8
TA-25	6/2/2014	7.75	**520**	**900**	57	65	47	2.6	55	49	0.18	280	<5.0	<5.0	280	360	9.4	-	-	-	-	<1.8	<1.8	<1.8
TA-25	3/26/2015	7.46	**570**	**1,000**	58	66	38	2.1	65	47	0.25	370	<5.0	<5.0	370	320	7.8	-	-	-	-	<1.8	<1.8	<1.8
Plant Dom	11/8/1995	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND	ND	-
Stephens	9/16/2009	7.31	**630**	**1,100**	110	71	63	2.9	75	73	<0.10	420	<5.0	<5.0	420	440	40	-	-	-	-	7.8	<1.8	<1.8
Stephens	3/24/2010	7.13	**620**	**1,100**	96	68	57	2.6	68	77	0.12	370	<5.0	<5.0	370	400	36	-	-	-	-	2.0	<1.8	<1.8
Stephens	9/14/2010	7.16	**570**	**900**	93	59	56	2.7	52	53	0.16	340	<5.0	<5.0	340	380	25	-	-	-	-	<1.8	<1.8	<1.8
Stephens	4/7/2011	*Farmers's crop growing around the wellhead; difficult access. No sample retrieved.*												-	-			-	-	-	-	-	-	-
Stephens	9/21/2011	7.35	470	820	81	56	44	2.6	51	50	0.11	300	<5.0	<5.0	300	320	10	-	-	-	-	<1.8	<1.8	<1.8
Stephens	4/5/2012	7.72	**630**	**1,000**	100	80	68	2.1	75	73	0.23	370	<5.0	<5.0	370	480	34	-	-	-	-	<1.8	<1.8	<1.8
Stephens	9/12/2012	7.67	**570**	**990**	110	60	55	3.3	70	59	0.21	350	<5.0	<5.0	350	380	7.7	-	-	-	-	7.8	<1.8	<1.8
Stephens	4/17/2013	7.62	**540**	**980**	82	49	55	2.3	71	64	0.12	340	<5.0	<5.0	340	350	15	-	-	-	-	13	<1.8	<1.8
Stephens	6/2/2014	7.53	**510**	**970**	70	51	47	1.9	58	37	0.19	380	<5.0	<5.0	380	320	2.1	-	-	-	-	2.0	<1.8	<1.8
Stephens	3/26/2015	7.41	**570**	**1,100**	86	52	40	2.0	76	52	0.26	380	<5.0	<5.0	380	290	3.9	-	-	-	-	<1.8	<1.8	<1.8
TA-18	9/11/2012	7.64	340	570	56	41	34	3.1	26	25	0.21	280	<5.0	<5.0	280	240	6.8	-	-	-	-	<1.8	<1.8	<1.8
TA-18	4/16/2013	7.68	410	790	60	47	47	2.5	64	41	0.13	290	<5.0	<5.0	290	190	17	-	-	-	-	<1.8	<1.8	<1.8

Table A3
Water Quality – Conventional Constituents
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

Sampling Point	Date	pH (standard pH-units)	TDS	EC (µS/cm)	Na	Ca	Mg	K	Cl	SO4	F	Alkalinity HCO3 as CaCO3	Alkalinity CO3 as CaCO3	Alkalinity OH as CaCO3	Alkalinity Total as CaCO3	Total Hardness as CaCO3	NO3 as NO3	NO2 as N	BOD	Total P	MBAS	Coliform Total (MPN/100 mL)	Coliform Fecal (MPN/100 mL)	Coliform E. Coli (MPN/100 mL)
MCL[1]		*6.5/8.5*	*500*	*900*					*250*	*250*	2						45	1			*0.5*			
TA-18	9/11/2013	7.76	320	630	53	37	33	3.1	34	26	0.12	250	<5.0	<5.0	250	230	4.5	-	-	-	-	<1.8	<1.8	<1.8
TA-18	6/2/2014	*Well is dry. No sample retrieved.*																						
TA-18	10/6/2014	*Well is dry. No sample retrieved.*																						
TA-18	3/26/2015	7.70	470	870	74	57	33	2.1	89	50	0.26	270	<5.0	<5.0	270	310	3.7	-	-	-	-	<1.8	<1.8	<1.8
Schwarzgruber	9/11/2012	7.44	420	660	59	58	45	3.3	58	36	0.19	280	<5.0	<5.0	280	330	4.7	-	-	-	-	79	<1.8	<1.8
Schwarzgruber	4/16/2013	7.43	350	670	49	45	40	2.8	50	37	0.11	270	<5.0	<5.0	270	280	7.9	-	-	-	-	<1.8	<1.8	<1.8
Schwarzgruber	9/11/2013	7.51	360	760	53	47	37	2.8	52	38	<0.10	260	<5.0	<5.0	260	270	8.4	-	-	-	-	4.5	<1.8	<1.8
Schwarzgruber	6/2/2014	*Well is dry. No sample retrieved.*																						
Schwarzgruber	10/6/2014	*Well is dry. No sample retrieved.*																						
Schwarzgruber	3/26/2015	7.51	420	770	48	46	31	2.1	55	34	0.24	270	<5.0	<5.0	270	250	10	-	-	-	-	<1.8	<1.8	<1.8
Rodgers Dom (N)	9/11/2012	7.47	420	720	57	56	43	3.0	49	35	0.17	320	<5.0	<5.0	320	320	10	-	-	-	-	<1.8	<1.8	<1.8
Rodgers Dom (N)	6/2/2014	7.80	440	800	56	51	41	2.9	46	36	0.12	290	<5.0	<5.0	290	300	13	-	-	-	-	<1.8	<1.8	<1.8
Rodgers Dom (N)	3/26/2015	7.61	440	810	50	47	32	2.1	53	39	0.25	290	<5.0	<5.0	290	250	11	-	-	-	-	<1.8	<1.8	<1.8
Rodgers Dom New (S)	9/11/2012	7.51	440	740	61	57	44	3.1	56	37	0.18	250	<5.0	<5.0	250	320	11	-	-	-	-	<1.8	<1.8	<1.8
Rodgers Dom New (S)	6/2/2014	7.59	440	790	58	53	42	2.7	48	37	0.14	290	<5.0	<5.0	290	300	14	-	-	-	-	<1.8	<1.8	<1.8
Rodgers Dom New (S)	3/26/2015	7.62	470	850	54	49	33	2.1	60	37	0.25	310	<5.0	<5.0	310	260	12	-	-	-	-	<1.8	<1.8	<1.8
Muller Pond	4/14/2005	8.47	360	580	44	38	40	2.3	48	40	0.15	230	8.8	<5.0	240	260	3.8	-	-	-	-	900	50	50
Muller Pond	9/15/2005	*Pond is Dry. No sample retrieved.*																						
Muller Pond	3/29/2006	8.30	280	500	37	36	31	2.2	28	26	0.15	210	<5.0	<5.0	210	220	6.2	-	-	-	-	80	8.0	-
Muller Pond	9/11/2006	**8.61**	320	550	56	25	37	3.6	36	36	0.17	270	<5.0	<5.0	270	210	<2.0	-	-	-	-	240	240	240
Muller Pond	3/20/2007	8.23	340	670	48	39	43	2.9	50	38	0.12	250	<5.0	<5.0	250	280	6.2	-	-	-	-	350	14	14
Muller Pond	9/7/2007	**8.89**	460	820	88	8.5	63	4.9	83	51	0.24	210	68	<5.0	280	280	<2.0	-	-	-	-	79	27	22
Muller Pond	3/11/2008	8.34	310	570	40	36	33	2.1	40	31	0.16	200	<5.0	<5.0	200	230	9.7	-	-	-	-	130	2.0	2.0
Muller Pond	9/11/2008	*Pond is Dry. No sample retrieved.*																						
Muller Pond	3/17/2009	8.45	430	760	50	38	40	2.3	66	42	0.16	240	13	<5.0	260	260	16					220	2.0	2.0
Muller Pond	9/16/2009	*Pond is Dry. No sample retrieved.*																						
Muller Pond	3/25/2010	**8.66**	260	620	47	33	43	3.0	49	38	0.12	190	22	<5.0	220	260	<2.0	-	-	-	-	1,600	46	33
Muller Pond	9/15/2010	**9.60**	370	690	94	4.6	44	2.6	80	43	0.14	78	110	<5.0	190	190	<2.0	-	-	-	-	920	280	350
Muller Pond	4/4/2012	8.37	400	680	65	41	52	2.7	74	37	0.16	240	<5.0	<5.0	240	320	4.0	-	<3.0	<0.050	-	540	350	79
Muller Pond	6/4/2014	*Pond is Dry. No sample retrieved.*																						
Muller Pond	10/6/2014	*Pond is Dry. No sample retrieved.*																						
Muller Pond	3/27/2015	*Pond is Dry. No sample retrieved (followup attempt to sample since pond was dry in 2014).*																						
Coors Pond	9/7/2007	**8.67**	**660**	**1,000**	100	19	100	1.6	38	75	0.64	450	83	<5.0	540	480	<2.0	-	-	-	-	110	33	33
Coors Pond	3/11/2008	**8.60**	300	530	40	26	43	<1.0	12	25	0.52	230	30	<5.0	260	240	3.3	-	-	-	-	4.0	2.0	2.0
Coors Pond	9/11/2008	**8.52**	**650**	**1,100**	110	28	94	<1.0	38	63	0.79	490	44	<5.0	530	460	3.4	-	-	-	-	79	79	26
Coors Pond	3/17/2009	**8.93**	410	690	66	17	48	<1.0	27	49	0.52	210	110	<5.0	310	240	<2.0	-	-	-	-	23	<1.8	<1.8

Table A3
Water Quality – Conventional Constituents
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

												Alkalinity				Total						Coliform		
Sampling Point	**Date**	**pH** (standard pH-units)	**TDS**	**EC (µS/cm)**	**Na**	**Ca**	**Mg**	**K**	**Cl**	**SO4**	**F**	**HCO3 as CaCO3**	**CO3 as CaCO3**	**OH as CaCO3**	**Total as CaCO3**	**Hardness as CaCO3**	**NO3 as NO3**	**NO2 as N**	**BOD**	**Total P**	**MBAS**	**Total (MPN/100 mL)**	**Fecal**	**E. Coli**
MCL[1]		*6.5/8.5*	*500*	*900*					*250*	*250*	2						45	1			*0.5*			
Coors Pond	9/16/2009	**8.63**	**720**	**1,200**	150	19	110	<1.0	44	84	0.65	550	44	<5.0	590	480	2.0	-	-	-	-	79	33	33
Coors Pond	3/25/2010	**8.85**	280	690	76	20	54	<1.0	25	42	0.49	250	51	<5.0	300	270	<2.0	-	-	-	-	4.5	<1.8	<1.8
Coors Pond	9/15/2010	**8.70**	**790**	**1,300**	130	16	120	<1.0	38	78	0.68	550	110	<5.0	660	550	<2.0	-	-	-	-	31	13	13
Coors Pond	4/6/2011	**8.80**	**530**	**910**	90	20	90	<1.0	35	58	0.40	370	79	<5.0	450	420	<2.0	-	-	-	-	7.8	<1.8	<1.8
Coors Pond	9/12/2011	**8.89**	**830**	**1,300**	150	13	130	<1.0	45	88	0.65	490	140	<5.0	630	570	<2.0	-	-	-	-	170	6.8	6.8
Coors Pond	3/29/2012	8.49	**770**	**1,300**	130	27	110	<1.0	45	78	0.59	560	48	<5.0	610	530	<2.0	-	-	-	-	25	<1.8	<1.8
Coors Pond	9/10/2012	8.28	**900**	**1,500**	150	38	120	<1.0	47	67	0.78	710	84	<5.0	790	600	<2.0	-	-	-	-	>1600	920	280
Coors Pond	4/17/2013	8.36	**500**	**900**	82	33	67	1.5	29	39	0.41	410	21	<5.0	440	360	<2.0	-	-	-	-	110	33	33
Coors Pond	9/11/2013	**8.74**	**760**	**1,300**	130	17	120	<1.0	44	63	0.56	520	88	<5.0	600	530	<2.0	-	-	-	-	>1600	170	70
Coors Pond	6/2/2014	**8.97**	**790**	**1,400**	130	15	110	<1.0	44	63	0.66	230	66	<5.0	300	480	<2.0	-	-	-	-	170	33	33
Coors Pond	10/6/2014	**9.03**	**910**	**1,600**	150	16	130	2.5	59	72	0.74	610	170	<5.0	790	560	<2.0	-	-	-	-	540	23	13
Coors Pond	3/27/2015	*Wet-pit filled in. No sample retrieved, or to be retrieved in future.*																						
Storz Pond	4/6/2011	8.17	490	870	76	55	51	2.3	59	56	0.10	330	<5.0	<5.0	330	350	24	-	-	-	-	23	2.0	2.0
Storz Pond	9/12/2011	**8.95**	420	740	80	22	57	2.4	54	50	<0.10	230	48	<5.0	280	290	<2.0	-	-	-	-	540	6.8	4.5
Storz Pond	3/29/2012	7.97	**670**	**1,100**	93	66	63	2.6	75	73	0.19	420	<5.0	<5.0	420	420	35	-	-	-	-	70	7.8	7.8
Storz Pond	9/10/2012	7.95	**590**	**980**	81	48	55	2.4	62	57	0.16	420	<5.0	<5.0	420	340	11	-	-	-	-	22	<1.8	<1.8
Storz Pond	4/17/2013	8.14	**520**	**940**	85	42	57	2.2	61	55	0.11	380	<5.0	<5.0	380	340	13	-	-	-	-	350	4.0	4.0
Storz Pond	9/11/2013	**8.99**	460	870	94	16	53	1.9	77	52	<0.10	200	69	<5.0	270	260	<2.0	-	-	-	-	220	110	110
Storz Pond	6/2/2014	**9.28**	440	780	77	12	55	<1.0	63	42	0.11	200	90	<5.0	290	260	<2.0	-	-	-	-	140	17	17
Storz Pond	10/6/2014	7.72	**540**	**1,000**	83	50	49	3.0	73	51	0.16	350	<5.0	<5.0	350	330	5.1	-	-	-	-	140	17	6.8
Storz Pond	3/26/2015	7.59	**600**	**1,100**	87	54	43	1.4	83	52	0.27	400	<5.0	<5.0	400	320	<2.0	-	-	-	-	430	13	13
Storz Pond	10/28/2015	**8.83**	**480**	890	86	9	48	1.7	70	37	<0.10	250	49	<5.0	300	220	<2.0	-	-	-	-	23	<1.8	<1.8

Beginning in 2005, all non-detected (ND) values are given as "<reporting limit".

1. Maximum Contaminant Levels for drinking water standards; *italic font style* indicates secondary, i.e., consumer acceptance limits. For EC, TDS, chloride, and sulfate, the recommended (lower) values are given. Measured constituent concentrations at or exceeding the MCL are highlighted with bold font style.

Table A3
Water Quality – Metals and Organics
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

Sampling Point	Date	Ag	Al	As	Ba	Cd	Cr	Cu	Fe	Hg	Mn	Pb	Se	Zn	Turbidity (NTU)	EPA 502.2[2] (µg/L)	EPA 8260[3] (µg/L)	EPA 8310[4] (µg/L)	EPA 8141A[5] (µg/L)	EPA 8151A[6] (µg/L)	TPH-Diesel[7] (µg/L)	TPH-MO[7] (µg/L)	BTEX EPA 8260B[8] (µg/L)
MCL[1]		*0.1*	1	0.05	1	0.005	0.05	*1*	*0.3*	0.002	*0.05*	0.05	0.05	*5*	*5*								
TA-1A	9/16/2005	-	<0.050	<0.0050	0.230	<0.010	0.012	<0.010	<0.100	<0.00020	<0.020	<0.0050	0.0050	<0.020	**28**	-	-	-	<0.3 - <5	<0.13 - <0.5	880	330[9]	<0.50
TA-1A	1/11/2006	-	<0.050	<0.0050	0.230	<0.010	0.013	<0.010	<0.100	<0.00020	**0.058**	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.3 - <5	<0.50 - <5.0	<50[10]	<100	<0.50
TA-1A	3/28/2006	-	<0.050	<0.0050	0.230	<0.010	<0.010	<0.010	<0.100	<0.00020	**0.055**	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.3 - <5	<0.13 - <0.25	<50	<100	<0.50
TA-1A	9/5/2006	-	<0.050	<0.0050	0.240	<0.010	**0.095**	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	3/19/2007	-	<0.050	<0.0050	0.220	<0.010	0.018	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	9/5/2007	-	<0.050	<0.0050	0.170	<0.010	<0.010	<0.010	0.210	<0.00020	**0.062**	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	3/10/2008	-	<0.050	<0.0050	0.180	<0.010	0.018	<0.010	<0.100	<0.00020	**0.059**	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	9/11/2008	-	<0.050	<0.0050	0.140	<0.010	<0.010	<0.010	<0.100	<0.00020	0.037	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	9/15/2009	-	0.120	<0.0050	0.190	<0.010	<0.010	<0.010	0.140	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**5.8**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	3/24/2010	-	<0.050	<0.0050	0.150	<0.010	<0.010	<0.010	<0.100	<0.00020	0.031	<0.0050	<0.0050	<0.020	0.51	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	4/7/2011	-	<0.050	<0.0050	0.200	<0.010	<0.010	<0.010	0.160	<0.00020	**0.190**	<0.0050	<0.0050	<0.020	0.98	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	5/1/2012	-	<0.050	<0.0050	0.230	<0.010	0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.2	<0.2 - <250	<50	<50	<0.50 - 1.6[17a]
TA-1A	6/6/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.50 - <1.0[17b]
TA-1A	4/16/2013	-	<0.050	<0.0050	0.190	<0.010	0.010	<0.010	0.150	<0.00020	**0.130**	<0.0050	<0.0050	<0.020	0.93	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	6/3/2014	-	<0.050	<0.0050	0.260	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	0.074	0.90	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	3/27/2015	*No metals or organics analyses required under post-reclamation conditions; turbidity not analyzed*													-								
TA-3A	9/16/2005	-	<0.050	<0.0050	0.140	<0.010	0.046	0.011	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**170**	-	-	-	<0.3 - <5	<0.13 - <0.5	<50	<100	<0.50
TA-3A	3/28/2006	*Well goes dry during purging. No sample retrieved.*																					
TA-3A	9/5/2006	*Well goes dry during purging. No sample retrieved.*																					
TA-3A	9/6/2007	-	0.200	<0.0050	0.280	<0.010	0.030	0.012	0.290	<0.00020	<0.020	<0.0050	<0.0050	0.028	**12**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-5A	11/6/1995	ND	ND	ND	0.21	ND	ND	ND	ND	ND	0.003	ND	ND	ND	0.9	-	ND	-	ND	ND	ND	-	ND
TA-5A	3/19/2007	-	0.053	<0.0050	0.220	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.5	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-5A	3/10/2008	-	0.054	<0.0050	0.210	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.2	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-5A	9/11/2008	-	0.076	<0.0050	0.200	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.4	-	-	-	<0.05 - <0.1	2.1[11]	<50	<50	<0.50 - <1.0
TA-5A	9/15/2009	-	<0.050	<0.0050	0.220	<0.010	0.013	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.9	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-5A	3/24/2010	-	<0.050	<0.0050	0.200	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.6	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-5A	4/7/2011	-	0.110	<0.0050	0.180	<0.010	0.017	<0.010	0.130	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.6	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-5A	5/1/2012	-	0.074	<0.0050	0.180	<0.010	0.016	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.70	-	-	-	<0.05 - <0.2	<0.2 - <250	<50	<50	<0.50 - 0.71[17a]
TA-5A	6/6/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.50 - <1.0[17b]
TA-5A	4/16/2013	-	0.08	<0.0050	0.200	<0.010	0.011	0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.73	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-5A	6/3/2014	-	0.99	<0.0050	0.220	<0.010	0.016	<0.010	2.100	<0.00020	0.033	<0.0050	<0.0050	0.076	13	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-5A	3/27/2015	*No metals or organics analyses required under post-reclamation conditions; turbidity not analyzed*													-								
TA-9R	Spring '92	ND	0.16	ND	0.31	ND	ND	ND	0.21	ND	ND	ND	ND	ND	-	N.D.	-	-	-	-	-	-	-
TA-9R	11/8/1995	-	-	-	-	-	-	-	-	-	-	-	-	-	4.1	-	-	-	ND	ND	ND	-	ND
TA-13A	11/7/1995	ND	ND	ND	0.12	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.6	-	ND	-	ND	ND	ND	-	ND
TA-13A	7/23/1997	ND	ND	ND	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.8	-	-	-	ND	ND	ND	ND	ND
TA-13A	3/5/1998	ND	ND	ND	0.12	ND	ND	ND	ND	ND	ND	ND	ND	0.022	-	-	-	-	ND	ND	ND	ND	ND
TA-13A	9/29/1998	ND	ND	ND	0.13	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.8	-	-	-	ND	ND	ND	ND	ND
TA-13A	4/29/1999	ND	ND	ND	0.14	ND	ND	ND	ND	ND	0.043	ND	ND	ND	-	-	-	-	ND	ND	ND	ND	ND
TA-13A	4/19/2000	-	ND	ND	0.13	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.5	-	-	-	ND	ND	ND	ND	ND
TA-13A	5/7/2001	-	ND	ND	0.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	ND	ND	ND	ND	ND
TA-13A	5/7/2002	-	ND	ND	0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	ND	ND	ND	ND	ND

Table A3
Water Quality – Metals and Organics
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

Sampling Point	Date	Ag	Al	As	Ba	Cd	Cr	Cu	Fe	Hg	Mn	Pb	Se	Zn	Turbidity (NTU)	EPA 502.2[2] (µg/L)	EPA 8260[3] (µg/L)	EPA 8310[4] (µg/L)	EPA 8141A[5] (µg/L)	EPA 8151A[6] (µg/L)	TPH-Diesel[7] (µg/L)	TPH-MO[7] (µg/L)	BTEX EPA 8260B[8] (µg/L)
MCL[1]		*0.1*	1	0.05	1	0.005	0.05	*1*	*0.3*	0.002	*0.05*	0.05	0.05	*5*	*5*								
TA-13A	4/9/2003	-	ND	ND	0.160	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.5	-	-	-	ND	ND	ND	ND	ND
TA-13A	9/15/2003	-	ND	ND	0.120	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	ND	ND	ND	ND	ND
TA-13A	4/14/2004	-	ND	ND	0.140	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	ND	ND	ND	ND	ND
TA-13A	9/28/2004	-	ND	ND	0.170	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	ND	ND	ND	ND	ND
TA-13A	4/14/2005	-	<0.050	<0.0050	0.140	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.3 - <5	<0.13 - <0.5	<50	<100	<0.50
TA-13A	9/15/2005	-	<0.050	<0.0050	0.160	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.3 - <5	<0.13 - <0.5	<50	<100	<0.50
TA-13A	3/28/2006	-	<0.050	<0.0050	0.110	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.3 - <5	<0.13 - <0.25	<50	<100	<0.50
TA-13A	9/11/2006	-	<0.050	<0.0050	0.180	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.1	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	390	<0.50 - <1.0
TA-13A	9/28/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-
TA-13A	3/20/2007	-	<0.050	<0.0050	0.150	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.100	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-13A	9/5/2007	-	<0.050	<0.0050	0.140	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.6	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-13A	3/12/2008	-	<0.050	<0.0050	0.130	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.6	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-13A	9/15/2009	*Insufficient water in well. No sample retrieved.*																					
TA-13A	3/23/2010	-	<0.050	<0.0050	0.140	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-13A	4/4/2012	*No metals or organics analyses required under post-reclamation conditions*																					
TA-14	33664	ND	0.54	ND	0.16	ND	0.03	ND	**0.63**	ND	ND	ND	ND	ND	-	ND	-	-	-	-	-	-	-
TA-14	7/23/1997	ND	ND	ND	0.12	ND	ND	ND	ND	ND	ND	ND	ND	0.018	**85**	-	-	-	ND	ND	ND	ND	ND
TA-14	3/5/1998	ND	14	0.003	0.23	ND	**0.095**	0.026	**14**	ND	**0.24**	0.028	ND	0.046	-	-	-	-	ND	ND	ND	ND	ND
TA-14	9/29/1998	ND	0.89	ND	0.13	ND	0.01	ND	**0.89**	ND	ND	ND	ND	0.01	**18**	-	-	-	ND	ND	ND	ND	ND
TA-14	4/29/1999	ND	0.21	ND	0.14	ND	ND	ND	**0.31**	ND	0.021	ND	ND	0.015	-	-	-	-	ND	ND	ND	ND	ND
TA-14	9/14/1999	ND	0.81	ND	0.12	ND	ND	ND	**1.3**	ND	**0.055**	ND	ND	ND	-	-	-	-	ND	ND	ND	ND	ND
TA-14	4/19/2000	-	0.86	ND	0.11	ND	0.023	ND	**1.8**	ND	0.025	ND	ND	ND	**30**	-	-	-	ND	ND	ND	ND	ND
TA-14	9/19/2000	ND	0.36	ND	0.14	ND	ND	ND	**0.92**	ND	**0.051**	0.0059	ND	ND	**82**	-	-	-	ND	ND	ND	ND	ND
TA-14	5/7/2001	-	0.62	ND	0.15	ND	0.03	ND	0.14	ND	0.1	0.022	ND	ND	**37**	-	-	-	ND	ND	ND	ND	ND
TA-14	9/20/2001	-	0.073	ND	0.11	ND	ND	ND	0.22	ND	ND	ND	ND	ND	**20**	-	-	-	ND	ND	ND	ND	ND
TA-14	5/7/2002	-	1.3	ND	0.13	ND	0.014	ND	**1.6**	ND	**0.077**	ND	ND	ND	**31**	-	-	-	ND	ND	ND	ND	ND
TA-14	9/25/2002	-	0.31	ND	0.13	ND	ND	ND	**0.45**	ND	0.032	ND	ND	0.02	**20**	-	-	-	ND	ND	ND	ND	ND
TA-14	9/15/2003	-	**1.20**	ND	0.130	ND	0.027	0.029	**2.10**	ND	**0.110**	0.015	ND	0.032	**21**	-	-	-	ND	ND	ND	ND	ND
TA-14	4/14/2004	-	0.250	ND	0.130	ND	ND	ND	**0.410**	ND	0.021	ND	ND	ND	2.2	-	-	-	ND	ND	ND	ND	ND
TA-14	9/28/2004	*Well goes dry during purging. No sample retrieved.*																					
TA-14	4/14/2005	*Well goes dry during purging. No sample retrieved.*																					
TA-14	9/15/2005	-	<0.050	<0.0050	0.130	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**320**	-	-	-	<0.3 - <5	<0.13 - <0.5	<50	<100	<0.50
TA-14	4/26/2006	-	**1.60**	<0.0050	0.160	<0.010	<0.010	<0.010	**1.40**	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**87**	-	-	-	<0.3 - <5	<0.13 - <0.5	<50	<100	<0.50
TA-14	9/11/2006	-	0.920	<0.0050	0.160	<0.010	<0.010	<0.010	**1.00**	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**15**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	290	<0.50 - <1.0
TA-14	9/28/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-
TA-14	3/20/2007	*Well is dry. No sample retrieved.*																					
TA-14	9/6/2007	-	**2.00**	0.0096	0.140	<0.010	0.014	<0.010	**2.00**	<0.00020	**0.051**	<0.0050	<0.0050	<0.020	**280**	-	-	-	0.28[12]	<0.2 - <250	<50	270	<0.50 - <1.0
TA-14	3/12/2008	*Well goes dry during purging. No sample retrieved.*																					
TA-14	9/11/2008	*Insufficient water in well. No sample retrieved.*																					
TA-14	9/15/2009	*Insufficient water in well. No sample retrieved.*																					
TA-14	3/22/2010	*Well is dry. No sample retrieved. Biennial sampling conducted in September 2010*																					
TA-14	9/16/2010	-	0.18	<0.0050	0.150	<0.010	<0.010	<0.010	0.240	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**14**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-14	4/4/2012	*No metals or organicsanalyses required under post-reclamation conditions.*																					
TA-17	Spring '92	ND	1.1	ND	0.15	ND	ND	ND	**1.5**	ND	0.022	ND	ND	ND	-	ND	-	-	-	-	-	-	-

Table A3
Water Quality – Metals and Organics
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

Sampling Point	Date	Ag	Al	As	Ba	Cd	Cr	Cu	Fe	Hg	Mn	Pb	Se	Zn	Turbidity (NTU)	EPA 502.2[2] (µg/L)	EPA 8260[3] (µg/L)	EPA 8310[4] (µg/L)	EPA 8141A[5] (µg/L)	EPA 8151A[6] (µg/L)	TPH-Diesel[7] (µg/L)	TPH-MO[7] (µg/L)	BTEX EPA 8260B[8] (µg/L)
MCL[1]		*0.1*	1	0.05	1	0.005	0.05	*1*	*0.3*	0.002	*0.05*	0.05	0.05	*5*	*5*								
TA-25	9/15/2009	-	0.410	<0.0050	0.110	<0.010	0.014	<0.010	**0.560**	<0.00020	0.031	<0.0050	<0.0050	<0.020	**40**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-25	3/23/2010	-	0.180	<0.0050	0.150	<0.010	<0.010	<0.010	0.210	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**7.6**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-25	9/14/2010	-	0.065	<0.0050	0.220	<0.010	0.040	<0.010	0.210	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**35**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50[14]	<50	<0.50 - <1.0
TA-25	4/7/2011	-	<0.050	<0.0050	0.200	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.55	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-25	9/15/2011	-	0.150	<0.0050	0.260	<0.010	<0.010	<0.010	0.220	<0.00020	<0.020	<0.0050	<0.0050	<0.020	3.7	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-25	5/1/2012	-	0.240	<0.0050	0.210	<0.010	<0.010	<0.010	0.250	<0.00020	<0.020	<0.0050	<0.0050	<0.020	3.8	-	-	-	<0.05 - <0.2	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-25	9/10/2012	-	0.480	<0.0050	0.220	<0.010	<0.010	<0.010	0.700	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**40**	-	-	-	<0.05 - <0.1	<0.2 - <250	57[18a]	<50	<0.50 - <1.0
TA-25	9/25/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	310[18a]	-	-
TA-25	9/25/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50[18b]	-	-
TA-25	4/16/2013	-	<0.050	<0.0050	<0.020	<0.010	0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.6	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-25	6/2/2014	-	<0.050	<0.0050	0.220	<0.0005	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-25	3/26/2015	-	0.890	<0.0050	0.220	<0.010	<0.010	<0.010	0.820	<0.00020	<0.020	<0.0050	<0.0050	0.030	**93**				<0.05 - <0.1	<0.2 - <250	<10	<10	<0.50 - <1.0
Plant Dom	11/8/1995	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	ND	ND	ND	ND	-	ND
Plant Pond	Summer '95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND	-	-	-	-	-
Stephens	9/16/2009	-	<0.050	<0.0050	0.320	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.54	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Stephens	3/24/2010	-	<0.050	<0.0050	0.270	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Stephens	9/14/2010	-	<0.050	<0.0050	0.240	<0.010	0.030	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50[14]	<50	<0.50 - <1.0
Stephens	4/7/2011	*Farmers's crop growing around the wellhead; difficult access. No sample retrieved.*											-	-	-	-	-	-	-	-	-	-	-
Stephens	9/21/2011	-	<0.050	<0.0050	0.220	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Stephens	4/5/2012	-	<0.050	<0.0050	0.240	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.64	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Stephens	9/12/2012	-	<0.050	<0.0050	0.230	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Stephens	4/17/2013	-	<0.050	<0.0050	0.170	<0.010	0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Stephens	6/2/2014	-	<0.050	<0.0050	0.190	<0.0005	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Stephens	3/26/2015	-	<0.050	<0.0050	0.200	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.54				<0.05 - <0.1	<0.2 - <250	<10	<10	<0.50 - <1.0
TA-18	9/11/2012	-	0.065	<0.0050	0.130	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.3	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-18	4/16/2013	-	0.76	<0.0050	0.150	<0.010	0.010	<0.010	**0.840**	<0.00020	<0.020	<0.0050	<0.0050	<0.020	4.2	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-18	9/11/2013	-	0.66	<0.0050	0.120	<0.010	0.010	<0.010	**1.100**	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**28**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-18	6/2/2014	*Well is dry. No sample retrieved.*																					
TA-18	10/6/2014	*Well is dry. No sample retrieved.*																					
TA-18	3/26/2015	-	0.810	<0.0050	0.140	<0.010	<0.010	<0.010	**0.750**	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**27**				<0.05 - <0.1	<0.2 - <250	<10	<10	<0.50 - <1.0
Schwarzgruber	9/11/2012	-	<0.050	<0.0050	0.190	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Schwarzgruber	4/16/2013	-	<0.050	<0.0050	0.160	<0.010	0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Schwarzgruber	9/11/2013	-	<0.050	<0.0050	0.150	<0.010	0.010	<0.010	0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.97	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Schwarzgruber	6/2/2014	*Well is dry. No sample retrieved.*																					
Schwarzgruber	10/6/2014	*Well is dry. No sample retrieved.*																					
Schwarzgruber	3/26/2015	-	<0.050	<0.0050	0.160	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.3				<0.05 - <0.1	<0.2 - <250	<10	<10	<0.50 - <1.0
Rodgers Dom (N)	9/11/2012	-	<0.050	<0.0050	0.180	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Rodgers Dom (N)	6/2/2014	-	<0.050	<0.0050	0.170	<0.0005	<0.010	0.013	<0.100	<0.00020	<0.020	<0.0050	<0.0050	0.028	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Rodgers Dom (N)	3/26/2015	-	<0.050	<0.0050	0.160	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	0.075	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<10	<10	<0.50 - <1.0

Table A3
Water Quality – Metals and Organics
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

Sampling Point	Date	Ag	Al	As	Ba	Cd	Cr	Cu	Fe	Hg	Mn	Pb	Se	Zn	Turbidity (NTU)	EPA 502.2[2] (µg/L)	EPA 8260[3] (µg/L)	EPA 8310[4] (µg/L)	EPA 8141A[5] (µg/L)	EPA 8151A[6] (µg/L)	TPH-Diesel[7] (µg/L)	TPH-MO[7] (µg/L)	BTEX EPA 8260B[8] (µg/L)
MCL[1]		*0.1*	1	0.05	1	0.005	0.05	*1*	*0.3*	0.002	*0.05*	0.05	0.05	*5*	*5*								
Rodgers Dom New (S)	9/11/2012	-	<0.050	<0.0050	0.180	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Rodgers Dom New (S)	6/2/2014	-	<0.050	<0.0050	0.180	<0.0005	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	0.040	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Rodgers Dom New (S)	3/26/2015	-	<0.050	<0.0050	0.160	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<10	<10	<0.50 - <1.0
Muller Pond	4/14/2005	-	<0.050	<0.0050	0.100	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**5.0**	-	-	-	<0.3 - <5	<0.13 - <0.5	<50	<100	<0.50
Muller Pond	9/15/2005	*Pond is Dry. No sample retrieved.*																					
Muller Pond	3/29/2006	-	0.260	<0.0050	0.100	<0.010	<0.010	<0.010	0.240	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**7.8**	-	-	-	<0.3 - <5	<0.13 - <0.5	<50	<100	<0.50
Muller Pond	9/11/2006	-	0.670	<0.0050	0.160	<0.010	0.013	<0.010	**0.820**	<0.00020	0.021	<0.0050	<0.0050	<0.020	**15**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	270	<0.50 - <1.0
Muller Pond	9/28/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-
Muller Pond	3/20/2007	-	0.170	<0.0050	0.098	<0.010	<0.010	<0.010	0.180	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.9	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Muller Pond	9/7/2007	-	**2.20**	<0.0050	0.081	<0.010	<0.010	<0.010	**3.300**	<0.00020	**0.110**	<0.0050	<0.0050	<0.020	**140**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Muller Pond	3/11/2008	-	0.068	<0.0050	0.110	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.2	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Muller Pond	9/11/2008	*Pond is Dry. No sample retrieved.*																					
Muller Pond	3/17/2009	-	0.057	<0.0050	0.120	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.3	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Muller Pond	9/16/2009	*Pond is Dry. No sample retrieved.*																					
Muller Pond	3/25/2010	-	0.100	<0.0050	0.120	<0.010	<0.010	<0.010	0.140	<0.00020	<0.020	<0.0050	<0.0050	<0.020	4.3	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Muller Pond	9/15/2010	-	<0.050	<0.0050	0.024	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.98	-	-	-	<0.05 - <0.1	<0.2 - <250	<50[14]	<50[14]	<0.50 - <1.0
Muller Pond	4/4/2012	*No metals or organics analyses required under post-reclamation conditions*																					
Coors Pond	9/7/2007	-	<0.050	<0.0050	0.060	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**17**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	3/11/2008	-	0.150	<0.0050	0.076	<0.010	<0.010	<0.010	0.170	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**6.4**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	9/11/2008	-	0.180	<0.0050	0.096	<0.010	<0.010	<0.010	0.170	<0.00020	0.027	<0.0050	<0.0050	<0.020	**12**	-	-	-	<0.05 - <0.1	2.9[13]	<50	<50	<0.50 - <1.0
Coors Pond	3/17/2009	-	0.085	<0.0050	0.051	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**9.3**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	9/16/2009	-	0.054	0.0077	0.070	<0.010	<0.010	<0.010	<0.100	<0.00020	**0.068**	<0.0050	<0.0050	<0.020	4.1	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	3/25/2010	-	0.078	<0.0050	0.059	<0.010	<0.010	<0.010	0.130	<0.00020	<0.020	<0.0050	<0.0050	<0.020	4.7	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	9/15/2010	-	<0.050	<0.0050	0.055	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**7.5**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50[14]	<50[14]	<0.50 - <1.0
Coors Pond	4/6/2011	-	<0.050	<0.0050	0.033	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.2	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	9/12/2011	-	<0.050	<0.0050	0.037	<0.010	0.012	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.7	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	120[15]	<0.50 - <1.0
Coors Pond	10/14/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50[15]	-
Coors Pond	3/29/2012	-	<0.050	<0.0050	0.068	<0.010	0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.3	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	210[16]	<0.50 - <1.0
Coors Pond	5/1/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50[16]	-
Coors Pond	9/10/2012	-	<0.050	0.0065	0.110	<0.010	<0.010	<0.010	<0.100	<0.00020	0.023	<0.0050	<0.0050	<0.020	2.4	-	-	-	<0.05 - <0.1	<0.2 - <250	120[18a]	<50	<0.50 - <1.0
Coors Pond	9/25/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	540[18a]	-	-
Coors Pond	9/25/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50[18b]	-	-
Coors Pond	4/17/2013	-	0.130	<0.0050	0.065	<0.010	0.010	<0.010	0.140	<0.00020	<0.020	<0.0050	<0.0050	<0.020	3.8	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	9/11/2013	-	0.110	0.0058	0.059	<0.010	0.010	<0.010	0.150	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**5.7**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	6/2/2014	-	0.250	0.0083	0.066	<0.0005	<0.010	<0.010	0.360	<0.00020	0.024	<0.0050	<0.0050	0.140	2.3	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	10/6/2014	-	**2.700**	0.0140	0.120	<0.010	<0.010	<0.010	**3.900**	<0.00020	**0.110**	<0.0050	<0.0050	<0.020	**49**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	430[19]	<0.50 - <1.0
Coors Pond	10/20/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	180[19]	-
Coors Pond	3/27/2015	*Wet-pit filled in. No sample retrieved, or to be retrieved in future.*																					
Storz Pond	4/6/2011	-	0.130	<0.0050	0.190	<0.010	<0.010	<0.010	0.130	<0.00020	<0.020	<0.0050	<0.0050	<0.020	3.5	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Storz Pond	9/12/2011	-	<0.050	<0.0050	0.069	<0.010	<0.010	<0.010	<0.100	<0.00020	0.028	<0.0050	<0.0050	<0.020	3.4	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Storz Pond	3/29/2012	-	<0.050	<0.0050	0.250	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.8	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	120[16]	<0.50 - <1.0
Storz Pond	5/1/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50[16]	-

Table A3
Water Quality – Metals and Organics
Teichert Aggregates – Woodland Properties

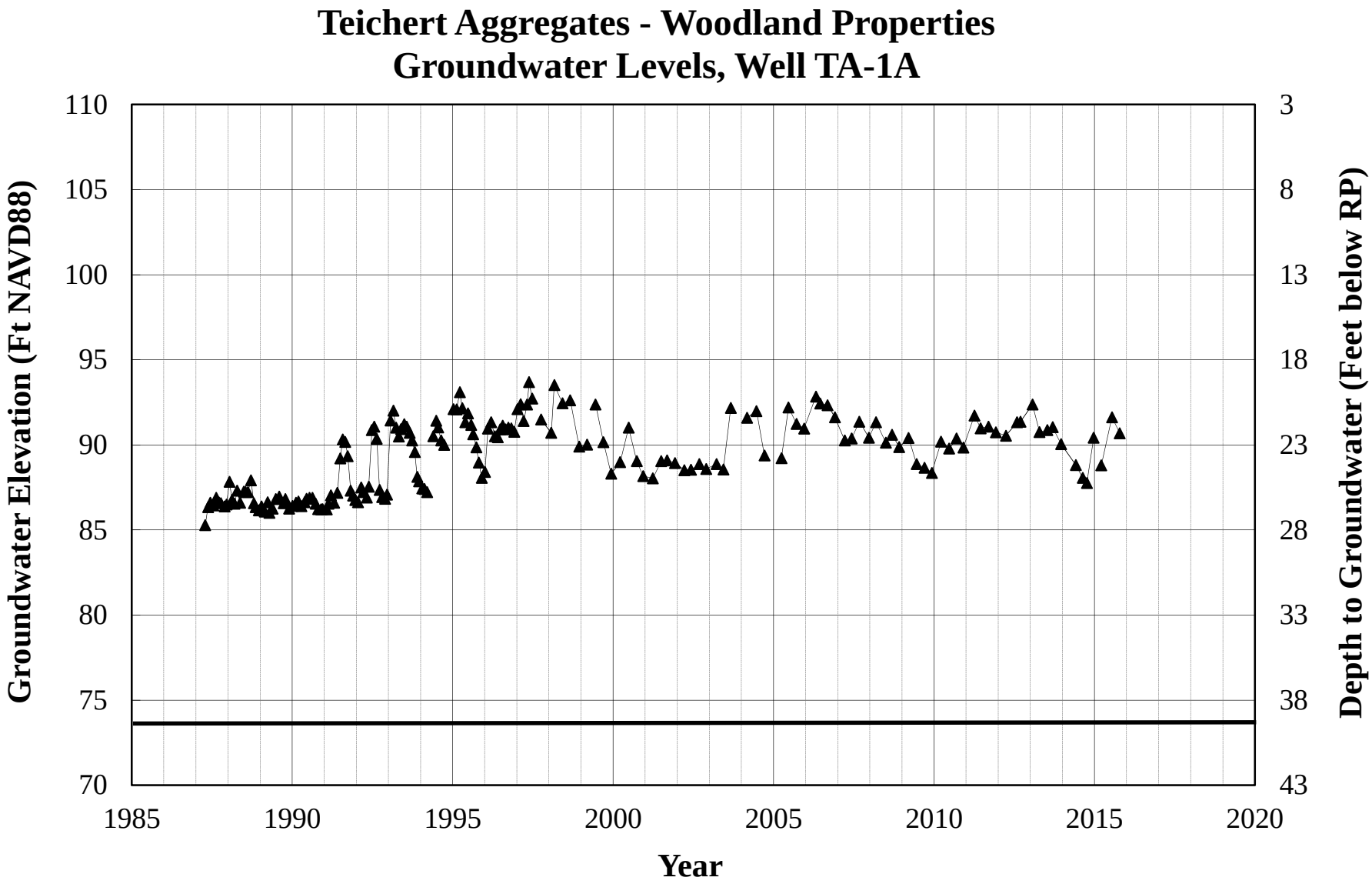
(all units in mg/L, unless otherwise specified)

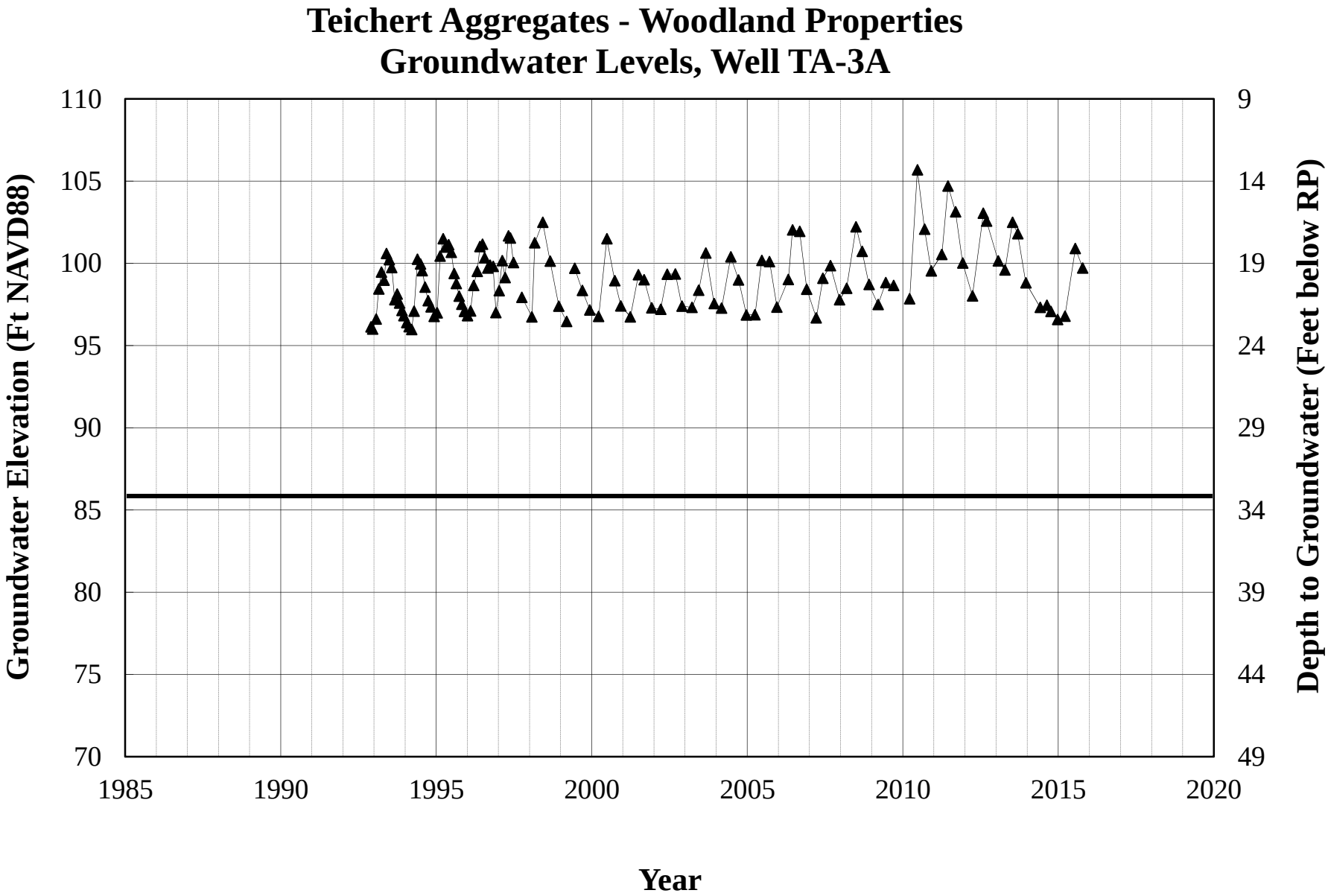
Sampling Point	Date	Ag	Al	As	Ba	Cd	Cr	Cu	Fe	Hg	Mn	Pb	Se	Zn	Turbidity (NTU)	EPA 502.2[2] (µg/L)	EPA 8260[3] (µg/L)	EPA 8310[4] (µg/L)	EPA 8141A[5] (µg/L)	EPA 8151A[6] (µg/L)	TPH-Diesel[7] (µg/L)	TPH-MO[7] (µg/L)	BTEX EPA 8260B[8] (µg/L)
MCL[1]		*0.1*	1	0.05	1	0.005	0.05	*1*	*0.3*	0.002	*0.05*	0.05	0.05	*5*	*5*								
Storz Pond	9/10/2012	-	<0.050	<0.0050	0.200	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	0.0054	<0.020	1.4	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Storz Pond	4/17/2013	-	<0.050	<0.0050	0.150	<0.010	0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.1	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Storz Pond	9/11/2013	-	<0.050	<0.0050	0.054	<0.010	0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.72	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Storz Pond	6/2/2014	-	<0.050	<0.0050	0.033	<0.0005	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.77	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Storz Pond	10/6/2014	-	<0.050	<0.0050	0.240	<0.010	<0.010	<0.010	0.15	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.3	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	150[19]	<0.50 - 0.91[20]
Storz Pond	10/20/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	130[19]	<0.50[20]
Storz Pond	3/26/2015	-	<0.050	<0.0050	0.091	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<10	**12**	<0.50 - <1.0
Storz Pond	10/28/2015	-	<0.050	<0.0050	0.034	<0.010	<0.010	<0.010	0.17	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.5	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0

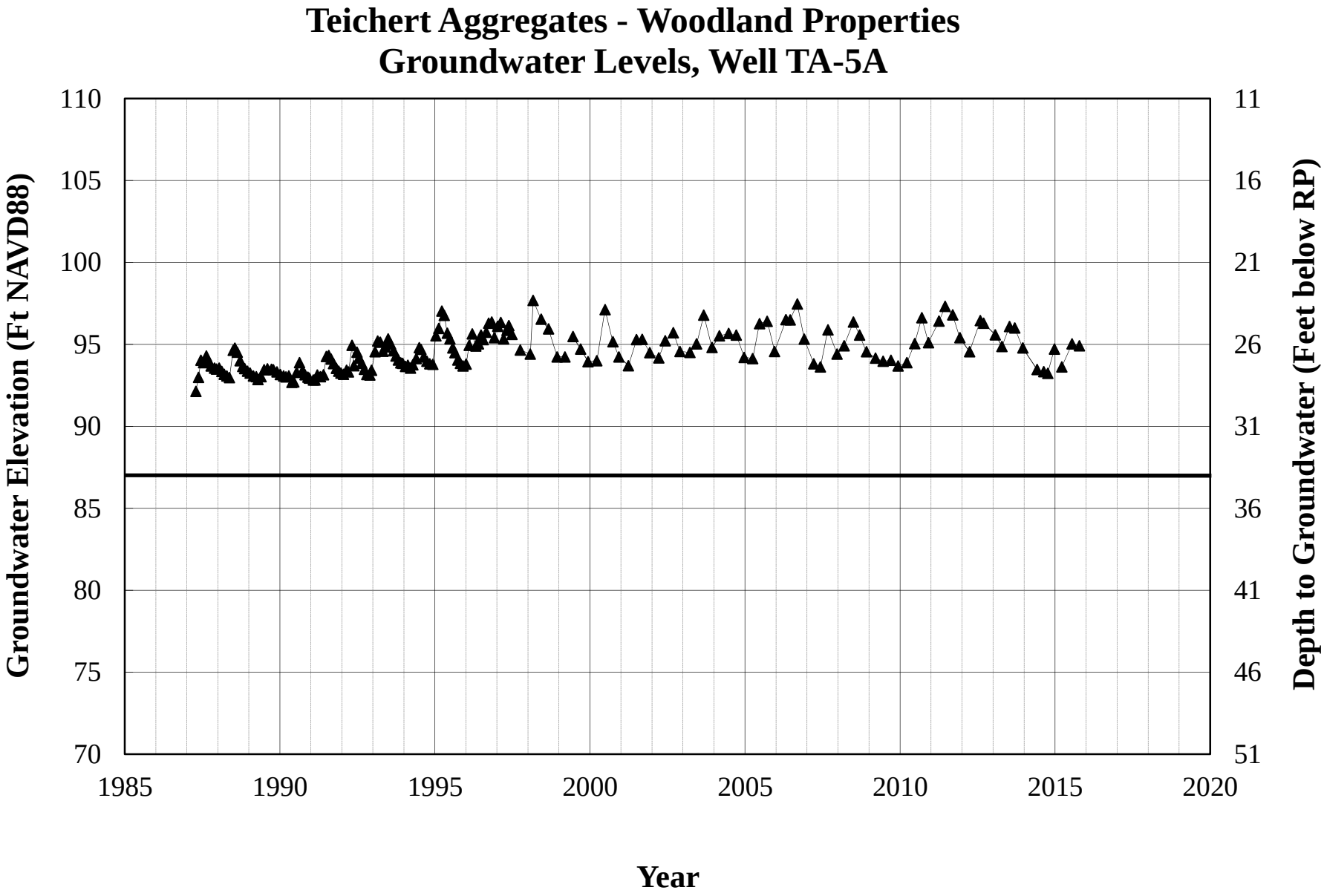
Notes:

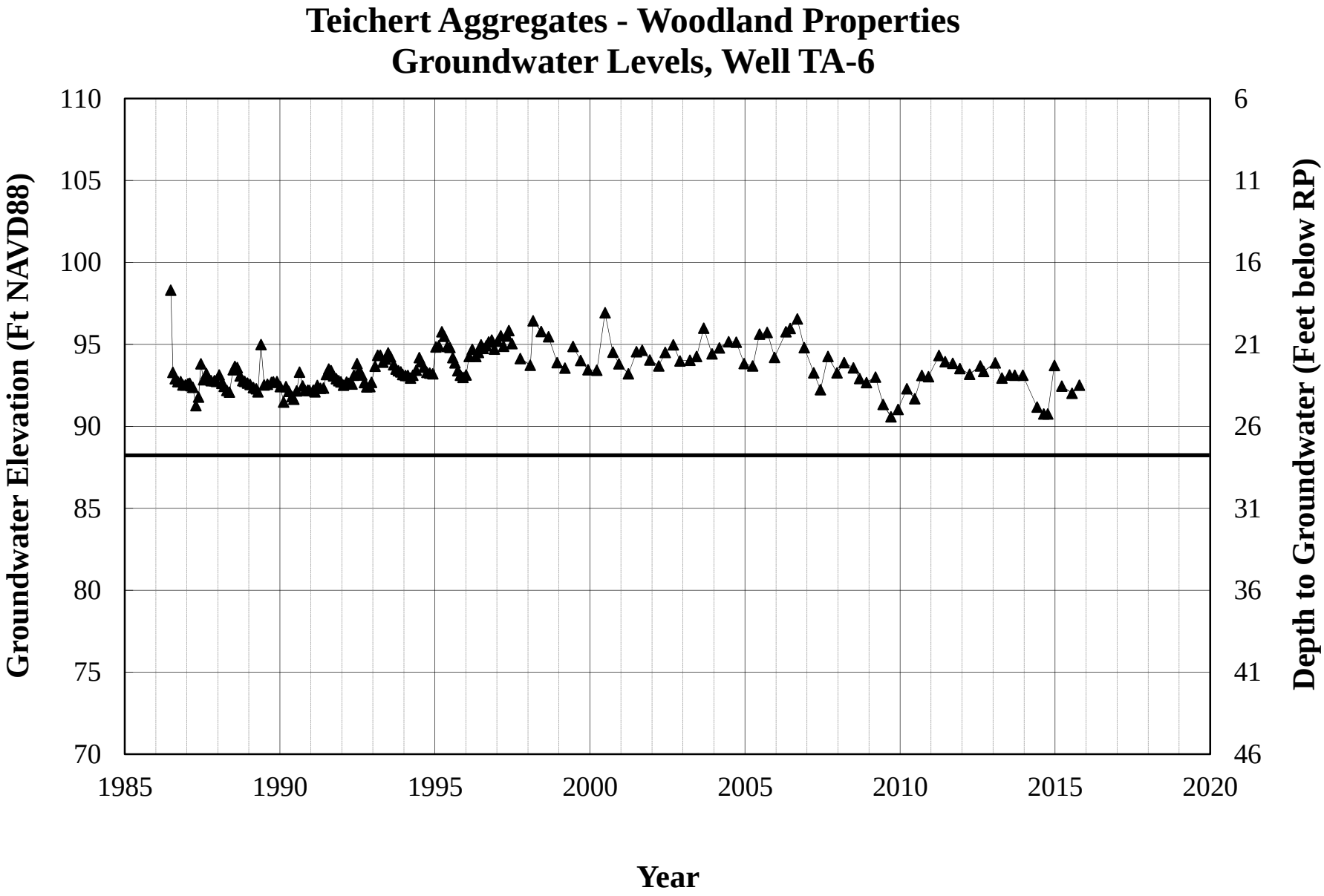
Beginning in 2005, all non-detected (ND) values are given as "<reporting limit".

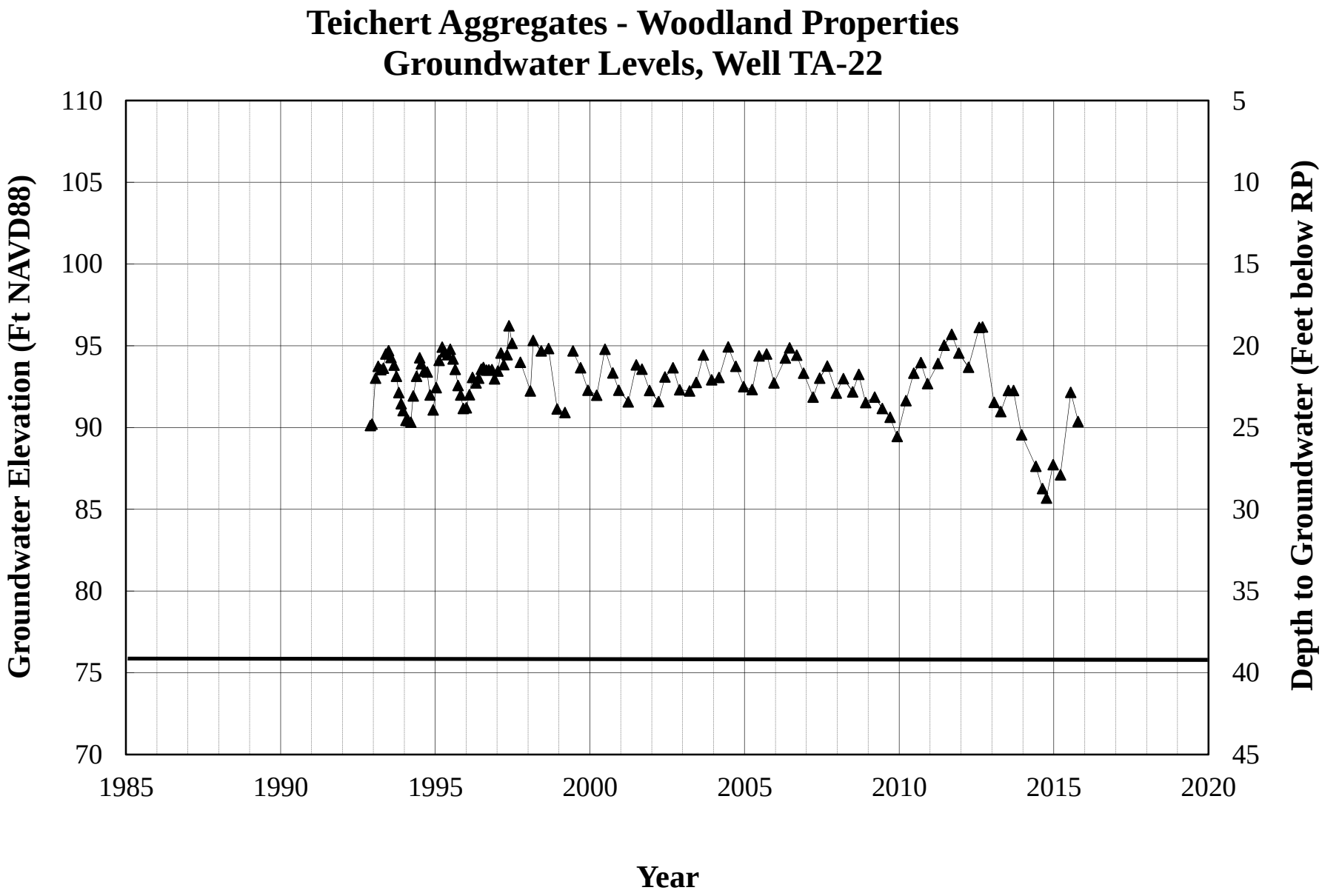
1. Maximum Contaminant Levels for drinking water standards; italic font style indicates secondary, i.e., consumer acceptance limits. Measured constituent concentrations at or exceeding the MCL are highlighted with bold font style.
2. Volatile Organics, EPA 502.2, includes BTEX.
3. Volatile Organics, EPA 8260.
4. Polynuclear Aromatic Hydrocarbons, EPA 8310.
5. Organophosphorus Pesticides, EPA 8141A (previously EPA 8140).
6. Organochlorine Herbicides, EPA 8151A (previously EPA 8150).
7. Total petroleum hydrocarbons, modified EPA 8015; MO = motor oil.
8. Previously EPA 8020.
9. Hydrocarbons reported as TPH-Motor Oil do not exhibit a typical motor oil chromatographic pattern.
10. A sample was retrieved prior to purging of the well (8:45 AM) and after purging of multiple wet casing volumes (9:45 AM). In the 8:45 AM sample, TPH-diesel was identified (82 µg/L), however, it did not exhibit a typical diesel chromatographic pattern. After the removal of polar constituents in the 8:45 AM sample (EPA method 3630), TPH-diesel was not detected. TPH-diesel was not detected in the 9:45 AM sample.
11. Dichloroprop detected at 2.1 µg/L; other constituents below detection limits (<0.2 - <250 µg/L).
12. Fensulfothion detected at 0.28 µg/L; other constituents below detection limits (<0.05 - <0.1µg/L).
13. Dichloroprop detected at 2.9 µg/L; other constituents below detection limits (<0.2 - <250 µg/L).
14. Initial analytical results were identified as laboratory contamination.
15. Hydrocarbons reported for September 12, 2011, as TPH-Motor Oil questionable (CLS Labs, James Liang, October 3, 2011); Resample on October 14, 2011, indicated ND.
16. Hydrocarbons as TPH-Motor Oil reported for March 29, 2012; on May 1, 2012, resample with and without Silica Gel Treatment indicated ND.
17. (a) Toluene reported for May 1, 2012; (b) resample with duplicates on June 6, 2012, indicated ND.
18. (a) Hydrocarbons as TPH-Diesel reported for Sept 10, 2012, ; on Sept 25, 2012, (a) resample without Silica Gel Treatment was TPH-Diesel detected and (b) with SGT indicated ND.
19. TPH-Motor Oil reported 10/6/2014 and 10/20/2014 is questionable (CLS Labs, James Liang, October 28, 2014).
20. Toluene reported for Oct 6, 2014; resample with duplicates on Oct 20, 2014, indicated ND.

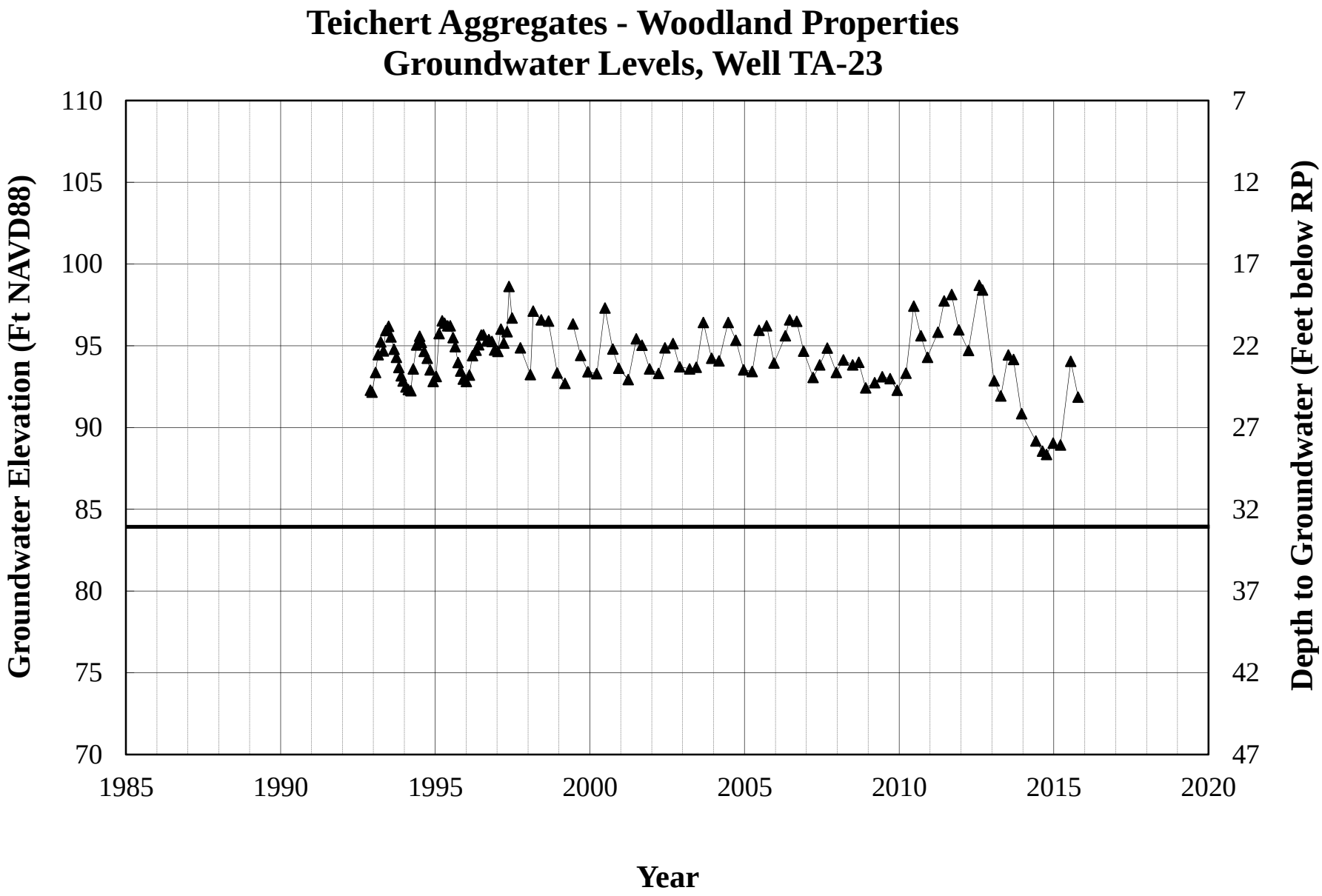

Teichert Aggregates - Woodland Properties
Groundwater Levels, Well TA-1A
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (Feet below RP)
Year
110
105
100
95
90
85
80
75
70
3
8
13
18
23
28
33
38
43
1985
1990
1995
2000
2005
2010
2015
2020

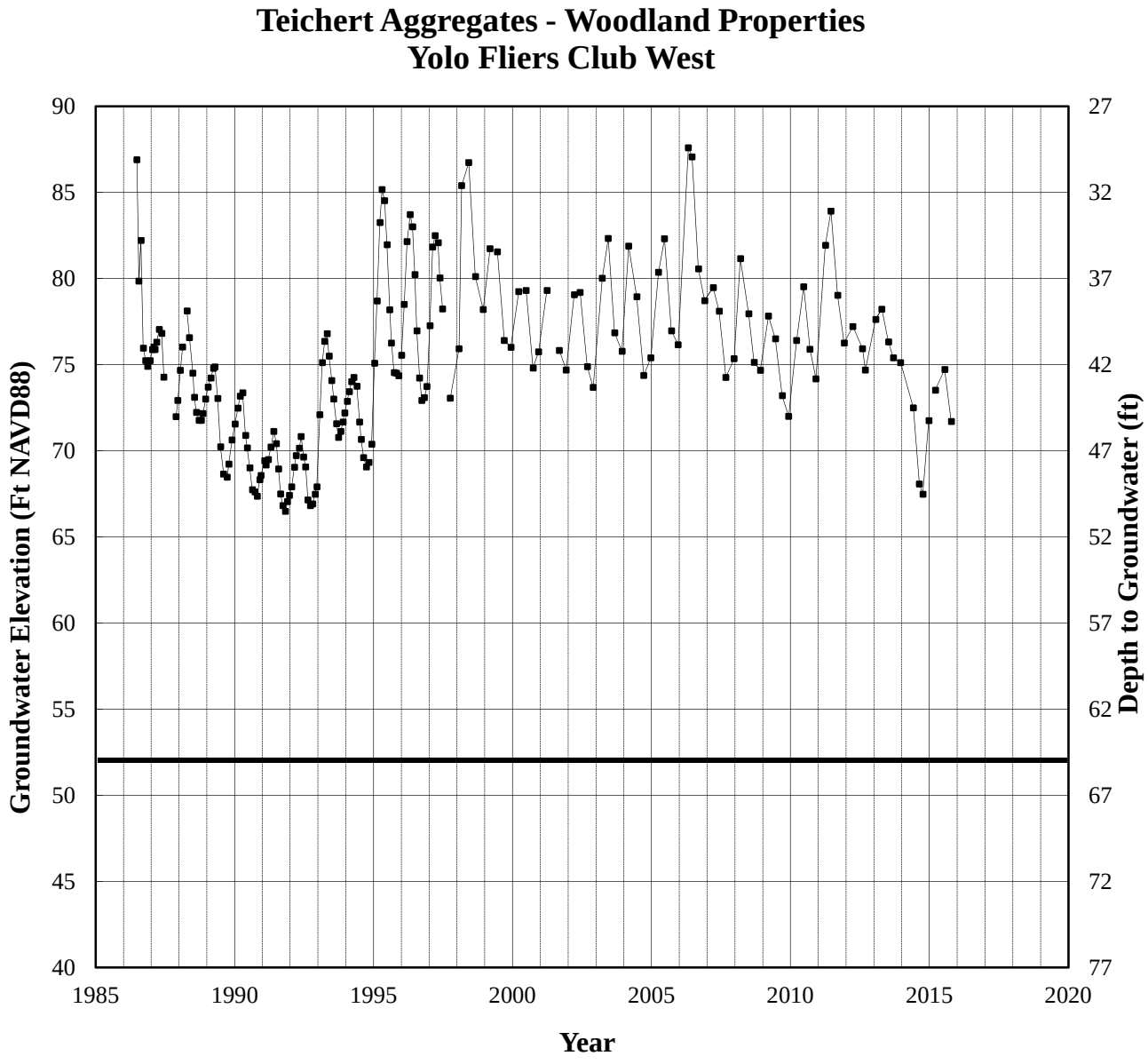

Teichert Aggregates - Woodland Properties
Groundwater Levels, Well TA-3A
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (Feet below RP)
Year
110
105
100
95
90
85
80
75
70
9
14
19
24
29
34
39
44
49
1985
1990
1995
2000
2005
2010
2015
2020

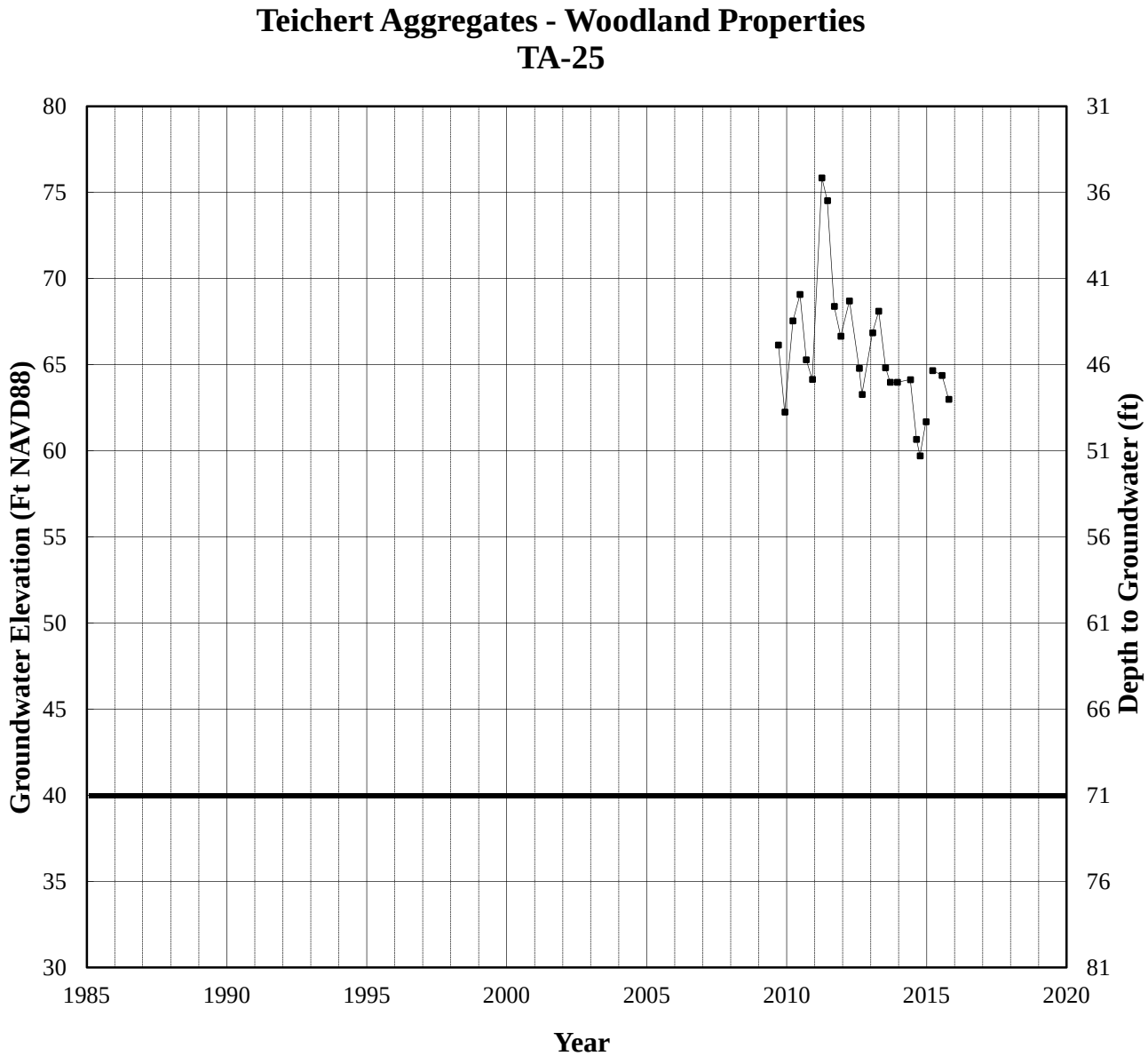

Teichert Aggregates - Woodland Properties
Groundwater Levels, Well TA-5A
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (Feet below RP)
110
105
100
95
90
85
80
75
70
11
16
21
26
31
36
41
46
51
1985
1990
1995
2000
2005
2010
2015
2020
Year

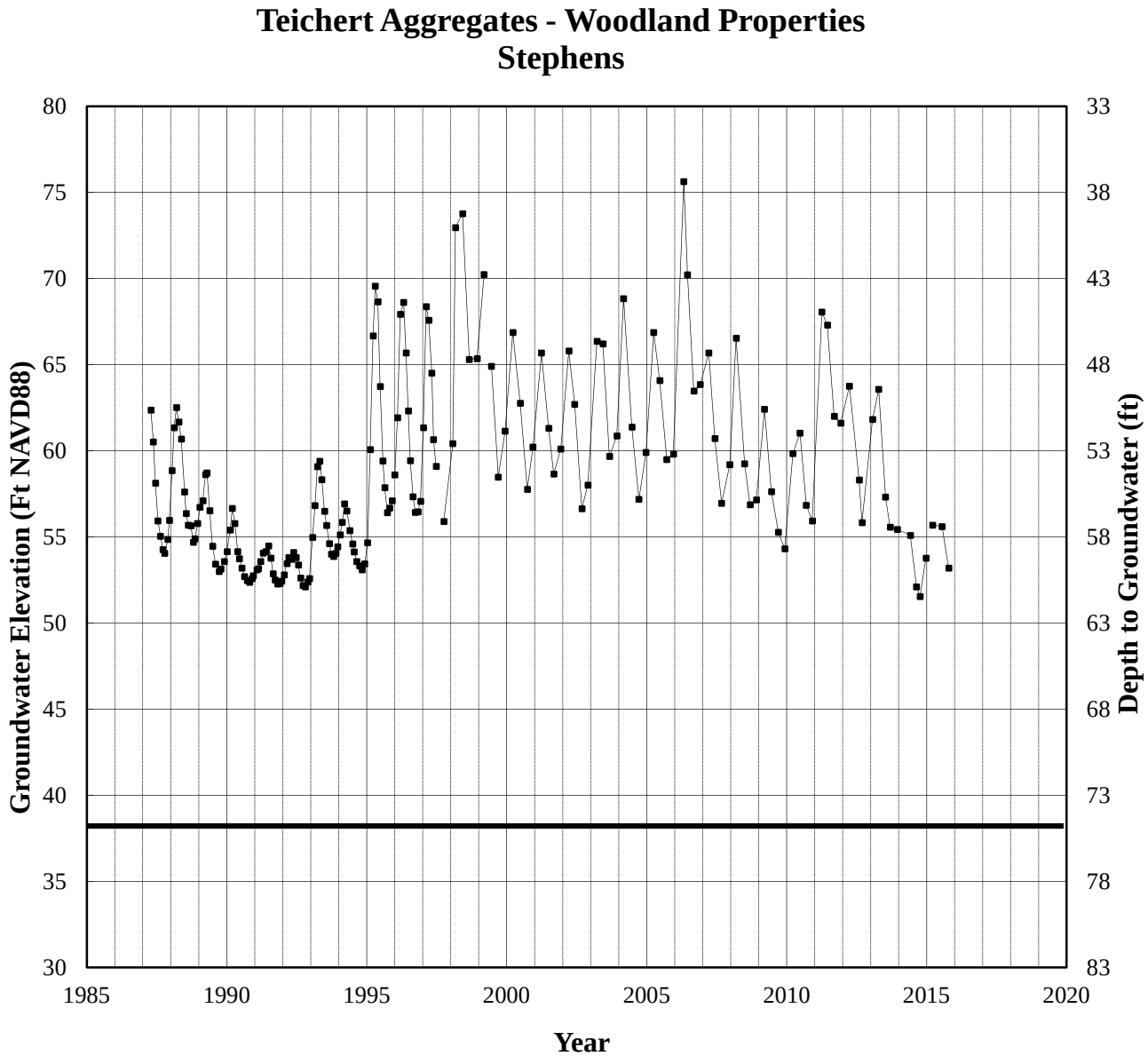

Teichert Aggregates - Woodland Properties
Groundwater Levels, Well TA-6
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (Feet below RP)
Year
110
105
100
95
90
85
80
75
70
6
11
16
21
26
31
36
41
46
1985
1990
1995
2000
2005
2010
2015
2020


Teichert Aggregates - Woodland Properties
Groundwater Levels, Well TA-22
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (Feet below RP)
Year
110
105
100
95
90
85
80
75
70
5
10
15
20
25
30
35
40
45
1985
1990
1995
2000
2005
2010
2015
2020

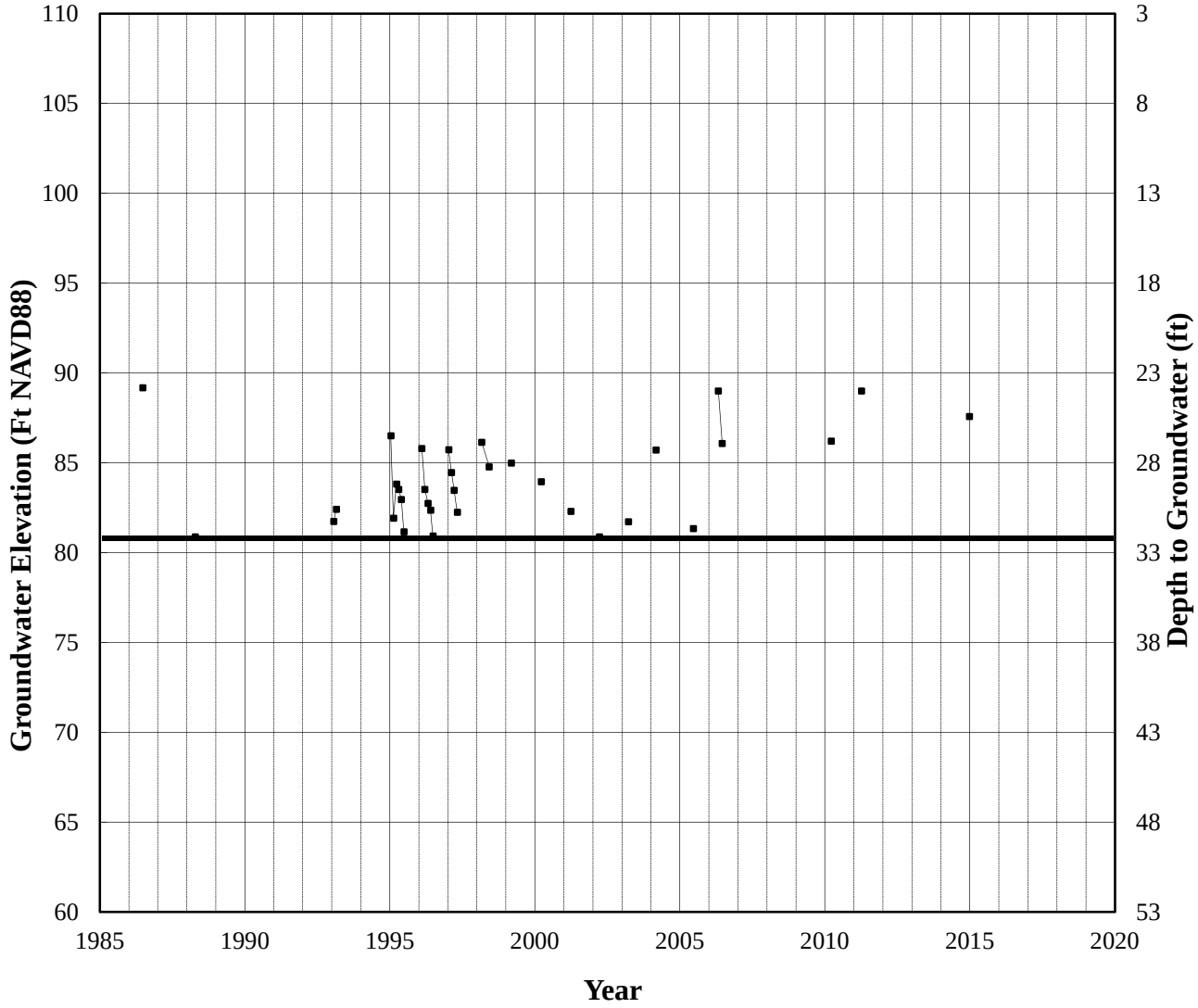

Teichert Aggregates - Woodland Properties
Groundwater Levels, Well TA-23
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (Feet below RP)
Year
110
105
100
95
90
85
80
75
70
7
12
17
22
27
32
37
42
47
1985
1990
1995
2000
2005
2010
2015
2020


Teichert Aggregates - Woodland Properties
Yolo Fliers Club West
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
90
85
80
75
70
65
60
55
50
45
40
27
32
37
42
47
52
57
62
67
72
77
1985
1990
1995
2000
2005
2010
2015
2020

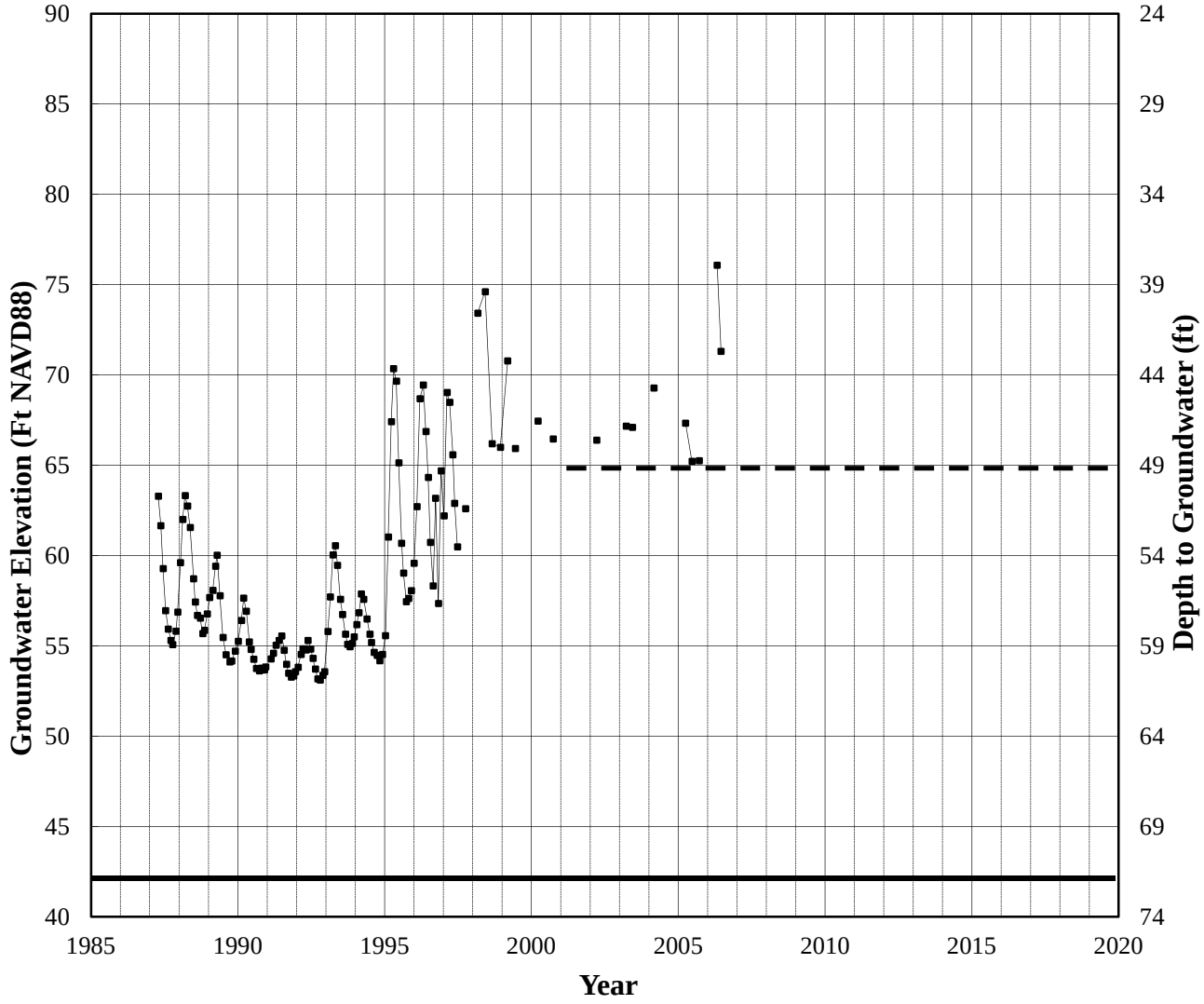

Teichert Aggregates - Woodland Properties
TA-25
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
80
75
70
65
60
55
50
45
40
35
30
31
36
41
46
51
56
61
66
71
76
81
1985
1990
1995
2000
2005
2010
2015
2020


Teichert Aggregates - Woodland Properties
Stephens
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
80
75
70
65
60
55
50
45
40
35
30
33
38
43
48
53
58
63
68
73
78
83
1985
1990
1995
2000
2005
2010
2015
2020

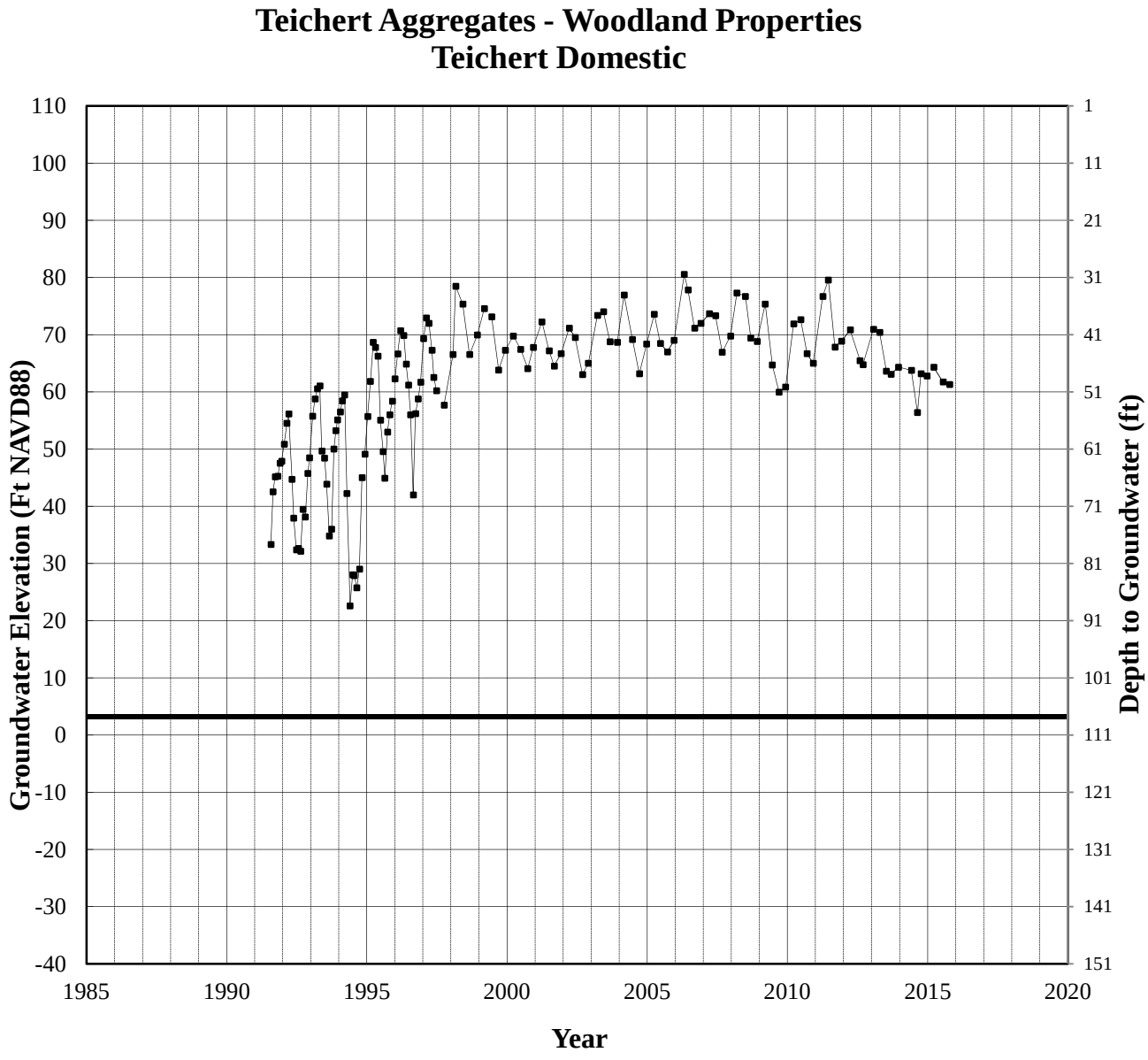
Teichert Aggregates - Woodland Properties
TA-8



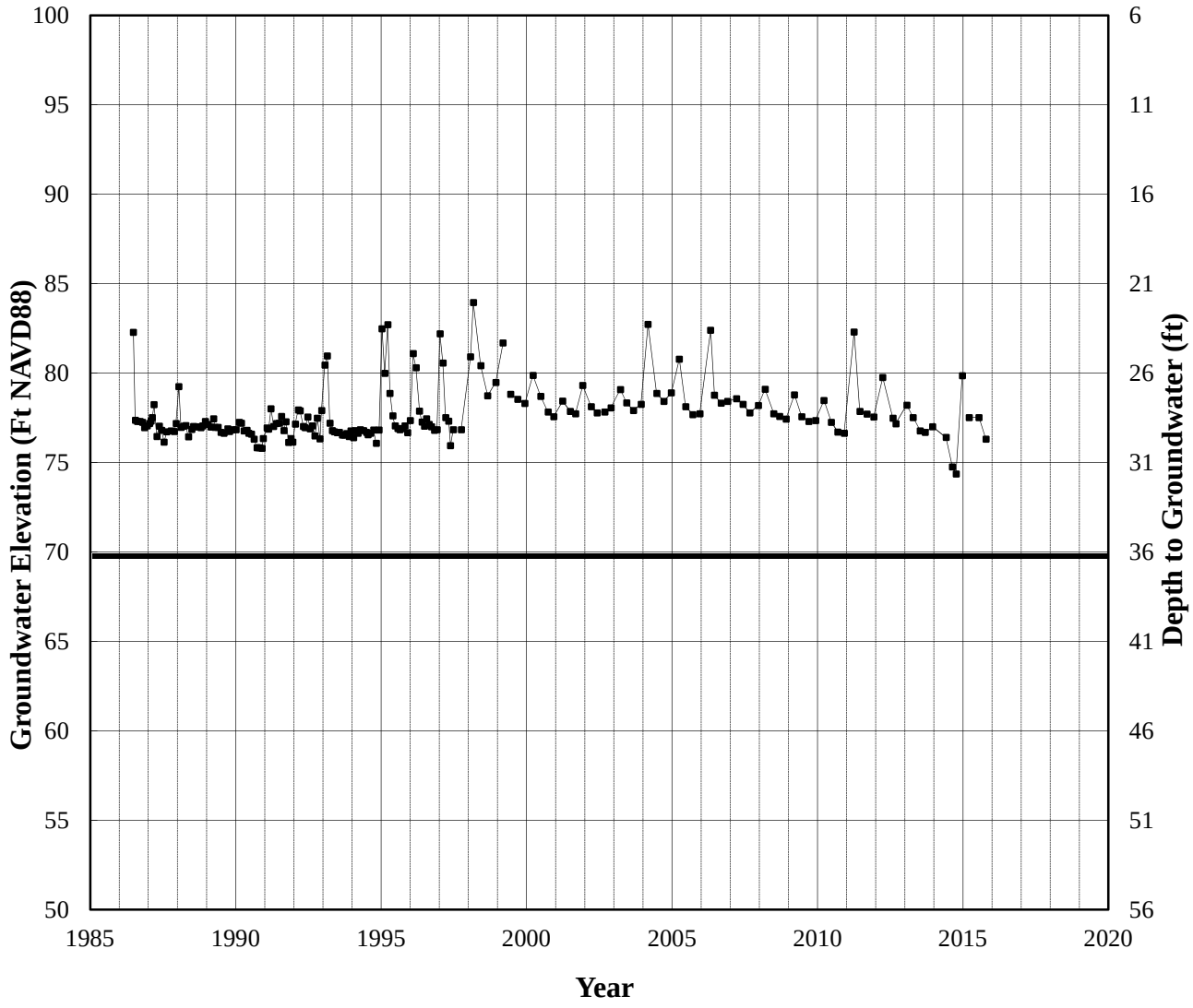
Teichert Aggregates - Woodland Properties
TA-9R

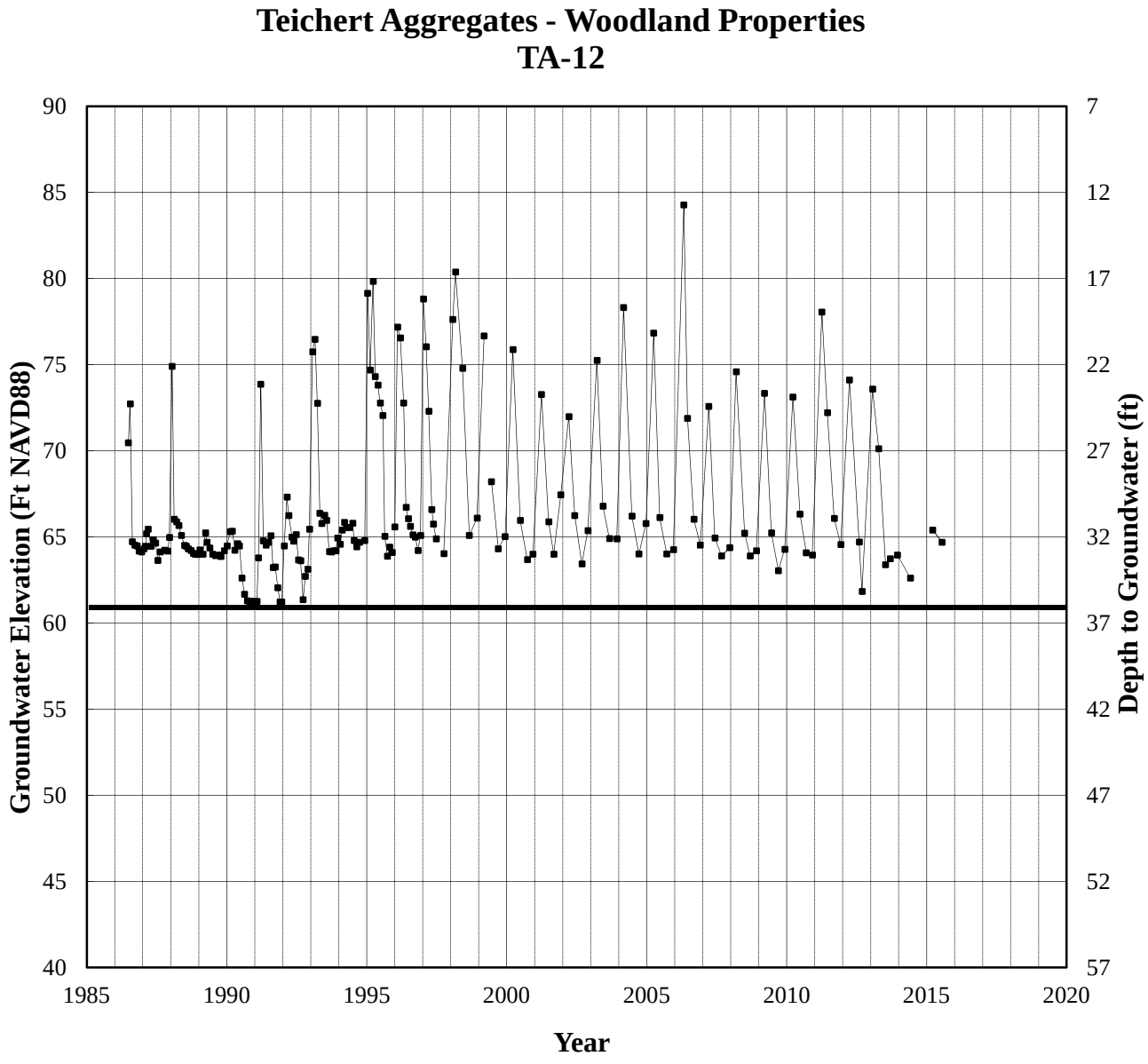


Note: An obstruction at a depth of approximately 49 feet blocks access to water levels below that depth since 1999.

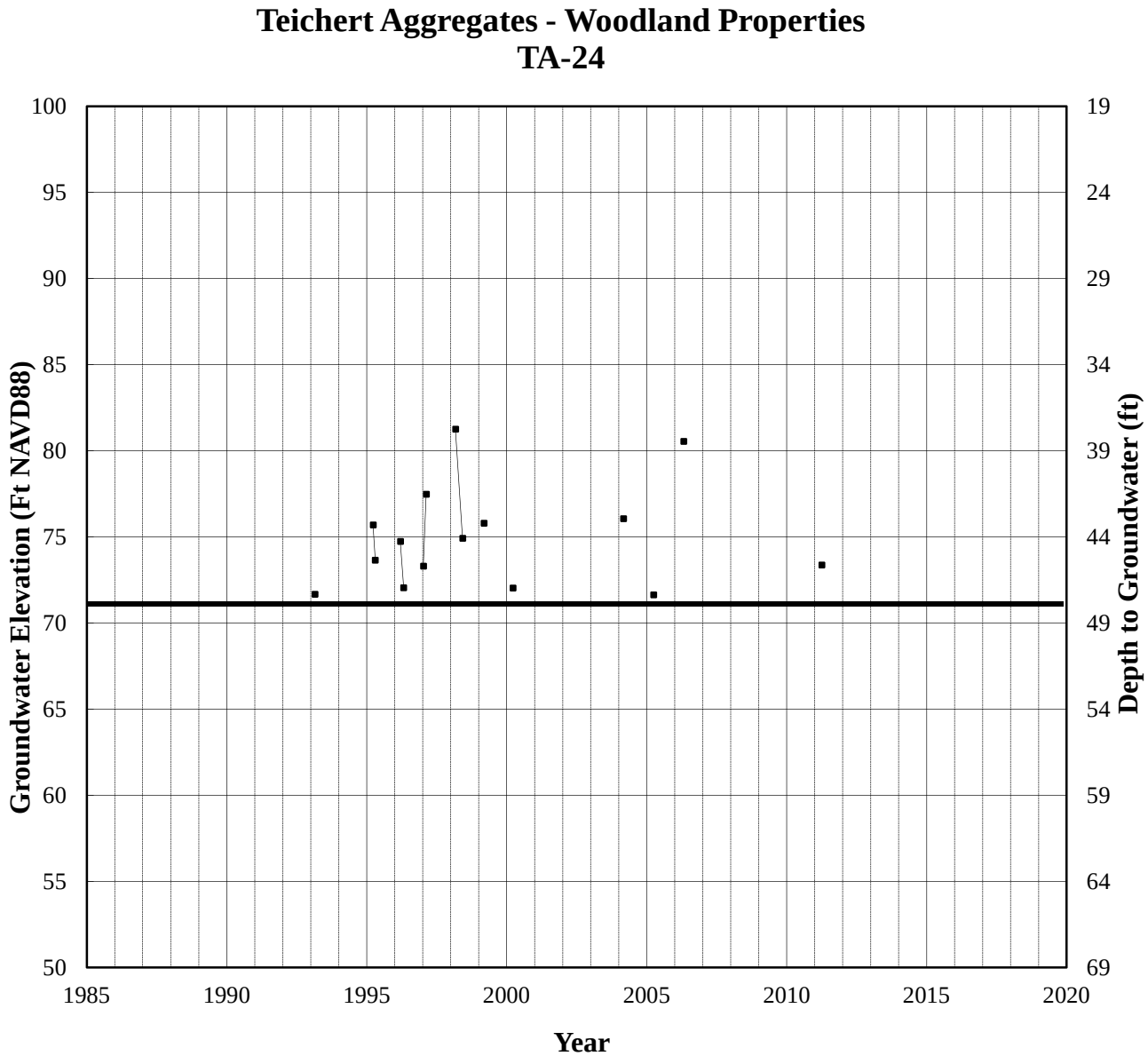

Teichert Aggregates - Woodland Properties
Teichert Domestic
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
1
11
21
31
41
51
61
71
81
91
101
111
121
131
141
151
1985
1990
1995
2000
2005
2010
2015
2020

Teichert Aggregates - Woodland Properties
TA-10

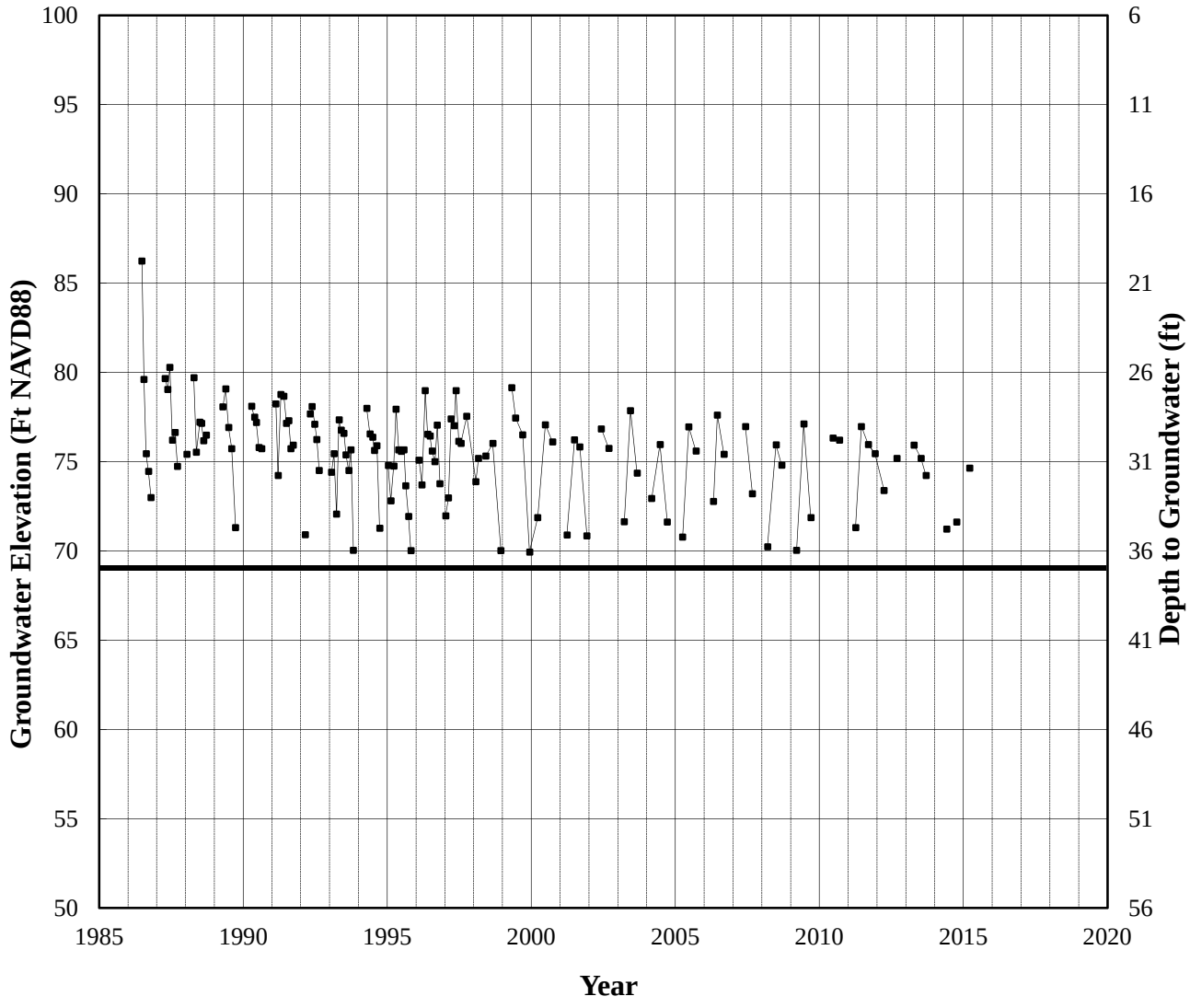




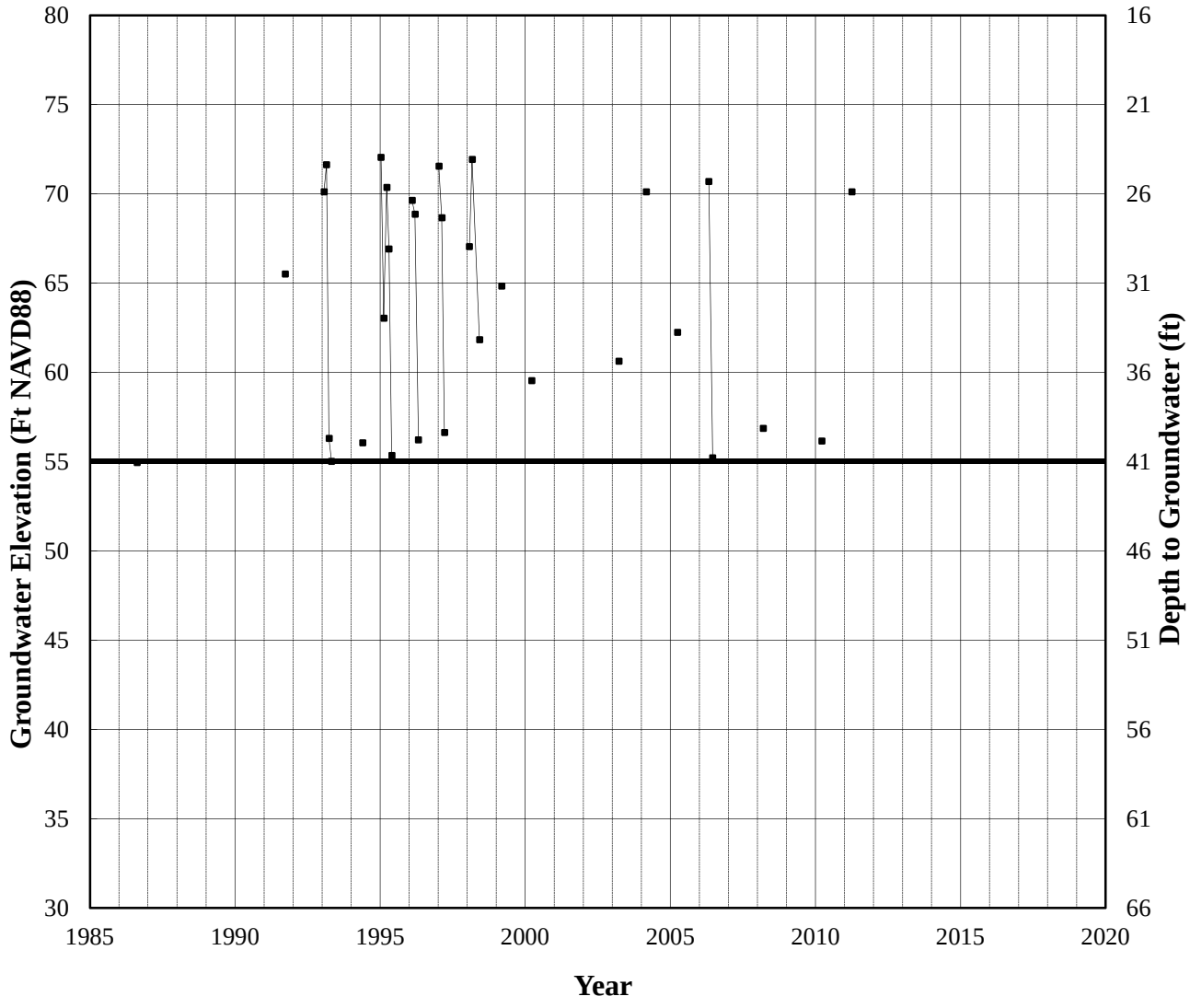
Teichert Aggregates - Woodland Properties
TA-12
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
90
85
80
75
70
65
60
55
50
45
40
7
12
17
22
27
32
37
42
47
52
57
1985
1990
1995
2000
2005
2010
2015
2020


Teichert Aggregates - Woodland Properties
TA-24
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
100
95
90
85
80
75
70
65
60
55
50
19
24
29
34
39
44
49
54
59
64
69
1985
1990
1995
2000
2005
2010
2015
2020

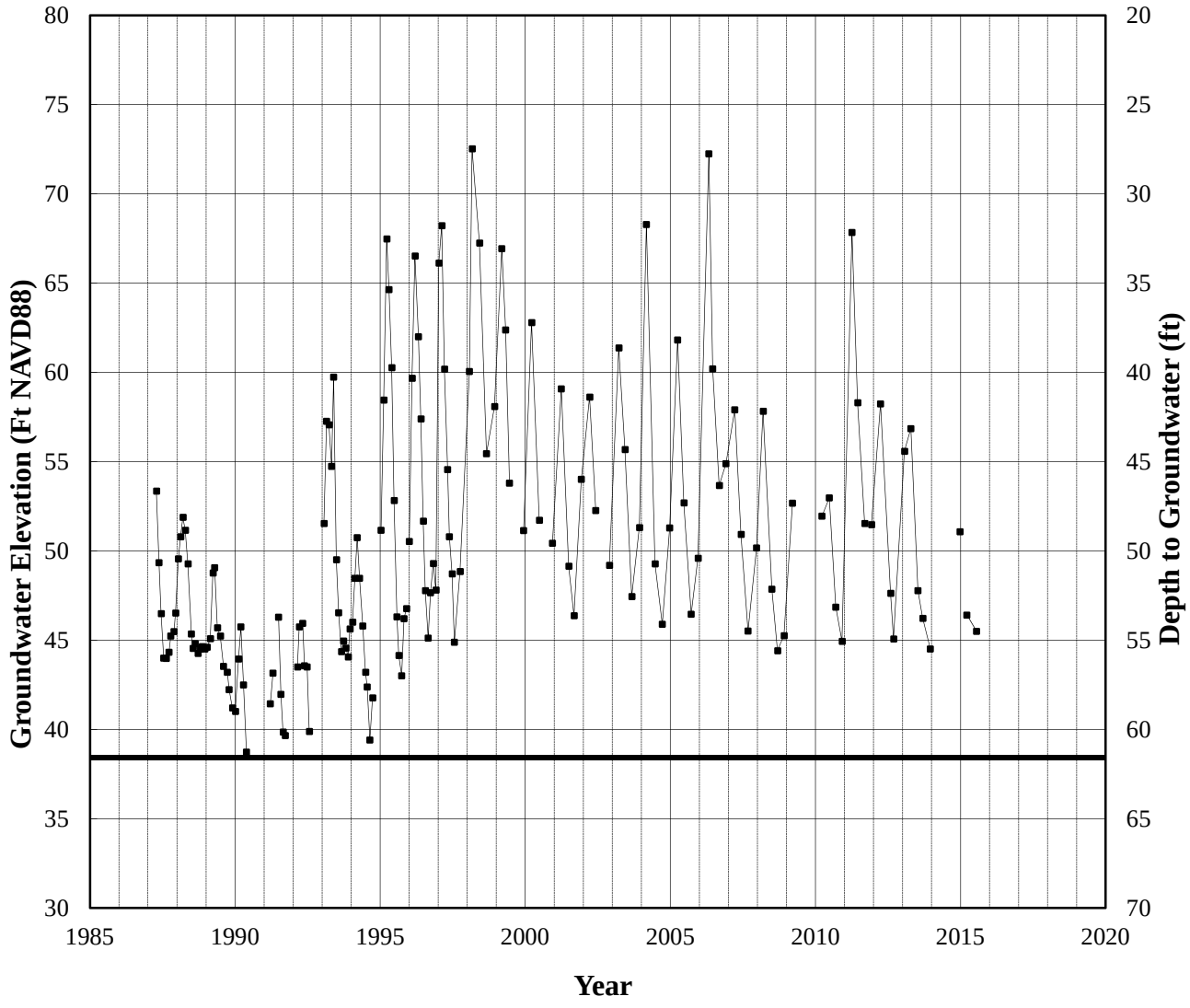
Teichert Aggregates - Woodland Properties
TA-14



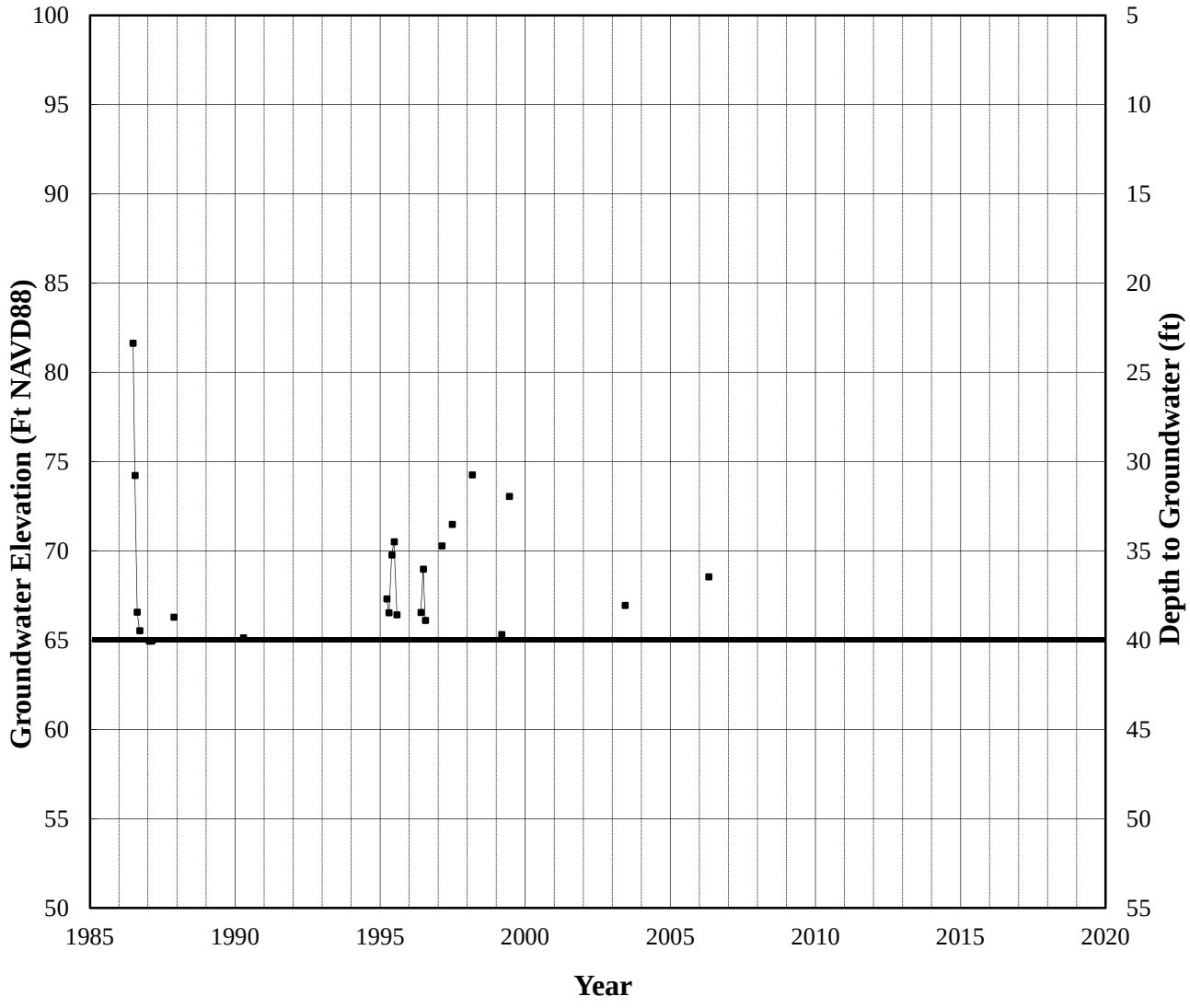
Teichert Aggregates - Woodland Properties
TA-13



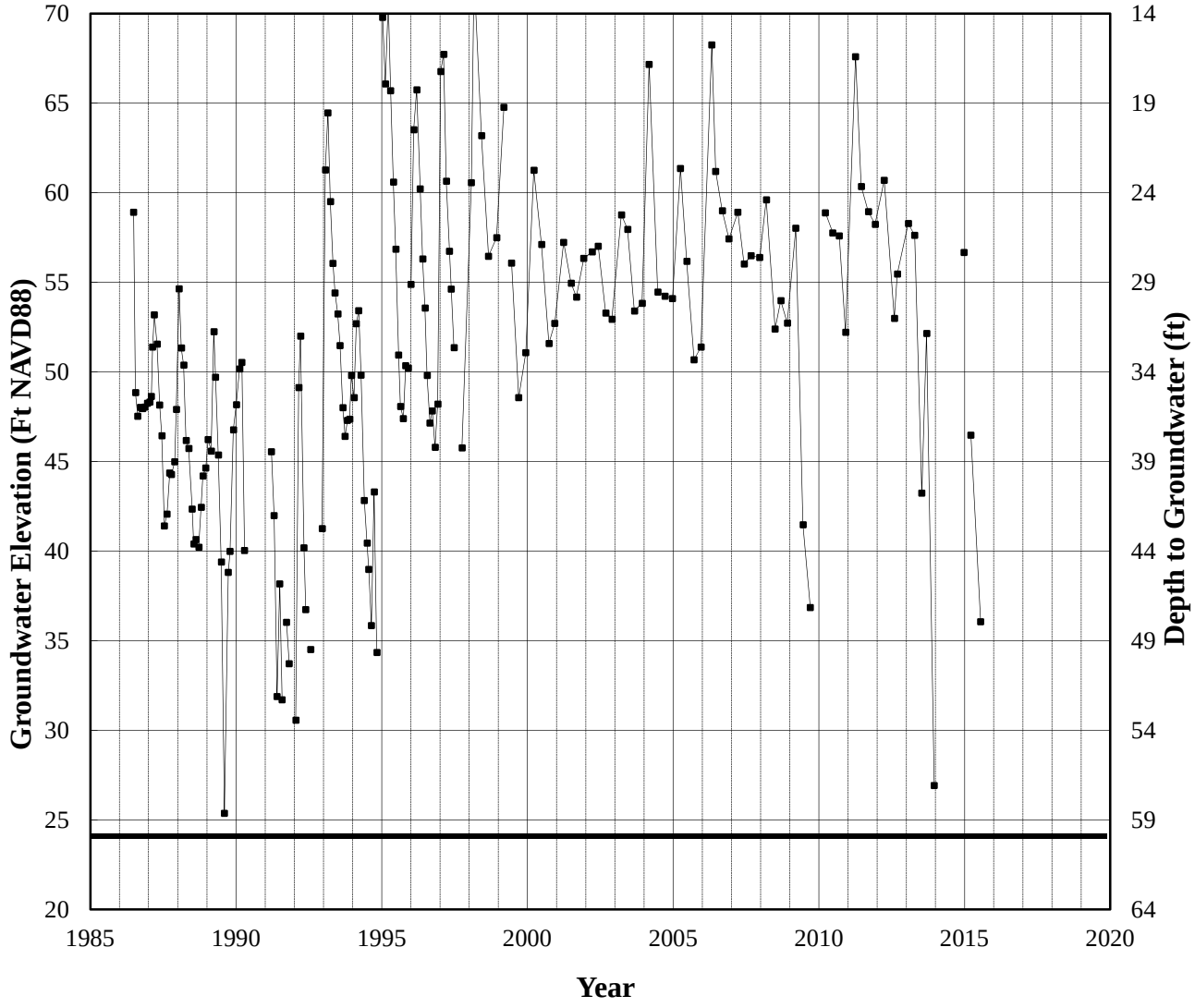
Teichert Aggregates - Woodland Properties
TA-13A



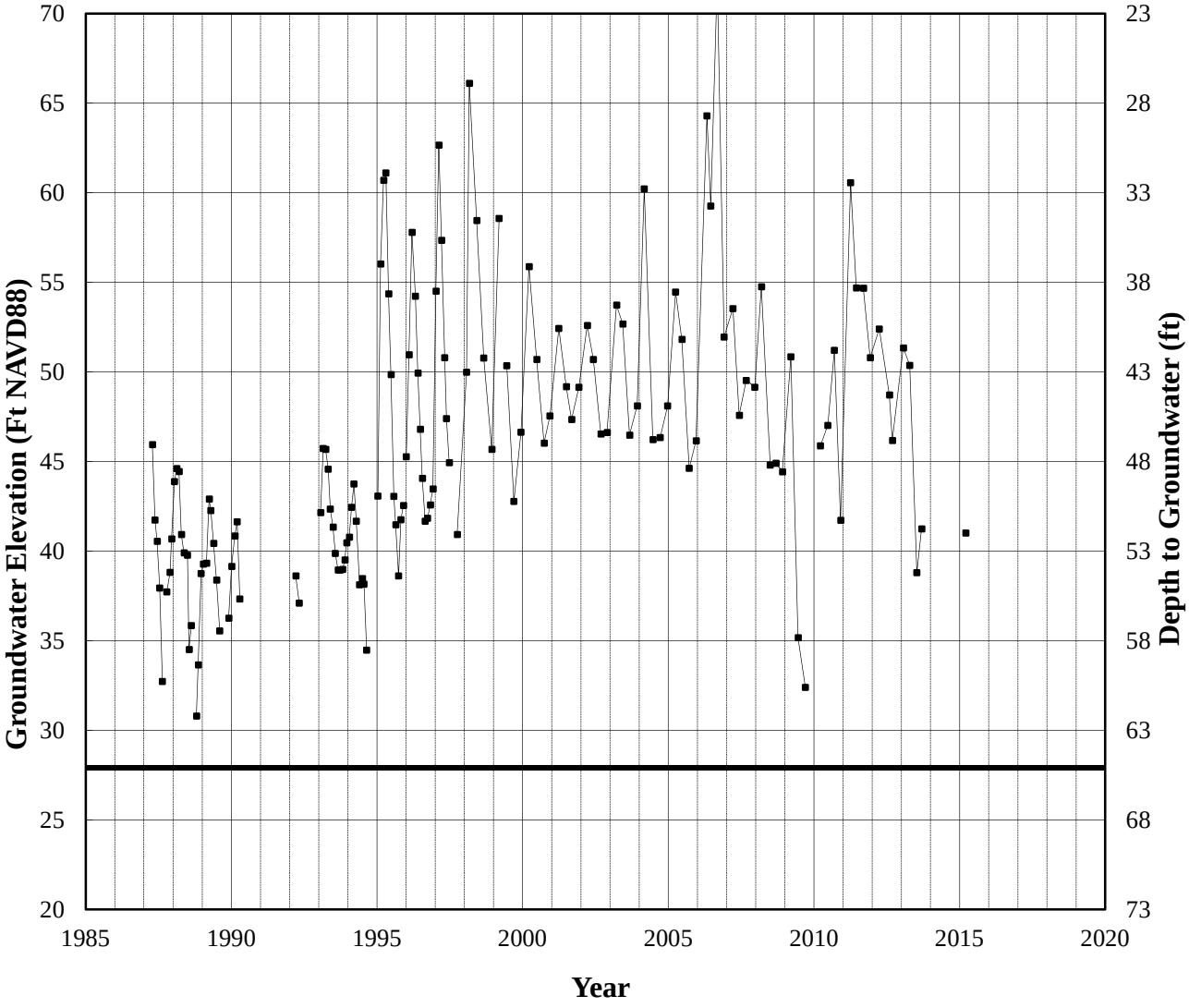
Teichert Aggregates - Woodland Properties
TA-11

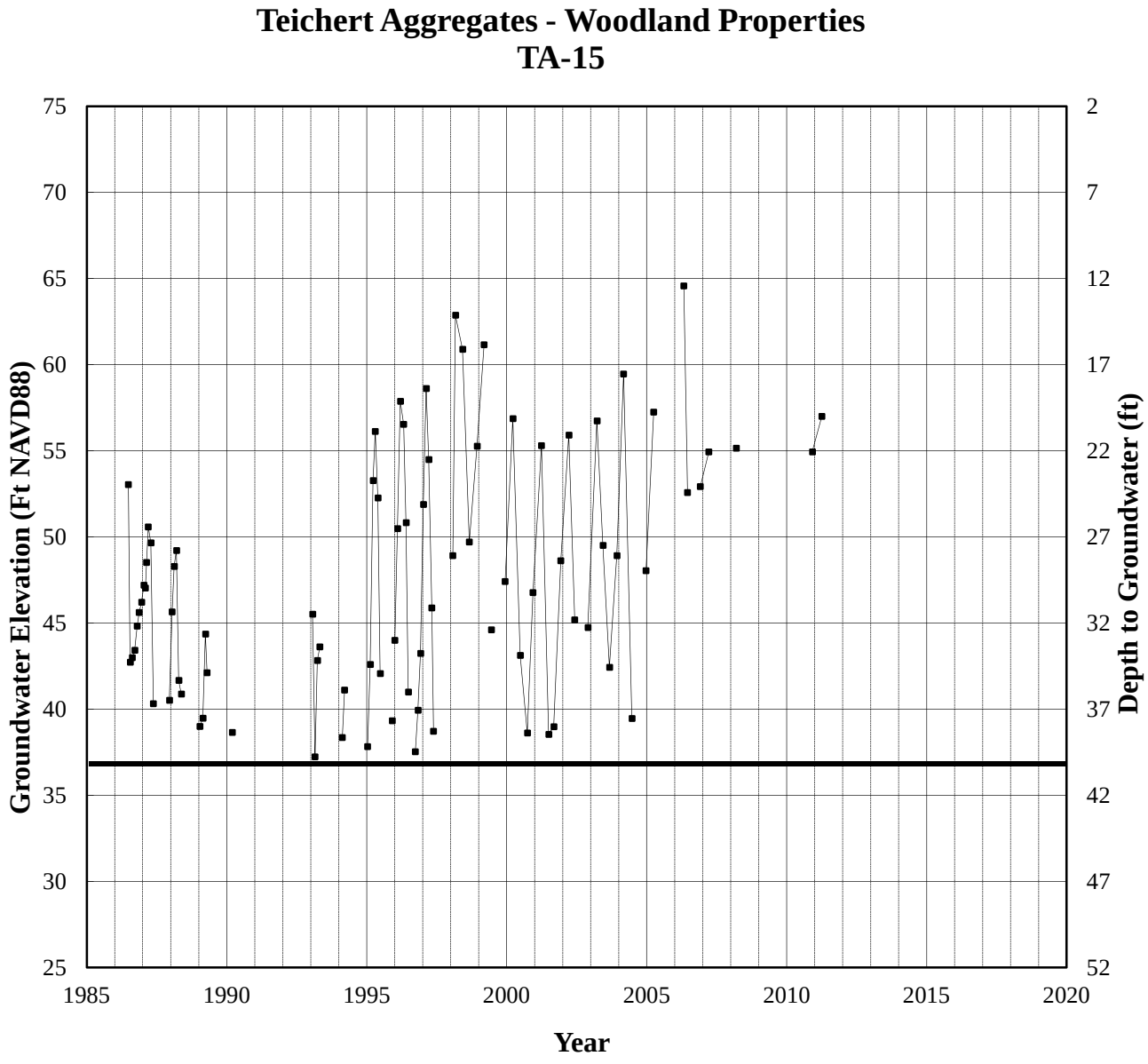


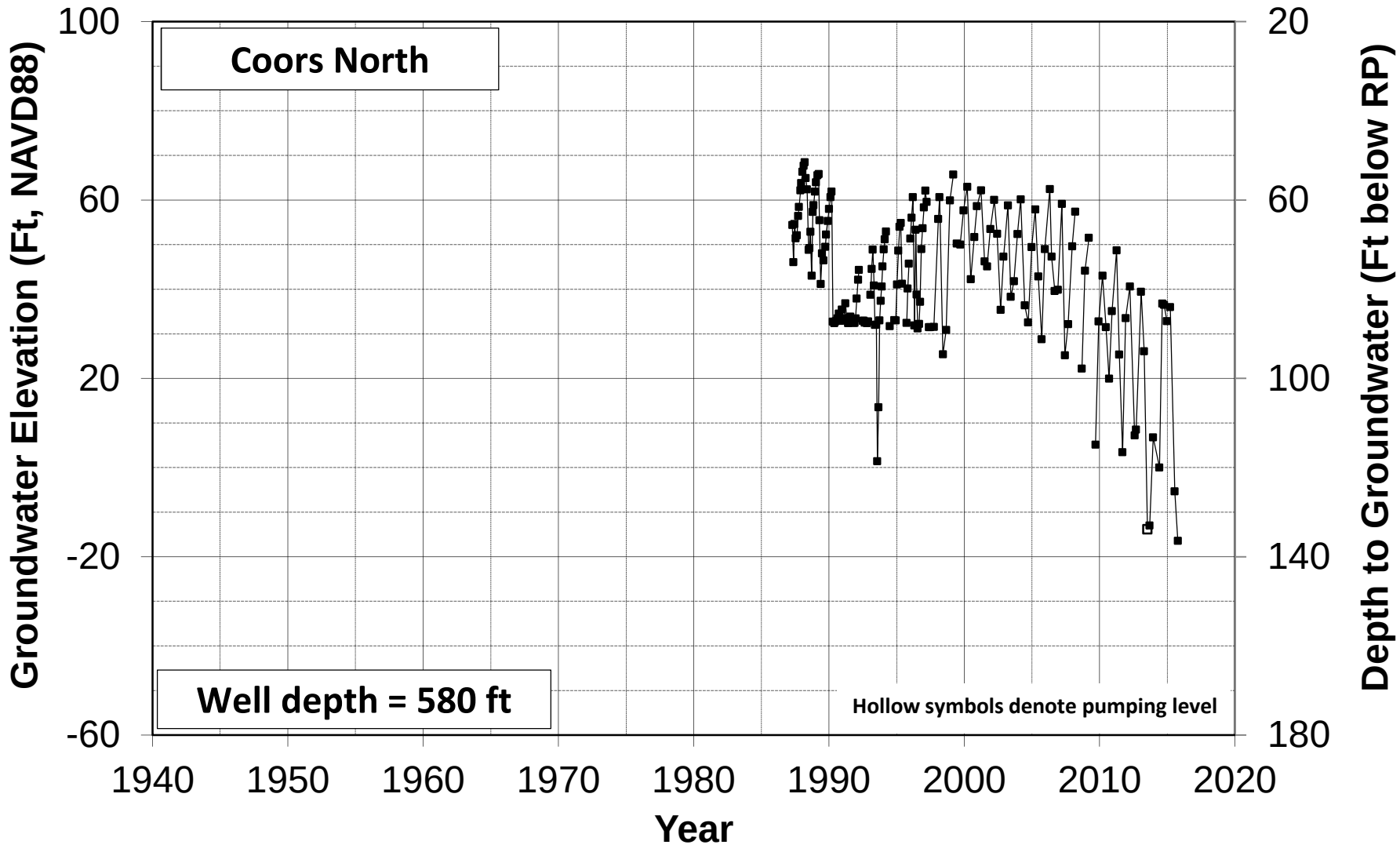
Teichert Aggregates - Woodland Properties
TA-18



Teichert Aggregates - Woodland Properties
Schwarzgruber

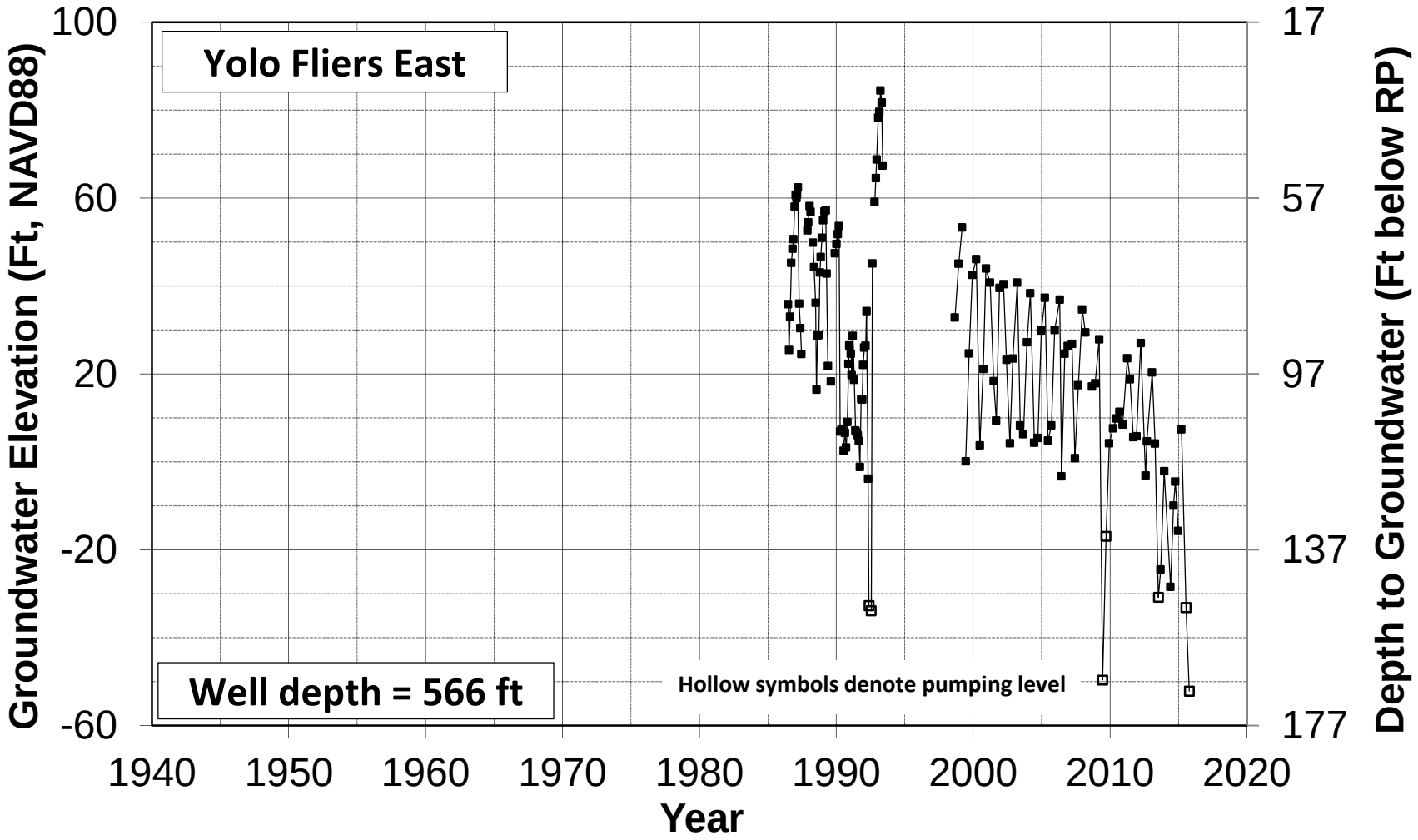



Teichert Aggregates - Woodland Properties
TA-15
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
75
70
65
60
55
50
45
40
35
30
25
2
7
12
17
22
27
32
37
42
47
52
1985
1990
1995
2000
2005
2010
2015
2020



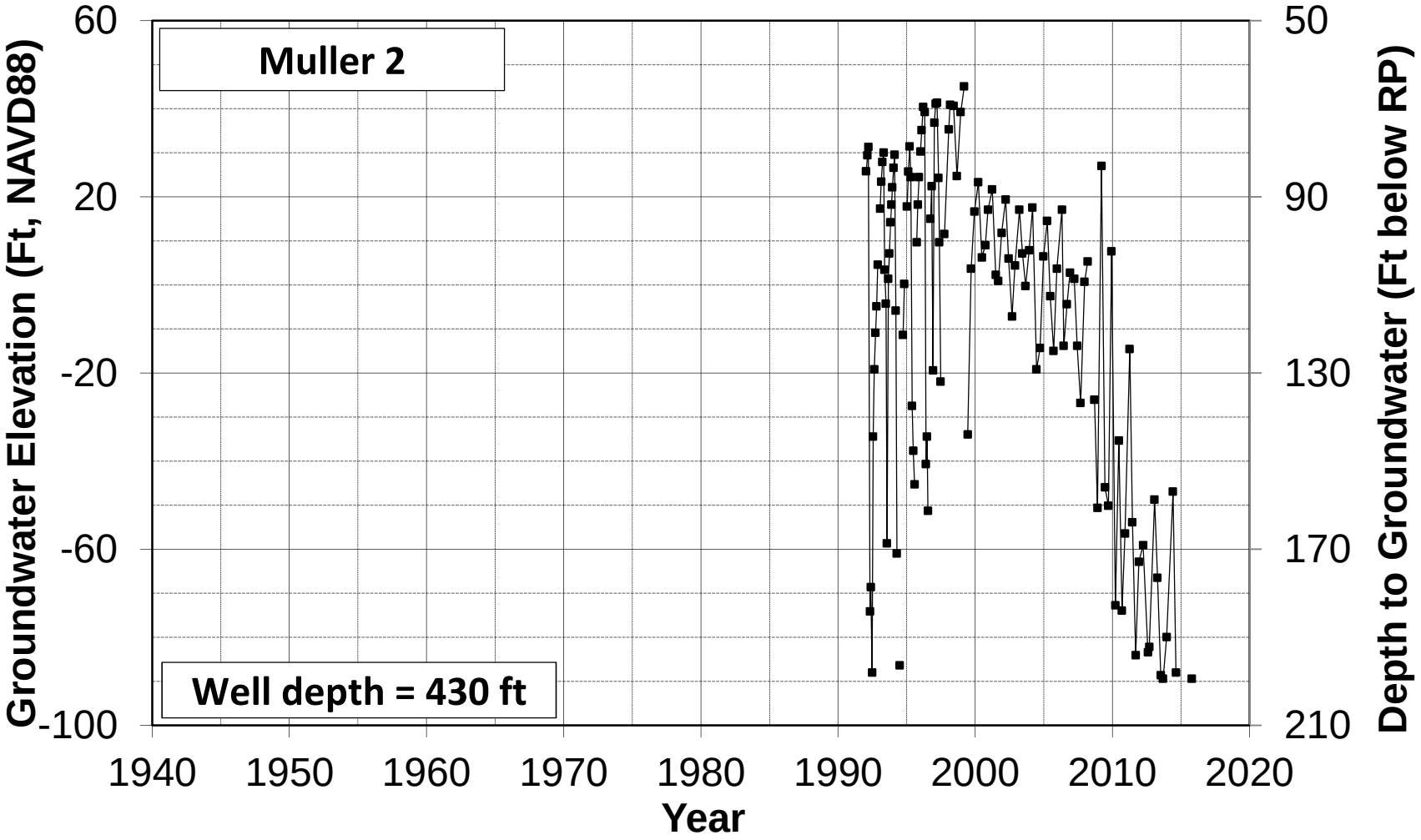
LUHDORFF & SCALMANINI CONSULTING ENGINEERS

Figure
Groundwater Levels



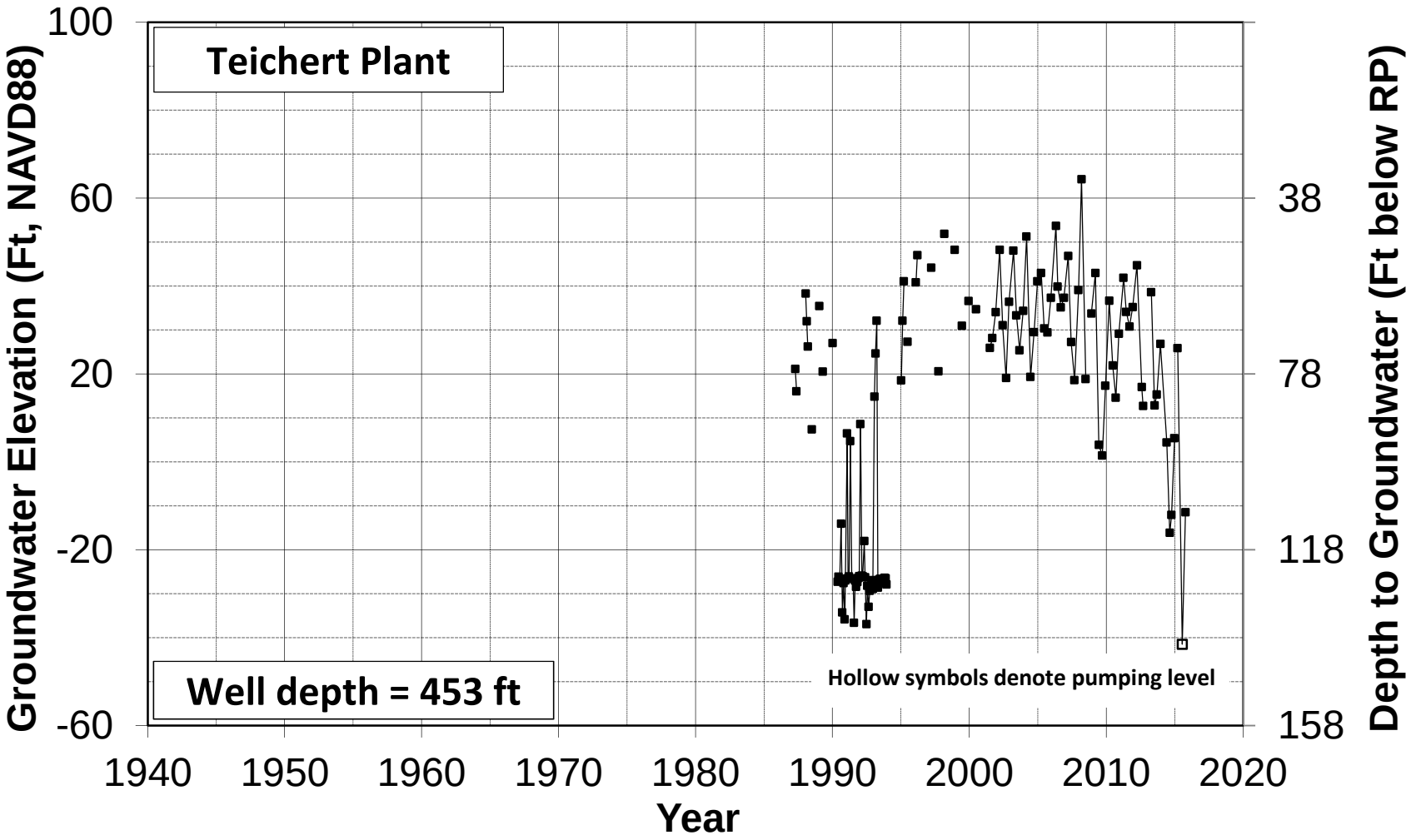
LUHDORFF & SCALMANINI CONSULTING ENGINEERS

Figure
Groundwater Levels



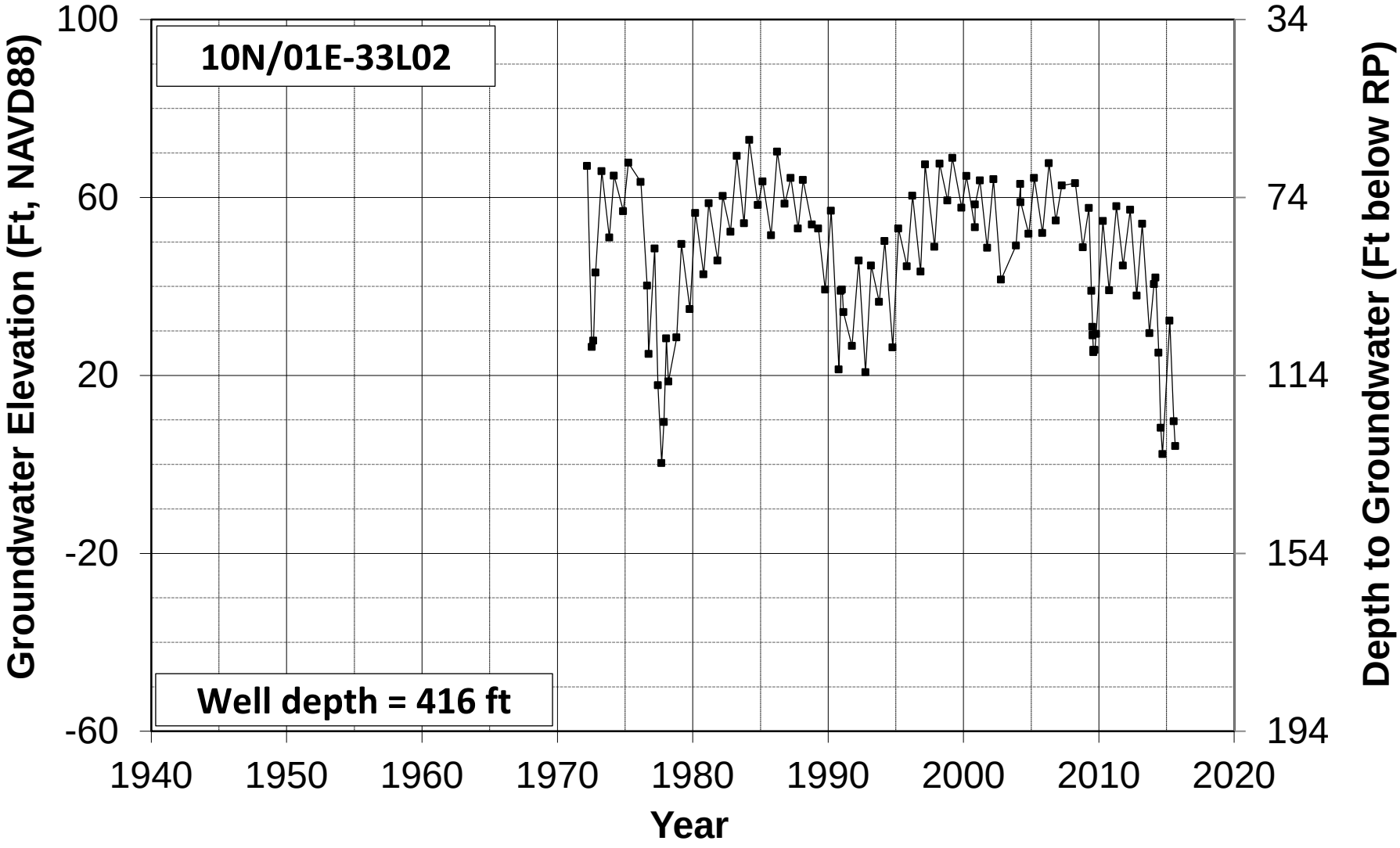
LUHDORFF & SCALMANINI CONSULTING ENGINEERS

Figure
Groundwater Levels



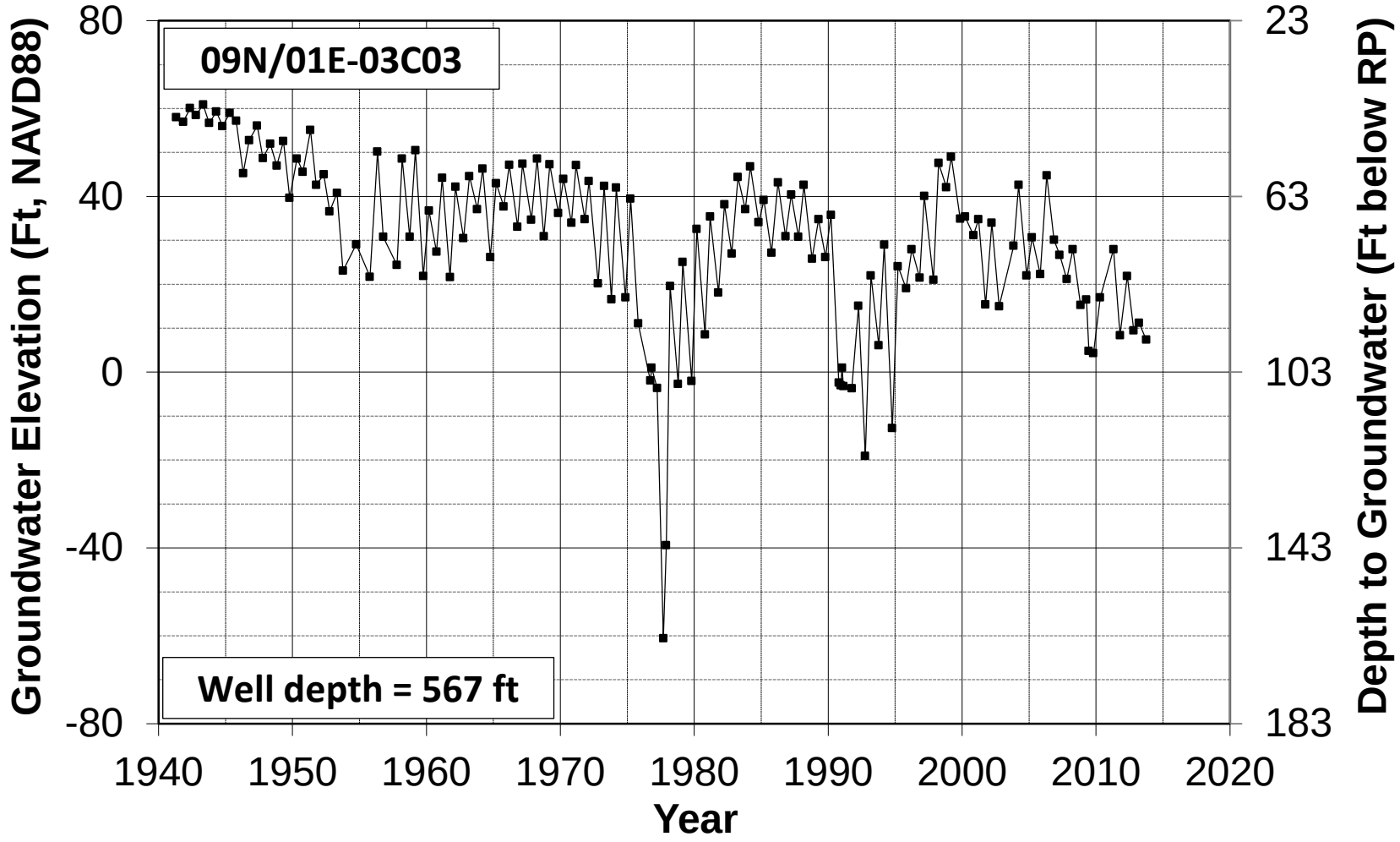
LUHDORFF & SCALMANINI CONSULTING ENGINEERS

Figure
Groundwater Levels



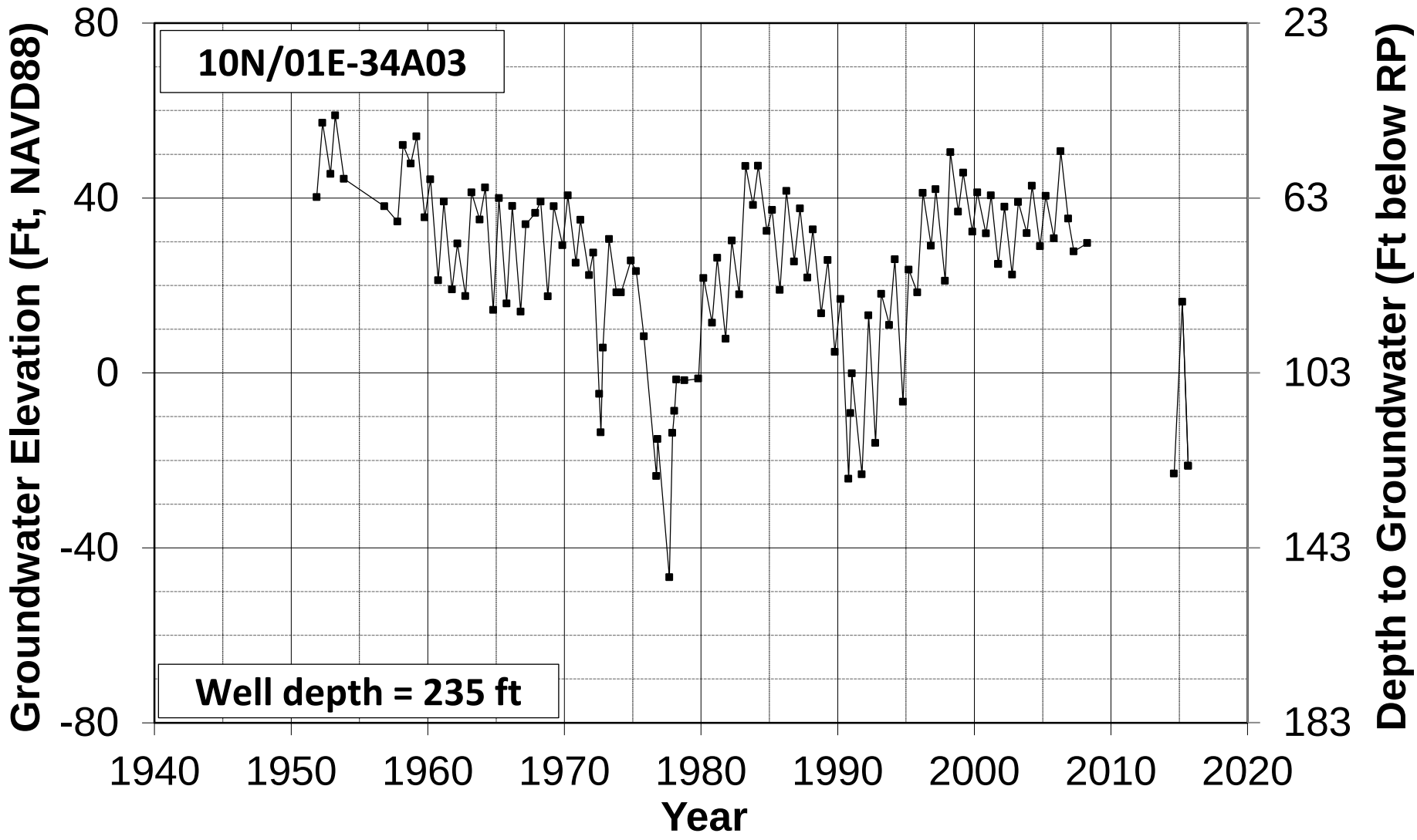
LUHDORFF & SCALMANINI CONSULTING ENGINEERS

Figure
Groundwater Levels



LUHDORFF & SCALMANINI CONSULTING ENGINEERS

Figure
Groundwater Levels



LUHDORFF & SCALMANINI CONSULTING ENGINEERS

Figure
Groundwater Levels

Appendix M

Table 2-1
Summary of Impacts and Mitigation Measures

Impact		Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.1 Aesthetics				
4.1-1	**Have a substantial adverse effect on a scenic vista.**	LS	*None required.*	N/A
4.1-2	**Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway.**	LS	*None required.*	N/A
4.1-3	**In a non-urbanized area, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings (public views are those that are experienced from publicly accessible vantage point).**	LS	*None required.*	N/A
4.1-4	**Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.**	LS	*None required.*	N/A
4.1-5	**Cause a significant environmental impact due to a conflict with applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigating impacts to aesthetics.**	LS	*None required.*	N/A

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.2 Agricultural Resources			
4.2-1 Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.	S	*4.2-1* *The applicant shall complete the following, subject to approval by the County. Item a) shall be completed in accordance with the approved reclamation plan and conditions of approval. Items b) and c) shall be completed prior to the commencement of mining activity on any Prime Farmlands, Unique Farmlands, or Farmland of Statewide Importance:* *a) Reclaim 116.7 acres of Prime Farmland onsite, equivalent in quality and capacity to existing Prime Farmland permanently converted as a result of the project.* *b) Establish a permanent agricultural conservation easement on 452.4 acres (267.50 disturbed acres – 116.7 reclaimed acres, at a 3:1 ratio) of equivalent or better (in quality and capability) Prime Farmland compliant with the requirements in County Code Sections 8-2.404(d) and Section 8-2.404(e), (f) and (g). The total acreage placed in permanent easement may be reduced to a minimum of 150.8 acres (267.50 disturbed acres – 116.7 reclaimed acres at a 1:1 ratio) in accordance with Sections 8-2404(d) or 10-5.525(a), (b), (c), or (d), provided the total acreage is determined to be equivalent to the applicable ratio and acreage required under Section 8-2.404. The proposal and the*	SU

Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
		substantiation in support of finding equivalency shall be provided in writing by the applicant, for review by staff and acceptance by the Board of Supervisors. The County may in its discretion approve phasing of the required easement so long as mitigation is satisfied prior to or coincident with impacts to Prime Farmland. *c) Establish a permanent agricultural conservation easement on 17.5 acres (0.5 acres + 8.25 acres, at a 2:1 ratio) of equivalent or (in quality and capability) better Farmland of Statewide Importance and Unique Farmland compliant with the requirements in County Code Sections 8-2.404(d) and 8-2.404(e), (f), and (g). The total acreage placed in permanent easement may be reduced to a minimum of 8.75 acres (0.50 acres + 8.25 acres, at a 1:1 ratio) in accordance with Sections 8-2.404(d) or 10-5.525(a), (b), (c), or (d), provided the total acreage is determined to be equivalent to the applicable ratio and acreage required under Section 8-2.404. The proposal and the substantiation in support of finding equivalency shall be provided in writing by the applicant, for review by staff and acceptance by the Board of Supervisors. The County may in its discretion approve phasing of the required easement so long as mitigation is satisfied prior to or coincident with impacts to Farmland of Statewide Importance and Unique Farmland.*	

Table 2-1
Summary of Impacts and Mitigation Measures

Impact		Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.2-2	**Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use.**	LS	*None required.*	N/A
4.2-3	**Cause a significant environmental impact due to a conflict with any applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigating impacts to agricultural resources.**	LS	*None required.*	N/A
4.3 Air Quality, Greenhouse Gas Emissions, and Energy				
4.3-1	**Conflict with or obstruct implementation of the applicable air quality plan.**	LS	*None required.*	N/A
4.3-2	**Expose sensitive receptors to substantial pollutant concentrations.**	LS	*None required.*	N/A
4.3-3	**Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.**	LS	*None required.*	N/A
4.3-4	**Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy**	LS	*None required.*	N/A

Table 2-1 Summary of Impacts and Mitigation Measures				
	Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
	resources, during project construction or operation.			
4.3-5	**Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.**	LS	*None required.*	N/A
4.3-6	**Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard.**	LCC	*None required.*	N/A
4.3-7	**Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.**	CC	*4.3-7* *Prior to initiation of mining activity at the Shifler mining site, the project applicant shall submit, for review and approval, a Greenhouse Gas Reduction Plan (GHGRP) to the Yolo County Department of Community Services. In order to demonstrate that implementation of the proposed project would not result in a net increase in GHG emissions from baseline conditions, the GHGRP shall demonstrate how operational emissions of the proposed project would be reduced by at least 1,887.84 $MTCO_2e$/yr. Strategies to achieve emissions reductions may include, but are not limited to, the following:* • *Replacement of existing fossil fueled equipment with hybrid or electrically powered equipment;*	LCC

NI = *No Impact*; N/A = *Not Applicable*; LS = *Less Than Significant*; LCC = *Less Than Cumulatively Considerable*; S = *Significant*; CC = *Cumulatively Considerable*; SU = *Significant and Unavoidable*

Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
		• *Installation of additional renewable energy systems on-site;* • *Purchase of an increased proportion of electricity from renewable sources;* • *Purchase carbon credits to offset Project annual emissions. Carbon offset credits shall be verified and registered with The Climate Registry, the Climate Action Reserve, or another source approved by CARB, YSAQMD, or Yolo County.* *If purchase of off-site mitigation credits is selected as a means of meeting the requirements of this mitigation measure, purchase of off-site mitigation credits shall be negotiated with the County and YSAQMD at the time that credits are sought. Off-site mitigation credits purchased as part of this mitigation measure shall be real, quantifiable, permanent, verifiable, enforceable, and additional, consistent with the standards set forth in Health and Safety Code section 38562, subdivisions (d)(1) and (d)(2). Such credits shall be based on protocols that are consistent with the criteria set forth in subdivision (a) of Section 95972 of Title 17 of the California Code of Regulations, and shall not allow the use of offset projects originating outside of California, except to the extent that the quality of the offsets, and their sufficiency under the standards set forth herein, can be verified by Yolo County and/or the YSAQMD. The credits must be purchased through one of the following: (i) a CARB-approved registry, such as the*	

Table 2-1
Summary of Impacts and Mitigation Measures

	Impact	Level of Significance Prior to Mitigation		Mitigation Measures	Level of Significance After Mitigation
				Climate Action Reserve, the American Carbon Registry, and the Verified Carbon Standard; (ii) any registry approved by CARB to act as a registry under the California Cap and Trade program; or (iii) through the CAPCOA GHG Rx and the YSAQMD.	
4.3-8	**Conflict with an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.**	CC	*4.3-8*	*Within the first three years of initiation of mining activity at the Shifler Project site, the project applicant shall submit to the County an Electric Vehicle Parking Plan for the Woodland Plant, that shall specify the number and location of electric vehicle charging installations.*	LCC
4.3-9	**Cause a significant environmental impact due to a conflict with applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigating impacts to air quality, GHG emissions, and energy.**	LS	*None required.*		N/A
4.4 Biological Resources					
4.4-1	**Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.**	S	*VELB* *4.4-1(a)*	*Prior to initiation of any ground-disturbing activities at the project site, the project applicant shall obtain coverage under the Yolo HCP/NCCP, remit payment of any applicable Yolo HCP/NCCP fees, and implement all applicable Yolo HCP/NCCP Avoidance and Minimization Measures (AMMs). Proof of payment of HCP/NCCP coverage and fee payment shall be submitted to the County. This requirement*	LS

Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
		may be satisfied by the execution of an agreement with the Yolo Habitat Conservancy, which could include, at the discretion of the YHC, phased payment of fees consistent with phased project approvals. *4.4-1(b) The project applicant shall implement Yolo HCP/NCCP AMM-12 (Minimize Take and Adverse Effects on Habitat of Valley Elderberry Longhorn Beetle) to the satisfaction of the County and the YHC.* *Western Pond Turtle* *4.4-1(c) Implement Mitigation Measure 4.4-1(a), which mitigates for the loss of habitat for the Western Pond Turtle by funding the acquisition of suitable habitat easements through the Yolo HCP/NCCP.* *4.4-1(d) The project applicant shall implement Yolo HCP/NCCP AMM-14 (Minimize Take and Adverse Effects on Habitat of Western Pond Turtle) to the satisfaction of the County and the YHC. In addition, prior to demolition and grading activities associated with the existing alignment of Moore Canal and Magnolia Canal, the existing on-site sections of each canal that are to be abandoned or disturbed shall be surveyed in order to confirm that no Western pond turtles have become stranded. Should Western pond turtles be found within the portions of Moore Canal or Magnolia Canal that are to be abandoned or*	

Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
		disturbed, the turtles shall be physically moved by a qualified biologist in compliance with the guidance provided in AMM-14. *Northern Harrier and Short-Eared Owl* *4.4-1(e)* *The project applicant shall not initiate project-related vegetation removal or earthmoving within 500 feet of the nearest potential nesting tree during the nesting season (February 15 through August 31). All initial project-related vegetation removal and earthmoving removal shall occur between September 1 and February 14 to the maximum extent feasible.* *Alternatively, if project-related vegetation removal or earthmoving is required within 500 feet of the nearest potential nesting tree between February 15 and August 31, a qualified biologist shall conduct a survey for northern harrier and short-eared owl in suitable nesting habitat within and out to 500 feet from the area proposed for disturbance. Any surveys conducted outside the project site shall occur to the extent practicable from publicly accessible areas. The survey(s) shall be conducted no more than 14 days prior to initiation of each phase of project-related vegetation removal or earthmoving on the project site. A written summary of the survey results shall be submitted to the County within 14 days of survey completion. If nesting individuals are not identified, further mitigation is not required for that phase.*	

Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
		4.4-1(f) *If nesting individuals are found prior to initiation of project-related vegetation removal or earthmoving in the year of the survey, a project exclusion zone shall be established within 500 feet of the active nest(s) until a qualified biologist determines that the young-of-the-year are no longer reliant upon the nest. All exclusion zones shall be demarcated by security fencing.* *Alternatively, the project applicant may retain a qualified biologist to monitor on a weekly basis active nests that are within 500 feet or less from project-related vegetation removal or earthmoving to determine if the individuals are exhibiting any behaviors that would suggest that nest failure could occur. If the qualified biologist determines that disturbance is sufficient to cause nest failure, all activities within 500 feet of the nest will be terminated until the young-of-the-year are no longer reliant upon the nest. Project-related vegetation removal or earthmoving shall not be initiated within 200 feet of an active nest once nesting has begun, under any circumstances. The project applicant shall establish a 500-foot protective buffer around active Northern harrier or short-eared owl nests if nesting is initiated after active mining has begun. The biologist shall submit a written summary of the monitoring results to the County.*	

Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
		Swainson's Hawk and White-Tailed Kite *4.4-1(g) Implement Mitigation Measure 4.4-1(a), which mitigates for the loss of habitat for the Swainson's Hawk and White-Tailed Kite by funding the acquisition of suitable habitat easements through the Yolo HCP/NCCP.* *4.4-1(h) The project applicant shall implement Yolo HCP/NCCP AMM-16 (Minimize Take and Adverse Effects on Habitat of Swainson's Hawk and White-Tailed Kite) to the satisfaction of the County and the YHC. Any surveys outside the project site conducted pursuant to AMM-16 shall occur to the extent practicable from publicly accessible areas. In addition to implementing AMM-16, the project applicant shall establish a 500-foot protective buffer around active Swainson's hawk/white-tailed kite nests on or near the project site if nesting is initiated after active mining has begun.* *Loggerhead Shrike* *4.4-1(i) The project applicant shall not initiate project-related vegetation removal or earthmoving within 200 feet of the nearest potential nesting tree during the loggerhead shrike/migratory bird nesting season (February 15 through August 31). All initial project-related vegetation removal and earthmoving removal shall occur between September 1 and February 14 to the maximum extent feasible.*	

Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
		Alternatively, if project-related vegetation removal or earthmoving is required within 200 feet of the nearest potential nesting tree between February 15 and August 31, a survey shall be conducted for non-special-status nesting raptors in suitable nesting habitat within and out to 200 feet from the area proposed for disturbance. Any surveys conducted outside the project site shall occur to the extent practicable from publicly accessible areas. The survey(s) shall be conducted by a qualified biologist within 14 days prior to initiation of each phase of project-related vegetation removal or earthmoving on the project site. This survey may be conducted concurrently with the survey required per Mitigation Measure 4.4-4(a). A written summary of the survey results shall be submitted to the County within 14 days of survey completion. If nesting individuals are not identified, further mitigation is not required for that phase. *4.4-1(j)* *If nesting loggerhead shrike individuals or other nesting migratory birds are found prior to initiation of project-related vegetation removal or earthmoving in the year of the survey, a project exclusion zone shall be established within 200 feet of the active nest(s) until a qualified biologist determines that the young-of-the-year are no longer reliant upon the nest. All exclusion zones shall be demarcated by security fencing.*	

Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
		Alternatively, the project applicant may retain a qualified biologist to monitor any active nests that are within 200 feet or less from project-related vegetation removal or earthmoving to determine if the individuals are exhibiting any behaviors that would suggest that nest failure could occur. If the qualified biologist determines that disturbance is sufficient to cause nest failure, all activities within 200 feet of the nest will be terminated until the young-of-the-year are no longer reliant upon the nest. Project-related vegetation removal or earthmoving shall not be initiated within 100 feet of an active nest once nesting has begun, under any circumstances. The project applicant shall establish a 200-foot protective buffer around active nests if nesting is initiated after active mining has begun. The biologist shall submit a written summary of the monitoring results to the County. *Other Nesting Raptors Protected Under the MBTA* *4.4-1(k) The project applicant shall not initiate project-related vegetation removal or earthmoving within 300 feet of the nearest potential nesting tree during the raptor nesting season (February 15 through August 31). All initial project-related vegetation removal and earthmoving removal shall occur between September 1 and February 14 to the maximum extent feasible.*	

Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
		Alternatively, if project-related vegetation removal or earthmoving is required within 500 feet of the nearest potential nesting tree between February 15 and August 31, a survey shall be conducted for non-special-status nesting raptors in suitable nesting habitat within and out to 500 feet from the area proposed for disturbance. Any surveys conducted outside the project site shall occur to the extent practicable from publicly accessible areas. The survey(s) shall be conducted by a qualified biologist within 14 days prior to initiation of each phase of project-related vegetation removal or earthmoving on the project site. This survey may be conducted concurrently with the survey required per Mitigation Measure 4.4-4(a). A written summary of the survey results shall be submitted to the County within 14 days of survey completion. If nesting individuals are not identified, further mitigation is not required for that phase. *4.4-1(l)* *If nesting raptor individuals are found prior to initiation of project-related vegetation removal or earthmoving in the year of the survey, a project exclusion zone shall be established within 300 feet of the active nest(s) until a qualified biologist determines that the young-of-the-year are no longer reliant upon the nest. All exclusion zones shall be demarcated by security fencing.*	

Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
		Alternatively, the project applicant may retain a qualified biologist to monitor any active nests that are within 300 feet or less from project-related vegetation removal or earthmoving to determine if the individuals are exhibiting any behaviors that would suggest that nest failure could occur. If the qualified biologist determines that disturbance is sufficient to cause nest failure, all activities within 300 feet of the nest will be terminated until the young-of-the-year are no longer reliant upon the nest. Project-related vegetation removal or earthmoving shall not be initiated within 200 feet of an active nest once nesting has begun, under any circumstances. The project applicant shall establish a 300-foot protective buffer around active raptor nests if nesting is initiated after active mining has begun. The biologist shall submit a written summary of the monitoring results to the County. *Other Nesting Birds Protected Under the MBTA* *4.4-1(m) Implement Mitigation Measures 4.4-1(i) and (j).* *Foraging Habitat for Tricolored Blackbirds, Swainson's Hawk, and White-Tailed Kite and Winter Foraging Habitat for Ferruginous Hawk and Merlin* *4.4-1(n) Implement Mitigation Measures 4.4-1(a), which mitigates for the loss of habitat for the Tricolored Blackbirds, Swainson's Hawk, and White-Tailed Kite and Winter Foraging Habitat for Ferruginous Hawk*	

Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
		and Merlin by funding the acquisition of suitable habitat easements through the Yolo HCP/NCCP. *Silver-Haired Bat, Western Red Bat, and Hoary Bat* *4.4-1(o) Removal of the four trees identified as potential special-status bat species habitat in Figure 4.4-6 of this EIR shall occur either prior to formation of maternity bat colonies (April 15) or after young are capable of flight (August 15). Disturbance-free buffer zones, as determined by a qualified biologist, shall be observed for maternity roosts or hibernacula found during the maternity roost season (i.e., April 15 through August 15).* *Tree removal activities shall take place over a minimum of two days, with the first day consisting of trimming to open the roosting area up to airflow. Final tree removal shall only occur after at least one night has passed since trimming has been completed, to allow bats to wake from torpor and leave during darkness. The biologist shall submit a written summary of the tree removal activities, including any bat individuals observed, to the County within 14 days of completion of tree removal.*	
4.4-2 Have a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies,	LS	*None required.*	N/A

Table 2-1
Summary of Impacts and Mitigation Measures

Impact		Level of Significance Prior to Mitigation	Mitigation Measures		Level of Significance After Mitigation
	regulations or by the CDFW or USFWS.				
4.4-3	**Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.**	S	*4.4-3(a)*	*Implement Mitigation Measure 4.4-1(a), which mitigates for the loss of aquatic resources by funding the acquisition of aquatic habitat easements through the Yolo HCP/NCCP.*	LS
			4.4-3(b)	*Prior to disturbance associated with relocation of the Moore and/or Magnolia Canal, the applicant shall notify CDFW pursuant to Section 1602 of the Fish and Game Code to determine whether a Lake or Streambed Alteration Agreement is required for the relocation of the Moore/Magnolia Canal and any other activities affecting the bed, bank, or associated riparian vegetation of the canals. The information provided in the application(s) shall include a description of all of the activities associated with the relocation of the canals and any other activities affecting the bed, bank or any associated riparian vegetation of those features. Impacts to the canals and any associated riparian vegetation shall be outlined in the application and shall be substantially consistent with the impacts to biological resources outlined in this EIR. If this is not the case, the County shall be immediately notified to determine an appropriate response pursuant to CEQA. Impacts for each activity shall be broken down by temporary and permanent, and a description of the proposed mitigation for biological resource impacts, including compliance with the Yolo HCP/NCCP as applicable,*	

Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
		shall be outlined per activity and as temporary or permanent. Information regarding project-specific drainage and hydrology changes resulting from project implementation shall be provided as well as a description of storm water treatment methods. Mitigation may include restoration or enhancement of resources on- or off-site, purchase habitat credits from an agency-approved mitigation/conservation bank, off-site, working with a local land trust to preserve land, or any other method acceptable to CDFW. Written verification of the applicant's compliance with Section 1602 of the Fish and Game Code shall be submitted to the County.	
4.4-4 Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	LS	*None required.*	N/A
4.4-5 Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or State habitat conservation plan.	LS	*None required.*	N/A
4.4-6 The project has the potential to substantially degrade the quality of the environment; substantially reduce the	LS	*None required.*	N/A

Table 2-1 Summary of Impacts and Mitigation Measures					
	Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measures**	**Level of Significance After Mitigation**
	habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or substantially reduce the number or restrict the range of an endangered, rare or threatened species.				
4.4-7	**Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.**	LS	*None required.*		N/A
4.4-8	**Cause a significant environmental impact due to a conflict with applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigating impacts to biological resources.**	LS	*None required.*		N/A
4.5 Cultural and Tribal Cultural Resources					
4.5-1	**Cause a substantial adverse change in the significance of an historical resource as defined in Section 15064.5.**	S	*4.5-1*	*Prior to initiation of construction activities associated with relocation of Moore Canal within the project site, the project applicant shall retain a qualified archaeologist to provide for documentation of the Canal. A series of high-resolution photographs shall be taken of the resource, including any features and*	SU

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Table 2-1 Summary of Impacts and Mitigation Measures				
Impact		**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
			general overviews of canal segments planned for removal, to document the current appearance, with associated GPS readings. In addition, GPS readings shall be taken of the linear extent of Moore Canal. *Cross-sectional profiles shall be recorded at various points along the segments, depending on variations of the width and depth of the feature. The project applicant shall ensure that copies of the photographs of the canal section are filed with the Northwest Information Center, the Yolo County Archives, the Yolo County Flood Control and Water Conservation District, and the Yolo County Department of Community Services.*	
4.5-2	**Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5 or disturb any human remains, including those interred outside of dedicated cemeteries.**	LS	*None required.*	N/A
4.5-3	**Directly or indirectly disturb or destroy a unique tribal cultural resource, such as a site, feature, place, cultural landscape, sacred place or object with cultural value to a California Native American tribe.**	S	*4.5-3* *Develop and Implement a Tribal Cultural Resources Monitoring Plan* *The project proponent shall prepare, with input from the Yocha Dehe Wintun Nation, a Tribal Cultural Resources Monitoring Plan for County approval that includes the following components. The Plan shall be fully executed and copies provided to the County*	LS

Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
		prior to the initiation of ground-disturbing activities associated with the approved project. • *Awareness Training -- The scope, format, and timing of delivery of a contractor awareness training program to inform equipment operators and their supervisors of the procedures required by the Monitoring Plan, which includes, at a minimum, annual training for all personnel involved in project implementation. The program shall include relevant information regarding sensitive tribal cultural laws and regulations. The program shall describe appropriate avoidance and minimization measure (as described in the executed Monitoring Plan) for resources that have the potential to be located on the project site and shall outline specific actions and contacts should any potential archeological resources or artifacts be encountered. The program shall also underscore the requirement for confidentiality and culturally-appropriate treatment of any finds of significance to Native American peoples and for behavior consistent with Native American Tribal values. A copy of the contractor awareness training program materials and written verification of completion of the training program shall be submitted to the Yolo County Department of Community Services.*	

Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
		• *Compliance with Applicable Laws – The Monitoring Plan shall describe applicable laws and regulations relevant to potential cultural resource finds, including specific procedures to ensure compliance during implementation.* • *Extent of Monitoring – The plan shall include a description of the extent that monitoring will be required. Monitoring shall be limited to the depth of overburden (topsoil), which is the area in which unknown Tribal Cultural Resources could occur. The plan shall acknowledge that monitoring of the excavation of gravels and aggregate materials, or backfilling and restoration, is not required. The parties may identify a phasing system to facilitate efficient monitoring – this phasing shall not be in conflict with approved mining phasing. The level of monitoring may be determined in the field based on observed actual conditions as mining moves away from Cache Creek into areas where the likelihood of resources is reduced based on known cultural practices and activities.* • *Reporting By Phase –The applicant shall file a written report to the County within 30 days of completion of monitoring for each monitoring phase. The report shall document compliance with the terms of the Monitoring Agreement and shall report on the nature and disposition of any cultural resource discoveries. Applicable*	

Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
		requirements for confidentiality shall be observed in these reports. • *Treatment and Disposition of Cultural Items and Remains – Detailed unanticipated discovery procedures for cultural resources, unique archaeological resources, tribal cultural resources, or human remains that includes consultation with the County to ensure that any discoveries are treated in accordance with applicable state law before work can resume at the discovery location.* • *Other Procedures and Requirements – Timing and procedures for other relevant actions necessary to implement the Monitoring Plan.* *The County shall be afforded 15 calendar days to review and approve the draft Monitoring Plan prior to execution. Ground-disturbing activities subject to the Monitoring Plan cannot begin until the County approves the Monitoring Plan and the Plan is executed between the project proponent and the Yocha Dehe Wintun Nation.*	
4.5-4 The project has the potential to eliminate important examples of the major periods of California history or prehistory.	S	*4.5-4 Implement Mitigation Measures 4.5-1 and 4.5-3.*	SU
4.5-5 Cause a significant environmental impact due to a conflict with applicable plans,	LS	*None required.*	N/A

Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
policies, or regulations adopted for the purpose of avoiding or mitigating impacts to cultural and tribal cultural resources.			
4.6 Geology and Soils, Mineral Resources, and Paleontological Resources			
4.6-1 Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area based on other substantial evidence of a known fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides.	LS	*None required.*	N/A
4.6-2 Result in slope failure or substantial erosion or loss of topsoil.	LS	*None required.*	N/A
4.6-3 Be located on a geological unit or soil that is unstable, or that would become unstable as a result of the project, and	LS	*None required.*	N/A

Table 2-1
Summary of Impacts and Mitigation Measures

	Impact	Level of Significance Prior to Mitigation		Mitigation Measures	Level of Significance After Mitigation
	potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.				
4.6-4	**Be located on expansive soils, as defined in Table 18-1-B of the California Building Code, creating substantial risks to life or property.**	LS	*None required.*		N/A
4.6-5	**Directly or indirectly destroy a unique paleontological resource.**	S	*4.6-5*	*Pursuant to Section 10-4.410(b) of the mining ordinance, should paleontological resources be discovered during ground disturbing activities, work shall be halted in the area within 75 feet of the find. The applicant shall notify the Director (as defined by the OCSMO as the County Administrator or designee chosen by the Administrator) and the Yolo County Department of Community Services and retain a qualified paleontologist to inspect the discovery. The find must be recorded by a qualified archaeologist or paleontologist using relevant professional protocols and a report fully recording the find submitted to the County Administrator or designee chosen by the Administrator and the Yolo County Department of Community Services. This report shall include recommendations for appropriate removal and preservation of the artifact. If deemed appropriate in the report, the resource(s) shall then be salvaged and deposited at the Cache Creek Nature Preserve, or other appropriate venue, where the discovery would be properly curated and preserved for the benefit of*	LS

Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
		current and future generations. The language of this mitigation measure shall be included on any future grading plans, mining plans, and reclamation plans approved by the Department of Community Services for the proposed project, where ground disturbance would be required.	
4.6-6 The loss of availability of a known mineral resource that would be of value to the region and the residents of the State.	LS	*None required.*	N/A
4.6-7 The loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.	LS	*None required.*	N/A
4.6-8 Cause a significant environmental impact due to a conflict with applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigating impacts to geology and soils, mineral resources, and paleontological resources.	LS	*None required.*	N/A

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.7 Hazards and Hazardous Materials			
4.7-1 Create a significant hazard to the public or the environment through the routine handling, transport, use, or disposal of hazardous or acutely hazardous materials.	LS	*None required.*	N/A
4.7-2 Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	S	*4.7-2(a) Prior to initiation of ground-disturbing activities within 50 feet of the domestic water well on the project site, the project applicant shall obtain a water well abandonment permit from the Yolo County Environmental Health Division (YCEHD), and coordinate with the YCEHD regarding procedures for abandonment of the on-site domestic water well.* *4.7-2(b) Prior to initiation of ground-disturbing activities within 50 feet of the natural gas well on the project site, the project applicant shall submit a Notice of Intention (Form OG106) to the California Division of Oil, Gas, and Geothermal Resources (DOGGR) stating the applicant's intent to re-abandon the existing on-site gas well. Subsequent to acquisition of an approved gas well abandonment permit from DOGGR, the project applicant shall retain a licensed contractor to cut off the well at the maximum depth of the proposed excavation and install a cement plug at least 25 feet below the final proposed elevation of the well. Subsequently, the casing of the well shall be cut off five to 10 feet below the final ground surface and a*	LS

Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
		steel plate affixed to the top of the casing with the well identifier number, indicated by the last five digits of the API well number, welded onto the plate. The location of the well shall be surveyed for future reference. The project applicant shall submit a copy of the approved well abandonment permit to the Yolo County Department of Community Services. Records of all re-abandonment activities shall be submitted to the Yolo County Department of Community Services and DOGGR. *4.7-2(c) During removal of overburden associated with the proposed project, potentially hazardous materials identified in the vicinity of the former ranch headquarters on the project site, shall be removed from the site and disposed of in accordance with the following regulations and requirements:* • *Hazardous materials identified on the project site shall be handled in accordance with Chapter 6.5, Division 20, of the California Health and Safety Code.* • *Hazardous materials shall be disposed of at an approved disposal site and shall only be hauled by a current California registered hazardous waste hauler using correct manifesting procedures and vehicles displaying a current Certificate of Compliance. The project applicant shall identify by name and address the site where toxic substances shall be*	

Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
		disposed of. Disposal shall be coordinated with the Yolo County Environmental Health Division, and the necessary applications shall be filed. The applicant shall provide CEHD with a valid certification from the approved disposal site that the material was delivered. *The applicant shall notify the Yolo County Department of Community Services and the Yolo County Environmental Health Division when this measure has been fulfilled and provide supporting documentation.*	
4.7-3 For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area.	LS	*None required.*	N/A
4.7-4 Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LS	*None required.*	N/A
4.7-5 Cause a significant environmental impact due to a conflict with applicable plans,	LS	*None required.*	N/A

Table 2-1
Summary of Impacts and Mitigation Measures

	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
	policies, or regulations adopted for the purpose of avoiding or mitigating impacts to hazards and hazardous materials.			
	4.8 Hydrology and Water Quality			
4.8-1	**Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.**	LS	*None required.*	N/A
4.8-2	**Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin or conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.**	LS	*None required.*	N/A
4.8-3	**Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious**	LS	*None required.*	N/A

Table 2-1 Summary of Impacts and Mitigation Measures					
	Impact	**Level of Significance Prior to Mitigation**		**Mitigation Measures**	**Level of Significance After Mitigation**
	surfaces, in a manner which would: result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; or create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.				
4.8-4	**Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows.**	S	*4.8-4(a)*	*Prior to mining or other activity closer than 700 feet to the top of bank, the applicant shall implement a reinforcement improvement in an approximately 600-foot area of streambank (shown in Figure 4.8-1 of the Draft volume of the EIR) which lies in the path of a potential theoretical migration of the creek meander bend. Along this alignment the improvements will consist of a soil-backfilled and planted rock revetment designed and installed to help prevent future bank erosion in the area closest to the Moore Canal and where there is the highest potential for channel migration. The design and placement of this improvement will be subject to review and approval by the Cache Creek TAC.*	LS

Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
		4.8-4(b) *Prior to mining of other activity closer than 700 feet to the top of bank, the applicant shall implement a habitat enhancement improvement in an approximately 6-acre area of inset terrace (shown in Figure 4.8-1 of the Draft volume of the EIR). There exists an area on the inset terrace below the Shifler property that extends from County Road 94B along the right (south) bank to the Teichert Aggregates Woodland Plant. This terrace has some native woody vegetation along the first approximately 1,000 feet east of CR 94B but is otherwise predominantly bare or covered with non-native ruderal species. Within the approximately 6-acre zone shown in the referenced figure, the applicant shall remove non-native species and plant appropriate native woody (tree and shrub) species (with the species selection informed by which trees and shrubs are already present on the terrace). This action shall be undertaken in a manner so as not to disturb existing native species (especially elderberry) that already exist within this 6-acre zone. This action will help stabilize this terrace in addition to enhancing habitat between the creek channel and the project site, further reducing potential for channel migration. The habitat enhancement project shall be implemented, monitored, and maintained to the same revegetation standards as stipulated in the approved reclamation plan.*	

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		4.8-4(c) *The minimum allowed setback between the top of bank and mining or other activity shall be 250 feet. Mining and reclamation plans shall be modified accordingly.*	
4.8-5 In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.	LS	*None required.*	N/A
4.8-6 Cause a significant environmental impact due to a conflict with applicable plans, policies, or regulations adopted for the purpose of mitigating impacts to hydrology and water quality.	LS	*None required.*	N/A
4.9 Land Use and Planning			
4.9-1 Physically divide an established community.	LS	*None required.*	N/A
4.9-2 Cause a significant environmental impact due to a conflict with applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigating impacts to land use and planning.	LS	*None required.*	N/A
4.10 Noise			
4.10-1 Generation of a substantial temporary or permanent	S	*4.10-1(a)* *The following language shall be included as a condition of approval on the Mining Permit for the*	LS

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Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.		*proposed project, to the satisfaction of the Yolo County Department of Community Services:* • *Initial scraper operations occurring within 300 feet of the project site boundary near Receptors 1 or 6 (as identified in Figure 4.10-4 of this EIR) shall be limited to 15 minutes per hour;* *OR* • *An earth berm or other form of noise barrier shall be constructed along 300 feet of the eastern and western site boundaries nearest to Receptors 1 and 6. The barrier shall be a minimum of eight feet in height relative to the existing ground elevation.* *In addition, the Mining Permit shall be conditioned with the following language, to the satisfaction of the Yolo County Department of Community Services, to further reduce the potential for annoyance associated with proposed excavation activities:* • *Excavation activities occurring within 560 feet of an existing residence shall be limited to the hours of 6:00 AM to 6:00 PM until such time as the excavation equipment has recessed in the pit a sufficient depth to no longer be visible from the nearest residences.*	

Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
		• *Teichert shall coordinate with Monument Hill Memorial Park cemetery representatives on an ongoing basis to determine when funeral services are scheduled to occur at the cemetery, and shall limit on-site operations during such services. Alternatively, Teichert may initiate communication with Monument Hill Memorial Park representatives to identify other feasible methods for minimizing potential noise intrusion during services.* *4.10-1(b) A noise survey shall be conducted following the installation and operation of any new equipment which will be required to increase processing capacity of the Woodland Plant. The results of the noise survey shall be submitted to the Yolo County Department of Community Services within two months of the new equipment being brought online. In the event that the survey results indicate the additional equipment has resulted in a substantial increase in processing plant noise emissions (in excess of 5 dB), the equipment causing the substantial increase shall cease operation until the following noise mitigation options shall be implemented, as appropriate, to reduce the overall increase in plant noise levels to less than 5 dB at the nearest residences:* • *Construct localized noise barriers adjacent to ground level equipment determined to be*	

Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
		responsible for substantial increases in ambient noise levels. • *Suspend acoustic curtains adjacent to elevated equipment determined to be responsible for substantial increases in ambient noise levels.* • *Line new conveyor transfer points and hoppers with heavy urethane linings.* • *Utilize urethane screens in new screen decks.* • *Utilize automatic reverse-activated strobe lights in lieu of audible backup beeper devices for any new mobile equipment, if the applicant can obtain a variance from Cal/OSHA. If a variance cannot be obtained, then utilize MHSA-approved broad-band backup warning devices for any new mobile equipment rather than the traditional tonal back-up beeper devices.* • *Ensure that all internal combustion engines which may be required to drive new equipment is equipped with appropriate mufflers.*	
4.10-2 Generation of excessive groundborne vibration or groundborne noise levels.	LS	*None required.*	N/A

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.10-3 Cause a significant environmental impact due to a conflict with applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigating noise impacts.	LS	*None required.*	N/A
4.11 Public Services, Utilities, and Service Systems			
4.11-1 Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services.	LS	*None required.*	N/A
4.11-2 Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically	LS	*None required.*	N/A

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Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services.			
4.11-3 Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for parks.	LS	*None required.*	N/A
4.11-4 Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, , need for new or physically altered governmental facilities,	LS	*None required.*	N/A

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for other public facilities.			
4.11-5 Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.	LS	*None required.*	N/A
4.11-6 Require or result in the relocation or construction of new or expanded water, electric power, or natural gas facilities, the construction or relocation of which could cause significant environmental effects.	LS	*None required.*	N/A
4.11-7 Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.	LS	*None required.*	N/A

Table 2-1
Summary of Impacts and Mitigation Measures

Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.11-8 Cause a significant environmental impact due to a conflict with applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigating impacts to public services, utilities, and service systems.	LS	*None required.*	N/A
4.12 Transportation and Circulation			
4.12-1 Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, bicycle, and pedestrian facilities.	LS	*None required.*	N/A
4.12-2 Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).	S	*4.12-2* ***Transportation Demand Management (TDM) Program.*** *Prior to commencement of mining activities at the project site, the project applicant shall develop and implement a TDM program to reduce the number of daily employee commute trips made to the project site, and shall submit the TDM Program to Yolo County for review and approval. The TDM Program shall identify trip reduction strategies as well as mechanisms for funding and overseeing the delivery of trip reduction programs and strategies. The TDM Program shall be designed to achieve the following trip reduction:*	SU

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Table 2-1 Summary of Impacts and Mitigation Measures			
Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
		• *Reduce employee commute VMT to the maximum extent feasible.* *Feasible trip reduction strategies may include, but are not limited to, the following:* • *Develop an employer-led program that considers:* ○ *Carpooling encouragement;* ○ *Ride-matching assistance; and* ○ *Vanpool assistance.*	
4.12-3 Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	LS	*None required.*	N/A
4.12-4 Result in inadequate emergency access.	LS	*None required.*	N/A
4.12-5 Cause a significant environmental impact due to a conflict with applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigating impacts to transportation and circulation.	LS	*None required.*	N/A

Table 2-1
Summary of Impacts and Mitigation Measures

	Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
5 Cumulative Impacts and Other Required Sections				
5-1	**Cumulative impacts to aesthetics.**	LCC	*None required.*	N/A
5-2	**Cumulative impacts to farmland.**	CC	*Implement Mitigation Measure 4.2-1.*	SU
5-3	**Cumulative impacts to air quality.**	LCC	*None required.*	N/A
5-4	**Cumulative greenhouse gas emissions.**	LCC	*None required.*	N/A
5-5	**Cumulative impacts to energy.**	LS	*None required.*	N/A
5-6	**Cumulative impacts to biological resources.**	LCC	*None required.*	N/A
5-7	**Cumulative impacts to cultural and tribal cultural resources.**	LS	*None required.*	N/A
5-8	**Cumulative increase in the potential for impacts to geology and soils, mineral resources, and paleontological resources.**	LS	*None required.*	N/A
5-9	**Cumulative exposure to potential hazards and increases in the transport, storage, and use of hazardous materials.**	LS	*None required.*	N/A
5-10	**Cumulative impacts related to the violation of water quality standards or waste discharge requirements, groundwater**	LCC	*None required.*	N/A

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Table 2-1 Summary of Impacts and Mitigation Measures				
	Impact	**Level of Significance Prior to Mitigation**	**Mitigation Measures**	**Level of Significance After Mitigation**
	quality, management, and recharge, and impacts resulting from the alteration of existing drainage patterns.			
5-11	**Cumulative land use impacts.**	LS	*None required.*	N/A
5-12	**Generation of a substantial permanent cumulative increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.**	LCC	*None required.*	N/A
5-13	**Cumulative impacts to public services, utilities, and service systems.**	LS	*None required.*	N/A
5-14	**Cumulative impacts to transportation and circulation.**	CC	*Implement Mitigation Measure 4.12-2.*	SU

Appendix N

2020 Annual Report

Groundwater Conditions

in the Vicinity of the

Woodland Plant Site

Teichert Aggregates, Yolo County, CA

October 30, 2020

Prepared for

Teichert Aggregates, Sacramento, CA

Prepared by

Luhdorff & Scalmanini
Consulting Engineers

2020 Annual Report

On

Groundwater Conditions

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Yolo County, CA

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Luhdorff and Scalmanini, Consulting Engineers, Woodland, CA

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1 INTRODUCTION

This annual report evaluates the cumulative groundwater level and quality record aggregated since 1986 for Teichert Aggregate's Woodland plant. This includes the pre-mining and post-reclamation

1.1 Previous Investigations

In 1986, as part of its planning associated with aggregate production, management, and reclamation, Teichert Aggregates retained Luhdorff and Scalmanini, Consulting Engineers (LSCE) to investigate shallow groundwater elevations in the alluvial aggregate materials beneath and immediately adjacent to Cache Creek in the vicinity of Teichert's Woodland plant (**Figure 1**). The monitored reach of the creek for that investigation, which has continued to the present, extends from approximately 1.25 miles upstream of the Stevens Bridge at Road 94B to approximately 2 miles downstream of that bridge (about one-quarter mile east of Road 96). The area of the investigation included four properties originally planned by Teichert for off-channel mining (Coors, Storz, Haller and Muller) and one property subsequently planned for mining (Schwarzgruber), all generally located adjacent to Cache Creek and extending up to one-half mile north and south of the creek (**Figure 2**).

A groundwater monitoring network was established at that time consisting of several shallow dedicated monitoring wells for each property and the Woodland plant area. This network was expanded the following year to include additional shallow monitoring wells and existing deeper water supply wells located throughout the study area. Earlier studies by Wahler Associates (1982) and Helley and Barker (1979) had identified a shallow unconfined aquifer beneath the area composed of highly permeable alluvial material, which is underlain by a confined aquifer in the Tehama Formation. The upper alluvial aquifer varies in thickness due to upwarped sections of the Tehama Formation that comprise the Dunnigan Hills and Plainfield Ridge. The water level data collected from the monitoring network informed comparisons between the shallow unconfined aquifer and the deeper main aquifer system. Since the shallow aquifer is generally in direct hydraulic continuity with Cache Creek, whereas the deep aquifer system is primarily developed by surrounding agriculture and nearby municipal water supply, three objectives were formulated to be addressed by the monitoring program:

1. Provide local data to assess the impacts of historical aggregate mining that had occurred in the creek channel.
2. Provide ongoing local data to support planning for off-channel mining and reclamation.
3. Provide specific groundwater data from both the shallow alluvial aquifer and the deeper Tehama Formation as a basis for differentiating between the potential effects of aggregate mining and other potential effects on groundwater conditions.

Beginning in June 1986, water levels were measured in the network of monitoring and water supply wells on a monthly basis. These data were comprehensively evaluated in LSCE (1995) as part of Teichert's long-term mining application for the Coors, Muller, and Storz properties. That report highlighted four areas of interest: the variations in shallow and deep groundwater levels versus time; the differences between shallow and deep groundwater levels; groundwater elevations and the associated direction of groundwater flow beneath and adjacent to Cache Creek; and the relationship between shallow groundwater levels, the adjacent theoretical thalweg of Cache Creek, and aggregate materials relative to potential off-channel aggregate mining and reclamation. Also discussed in that report were the potential impacts of the planned mining on surrounding groundwater levels and nearby wells, and the historical and recent groundwater quality conditions within the study area.

The main findings of the LSCE (1995) report were:

1. In the area of the Coors property, water levels in the shallow aquifer during the monitoring period (approximately nine years at that time) remained a few to several feet above the adjacent theoretical thalweg elevations of Cache Creek. In contrast, in the area of the Storz, Muller and the northeast portion of the Haller properties, water levels in the shallow aquifer generally remained well below theoretical thalweg elevations.
2. Groundwater elevations in the study area are influenced by the Plainfield Ridge in the vicinity of Road 94B. The Plainfield Ridge affects groundwater levels in a manner similar to a dam, with resultant groundwater levels west of the ridge (Coors property and the southern portion of the Haller property) generally higher in elevation and more stable than levels immediately to the east.
3. Short periods of localized increases and decreases in shallow groundwater levels occurred at some locations. Those appeared to have been related to streamflow conditions, irrigation, or settling pond operations.
4. Deep groundwater levels vary significantly in response to seasonal pumping and are not directly indicative of groundwater conditions as affected by Cache Creek streamflow or other surface activities. Deep groundwater levels remain continuously separate from, and deeper than, groundwater levels in the shallow aquifer.
5. In general, ambient groundwater quality conditions in the study area are consistent with those reported in the literature for the vicinity of Cache Creek, and there are no constituents that would limit the beneficial use of groundwater. One possible exception to this was in the area immediately upgradient of the Coors property, where nitrate concentrations in groundwater exceed the drinking water standard of 45 mg/L (as NO_3) one time.

6. The results of numerical groundwater flow model and particle-tracking simulations (the latter to analyze capture zones around two nearby domestic wells) indicated that the planned setback distances between the wells and the planned wet pits were sufficient for water quality protection.

1.2 Regulatory Monitoring Requirements

In 1996, the long-term off-channel Mining Permit and Reclamation Plan No. ZF95-095 (Original Permit) for the Muller, Coors, and Storz properties was issued by the Yolo County Community Development Agency (Yolo County). The Original Permit conditions specific to these three properties and relating to groundwater and mining pit (wet pit) water monitoring activities are as follows:

1. Water quality analyses are the same for groundwater and wet-pit samples; they include general minerals and inorganics (per Title 22 requirements); total petroleum hydrocarbons as diesel and motor oil (TPH-diesel/motor oil); the aromatic hydrocarbons benzene, toluene, ethyl benzene, and xylenes (BTEX); organophosphorus pesticides and organochlorine herbicides; and total coliform with E. coli confirmation.
2. Quarterly groundwater level monitoring and semi-annual groundwater quality monitoring to commence six months prior to removal of overburden.
3. Groundwater level monitoring to be continued quarterly during mining and active reclamation.
4. Groundwater quality monitoring to occur semi-annually for the first two years of mining, and annually thereafter.
5. Wet-pit water quality sampling to occur semi-annually during mining and active reclamation.
6. After active reclamation (one year after all heavy equipment work has been completed in the vicinity of the pit), groundwater and wet-pit sampling to be conducted every two years for a period of 10 years. Inorganics, TPH, BTEX, and pesticide/herbicide analyses may be discontinued at this time. Groundwater and wet-pit samples to be analyzed for pH, temperature, nutrients (phosphorus and nitrogen), total dissolved solids (TDS), total coliform (with E. coli confirmation), and biological oxygen demand (BOD).
7. Reporting to occur annually.

This annual report presents the historical data record and a discussion of groundwater conditions prior to, during, and following wet-pit mining in the vicinity of the Woodland plant.

1.3 Aggregate Mining History and Data Record

1.3.1 Muller Property

Semi-annual groundwater quality monitoring per the Yolo County requirements was initiated at the Muller property in July 1997 in response to Teichert Aggregates' expressed desire to commence mining of the property in early 1998. Mining operations on the property were concluded and the Muller Pond largely backfilled by September 2007; reclamation of the property to below-grade agricultural land and wetland was completed and a biennial sampling frequency implemented in spring of 2010. In accordance with the permit conditions for a fully reclaimed property, well and pond sampling were conducted in spring 2012; however, in 2014, the scheduled sampling could not be completed because the wetland was dry and the wells were either dry or with water levels too low to allow sample collection due to drought conditions. The continued dryness associated with the 2012-2016 drought precluded sample collection during a follow-up attempt in 2015. Sampling resumed in 2016. In 2020, the last samples were retrieved and monitoring activities associated with this property were concluded.

1.3.2 Coors Property

Semi-annual groundwater quality monitoring was initiated at the Coors property in September 2005 in response to Teichert Aggregates' expressed desire to commence mining of the property in Summer 2006. The removal of overburden commenced in summer 2006 and the first Coors Pond water quality samples were collected in September 2007. In accordance with mining permit conditions, groundwater quality sampling changed to an annual schedule beginning in spring of 2010. Mining was completed in November 2009 and the Coors Pond largely backfilled by late 2012. Reclamation of the property to below-grade agricultural land (and small agricultural drainage pond) was essentially completed in 2013; filling of the Coors Pond was completed by late 2014. Accordingly, the biennial well sampling schedule was implemented starting in spring 2015. The final samples will be retrieved in 2023.

1.3.3 Storz Property

Semi-annual groundwater quality monitoring was initiated at the Storz property in September 2009. The removal of overburden commenced in October 2009 and the first Storz Pond water quality samples were collected in April 2011. Well and pond sampling were conducted in spring and fall of 2012 and 2013. In 2014, groundwater quality sampling changed to an annual schedule and pond sampling remained on a semi-annual basis. Reclamation of the property began in 2017 and currently continues. Therefore, the annual well sampling and semi-annual pond sampling schedule continues.

1.3.4 Schwarzgruber Property

In November 2012, Mining Permit and Reclamation Plan No. ZF2011-0035 for the Schwarzgruber property (Schwarzgruber Permit) was issued by Yolo County, with permit conditions relating to groundwater and wet pit water monitoring activities similar to those specified in the Original Permit. Accordingly, semi-annual groundwater quality monitoring was initiated at the Schwarzgruber property in September 2012 although the removal of overburden did not commence until 2018. In 2014, the scheduled sampling could not be completed because the wells had dried up in the wake of the 2012-2016 drought.

2 GROUNDWATER MONITORING WELL NETWORK

According to the Original Permit, the long-term groundwater monitoring network was to consist of a minimum of four monitoring wells around the Muller property and a minimum of three monitoring wells around each of the Coors and Storz properties for the measurement of water levels. Of these wells, a minimum of two wells around each property, one upgradient and one downgradient, were to be used for water quality testing. As part of the ongoing investigation conducted by LSCE since 1986, groundwater level measurements have consistently indicated that the groundwater flow direction in the shallow alluvial aquifer beneath the area is generally to the southeast.

Based on the findings of the early investigations and monitoring results from the long-term groundwater monitoring, a regulatory well network was established as a subset of the existing more extensive well network. In accordance with the Original and Schwarzgruber Permits, this network now consists of twelve shallow monitoring facilities, one of which (TA-13A) serves a dual purpose (i.e. downgradient well for Muller property and upgradient well for Schwarzgruber property) (**Figure 2**). Teichert continues to collect property-specific water level information from more shallow and deep wells than required by the Permit to avoid occasional data gaps due to dry wells or insufficient well yield:

Long Term Monitoring Network			Additional Groundwater Levels
Property	Groundwater Levels	Groundwater Levels & Quality	
Muller	TA-11, 13	TA-14, TA-13A	TA-12, 16, 24
Coors	TA-3A	TA-5A (i), TA-1A	TA-4, 5, 6, 22, 23
Storz	Yolo Fliers West well	TA-25 (ii), Stephens well (iii)	TA-8
Schwarzgruber	TA-13A	TA-18, Schwarzgruber well	Rodgers Dom New (S), Rodgers Dom (N), TA-13

(i) The retrieval of water quality samples from TA-3A was discontinued in 2008 due to its low yield. TA-5A is used in its place for long-term water level and quality monitoring.
(ii) TA-8 has frequently been dry in the past. TA-25 was constructed in September 2009 as a replacement for TA-8 and is used for long-term water level and quality monitoring.
(iii) TA-9R has an obstruction at a depth of ~48 feet precluding water level measurements below that depth. The Stephens well is used in its place for long-term water level and quality monitoring.

2.1 Groundwater Monitoring Activities in 2020

Depth-to-water readings were retrieved quarterly from all long-term monitoring wells. Groundwater samples were retrieved according to the individual properties' schedules with the exception of TA-14, which was inaccessible due to a damaged wellhead (i.e., a bent well casing).

3 MONITORING RESULTS

Depth-to-water measurements and calculated groundwater level elevations are shown in **Tables 1** and **2**, respectively. Groundwater level hydrographs for selected shallow wells are presented in this section to illustrate groundwater level conditions at the properties (**Figures 3** through **6**); a summary of well characteristics (**Table A1**) and the hydrographs for all network wells are provided in the **Appendix**. Groundwater elevation contour maps for selected periods are also presented in this section to further illustrate past and current groundwater conditions (**Figures 7** through **10**). In addition, maps of the broader area encompassing the Teichert plant and properties, with hydrographs of historical groundwater levels, illustrate different characteristics of shallow and deep groundwater levels (**Figures 11** and **12**, respectively). Related to the historical groundwater levels are the historical precipitation and stream discharge in Cache Creek, shown in two separate graphs (**Figures 13** and **14**, respectively).

The groundwater and pond water quality record is shown in **Tables 3** and **4,** for general mineral and metals/organics, respectively. Water quality graphs of selected constituent concentrations, in selected shallow wells and in the ponds, are presented in this section to illustrate water quality conditions in the area (**Figures 15** through **18**).

3.1 Groundwater Levels in the Shallow Aquifer

3.1.1 Muller Property

Spring groundwater level elevations in TA-13A fluctuated from approximately 45 to 75 feet (NAVD88) whereas seasonally low summer groundwater levels ranged from approximately 40 to 55 feet (NAVD88) (**Figure 3**).[1] Spring water levels were more variable than summer water levels. High and low groundwater level elevations correlate to wet and dry hydrologic conditions (as indicated by the *Sacramento Valley Water Year Hydrologic Classification Index*[2]) such as the dry period from 1987 to 1992 (a 6-year period including 2 Dry and 4 Critically Dry years) and the wet period from 1995 to 2000 (a 6-year period including 1 Above Normal and 5 Wet years). The period from 2001 to 2019 was predominantly dry with 4 interspersed Wet hydrologic years (2006, 2011, 2017, and 2019). These wet conditions mainly manifested by high spring groundwater level elevations. Seasonal groundwater level amplitudes ranged from 5 to 30 feet. Small seasonal fluctuations are correlated to dry hydrologic conditions and larger seasonal fluctuations are associated with wet hydrologic conditions.

[1] During fall 1999, 2000, and 2002, well TA-13A was essentially dry partly because fine sediment had accumulated in the well structure over several years so that it was functionally "shallower" than originally constructed. During March 2003, the well was cleaned by airlifting and approximately nine feet of sediment were removed from the well.

[2] California Department of Water Resources Data Exchange Center

In upgradient well TA-14, which is farther removed from Cache Creek than TA-13A, groundwater level elevations were much less variable than in TA-13A. Seasonal amplitudes were typically less than 10 feet. Overall, water level elevations were generally between 80 and 70 feet (NAVD88). Seasonally high groundwater levels in this well did not always occur in the spring but also later in the summer. This is likely attributable to seasonal leakage of water from the adjacent East Adams Canal. When flowing, the Canal appears to create a localized groundwater mound during the irrigation season, generally during late spring through summer. In contrast, during late fall to early winter when flows in the Canal cease, well TA-14 is frequently dry.

3.1.2 Coors Property

Groundwater levels beneath the Coors property exhibit seasonal fluctuations of approximately five feet or less throughout the monitoring period (**Figure 4**). The relatively small seasonal fluctuations, as well as steady long-term groundwater levels is attributed to the presence of the subsurface geologic structure of the Dunnigan Hills and Plainfield Ridge. As a result, higher and more stable groundwater levels are maintained beneath this property compared to the other Teichert properties. TA-1A exhibited elevated water levels during the summers of the mid-1990's, and these were determined to be due to a localized groundwater mound caused by leakage from a pond used for temporary water storage.

3.1.3 Storz Property

While groundwater levels beneath the Storz property were less variable than beneath the Muller property at TA-13A, their overall characteristics are very similar to those observed in TA-13A. For example, spring groundwater level elevations in the Stephens Well ranged from approximately 55 to 75 feet (NAVD88) and seasonally low summer groundwater levels ranged from approximately 50 to 65 feet (NAVD88) (**Figure 5**). Seasonal groundwater level amplitudes ranged from less than 5 to almost 20 feet. The seasonal amplitudes and long-term trends exhibited by the Stevens Well, the Yolo Fliers Club Well, and TA-25, correlate to periods of predominantly wet and dry hydrologic years.

3.1.4 Schwarzgruber Property

The overall characteristics of groundwater levels exhibited by the wells on the Schwarzgruber property are very similar to those observed in the other wells east of the Plainfield Ridge. For example, spring groundwater level elevations in the Schwarzgruber Well ranged from approximately 40 to slightly over 70 feet (NAVD88) and seasonally low summer groundwater levels ranged from approximately 30 to 45 feet (NAVD88) (**Figure 6**). Seasonal groundwater level amplitudes ranged from approximately 5 to 30 feet. The seasonal amplitudes and long-

term trends exhibited by the Schwarzgruber Well and TA-18 correlate to periods of predominantly wet and dry hydrologic years.

3.1.5 Groundwater Flow Directions

Groundwater flow directions beneath the site have been relatively invariable over the period of record including times of lowest and highest groundwater level elevations. The general direction of flow is from the west and northwest to the east and southeast (i.e., perpendicular to the contours of equal groundwater elevation). The 1987-1992 drought had little effect on water levels under the Coors property (**Figure 7**). This increased the water level elevation differences between the Coors property and the area east of the Plainfield Ridge, where water levels were experiencing historical lows. This is illustrated by the narrowly spaced contours. Contours that cross Cache Creek in the vicinity of the Coors property were nearly at the same elevation as the theoretical thalweg elevations. This suggests that the creek and underlying shallow groundwater were near equilibrium. In a downstream direction toward the Muller and Schwarzgruber properties, groundwater level elevations were increasingly deeper than the theoretical thalweg elevations. This suggests a condition of the creek recharging the shallow aquifer (i.e., a losing reach) and indicates the general vicinity of the Plainfield Ridge as a location of transition.

At the time of highest observed groundwater levels in spring 1998, groundwater levels beneath the Coors property were not much different than in summer 1992, however, water levels beneath the Storz property and farther east were up to about 40 feet higher in elevation than in summer 1992 (**Figure 8**). As a result, water level elevation differences between the Coors property and the area east of the Plainfield Ridge were greatly reduced, and this is illustrated by the more widely spaced contours. Contours crossing Cache Creek in spring 1998 in the area of the Coors and Storz properties were higher than the theoretical thalweg elevations. This suggests that the shallow aquifer was recharging the creek in this area (i.e., a gaining reach). The reach of the creek in the vicinities of the Muller and Schwarzgruber properties appears to have been nearer to equilibrium conditions or slightly gaining.

The contours for March 2020 (**Figure 9**) and September 2020 (**Figure 10**) illustrate conditions between these two extremes.

3.2 Comparison of Shallow and Deep Aquifer Groundwater Levels

Groundwater levels in the shallow aquifer (**Figure 11**) are generally higher and exhibit less seasonal variability than those in the deep aquifer (**Figure 12**). These characteristics are consistent with recharge to the shallow water bearing zone from incident precipitation and

Cache Creek, generally increasing aquifer confinement with depth, and greater demand on groundwater resources from the deep aquifer which is tapped by agricultural wells.

Both shallow and deep groundwater levels exhibit long-term trends consistent with the relative abundance of precipitation and discharge from Cache Creek (**Figure 13**). Specifically, a downward trending cumulative precipitation departure from the annual mean precipitation indicates generally dry conditions (i.e., below the mean annual precipitation) whereas an upward trend indicates generally wet conditions (i.e., above the mean annual precipitation). Groundwater level responses to these hydrologic conditions are much more pronounced in the deep wells. This, too, is consistent with increasing aquifer confinement with depth and agriculture's increased reliance on groundwater during years of curtailed surface water deliveries, which can be inferred from surface water discharge records from Cache Creek (**Figure 14**). Similar to the cumulative precipitation departure from the annual mean precipitation, a downward trending cumulative departure from the annual mean stream discharge illustrates predominantly below-mean discharge since 2000.

3.3 Groundwater and Pond Water Quality

The water quality testing results are compiled in **Tables 3** and **4**, and field notes and analytical laboratory sheets are provided in the **Appendix**. Times series graphs of total dissolved solids (TDS) and nitrate (as NO_3) concentrations are provided on **Figures 15** through **18**.

3.3.1 Muller Property

The shallow groundwater is of magnesium-bicarbonate type, with either calcium or sodium as the second most abundant cation, and pH has ranged between 7.13 and 8.0 in value over the monitoring period. Total dissolved solids (TDS) concentrations, a measure of salinity, have ranged between 220 and 450 mg/L in downgradient well TA-13A and from 230 to 481 mg/L in upgradient well TA-14 (**Figure 15**). Total hardness (as CaCO3) concentrations have ranged between 150 and 320 mg/L in well TA-13A and from 140 to 260 mg/L in well TA-14, indicating general mineral concentrations are slightly lower in the upgradient portion of the property.

Muller Pond water has typically also been of magnesium-bicarbonate quality, with either sodium or calcium being the second most abundant cation. The pond water quality is very similar to that of shallow groundwater but with greater pH values (ranging from 7.77 to 9.6), which are attributed to natural processes associated with the exposure of bicarbonate-rich groundwater to the atmosphere at ponds and other surface water bodies. TDS concentrations have ranged between 260 and 640 mg/L (**Figure 16**) and Total hardness (as CaCO3) concentrations have ranged between 190 and 470 mg/L.

The historical record of metal analyses for upgradient well TA-14 documents the consistent presence of aluminum, barium, iron, and manganese concentrations. Although detected less frequently, arsenic, chromium, copper, lead, and zinc have also been part of the upgradient groundwater chemistry. Similar to upgradient groundwater quality, aluminum, barium, iron, and manganese were also typical of water quality in Muller Pond. In contrast, the historical record of metal analyses for downgradient well TA-13A exhibited mostly non-detect metal concentrations.

Nitrate (as nitrate) concentrations in groundwater have ranged between <1.8 and 16 mg/L in well TA-13A and from <2.0 to 7 mg/L in well TA-14 (**Figure 17**); concentrations in the Muller pond were similar, ranging between <1.8 and 16 mg/L (**Figure 18**). Organic chemical analyses of groundwater and pond water, including total petroleum hydrocarbons (TPH) as diesel and motor oil, benzene, toluene, ethyl benzene, and xylenes (BTEX), organophosphorus pesticides, and organochlorine herbicides, were consistently non-detect for the Muller property. The sole exception to this is the detection in September 2007 of the pesticide fensulfothion at 0.28 µg/L in upgradient well TA-14. Subsequent analysis for these compounds in 2010 showed non-detect results.

In spring 2020, samples from the Muller pond and well TA-13A were analyzed for general mineral constituents, biological oxygen demand (BOD), phosphorus, and coliform bacteria in accordance with the monitoring requirements for properties where active reclamation has been completed. General mineral concentrations and pH were well within observed ranges for the pond and well TA-13A (see **Figures 15** and **16**). BOD and total phosphorus-P were below their respective reporting limits (3.0 and 0.050 mg/L, respectively).

Coliform bacteria (including E. coli and other fecal species) are frequently observed in pond water samples, as would be expected in any similar surface water body freely accessed by coyote, deer and other mammalian wildlife. Coliform bacteria have also been detected in samples retrieved from the monitoring wells, including E. coli and other fecal species. The presence of coliform bacteria is considered to be indicative of conditions in the well structure and/or the immediate aerated area around the well screen and not within the aquifer. Variability of detections has been linked to the detachment of biofilms from the well casing (Kranowski et al., 1990). While a variety of coliform bacteria exist naturally in soils and sediments sediment (Mansuy, 1999; Smith, 1995, Bouwer; 1978), fecal species may have been introduced to the well structure during sampling activities, or their detections are linked to sample contamination during sampling, sample handling, or depth-to-water measurements. Their detections occur in both upgradient and downgradient wells and they are not attributable to mining activities.

3.3.2 Coors Property

The shallow groundwater is of magnesium-bicarbonate type, with calcium as the second most abundant cation, and pH has ranged between 6.96 and 7.7 in value over the monitoring period. Shallow groundwater beneath the Coors property contains more dissolved minerals than the Muller property. For example, total dissolved solids (TDS) concentrations have ranged between 420 and 870 mg/L in downgradient well TA-1A and from 630 to 760 mg/L in upgradient well TA-5A (**Figure 15**). Total hardness (as CaCO3) concentrations have ranged between 310 and 610 mg/L in well TA-1A and from 480 to 620 mg/L in well TA-5A, indicating general mineral concentrations are fairly consistent across the Coors property but with greater variation over time in the downgradient portion of the property. The 2019 cation and hardness values in well TA-1A are questionable, but the general minerals values for well TA-5A were generally within their respective ranges of observed values.

The former Coors Pond water quality has been similar to the shallow groundwater but with greater pH values, specifically ranging from 8.28 to 9.03, due to the natural processes described for Muller Pond above. As is the case with groundwater, the pond water is of a magnesium-bicarbonate quality, with similar general mineral concentrations. Through 2014, the last year before the Coors Pond was backfilled, the pond TDS concentrations ranged from 280 to 910 mg/L (**Figure 16**) and total hardness values range from 240 to 600 mg/L.

The existing record of metal analyses for upgradient well TA-5A documents the presence of very low levels of aluminum, barium, chromium, copper, iron, manganese, and zinc. Most of these constituents plus selenium have also been reported for the downgradient well TA-1A. Low concentrations of aluminum, arsenic, barium, iron, and manganese have been reported for the pond water. Regarding nitrate (as nitrate) concentrations in groundwater, while a sample collected from TA-5A in 1995 had an elevated level of 63 mg/L, concentrations have subsequently been much lower, ranging between 15 and 39 mg/L (**Figure 17**) through 2019. In well TA-1A, concentrations have ranged between <2.0 and 27 mg/L through 2019, while those in the Coors pond have been much lower, between <2.0 and 3.4 mg/L (through 2014) (**Figure 18**). The 2019 groundwater sampling results for nitrate were very similar to those previously observed.

The results of TPH diesel and motor oil analyses of well and pond samples were consistently non-detect, with the exception of TA-1A (September 2005) and Coors Pond (September 2011, March and September 2012, and October 2014). Importantly, in each case, the results were qualified by the laboratory as not exhibiting the typical chromatographic patterns for diesel or motor oil. The detections prior to 2014 may in fact be of naturally-occurring organic compounds of similar molecular weights that develop over extended periods of time in stagnant water environments (personal communications, October 3, 2011, and September 28, 2012, J. Liang,

CLS Laboratories). Equally important, in each of those cases, follow-up sampling and analyses with a silica-gel treatment indicated non-detect results. In spring and fall 2013, as well as in spring 2014, the results of sampling for TPH diesel and motor oil in the Coors wells and pond were non-detect. The fall 2014 sampling results from the Coors Pond indicated a very low level of TPH-motor oil, which was qualified by the laboratory as being at too low a concentration to confirm with confidence; the laboratory recommended future sample analyses be modified to provide proper corresponding reporting limits and confidence levels for TPH analyses (personal communication, October 28, 2014, J. Liang, CLS Laboratories).

The results of BTEX analyses of well and pond samples have consistently been non-detect, with the exception of TA-1A and TA-5A (both in May 2012). The reported results were at or just above the reporting limit, and follow-up sampling and analyses indicated non-detect results. In 2013 and 2014, the results of sampling for BTEX in the Coors wells and pond were non-detect.

In regard to the remaining organic chemical analyses, specifically for organophosphorus pesticides and organochlorine herbicides, well and pond samples have consistently been non-detect. The exception to this is the detection in 2008 of the herbicide dichloroprop in the Coors pond (2.9 µg/L) and upgradient well TA-5A (2.1 µg/L). Subsequent annual analyses for these compounds through 2014 showed non-detect results.

For discussion of coliform bacteria, see *Section 3.3.1*.

In the 2019 samples from both wells, total phosphorus-P was below the reporting limit. BOD analyses were inadvertently omitted in the wells in 2019. In 2017, only well TA-1A reported a detectable BOD level (9 mg/L) with a non-detect in well TA-5A.

3.3.3 Storz Property

In 2020, samples were collected from wells TA-25 and “Stephens” in spring and from the Storz Pond in spring and fall.

The shallow groundwater is of magnesium-bicarbonate type, with calcium or sodium as the second most abundant cation, and pH has ranged between 7.13 and 7.78 in value over the monitoring period. Shallow groundwater beneath the Storz property also contains more dissolved minerals than the Muller property. For example, in samples from upgradient well TA-25, the TDS and total hardness values range from 430 to 660 mg/L and 320 to 500 mg/L, respectively (**Figure 15**). General mineral constituent concentrations in samples from the downgradient well, Stephens well, are somewhat higher than in upgradient well TA-25; specifically, the TDS and total hardness values range from 390 to 670 mg/L and 270 to 480 mg/L, respectively.

Storz Pond water quality is similar to the shallow groundwater but with greater pH values, specifically ranging from 7.59 to 9.28, due to the natural processes described for Muller Pond above. Similar to groundwater, the pond water is of a magnesium-bicarbonate quality, with similar general mineral concentrations. Through 2020, pond TDS concentrations range from 360 to 670 mg/L (**Figure 16**) and total hardness values range from 220 to 420 mg/L.

The existing record (including 2020) of metal analyses for upgradient well TA-25 shows that low levels of aluminum, barium, chromium, and iron are typically present, with low levels of manganese and zinc present only once. In downgradient well "Stephens" during 2020, only barium, manganese, and iron were detected. In 2020, low concentrations of barium were detected in the pond water. Regarding nitrate concentrations in groundwater, the initial sample from the Stephens well in 2009 had a concentration of 40 mg/L, and subsequently decreased to below 10 mg/L (**Figure 17**). In well TA-25, nitrate-NO3 concentrations range between 4.1 and 11 mg/L. Those in the Storz Pond have been between <2.0 and 35 mg/L (**Figure 18**). Through 2020, groundwater and pond sampling results for metals and nitrate were very similar to those previously observed with a slight overall decline.

The results of TPH diesel and motor oil analyses of well samples have consistently been non-detect, including in 2020, except for the one-time detection of TPH-diesel in wells TA-25 and "Stephens" (September 2012). The results from the Storz Pond samples have shown periodic detections of TPH-motor oil (March 2012, October 2014, March 2015, and September 2016); since September 2016, the TPH diesel and motor oil results were non-detect. TPH-motor oil has never been detected in the wells and TPH-diesel has never been detected in Storz Pond.

The TPH results prior to 2014 were qualified by the laboratory as not exhibiting the typical chromatographic patterns for petroleum hydrocarbons (personal communication, September 28, 2012, J. Liang, CLS Laboratories). Further, follow-up sampling and analyses with a silica-gel treatment indicated non-detect results. As such, it is possible that the detections actually indicate the presence of naturally-occurring organic compounds within the same range of molecular weights that develop in stagnant water environments. In spring and fall 2013, as well as in spring 2014, the results of sampling for TPH diesel and motor oil in the Storz wells and pond were non-detect.

In fall 2014, sampling results from the Storz Pond indicated a very low level of TPH-diesel, which was qualified by the laboratory as being at too low a concentration to confirm with confidence (personal communication, October 28, 2014, J. Liang, CLS Laboratories). The laboratory recommended future sample analyses be modified to provide proper corresponding reporting limits and confidence levels for TPH analyses. Subsequently, the Storz Pond samples have had periodic detections of TPH-motor oil at low levels: 12 ug/L in spring 2015 and 610 ug/L in fall 2016, but non-detect in fall 2015, spring 2016. TPH-motor oil has been non-detect since 2017.

The results of all other organic chemical analyses, including BTEX, organophosphorus pesticides, and organochlorine herbicides, were non-detect for the Storz monitoring wells and pond since sampling began at the Storz property through 2020. The single exception is the detection of a very low level of toluene in the Storz Pond in fall 2014; follow-up sampling and analysis with a silica-gel treatment indicated non-detect results.

For discussion of coliform bacteria, see *Section 3.3.1*.

3.3.4 Schwarzgruber Property

In spring 2020, samples were collected from wells TA-18 and "Schwarzgruber" well.

The shallow groundwater is of magnesium-bicarbonate type, with calcium or sodium as the second most abundant cation, and pH has ranged between 7.18 and 7.84 in value over the monitoring period. Total dissolved solids (TDS) concentrations have ranged between 300 and 420 mg/L in downgradient well "Schwarzgruber" and from 230 to 470 mg/L in upgradient well TA-18 (**Figure 15**). Total hardness (as CaCO3) concentrations have ranged between 190 and 330 mg/L in well "Schwarzgruber" and from 140 to 320 mg/L in well TA-18, indicating general mineral concentrations are slightly lower in the upgradient portion of the property.

The only metals consistently detected in well TA-18 are barium and iron at low levels; low levels of aluminum and chromium have sporadically been detected. Only barium has been consistently detected in the Schwarzgruber well, also at low levels; aluminum, chromium and iron have sporadically been detected at the reporting limit. Nitrate (as nitrate) values for TA-18 range from <2.0 to 17 mg/L and for the Schwarzgruber well range from 4.2 to 10.8 mg/L (**Figure 17**).

The results of all organic chemical analyses for the Schwarzgruber property wells have been non-detect, including in 2020. For discussion of coliform bacteria, see *Section 3.3.1*.

3.3.5 Historical Groundwater Quality

Evenson (1985) completed an investigation of the general mineral and inorganic chemistry of groundwater in Yolo County, including along the lower Cache Creek area. Groundwater was determined to be of a magnesium-sodium bicarbonate quality with high hardness (Tchobanoglous, 1985), and nitrate was present in low to highly elevated concentrations. Also present were low levels of aluminum, iron, and manganese. Overall, the reported water quality conditions are very similar to those observed at the Teichert properties. General mineral and inorganic constituent concentrations observed in the ponds and most wells at the properties are within the reported ranges and show no indication of impacts from mining activities.

4 SUMMARY AND CONCLUSIONS

Groundwater flow directions in the shallow alluvial aquifer beneath the site have been relatively invariable over the period of record including times of lowest and highest groundwater level elevations. The general direction of flow is from the west and northwest to the east and southeast (i.e., perpendicular to the contours of equal groundwater elevation). Cache Creek is a source of groundwater recharge in all but the wettest of years when groundwater maybe recharging the creek. This condition is less pronounced beneath the Coors property due to the damming effect of the Plainfield Ridge. As a result, this area of the site likely receives less recharge from the creek. Long-term groundwater level fluctuations in both the shallow and the deep aquifer are strongly correlated to the relative abundance of winter precipitation and creek discharge (i.e., its volumetric flow). These groundwater level fluctuations are more pronounced in the deep aquifer due to its more confined nature and its use for agricultural water supply wells.

Water quality in the shallow aquifer exhibits small differences between the properties with the lowest general mineral concentrations observed beneath the Muller property, intermediate concentrations beneath the Storz property, and the highest concentrations beneath the Coors property. This concentration gradient is consistent with the interpretation of groundwater levels that indicate that the shallow aquifer east of the Plainfield Ridge more consistently receives high-quality recharge from creek infiltration. Groundwater quality results are also congruent with earlier observations made by Evenson (1985) in the area of lower Cache Creek.

Occurrences of coliform bacteria (including E. coli and other fecal species) in the mining pits is a common phenomenon for surface water bodies that are freely accessed by local mammalian wildlife. Likewise, the presence of coliform bacteria in groundwater samples is a common phenomenon observed in monitoring wells that have not undergone sanitary disinfection. The presence of these bacteria is considered to be indicative of conditions in the well structure (and/or the immediate aerated area around the well screen) and not within the aquifer. The detection of fecal species in groundwater samples from both upgradient and downgradient wells is attributed to sample contamination during sampling, sample handling, or to their introduction to the well structure during sampling activities, such as depth-to-water measurements. Their detections occur across the site in both upgradient and downgradient wells and they are not attributed to mining activities.

In conclusion, the 2020 monitoring results are consistent with the historical data record. The existing data record, including data collected prior to wet-pit mining operations, shows no evidence or indication that mining operations have caused changes in groundwater levels or quality to date.

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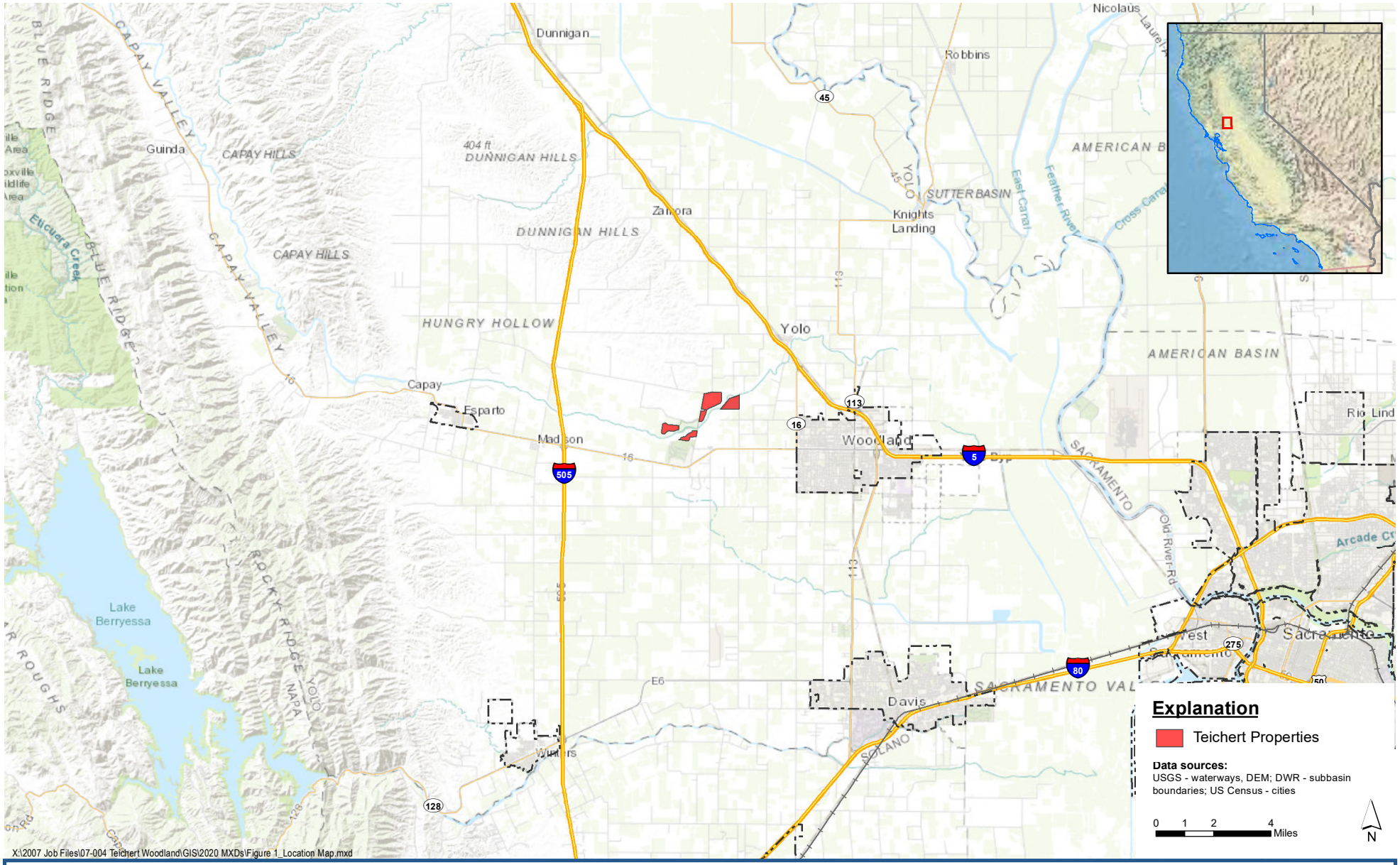
FIGURES AND TABLES



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Location Map

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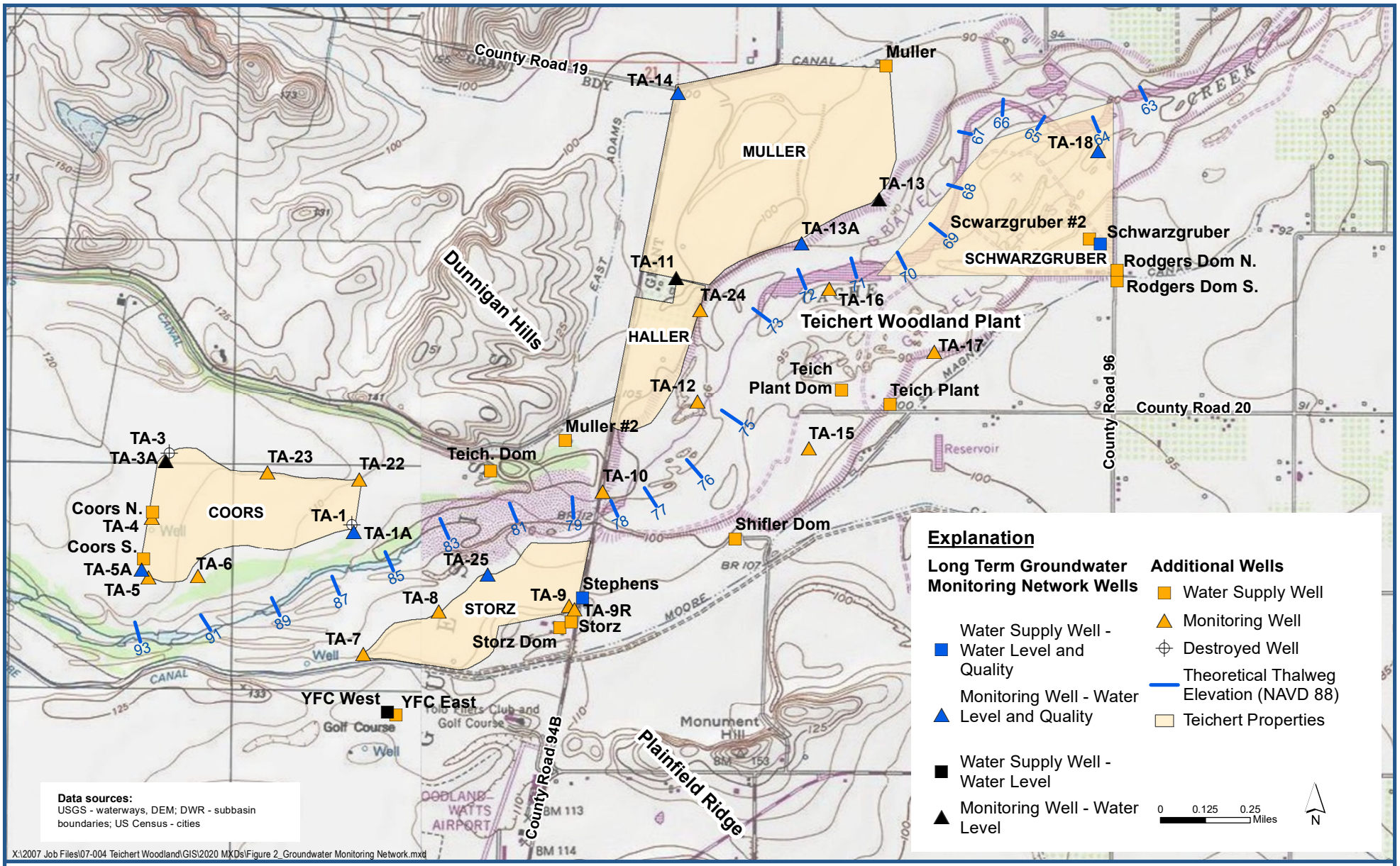
Teichert Aggregates, Yolo County

Figure 1



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Groundwater Monitoring Network

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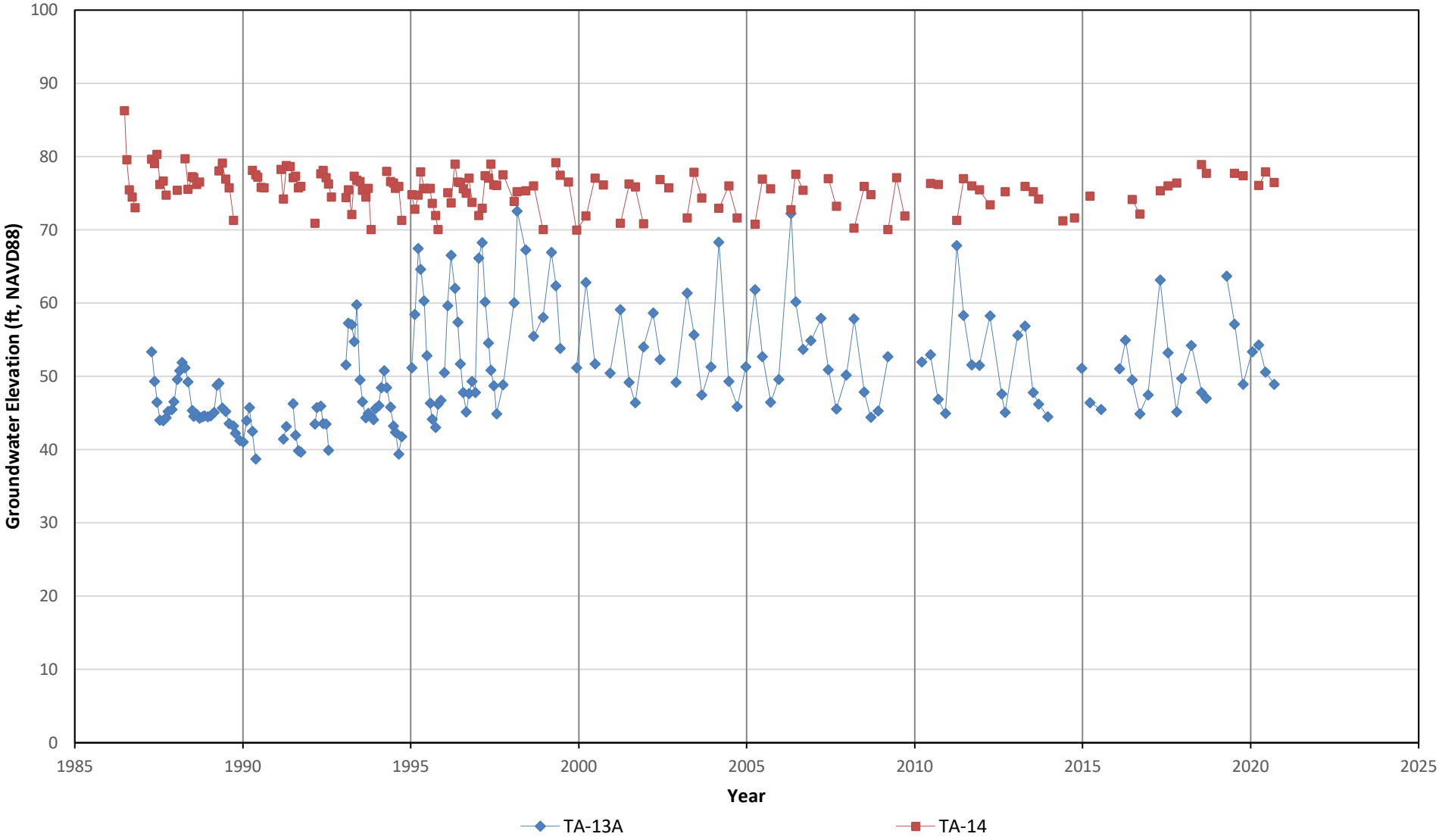
Teichert Aggregates, Yolo County

Figure 2



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Groundwater Levels
Muller Property Shallow Wells

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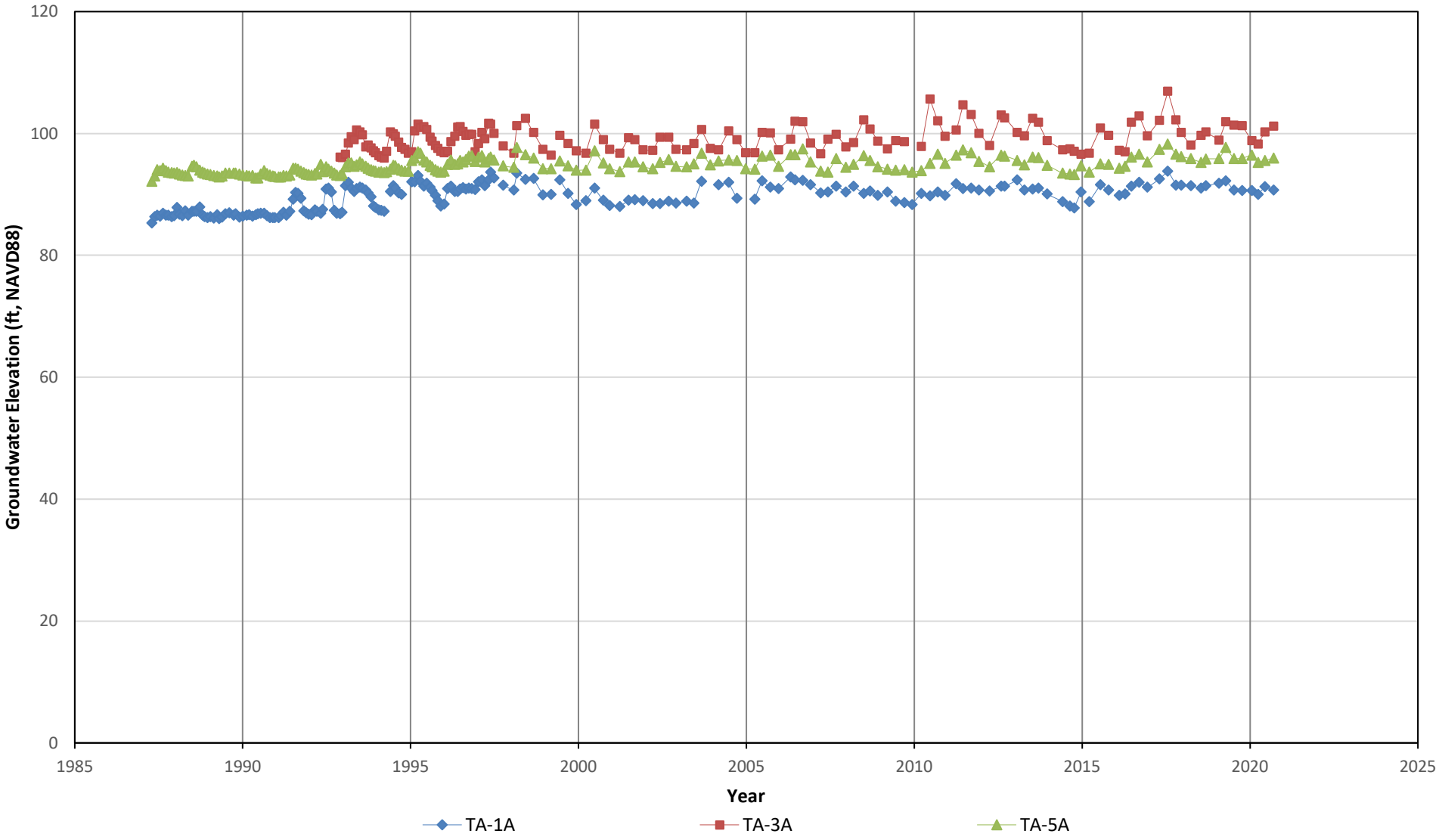
Teichert Aggregates, Yolo County

Figure 3



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Groundwater Levels
Coors Property Shallow Wells

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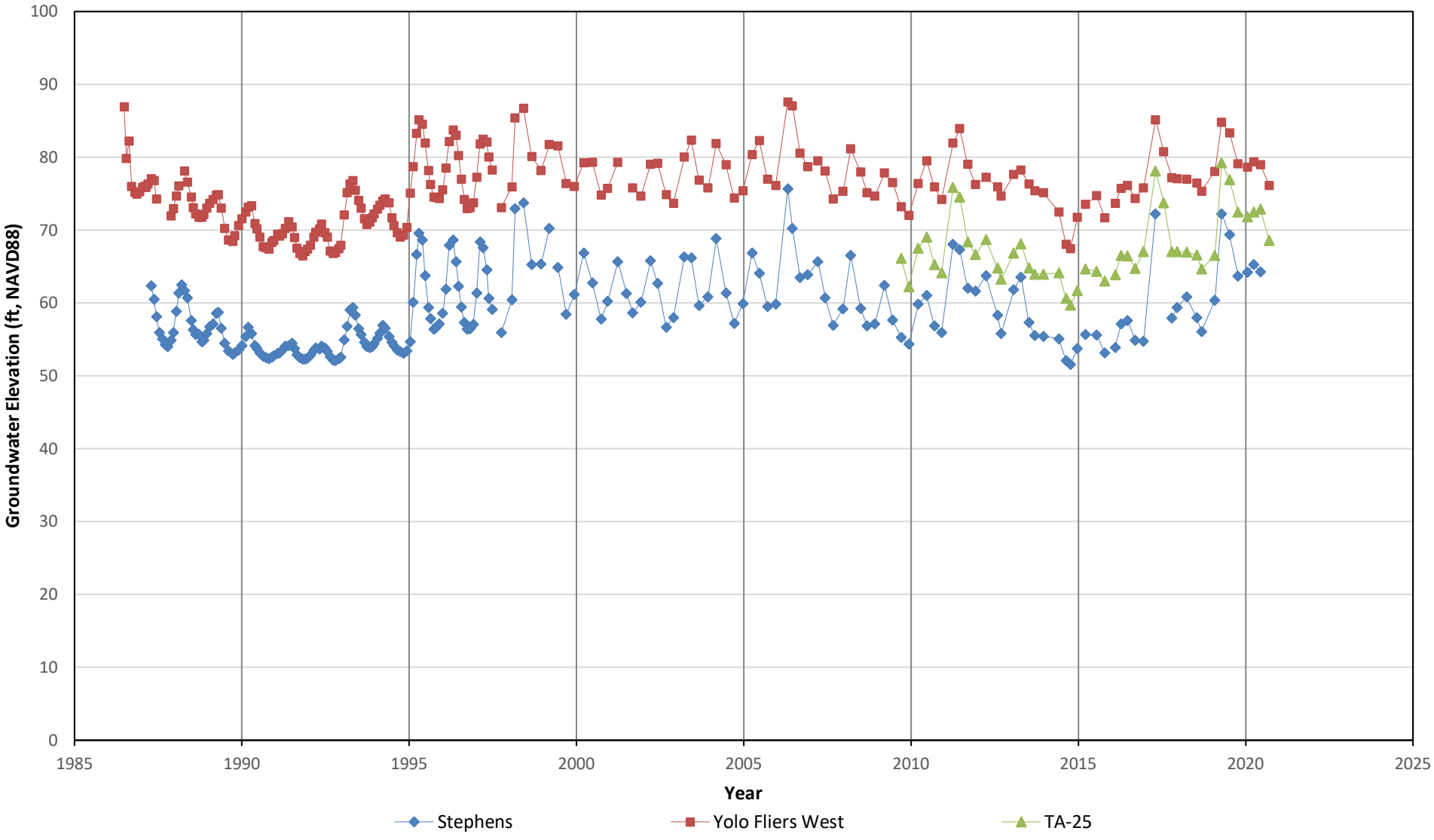
Teichert Aggregates, Yolo County

Figure 4



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Groundwater Levels
Storz Property Shallow Wells

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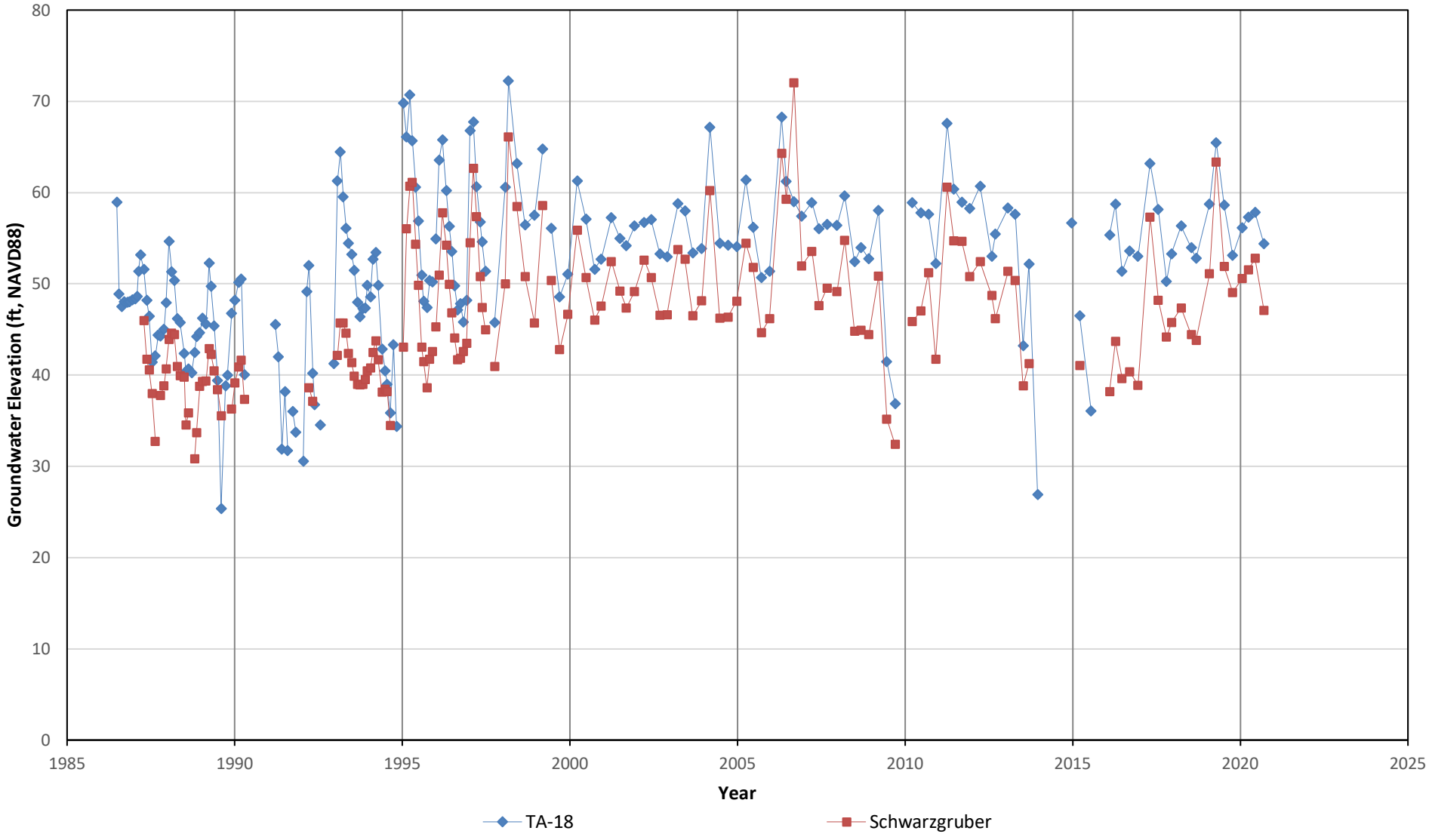
Teichert Aggregates, Yolo County

Figure 5



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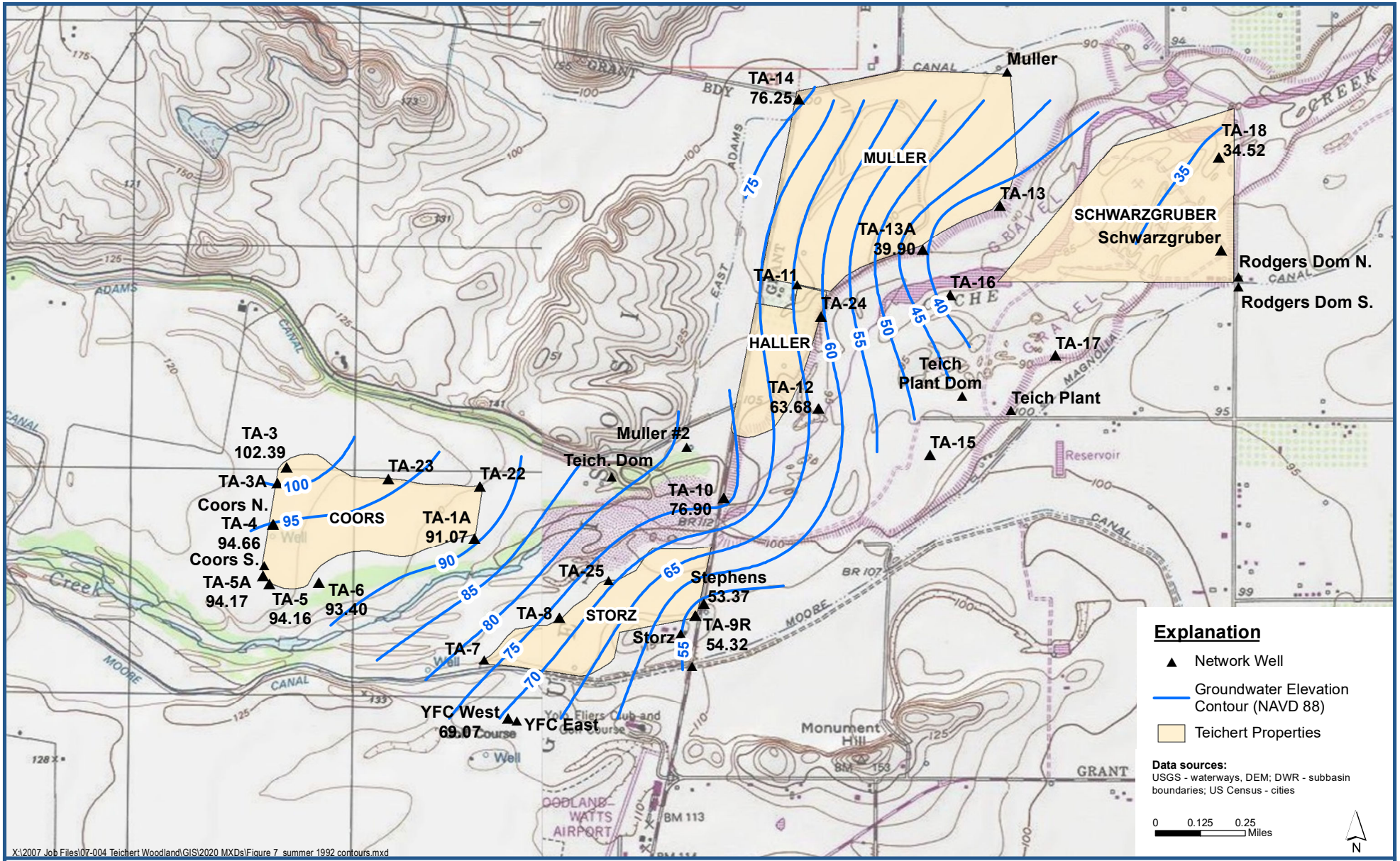
Groundwater Levels
Schwarzgruber Property Shallow Wells

2020 Annual Report- Groundwater Conditions in the Vicinity of the Woodland Plant Site
Teichert Aggregates, Yolo County

Figure 6



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Contours of Equal Groundwater Elevation, Summer 1992

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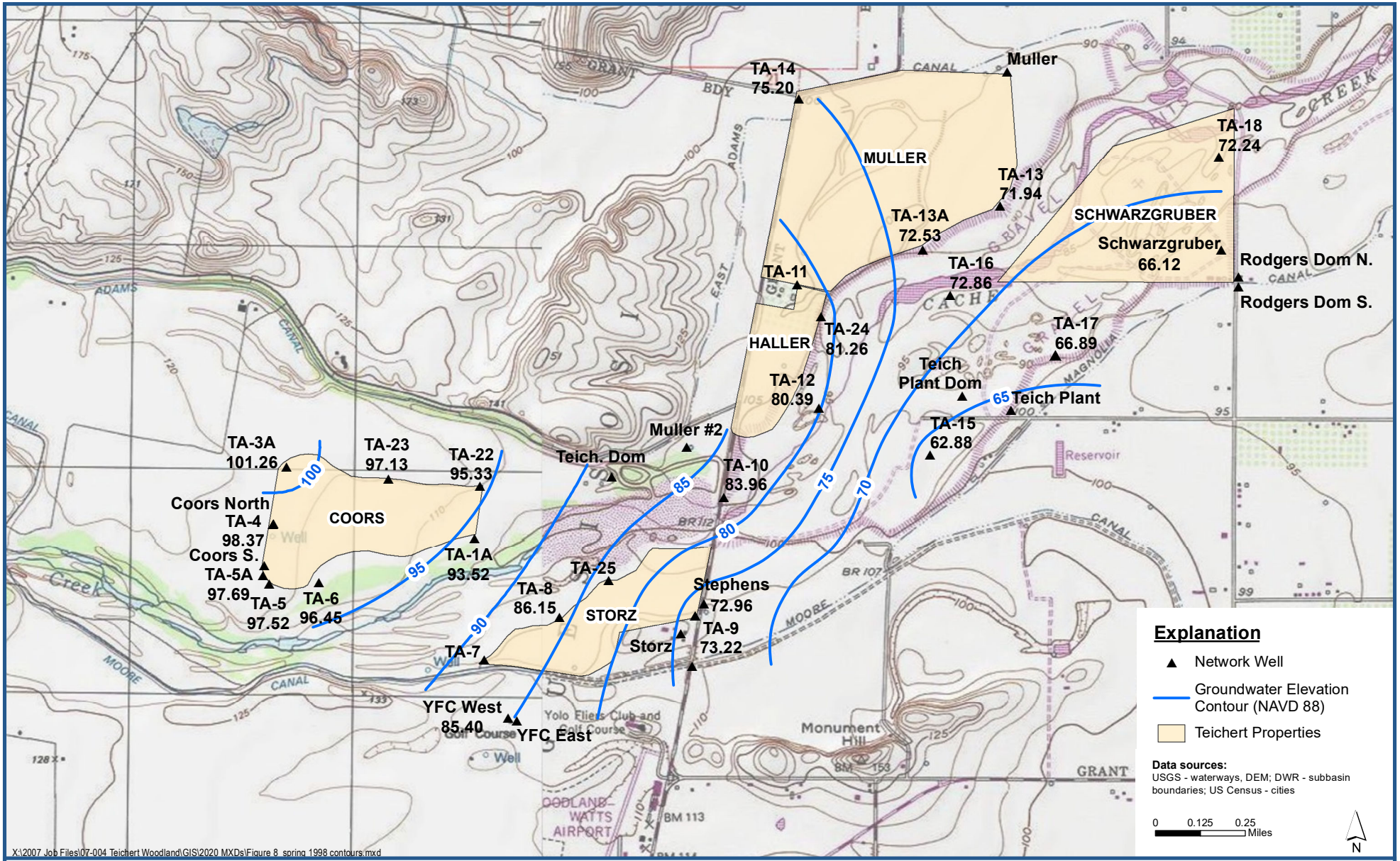
Figure 7



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Contours of Equal Groundwater Elevation, Spring 1998

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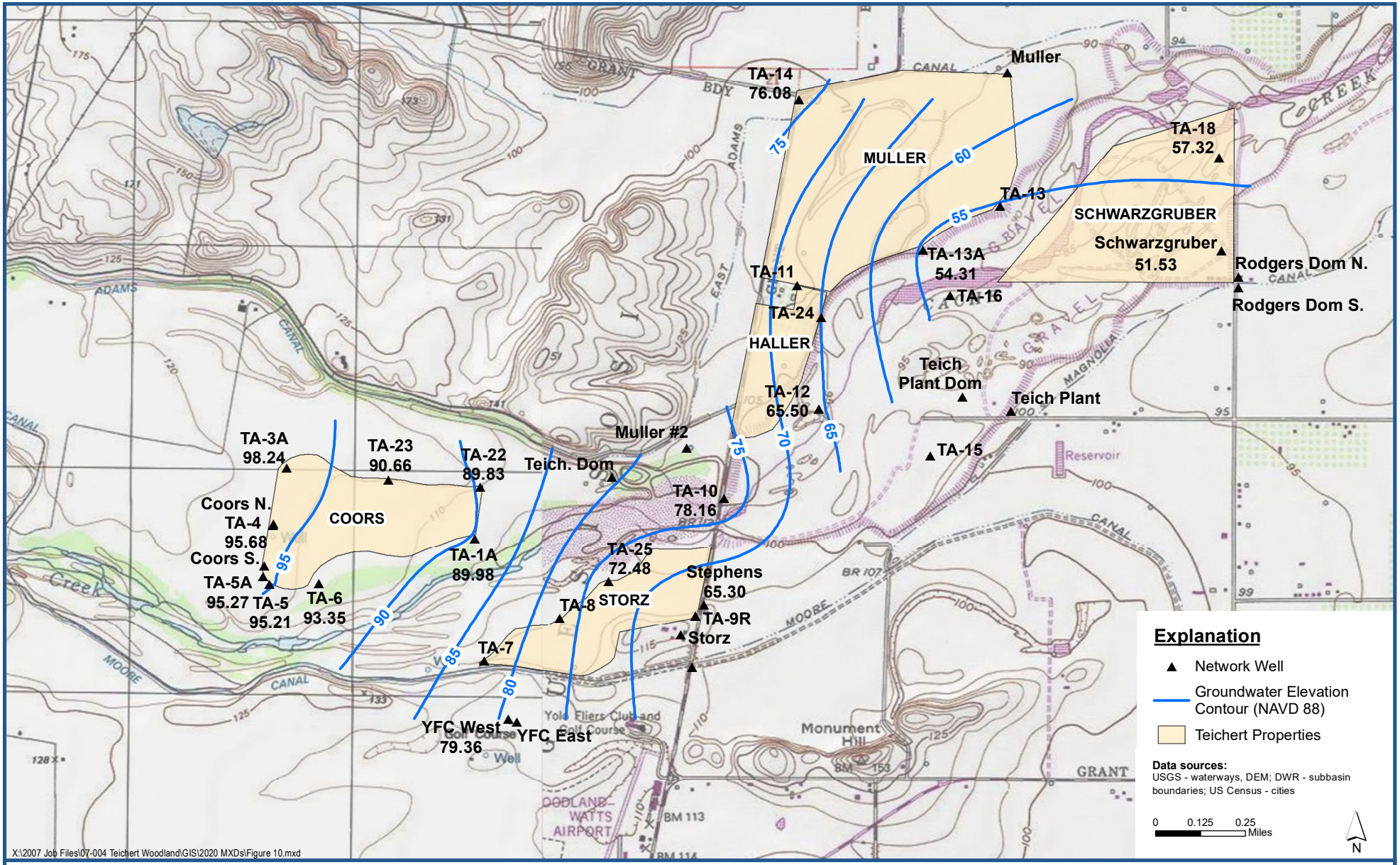
Figure 8



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Contours of Equal Groundwater Elevation, March 2020

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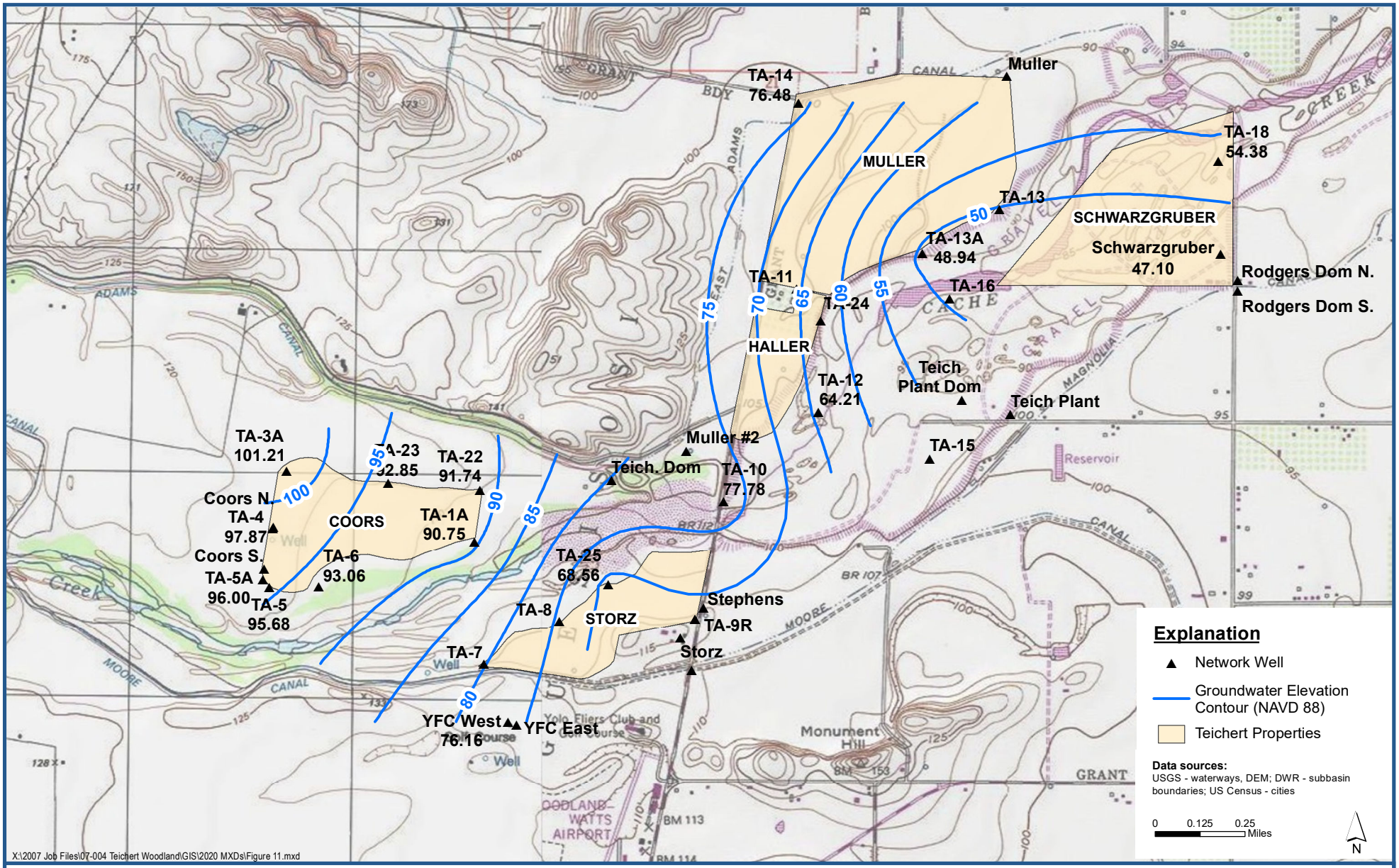
Figure 9



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Contours of Equal Groundwater Elevation, September 2020

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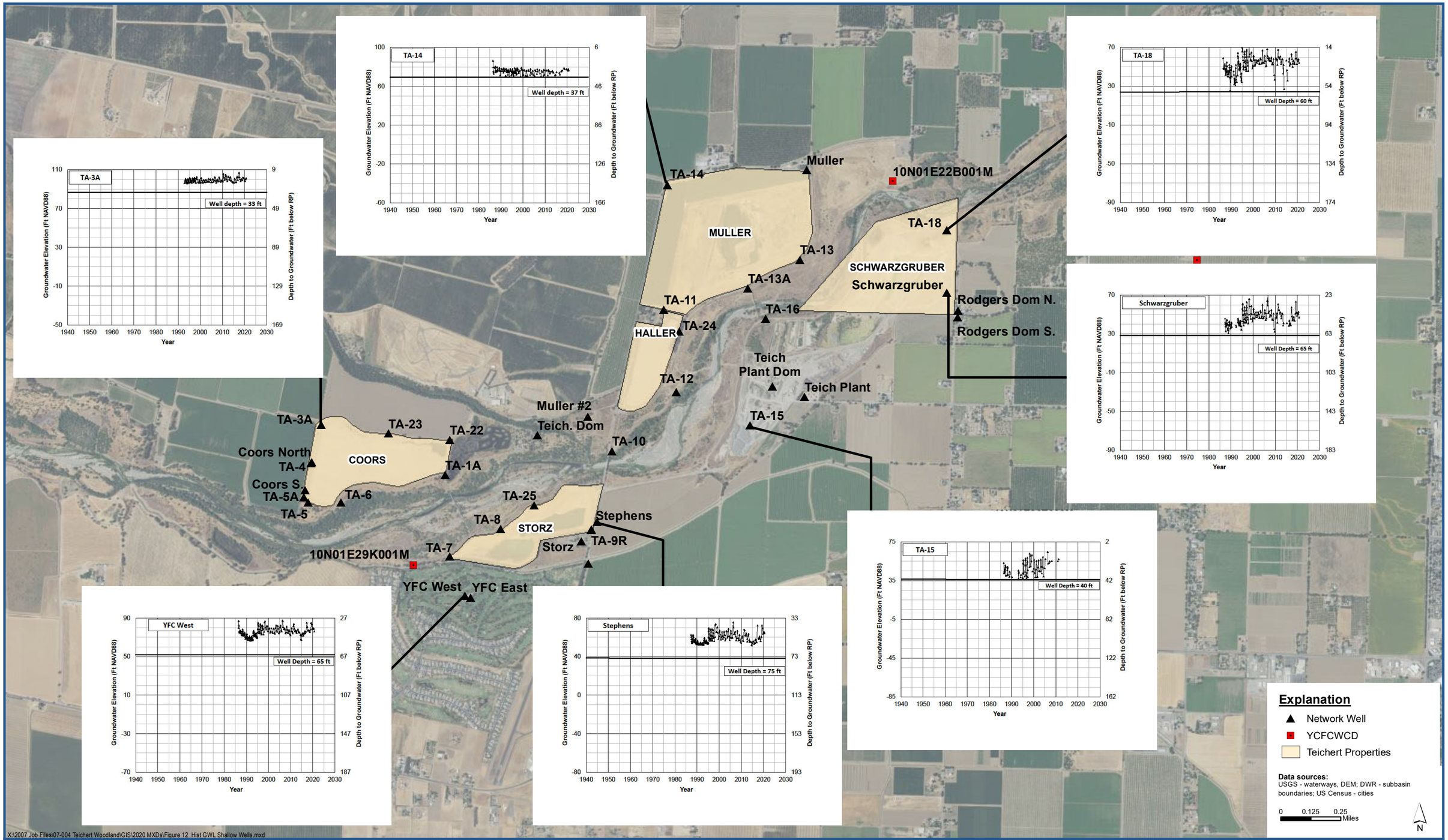
Figure 10



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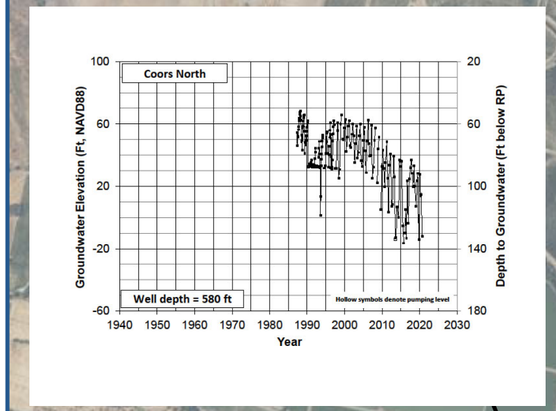
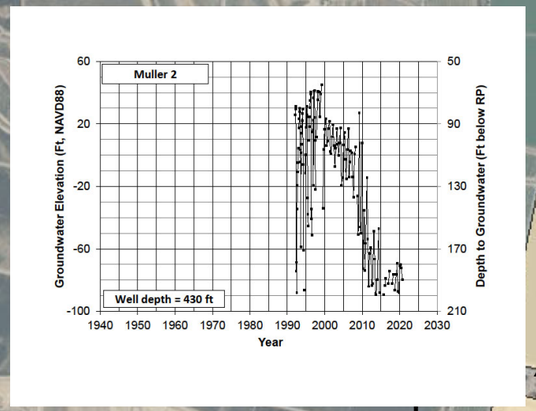
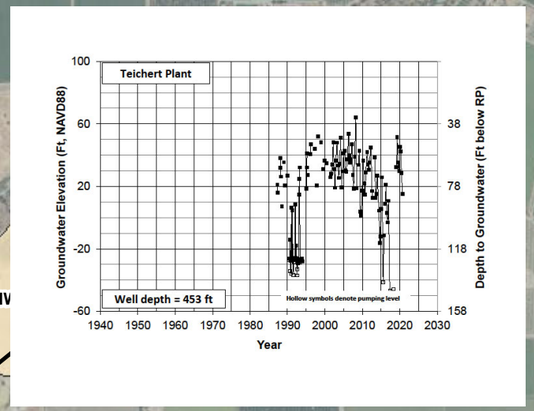
Historical Groundwater Levels, Shallow Wells

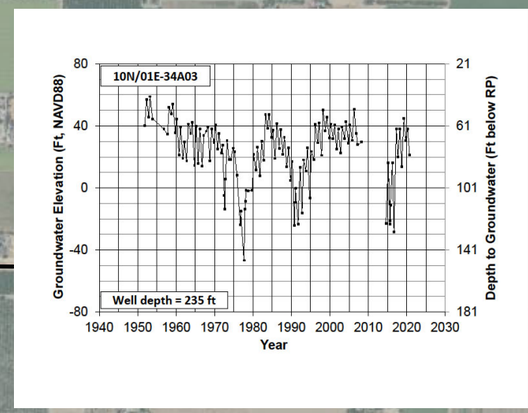
2020 Annual Report- Groundwater Conditions in the Vicinity of the Woodland Plant Site

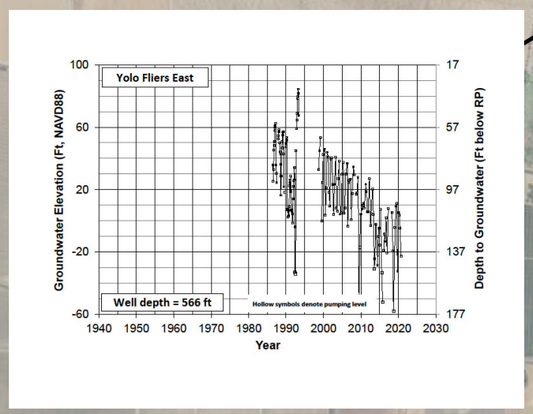
Figure 11

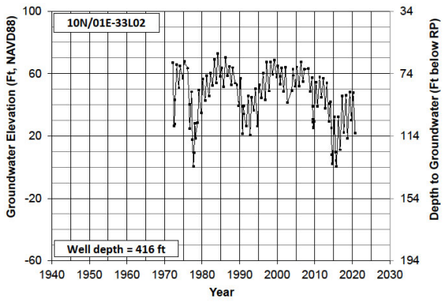


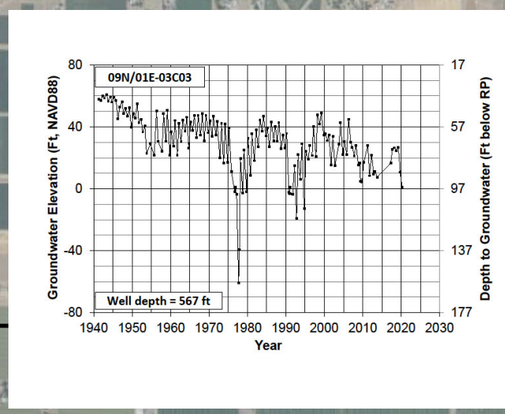












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Historical Groundwater Levels, Deep Wells

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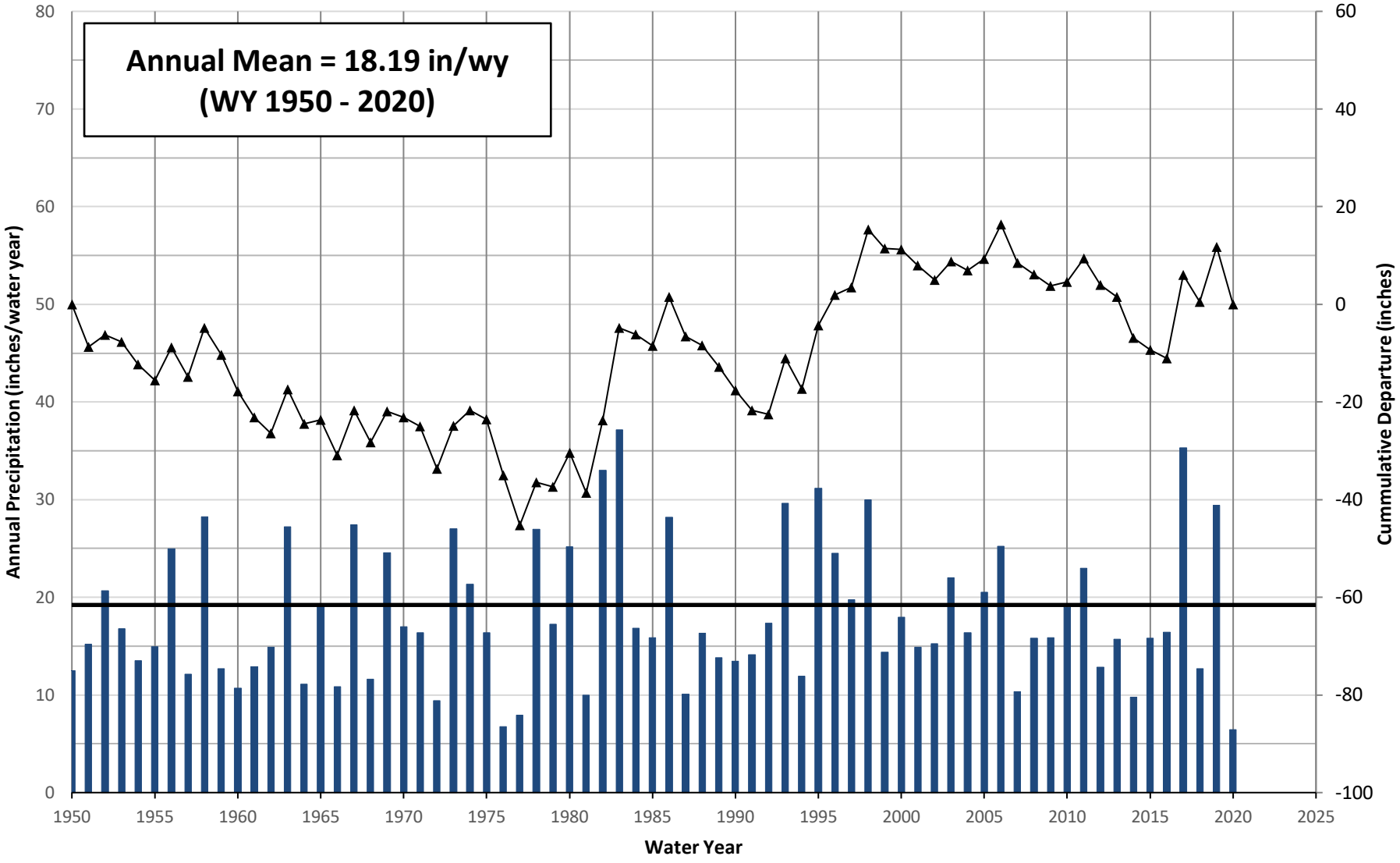
Figure 12



Historical Data from Davis 2 Experimental Farm Station #2294 (NCDC), #042294 (WRCC)

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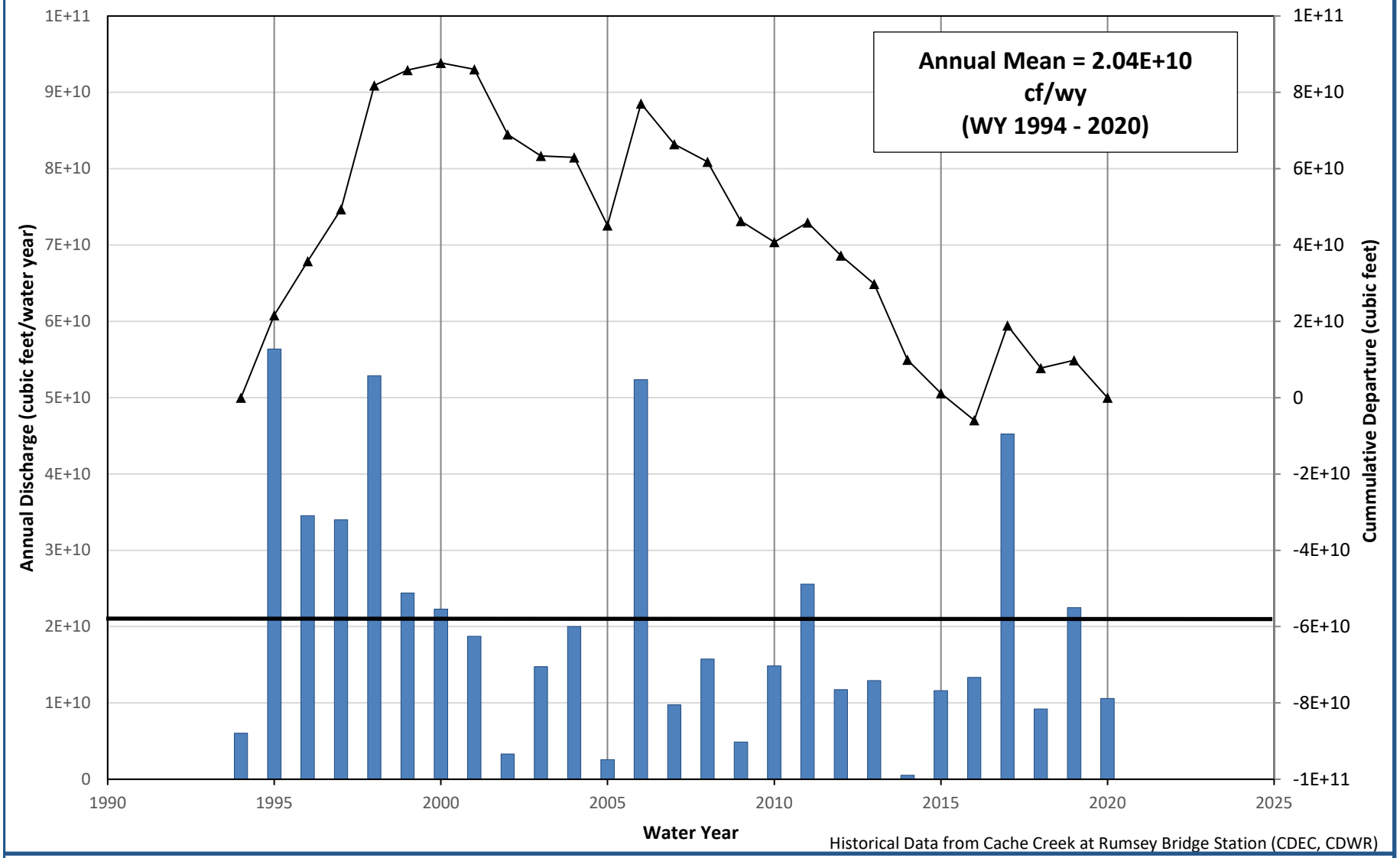
Sacramento Area Historical Precipitation

2020 Annual Report- Groundwater Conditions in the Vicinity of the Woodland Plant Site
Teichert Aggregates, Yolo County

Figure 13



Historical Data from Cache Creek at Rumsey Bridge Station (CDEC, CDWR)

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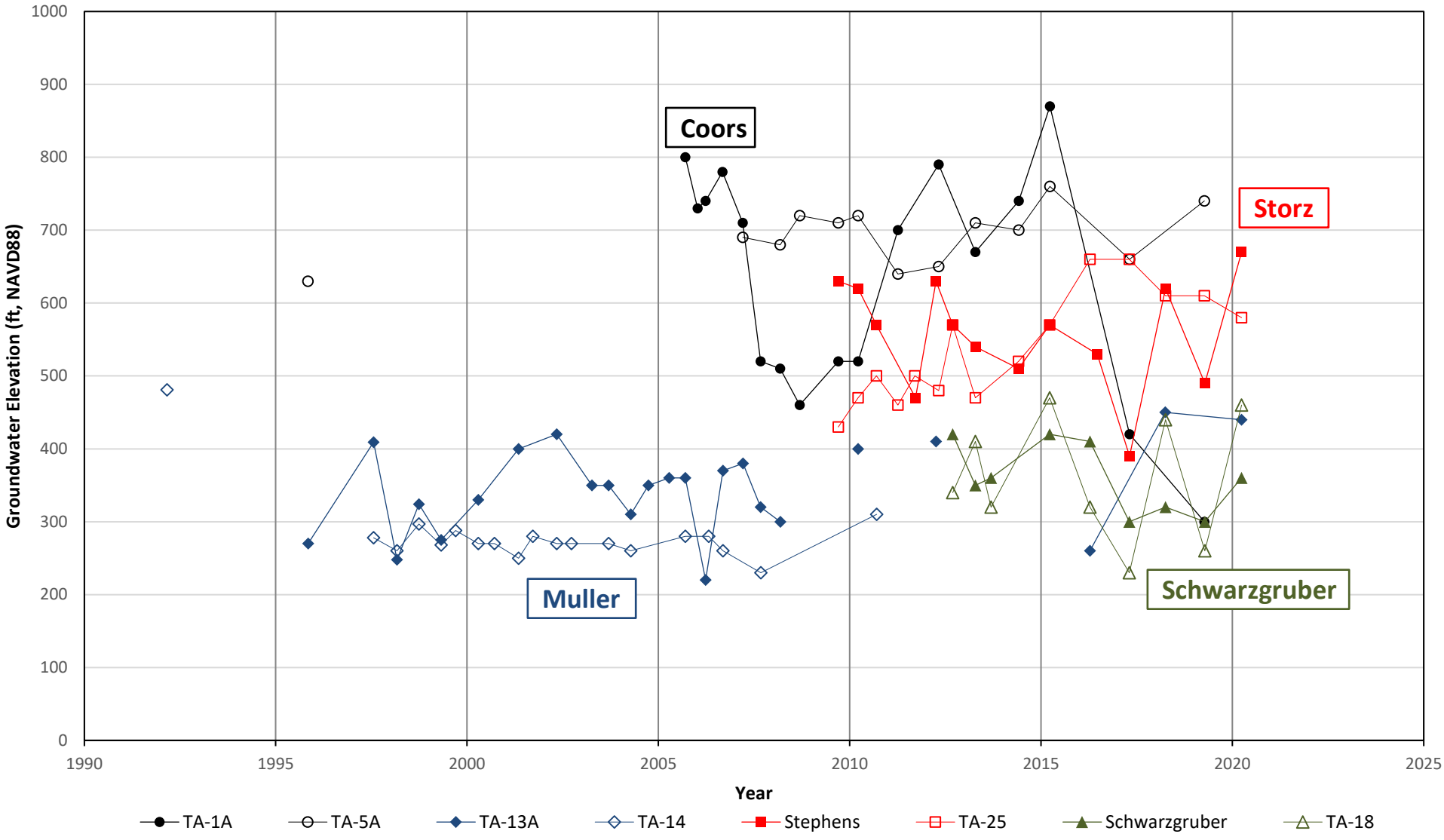
Historical Stream Discharge
Cache Creek at Rumsey Bridge

2020 Annual Report- Groundwater Conditions in the Vicinity of the Woodland Plant Site
Teichert Aggregates, Yolo County

Figure 14



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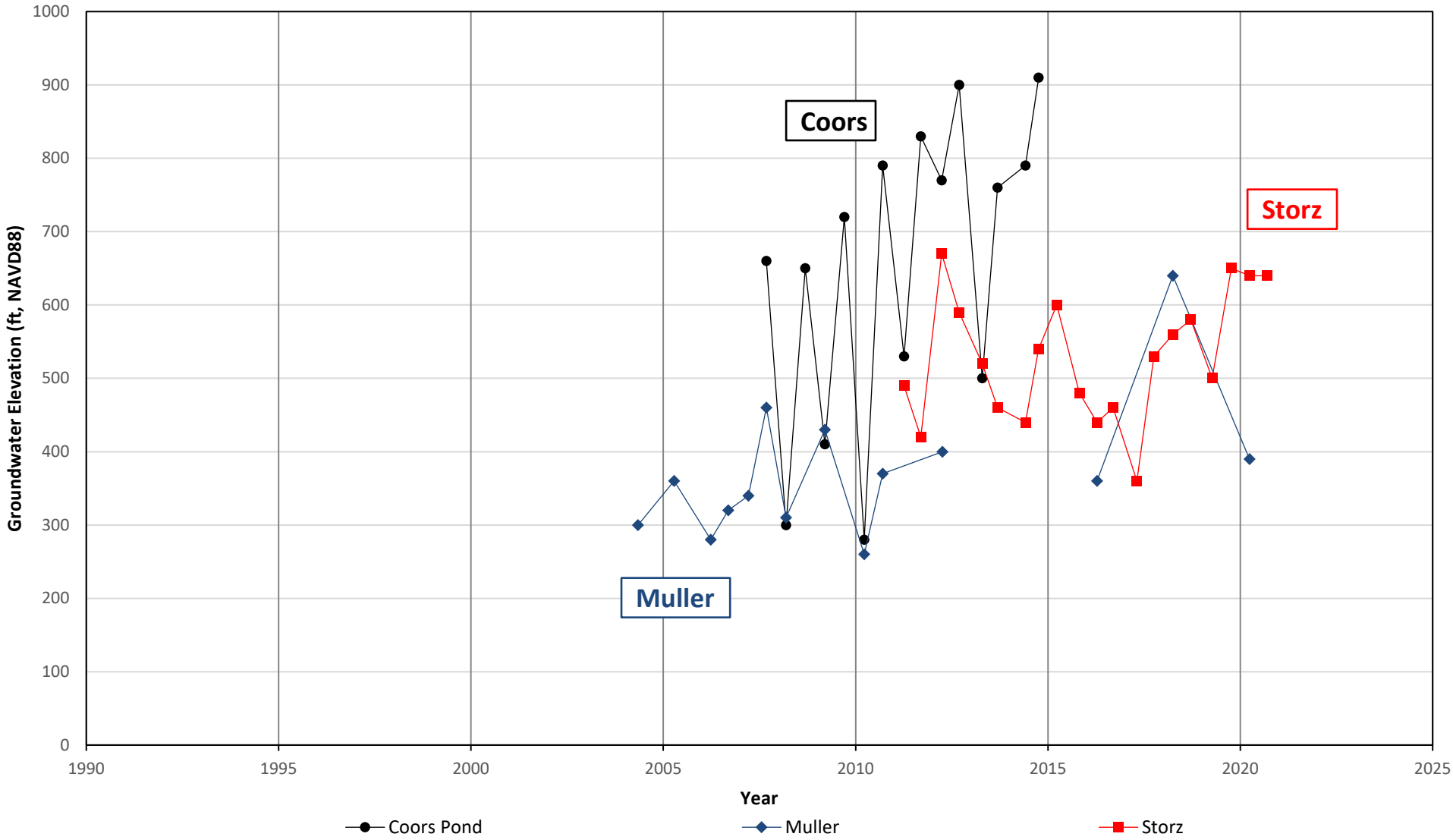
Total Dissolved Solids in Shallow Groundwater

2020 Annual Report- Groundwater Conditions in the Vicinity of the Woodland Plant Site
Teichert Aggregates, Yolo County

Figure 15



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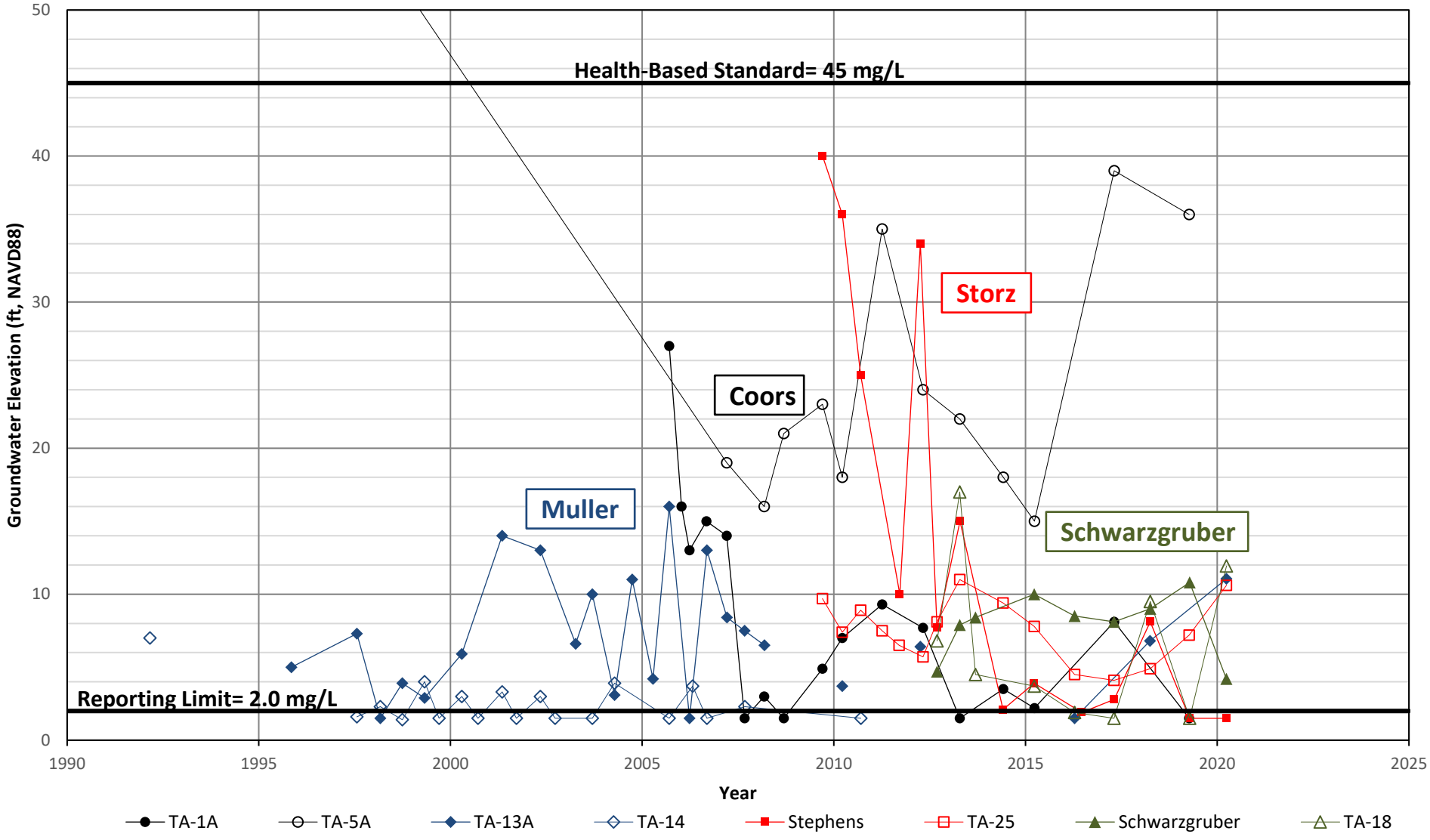
Total Dissolved Solids in Pond Water

2020 Annual Report- Groundwater Conditions in the Vicinity of the Woodland Plant Site
Teichert Aggregates, Yolo County

Figure 16



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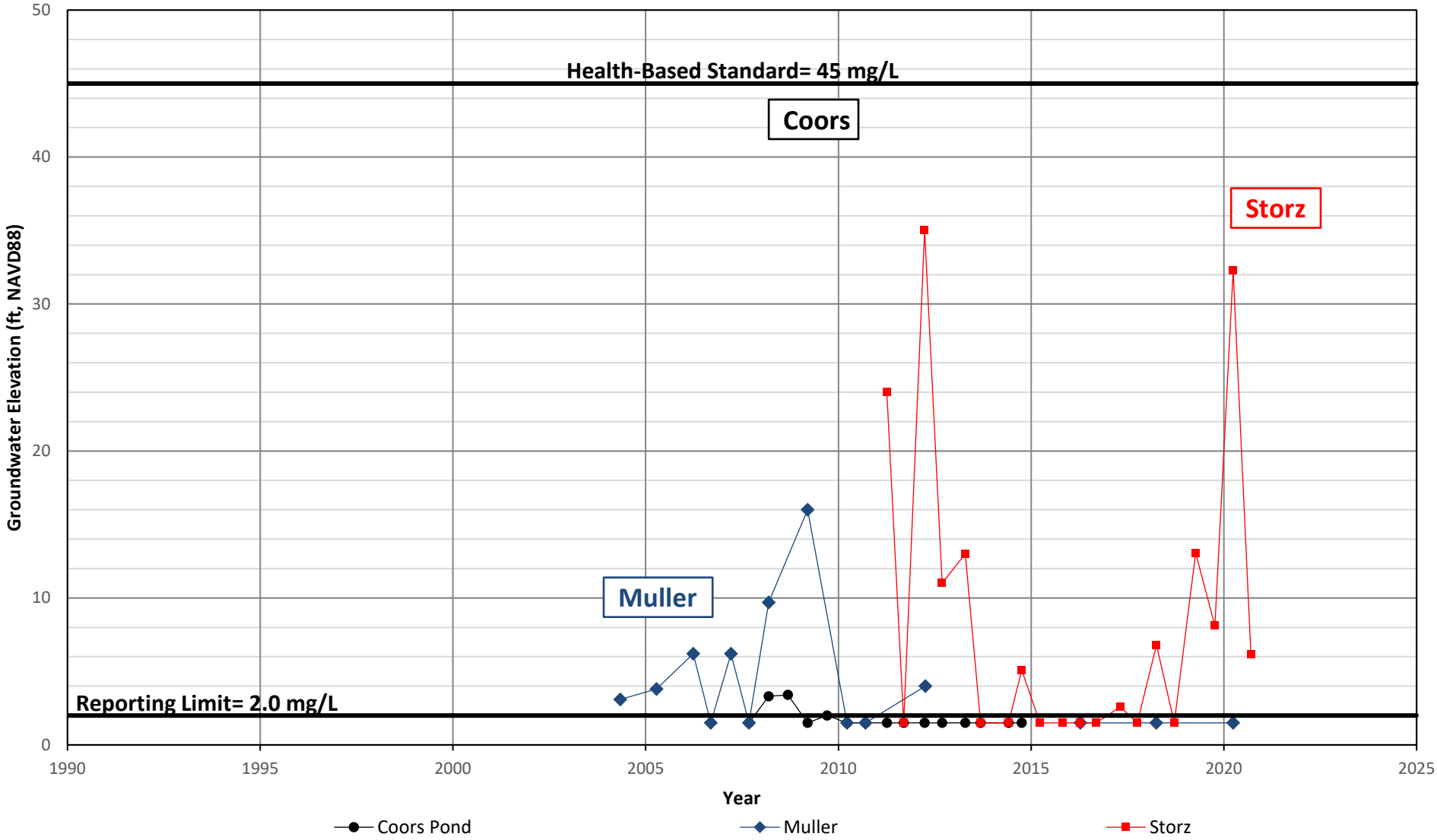
Nitrate Concentrations in Shallow Groundwater

2020 Annual Report- Groundwater Conditions in the Vicinity of the Woodland Plant Site
Teichert Aggregates, Yolo County

Figure 17



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Nitrate Concentrations in Pond Water

2020 Annual Report- Groundwater Conditions in the Vicinity of the Woodland Plant Site
Teichert Aggregates, Yolo County

Figure 18

Table 1
Depth-to-Water Measurements – Teichert Aggregates, Woodland Properties

(all measurements in Feet below reference point)

Date	TA-1	TA-1A	TA-3	TA-3A	TA-4	TA-5	TA-5A	TA-6	TA-7	TA-8	TA-9	TA-9R	TA-10	TA-11	TA-12	TA-13	TA-13A	TA-14	TA-15	TA-16	TA-17	TA-18	TA-22	TA-23	TA-24	TA-25	Coors North	Coors South	YFC-West	YFC-East	Storz	Stephens	Muller	Muller #2	Schwarz-gruber	Schwarz-gruber #2	Teichert Dom	Teichert Plant Dom	Teichert Plant	Teichert Plant New	Rodgers Dom North	Rodgers Dom-New South
6/26/1986	17.00		14.00	--	20.00	20.20		19.80	24.00	23.50	41.00		23.50	23.00	26.50			20.00	24.00	21.50	29.00	25.50							30.00	81.00													
7/21/1986	22.43			--	26.93	25.43		24.82	32.06				28.42	30.40	24.24			26.64	34.31	28.27		35.57							37.05	91.40													
8/18/1986	23.50			--	27.58	25.96		25.21					28.48	38.06	32.25	40.85		30.80	34.05	29.80		36.90							34.68	83.85													
9/18/1986	23.53		20.41	--	27.95	26.23		25.38					28.48	39.10	32.45			31.79	33.62	28.06	51.25	36.40							40.94	71.62													
10/20/1986				--		26.49		25.38					28.54		32.50			33.25	32.21	26.21	48.86	36.46							41.67	68.42													
11/14/1986	23.68		20.38	--	28.33	26.58		25.58					28.83		32.79				31.42	26.35	47.92	36.39							42.00	66.21													
12/16/1986	23.70		20.33	--	28.18	26.85		25.59					28.74		32.85				30.83	28.82	47.10	36.16							41.66	58.82													
1/16/1987	23.60		20.13	--	28.08	26.52		25.51					28.60	39.68	32.66				29.83		46.06	36.10							41.02	56.19													
2/3/1987	23.60		20.30	--	28.08	26.54		25.48					28.47		32.52				30.00		46.21	35.79							40.88	56.90													
2/18/1987	23.60		20.30	--	28.08	27.00		25.63					28.27	39.68	31.79				28.52	26.13	38.58	33.04							41.02	56.02													
3/13/1987	23.60		20.48	--	28.43	26.00		25.73					27.55		31.53				26.45	25.69	38.75	31.24							40.60	54.45													
4/17/1987		27.67		--			28.85	26.85				50.96	29.32		32.51		46.47	26.58	27.38	26.02	42.22	32.86					65.52	67.06	39.85	80.88	58.59	50.25			49.30				76.60			
5/19/1987		26.61		--	28.18	27.25	28.00	26.33				52.60	28.75		32.14		50.48	27.20	36.72	28.48		36.26					73.81	75.00	40.09	86.46		52.09			53.50				81.69			
6/15/1987		26.35		--	26.89	25.88	26.96	24.30				54.97	28.98		32.33		53.34	25.96		30.30		37.98					65.30	66.51	42.62	92.31		54.49			54.69							
7/17/1987		26.52		--	26.10		27.10	25.27				57.30	29.64		33.34		55.82	30.03		27.16		43.01					68.49	69.60				56.68			57.30							
8/20/1987		26.07		--	27.10	25.66	26.69	24.89				58.33	29.07		32.84		55.84	29.60		26.57		42.35					67.80	68.34				57.57			62.52							
9/21/1987		26.34		--	27.42	25.96	27.09	25.23				58.95					55.49	31.50		27.64		40.07					63.46	64.10				58.35										
10/14/1987		26.39		--	27.91	26.17	27.30	25.33				59.18	29.02		32.75		54.59			25.93		40.15					61.43	62.24				58.57			57.51							
11/23/1987		26.57		--	27.62	26.29	27.44	25.32				58.44	29.05	38.35	32.79		54.34			27.16		39.43					57.74	58.65	44.92	64.21		57.76			56.43							
12/15/1987		26.46	20.50	--	28.20	26.32	27.49	25.37				57.39	28.60		32.01		53.30		36.52	29.38		36.52					56.11	57.06	43.98	62.38		56.66			54.56							
1/18/1988	23.46	25.13	20.47	--	28.26	26.25	27.43	24.98				54.64	26.54		22.07		50.26	30.83	31.39		38.43	29.79					53.57	54.61	42.23	58.70	58.16	53.76			51.36				59.48			
2/16/1988	23.23	26.19	20.46	--	28.28	26.47	27.64	25.48				52.25	28.81		30.95		49.03		28.74		46.70	33.09					52.20	53.28	40.87	60.00	55.67	51.27			50.64				65.75			
3/15/1988		26.42		--	27.53		27.81	25.67				50.93	28.75		31.10		47.94		27.82	26.19	46.39	34.04					51.43	51.06			55.13	50.10			50.80				71.52			
4/15/1988	23.31	25.65	20.46	--	28.32	26.76	27.92	25.92		31.80		51.51	28.71		31.31		48.67	26.53	35.37	24.82		38.24					54.98	55.94	38.78	66.98		50.94			54.32							
5/17/1988	23.30	26.35	20.47	--	28.32	26.43	28.01	26.02				52.70	29.35		31.88		50.55	30.71	36.15	27.20		38.69					57.49	58.39	40.33	72.58		51.93			55.34							
6/30/1988	23.37	25.71	20.04	--	26.02	25.25	26.35	24.65				55.53	28.93		32.46		54.47	29.02		28.76		42.07					71.08	73.35	42.39	80.72		55.00			55.47				90.36			
7/20/1988	23.39	25.72	20.49	--	26.02	25.12	26.22	24.46				56.82	28.77		32.51		55.28	29.09		31.82		44.02					70.67	72.55	43.79	100.47		56.25			60.73							
8/16/1988	23.40	25.73	20.49	--	26.54	25.33	26.46	24.52				57.57	28.78		32.67		55.01	30.06		25.88		43.78					67.05	68.12	44.67	88.15		56.93			59.39							
9/20/1988	23.43	25.04	20.49	--	27.55	25.84	26.99	25.03				57.72	28.79		32.76		55.56	29.75		27.01		44.20					76.89	78.00	45.14	88.05	76.18	56.96										
10/21/1988	23.44	26.39	20.49	--	27.97	25.18	27.33	25.33				58.57	28.84		32.92		55.32			25.09		41.97					62.60	63.62	45.14	73.78	72.02	57.92			64.44							
11/11/1988	23.46	26.61	20.50	--	28.14	26.31	27.46	25.36				58.39	28.74		32.97		55.19			25.41		40.23					61.04	62.04	44.73	70.29	70.59	57.73			61.59							
12/16/1988	23.50	26.80	20.50	--	28.27	25.47	27.63	25.47				57.49	28.49		32.99		55.31			32.50		39.78					58.02	58.93	43.89	65.90	64.65	56.83			56.50							
1/16/1989	23.45	26.57	20.50	--	28.33	26.57	27.74	25.56				56.57	28.65		32.73		55.21		38.03			38.19					55.93	56.87	43.20	61.94		55.90			55.97				62.29			
2/23/1989	23.48	26.87	20.50	--	28.36	26.77	27.92	25.74				56.18	28.80		32.98		54.74		37.56	34.43		38.84					54.33	55.33	42.68	59.91	68.18	55.52			55.92							
3/28/1989	23.48	26.32	20.50	--	28.40	26.79	27.96	25.82				54.85	28.33		31.73		51.05		32.68	30.75		32.18					54.07	55.01	42.12	59.68	59.14	54.00			52.34							
4/18/1989	23.47	26.95	20.51	--	28.42	26.92	28.13	26.00				54.23	28.82		32.28		50.76	28.17	34.92	30.94		34.72					64.45	66.08	42.03	74.03	61.71	53.89			52.98				77.18			
5/23/1989	23.47	26.70	20.52	--	28.34	26.84	27.96	23.12				56.48	28.81		32.61		54.12	27.16		32.86		39.05					78.72	78.29	43.87	95.04		56.09			54.81							
6/29/1989	23.44	26.14	20.23	--	28.28	26.41	27.53	25.58				58.78	29.09		32.98		54.59	29.33		31.15		45.03					71.86	72.53	46.66		81.28	58.16			56.86							
8/8/1989	--	26.00	20.50	--	28.04	26.34	27.48	25.54				59.75	29.15		33.05		56.28	30.51		27.53		59.05					73.43	73.77	48.25	98.58		59.19			59.70							
9/25/1989	--	26.38	20.51	--	28.10	26.36	27.51	25.42				60.14	28.90		33.02		56.61	34.94		32.23		45.61					70.42	70.86	48.44		77.04	59.63										
10/16/1989	--	26.14	20.51	--	28.15	26.38	27.53	25.40				60.09	29.04		33.11		57.59					44.44					67.62	68.13	47.68		73.79	59.47										
11/28/1989	--	26.70	20.51	--	28.23	26.49	27.66	25.38				59.55	28.94		32.77		58.62					37.65					64.59	65.22	46.28	69.42	69.14	59.04			58.99							
1/5/1990	--	26.55	20.52	--	28.30	26.64	27.82	25.68				59.00	28.94		32.50		58.81					36.25					61.88	62.47	45.34	67.30	66.36	58.47			56.09				70.74			
2/14/1990	--	26.36	20.54	--	28.30	26.72	27.91	26.63				57.85	28.54		31.67		55.87					34.26					59.28	60.08	44.42	65.07	63.58	57.22			54.39							
3/14/1990	--	26.29	20.52	--	28.33	26.73	27.97	25.68				56.61	28.59		31.64		54.08		38.38		26.34	33.89					58.01	58.68	43.73	63.27	62.24	55.96			53.61							
4/16/1990	--	26.56	20.48	--	28.35	26.73	27.92	25.98				57.34	29.01	39.50	32.74		57.33	28.14				44.39					87.20		43.54	110.00	79.10	56.83			57.92							
5/23/1990	--	26.32	20.42	--	28.35	27.10	28.31	26.30				59.03	28.98		32.36		61.09	28.75			21.44						87.54	89.83	46.00	109.48	103.10	58.47							125.00			
6/15/1990	--	26.13	20.48	--	28.36	27.13	28.28	26.45				59.44	29.14		32.49			29.05			21.23						87.19	--	46.73	109.35	122.69	58.88							123.89			
7/18/1990	--	26.07	20.48	--	28.37	26.59	27.69	25.94				60.00	29.19		34.36			30.45									87.00	--	47.89	114.33	130.82	59.43							124.28			
8/21/1990	--	26.07	20.49	--	27.80	25.88	27.10	24.80				60.51	29.48		35.31			30.51									86.45	--	49.16	110.29	117.34	59.92							111.79			
9/24/1990	--	26.42	20.48	--	28.12	26.38	27.60	25.64				60.63	29.96		35.69						20.06						85.40	--	49.29	113.58	102.35	60.15							132.00			
10/24/1990	--	26.73	20.48	--	28.27	26.69	27.84	25.92				60.48	29.95		35.72						19.77						86.98	--	49.54	107.82		60.25							125.30			
11/26/1990	--	26.74	20.49	--	28.27	26.73	27.98	25.90				60.59	29.98		35.72						20.67						86.45	--	48.59	94.58	84.56	60.03							133.56			
12/14/1990	--	26.73	20.49	--	28.33	26.85	28.05	25.92				60.42	29.45		35.72						20.59						84.47	--	48.33	90.40	82.01	59.87							124.72			
1/28/1991	--	26.74	20.49	--	28.35	26.94	28.16	25.91					28.85		35.71												86.45	--	47.48	92.27	104.72	59.53							91.26			
2/19/1991	--	26.41	20.49	--	28.40	26.97	28.16	26.00				59.98	28.91		33.19			28.01									86.97	--	47.73	97.11	85.81	59.45							124.22			
3/19/1991	--	25.92	20.49	--	28.37	26.54	27.86	25.61				59.67	27.77		23.10		58.39	32.01			17.43	38.88					83.07	--	47.41	88.24	79.28	59.05							123.80			
4/22/1991	--	26.36	20.49	--	28.32	26.76	27.95	25.79				59.21	28.77		32.20		56.67	27.47			18.55	42.44					86.52	--	46.69	98.20	85.00	58.55				90.70			93.00			
5/30/1991	--	25.77	20.49	--	28.33	26.68	27.84	25.77				58.95	28.60		32.45			27.58			19.95	52.54					87.49	--	45.77	109.75	109.39	58.47				112.25			124.38			
7/2/1991	--	23.75	20.38	--	27.15	25.63	26.73	24.95				58.71	28.59		32.28		53.54	29.10			18.64	46.25					86.26	--	46.49	110.20	127.11	58.13	258.37			124.31			124.21			
7/31/1991	--	22.64	20.35	--	26.98	25.53	26.67	24.62				59.49	28.20		31.90		57.85	28.94			18.92	52.72					86.04	--	47.95	110.85	136.13	58.84	121.34			128.49	77.43		134.37			
8/28/1991	--	22.78	20.05	--	27.37	25.75	26.89	24.71				60.28	29.00		33.75		59.96	30.52			19.18						87.25	--	49.41	112.13	131.74	59.75	109.14			123.00	68.21		124.69			
9/25/1991	--	23.62	20.45	--	27.67	26.00	27.16	25.03				60.76	28.50		33.71	30.29	60.16	30.31			20.04	48.39					87.08	--	50.09	118.05	123.60	60.12	106.60			111.33	65.62		126.15			
10/29/1991	--	25.65	20.47	--	28.12	26.29	27.45	25.21				60.98	29.65		34.93						21.05	50.71					87.45	--	50.41	102.56	89.80	60.35	105.91			101.71	65.53		125.06			

Table 1
Depth-to-Water Measurements – Teichert Aggregates, Woodland Properties

(all measurements in Feet below reference point)

Date	TA-1	TA-1A	TA-3	TA-3A	TA-4	TA-5	TA-5A	TA-6	TA-7	TA-8	TA-9	TA-9R	TA-10	TA-11	TA-12	TA-13	TA-13A	TA-14	TA-15	TA-16	TA-17	TA-18	TA-22	TA-23	TA-24	TA-25	Coors North	Coors South	YFC-West	YFC-East	Storz	Stephens	Muller	Muller #2	Schwarz-gruber	Schwarz-gruber #2	Teichert Dom	Teichert Plant Dom	Teichert Plant	Teichert Plant New	Rodgers Dom North	Rodgers Dom-New South
11/26/1991	--	25.94	20.44	--	28.12	26.46	27.62	25.32				60.91	29.44		35.74												87.48	--	49.86	102.68	86.07	60.31	104.29			96.83	63.21		124.20			
12/19/1991	--	26.20	20.45	--	28.18	26.55	27.74	25.40				60.68	29.64		35.74												86.43	--	49.49	94.83	83.00	60.19	103.37			93.78	62.87		123.75			
1/20/1992	--	26.32	20.07	--	28.23	26.63	27.81	25.60				60.43	28.63		32.50						31.72	53.86					82.00	--	48.99	90.90	78.42	59.82	101.98	83.9		89.90	59.93		89.15			
2/25/1992	--	25.46	19.37	--	28.34	26.38	27.57	25.41				59.73	27.84		29.66		56.32	35.33			18.26	35.29					77.76	--	47.86	90.44	76.10	59.16	97.71	80.2		85.57	56.27		123.65			
3/19/1992	--	25.73	19.06	--	28.35	26.47	27.66	25.48				59.41	27.89		30.73		54.08				19.10	32.43					75.59	--	47.18	82.58	74.60	58.81	94.82	78.4	56.63	80.82	54.63		123.73			
4/30/1992	--	26.05	19.44	--	28.35	26.31	26.05	25.53				59.48	28.77		31.98		53.88	28.57			21.18	44.24						--	46.75	120.70	113.73	58.91	112.72	183.8	58.15	93.36	66.06		115.73			
5/22/1992	--	25.41		--	28.25	26.16	27.29	24.99				58.95	28.84		32.21		56.26	28.16				47.69						--	46.07	149.58	123.79	58.51	111.45	178.3		109.11	72.84		123.98			
6/26/1992	--	22.09	18.30	--	26.74	25.30	26.47	24.28				59.43	28.24		31.83		56.32	29.14									87.01	--	47.27		127.58	58.81	113.99	197.7		123.53	78.36		134.65			
7/22/1992	--	21.89	18.94	--	27.31	25.56	26.83	24.72				59.94	28.89		33.30		59.93	30.00				49.91					86.93	--	47.84	150.73	127.62	59.25	114.22	144.1		128.89	78.16		125.92			
8/21/1992	--	22.59	18.23	--	27.73	25.99	27.15	24.98				60.54	28.73		33.35			31.74									87.42	--	49.76	71.73	124.58	60.00	112.15	128.9		124.57	78.62		130.71			
9/22/1992	--	25.61	18.30	--	28.10	26.37	27.51	25.44				61.08	29.29		35.62												87.30	--	50.08		103.21	60.43	111.22	120.5		115.41	71.28		127.06			
10/21/1992	--	26.03	18.30	--	28.22	26.65	27.82	25.70				61.15	28.31		34.27												87.50	--	49.98	57.75	97.29	60.52	110.76	114.5		107.61	72.64		125.85			
11/24/1992	--	26.12	17.59	22.92	28.29	26.68	27.86	25.68				60.88	29.46		33.85								25.35	24.58			87.14	--	49.43	52.36	88.30	60.24	108.91	105.1		99.98	65.00		124.65			
12/15/1992	--	25.88		23.05	28.31	26.38	27.57	25.42				60.68	27.87		31.52						20.24	43.16	25.27	24.69				--	49.00	48.08	85.12	60.03	106.83			96.37	62.31		126.63			
1/25/1993	--	21.52	18.14	22.44	28.26	25.24	26.44	24.44		30.95		58.45	25.33		21.23	25.68	48.28	31.84	31.51	28.95	16.59	23.14	22.45	23.50			81.16	--	44.81	38.61	78.52	57.64	100.83	92.4	53.10	85.55	55.00		82.91			
2/25/1993	--	20.95	--	20.61	26.99	24.59	25.79	23.77		30.27		56.55	24.82		20.50	24.16	42.55	30.80	39.80	27.95	16.05	19.96	21.73	22.40	47.39		75.35	--	41.79	37.23	73.24	55.79	92.74	86.2	49.52	74.03	51.98		73.08			
3/29/1993	--	21.94	--	19.58	25.91	24.72	25.86	23.77				54.21	28.58		24.21	39.50	42.76	34.18	34.20		19.58	24.92	21.93	21.63			71.02	--	40.55	32.38	68.30	53.54	85.81	81.7	49.56	66.04	50.20		65.62			
4/29/1993	--	22.47	--	20.08	26.79	25.26	26.41	24.20				53.71	28.99		30.60	40.79	45.08	28.90	33.42		20.24	28.36	21.84	22.17			79.08	--	40.10	35.15	66.27	53.22	249.59	79.7	50.66	69.97	49.73		126.38			
5/25/1993	--	22.03	--	18.45	26.17	24.90	26.15	24.00				54.80	29.06		31.20		40.08	29.47			21.17	30.01	20.97	20.93			87.90	--	41.41	49.47	102.38	54.29	94.13	106.2	52.89	85.45	61.09		124.59			
6/29/1993	--	21.74	--	18.83	25.51	24.49	25.65	23.63				56.68	29.11		30.71		50.31	29.65			20.15	31.18	20.77	20.67			87.83	--	42.83		105.99	56.12	98.98	114.0	53.91	96.22	62.32		124.35			
7/27/1993	--	21.88	--	19.31	25.80	24.82	25.96	23.88				57.52	29.10		31.02		53.29	30.86			21.20	32.95	21.19	21.32			118.46	--	43.90		93.00	56.95	95.05	168.4	55.37	98.25	66.91		124.36			
8/31/1993	--	22.24	--	21.27	26.67	25.25	26.38	24.35				58.61	29.25		32.83		55.46	31.74			20.53	36.42	21.65	22.08			106.35	--	45.33		90.40	58.01	94.82	108.3	56.29	89.00	75.98		124.43			
9/28/1993	--	22.70	--	20.91	27.20	25.42	26.69	24.62				59.17	29.25		32.85		54.87	30.58			20.91	38.01	22.33	22.57			86.90	--	46.13		87.22	58.62	92.51	102.5	56.30	84.04	74.75		125.21			
10/28/1993	--	23.37	--	21.46	27.59	25.78	26.94	24.71				59.30	29.17		32.77		55.26	36.20			21.02	37.13	23.33	23.19			82.49	--	45.78		81.20	58.75	90.66	95.5	56.27	77.20	60.75		124.10			
11/24/1993	--	24.84	--	21.91	27.99	25.93	27.11	24.79				59.12	29.33		32.78		55.76					37.06	24.02	23.69			79.30	--	45.23		77.91	58.57	89.74	91.4	55.73	73.36	57.55		124.21			
12/16/1993	--	25.09	--	22.24	28.09	25.94	27.15	24.94				58.76	29.02		32.03		54.20				21.08	34.61	24.44	24.02			74.77	--	44.70		74.36	58.19	88.12	87.5	54.78	70.74	55.64		125.62			
1/19/1994	--	25.51	--	22.66	28.16	26.14	27.33	25.00				58.08	29.40		32.40		53.81					35.85	25.03	24.38			70.95	--	44.03		70.97	57.49	84.89	83.1	54.46	68.98	54.27					
2/15/1994	--	25.55	--	22.90	28.17	26.08	27.26	25.01				57.42	28.99		31.58		51.36		38.68		20.89	31.73	25.04	24.54			68.70	--	43.46		69.12	56.77	83.27	80.1	52.79	65.70	52.33					
3/18/1994	--	25.74	--	23.07	28.17	26.19	27.44	25.17				56.37	29.15		31.13		49.07		35.92			31.00	25.15	24.61			66.98	--	42.89	188.99	66.54	55.70	81.42	115.5	51.50	66.09	51.32					
4/15/1994	--		--	21.96	28.10	26.02	27.23	24.99				56.68	28.94		31.43		51.36	28.25				34.60	23.54	23.27				--	42.64		81.55	56.11		170.7	53.58	86.12	68.55					
5/26/1994	--	22.45	--	18.80	26.95	25.72	26.86	24.69				57.77	28.99		31.43	39.75	54.03	29.68			24.63	41.59	22.33	21.81				--	43.16		98.13	57.24			57.12	102.97	88.18					
6/30/1994	--	21.54	--	19.09	26.08	25.04	26.19	23.92				58.61	29.09		31.18		56.61	29.87				43.97	21.20	21.27			88.19	--	45.23		108.87	58.02		196.1	56.78	115.33	82.72					
7/21/1994	--	21.93	--	19.49	26.38	25.14	26.29	24.16				59.07	29.22		32.19		57.45	30.61				45.44	21.57	21.65				--	46.24		115.39	58.48			57.08	119.19	82.87					
8/23/1994	--	22.69	--	20.50	27.14	25.56	26.75	24.50				59.61	29.14		32.54		60.41	30.34				48.58	22.02	22.20				--	47.29		106.85	59.04			60.77	111.78	85.02					
9/27/1994	--	22.96	--	21.32	27.61	25.84	27.02	24.82				59.77	28.97		32.29		58.05	34.97				41.12	22.08	22.62				--	47.84		99.20	59.29		121.0		102.31	81.75					
10/31/1994	--		--	21.70	27.88	25.99	27.17	24.86				60.07	29.70								21.26	50.08	23.48	23.34			86.85	--	47.58		90.85	59.52		109.5		93.24	65.78					
11/1/1994	--		--																									--														
12/6/1994	--		--	22.28	28.08	26.01	27.20	24.91				59.73	28.97		32.19						20.55		24.39	24.04			86.89	--	46.52		83.15	59.18				87.04	61.64					
1/12/1995	--	20.86	--	22.06	27.57	24.19	25.46	23.26		26.17		58.68	23.31		17.82	23.76	48.67	31.45	39.20	26.14	14.80	14.64	23.03	23.74			78.84	--	41.82		77.01	57.95		91.9	52.17	78.22	55.06		79.21			
2/16/1995	--	20.87	--	18.61	25.11	23.90	25.02	23.20		30.76		53.22	25.80		22.28	32.76	41.37	33.44	34.44	32.51	16.74	18.34	21.36	21.12			71.25	--	38.21		67.65	52.54		83.9	39.22	63.65	48.95		65.66			
3/24/1995	--	19.86	--	17.55	23.96	22.73	23.96	22.34		28.86	46.82	46.84	23.07	37.32	17.14	25.43	32.35	31.48	23.76	28.08	12.18	13.75	20.56	20.34	43.35		65.91	--	33.64		62.05	45.94		78.3	34.54	55.60	42.10		56.65			
4/21/1995	--	20.80	--	18.06	23.94	23.15	24.22	22.61		29.17	43.57	43.91	26.91	38.10	22.66	28.88	35.19	28.30	20.91	30.95	12.36	18.73	20.85	20.48	45.40		65.03	--	31.74		60.82	43.05		85.2	34.14	58.15	42.97					
5/26/1995	--	21.63	--	17.91	25.00	24.17	25.31	23.24		29.72	44.39	44.60	28.17	34.86	23.15	40.45	39.55	30.58	24.77	38.29	13.13	23.82	21.01	20.64			78.66	--	32.38		62.13	43.96		137.2	40.89	68.77	44.50					
6/26/1995	--	21.10	--	18.38	25.28	24.48	25.66	23.30		31.52	49.06	49.11	28.74	34.12	24.19		46.99	30.66	34.97		20.00	27.57	20.69	20.64				--	34.93		68.19	48.88		147.3	45.39	79.99	55.70		70.39			
7/31/1995	--	21.79	--	19.67	26.18	25.02	26.20	23.92				53.57	28.88	38.21	24.92		53.52	30.58				33.48	21.28	21.36				--	38.71		80.85	53.21		155.0	52.19	106.65	61.22					
8/23/1995	--	22.33	--	20.28	26.78	25.33	26.49	24.23				55.22	28.95		31.93		55.67	32.60				36.35	21.92	21.92				--	40.64		93.71	54.75			53.77	83.04	65.87					
9/27/1995	--	23.10	--	21.05	27.49	25.76	26.94	24.71				56.81	28.88		33.09		56.81	34.31				37.02	22.90	22.89			87.48	--	42.36		81.08	56.21		100.0	56.62	75.77	57.80					
10/27/1995	--	24.00	--	21.54	27.84	25.98	27.14	24.99				56.62	28.74		32.57		53.62	36.22				34.07	23.48	23.41			79.74	--	42.40		76.85	55.95		91.4	53.49	68.94	54.77					
11/28/1995	--	24.89	--	21.97	28.11	26.13	27.30	25.12				56.19	29.11		32.88		53.06		37.70		31.71	34.21	24.30	23.90			74.18	--	42.55		71.84	55.51		85.2	52.69	64.83	52.41					
12/1/1995	--		--																									--														
1/3/1996	--	24.55	--	22.24	27.97	26.01	27.19	24.97				54.68	28.44		31.39		49.29		33.04		22.30	29.53	24.27	24.04			68.56	--	41.35		65.16	54.01		79.4	49.98	59.88	48.46					
2/7/1996	--	22.00	--	21.94	27.51	24.82	26.05	23.85		26.88		51.54	24.69		19.79	26.17	40.15	31.16	26.55	31.52	15.07	20.90	23.46	23.66			63.85	--	38.40		60.80	50.69		74.6	44.28	54.92	44.13		56.91			
3/15/1996	--	21.63	--	20.40	25.89	24.20	25.35	23.41		29.17	45.72	45.57	25.49		20.41	26.93	33.30	32.54	19.16	29.60	12.23	18.67	22.41	22.46	44.32		59.26	--	34.75		55.60	44.68		69.3	37.45	48.63	40.09		50.73			
4/26/1996	--	22.45	--	19.54	26.25	24.91	26.09	23.85		29.94	44.62	44.81	27.90		24.20	39.58	37.83	27.26	20.50	35.26	11.64	24.20	22.74	22.13	47.01		88.04	--	33.19		56.21	43.99		70.4	41.02	55.74	40.93					
5/28/1996	--	22.51	--	18.03	25.61	24.78	25.95	23.60		30.32	47.24	47.38	28.52	38.08	30.26		42.43	29.71	26.21		15.08	28.11	22.45	21.80			66.57	--	33.90		62.70	46.94		150.3	45.31	68.27	45.91					
6/26/1996	--	22.05	--	17.89	25.04	24.16	25.42	23.14		31.75		49.92	28.75	35.65	30.92		48.15	29.81	36.04		21.24	30.86	21.90	21.21			81.11	--	36.66		66.50	50.30		144.1	48.44	82.57	49.57					
7/23/1996	--	21.83	--	18.71	25.49	24.55	25.70	23.35				53.52	28.33	38.53	31.36		52.04	30.65			20.96	34.62	21.80	21.19			88.67	--	39.94		76.90	53.18		161.0	51.18	83.42	54.75					
8/27/1996	--	22.04	--	19.33	24.92	24.15	25.25	23.19				55.93	28.65		31.85		54.70	31.24			21.18	37.28	21.96	21.57			87.70	--	42.67		78.75	55.29			53.57	74.93	68.80					
9/26/1996	--	21.94	--	19.16	24.45	23.63	24.70	22.96				51.08	28.79		31.99		52.16	29.19	39.50		20.04	36.59	21.94	21.48			82.75	--	43.98		78.19	56.19		94.7	53.41	70.41	54.55					
10/30/1996	--	21.99	--	19.23	24.42	23.56	24.63	22.85				56.90	28.98		32.76		50.53	32.47	37.09		16.24	38.63	21.93	21.60			70.88	--	43.82		73.74	56.15		87.3	52.66	63.17	51.98					
12/2/1996	--	22.19	--	22.05	25.77	24.42	25.58	23.39				49.57	28.95		31.89		52.02		33.80		18.89	36.22	22.49	22.11			66.23	--	43.17		67.38	55.54		129.1	51.77	60.05	49.07					
1/9/1997	--	20.86	--	20.71	25.92	23.59	24.88	22.92		26.96		52.06	23.59		18.15	24.24	33.70	34.28	25.15	30.00	15.14	17.66	22.01	22.20	45.75		61.55	--	39.63		60.12	51.27		72.8	40.74	53.11	41.43					
2/14/1997	--	20.57	--	18.89	24.76	23.52	24.66	22.58		28.23	45.21	45.23	25.21	34.35	20.93	27.13	31.60	33.27	18.41	29.52	9.29	16.70	20.92	20.84	41.58		57.78	--	35.07		54.72	44.25		68.6	32.58	46.67	37.85					

Table 1
Depth-to-Water Measurements – Teichert Aggregates, Woodland Properties

(all measurements in Feet below reference point)

Date	TA-1	TA-1A	TA-3	TA-3A	TA-4	TA-5	TA-5A	TA-6	TA-7	TA-8	TA-9	TA-9R	TA-10	TA-11	TA-12	TA-13	TA-13A	TA-14	TA-15	TA-16	TA-17	TA-18	TA-22	TA-23	TA-24	TA-25	Coors North	Coors South	YFC-West	YFC-East	Storz	Stephens	Muller	Muller #2	Schwarz-gruber	Schwarz-gruber #2	Teichert Dom	Teichert Plant Dom	Teichert Plant	Teichert Plant New	Rodgers Dom North	Rodgers Dom-New South
3/20/1997	--	21.55	--	19.91	25.80	24.35	25.66	23.22		29.22	45.58	45.76	28.27		24.67	39.16	39.63	28.84	22.54	37.64	13.06	23.78	21.62	21.69			60.32	--	34.40		54.08	45.03		68.3	37.89	54.47	38.80		53.57			
4/28/1997	--	20.58	--	17.38	24.28	23.93	25.13	22.60		30.44	48.57	48.67	28.47		30.39		45.27	29.22	31.16		16.27	27.68	21.01	21.00				--	34.82		60.89	48.10		85.4	44.45	72.88	43.46					
5/21/1997	--	19.26	--	17.51	24.42	23.64	24.84	22.27				51.36	29.84		31.23		49.02	27.27	38.31		16.01	29.80	19.25	18.23			88.39	--	36.86		69.03	51.96		100.0	47.85	81.05	48.22					
6/25/1997	--	20.23	--	19.01	25.27	24.11	25.38	23.06				53.77	28.94	33.15	32.09		51.10	30.10			15.77	33.07	20.32	20.16			88.41	--	38.67		85.99	53.52		131.6	50.30	90.50	50.54					
7/23/1997	--		--														54.94	30.21										--															
10/3/1997	--	21.47	--	21.12	26.99	25.15	26.34	23.97				51.66	28.94		32.95		50.97	28.70				38.66	21.48	21.99			88.35	--	43.85		79.50	56.71		98.1	54.31	71.76	53.07		77.15			
1/28/1998	--	22.25	--	22.30	27.95	25.35	26.58	24.38					24.87		19.35	28.75	39.77	32.36	28.12	33.29	15.85	23.85	23.23	23.62			64.14	--	40.97		60.89	52.19		74.3	45.25	55.22	44.20					
3/3/1998	--	19.44	--	17.80	23.60	22.20	23.31	21.67		26.54	41.02	40.83	21.83	30.37	16.59	23.87	27.30	31.05	14.16	24.12	6.46	12.19	20.15	19.74	37.80		59.23	--	31.51		51.97	39.66		68.8	29.13	43.18	32.28		45.88			
6/4/1998	--	20.51	--	16.56	24.06	23.30	24.45	22.32		27.91	39.36	39.64	25.36		22.18	33.96	32.58	30.93	16.14	22.67	11.86	21.23	20.79	20.28	44.13		94.50	--	30.17		51.33	38.84		69.0	36.79	49.40	35.42					
8/31/1998	--	20.33	--	18.92	25.01	23.85	25.04	22.64				48.06	27.05		31.89		44.38	30.22	27.32	33.69	19.55	27.96	20.64	20.35			89.06	--	36.79	84.01	65.60	47.32		85.0	44.46	65.03	44.24					
12/11/1998	--	23.05	--	21.66	27.57	25.52	26.75	24.22				48.26	26.30		30.88		41.74	36.23	21.76	38.29	16.19	26.93	24.34	23.52			59.98	--	38.70	71.81	56.19	47.26		70.4	49.56	42.75	40.81	58.23	49.53			
3/11/1999	--	22.94	--	22.58	28.05	25.55	26.75	24.56		27.69	43.39	43.47	24.10	39.32	20.31	30.96	32.88		15.87	27.59	12.29	19.65	24.55	24.16	43.26		54.17	--	35.17	63.55	51.13	42.37		64.6	36.67	47.41	36.21	54.77				
4/29/1999	--		--														37.45	27.09										--															
6/15/1999	--	20.58	--	19.35	25.66	24.34	25.51	23.23				48.33	26.96	31.57	28.76		46.02	28.80	32.43	34.69		28.35	20.79	20.52			69.67	--	35.35	116.75	63.16	47.71		143.6	44.89	80.74	37.62	70.24	66.80			
9/13/1999	--	22.80	--	20.70	26.74	25.10	26.27	24.09					27.24		32.66			29.73		38.00		35.86	21.82	22.45			69.88	--	40.49	92.20	69.06	54.14		106.0	52.47	72.33	46.94	78.33				
12/10/1999	--	24.65	--	21.88	27.82	25.86	27.04	24.65					27.48		31.95		48.68	36.30	29.62		17.48	33.35	23.19	23.45			62.25	--	40.89	74.35	60.44	51.47		93.1	48.61	57.01	43.47	66.78	61.14			
3/22/2000	--	23.97	--	22.28	28.09	25.78	26.98	24.69		28.73		46.80	25.91		21.10	36.26	37.03	34.38	20.17	34.71	11.94	23.17	23.49	23.57	47.02		56.97	--	37.66	70.77	54.49	45.75		86.4	39.37	49.18	40.99	57.77				
6/26/2000	--	21.95	--	17.56	23.58	21.30	23.87	21.18					27.08		31.01		48.10	29.17	33.91			27.31	20.69	19.55			77.69	--	37.60	113.15	63.39	49.85		103.4	44.55	80.63	43.35	70.94	63.04			
9/27/2000	--	23.91	--	20.10	26.15	24.68	25.83	23.59				47.80	27.96		33.29			30.14	38.42			32.84	22.13	22.06			68.23	--	42.09	95.72	67.70	54.85		100.7	49.21	67.54	46.68	77.40				
12/8/2000	--	24.80	--	21.64	27.56	25.53	26.75	24.30					28.22		32.97		49.39		30.27			31.71	23.19	23.24			61.29	--	41.15	72.89	60.81	52.40		92.6	47.70	56.94	43.00	69.09				
3/29/2001	--	24.92	--	22.30	28.20	26.07	27.29	24.90		30.38			27.35		23.70		40.74	35.34	21.74	37.26		27.19	23.90	23.93			57.74	--	37.59	76.10	55.47	46.94		88.0	42.81	50.82	38.51	76.71				
7/2/2001	--	23.91	--	19.74	26.06	24.54	25.70	23.56					27.92		31.10		50.67	30.01	38.50			29.47	21.64	21.43			73.66	--		98.50	65.84	51.31		107.4	46.07	83.07	43.57	77.17	71.84			
9/7/2001	--	23.86	--	20.05	25.97	24.51	25.68	23.47					28.06		32.97		53.45	30.41	38.05			30.24	21.90	21.82			74.82	--	41.08	107.48	68.94	53.96		108.8	47.90	68.95	46.25	74.40	69.58	71.49		
12/6/2001	--	24.02	--	21.76	27.21	25.28	26.50	24.06					26.48		29.52		45.81	35.39	28.42			28.09	23.21	23.28			66.42	--	42.21	77.29	62.87	52.51		97.9	46.09	56.75	44.07	70.94	63.69	135.79		
3/21/2002	--	24.44	--	21.84	27.25	25.61	26.81	24.42		31.80		47.86	27.66		24.99		41.20		21.12	38.16		27.72	23.88	23.55			59.89	--	37.84	76.45	55.80	46.82		90.3	42.65	49.79	39.64	61.46	49.50	53.66		
6/6/2002	--	24.42	--	19.71	25.89	24.63	25.77	23.60					28.00		30.73		47.56	29.40	31.84	38.34		27.41	22.38	21.99			67.45	--	37.70	93.70	63.06	49.92		103.7	44.55	82.58	41.24	75.56	66.66	75.31		
9/9/2002	--	24.09	--	19.70	25.54	24.17	25.27	23.13					27.95		33.54			30.50				31.13	21.82	21.72			84.55	--	42.02	112.64	76.16	55.98		116.8	48.70	74.44	47.72	81.79	78.67	147.94		
11/25/2002	--	24.37	--	21.65	27.26	25.29	26.42	24.12					27.72		31.60		50.63		32.29			31.48	23.16	23.14			72.58	--	43.22	93.37	68.35	54.60		105.3	48.62	60.02	45.78	73.01	61.32	67.49		
3/24/2003	--	24.09	--	21.73	27.32	25.27	26.48	24.07		30.96		47.08	26.70		21.72	35.17	38.45	34.61	20.30	35.40		25.65	23.24	23.27			61.14	--	36.88	76.10	56.35	46.26		92.6	41.51	49.26	37.38	63.08	49.68	55.50		
6/10/2003	--	24.40	--	20.69	26.13	24.82	25.95	23.84				47.16	27.44	37.68	30.18		44.14	28.38	27.52	38.33		26.46	22.71	23.18			81.63	--	34.58	108.59	59.48	46.40		102.5	42.56	76.87	36.73	72.32	64.40	74.00		
9/2/2003	--	20.79	--	18.43	24.10	23.17	24.21	22.12					27.87		32.07		52.37	31.89	34.60			31.02	21.03	20.44			78.12	--	40.05	110.57	70.73	52.94		109.9	48.77	68.72	42.02	79.02	72.34	147.19		
12/8/2003	--		--	21.49	26.91	24.95	26.18	23.69					27.52		32.09		48.51		28.12			30.59	22.56	22.63			67.54	--	41.13	89.69	64.21	51.75		101.8	47.13	56.37	42.10	71.17	63.41	138.79		
3/5/2004	--	21.36	--	21.77	26.58	24.26	25.47	23.33		26.97		44.98	23.06		18.65	25.69	31.54	33.30	17.57	27.48		17.25	22.41	22.78	43.00		59.76	--	35.02	78.51	54.85	43.78		92.1	35.03	46.91	33.84	58.69	46.49	52.06		
6/21/2004	--	20.97	--	18.65	25.38	24.11	25.32	22.94					26.92		30.77		50.54	30.28	37.57			29.96	20.54	20.43			83.50	--	37.96	112.54	70.90	51.24		128.9	49.02	84.62	41.62	82.02	78.44	150.64		
9/20/2004	--	23.58	--	20.06	25.66	24.12	25.42	22.98					27.36		32.96		53.93	34.63				30.19	21.73	21.52			87.35	--	42.52	111.41	79.38	55.43		124.0	48.90	68.59	47.60	81.33	68.22	76.26		
12/22/2004	--		--	22.19	27.71	25.57	26.78	24.28					26.89		31.19		48.53		28.99			30.33	22.97	23.33			70.44	--	41.51	87.03	63.86	52.71		103.2	47.14	55.98	42.40	69.32	56.67	61.28		
4/1/2005	--	23.74	--	22.18	27.83	25.61	26.85	24.43				46.93	25.00		20.14	33.55	38.00	35.47	19.79	33.08		23.07	23.15	23.44	47.42		61.99	--	36.54	79.53	57.19	45.75		95.1	40.79	48.51	37.18	61.70	54.81	127.33		
6/20/2005	--	20.75	--	18.87	24.55	23.58	24.72	22.49		31.34		49.03	27.66		30.85		47.13	29.30				28.25	21.09	20.92			77.07	--	34.59	112.02	65.19	48.53		112.2	43.43	77.37	42.27	76.71	67.37	72.57		
9/19/2005	--	21.72	--	18.95	24.60	23.44	24.58	22.38				49.00	28.10		32.96		53.36	30.65		38.20		33.75	20.98	20.64			91.11	--	39.93	108.56	74.50	53.12		124.7	50.62	68.44	43.77	85.95	68.28	77.88		
12/15/2005	--	22.00	--	21.71	27.21	25.19	26.42	23.90	--				28.05		32.71		50.23			33.41		33.04	22.74	22.92			70.91	--	40.75	86.89	65.98	52.80		106.0	49.09	57.17	41.77	72.09	60.42	70.90		
4/28/2006	--	20.12	--	20.03	25.22	23.17	24.48	22.34	--	23.68	37.90	38.18	23.38	36.08	12.69	25.10	27.58	33.47	12.46	24.06		16.16	21.22	21.25	38.50		57.45	--	29.30	79.97	52.04	36.98		92.6	30.95	41.42	30.22	55.23	44.07	56.46		
6/16/2006	--	20.53	--	17.02	24.17	23.39	24.49	22.14	--	26.60		42.94	27.01		25.08	40.59	39.62	28.63	24.45	38.48		23.23	20.60	20.27			72.58	--	29.83	120.16	62.69	42.40		123.5	35.98	65.16	32.95	67.47	57.87	67.25		
9/8/2006	--	20.62	--	17.11	23.14	22.41	23.52	21.55	--			--	27.47		30.94		46.16	30.82				25.42	21.05	20.36			80.32	--	36.34	92.29	69.74	49.15		114.1	23.23	62.88	39.64	71.40	62.60	75.25		
11/30/2006	--	21.33	--	20.62	26.30	24.45	25.67	23.31	--			--	27.36		32.44		44.94		24.11			27.00	22.15	22.19			80.01	--	38.18	90.50	63.56	48.76		106.9	43.29	51.99	38.79	67.47	60.40	143.08		
3/21/2007	--	22.69	--	22.37	27.84	25.99	27.18	24.85	--			--	27.22		24.39		41.91		22.10	36.73		25.51	23.61	23.80			60.80	--	37.42	90.06	60.88	46.93		108.3	41.70	51.10	37.08	65.16	50.90	56.95		
6/8/2007	--	22.58	--	19.96	27.61	26.22	27.36	25.88	--			--	27.53		32.04		48.90	29.28				28.40	22.45	23.03			94.74	--	38.80	116.06	72.66	51.90		123.5	47.66	85.63	37.45	82.25	70.46	75.75		
9/4/2007	--	21.59	--	19.19	24.75	24.10	25.10	23.85	--			--	28.00		33.08		54.31	33.04				27.94	21.71	22.00			87.75	--	42.64	99.45	82.42	55.66		136.5	45.71	76.41	43.84	87.80	79.14	143.85		
12/21/2007	--	22.53	--	21.26	26.94	25.44	26.58	24.85	--			--	27.59		32.59		49.66			38.28		28.04	23.36	23.50			70.31	--	41.56	82.20	68.43	53.41		109.0	46.09	57.46	40.99	72.32	58.64	63.96		
3/13/2008	--	21.63	--	20.57	26.42	24.91	26.07	24.22	--		50.06	--	26.68		22.38	38.93	41.99	36.00	21.88			24.81	22.48	22.72			62.52	--	35.75	87.42	60.32	46.07		104.4	40.48	50.67	33.47	46.93	33.47	55.24		
7/1/2008	--	22.82	--	16.83	23.56	23.64	24.62	24.54	--			--	28.05		31.76		51.97	30.30		37.91		32.02	23.29	23.03				--	38.94		80.85	53.37	72.24		50.44	88.42	34.07	72.75	78.89	84.98		
9/10/2008	--	22.36	--	18.32	24.43	24.43	25.42	25.19	--			--	28.21		33.07		55.41	31.43				30.45	22.22	22.87			97.70	--	41.76	99.73	83.06	55.75	74.49	135.8	50.33	78.65	41.37	72.56		83.74		
12/1/2008	--	23.09	--	20.34	26.22	25.37	26.44	25.44	--			--	28.35		32.77		54.57			37.95		31.69	23.94	24.43			75.76	--	42.23	99.03	72.22	55.47	66.13	160.3	50.81	62.37	41.93		63.98	68.73		
3/17/2009	--	22.55	--	21.56	27.24	25.66	26.83	25.10	--			--	27.00		23.64		47.14	36.20				26.40	23.61	24.12			68.40	--	39.08	89.00	63.93	50.20	58.60	82.7	44.39	54.07	35.40	51.03	54.79	59.57		
6/16/2009	--	24.08	--	20.22	27.96	25.80	27.02	26.77	--			--	28.22		31.74			29.13		33.74		42.95	24.30	23.75				--	40.40	166.50	92.63	54.99	78.17	155.7	60.07	99.57	46.06		93.88	152.44		
9/14/2009	--	24.30	--	20.39	26.69	25.92	26.96	27.52	--			--	28.48		33.93			34.38		37.78		47.57	24.84	23.87		44.38	114.78	--	43.70	133.77	107.68	57.35	88.09	159.8	62.85	96.75	50.82		96.29	101.91		
12/7/2009	--	24.60	--		27.51	26.21	27.31	27.07	--			--	28.43		32.69								26.01	24.58		48.28	87.10	--	44.91	112.62	86.20	58.30	79.19	102.1		77.05	49.90		80.40	84.21		
3/22/2010	--	22.77	--	21.20	27.51	25.96	27.10	25.81	--	26.47		--	27.31		23.85	39.65	47.88				--	25.54	23.83	23.54		42.98	76.86	--	40.50	109.24	70.71	52.78	66.15	182.4	49.36	60.14	38.89	56.69	61.11	66.32		
6/22/2010	--	23.18	--	13.37	24.50	24.89	25.94	26.43	--			--	28.53		30.65		46.85	29.92				26.66	22.14	19.43		41.45	88.40	--	37.37	107.00	83.03	51.58	71.91	145.0	48.22	88.72	38.11	66.61	75.83	83.17		
9/13/2010	--	22.58	--	16.97	22.90	23.37	24.37	25.01	--			--	29.08		32.89		52.97	30.04				26.83	21.50	21.25		45.24	99.97	--	41.00	105.46	89.86	55.77	78.54	183.6	44.04	78.46	44.09	75.04	83.16	130.95		

Table 1
Depth-to-Water Measurements – Teichert Aggregates, Woodland Properties

(all measurements in Feet below reference point)

Date	TA-1	TA-1A	TA-3	TA-3A	TA-4	TA-5	TA-5A	TA-6	TA-7	TA-8	TA-9	TA-9R	TA-10	TA-11	TA-12	TA-13	TA-13A	TA-14	TA-15	TA-16	TA-17	TA-18	TA-22	TA-23	TA-24	TA-25	Coors North	Coors South	YFC-West	YFC-East	Storz	Stephens	Muller	Muller #2	Schwarz-gruber	Schwarz-gruber #2	Teichert Dom	Teichert Plant Dom	Teichert Plant	Teichert Plant New	Rodgers Dom North	Rodgers Dom-New South
12/1/2010	--	23.12	--	19.51	25.28	24.80	25.88	25.08	--			--	29.14		33.03		54.88		22.09		--	32.20	22.78	22.56		46.38	84.84	--	42.72	108.42	84.75	56.68	71.20	166.1	53.53	66.30	45.78		68.63	74.32		
4/5/2011	--	21.24	--	18.51	24.42	23.45	24.57	23.79	--	23.69		--	23.49		18.92	25.69	31.98	34.93	20.03	27.07	--	16.83	21.56	21.03	45.68	34.67	71.20	--	34.96	93.30	66.20	44.56	55.24	124.2	34.68	49.57	34.09	46.53	55.88	137.72		
6/16/2011	--	21.98	--	14.35	21.55	22.80	23.67	24.17	--			--	27.92		24.75		41.52	29.27	--	37.35	--	24.07	20.43	19.12		36.00	94.56	--	32.98	98.12	47.56	45.31	59.42	163.6	40.55	71.26	31.18		63.61	73.21		
9/12/2011	--	21.88	--	15.92	22.38	23.25	24.19	24.26	--			--	28.07		30.89		48.29	30.28	--		--	25.48	19.77	18.73		42.13	116.45	--	37.87	111.24	91.74	50.62	67.73	193.8	40.57	67.69	42.96		66.95	75.83		
12/6/2011	--	22.22	--	19.03	21.70	24.50	25.58	24.58	--			--	28.23		32.42		48.35	30.80	--		--	26.18	20.91	20.89		43.87	86.39	--	40.65	111.08	77.74	51.00	60.42	172.5	44.45	55.76	41.89	53.99	62.52	137.51		
3/29/2012	--	22.42	--	21.03	26.45	25.27	26.44	24.93	--			--	26.03		22.86		41.58	32.85	--	34.00	--	23.72	21.78	22.15		41.82	79.30	--	39.68	89.84	70.59	48.87	56.12	168.8	42.84	53.01	39.94	49.02	53.02	58.57		
8/3/2012	--	21.63	--	16.01	23.15	23.53	24.53	24.43	--			--	28.30		32.27		52.20		--		--	31.43	19.35	18.16		45.74	112.70	--	40.97	119.98	97.19	54.31	77.90	193.1	46.53	87.13	45.30		80.75	89.16		
9/10/2012	--	21.60	--	16.48	23.25	23.69	24.69	24.76	--			--	28.61		35.13		54.75	31.06	--		--	28.96	19.32	18.45		47.25	111.40	--	42.22	112.19	97.51	56.78	78.30	191.9	49.06	79.80	46.02	75.58	85.03	146.50	79.70	80.40
1/25/2013	--	20.59	--	18.90	24.95	24.33	25.40	24.23	--			--	27.57		23.39		44.24		--		--	26.14	23.93	24.00		43.67	80.50	--	39.27	96.53	76.90	50.80	60.40	158.4	43.90	55.70	39.80	62.69		141.64	56.81	57.46
4/15/2013	--	22.20	--	19.45	25.63	25.05	26.11	25.17	--		--	--	28.27		26.85		42.97	30.31	--		--	26.80	24.49	24.93		42.42	93.80	--	38.68	112.67	--	49.05	59.90	176.2	44.87	62.50	40.38		59.16	68.90	64.03	63.07
7/12/2013	--	22.09	--	16.56	23.67	23.99	24.90	24.98	--		--	--	29.01		33.58		52.05	31.05	--		--	41.19	23.21	22.42		45.70	133.70	--	40.58	147.68	--	55.30	78.80	198.3	56.45	95.90	47.13		84.93	91.52	91.51	92.25
9/12/2013	--	21.92	--	17.25	23.85	24.02	24.98	24.99	--		--	--	29.10		33.24		53.59	32.01	--		--	32.28	23.21	22.70		46.55	132.90	--	41.50	141.36	--	57.05	81.10	199.1	54.00	83.63	47.68		82.40	89.50	85.02	84.33
12/16/2013	--	22.91	--	20.24	26.25	25.10	26.21	24.99	--		--	--	28.79		33.02		55.31		--		--	57.51	25.91	26.01		46.55	113.10	--	41.78	118.98	--	57.18	73.50	189.6		70.75	46.43	71.46	70.91	77.90	73.15	72.85
6/2/2014	--	24.14	--	21.73	27.85	26.47	27.52	26.93	--		--	--	29.38		34.37			35.02	--		--		27.84	27.68		46.39	>300	--	44.41	145.28	--	57.52	83.50	156.6		98.44	47.02	--	93.32	148.56	97.50	98.10
8/20/2014	--	24.89	--	21.59	27.89		27.65	27.35	--		--	--	31.03						--		--		29.20	28.30		49.86	83.12	--	48.83	126.80	--	60.51	105.10	197.7		118.11	54.38	--	113.90	119.70	119.07	119.85
10/6/2014	--	25.20	--	21.98	27.81		27.75	27.35	--		--	--	31.42					34.62	--		--		29.78	28.51		50.82	83.40	--	49.42	121.35	--	61.08	101.80			108.29	47.60	--	109.80	114.40	115.64	115.78
12/23/2014	--	22.53	--	22.46	27.64	25.00	26.28	24.39	--	25.11	--	--	25.93				48.74		--	34.68	--	27.75	27.74	27.81	20.56	48.83	87.09	--	45.15	132.55	--	58.85	91.90			92.21	47.99	--	92.34	96.08		95.89
2/6/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	79.40	
3/20/2015	--	24.15	--	22.27	26.24	26.22	27.37	25.65	--		--	--	28.27		31.57		53.41	31.61	--		--	37.95	28.36	27.93		45.86	83.90	--	43.38	109.48	--	56.94			54.23	74.52	46.46	--	71.87	77.93	75.69	76.33
7/20/2015	--	21.33	--	18.15	25.02	24.96	25.95	26.09	--		--	--	28.27		32.29		54.33		--		--	48.37	23.32	22.81		46.15	125.25	--	42.18	150	--	57.01	96.30			118.02	49.04	--	139.23			118.93
10/15/2015	--	22.27	--	19.33	25.79	24.94	26.08	25.60	--		--	--	29.47						--		--		25.10	25.00		47.53	136.32	--	45.20	169.03	--	59.43	97.54	199.1		106.00	49.46	--	109.2	--		
11/11/2015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	104.09	104.57
2/9/2016	--	23.10	--	21.81	27.48	25.57	26.73	25.20	--		--	--	27.62		31.48		48.82		--		--	29.07	26.92	27.10		46.62	130.0	--	43.22	135.82	--	58.72	88.62	193.0	57.04	84.20	47.28	--	88.8	--		87.5
4/12/2016	--	22.87	--	22.04	27.28	25.30	26.41	25.21	--		--	--	27.61		24.65		44.90		--		--	25.71	26.75	26.98		43.98	114.80	--	41.18	125.23	--	55.49	76.75	188.45	51.56	75.00	45.54	--	76.72	--		76.39
6/22/2016	--	21.61	--	17.25	24.34	23.82	24.87	24.56	--		--	--	28.69		32.28		50.34	32.09	--		--	33.08	24.08	23.54		44.04	133.00	--	40.80	130.10	--	55.02	86.49	--	55.63	103.60	45.74	--	94.80	--		101.00
9/13/2016	--	20.93	--	16.21	23.08	23.43	24.39	24.29	--		--	--	28.91		33.93		54.93	34.08	--		--	30.84	22.15	21.11		45.78	96.50	--	42.54	115.00	--	57.76	94.02		54.91	98.75	49.07	--	100.80	--		
12/13/2016	--	21.78	--	19.46	25.49	24.54	25.64	24.56	--		--	--	27.61		33.09		52.36		--		--	31.42	24.83	25.07		43.48	123.50	--	41.12	137.25	--	57.89	84.10	191.91	56.36	95.32	47.90	--	87.00	--		
4/24/2017	--	20.41	--	16.89	22.67	21.98	23.62	22.04	--	--	--	--	26.39		23.14		36.67	30.88	--		--	21.24	22.58	23.12		32.44	95.00	--	31.76	109.10	--	40.37	57.71	183.83	37.93	51.40	36.00	--	144.60	--		53.00
7/20/2017	--	19.10	--	12.15	20.65	21.65	22.70	23.65	--		--	--	28.35		30.65		46.60	30.25	--		--	26.30	20.72	17.05		36.75	88.00	--	36.15	--	--	--	74.65	--	47.05	78.25	42.05	--	--	--		78.25
10/19/2017	--	21.42	--	16.85	23.14	23.41	24.41	24.20	--		--	--	29.14		33.50		54.65	29.86	--		--	34.16	22.86	22.88		43.45	83.00	--	39.73	--	--	54.71	75.20	--	51.10	68.20	46.29	--	--	--		70.30
12/12/2017	--	21.47	--	18.91	24.83	24.85	24.77	24.62	--		--	--	28.54		32.12		50.12		--		--	31.13	24.08	24.39		43.48	91.54	--	39.83	--	--	53.25	69.55	192.00	49.50	62.58	45.18	--	--	--		64.26
3/29/2018	--	21.51	--	20.96	26.51	26.28	25.13	25.04	--		--	--	27.94		30.73		45.59		--		--	28.09	25.30	25.89		43.50	100.07	--	39.93	111.33	--	51.78	63.89	186.14	47.90	56.95	44.07	--	143.43	--		58.21
7/18/2018	--	21.95	--	19.32	25.08	24.68	25.72	25.62	--		--	--	29.01		31.98		52.01	27.33	--		--	30.47	23.97	25.38		43.93	86.56	--	40.43	136.00	--	54.63	71.42	--	50.82	88.91	46.23	--	--	--		87.35
9/7/2018	--	21.52	--	18.83	24.78	24.03	25.16	25.35	--		--	--	28.63		32.08		52.86	28.52	--		--	31.65	23.32	24.06		45.82	99.52	--	41.55	174.65	--	56.52	79.77	195.96	51.44	79.24	47.68	--	--	--		80.10
1/29/2019	--	21.09	--	20.13	25.46	23.97	25.13	23.83	--		--	--	26.97		NM				--		--	25.69	23.41	24.00		44.00	112.53	--	38.84	121.34	--	52.22	65.56	186.00	44.16	57.52	43.72	--	65.49	--		59.44
4/14/2019	--	20.72	--	17.12	22.61	22.22	23.29	23.21	--	25.08	--	--	25.18		20.38	31.19	36.11		--	29.41	--	18.96	23.28	22.74	43.14	31.26	96.50	--	32.08	107.53	--	40.38	52.57	179.00	31.93	47.53	35.14	--	46.18	--		47.57
7/11/2019	--	22.24	--	17.67	24.13	24.11	25.12	25.26	--	27.25	--	--	27.22		30.69		42.68	28.52	--		--	25.78	24.46	24.40		33.61	91.54	--	33.53	105.77	--	43.22	62.31	197.00	43.35	^--	37.86	--	62.48	--		70.92
10/10/2019	--	22.33	--	17.79	24.07	24.00	25.10	24.85	--		--	--	28.14		33.25		50.94	28.87	--		--	31.32	24.16	24.17		38.02	134.14	--	37.81	149.31	--	48.90	65.23	197.7	46.19	^--	41.74	--	67.96	--		63.33
1/20/2020	--	22.35	--	20.24	25.85	24.85	24.52	24.68	--		--	--	28.41				46.45		--		--	28.31	24.87	25.38		38.72	92.33	--	38.24	111.37	--	48.42	58.38	180.37	44.68		40.18	--	52.38	--		54.35
3/30/2020	--	22.98	--	20.82	26.29	24.51	25.73	24.77	--		--	--	27.63		31.48		45.52	30.17	--		--	27.11	25.65	26.21		38.05	106.21	--	37.55	113.24	--	47.32	58.89	179.90	43.72		38.85	--	55.41	--		59.81
6/12/2020	--	21.68	--	18.84	24.92	24.37	25.43	25.01	--		--	--	27.93		31.95		49.26	28.35	--		--	26.61	23.52	22.89		37.61	105.23	--	37.92	121.73	--	48.34	67.88	181.75	42.46		42.75	--	69.15	--		77.83
9/15/2020	--	22.21	--	17.85	24.10	24.04	25.00	25.06	--		--	--	28.01		32.77		50.89	29.77	--		--	30.05	23.74	24.02		41.97	131.85	--	40.75	139.46	--		73.55	189.40	48.15		45.32	--	82.48	--		74.08

Table 2
Calculated Water Level Elevations – Teichert Aggregates, Woodland Properties

(all elevations in Feet, NAVD88)

Date	TA-1	TA-1A	TA-3	TA-3A	TA-4	TA-5	TA-5A	TA-6	TA-7	TA-8	TA-9	TA-9R	TA-10	TA-11	TA-12	TA-13	TA-13A	TA-14	TA-15	TA-16	TA-17	TA-18	TA-22	TA-23	TA-24	TA-25	Coors North	Coors South	YFC-West	YFC-East	Storz	Stephens	Muller	Muller #2	Schwarz-gruber	Schwarz-gruber #2	Teichert Dom	Teichert Plant Dom	Teichert Plant	Teichert Plant New	Rodgers Dom North	Rodgers Dom-New South
6/26/1986	95.72		107.33		101.97	99.52		98.32	89.71	89.19	73.24		82.29	81.64	70.48			86.25	53.04	75.48	61.94	58.93							86.91	35.86													
7/21/1986	90.29				95.04	94.29		93.30	81.65				77.37	74.24	72.74			79.61	42.73	68.71		48.86							79.86	25.46													
8/18/1986	89.22				94.39	93.76		92.91					77.31	66.58	64.73	54.96		75.45	42.99	67.18		47.53							82.23	33.01													
9/18/1986	89.19		100.92		94.02	93.49		92.74					77.31	65.54	64.53			74.46	43.42	68.92	39.69	48.03							75.97	45.24													
10/20/1986						93.23		92.74					77.25		64.48			73.00	44.83	70.77	42.08	47.97							75.24	48.44													
11/14/1986	89.04		100.95		93.64	93.14		92.54					76.96		64.19				45.62	70.63	43.02	48.04							74.91	50.65													
12/16/1986	89.02		101.00		93.79	92.87		92.53					77.05		64.13				46.21	68.16	43.84	48.27							75.25	58.04													
1/16/1987	89.12		101.20		93.89	93.20		92.61					77.19	64.96	64.32				47.21		44.88	48.33							75.89	60.67													
2/3/1987	89.12		101.03		93.89	93.18		92.64					77.32		64.46				47.04		44.73	48.64							76.03	59.96													
2/18/1987	89.12		101.03		93.89	92.72		92.49					77.52	64.96	65.19				48.52	70.85	52.36	51.39							75.89	60.84													
3/13/1987	89.12		100.85		93.54	93.72		92.39					78.24		65.45				50.59	71.29	52.19	53.19							76.31	62.41													
4/17/1987		85.29					92.15	91.27				63.30	76.47		64.47		53.36	79.67	49.66	70.96	48.72	51.57					54.36	52.52	77.06	35.98	56.81	62.37			45.95			21.13				
5/19/1987		86.35			93.79	92.47	93.00	91.79				61.66	77.04		64.84		49.35	79.05	40.32	68.50		48.17					46.07	44.58	76.82	30.40		60.53			41.75			16.04				
6/15/1987		86.61			95.08	93.84	94.04	93.82				59.29	76.81		64.65		46.49	80.29		66.68		46.45					54.58	53.07	74.29	24.55		58.13			40.56							
7/17/1987		86.44			95.87		93.90	92.85				56.96	76.15		63.64		44.01	76.22		69.82		41.42					51.39	49.98				55.94			37.95							
8/20/1987		86.89			94.87	94.06	94.31	93.23				55.93	76.72		64.14		43.99	76.65		70.41		42.08					52.08	51.24				55.05			32.73							
9/21/1987		86.62			94.55	93.76	93.91	92.89				55.31					44.34	74.75		69.34		44.36					56.42	55.48				54.27										
10/14/1987		86.57			94.06	93.55	93.70	92.79				55.08	76.77		64.23		45.24			71.05		44.28					58.45	57.34				54.05			37.74							
11/23/1987		86.39			94.35	93.43	93.56	92.80				55.82	76.74	66.29	64.19		45.49			69.82		45.00					62.14	60.93	71.99	52.65		54.86			38.82							
12/15/1987		86.50	100.83		93.77	93.40	93.51	92.75				56.87	77.19		64.97		46.53		40.52	67.60		47.91					63.77	62.52	72.93	54.48		55.96			40.69							
1/18/1988	89.26	87.83	100.86		93.71	93.47	93.57	93.14				59.62	79.25		74.91		49.57	75.42	45.65		52.51	54.64					66.31	64.97	74.68	58.16	57.24	58.86			43.89			38.25				
2/16/1988	89.49	86.77	100.87		93.69	93.25	93.36	92.64				62.01	76.98		66.03		50.80		48.30		44.24	51.34					67.68	66.30	76.04	56.86	59.73	61.35			44.61			31.98				
3/15/1988		86.54			94.44		93.19	92.45				63.33	77.04		65.88		51.89		49.22	70.79	44.55	50.39					68.45	68.52			60.27	62.52			44.45			26.21				
4/15/1988	89.41	87.31	100.87		93.65	92.96	93.08	92.20		80.89		62.75	77.08		65.67		51.16	79.72	41.67	72.16		46.19					64.90	63.64	78.13	49.88		61.68			40.93							
5/17/1988	89.42	86.61	100.86		93.65	93.29	92.99	92.10				61.56	76.44		65.10		49.28	75.54	40.89	69.78		45.74					62.39	61.19	76.58	44.28		60.69			39.91							
6/30/1988	89.35	87.25	101.29		95.95	94.47	94.65	93.47				58.73	76.86		64.52		45.36	77.23		68.22		42.36					48.80	46.23	74.52	36.14		57.62			39.78			7.37				
7/20/1988	89.33	87.24	100.84		95.95	94.60	94.78	93.66				57.44	77.02		64.47		44.55	77.16		65.16		40.41					49.21	47.03	73.12	16.39		56.37			34.52							
8/16/1988	89.32	87.23	100.84		95.43	94.39	94.54	93.60				56.69	77.01		64.31		44.82	76.19		71.10		40.65					52.83	51.46	72.24	28.71		55.69			35.86							
9/20/1988	89.29	87.92	100.84		94.42	93.88	94.01	93.09				56.54	77.00		64.22		44.27	76.50		69.97		40.23					42.99	41.58	71.77	28.81	39.22	55.66										
10/21/1988	89.28	86.57	100.84		94.00	94.54	93.67	92.79				55.69	76.95		64.06		44.51			71.89		42.46					57.28	55.96	71.77	43.08	43.38	54.70			30.81							
11/11/1988	89.26	86.35	100.83		93.83	93.41	93.54	92.76				55.87	77.05		64.01		44.64			71.57		44.20					58.84	57.54	72.18	46.57	44.81	54.89			33.66							
12/16/1988	89.22	86.16	100.83		93.70	94.25	93.37	92.65				56.77	77.30		63.99		44.52			64.48		44.65					61.86	60.65	73.02	50.96	50.75	55.79			38.75							
1/16/1989	89.27	86.39	100.83		93.64	93.15	93.26	92.56				57.69	77.14		64.25		44.62		39.01			46.24					63.95	62.71	73.71	54.92		56.72			39.28			35.44				
2/23/1989	89.24	86.09	100.83		93.61	92.95	93.08	92.38				58.08	76.99		64.00		45.09		39.48	62.55		45.59					65.55	64.25	74.23	56.95	47.22	57.10			39.33							
3/28/1989	89.24	86.64	100.83		93.57	92.93	93.04	92.30				59.41	77.46		65.25		48.78		44.36	66.23		52.25					65.81	64.57	74.79	57.18	56.26	58.62			42.91							
4/18/1989	89.25	86.01	100.82		93.55	92.80	92.87	92.12				60.03	76.97		64.70		49.07	78.08	42.12	66.04		49.71					55.43	53.50	74.88	42.83	53.69	58.73			42.27			20.55				
5/23/1989	89.25	86.26	100.81		93.63	92.88	93.04	95.00				57.78	76.98		64.37		45.71	79.09		64.12		45.38					41.16	41.29	73.04	21.82		56.53			40.44							
6/29/1989	89.28	86.82	101.10		93.69	93.31	93.47	92.54				55.48	76.70		64.00		45.24	76.92		65.83		39.40					48.02	47.05	70.25		34.12	54.46			38.39							
8/8/1989		86.96	100.83		93.93	93.38	93.52	92.58				54.51	76.64		63.93		43.55	75.74		69.45		25.38					46.45	45.81	68.66	18.28		53.43			35.55							
9/25/1989		86.58	100.82		93.87	93.36	93.49	92.70				54.12	76.89		63.96		43.22	71.31		64.75		38.82					49.46	48.72	68.47		38.36	52.99										
10/16/1989		86.82	100.82		93.82	93.34	93.47	92.72				54.17	76.75		63.87		42.24					39.99					52.26	51.45	69.23		41.61	53.15										
11/28/1989		86.26	100.82		93.74	93.23	93.34	92.74				54.71	76.85		64.21		41.21					46.78					55.29	54.36	70.63	47.44	46.26	53.58			36.26							
1/5/1990		86.41	100.81		93.67	93.08	93.18	92.44				55.26	76.85		64.48		41.02					48.18					58.00	57.11	71.57	49.56	49.04	54.15			39.16			26.99				
2/14/1990		86.60	100.79		93.67	93.00	93.09	91.49				56.41	77.25		65.31		43.96					50.17					60.60	59.50	72.49	51.79	51.82	55.40			40.86							
3/14/1990		86.67	100.81		93.64	92.99	93.03	92.44				57.65	77.20		65.34		45.75		38.66		47.01	50.54					61.87	60.90	73.18	53.59	53.16	56.66			41.64							
4/16/1990		86.40	100.85		93.62	92.99	93.08	92.14				56.92	76.78	65.14	64.24		42.50	78.11				40.04					32.68		73.37	6.86	36.30	55.79			37.33							
5/23/1990		86.64	100.91		93.62	92.62	92.69	91.82				55.23	76.81		64.62		38.74	77.50			51.91						32.34	29.75	70.91	7.38	12.30	54.15						-27.27				
6/15/1990		86.83	100.85		93.61	92.59	92.72	91.67				54.82	76.65		64.49			77.20			52.12						32.69		70.18	7.51	-7.29	53.74						-26.16				
7/18/1990		86.89	100.85		93.60	93.13	93.31	92.18				54.26	76.60		62.62			75.80									32.88		69.02	2.53	-15.42	53.19						-26.55				
8/21/1990		86.89	100.84		94.17	93.84	93.90	93.32				53.75	76.31		61.67			75.74									33.43		67.75	6.57	-1.94	52.70						-14.06				
9/24/1990		86.54	100.85		93.85	93.34	93.40	92.48				53.63	75.83		61.29						53.29						34.48		67.62	3.28	13.05	52.47						-34.27				
10/24/1990		86.23	100.85		93.70	93.03	93.16	92.20				53.78	75.84		61.26						53.58						32.90		67.37	9.04		52.37						-27.57				
11/26/1990		86.22	100.84		93.70	92.99	93.02	92.22				53.67	75.81		61.26						52.68						33.43		68.32	22.28	30.84	52.59						-35.83				
12/14/1990		86.23	100.84		93.64	92.87	92.95	92.20				53.84	76.34		61.26						52.76						35.41		68.58	26.46	33.39	52.75						-26.99				
1/28/1991		86.22	100.84		93.62	92.78	92.84	92.21					76.94		61.27												33.43		69.43	24.59	10.68	53.09						6.47				
2/19/1991		86.55	100.84		93.57	92.75	92.84	92.12				54.28	76.88		63.79			78.24									32.91		69.18	19.75	29.59	53.17						-26.49				
3/19/1991		87.04	100.84		93.60	93.18	93.14	92.51				54.59	78.02		73.88		41.44	74.24			55.92	45.55					36.81		69.50	28.62	36.12	53.57						-26.07				
4/22/1991		86.60	100.84		93.65	92.96	93.05	92.33				55.05	77.02		64.78		43.16	78.78			54.80	41.99					33.36		70.22	18.66	30.40	54.07				3.84		4.73				
5/30/1991		87.19	100.84		93.64	93.04	93.16	92.35				55.31	77.19		64.53			78.67			53.40	31.89					32.39		71.14	7.11	6.01	54.15				-17.71		-26.65				
7/2/1991		89.21	100.95		94.82	94.09	94.27	93.17				55.55	77.20		64.70		46.29	77.15			54.71	38.18					33.62		70.42	6.66	-11.71	54.49				-29.77		-26.48				
7/31/1991		90.32	100.98		94.99	94.19	94.33	93.50				54.77	77.59		65.08		41.98	77.31			54.43	31.71					33.84		68.96	6.01	-20.73	53.78	-25.69			-33.95	33.36	-36.64				

Table 2
Calculated Water Level Elevations – Teichert Aggregates, Woodland Properties

(all elevations in Feet, NAVD88)

Date	TA-1	TA-1A	TA-3	TA-3A	TA-4	TA-5	TA-5A	TA-6	TA-7	TA-8	TA-9	TA-9R	TA-10	TA-11	TA-12	TA-13	TA-13A	TA-14	TA-15	TA-16	TA-17	TA-18	TA-22	TA-23	TA-24	TA-25	Coors North	Coors South	YFC-West	YFC-East	Storz	Stephens	Muller	Muller #2	Schwarz-gruber	Schwarz-gruber #2	Teichert Dom	Teichert Plant Dom	Teichert Plant	Teichert Plant New	Rodgers Dom North	Rodgers Dom-New South
8/28/1991		90.18	101.28		94.60	93.97	94.11	93.41				53.98	76.79		63.23		39.87	75.73			54.17						32.63		67.50	4.73	-16.34	52.87	-13.49			-28.46	42.58		-26.96			
9/25/1991		89.34	100.88		94.30	93.72	93.84	93.09				53.50	77.29		63.27	65.52	39.67	75.94			53.31	36.04					32.80		66.82	-1.19	-8.20	52.50	-10.95			-16.79	45.17		-28.42			
10/29/1991		87.31	100.86		93.85	93.43	93.55	92.91				53.28	76.14		62.05						52.30	33.72					32.43		66.50	14.30	25.60	52.27	-10.26			-7.17	45.26		-27.33			
11/26/1991		87.02	100.89		93.85	93.26	93.38	92.80				53.35	76.35		61.24												32.40		67.05	14.18	29.33	52.31	-8.64			-2.29	47.58		-26.47			
12/19/1991		86.76	100.88		93.79	93.17	93.26	92.72				53.58	76.15		61.24												33.45		67.42	22.03	32.40	52.43	-7.72			0.76	47.92		-26.02			
1/20/1992		86.64	101.26		93.74	93.09	93.19	92.52				53.83	77.16		64.48						41.63	30.57					37.88		67.92	25.96	36.98	52.80	-6.33	25.77		4.64	50.86		8.58			
2/25/1992		87.50	101.96		93.63	93.34	93.43	92.71				54.53	77.95		67.32		43.51	70.92			55.09	49.14					42.12		69.05	26.42	39.30	53.46	-2.06	29.45		8.97	54.52		-25.92			
3/19/1992		87.23	102.27		93.62	93.25	93.34	92.64				54.85	77.90		66.25		45.75				54.25	52.00					44.29		69.73	34.28	40.80	53.81	0.83	31.32	38.62	13.72	56.16		-26.00			
4/30/1992		86.91	101.89		93.62	93.41	94.95	92.59				54.78	77.02		65.00		45.95	77.68			52.17	40.19							70.16	-3.84	1.67	53.71	-17.07	-74.16	37.10	1.18	44.73		-18.00			
5/22/1992		87.55			93.72	93.56	93.71	93.13				55.31	76.95		64.77		43.57	78.09				36.74							70.84	-32.72	-8.39	54.11	-15.80	-68.62		-14.57	37.95		-26.25			
6/26/1992		90.87	103.03		95.23	94.42	94.53	93.84				54.83	77.55		65.15		43.51	77.11									32.87		69.64		-12.18	53.81	-18.34	-88.02		-28.99	32.43		-36.92			
7/22/1992		91.07	102.39		94.66	94.16	94.17	93.40				54.32	76.90		63.68		39.90	76.25				34.52					32.95		69.07	-33.87	-12.22	53.37	-18.57	-34.43		-34.35	32.63		-28.19			
8/21/1992		90.37	103.10		94.24	93.73	93.85	93.14				53.72	77.06		63.63			74.51									32.46		67.15	45.13	-9.18	52.62	-16.50	-19.18		-30.03	32.17		-32.98			
9/22/1992		87.35	103.03		93.87	93.35	93.49	92.68				53.18	76.50		61.36												32.58		66.83		12.19	52.19	-15.57	-10.87		-20.87	39.51		-29.33			
10/21/1992		86.93	103.03		93.75	93.07	93.18	92.42				53.11	77.48		62.71												32.38		66.93	59.11	18.11	52.10	-15.11	-4.86		-13.07	38.15		-28.12			
11/24/1992		86.84	103.74	96.14	93.68	93.04	93.14	92.44				53.38	76.33		63.13								90.13	92.29			32.74		67.48	64.50	27.10	52.38	-13.26	4.61		-5.44	45.79		-26.92			
12/15/1992		87.08		96.01	93.66	93.34	93.43	92.70				53.58	77.92		65.46						53.11	41.27	90.21	92.18					67.91	68.78	30.28	52.59	-11.18			-1.83	48.48		-28.90			
1/25/1993		91.44	103.19	96.62	93.71	94.48	94.56	93.68		81.74		55.81	80.46		75.75	70.13	51.55	74.41	45.53	68.03	56.76	61.29	93.03	93.37			38.72		72.10	78.25	36.88	54.98	-5.18	17.32	42.15	8.99	55.79		14.82			
2/25/1993		92.01		98.45	94.98	95.13	95.21	94.35		82.42		57.71	80.97		76.48	71.65	57.28	75.45	37.24	69.03	57.30	64.47	93.75	94.47	71.67		44.53		75.12	79.63	42.16	56.83	2.91	23.44	45.73	20.51	58.81		24.65			
3/29/1993		91.02		99.48	96.06	95.00	95.14	94.35				60.05	77.21		72.77	56.31	57.07	72.07	42.84		53.77	59.51	93.55	95.24			48.86		76.36	84.48	47.10	59.08	9.84	27.94	45.69	28.50	60.59		32.11			
4/29/1993		90.49		98.98	95.18	94.46	94.59	93.92				60.55	76.80		66.38	55.02	54.75	77.35	43.62		53.11	56.07	93.64	94.70			40.80		76.81	81.71	49.13	59.40	-153.94	30.02	44.59	24.57	61.06		-28.65			
5/25/1993		90.93		100.61	95.80	94.82	94.85	94.12				59.46	76.73		65.78		59.75	76.78			52.18	54.42	94.51	95.94			31.98		75.50	67.39	13.02	58.33	1.52	3.46	42.36	9.09	49.70		-26.86			
6/29/1993		91.22		100.23	96.46	95.23	95.35	94.49				57.58	76.68		66.27		49.52	76.60			53.20	53.25	94.71	96.20			32.05		74.08		9.41	56.50	-3.33	-4.28	41.34	-1.68	48.47		-26.62			
7/27/1993		91.08		99.75	96.17	94.90	95.04	94.24				56.74	76.69		65.96		46.54	75.39			52.15	51.48	94.29	95.55			1.42		73.01		22.40	55.67	0.60	-58.68	39.88	-3.71	43.88		-26.63			
8/31/1993		90.72		97.79	95.30	94.47	94.62	93.77				55.65	76.54		64.15		44.37	74.51			52.82	48.01	93.83	94.79			13.53		71.58		25.00	54.61	0.83	1.38	38.96	5.54	34.81		-26.70			
9/28/1993		90.26		98.15	94.77	94.30	94.31	93.50				55.09	76.54		64.13		44.96	75.67			52.44	46.42	93.15	94.30			32.98		70.78		28.18	54.00	3.14	7.15	38.95	10.50	36.04		-27.48			
10/28/1993		89.59		97.60	94.38	93.94	94.06	93.41				54.96	76.62		64.21		44.57	70.05			52.33	47.30	92.15	93.68			37.39		71.13		34.20	53.87	4.99	14.20	38.98	17.34	50.04		-26.37			
11/24/1993		88.12		97.15	93.98	93.79	93.89	93.33				55.14	76.46		64.20		44.07					47.37	91.46	93.18			40.58		71.68		37.49	54.05	5.91	18.24	39.52	21.18	53.24		-26.48			
12/16/1993		87.87		96.82	93.88	93.78	93.85	93.18				55.50	76.77		64.95		45.63				52.27	49.82	91.04	92.85			45.11		72.21		41.04	54.43	7.53	22.17	40.47	23.80	55.15		-27.89			
1/19/1994		87.45		96.40	93.81	93.58	93.67	93.12				56.18	76.39		64.58		46.02					48.58	90.45	92.49			48.93		72.88		44.43	55.13	10.76	26.56	40.79	25.56	56.52					
2/15/1994		87.41		96.16	93.80	93.64	93.74	93.11				56.84	76.80		65.40		48.47		38.36		52.46	52.70	90.44	92.33			51.18		73.45		46.28	55.85	12.38	29.56	42.46	28.84	58.46					
3/18/1994		87.22		95.99	93.80	93.53	93.56	92.95				57.89	76.64		65.85		50.76		41.12			53.43	90.33	92.26			52.90		74.02	-72.13	48.86	56.92	14.23	-5.87	43.75	28.45	59.47					
4/15/1994				97.10	93.87	93.70	93.77	93.13				57.58	76.85		65.55		48.47	78.00				49.83	91.94	93.60					74.27		33.85	56.51		-60.99	41.67	8.42	42.24					
5/26/1994		90.51		100.26	95.02	94.00	94.14	93.43				56.49	76.80		65.55	56.06	45.80	76.57			48.72	42.84	93.15	95.06					73.75		17.27	55.38			38.13	-8.43	22.61					
6/30/1994		91.42		99.97	95.89	94.68	94.81	94.20				55.65	76.70		65.80		43.22	76.38				40.46	94.28	95.60			31.69		71.68		6.53	54.60		-86.40	38.47	-20.79	28.07					
7/21/1994		91.03		99.57	95.59	94.58	94.71	93.96				55.19	76.57		64.79		42.38	75.64				38.99	93.91	95.22					70.67		0.01	54.14			38.17	-24.65	27.92					
8/23/1994		90.27		98.56	94.83	94.16	94.25	93.62				54.65	76.65		64.44		39.42	75.91				35.85	93.46	94.67					69.62		8.55	53.58			34.48	-17.24	25.77					
9/27/1994		90.00		97.74	94.36	93.88	93.98	93.30				54.49	76.82		64.69		41.78	71.28				43.31	93.40	94.25					69.07		16.20	53.33		-11.33		-7.77	29.04					
10/31/1994				97.36	94.09	93.73	93.83	93.26				54.19	76.09								52.09	34.35	92.00	93.53			33.03		69.33		24.55	53.10		0.22		1.30	45.01					
11/1/1994																																											
12/6/1994				96.78	93.89	93.71	93.80	93.21				54.53	76.82		64.79						52.80		91.09	92.83			32.99		70.39		32.25	53.44				7.50	49.15					
1/12/1995		92.10		97.00	94.40	95.53	95.54	94.86		86.52		55.58	82.48		79.16	72.05	51.16	74.80	37.84	70.84	58.55	69.79	92.45	93.13			41.04		75.09		38.39	54.67		17.78	43.08	16.32	55.73		18.52			
2/16/1995		92.09		100.45	96.86	95.82	95.98	94.92		81.93		61.04	79.99		74.70	63.05	58.46	72.81	42.60	64.47	56.61	66.09	94.12	95.75			48.63		78.70		47.75	60.08		25.75	56.03	30.89	61.84		32.07			
3/24/1995		93.10		101.51	98.01	96.99	97.04	95.78		83.83	67.42	67.42	82.72	67.32	79.84	70.38	67.48	74.77	53.28	68.90	61.17	70.68	94.92	96.53	75.71		53.97		83.27		53.35	66.68		31.41	60.71	38.94	68.69		41.08			
4/21/1995		92.16		101.00	98.03	96.57	96.78	95.51		83.52	70.67	70.35	78.88	66.54	74.32	66.93	64.64	77.95	56.13	66.03	60.99	65.70	94.63	96.39	73.66		54.85		85.17		54.58	69.57		24.48	61.11	36.39	67.82					
5/26/1995		91.33		101.15	96.97	95.55	95.69	94.88		82.97	69.85	69.66	77.62	69.78	73.83	55.36	60.28	75.67	52.27	58.69	60.22	60.61	94.47	96.23			41.22		84.53		53.27	68.66		-27.50	54.36	25.77	66.29					
6/26/1995		91.86		100.68	96.69	95.24	95.34	94.82		81.17	65.18	65.15	77.05	70.52	72.79		52.84	75.59	42.07		53.35	56.86	94.79	96.23					81.98		47.21	63.74		-37.66	49.86	14.55	55.09		27.34			
7/31/1995		91.17		99.39	95.79	94.70	94.80	94.20				60.69	76.91	66.43	72.06		46.31	75.67				50.95	94.20	95.51					78.20		34.55	59.41		-45.29	43.06	-12.11	49.57					
8/23/1995		90.63		98.78	95.19	94.39	94.51	93.89				59.04	76.84		65.05		44.16	73.65				48.08	93.56	94.95					76.27		21.69	57.87			41.48	11.50	44.92					
9/27/1995		89.86		98.01	94.48	93.96	94.06	93.41				57.45	76.91		63.89		43.02	71.94				47.41	92.58	93.98			32.40		74.55		34.32	56.41		9.69	38.63	18.77	52.99					
10/27/1995		88.96		97.52	94.13	93.74	93.86	93.13				57.64	77.05		64.41		46.21	70.03				50.36	92.00	93.46			40.14		74.51		38.55	56.67		18.24	41.76	25.60	56.02					
11/28/1995		88.07		97.09	93.86	93.59	93.70	93.00				58.07	76.68		64.10		46.77		39.34		41.64	50.22	91.18	92.97			45.70		74.36		43.56	57.11		24.48	42.56	29.71	58.38					
12/1/1995																																											
1/3/1996		88.41		96.82	94.00	93.71	93.81	93.15				59.58	77.35		65.59		50.54		44.00		51.05	54.90	91.21	92.83			51.32		75.56		50.24	58.61		30.25	45.27	34.66	62.33					
2/7/1996		90.96		97.12	94.46	94.90	94.95	94.27		85.81		62.72	81.10		77.19	69.64	59.68	75.09	50.49	65.46	58.28	63.53	92.02	93.21			56.03		78.51		54.60	61.93		35.10	50.97	39.62	66.66		40.82			
3/15/1996		91.33		98.66	96.08	95.52	95.65	94.71		83.52	68.52	68.69	80.30		76.57	68.88	66.53	73.71	57.88	67.38	61.12	65.76	93.07	94.41	74.74		60.62		82.16		59.80	67.94		40.42	57.80	45.91	70.70		47.00			
4/26/1996		90.51		99.52	95.72	94.81	94.91	94.27		82.75	69.62	69.45	77.89		72.78	56.23	62.00	78.99	56.54	61.72	61.71	60.23	92.74	94.74	72.05		31.84		83.72		59.19	68.63		39.26	54.23	38.80	69.86					
5/28/1996		90.45		101.03	96.36	94.94	95.05	94.52		82.37	67.00	66.88	77.27	66.56	66.72		57.40	76.54	50.83		58.27	56.32	93.03	95.07			53.31		83.01		52.70	65.68		-40.67	49.94	26.27	64.88					
6/26/1996		90.91		101.17	96.93	95.56	95.58	94.98		80.94		64.34	77.04	68.99	66.06		51.68	76.44	41.00		52.11	53.57	93.58	95.66			38.77		80.25		48.90	62.32		-34.43	46.81	11.97	61.22					
7/23/1996		91.13		100.35	96.48	95.17	95.30	94.77				60.74	77.46	66.11	65.62		47.79	75.60			52.39	49.81	93.68	95.68			31.21		76.97		38.50	59.44		-51.29	44.07	11.12	56.04					
8/27/1996		90.92		99.73	97.05	95.57	95.75	94.93				58.33	77.14		65.13		45.13	75.01			52.17	47.15	93.52	95.30			32.18		74.24		36.65	57.33			41.68	19.61	41.99					

Table 2
Calculated Water Level Elevations – Teichert Aggregates, Woodland Properties

(all elevations in Feet, NAVD88)

Date	TA-1	TA-1A	TA-3	TA-3A	TA-4	TA-5	TA-5A	TA-6	TA-7	TA-8	TA-9	TA-9R	TA-10	TA-11	TA-12	TA-13	TA-13A	TA-14	TA-15	TA-16	TA-17	TA-18	TA-22	TA-23	TA-24	TA-25	Coors North	Coors South	YFC-West	YFC-East	Storz	Stephens	Muller	Muller #2	Schwarz-gruber	Schwarz-gruber #2	Teichert Dom	Teichert Plant Dom	Teichert Plant	Teichert Plant New	Rodgers Dom North	Rodgers Dom-New South
9/26/1996		91.02		99.90	97.52	96.09	96.30	95.16				63.18	77.00		64.99		47.67	77.06	37.54		53.31	47.84	93.54	95.39			37.13		72.93		37.21	56.43		15.01	41.84	24.13	56.24					
10/30/1996		90.97		99.83	97.55	96.16	96.37	95.27				57.36	76.81		64.22		49.30	73.78	39.95		57.11	45.80	93.55	95.27			49.00		73.09		41.66	56.47		22.40	42.59	31.37	58.81					
12/2/1996		90.77		97.01	96.20	95.30	95.42	94.73				64.69	76.84		65.09		47.81		43.24		54.46	48.21	92.99	94.76			53.65		73.74		48.02	57.08		-19.41	43.48	34.49	61.72					
1/9/1997		92.10		98.35	96.05	96.13	96.12	95.20		85.73		62.20	82.20		78.83	71.57	66.13	71.97	51.89	66.98	58.21	66.77	93.47	94.67	73.31		58.33		77.28		55.28	61.35		36.84	54.51	41.43	69.36					
2/14/1997		92.39		100.17	97.21	96.20	96.34	95.54		84.46	69.03	69.03	80.58	70.29	76.05	68.68	68.23	72.98	58.63	67.46	64.06	67.73	94.56	96.03	77.48		62.10		81.84		60.68	68.37		41.11	62.67	47.87	72.94					
3/20/1997		91.41		99.15	96.17	95.37	95.34	94.90		83.47	68.66	68.50	77.52		72.31	56.65	60.20	77.41	54.50	59.34	60.29	60.65	93.86	95.18			59.56		82.51		61.32	67.59		41.34	57.36	40.07	71.99		44.16			
4/28/1997		92.38		101.68	97.69	95.79	95.87	95.52		82.25	65.67	65.59	77.32		66.59		54.56	77.03	45.88		57.08	56.75	94.47	95.87					82.09		54.51	64.52		24.25	50.80	21.66	67.33					
5/21/1997		93.70		101.55	97.55	96.08	96.16	95.85				62.90	75.95		65.75		50.81	78.98	38.73		57.34	54.63	96.23	98.64			31.49		80.05		46.37	60.66		9.69	47.40	13.49	62.57					
6/25/1997		92.73		100.05	96.70	95.61	95.62	95.06				60.49	76.85	71.49	64.89		48.73	76.15			57.58	51.36	95.16	96.71			31.47		78.24		29.41	59.10		-21.95	44.95	4.04	60.25					
7/23/1997																	44.89	76.04																									
10/3/1997		91.49		97.94	94.98	94.57	94.66	94.15				62.60	76.85		64.03		48.86	77.55				45.77	94.00	94.88			31.53		73.06		35.90	55.91		11.54	40.94	22.78	57.72		20.58			
1/28/1998		90.71		96.76	94.02	94.37	94.42	93.74					80.92		77.63	67.06	60.06	73.89	48.92	63.69	57.50	60.58	92.25	93.25			55.74		75.94		54.51	60.43		35.33	50.00	39.32	66.59					
3/3/1998		93.52		101.26	98.37	97.52	97.69	96.45		86.15	73.22	73.43	83.96	74.27	80.39	71.94	72.53	75.20	62.88	72.86	66.89	72.24	95.33	97.13	81.26		60.65		85.40		63.43	72.96		40.88	66.12	51.36	78.51		51.85			
6/4/1998		92.45		102.50	97.91	96.42	96.55	95.80		84.78	74.88	74.62	80.43		74.80	61.85	67.25	75.32	60.90	74.31	61.49	63.20	94.69	96.59	74.93		25.38		86.74		64.07	73.78		40.65	58.46	45.14	75.37					
8/31/1998		92.63		100.14	96.96	95.87	95.96	95.48				66.20	78.74		65.09		55.45	76.03	49.72	63.29	53.80	56.47	94.84	96.52			30.82		80.12	32.85	49.80	65.30		24.71	50.79	29.51	66.55					
12/11/1998		89.91		97.40	94.40	94.20	94.25	93.90				66.00	79.49		66.10		58.09	70.02	55.28	58.69	57.16	57.50	91.14	93.35			59.90		78.21	45.05	59.21	65.36		39.26	45.69	51.79	69.98	39.31	48.20			
3/11/1999		90.02		96.48	93.92	94.17	94.25	93.56		85.00	70.85	70.79	81.69	65.32	76.67	64.85	66.95		61.17	69.39	61.06	64.78	90.93	92.71	75.80		65.71		81.74	53.31	64.27	70.25		45.04	58.58	47.13	74.58	42.77				
4/29/1999																	62.38	79.16																									
6/15/1999		92.38		99.71	96.31	95.38	95.49	94.89				65.93	78.83	73.07	68.22		53.81	77.45	44.61	62.29		56.08	94.69	96.35			50.21		81.56	0.11	52.24	64.91		-33.97	50.36	13.80	73.17	27.30	30.93			
9/13/1999		90.16		98.36	95.23	94.62	94.73	94.03					78.55		64.32			76.52		58.98		48.57	93.66	94.42			50.00		76.42	24.66	46.34	58.48		3.69	42.78	22.21	63.85	19.21				
12/10/1999		88.31		97.18	94.15	93.86	93.96	93.47					78.31		65.03		51.15	69.95	47.42		55.87	51.08	92.29	93.42			57.63		76.02	42.51	54.96	61.15		16.62	46.64	37.53	67.32	30.76	36.59			
3/22/2000		88.99		96.78	93.88	93.94	94.02	93.43		83.96		67.46	79.88		75.88	59.55	62.80	71.87	56.87	62.27	61.41	61.26	91.99	93.30	72.04		62.91		79.25	46.09	60.91	66.87		23.32	55.88	45.36	69.80	39.77				
6/26/2000		91.01		101.50	98.39	98.42	97.13	96.94					78.71		65.97		51.73	77.08	43.13			57.12	94.79	97.32			42.19		79.31	3.71	52.01	62.77		6.23	50.70	13.91	67.44	26.60	34.69			
9/27/2000		89.05		98.96	95.82	95.04	95.17	94.53				66.46	77.83		63.69			76.11	38.62			51.59	93.35	94.81			51.65		74.82	21.14	47.70	57.77		9.00	46.04	27.00	64.11	20.14				
12/8/2000		88.16		97.42	94.41	94.19	94.25	93.82					77.57		64.01		50.44		46.77			52.72	92.29	93.63			58.59		75.76	43.97	54.59	60.22		17.08	47.55	37.60	67.79	28.45				
3/29/2001		88.04		96.76	93.77	93.65	93.71	93.22		82.31			78.44		73.28		59.09	70.91	55.30	59.72		57.24	91.58	92.94			62.14		79.32	40.76	59.93	65.68		21.70	52.44	43.72	72.28	20.83				
7/2/2001		89.05		99.32	95.91	95.18	95.30	94.56					77.87		65.88		49.16	76.24	38.54			54.96	93.84	95.44			46.22			18.36	49.56	61.31		2.30	49.18	11.47	67.22	20.37	25.89			
9/7/2001		89.10		99.01	96.00	95.21	95.32	94.65					77.73		64.01		46.38	75.84	38.99			54.19	93.58	95.05			45.06	75.83	9.38	46.46	58.66		0.91	47.35	25.59	64.54	23.14	28.15	26.05		
12/6/2001		88.94		97.30	94.76	94.44	94.50	94.06					79.31		67.46		54.02	70.86	48.62			56.34	92.27	93.59			53.46	74.70	39.57	52.53	60.11		11.77	49.16	37.79	66.72	26.60	34.04	-38.25		
3/21/2002		88.52		97.22	94.72	94.11	94.19	93.70		80.89		66.40	78.13		71.99		58.63		55.92	58.82		56.71	91.60	93.32			59.99	79.07	40.41	59.60	65.80		19.39	52.60	44.75	71.15	36.08	48.23	43.88		
6/6/2002		88.54		99.35	96.08	95.09	95.23	94.52					77.79		66.25		52.27	76.85	45.20	58.64		57.02	93.10	94.88			52.43	79.21	23.16	52.34	62.70		6.00	50.70	11.96	69.55	21.98	31.07	22.23		
9/9/2002		88.87		99.36	96.43	95.55	95.73	94.99					77.84		63.44			75.75				53.30	93.66	95.15			35.33	74.89	4.22	39.24	56.64		-7.17	46.55	20.10	63.07	15.75	19.06	-50.40		
11/25/2002		88.59		97.41	94.71	94.43	94.58	94.00					78.07		65.38		49.20		44.75			52.95	92.32	93.73			47.30	73.69	23.49	47.05	58.02		4.38	46.63	34.52	65.01	24.53	36.41	30.05		
3/24/2003		88.87		97.33	94.65	94.45	94.52	94.05		81.73		67.18	79.09		75.26	60.64	61.38	71.64	56.74	61.58		58.78	92.24	93.60			58.74	80.03	40.76	59.05	66.36		17.08	53.74	45.28	73.41	34.46	48.05	42.04		
6/10/2003		88.56		98.37	95.84	94.90	95.05	94.28				67.10	78.35	66.96	66.80		55.69	77.87	49.52	58.65		57.97	92.77	93.69			38.25	82.33	8.27	55.92	66.22		7.15	52.69	17.67	74.06	25.22	33.33	23.54		
9/2/2003		92.17		100.63	97.87	96.55	96.79	96.00					77.92		64.91		47.46	74.36	42.44			53.41	94.45	96.43			41.76	76.86	6.29	44.67	59.68		-0.24	46.48	25.82	68.77	18.52	25.39	-49.65		
12/8/2003				97.57	95.06	94.77	94.82	94.43					78.27		64.89		51.32		48.92			53.84	92.92	94.24			52.34	75.78	27.17	51.19	60.87		7.84	48.12	38.17	68.69	26.37	34.32	-41.25		
3/5/2004	91.60			97.29	95.39	95.46	95.53	94.79		85.72		69.28	82.73		78.33	70.12	68.29	72.95	59.47	69.50		67.18	93.07	94.09	76.06		60.12	81.89	38.35	60.55	68.84		17.55	60.22	47.63	76.95	38.85	51.24	45.48		
6/21/2004	91.99			100.41	96.59	95.61	95.68	95.18					78.87		66.21		49.29	75.97	39.47			54.47	94.94	96.44			36.38	78.95	4.32	44.50	61.38		-19.18	46.23	9.92	69.17	15.52	19.29	-53.10		
9/20/2004	89.38			99.00	96.31	95.60	95.58	95.14					78.43		64.02		45.90	71.62				54.24	93.75	95.35			32.53	74.39	5.45	36.02	57.19		-14.33	46.35	25.95	63.19	16.21	29.51	21.28		
12/22/2004				96.87	94.26	94.15	94.22	93.84					78.90		65.79		51.30		48.05			54.10	92.51	93.54			49.44	75.40	29.83	51.54	59.91		6.46	48.11	38.56	68.39	28.22	41.06	36.26		
4/1/2005	89.22			96.88	94.14	94.11	94.15	93.69				67.33	80.79		76.84	62.26	61.83	70.78	57.25	63.90		61.36	92.33	93.43	71.64		57.89	80.37	37.33	58.21	66.87		14.54	54.46	46.03	73.61	35.84	42.92	-29.79		
6/20/2005	92.21			100.19	97.42	96.14	96.28	95.63		81.35		65.23	78.13		66.13		52.70	76.95				56.18	94.39	95.95			42.81	82.32	4.84	50.21	64.09		-2.57	51.82	17.17	68.52	20.83	30.36	24.97		
9/19/2005	91.24			100.11	97.37	96.28	96.42	95.74				65.26	77.69		64.02		46.47	75.60		58.78		50.68	94.50	96.23			28.77	76.98	8.30	40.90	59.50		-15.02	44.63	26.10	67.02	11.59	29.45	19.66		
12/15/2005	90.96			97.35	94.76	94.53	94.58	94.22					77.74		64.27		49.60			63.57		51.39	92.74	93.95			48.97	76.16	29.97	49.42	59.82		3.69	46.16	37.37	69.02	25.45	37.31	26.64		
4/28/2006	92.84			99.03	96.75	96.55	96.52	95.78		89.01	76.34	76.08	82.41	68.56	84.29	70.71	72.25	72.78	64.58	72.92		68.27	94.26	95.62	80.56		62.43	87.61	36.89	63.36	75.64		17.08	64.30	53.12	80.57	42.31	53.66	41.08		
6/16/2006	92.43			102.04	97.80	96.33	96.51	95.98		86.09		71.32	78.78		71.90	55.22	60.21	77.62	52.59	58.50		61.20	94.88	96.60			47.30	87.08	-3.30	52.71	70.22		-13.87	59.27	29.38	77.84	30.07	39.86	30.29		
9/8/2006	92.34			101.95	98.83	97.31	97.48	96.57					78.32		66.04		53.67	75.43				59.01	94.43	96.51			39.56	80.57	24.57	45.66	63.47		-4.40	72.02	31.66	71.15	26.14	35.13	22.29		
11/30/2006	91.63			98.44	95.67	95.27	95.33	94.81					78.43		64.54		54.89		52.93			57.43	93.33	94.68			39.87	78.73	26.36	51.84	63.86		2.76	51.96	42.55	72.00	30.07	37.33	-45.54		
3/21/2007	90.27			96.69	94.13	93.73	93.82	93.27					78.57		72.59		57.92		54.94	60.25		58.92	91.87	93.07			59.08	79.49	26.80	54.52	65.69		1.38	53.55	43.44	73.71	32.38	46.83	40.59		
6/8/2007	90.38			99.10	94.36	93.50	93.64	92.24					78.26		64.94		50.93	76.97				56.03	93.03	93.84			25.14	78.11	0.80	42.74	60.72		-13.87	47.59	8.91	73.34	15.29	27.27	21.79		
9/4/2007	91.37			99.87	97.22	95.62	95.90	94.27					77.79		63.90		45.52	73.21				56.49	93.77	94.87			32.13	74.27	17.41	32.98	56.96		-26.81	49.54	18.13	66.95	9.74	18.59	-46.31		
12/21/2007	90.43			97.80	95.03	94.28	94.42	93.27					78.20		64.39		50.17			58.70		56.39	92.12	93.37			49.57	75.35	34.66	46.97	59.21		0.68	49.16	37.08	69.80	25.22	39.09	33.58		
3/13/2008	91.33			98.49	95.55	94.81	94.93	93.90			64.18		79.11		74.60	56.88	57.84	70.25	55.16			59.62	93.00	94.15			57.36	81.16	29.44	55.08	66.55		5.30	54.77	43.87	77.32	50.61	64.26	42.30		
7/1/2008	90.14			102.23	98.41	96.08	96.38	93.58					77.74		65.22		47.86	75.95		59.07		52.41	92.19	93.84				77.97		34.55	59.25	23.41		44.81	6.12	76.72	24.79	18.84	12.56		
9/10/2008	90.60			100.74	97.54	95.29	95.58	92.93					77.58		63.91		44.42	74.82				53.98	93.26	94.00			22.18	75.15	17.13	32.34	56.87	21.16	-26.11	44.92	15.89	69.42	24.98		13.80		
12/1/2008	89.87			98.72	95.75	94.35	94.56	92.68					77.44		64.21		45.26			59.03		52.74	91.54	92.44			44.12	74.68	17.83	43.18	57.15	29.52	-50.60	44.44	32.17	68.86		33.75	28.81		
3/17/2009	90.41			97.50	94.73	94.06	94.17	93.02					78.79		73.34		52.69	70.05				58.03	91.87	92.75			51.48	77.83	27.86	51.47	62.42	37.05	27.02	50.86	40.47	75.39	46.51	42.94	37.97		

Table 2
Calculated Water Level Elevations – Teichert Aggregates, Woodland Properties

(all elevations in Feet, NAVD88)

Date	TA-1	TA-1A	TA-3	TA-3A	TA-4	TA-5	TA-5A	TA-6	TA-7	TA-8	TA-9	TA-9R	TA-10	TA-11	TA-12	TA-13	TA-13A	TA-14	TA-15	TA-16	TA-17	TA-18	TA-22	TA-23	TA-24	TA-25	Coors North	Coors South	YFC-West	YFC-East	Storz	Stephens	Muller	Muller #2	Schwarz-gruber	Schwarz-gruber #2	Teichert Dom	Teichert Plant Dom	Teichert Plant	Teichert Plant New	Rodgers Dom North	Rodgers Dom-New South
6/16/2009		88.88		98.84	94.01	93.92	93.98	91.35					77.57		65.24			77.12		63.24		41.48	91.18	93.12					76.51	-49.64	22.77	57.63	17.48	-45.98	35.18	-5.03	64.73		3.85	-54.90		
9/14/2009		88.66		98.67	95.28	93.80	94.04	90.60					77.31		63.05			71.87		59.20		36.86	90.64	93.00		66.15	5.10		73.21	-16.91	7.72	55.27	7.56	-50.14	32.40	-2.21	59.97		1.44	-4.37		
12/7/2009		88.36			94.46	93.51	93.69	91.05					77.36		64.29								89.47	92.29		62.25	32.78		72.00	4.24	29.20	54.32	16.46	7.61		17.49	60.89		17.33	13.33		
3/22/2010		90.19		97.86	94.46	93.76	93.90	92.31		86.22			78.48		73.13	56.16	51.95					58.89	91.65	93.33		67.55	43.02		76.41	7.62	44.69	59.84	29.50	-72.73	45.89	34.40	71.90	40.85	36.62	31.22		
6/22/2010		89.78		105.69	97.47	94.83	95.06	91.69					77.26		66.33		52.98	76.33				57.77	93.34	97.44		69.08	31.48		79.54	9.86	32.37	61.04	23.74	-35.35	47.03	5.82	72.68	30.93	21.90	14.37		
9/13/2010		90.38		102.09	99.07	96.35	96.63	93.11					76.71		64.09		46.86	76.21				57.60	93.98	95.62		65.29	19.91		75.91	11.40	25.54	56.85	17.11	-73.93	51.21	16.08	66.70	22.50	14.57	-33.41		
12/1/2010		89.84		99.55	96.69	94.92	95.12	93.04					76.65		63.95		44.95		54.95			52.23	92.70	94.31		64.15	35.04		74.19	8.44	30.65	55.94	24.45	-56.46	41.72	28.24	65.01		29.10	23.22		
4/5/2011		91.72		100.55	97.55	96.27	96.43	94.33		89.00			82.30		78.06	70.12	67.85	71.32	57.01	69.91		67.60	93.92	95.84	73.38	75.86	48.68		81.95	23.56	49.20	68.06	40.41	-14.56	60.57	44.97	76.70	51.01	41.85	-40.18		
6/16/2011		90.98		104.71	100.42	96.92	97.33	93.95					77.87		72.23		58.31	76.98		59.63		60.36	95.05	97.75		74.53	25.32		83.93	18.74	67.84	67.31	36.23	-53.88	54.70	23.28	79.61		34.12	24.33		
9/12/2011		91.08		103.14	99.59	96.47	96.81	93.86					77.72		66.09		51.54	75.97				58.95	95.71	98.14		68.40	3.43		79.04	5.62	23.66	62.00	27.92	-84.09	54.68	26.85	67.83		30.78	21.71		
12/6/2011		90.74		100.03	100.27	95.22	95.42	93.54					77.56		64.56		51.48	75.45				58.25	94.57	95.98		66.66	33.49		76.26	5.78	37.66	61.62	35.23	-62.84	50.80	38.78	68.90	43.55	35.21	-39.97		
3/29/2012		90.54		98.03	95.52	94.45	94.56	93.19					79.76		74.12		58.25	73.40		62.98		60.71	93.70	94.72		68.71	40.58		77.23	27.02	44.81	63.75	39.53	-59.13	52.41	41.53	70.85	48.52	44.71	38.97		
8/3/2012		91.33		103.05	98.82	96.19	96.47	93.69					77.49		64.71		47.63					53.00	96.13	98.71		64.79	7.18		75.94	-3.12	18.21	58.31	17.75	-83.43	48.72	7.41	65.49		16.98	8.38		
9/10/2012		91.36		102.58	98.72	96.03	96.31	93.36					77.18		61.85		45.08	75.19				55.47	96.16	98.42		63.28	8.48		74.69	4.67	17.89	55.84	17.35	-82.23	46.19	14.74	64.77	21.96	12.70	-48.96	17.22	17.08
1/25/2013		92.37		100.16	97.02	95.39	95.60	93.89					78.22		73.59		55.59					58.29	91.55	92.87		66.86	39.38		77.64	20.33	38.50	61.82	35.25	-48.73	51.35	38.84	70.99	34.85		-44.10	40.11	40.02
4/15/2013		90.76		99.61	96.34	94.67	94.89	92.95					77.52		70.13		56.86	75.94				57.63	90.99	91.94		68.11	26.08		78.23	4.19		63.57	35.75	-66.53	50.38	32.04	70.41		38.57	28.64	32.89	34.41
7/12/2013		90.87		102.50	98.30	95.73	96.10	93.14					76.78		63.40		47.78	75.20				43.24	92.27	94.45		64.83	-13.82		76.33	-30.82		57.32	16.85	-88.63	38.80	-1.36	63.66		12.80	6.02	5.41	5.23
9/12/2013		91.04		101.81	98.12	95.70	96.02	93.13					76.69		63.74		46.24	74.24				52.15	92.27	94.17		63.98	-13.02		75.41	-24.50		55.57	14.55	-89.43	41.25	10.91	63.11		15.33	8.04	11.90	13.15
12/16/2013		90.05		98.82	95.72	94.62	94.79	93.13					77.00		63.96		44.52					26.92	89.57	90.86		63.98	6.78		75.13	-2.12		55.44	22.15	-79.93		23.79	64.36	26.08	26.82	19.64	23.77	24.63
6/2/2014		88.82		97.33	94.12	93.25	93.48	91.19					76.41		62.61			71.23					87.64	89.19		64.14	<-180.12		72.50	-28.42		55.10	12.15	-46.93		-3.90	63.77		4.41	-51.02	-0.58	-0.62
8/20/2014		88.07		97.47	94.08		93.35	90.77					74.76										86.28	88.57		60.67	36.76		68.08	-9.94		52.11	-9.45	-88.03		-23.57	56.41		-16.17	-22.16	-22.15	-22.37
10/6/2014		87.76		97.08	94.16		93.25	90.77					74.37					71.63					85.70	88.36		59.71	36.48		67.49	-4.49		51.54	-6.15			-13.75	63.19		-12.07	-16.86	-18.72	-18.30
12/23/2014		90.43		96.60	94.33	94.72	94.72	93.73		87.58			79.86				51.09			62.30		56.68	87.74	89.06	98.50	61.70	32.79		71.76	-15.69		53.77	3.75			2.33	62.80		5.39	1.46		1.59
2/6/2015	--		--			--			--		--	--									--						--										--			17.52		
3/20/2015		88.81		96.79	95.73	93.50	93.63	92.47					77.52		65.41		46.42	74.64				46.48	87.12	88.94		64.67	35.98		73.53	7.38		55.68			41.02	20.02	64.33		25.86	19.61	21.23	21.15
7/20/2015		91.63		100.91	96.95	94.76	95.05	92.03					77.52		64.69		45.50					36.06	92.16	94.06		64.38	-5.37		74.73	-33.14		55.61	-0.65			-23.48	61.75		-41.50			-21.45
10/15/2015		90.69		99.73	96.18	94.78	94.92	92.52					76.32										90.38	91.87		63.00	-16.44		71.71	-52.17		53.19	-1.89	-89.43		-11.46	61.33		-11.47			
11/11/2015																																									-7.17	-7.09
2/9/2016		89.86		97.25	94.49	94.15	94.27	92.92					78.17		65.50		51.01					55.36	88.56	89.77		63.91	-10.12		73.69	-18.96		53.90	7.03	-83.33	38.21	10.34	63.51		8.93			9.98
4/12/2016		90.09		97.02	94.69	94.42	94.59	92.91					78.18		72.33		54.93					58.72	88.73	89.89		66.55	5.08		75.73	-8.37		57.13	18.90	-78.78	43.69	19.54	65.25		21.01			21.09
6/22/2016		91.35		101.81	97.63	95.90	96.13	93.56					77.10		64.70		49.49	74.16				51.35	91.40	93.33		66.49	-13.12		76.11	-13.24		57.60	9.16		39.62	-9.06	65.05		2.93			-3.52
9/13/2016		92.03		102.85	98.89	96.29	96.61	93.83					76.88		63.05		44.90	72.17				53.59	93.33	95.76		64.75	23.38		74.37	1.86		54.86	1.63		40.34	-4.21	61.72		-3.07			
12/13/2016		91.18		99.60	96.48	95.18	95.36	93.56					78.18		63.89		47.47					53.01	90.65	91.80		67.05	-3.62		75.79	-20.39		54.73	11.55	-82.24	38.89	-0.78	62.89		10.73			
4/24/2017		92.55		102.17	99.30	97.74	97.38	96.08					79.40		73.84		63.16	75.37				63.19	92.90	93.75		78.09	24.88		85.15	7.76		72.25	37.94	-74.16	57.32	43.14	74.79		-46.87			44.48
7/20/2017		93.86		106.91	101.32	98.07	98.30	94.47					77.44		66.33		53.23	76.00				58.13	94.76	99.82		73.78	31.88		80.76				21.00		48.20	16.29	68.74					19.23
10/19/2017		91.54		102.21	98.83	96.31	96.59	93.92					76.65		63.48		45.18	76.39				50.27	92.62	93.99		67.08	36.88		77.18			57.91	20.45		44.15	26.34	64.50					27.18
12/12/2017		91.49		100.15	97.14	94.87	96.23	93.50					77.25		64.86		49.71					53.30	91.40	92.48		67.05	28.34		77.08			59.37	26.10	-82.33	45.75	31.96	65.61					33.23
3/29/2018		91.45		98.10	95.46	93.44	95.87	93.08					77.85		66.25		54.24					56.34	90.18	90.98		67.03	19.81		76.98	5.53		60.84	31.76	-76.47	47.35	37.59	66.72		-45.70			39.27
7/18/2018		91.01		99.74	96.89	95.04	95.28	92.50					76.78		65.00		47.82	78.92				53.96	91.51	91.49		66.60	33.32		76.48	-19.14		57.99	24.23		44.43	5.63	64.56					10.13
9/7/2018		91.44		100.23	97.19	95.69	95.84	92.77					77.16		64.90		46.97	77.73				52.78	92.16	92.81		64.71	20.36		75.36	-57.79		56.10	15.88	-86.29	43.81	15.30	63.11					17.38
1/29/2019		91.87		98.93	96.51	95.75	95.87	94.29					78.82									58.74	92.07	92.87		66.53	7.35		78.07	-4.48		60.40	30.09	-76.33	51.09	37.02	67.07		32.24			38.04
4/14/2019		92.24		101.94	99.36	97.50	97.71	94.91		87.61			80.61		76.60		63.72			67.57		65.47	92.20	94.13	75.92	79.27	23.38		84.83	9.33		72.24	43.08	-69.33	63.32	47.01	75.65		51.55			49.91
7/11/2019		90.72		101.39	97.84	95.61	95.88	92.86		85.44			78.57		66.29		57.15	77.73				58.65	91.02	92.47		76.92	28.34		83.38	11.09		69.40	33.34	-87.33	51.90		72.93		35.25			26.56
10/10/2019		90.63		101.27	97.90	95.72	95.90	93.27					77.65		63.73		48.89	77.38				53.11	91.32	92.70		72.51	-14.26		79.10	-32.45		63.72	30.42	-88.03	49.06		69.05		29.77			34.15
1/20/2020		90.61		98.82	96.12	94.87	96.48	93.44					77.38				53.38					56.12	90.61	91.49		71.81	27.55		78.67	5.49		64.20	37.27	-70.70	50.57		70.61		45.35			43.13
3/30/2020		89.98		98.24	95.68	95.21	95.27	93.35					78.16		65.50		54.31	76.08				57.32	89.83	90.66		72.48	13.67		79.36	3.62		65.30	36.76	-70.23	51.53		71.94		42.32			37.67
6/12/2020		91.28		100.22	97.05	95.35	95.57	93.11					77.86		65.03		50.57	77.90				57.82	91.96	93.98		72.92	14.65		78.99	-4.87		64.28	27.77	-72.08	52.79		68.04		28.58			19.65
9/15/2020		90.75		101.21	97.87	95.68	96.00	93.06					77.78		64.21		48.94	76.48				54.38	91.74	92.85		68.56	-11.97		76.16	-22.60			22.10	-79.73	47.10		65.47		15.25			23.40

Table 3
Water Quality – Conventional Constituents
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

Sampling Point	Date	pH (standard pH-units)	TDS	EC (µS/cm)	Na	Ca	Mg	K	Cl	SO4	F	Alkalinity HCO3 as CaCO3	Alkalinity CO3 as CaCO3	Alkalinity OH as CaCO3	Alkalinity Total as CaCO3	Total Hardness as CaCO3	NO3 as NO3	NO2 as N	BOD	Total P	MBAS	Coliform Total	Coliform Fecal (MPN/100 mL)	Coliform E. Coli (MPN/100 mL)
MCL[1]		*6.5/8.5*	*500*	*900*					*250*	*250*	2						45	1			*0.5*			
TA-1A	9/16/2005	7.15	**800**	**1,300**	99	72	100	<1.0	45	78	0.68	640	<5.0	<5.0	640	610	27	-	-	-	-	<2	<2	-
TA-1A	1/11/2006	7.29	**730**	**1,200**	99	62	94	<1.0	28	60	0.66	620	<5.0	<5.0	620	540	16	-	-	-	-	<2	<2	-
TA-1A	3/28/2006	7.20	**740**	**1,200**	99	64	96	<1.0	17	63	0.78	610	<5.0	<5.0	610	560	13	-	-	-	-	<2	<2	-
TA-1A	9/5/2006	7.15	**780**	**1,200**	140	72	98	1.6	27	60	0.68	670	<5.0	<5.0	670	580	15	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	3/19/2007	7.06	**710**	**1,200**	99	63	96	1.0	24	65	0.63	650	<5.0	<5.0	650	550	14	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	9/5/2007	7.10	**520**	**910**	73	48	72	<1.0	29	27	0.73	480	<5.0	<5.0	480	420	<2.0	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	3/10/2008	7.00	**510**	870	64	48	70	<1.0	27	38	0.66	420	<5.0	<5.0	420	410	3.0	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	9/11/2008	7.01	460	770	57	44	64	<1.0	27	19	0.60	420	<5.0	<5.0	420	370	<2.0	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	9/15/2009	6.98	**520**	**900**	57	52	77	<1.0	28	34	0.34	460	<5.0	<5.0	460	450	4.9	-	-	-	-	13	<1.8	<1.8
TA-1A	3/24/2010	7.12	**520**	870	62	42	70	<1.0	36	66	0.66	400	<5.0	<5.0	400	390	7.0	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	4/7/2011	7.03	**700**	**1,200**	86	56	93	<1.0	43	80	0.57	570	<5.0	<5.0	570	520	9.3	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	5/1/2012	7.68	**790**	870	100	66	100	<1.0	39	74	0.67	680	<5.0	<5.0	680	580	7.7	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	4/16/2013	7.26	**670**	**1,200**	85	57	96	<1.0	39	29	0.65	620	<5.0	<5.0	620	570	<2.0	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	6/3/2014	7.24	**740**	**1,400**	84	65	87	<1.0	31	53	0.66	750	<5.0	<5.0	750	520	3.5	-	-	-	-	<1.8	<1.8	<1.8
TA-1A	3/27/2015	7.10	**870**	**1,400**	97	63	79	<1.0	41	110	0.93	640	<5.0	<5.0	640	490	2.2	-	8.3	0.14	-	7.8	<1.8	<1.8
TA-1A	4/26/2017	7.38	420	870	65	36	53	1.3	27	33	0.69	380	<5.0	<5.0	380	310	8.1	-	9.0	<0.050	-	<1.8	<1.8	<1.8
TA-1A[2]	4/11/2019	7.63	300	540	36	19	32	<1.0	13	32	0.50	230	<5.0	<5.0	230	48	<2.0	-	-	<0.050	-	<1.8	<1.8	<1.8
TA-3A	9/16/2005	8.45	410	660	66	33	40	1.9	31	48	0.47	240	14	<5.0	250	250	34	-	-	-	-	<2	<2	-
TA-3A	3/28/2006	*Well goes dry during purging. No sample retrieved.*																						
TA-3A	9/5/2006	*Well goes dry during purging. No sample retrieved.*																						
TA-3A	9/6/2007	7.56	**750**	**1,200**	80	74	110	1.0	29	51	0.54	620	<5.0	<5.0	620	620	23	-	-	-	-	23	<1.8	<1.8
TA-5A	11/6/1995	7.7	**630**	**1,200**	75	77	73	2.3	57	85	0.31	-	-	-	410	520	**63**	ND	-	-	-	ND	ND	-
TA-5A	3/19/2007	6.96	**690**	**1,100**	77	81	86	2.2	23	47	0.32	620	<5.0	<5.0	620	560	19	-	-	-	-	<1.8	<1.8	<1.8
TA-5A	3/10/2008	7.03	**680**	**1,100**	72	84	86	2.2	34	52	0.40	540	<5.0	<5.0	540	570	16	-	-	-	-	<1.8	<1.8	<1.8
TA-5A	9/11/2008	7.13	**720**	**1,100**	74	90	89	2.2	38	68	0.36	570	<5.0	<5.0	570	590	21	-	-	-	-	<1.8	<1.8	<1.8
TA-5A	9/15/2009	7.13	**710**	**1,200**	78	88	93	2.2	42	67	0.23	600	<5.0	<5.0	600	610	23	-	-	-	-	2.0	<1.8	<1.8
TA-5A	3/24/2010	7.17	**720**	**1,200**	73	78	87	2.1	62	71	0.38	540	<5.0	<5.0	540	550	18	-	-	-	-	<1.8	<1.8	<1.8
TA-5A	4/7/2011	7.16	**640**	**1,100**	67	75	83	1.9	39	62	0.31	530	<5.0	<5.0	530	530	35	-	-	-	-	<1.8	<1.8	<1.8
TA-5A	5/1/2012	7.25	**650**	**1,100**	68	75	83	1.9	31	56	0.39	600	<5.0	<5.0	600	530	24	-	-	-	-	<1.8	<1.8	<1.8
TA-5A	4/16/2013	7.26	**710**	**1,300**	65	85	100	1.9	43	73	0.41	600	<5.0	<5.0	600	620	22	-	-	-	-	<1.8	<1.8	<1.8
TA-5A	6/3/2014	7.33	**700**	**1,300**	66	82	78	2.1	39	64	0.52	580	<5.0	<5.0	580	530	18	-	-	-	-	<1.8	<1.8	<1.8
TA-5A	3/27/2015	7.29	**760**	**1,300**	71	77	69	1.6	45	64	0.65	550	<5.0	<5.0	550	480	15	-	5.0	2.0	-	46	<1.8	<1.8
TA-5A	4/26/2017	7.32	**660**	**1,300**	75	71	72	1.8	50	95	0.33	520	<5.0	<5.0	520	480	39	-	<3.0	<0.050	-	<1.8	<1.8	<1.8
TA-5A[2]	4/11/2019	7.42	**740**	**2,100**	66	70	75	1.4	50	110	0.35	550	<5.0	<5.0	550	180	36	-	-	<0.050	-	<1.8	<1.8	<1.8
TA-9R	Spring '92	7.7	**890**	**1,270**	97.4	82	64.8	-	130	92.4	0.13	487	ND	ND	487	380	25	-	-	-	0.06	-	-	-
TA-9R	11/8/1995	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	ND	-
TA-13A	11/7/1995	7.8	270	620	38	37	32	2.7	34	23	0.17	-	-	-	230	230	5	ND	-	-	-	ND	ND	-
TA-13A	7/23/1997	7.8	409	639	40	50	40	2.9	29	41	0.26	274	ND	-	274	288	7.3	-	-	-	-	23	ND	-
TA-13A	3/5/1998	7.6	248	387	17	38	28	2.2	11	21	0.16	201	ND	-	201	185	ND	-	-	-	-	2	ND	-
TA-13A	9/29/1998	7.6	324	507	27	37	29	2.6	23	26	0.17	206	ND	-	208	212	3.9	-	-	-	-	ND	ND	-
TA-13A	4/29/1999	7.4	275	430	26	42	31	4.2	20	30	0.16	214	ND	-	214	231	2.9	-	-	-	-	4	ND	-
TA-13A	4/19/2000	7.8	330	540	37	45	33	2.8	36	35	0.13	210	ND	-	210	250	5.9	-	-	-	-	ND	ND	-
TA-13A	5/7/2001	7.6	400	690	54	49	40	2.7	69	57	0.13	220	ND	-	220	290	14	-	-	-	-	ND	ND	-
TA-13A	5/7/2002	7.6	420	690	52	56	45	2.4	57	43	0.11	240	ND	ND	240	320	13	-	-	-	-	ND	ND	-
TA-13A	4/9/2003	7.71	350	600	42	51	41	2.6	39	38	ND	270	ND	ND	270	290	6.6	-	-	-	-	13	ND	ND
TA-13A	9/15/2003	7.58	350	550	42	41	32	2.4	33	27	0.18	250	ND	ND	250	240	10	-	-	-	-	ND	ND	ND
TA-13A	4/14/2004	7.51	310	510	30	44	32	1.6	31	33	0.17	240	ND	ND	240	240	3.1	-	-	-	-	2.0	ND	ND
TA-13A	9/28/2004	7.50	350	610	49	49	38	3.0	35	30	0.28	260	ND	ND	260	280	11	-	-	-	-	ND	ND	ND
TA-13A	4/14/2005	7.50	360	560	41	46	36	2.3	35	36	0.15	250	<5.0	<5.0	250	270	4.2	-	-	-	-	13	2.0	2.0

Table 3
Water Quality – Conventional Constituents
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

Sampling Point	Date	pH (standard pH-units)	TDS	EC (µS/cm)	Na	Ca	Mg	K	Cl	SO4	F	Alkalinity HCO3 as CaCO3	Alkalinity CO3 as CaCO3	Alkalinity OH as CaCO3	Alkalinity Total as CaCO3	Total Hardness as CaCO3	NO3 as NO3	NO2 as N	BOD	Total P	MBAS	Coliform Total (MPN/100 mL)	Coliform Fecal (MPN/100 mL)	Coliform E. Coli (MPN/100 mL)
MCL[1]		*6.5/8.5*	*500*	*900*					*250*	*250*	2						45	1			*0.5*			
TA-13A	9/15/2005	7.49	360	640	51	48	38	2.7	38	34	0.16	280	<5.0	<5.0	280	280	16	-	-	-	-	<2	<2	-
TA-13A	3/28/2006	7.46	220	370	18	36	24	2.3	11	17	0.16	180	<5.0	<5.0	180	190	<2.0	-	-	-	-	130	<2	-
TA-13A	9/11/2006	7.13	370	610	31	50	32	3.3	36	40	0.15	260	<5.0	<5.0	260	260	13	-	-	-	-	>1,600	920	280
TA-13A	3/20/2007	7.13	380	710	56	48	39	2.6	67	42	0.12	240	<5.0	<5.0	240	280	8.4	-	-	-	-	<1.8	<1.8	<1.8
TA-13A	9/5/2007	7.41	320	590	47	40	32	2.7	29	26	0.17	250	<5.0	<5.0	250	230	7.5	-	-	-	-	<1.8	<1.8	<1.8
TA-13A	3/12/2008	7.21	300	510	33	41	29	2.5	33	31	0.16	190	<5.0	<5.0	190	220	6.5	-	-	-	-	170	7.8	4.5
TA-13A	9/15/2009	*Insufficient water in well. No sample retrieved.*																						
TA-13A	3/23/2010	7.37	400	700	53	42	36	2.3	60	50	0.13	220	<5.0	<5.0	220	250	3.7	-	-	-	-	2.0	<1.8	<1.8
TA-13A	9/16/2010	*Biennial sampling conducted in March 2010*																						
TA-13A	4/4/2012	7.62	410	730	70	54	44	2.8	79	37	0.17	230	<5.0	<5.0	230	320	6.4	-	<3.0	<0.050	-	<1.8	<1.8	<1.8
TA-13A	9/12/2012	*Biennial sampling conducted in April 2012*																						
TA-13A	6/2/2014	*Well dry. No sample retrieved.*																						
TA-13A	10/6/2014	*Well dry. No sample retrieved.*																						
TA-13A	3/27/2015	*Insufficient water in well. No sample retrieved (followup attempt to sample since well was dry in 2014)*																						
TA-13A	4/13/2016	7.78	260	510	47	24	21	2.1	27	20	0.23	190	<5.0	<5.0	190	150	<1.8	-	18	<0.050	<0.10	4.5	<1.8	<1.8
TA-13A	4/3/2018	7.88	450	880	68	51	43	2.6	100	51	0.11	260	<5.0	<5.0	260	300	6.8	-	<3.0	<0.050	-	13	4.5	4.5
TA-13A	3/31/2020	7.66	440	820	58	43	37	2.6	85	45	0.14	270	<5.0	<5.0	270	260	11.1	-	<3.0	<0.050	<0.10	49	49	14
TA-14	3/1/1992	7.9	481	614	36.8	42.7	33	-	41.6	26.9	0.25	291	ND	ND	291	252	7	-	-	-	ND	-	-	-
TA-14	7/23/1997	7.7	278	435	34	34	26	1.1	18	17	0.38	218	ND	-	218	191	1.6	-	-	-	-	ND	ND	-
TA-14	3/5/1998	8	260	407	32	34	29	3	18	16	0.3	202	ND	-	201	203	2.3	-	-	-	-	ND	ND	-
TA-14	9/29/1998	7.8	297	464	30	34	25	1.2	18	20	0.31	199	ND	-	196	188	1.4	-	-	-	-	4	2	-
TA-14	4/29/1999	7.4	268	418	29	37	27	1.1	22	19	0.24	204	ND	-	204	201	4	-	-	-	-	17	ND	-
TA-14	9/14/1999	7.7	288	426	30	31	24	1.1	17	15	0.27	196	ND	-	196	178	ND	-	-	-	-	17	9	-
TA-14	4/19/2000	7.7	270	430	35	34	25	1.4	16	18	0.22	200	ND	-	200	190	3	-	-	-	-	4	4	-
TA-14	9/19/2000	7.9	270	440	33	32	25	1	13	15	0.16	190	ND	-	190	180	ND	-	-	-	-	ND	ND	-
TA-14	5/7/2001	7.7	250	430	34	34	26	1.1	15	15	0.23	180	ND	-	180	140	3.3	-	-	-	-	17	2	-
TA-14	9/20/2001	7.5	280	450	34	33	25	1.2	14	13	0.18	200	ND	-	200	180	ND	-	-	-	-	ND	ND	-
TA-14	5/7/2002	7.7	270	400	34	36	27	1.2	16	13	0.2	190	ND	ND	190	200	3	-	-	-	-	2	2	-
TA-14	9/25/2002	7.5	270	440	32	38	27	1.1	15	11	0.39	200	ND	ND	200	210	ND	-	-	-	-	ND	ND	-
TA-14	9/15/2003	7.62	270	430	29	34	24	1.5	16	12	0.29	210	ND	ND	210	190	ND	-	-	-	-	17	ND	ND
TA-14	4/14/2004	7.77	260	420	27	35	25	ND	19	13	0.32	220	ND	ND	220	190	3.9	-	-	-	-	14	6.0	6.0
TA-14	9/28/2004	*Well goes dry during purging. No sample retrieved.*																						
TA-14	4/14/2005	*Well goes dry during purging. No sample retrieved.*																						
TA-14	9/15/2005	7.44	280	450	30	38	27	1.0	18	14	0.26	210	<5.0	<5.0	210	210	<2.0	-	-	-	-	4.0	<2	-
TA-14	4/26/2006	7.59	280	440	29	38	28	1.0	18	14	0.26	220	<5.0	<5.0	220	210	3.7	-	-	-	-	13	13	13
TA-14	9/11/2006	7.37	260	440	33	34	24	1.3	18	15	0.24	240	<5.0	<5.0	240	180	<2.0	-	-	-	-	2.0	2.0	2.0
TA-14	3/20/2007	*Well is dry. No sample retrieved.*																						
TA-14	9/6/2007	7.30	230	450	29	36	27	1.2	18	15	0.26	210	<5.0	<5.0	210	200	2.3	-	-	-	-	<1.8	<1.8	<1.8
TA-14	3/12/2008	*Well goes dry during purging. No sample retrieved.*																						
TA-14	9/11/2008	*Insufficient water in well. No sample retrieved.*																						
TA-14	9/15/2009	*Insufficient water in well. No sample retrieved.*																						
TA-14	3/22/2010	*Well is dry. No sample retrieved. Biennial sampling conducted in September 2010*																						
TA-14	9/16/2010	7.39	310	530	33	44	36	1.4	23	19	0.22	220	<5.0	<5.0	220	260	<2.0	-	-	-	-	<1.8	<1.8	<1.8
TA-14	4/4/2012	*Insufficient water in well. No sample retrieved.*																						
TA-14	9/12/2012	*Insufficient water in well. No sample retrieved.*																						
TA-14	6/2/2014	*Insufficient water in well. No sample retrieved.*																						
TA-14	10/6/2014	*Insufficient water in well. No sample retrieved (followup attempt).*																						
TA-14	3/27/2015	*Insufficient water in well. No sample retrieved (followup attempt to sample since well water level was too low to sample in 2014)*																						
TA-14	4/13/2016	*Insufficient water in well. No sample retrieved.*																						
TA-14	9/13/2016	*Insufficient water in well. No sample retrieved (followup attempt).*																						
TA-14	4/3/2018	*Insufficient water in well. No sample retrieved.*																						
TA-14	3/31/2020	*Well cassing bent at surface. No sample retrieved.*																						

Table 3
Water Quality – Conventional Constituents
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

Sampling Point	Date	pH (standard pH-units)	TDS	EC (µS/cm)	Na	Ca	Mg	K	Cl	SO4	F	Alkalinity HCO3 as CaCO3	Alkalinity CO3 as CaCO3	Alkalinity OH as CaCO3	Alkalinity Total as CaCO3	Total Hardness as CaCO3	NO3 as NO3	NO2 as N	BOD	Total P	MBAS	Coliform Total	Coliform Fecal (MPN/100 mL)	Coliform E. Coli (MPN/100 mL)
MCL[1]		*6.5/8.5*	*500*	*900*					*250*	*250*	2						45	1			*0.5*			
TA-17	Spring '92	7.7	477	618	46.3	37.1	30.7	-	44.8	36.8	0.14	275	ND	ND	275	202	4	-	-	-	ND	-	-	-
TA-25	9/15/2009	7.65	430	730	54	56	42	3.5	55	64	<0.10	270	<5.0	<5.0	270	320	9.7	-	-	-	-	4.5	<1.8	<1.8
TA-25	3/23/2010	7.48	470	800	53	55	44	2.6	48	52	0.13	310	<5.0	<5.0	310	320	7.4	-	-	-	-	<1.8	<1.8	<1.8
TA-25	9/14/2010	7.55	**500**	840	66	68	59	3.1	52	54	0.16	310	<5.0	<5.0	310	410	8.9	-	-	-	-	<1.8	<1.8	<1.8
TA-25	4/7/2011	7.58	460	840	53	61	47	2.4	59	60	0.10	350	<5.0	<5.0	350	350	7.5	-	-	-	-	<1.8	<1.8	<1.8
TA-25	9/15/2011	7.62	**500**	810	65	72	53	2.7	64	57	<0.10	340	<5.0	<5.0	340	400	6.5	-	-	-	-	<1.8	<1.8	<1.8
TA-25	5/1/2012	7.32	480	840	59	67	51	2.8	56	55	0.13	360	<5.0	<5.0	360	380	5.7	-	-	-	-	<1.8	<1.8	<1.8
TA-25	9/12/2012	7.54	**570**	**950**	68	84	61	3.1	66	62	0.18	350	<5.0	<5.0	350	460	8.1	-	-	-	-	<1.8	<1.8	<1.8
TA-25	4/16/2013	7.56	470	840	55	58	49	2.5	57	56	0.15	330	<5.0	<5.0	330	350	11	-	-	-	-	<1.8	<1.8	<1.8
TA-25	6/2/2014	7.75	**520**	**900**	57	65	47	2.6	55	49	0.18	280	<5.0	<5.0	280	360	9.4	-	-	-	-	<1.8	<1.8	<1.8
TA-25	3/26/2015	7.46	**570**	**1,000**	58	66	38	2.1	65	47	0.25	370	<5.0	<5.0	370	320	7.8	-	-	-	-	<1.8	<1.8	<1.8
TA-25	4/13/2016	7.72	**660**	**1,100**	70	95	63	3.1	84	69	0.21	460	<5.0	<5.0	460	500	4.5	-	-	-	-	4.5	<1.8	<1.8
TA-25	4/25/2017	7.32	**660**	**1,300**	80	86	60	3.2	110	73	<0.10	480	<5.0	<5.0	480	460	4.1	-	-	-	-	<1.8	<1.8	<1.8
TA-25	4/5/2018	7.50	**610**	**1,200**	77	91	64	3.8	110	75	<0.10	420	<5.0	<5.0	420	490	4.9	-	-	-	-	<1.8	<1.8	<1.8
TA-25[2]	4/11/2019	7.57	**610**	**1,100**	65	71	51	<5.0	87	90	0.15	380	<5.0	<5.0	380	180	7.2	-	-	-	-	<1.8	<1.8	<1.8
TA-25	3/31/2020	7.71	**580**	**1,000**	62	68	48	3.4	77	100	0.11	330	<5.0	<5.0	330	370	10.6	-	-	-	-	<1.8	<1.8	<1.8
Plant Dom	11/8/1995	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND	ND	-
Stephens	9/16/2009	7.31	**630**	**1,100**	110	71	63	2.9	75	73	<0.10	420	<5.0	<5.0	420	440	40	-	-	-	-	7.8	<1.8	<1.8
Stephens	3/24/2010	7.13	**620**	**1,100**	96	68	57	2.6	68	77	0.12	370	<5.0	<5.0	370	400	36	-	-	-	-	2.0	<1.8	<1.8
Stephens	9/14/2010	7.16	**570**	**900**	93	59	56	2.7	52	53	0.16	340	<5.0	<5.0	340	380	25	-	-	-	-	<1.8	<1.8	<1.8
Stephens	4/7/2011	*Farmers's crop growing around the wellhead; difficult access. No sample retrieved.*												-	-			-	-	-	-	-	-	-
Stephens	9/21/2011	7.35	470	820	81	56	44	2.6	51	50	0.11	300	<5.0	<5.0	300	320	10	-	-	-	-	<1.8	<1.8	<1.8
Stephens	4/5/2012	7.72	**630**	**1,000**	100	80	68	2.1	75	73	0.23	370	<5.0	<5.0	370	480	34	-	-	-	-	<1.8	<1.8	<1.8
Stephens	9/12/2012	7.67	**570**	**990**	110	60	55	3.3	70	59	0.21	350	<5.0	<5.0	350	380	7.7	-	-	-	-	7.8	<1.8	<1.8
Stephens	4/17/2013	7.62	**540**	**980**	82	49	55	2.3	71	64	0.12	340	<5.0	<5.0	340	350	15	-	-	-	-	13	<1.8	<1.8
Stephens	6/2/2014	7.53	**510**	**970**	70	51	47	1.9	58	37	0.19	380	<5.0	<5.0	380	320	2.1	-	-	-	-	2.0	<1.8	<1.8
Stephens	3/26/2015	7.41	**570**	**1,100**	86	52	40	2.0	76	52	0.26	380	<5.0	<5.0	380	290	3.9	-	-	-	-	<1.8	<1.8	<1.8
Stephens	6/22/2016	7.78	**530**	**970**	80	50	44	2.2	65	28	0.26	390	<5.0	<5.0	390	310	1.9	-	-	-	-	<1.8	<1.8	<1.8
Stephens	4/26/2017	7.53	390	840	64	37	43	2.0	51	21	0.12	340	<5.0	<5.0	340	270	2.79	-	-	-	-	<1.8	<1.8	<1.8
Stephens	4/5/2018	7.56	**620**	1,100	83	61	60	3.7	100	77	0.12	390	<5.0	<5.0	390	400	8.1	-	-	-	-	4.5	<1.8	<1.8
Stephens[2,3]	4/16/2019	7.7	490	840	30	34	25	1.6	73	67	<0.10	320	<5.0	<5.0	320	84	<2.0	-	-	-	-	<1.8	<1.8	<1.8
Stephens	3/31/2020	7.69	670	1,200	82	48	60	2.5	110	120	0.13	380	<5.0	<5.0	380	370	<1.8	-	-	-	-	2.0	2.0	<1.8
TA-18	9/11/2012	7.64	340	570	56	41	34	3.1	26	25	0.21	280	<5.0	<5.0	280	240	6.8	-	-	-	-	<1.8	<1.8	<1.8
TA-18	4/16/2013	7.68	410	790	60	47	47	2.5	64	41	0.13	290	<5.0	<5.0	290	190	17	-	-	-	-	<1.8	<1.8	<1.8
TA-18	9/11/2013	7.76	320	630	53	37	33	3.1	34	26	0.12	250	<5.0	<5.0	250	230	4.5	-	-	-	-	<1.8	<1.8	<1.8
TA-18	6/2/2014	*Well is dry. No sample retrieved.*																						
TA-18	10/6/2014	*Well is dry. No sample retrieved.*																						
TA-18	3/26/2015	7.70	470	870	74	57	33	2.1	89	50	0.26	270	<5.0	<5.0	270	310	3.7	-	-	-	-	<1.8	<1.8	<1.8
TA-18	4/14/2016	7.75	320	560	58	31	26	2.1	37	26	0.24	200	<5.0	<5.0	200	180	1.9	-	-	-	-	13	2.0	2.0
TA-18	4/25/2017	7.76	230	460	37	23	21	1.9	19	23	0.18	190	<5.0	<5.0	190	140	<2.0	-	-	-	-	<1.8	<1.8	<1.8
TA-18	4/4/2018	7.73	440	860	61	53	45	2.8	100	50	<0.10	250	<5.0	<5.0	250	320	9.5	-	-	-	-	<1.8	<1.8	<1.8
TA-18[2]	4/15/2019	7.84	260	450	42	23	23	1.9	24	27	0.11	180	<5.0	<5.0	180	59	<2.0	-	-	-	-	2.0	-	2.0
TA-18	3/31/2020	7.82	460	880	59	44	45	2.4	92	46	0.14	270	<5.0	<5.0	270	290	11.9	-	-	-	-	2.0	2.0	2.0
Schwarzgruber	9/11/2012	7.44	420	660	59	58	45	3.3	58	36	0.19	280	<5.0	<5.0	280	330	4.7	-	-	-	-	79	<1.8	<1.8
Schwarzgruber	4/16/2013	7.43	350	670	49	45	40	2.8	50	37	0.11	270	<5.0	<5.0	270	280	7.9	-	-	-	-	<1.8	<1.8	<1.8
Schwarzgruber	9/11/2013	7.51	360	760	53	47	37	2.8	52	38	<0.10	260	<5.0	<5.0	260	270	8.4	-	-	-	-	4.5	<1.8	<1.8
Schwarzgruber	6/2/2014	*Well is dry. No sample retrieved.*																						

Table 3
Water Quality – Conventional Constituents
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

Sampling Point	Date	pH (standard pH-units)	TDS	EC (µS/cm)	Na	Ca	Mg	K	Cl	SO4	F	Alkalinity HCO3 as CaCO3	Alkalinity CO3 as CaCO3	Alkalinity OH as CaCO3	Alkalinity Total as CaCO3	Total Hardness as CaCO3	NO3 as NO3	NO2 as N	BOD	Total P	MBAS	Coliform Total (MPN/100 mL)	Coliform Fecal (MPN/100 mL)	Coliform E. Coli (MPN/100 mL)
MCL[1]		*6.5/8.5*	*500*	*900*					*250*	*250*	2						45	1			*0.5*			
Schwarzgruber	10/6/2014	*Well is dry. No sample retrieved.*																						
Schwarzgruber	3/26/2015	7.51	420	770	48	46	31	2.1	55	34	0.24	270	<5.0	<5.0	270	250	10	-	-	-	-	<1.8	<1.8	<1.8
Schwarzgruber	4/14/2016	7.41	410	740	54	51	38	3.1	61	39	0.22	240	<5.0	<5.0	240	280	8.5	-	-	-	-	33	33	33
Schwarzgruber	4/25/2017	7.48	300	570	38	32	26	2.5	34	28	<0.10	200	<5.0	<5.0	200	190	8.1	-	-	-	-	2.0	<1.8	<1.8
Schwarzgruber	4/4/2018	7.62	320	640	46	41	31	2.5	50	33	<0.10	230	<5.0	<5.0	230	230	9.0	-	-	-	-	<1.8	<1.8	<1.8
Schwarzgruber[2]	4/16/2019	7.18	300	550	31	34	25	1.6	39	39	<0.10	190	<5.0	<5.0	190	84	10.8	-	-	-	-	33	-	<1.8
Schwarzgruber	3/30/2020	7.80	360	660	46	36	31	2.2	64	40	0.20	210	<5.0	<5.0	210	220	4.2	-	-	-	-	1600	920	350
Rodgers Dom (N)	9/11/2012	7.47	420	720	57	56	43	3.0	49	35	0.17	320	<5.0	<5.0	320	320	10	-	-	-	-	<1.8	<1.8	<1.8
Rodgers Dom (N)	6/2/2014	7.80	440	800	56	51	41	2.9	46	36	0.12	290	<5.0	<5.0	290	300	13	-	-	-	-	<1.8	<1.8	<1.8
Rodgers Dom (N)	3/26/2015	7.61	440	810	50	47	32	2.1	53	39	0.25	290	<5.0	<5.0	290	250	11	-	-	-	-	<1.8	<1.8	<1.8
Rodgers Dom (N)	4/25/2017	7.62	330	680	51	40	32	2.8	47	33	0.16	260	<5.0	<5.0	260	230	7.9	-	-	-	-	<1.8	<1.8	<1.8
Rodgers Dom (N)	4/4/2018	7.76	370	640	49	41	31	2.4	44	35	<0.10	240	<5.0	<5.0	240	230	6.7	-	-	-	-	<1.8	<1.8	<1.8
Rodgers Dom (N)[2]	4/15/2019	7.72	360	680	56	42	35	2.7	46	35	<0.10	260	<5.0	<5.0	260	110	7.65	-	-	-	-	<1.8	<1.8	<1.8
Rodgers Dom New (S)	9/11/2012	7.51	440	740	61	57	44	3.1	56	37	0.18	250	<5.0	<5.0	250	320	11	-	-	-	-	<1.8	<1.8	<1.8
Rodgers Dom New (S)	6/2/2014	7.59	440	790	58	53	42	2.7	48	37	0.14	290	<5.0	<5.0	290	300	14	-	-	-	-	<1.8	<1.8	<1.8
Rodgers Dom New (S)	3/26/2015	7.62	470	850	54	49	33	2.1	60	37	0.25	310	<5.0	<5.0	310	260	12	-	-	-	-	<1.8	<1.8	<1.8
Rodgers Dom New (S)	4/25/2017	7.66	380	660	57	39	31	2.7	17	30	0.16	300	<5.0	<5.0	300	230	3.7	-	-	-	-	<1.8	<1.8	<1.8
Rodgers Dom New (S)[2]	4/15/2019	7.78	370	700	60	42	35	3.8	46	35	0.12	270	<5.0	<5.0	270	100	7.2	-	-	-	-	<1.8	<1.8	<1.8
Rodgers Dom New (S)	4/3/2020	7.60	350	620	45	34	28	3.3	37	33	0.18	250	<5.0	<5.0	250	200	9.7	-	-	-	-	<1.8	<1.8	<1.8
Muller Pond	5/6/2004	**8.79**	300	560	43	20	35	2.7	45	40	0.19	170	34	ND	200	190	3.1	-	-	-	-	240	22	8.0
Muller Pond	4/14/2005	8.47	360	580	44	38	40	2.3	48	40	0.15	230	8.8	<5.0	240	260	3.8	-	-	-	-	900	50	50
Muller Pond	9/15/2005	*Pond is Dry. No sample retrieved.*																						
Muller Pond	3/29/2006	8.30	280	500	37	36	31	2.2	28	26	0.15	210	<5.0	<5.0	210	220	6.2	-	-	-	-	80	8.0	-
Muller Pond	9/11/2006	**8.61**	320	550	56	25	37	3.6	36	36	0.17	270	<5.0	<5.0	270	210	<2.0	-	-	-	-	240	240	240
Muller Pond	3/20/2007	8.23	340	670	48	39	43	2.9	50	38	0.12	250	<5.0	<5.0	250	280	6.2	-	-	-	-	350	14	14
Muller Pond	9/7/2007	**8.89**	460	820	88	8.5	63	4.9	83	51	0.24	210	68	<5.0	280	280	<2.0	-	-	-	-	79	27	22
Muller Pond	3/11/2008	8.34	310	570	40	36	33	2.1	40	31	0.16	200	<5.0	<5.0	200	230	9.7	-	-	-	-	130	2.0	2.0
Muller Pond	9/11/2008	*Pond is Dry. No sample retrieved.*																						
Muller Pond	3/17/2009	8.45	430	760	50	38	40	2.3	66	42	0.16	240	13	<5.0	260	260	16					220	2.0	2.0
Muller Pond	9/16/2009	*Pond is Dry. No sample retrieved.*																						
Muller Pond	3/25/2010	**8.66**	260	620	47	33	43	3.0	49	38	0.12	190	22	<5.0	220	260	<2.0	-	-	-	-	1,600	46	33
Muller Pond	9/15/2010	**9.60**	370	690	94	4.6	44	2.6	80	43	0.14	78	110	<5.0	190	190	<2.0	-	-	-	-	920	280	350
Muller Pond	4/4/2012	8.37	400	680	65	41	52	2.7	74	37	0.16	240	<5.0	<5.0	240	320	4.0	-	<3.0	<0.050		540	350	79
Muller Pond	9/12/2012	*Pond is Dry. No sample retrieved.*																						
Muller Pond	6/4/2014	*Pond is Dry. No sample retrieved.*																						
Muller Pond	10/6/2014	*Pond is Dry. No sample retrieved.*																						
Muller Pond	3/27/2015	*Pond is Dry. No sample retrieved (followup attempt to sample since pond was dry in 2014).*																						
Muller Pond	4/13/2016	7.77	360	660	53	35	32	4.4	50	28	0.22	230	<5.0	<5.0	230	220	<1.8	-	<3.0	0.23	<0.10	>1,600	>1,600	>1,600
Muller Pond	4/3/2018	8.21	**640**	**1000**	50	64	74	9.7	58	150	<0.10	350	<5.0	<5.0	350	470	<1.8	-	16	0.20	-	>1,600	170	<1.8
Muller Pond	3/30/2020	**8.69**	390	740	52	29	40	2.6	83	48	0.15	180	30	<5.0	210	240	<1.8	-	<3.0	<0.050	<0.10	1,600	46	33
Coors Pond	9/7/2007	**8.67**	**660**	**1,000**	100	19	100	1.6	38	75	0.64	450	83	<5.0	540	480	<2.0	-	-	-	-	110	33	33
Coors Pond	3/11/2008	**8.60**	300	530	40	26	43	<1.0	12	25	0.52	230	30	<5.0	260	240	3.3	-	-	-	-	4.0	2.0	2.0
Coors Pond	9/11/2008	**8.52**	**650**	**1,100**	110	28	94	<1.0	38	63	0.79	490	44	<5.0	530	460	3.4	-	-	-	-	79	79	26
Coors Pond	3/17/2009	**8.93**	410	690	66	17	48	<1.0	27	49	0.52	210	110	<5.0	310	240	<2.0	-	-	-	-	23	<1.8	<1.8
Coors Pond	9/16/2009	**8.63**	**720**	**1,200**	150	19	110	<1.0	44	84	0.65	550	44	<5.0	590	480	2.0	-	-	-	-	79	33	33
Coors Pond	3/25/2010	**8.85**	280	690	76	20	54	<1.0	25	42	0.49	250	51	<5.0	300	270	<2.0	-	-	-	-	4.5	<1.8	<1.8
Coors Pond	9/15/2010	**8.70**	**790**	**1,300**	130	16	120	<1.0	38	78	0.68	550	110	<5.0	660	550	<2.0	-	-	-	-	31	13	13
Coors Pond	4/6/2011	**8.80**	**530**	**910**	90	20	90	<1.0	35	58	0.40	370	79	<5.0	450	420	<2.0	-	-	-	-	7.8	<1.8	<1.8

Table 3
Water Quality – Conventional Constituents
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

Sampling Point	Date	pH (standard pH-units)	TDS	EC (µS/cm)	Na	Ca	Mg	K	Cl	SO4	F	Alkalinity HCO3 as CaCO3	Alkalinity CO3 as CaCO3	Alkalinity OH as CaCO3	Alkalinity Total as CaCO3	Total Hardness as CaCO3	NO3 as NO3	NO2 as N	BOD	Total P	MBAS	Coliform Total (MPN/100 mL)	Coliform Fecal (MPN/100 mL)	Coliform E. Coli (MPN/100 mL)
MCL[1]		*6.5/8.5*	*500*	*900*					*250*	*250*	2						45	1			*0.5*			
Coors Pond	9/12/2011	**8.89**	**830**	**1,300**	150	13	130	<1.0	45	88	0.65	490	140	<5.0	630	570	<2.0	-	-	-	-	170	6.8	6.8
Coors Pond	3/29/2012	8.49	**770**	**1,300**	130	27	110	<1.0	45	78	0.59	560	48	<5.0	610	530	<2.0	-	-	-	-	25	<1.8	<1.8
Coors Pond	9/10/2012	8.28	**900**	**1,500**	150	38	120	<1.0	47	67	0.78	710	84	<5.0	790	600	<2.0	-	-	-	-	>1600	920	280
Coors Pond	4/17/2013	8.36	**500**	**900**	82	33	67	1.5	29	39	0.41	410	21	<5.0	440	360	<2.0	-	-	-	-	110	33	33
Coors Pond	9/11/2013	**8.74**	**760**	**1,300**	130	17	120	<1.0	44	63	0.56	520	88	<5.0	600	530	<2.0	-	-	-	-	>1600	170	70
Coors Pond	6/2/2014	**8.97**	**790**	**1,400**	130	15	110	<1.0	44	63	0.66	230	66	<5.0	300	480	<2.0	-	-	-	-	170	33	33
Coors Pond	10/6/2014	**9.03**	**910**	**1,600**	150	16	130	2.5	59	72	0.74	610	170	<5.0	790	560	<2.0	-	-	-	-	540	23	13
Coors Pond	3/27/2015	*Wet-pit filled in. No sample retrieved, or to be retrieved in future.*																						
Storz Pond	4/6/2011	8.17	490	870	76	55	51	2.3	59	56	0.10	330	<5.0	<5.0	330	350	24	-	-	-	-	23	2.0	2.0
Storz Pond	9/12/2011	**8.95**	420	740	80	22	57	2.4	54	50	<0.10	230	48	<5.0	280	290	<2.0	-	-	-	-	540	6.8	4.5
Storz Pond	3/29/2012	7.97	**670**	**1,100**	93	66	63	2.6	75	73	0.19	420	<5.0	<5.0	420	420	35	-	-	-	-	70	7.8	7.8
Storz Pond	9/10/2012	7.95	**590**	**980**	81	48	55	2.4	62	57	0.16	420	<5.0	<5.0	420	340	11	-	-	-	-	22	<1.8	<1.8
Storz Pond	4/17/2013	8.14	**520**	**940**	85	42	57	2.2	61	55	0.11	380	<5.0	<5.0	380	340	13	-	-	-	-	350	4.0	4.0
Storz Pond	9/11/2013	**8.99**	460	870	94	16	53	1.9	77	52	<0.10	200	69	<5.0	270	260	<2.0	-	-	-	-	220	110	110
Storz Pond	6/2/2014	**9.28**	440	780	77	12	55	<1.0	63	42	0.11	200	90	<5.0	290	260	<2.0	-	-	-	-	140	17	17
Storz Pond	10/6/2014	7.72	**540**	**1,000**	83	50	49	3.0	73	51	0.16	350	<5.0	<5.0	350	330	5.1	-	-	-	-	140	17	6.8
Storz Pond	3/26/2015	7.59	**600**	**1,100**	87	54	43	1.4	83	52	0.27	400	<5.0	<5.0	400	320	<2.0	-	-	-	-	430	13	13
Storz Pond	10/28/2015	**8.83**	480	890	86	9	48	1.7	70	37	<0.10	250	49	<5.0	300	220	<2.0	-	-	-	-	23	<1.8	<1.8
Storz Pond	4/13/2016	8.12	440	870	69	36	47	2.4	61	40	0.18	350	<5.0	<5.0	350	280	<1.8	-	-	-	-	>1,600	49	49
Storz Pond	9/13/2016	**9.2**	460	800	93	12	53	2.1	72	36	0.22	190	110	<5.0	300	250	<2.0	-	-	-	-	130	33	33
Storz Pond	4/25/2017	8.47	360	700	59	34	36	3.2	52	42	0.17	190	33	<5.0	220	230	2.6	-	-	-	-	17	2.0	2.0
Storz Pond	10/4/2017	**8.64**	**530**	**990**	88	25	57	3.2	100	87	<0.10	300	25	<5.0	320	300	<0.5	-	-	-	-	49	17.0	4.5
Storz Pond	4/5/2018	8.47	**560**	**1,000**	85	38	62	3.1	100	78	<0.10	360	<5.0	<5.0	360	350	6.8	-	-	-	-	79	4.5	4.5
Storz Pond	9/19/2018	**8.88**	**580**	**990**	130	12	69	2.9	120	76	<0.10	320	49	<5.0	370	310	<1.8	-	-	-	-	170	13	13
Storz Pond[2]	4/11/2019	**8.51**	**500**	870	74	40	42	<5.0	66	64	<0.10	300	7.6	<5.0	310	99	13.1	-	-	-	-	540	-	49
Storz Pond[4]	10/10/2019	**8.61**	**650**	**1,000**	100	27	58	2.8	100	96	<0.10	110	29	<5.0	140	310	8.1	-	-	-	-	170	17	17
Storz Pond	3/30/2020	8.47	**640**	**1,200**	100	41	57	2.8	110	110	<0.10	350	20	<5.0	370	340	32.3	-	-	-	-	540	4.0	2.0
Storz Pond	9/15/2020	**8.98**	**640**	**1,000**	110	16	65	4.3	110	120	<0.10	210	130	<5.0	340	310	6.2	-	-	-	-	220	33	33

Beginning in 2005, all non-detected (ND) values are given as "<reporting limit".

1. Maximum Contaminant Levels for drinking water standards; *italic font style* indicates secondary, i.e., consumer acceptance limits. For EC, TDS, chloride, and sulfate, the recommended (lower) values are given. Measured constituent concentrations at or exceeding the MCL are highlighted with bold font style.
2. April 2019 questionable results (concentrations substantially different from historical ranges) are shaded in table.
3. Cation anion balance 52%.
4. October 2019 questionable result (Total Alkalinity substantially different from historical range) from Storz Pond are shaded in table.

Table 4
Water Quality – Metals and Organics
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

Sampling Point	Date	Ag	Al	As	Ba	Cd	Cr	Cu	Fe	Hg	Mn	Pb	Se	Zn	Turbidity (NTU)	EPA 502.2[2] (µg/L)	EPA 8260[3] (µg/L)	EPA 8310[4] (µg/L)	EPA 8141A[5] (µg/L)	EPA 8151A[6] (µg/L)	TPH-Diesel[7] (µg/L)	TPH-MO[7] (µg/L)	BTEX EPA 8260B[8] (µg/L)
MCL[1]		*0.1*	1	0.05	1	0.005	0.05	*1*	*0.3*	0.002	*0.05*	0.05	0.05	*5*	*5*								
TA-1A	9/16/2005	-	<0.050	<0.0050	0.230	<0.010	0.012	<0.010	<0.100	<0.00020	<0.020	<0.0050	0.0050	<0.020	**28**	-	-	-	<0.3 - <5	<0.13 - <0.5	880	330[9]	<0.50
TA-1A	1/11/2006	-	<0.050	<0.0050	0.230	<0.010	0.013	<0.010	<0.100	<0.00020	**0.058**	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.3 - <5	<0.50 - <5.0	<50[10]	<100	<0.50
TA-1A	3/28/2006	-	<0.050	<0.0050	0.230	<0.010	<0.010	<0.010	<0.100	<0.00020	**0.055**	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.3 - <5	<0.13 - <0.25	<50	<100	<0.50
TA-1A	9/5/2006	-	<0.050	<0.0050	0.240	<0.010	**0.095**	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	3/19/2007	-	<0.050	<0.0050	0.220	<0.010	0.018	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	9/5/2007	-	<0.050	<0.0050	0.170	<0.010	<0.010	<0.010	0.210	<0.00020	**0.062**	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	3/10/2008	-	<0.050	<0.0050	0.180	<0.010	0.018	<0.010	<0.100	<0.00020	**0.059**	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	9/11/2008	-	<0.050	<0.0050	0.140	<0.010	<0.010	<0.010	<0.100	<0.00020	0.037	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	9/15/2009	-	0.120	<0.0050	0.190	<0.010	<0.010	<0.010	0.140	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**5.8**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	3/24/2010	-	<0.050	<0.0050	0.150	<0.010	<0.010	<0.010	<0.100	<0.00020	0.031	<0.0050	<0.0050	<0.020	0.51	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	4/7/2011	-	<0.050	<0.0050	0.200	<0.010	<0.010	<0.010	0.160	<0.00020	**0.190**	<0.0050	<0.0050	<0.020	0.98	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	5/1/2012	-	<0.050	<0.0050	0.230	<0.010	0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.2	<0.2 - <250	<50	<50	<0.50 - 1.6[17a]
TA-1A	6/6/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.50 - <1.0[17b]
TA-1A	4/16/2013	-	<0.050	<0.0050	0.190	<0.010	0.010	<0.010	0.150	<0.00020	**0.130**	<0.0050	<0.0050	<0.020	0.93	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	6/3/2014	-	<0.050	<0.0050	0.260	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	0.074	0.90	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-1A	3/27/2015	*No metals or organics analyses required under post-reclamation conditions; turbidity not analyzed*													-								
TA-1A	4/26/2017	*No metals or organics analyses required under post-reclamation conditions*													19								
TA-1A	4/11/2019	*No metals or organics analyses required under post-reclamation conditions*													0.33								
TA-3A	9/16/2005	-	<0.050	<0.0050	0.140	<0.010	0.046	0.011	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**170**	-	-	-	<0.3 - <5	<0.13 - <0.5	<50	<100	<0.50
TA-3A	3/28/2006	*Well goes dry during purging. No sample retrieved.*																					
TA-3A	9/5/2006	*Well goes dry during purging. No sample retrieved.*																					
TA-3A	9/6/2007	-	0.200	<0.0050	0.280	<0.010	0.030	0.012	0.290	<0.00020	<0.020	<0.0050	<0.0050	0.028	**12**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-5A	11/6/1995	ND	ND	ND	0.21	ND	ND	ND	ND	ND	0.003	ND	ND	ND	0.9	-	ND	-	ND	ND	ND	-	ND
TA-5A	3/19/2007	-	0.053	<0.0050	0.220	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.5	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-5A	3/10/2008	-	0.054	<0.0050	0.210	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.2	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-5A	9/11/2008	-	0.076	<0.0050	0.200	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.4	-	-	-	<0.05 - <0.1	2.1[11]	<50	<50	<0.50 - <1.0
TA-5A	9/15/2009	-	<0.050	<0.0050	0.220	<0.010	0.013	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.9	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-5A	3/24/2010	-	<0.050	<0.0050	0.200	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.6	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-5A	4/7/2011	-	0.110	<0.0050	0.180	<0.010	0.017	<0.010	0.130	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.6	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-5A	5/1/2012	-	0.074	<0.0050	0.180	<0.010	0.016	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.70	-	-	-	<0.05 - <0.2	<0.2 - <250	<50	<50	<0.50 - 0.71[17a]
TA-5A	6/6/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.50 - <1.0[17b]
TA-5A	4/16/2013	-	0.08	<0.0050	0.200	<0.010	0.011	0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.73	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-5A	6/3/2014	-	0.99	<0.0050	0.220	<0.010	0.016	<0.010	2.100	<0.00020	0.033	<0.0050	<0.0050	0.076	13	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-5A	3/27/2015	*No metals or organics analyses required under post-reclamation conditions; turbidity not analyzed*													-								
TA-5A	4/26/2017	*No metals or organics analyses required under post-reclamation conditions*													1.9								
TA-5A	4/11/2019	*No metals or organics analyses required under post-reclamation conditions*													2.3								
TA-9R	Spring '92	ND	0.16	ND	0.31	ND	ND	ND	0.21	ND	ND	ND	ND	ND	-	N.D.	-	-	-	-	-	-	-
TA-9R	11/8/1995	-	-	-	-	-	-	-	-	-	-	-	-	-	4.1	-	-	-	ND	ND	ND	-	ND
TA-13A	11/7/1995	ND	ND	ND	0.12	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.6	-	ND	-	ND	ND	ND	-	ND
TA-13A	7/23/1997	ND	ND	ND	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.8	-	-	-	ND	ND	ND	ND	ND
TA-13A	3/5/1998	ND	ND	ND	0.12	ND	ND	ND	ND	ND	ND	ND	ND	0.022	-	-	-	-	ND	ND	ND	ND	ND
TA-13A	9/29/1998	ND	ND	ND	0.13	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.8	-	-	-	ND	ND	ND	ND	ND
TA-13A	4/29/1999	ND	ND	ND	0.14	ND	ND	ND	ND	ND	0.043	ND	ND	ND	-	-	-	-	ND	ND	ND	ND	ND
TA-13A	4/19/2000	-	ND	ND	0.13	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.5	-	-	-	ND	ND	ND	ND	ND
TA-13A	5/7/2001	-	ND	ND	0.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	ND	ND	ND	ND	ND
TA-13A	5/7/2002	-	ND	ND	0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	ND	ND	ND	ND	ND
TA-13A	4/9/2003	-	ND	ND	0.160	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.5	-	-	-	ND	ND	ND	ND	ND
TA-13A	9/15/2003	-	ND	ND	0.120	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	ND	ND	ND	ND	ND
TA-13A	4/14/2004	-	ND	ND	0.140	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	ND	ND	ND	ND	ND
TA-13A	9/28/2004	-	ND	ND	0.170	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	ND	ND	ND	ND	ND

Table 4
Water Quality – Metals and Organics
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

Sampling Point	Date	Ag	Al	As	Ba	Cd	Cr	Cu	Fe	Hg	Mn	Pb	Se	Zn	Turbidity (NTU)	EPA 502.2[2] (µg/L)	EPA 8260[3] (µg/L)	EPA 8310[4] (µg/L)	EPA 8141A[5] (µg/L)	EPA 8151A[6] (µg/L)	TPH-Diesel[7] (µg/L)	TPH-MO[7] (µg/L)	BTEX EPA 8260B[8] (µg/L)
MCL[1]		*0.1*	1	0.05	1	0.005	0.05	*1*	*0.3*	0.002	*0.05*	0.05	0.05	*5*	*5*								
TA-13A	4/14/2005	-	<0.050	<0.0050	0.140	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.3 - <5	<0.13 - <0.5	<50	<100	<0.50
TA-13A	9/15/2005	-	<0.050	<0.0050	0.160	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.3 - <5	<0.13 - <0.5	<50	<100	<0.50
TA-13A	3/28/2006	-	<0.050	<0.0050	0.110	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.3 - <5	<0.13 - <0.25	<50	<100	<0.50
TA-13A	9/11/2006	-	<0.050	<0.0050	0.180	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.1	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	**390**	<0.50 - <1.0
TA-13A	9/28/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-
TA-13A	3/20/2007	-	<0.050	<0.0050	0.150	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.100	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-13A	9/5/2007	-	<0.050	<0.0050	0.140	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.6	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-13A	3/12/2008	-	<0.050	<0.0050	0.130	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.6	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-13A	9/15/2009	*Insufficient water in well. No sample retrieved.*																					
TA-13A	3/23/2010	-	<0.050	<0.0050	0.140	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-13A	4/4/2012	*No metals or organics analyses required under post-reclamation conditions*																					
TA-14	33664	ND	0.54	ND	0.16	ND	0.03	ND	**0.63**	ND	ND	ND	ND	ND	-	ND	-	-	-	-	-	-	-
TA-14	7/23/1997	ND	ND	ND	0.12	ND	ND	ND	ND	ND	ND	ND	ND	0.018	**85**	-	-	-	ND	ND	ND	ND	ND
TA-14	3/5/1998	ND	**14**	0.003	0.23	ND	**0.095**	0.026	**14**	ND	**0.24**	0.028	ND	0.046	-	-	-	-	ND	ND	ND	ND	ND
TA-14	9/29/1998	ND	0.89	ND	0.13	ND	0.01	ND	**0.89**	ND	ND	ND	ND	0.01	**18**	-	-	-	ND	ND	ND	ND	ND
TA-14	4/29/1999	ND	0.21	ND	0.14	ND	ND	ND	**0.31**	ND	0.021	ND	ND	0.015	-	-	-	-	ND	ND	ND	ND	ND
TA-14	9/14/1999	ND	0.81	ND	0.12	ND	ND	ND	**1.3**	ND	**0.055**	ND	ND	ND	-	-	-	-	ND	ND	ND	ND	ND
TA-14	4/19/2000	-	0.86	ND	0.11	ND	0.023	ND	**1.8**	ND	0.025	ND	ND	ND	**30**	-	-	-	ND	ND	ND	ND	ND
TA-14	9/19/2000	ND	0.36	ND	0.14	ND	ND	ND	**0.92**	ND	**0.051**	0.0059	ND	ND	**82**	-	-	-	ND	ND	ND	ND	ND
TA-14	5/7/2001	-	0.62	ND	0.15	ND	0.03	ND	0.14	ND	0.1	0.022	ND	ND	**37**	-	-	-	ND	ND	ND	ND	ND
TA-14	9/20/2001	-	0.073	ND	0.11	ND	ND	ND	0.22	ND	ND	ND	ND	ND	**20**	-	-	-	ND	ND	ND	ND	ND
TA-14	5/7/2002	-	**1.3**	ND	0.13	ND	0.014	ND	**1.6**	ND	**0.077**	ND	ND	ND	**31**	-	-	-	ND	ND	ND	ND	ND
TA-14	9/25/2002	-	0.31	ND	0.13	ND	ND	ND	**0.45**	ND	0.032	ND	ND	0.02	**20**	-	-	-	ND	ND	ND	ND	ND
TA-14	9/15/2003	-	**1.20**	ND	0.130	ND	0.027	0.029	**2.10**	ND	**0.110**	0.015	ND	0.032	**21**	-	-	-	ND	ND	ND	ND	ND
TA-14	4/14/2004	-	0.250	ND	0.130	ND	ND	ND	**0.410**	ND	0.021	ND	ND	ND	2.2	-	-	-	ND	ND	ND	ND	ND
TA-14	9/28/2004	*Well goes dry during purging. No sample retrieved.*																					
TA-14	4/14/2005	*Well goes dry during purging. No sample retrieved.*																					
TA-14	9/15/2005	-	<0.050	<0.0050	0.130	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**320**	-	-	-	<0.3 - <5	<0.13 - <0.5	<50	<100	<0.50
TA-14	4/26/2006	-	**1.60**	<0.0050	0.160	<0.010	<0.010	<0.010	**1.40**	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**87**	-	-	-	<0.3 - <5	<0.13 - <0.5	<50	<100	<0.50
TA-14	9/11/2006	-	0.920	<0.0050	0.160	<0.010	<0.010	<0.010	**1.00**	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**15**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	**290**	<0.50 - <1.0
TA-14	9/28/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-
TA-14	3/20/2007	*Well is dry. No sample retrieved.*																					
TA-14	9/6/2007	-	**2.00**	0.0096	0.140	<0.010	0.014	<0.010	**2.00**	<0.00020	**0.051**	<0.0050	<0.0050	<0.020	**280**	-	-	-	0.28[12]	<0.2 - <250	<50	**270**	<0.50 - <1.0
TA-14	3/12/2008	*Well goes dry during purging. No sample retrieved.*																					
TA-14	9/11/2008	*Insufficient water in well. No sample retrieved.*																					
TA-14	9/15/2009	*Insufficient water in well. No sample retrieved.*																					
TA-14	3/22/2010	*Well is dry. No sample retrieved. Biennial sampling conducted in September 2010*																					
TA-14	9/16/2010	-	0.18	<0.0050	0.150	<0.010	<0.010	<0.010	0.240	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**14**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-14	4/4/2012	*No metals or organicsanalyses required under post-reclamation conditions.*																					
TA-17	Spring '92	ND	**1.1**	ND	0.15	ND	ND	ND	**1.5**	ND	0.022	ND	ND	ND	-	ND	-	-	-	-	-	-	-
TA-25	9/15/2009	-	0.410	<0.0050	0.110	<0.010	0.014	<0.010	**0.560**	<0.00020	0.031	<0.0050	<0.0050	<0.020	**40**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-25	3/23/2010	-	0.180	<0.0050	0.150	<0.010	<0.010	<0.010	0.210	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**7.6**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-25	9/14/2010	-	0.065	<0.0050	0.220	<0.010	0.040	<0.010	0.210	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**35**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50[14]	<50	<0.50 - <1.0
TA-25	4/7/2011	-	<0.050	<0.0050	0.200	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.55	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-25	9/15/2011	-	0.150	<0.0050	0.260	<0.010	<0.010	<0.010	0.220	<0.00020	<0.020	<0.0050	<0.0050	<0.020	3.7	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-25	5/1/2012	-	0.240	<0.0050	0.210	<0.010	<0.010	<0.010	0.250	<0.00020	<0.020	<0.0050	<0.0050	<0.020	3.8	-	-	-	<0.05 - <0.2	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-25	9/10/2012	-	0.480	<0.0050	0.220	<0.010	<0.010	<0.010	**0.700**	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**40**	-	-	-	<0.05 - <0.1	<0.2 - <250	57[18a]	<50	<0.50 - <1.0
TA-25	9/25/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	310[18a]	-	-
TA-25	9/25/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50[18b]	-	-
TA-25	4/16/2013	-	<0.050	<0.0050	<0.020	<0.010	0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.6	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-25	6/2/2014	-	<0.050	<0.0050	0.220	<0.0005	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0

Table 4
Water Quality – Metals and Organics
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

Sampling Point	Date	Ag	Al	As	Ba	Cd	Cr	Cu	Fe	Hg	Mn	Pb	Se	Zn	Turbidity (NTU)	EPA 502.2[2] (µg/L)	EPA 8260[3] (µg/L)	EPA 8310[4] (µg/L)	EPA 8141A[5] (µg/L)	EPA 8151A[6] (µg/L)	TPH-Diesel[7] (µg/L)	TPH-MO[7] (µg/L)	BTEX EPA 8260B[8] (µg/L)
MCL[1]		*0.1*	1	0.05	1	0.005	0.05	*1*	*0.3*	0.002	*0.05*	0.05	0.05	*5*	*5*								
TA-25	3/26/2015	-	0.890	<0.0050	0.220	<0.010	<0.010	<0.010	**0.820**	<0.00020	<0.020	<0.0050	<0.0050	0.030	**93**	-	-	-	<0.05 - <0.1	<0.2 - <250	<10	<10	<0.50 - <1.0
TA-25	4/13/2016	-	0.150	<0.0020	0.290	<0.010	<0.010	<0.010	0.240	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**18**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-25	4/25/2017	-	0.170	<0.0050	0.270	<0.010	<0.010	<0.010	0.170	<0.00020	<0.020	<0.0050	<0.0050	<0.020	3.6	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-25	4/5/2018	-	0.220	<0.0020	0.240	<0.010	<0.010	<0.010	0.280	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**200**	-	-	-	<0.05 - <0.12	<0.22 - <280	<50	<50	<0.50 - <1.0
TA-25	4/11/2019	-	0.250	<0.0050	0.240	<0.010	<0.010	<0.010	0.250	<0.00020	<0.020	<0.0050	<0.0050	<0.020	4	-	-	-	<0.05 - <0.12	<0.22 - <290	<50	<50	<0.50 - <1.0
TA-25	3/31/2020	-	0.290	<0.0020	0.200	<0.010	<0.010	<0.010	0.240	<0.00020	<0.010	<0.0050	<0.0050	<0.020	2.8	-	-	-	<0.067 - < 0.13	<0.25 - <310	<50	<50	<0.50 - <1.0
Plant Dom	11/8/1995	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	ND	ND	ND	ND	-	ND
Plant Pond	Summer '95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND	-	-	-	-	-
Stephens	9/16/2009	-	<0.050	<0.0050	0.320	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.54	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Stephens	3/24/2010	-	<0.050	<0.0050	0.270	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Stephens	9/14/2010	-	<0.050	<0.0050	0.240	<0.010	0.030	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50[14]	<50	<0.50 - <1.0
Stephens	4/7/2011	*Farmers's crop growing around the wellhead; difficult access. No sample retrieved.*											-	-	-	-	-	-	-	-	-	-	-
Stephens	9/21/2011	-	<0.050	<0.0050	0.220	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Stephens	4/5/2012	-	<0.050	<0.0050	0.240	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.64	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Stephens	9/12/2012	-	<0.050	<0.0050	0.230	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Stephens	4/17/2013	-	<0.050	<0.0050	0.170	<0.010	0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Stephens	6/2/2014	-	<0.050	<0.0050	0.190	<0.0005	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Stephens	3/26/2015	-	<0.050	<0.0050	0.200	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.54	-	-	-	<0.05 - <0.1	<0.2 - <250	<10	<10	<0.50 - <1.0
Stephens	6/22/2016	-	<0.050	<0.0020	0.220	<0.010	<0.010	<0.010	<0.100	<0.001	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Stephens	4/26/2017	-	<0.050	<0.0050	0.140	<0.010	<0.010	<0.010	<0.100	<0.00020	**0.061**	<0.0050	<0.0050	<0.020	0.56	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	170[21]	<0.50 - <1.0
Stephens	4/5/2018	-	<0.050	<0.0020	0.240	<0.010	<0.010	<0.010	<0.100	<0.00020	**0.540**	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.12	<0.2 - <250	<50	<50	<0.50 - <1.0
Stephens	4/16/2019	-	<0.050	<0.0050	0.140	<0.010	<0.010	<0.010	0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.31	-	-	-	<0.05 - <2.7	<0.2 - <280	<50	<50	<0.50 - <1.0
Stephens	3/31/2020	-	<0.050	<0.0020	0.230	<0.010	<0.010	<0.010	0.190	<0.00020	**0.860**	<0.0050	<0.0050	<0.020	1.3	-	-	-	<0.05 - <0.1	<0.22 - < 280	<50	<50	<0.50 - <1.0
TA-18	9/11/2012	-	0.065	<0.0050	0.130	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.3	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-18	4/16/2013	-	0.76	<0.0050	0.150	<0.010	0.010	<0.010	**0.840**	<0.00020	<0.020	<0.0050	<0.0050	<0.020	4.2	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-18	9/11/2013	-	0.66	<0.0050	0.120	<0.010	0.010	<0.010	**1.100**	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**28**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-18	6/2/2014	*Well is dry. No sample retrieved.*																					
TA-18	10/6/2014	*Well is dry. No sample retrieved.*																					
TA-18	3/26/2015	-	0.810	<0.0050	0.140	<0.010	<0.010	<0.010	**0.750**	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**27**	-	-	-	<0.05 - <0.1	<0.2 - <250	<10	<10	<0.50 - <1.0
TA-18	4/14/2016	-	<0.050	<0.0020	0.093	<0.010	<0.010	<0.010	**0.310**	<0.00020	<0.020	<0.0050	<0.0050	<0.020	3.3	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-18	4/25/2017	-	<0.050	<0.0050	0.080	<0.010	<0.010	<0.010	**0.110**	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.5	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-18	4/4/2018	-	<0.050	<0.0020	0.160	<0.010	<0.010	<0.010	0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.9	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
TA-18	4/15/2019	-	<0.050	<0.0050	0.091	<0.010	<0.010	<0.010	0.110	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.84	-	-	-	<0.05 - <2.8	<1.5 - <760	<50	<50	<0.50 - <1.0
TA-18	3/31/2020	-	0.12	<0.0020	0.150	<0.010	<0.010	<0.010	0.250	<0.00020	<0.010	<0.0050	<0.0050	<0.020	2.7	-	-	-	<0.058 - <0.12	<0.2 - <250	<50	<50	<0.50 - <1.0
Schwarzgruber	9/11/2012	-	<0.050	<0.0050	0.190	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Schwarzgruber	4/16/2013	-	<0.050	<0.0050	0.160	<0.010	0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Schwarzgruber	9/11/2013	-	<0.050	<0.0050	0.150	<0.010	0.010	<0.010	0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.97	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Schwarzgruber	6/2/2014	*Well is dry. No sample retrieved.*																					
Schwarzgruber	10/6/2014	*Well is dry. No sample retrieved.*																					
Schwarzgruber	3/26/2015	-	<0.050	<0.0050	0.160	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.3	-	-	-	<0.05 - <0.1	<0.2 - <250	<10	<10	<0.50 - <1.0
Schwarzgruber	4/14/2016	-	<0.050	<0.0020	0.180	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.60	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Schwarzgruber	4/25/2017	-	<0.050	<0.0050	0.130	<0.010	<0.010	<0.010	0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.52	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Schwarzgruber	4/4/2018	-	0.14	<0.0020	0.130	<0.010	<0.010	<0.010	0.230	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**6.4**	-	-	-	<0.05 - <0.1	<0.2 - <350	<50	<50	<0.50 - <1.0
Schwarzgruber	4/16/2019	-	<0.050	<0.0050	0.140	<0.010	<0.010	<0.010	0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.4	-	-	-	<0.05 - <2.7	<0.2 - <250	<50	<50	<0.50 - <1.0
Schwarzgruber	3/30/2020	-	0.089	<0.0020	0.130	<0.010	<0.010	<0.010	0.120	<0.00020	<0.010	<0.0050	<0.0050	<0.020	1.2	-	-	-	<0.058 - <0.12	<0.24 - <300	<50	<50	<0.50 - <1.0
Rodgers Dom (N)	9/11/2012	-	<0.050	<0.0050	0.180	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Rodgers Dom (N)	6/2/2014	-	<0.050	<0.0050	0.170	<0.0005	<0.010	0.013	<0.100	<0.00020	<0.020	<0.0050	<0.0050	0.028	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Rodgers Dom (N)	3/26/2015	-	<0.050	<0.0050	0.160	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	0.075	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<10	<10	<0.50 - <1.0

Table 4
Water Quality – Metals and Organics
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

Sampling Point	Date	Ag	Al	As	Ba	Cd	Cr	Cu	Fe	Hg	Mn	Pb	Se	Zn	Turbidity (NTU)	EPA 502.2[2] (µg/L)	EPA 8260[3] (µg/L)	EPA 8310[4] (µg/L)	EPA 8141A[5] (µg/L)	EPA 8151A[6] (µg/L)	TPH-Diesel[7] (µg/L)	TPH-MO[7] (µg/L)	BTEX EPA 8260B[8] (µg/L)
MCL[1]		*0.1*	1	0.05	1	0.005	0.05	*1*	*0.3*	0.002	*0.05*	0.05	0.05	*5*	*5*								
Rodgers Dom (N)	4/25/2017	-	<0.050	<0.0050	0.150	<0.010	<0.010	0.068	<0.100	<0.00020	<0.020	<0.0050	<0.0050	0.140	0.63	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Rodgers Dom (N)	4/4/2018	-	<0.050	<0.0020	0.130	<0.010	<0.010	0.033	<0.100	<0.00020	<0.020	0.013	<0.0050	0.200	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <370	<50	<50	<0.50 - <1.0
Rodgers Dom (N)	4/15/2019	-	<0.050	<0.0050	0.160	<0.010	<0.010	0.140	0.12	<0.00020	<0.020	<0.0050	<0.0050	0.035	0.69	-	-	-	<0.05 - <2.8	<0.3 - <360	<50	<50	<0.50 - <1.0
Rodgers Dom New (S)	9/11/2012	-	<0.050	<0.0050	0.180	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Rodgers Dom New (S)	6/2/2014	-	<0.050	<0.0050	0.180	<0.0005	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	0.040	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Rodgers Dom New (S)	3/26/2015	-	<0.050	<0.0050	0.160	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<10	<10	<0.50 - <1.0
Rodgers Dom New (S)	4/25/2017	-	<0.050	<0.0050	0.150	<0.010	<0.010	0.014	<0.100	<0.00020	<0.020	<0.0050	<0.0050	0.021	3.3	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Rodgers Dom New (S)	4/4/2018	-	<0.050	<0.0020	0.130	<0.010	<0.010	0.011	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <340	<50	<50	<0.50 - <1.0
Rodgers Dom New (S)	4/15/2019	-	<0.050	<0.0050	0.160	<0.010	<0.010	0.027	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.10	-	-	-	<0.06 - <3.2	<0.3 - <360	<50	<50	<0.50 - <1.0
Rodgers Dom New (S)	4/3/2020	-	<0.050	<0.0020	0.120	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.010	<0.0050	<0.0050	<0.020	0.6	-	-	-	<0.06 - <0.11	<0.24 - <310	<50	<50	<0.50 - <1.0
Muller Pond	4/14/2005	-	<0.050	<0.0050	0.100	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**5.0**	-	-	-	<0.3 - <5	<0.13 - <0.5	<50	<100	<0.50
Muller Pond	9/15/2005	*Pond is Dry. No sample retrieved.*																					
Muller Pond	3/29/2006	-	0.260	<0.0050	0.100	<0.010	<0.010	<0.010	0.240	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**7.8**	-	-	-	<0.3 - <5	<0.13 - <0.5	<50	<100	<0.50
Muller Pond	9/11/2006	-	0.670	<0.0050	0.160	<0.010	0.013	<0.010	**0.820**	<0.00020	0.021	<0.0050	<0.0050	<0.020	**15**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	270	<0.50 - <1.0
Muller Pond	9/28/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	-
Muller Pond	3/20/2007	-	0.170	<0.0050	0.098	<0.010	<0.010	<0.010	0.180	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.9	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Muller Pond	9/7/2007	-	**2.20**	<0.0050	0.081	<0.010	<0.010	<0.010	**3.300**	<0.00020	**0.110**	<0.0050	<0.0050	<0.020	**140**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Muller Pond	3/11/2008	-	0.068	<0.0050	0.110	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.2	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Muller Pond	9/11/2008	*Pond is Dry. No sample retrieved.*																					
Muller Pond	3/17/2009	-	0.057	<0.0050	0.120	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.3	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Muller Pond	9/16/2009	*Pond is Dry. No sample retrieved.*																					
Muller Pond	3/25/2010	-	0.100	<0.0050	0.120	<0.010	<0.010	<0.010	0.140	<0.00020	<0.020	<0.0050	<0.0050	<0.020	4.3	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Muller Pond	9/15/2010	-	<0.050	<0.0050	0.024	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.98	-	-	-	<0.05 - <0.1	<0.2 - <250	<50[14]	<50[14]	<0.50 - <1.0
Muller Pond	4/4/2012	*No metals or organics analyses required under post-reclamation conditions*																					
Coors Pond	9/7/2007	-	<0.050	<0.0050	0.060	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**17**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	3/11/2008	-	0.150	<0.0050	0.076	<0.010	<0.010	<0.010	0.170	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**6.4**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	9/11/2008	-	0.180	<0.0050	0.096	<0.010	<0.010	<0.010	0.170	<0.00020	0.027	<0.0050	<0.0050	<0.020	**12**	-	-	-	<0.05 - <0.1	2.9[13]	<50	<50	<0.50 - <1.0
Coors Pond	3/17/2009	-	0.085	<0.0050	0.051	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**9.3**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	9/16/2009	-	0.054	0.0077	0.070	<0.010	<0.010	<0.010	<0.100	<0.00020	**0.068**	<0.0050	<0.0050	<0.020	4.1	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	3/25/2010	-	0.078	<0.0050	0.059	<0.010	<0.010	<0.010	0.130	<0.00020	<0.020	<0.0050	<0.0050	<0.020	4.7	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	9/15/2010	-	<0.050	<0.0050	0.055	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**7.5**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50[14]	<50[14]	<0.50 - <1.0
Coors Pond	4/6/2011	-	<0.050	<0.0050	0.033	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.2	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	9/12/2011	-	<0.050	<0.0050	0.037	<0.010	0.012	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.7	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	120[15]	<0.50 - <1.0
Coors Pond	10/14/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50[15]	-
Coors Pond	3/29/2012	-	<0.050	<0.0050	0.068	<0.010	0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.3	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	210[16]	<0.50 - <1.0
Coors Pond	5/1/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50[16]	-
Coors Pond	9/10/2012	-	<0.050	0.0065	0.110	<0.010	<0.010	<0.010	<0.100	<0.00020	0.023	<0.0050	<0.0050	<0.020	2.4	-	-	-	<0.05 - <0.1	<0.2 - <250	120[18a]	<50	<0.50 - <1.0
Coors Pond	9/25/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	540[18a]	-	-
Coors Pond	9/25/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50[18b]	-	-
Coors Pond	4/17/2013	-	0.130	<0.0050	0.065	<0.010	0.010	<0.010	0.140	<0.00020	<0.020	<0.0050	<0.0050	<0.020	3.8	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	9/11/2013	-	0.110	0.0058	0.059	<0.010	0.010	<0.010	0.150	<0.00020	<0.020	<0.0050	<0.0050	<0.020	**5.7**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	6/2/2014	-	0.250	0.0083	0.066	<0.0005	<0.010	<0.010	**0.360**	<0.00020	0.024	<0.0050	<0.0050	0.140	2.3	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Coors Pond	10/6/2014	-	**2.700**	0.0140	0.120	<0.010	<0.010	<0.010	**3.900**	<0.00020	**0.110**	<0.0050	<0.0050	<0.020	**49**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	430[19]	<0.50 - <1.0
Coors Pond	10/20/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	180[19]	-
Coors Pond	3/27/2015	*Wet-pit filled in. No sample retrieved, or to be retrieved in future.*																					
Storz Pond	4/6/2011	-	0.130	<0.0050	0.190	<0.010	<0.010	<0.010	0.130	<0.00020	<0.020	<0.0050	<0.0050	<0.020	3.5	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Storz Pond	9/12/2011	-	<0.050	<0.0050	0.069	<0.010	<0.010	<0.010	<0.100	<0.00020	0.028	<0.0050	<0.0050	<0.020	3.4	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Storz Pond	3/29/2012	-	<0.050	<0.0050	0.250	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.8	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	120[16]	<0.50 - <1.0
Storz Pond	5/1/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50[16]	-
Storz Pond	9/10/2012	-	<0.050	<0.0050	0.200	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	0.0054	<0.020	1.4	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0

Table 4
Water Quality – Metals and Organics
Teichert Aggregates – Woodland Properties

(all units in mg/L, unless otherwise specified)

Sampling Point	Date	Ag	Al	As	Ba	Cd	Cr	Cu	Fe	Hg	Mn	Pb	Se	Zn	Turbidity (NTU)	EPA 502.2[2] (µg/L)	EPA 8260[3] (µg/L)	EPA 8310[4] (µg/L)	EPA 8141A[5] (µg/L)	EPA 8151A[6] (µg/L)	TPH-Diesel[7] (µg/L)	TPH-MO[7] (µg/L)	BTEX EPA 8260B[8] (µg/L)
MCL[1]		*0.1*	1	0.05	1	0.005	0.05	*1*	*0.3*	0.002	*0.05*	0.05	0.05	*5*	*5*								
Storz Pond	4/17/2013	-	<0.050	<0.0050	0.150	<0.010	0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.1	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Storz Pond	9/11/2013	-	<0.050	<0.0050	0.054	<0.010	0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.72	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Storz Pond	6/2/2014	-	<0.050	<0.0050	0.033	<0.0005	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	0.77	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Storz Pond	10/6/2014	-	<0.050	<0.0050	0.240	<0.010	<0.010	<0.010	0.15	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.3	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	150[19]	<0.50 - 0.91[20]
Storz Pond	10/20/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	130[19]	<0.50[20]
Storz Pond	3/26/2015	-	<0.050	<0.0050	0.091	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<10	**12**	<0.50 - <1.0
Storz Pond	10/28/2015	-	<0.050	<0.0050	0.034	<0.010	<0.010	<0.010	0.17	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.5	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Storz Pond	4/13/2016	-	<0.050	<0.0020	0.120	<0.010	<0.010	<0.010	<0.100	<0.00020	0.027	<0.0050	<0.0050	<0.020	<0.50	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Storz Pond	9/13/2016	-	<0.050	<0.0050	0.031	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.9	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	**610**	<0.50 - <1.0
Storz Pond	4/25/2017	-	**3.100**	<0.0050	0.140	<0.010	0.012	<0.010	**2.9**	<0.00020	**0.060**	<0.0050	<0.0050	<0.020	**27**	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Storz Pond	10/4/2017	-	<0.050	<0.0050	0.086	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	2.9	-	-	-	<0.05 - <0.1	<0.2 - <250	<50	<50	<0.50 - <1.0
Storz Pond	4/5/2018	-	0.050	<0.0020	0.110	<0.010	<0.010	<0.010	<0.100	<0.00020	0.036	<0.0050	<0.0050	<0.020	2.6	-	-	-	<0.05 - <0.12	<0.2 - <250	<50	<50	<0.50 - <1.0
Storz Pond	9/19/2018	-	0.190	0.002	0.054	<0.010	<0.010	<0.010	0.300	<0.00020	0.023	<0.0050	<0.0050	<0.020	1.9	-	-	-	<6 - <50	<0.2 - <250	<50	<50	<0.50 - <1.0
Storz Pond	4/11/2019	-	<0.050	<0.0050	0.130	<0.010	<0.010	<0.010	<0.100	0.0003222	<0.020	<0.0050	<0.0050	<0.020	1.1	-	-	-	<0.05 - <0.10	<0.22 - <250	<50	<50	<0.50 - <1.0
Storz Pond	10/10/2019	-	<0.050	<0.0050	0.085	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.020	<0.0050	<0.0050	<0.020	1.7	-	-	-	<0.05 - <0.10	<0.2 - <250	<50	<50	<0.50 - <1.0
Storz Pond	3/30/2020	-	<0.050	<0.0020	0.150	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.010	<0.0050	<0.0050	<0.020	0.87	-	-	-	<0.05 - <0.10	<0.23 - <290	<50	<50	<0.50 - <1.0
Storz Pond	9/15/2020	-	<0.050	<0.0020	0.040	<0.010	<0.010	<0.010	<0.100	<0.00020	<0.010	<0.0050	<0.0050	<0.020	2.7	-	-	-	<0.05 - <0.10	<0.2 - <250	<50	<50	<0.50 - <1.0

Notes:

Beginning in 2005, all non-detected (ND) values are given as "<reporting limit".

1. Maximum Contaminant Levels for drinking water standards; italic font style indicates secondary, i.e., consumer acceptance limits. Measured constituent concentrations at or exceeding the MCL are highlighted with bold font style.
2. Volatile Organics, EPA 502.2, includes BTEX.
3. Volatile Organics, EPA 8260.
4. Polynuclear Aromatic Hydrocarbons, EPA 8310.
5. Organophosphorus Pesticides, EPA 8141A (previously EPA 8140).
6. Organochlorine Herbicides, EPA 8151A (previously EPA 8150).
7. Total petroleum hydrocarbons, modified EPA 8015; MO = motor oil.
8. Previously EPA 8020.
9. Hydrocarbons reported as TPH-Motor Oil do not exhibit a typical motor oil chromatographic pattern.
10. A sample was retrieved prior to purging of the well (8:45 AM) and after purging of multiple wet casing volumes (9:45 AM). In the 8:45 AM sample, TPH-diesel was identified (82 µg/L), however, it did not exhibit a typical diesel chromatographic pattern. After the removal of polar constituents in the 8:45 AM sample (EPA method 3630), TPH-diesel was not detected. TPH-diesel was not detected in the 9:45 AM sample.
11. Dichloroprop detected at 2.1 µg/L; other constituents below detection limits (<0.2 - <250 µg/L).
12. Fensulfothion detected at 0.28 µg/L; other constituents below detection limits (<0.05 - <0.1µg/L).
13. Dichloroprop detected at 2.9 µg/L; other constituents below detection limits (<0.2 - <250 µg/L).
14. Initial analytical results were identified as laboratory contamination.
15. Hydrocarbons reported for September 12, 2011, as TPH-Motor Oil questionable (CLS Labs, James Liang, October 3, 2011); Resample on October 14, 2011, indicated ND.
16. Hydrocarbons as TPH-Motor Oil reported for March 29, 2012; on May 1, 2012, resample with and without Silica Gel Treatment indicated ND.
17. (a) Toluene reported for May 1, 2012; (b) resample with duplicates on June 6, 2012, indicated ND.
18. (a) Hydrocarbons as TPH-Diesel reported for Sept 10, 2012, ; on Sept 25, 2012, (a) resample without Silica Gel Treatment was TPH-Diesel detected and (b) with SGT indicated ND.
19. TPH-Motor Oil reported 10/6/2014 and 10/20/2014 is questionable (CLS Labs, James Liang, October 28, 2014).
20. Toluene reported for Oct 6, 2014; resample with duplicates on Oct 20, 2014, indicated ND.
21. Motor Oil reported at 170 ug/L on 4/26/17 is questionable (Field Blank showed Motor Oil at 210 ug/L).
22. Hg reported at 0.32 ug/L on 4/11/19 is questionable (followup sample ND).

APPENDIX

Groundwater Level Hydrographs and Field Notes

Table A1
Teichert and YCFCWCD Monitoring Network Information
Teichert Aggregates Woodland Plant Area

Well Network

Well Name	Well Type	Current Status	Easting (NAD 83)	Northing (NAD 83)	Reference Point Elevation (Feet, NAVD88)	Well Depth (Feet)	Periods of Record (Levels)	Periods of Record (Quality)	Monitoring and Reporting Entity	Note Code
TA-1A	Monitoring	NA	6,596,353.559	2,012,240.070	112.96	39.7	1987 - 2019	2005 - 2019	Teichert	
TA-1	Monitoring	NA	6,596,353.559	2,012,240.070	112.72	23.9	1986 - 1989	- - -	Teichert	1
TA-3A	Monitoring	NA	6,593,592.840	2,013,271.854	119.06	33.0	1992 - 2019	2005 - 2007	Teichert	
TA-3	Monitoring	NA	6,593,592.840	2,013,271.854	121.33	20.7	1986 - 1993	- - -	Teichert	1
TA-4	Monitoring	NA	6,593,395.982	2,012,443.672	121.97	28.6	1986 - 2019	- - -	Teichert	1
TA-5A	Monitoring	NA	6,593,246.394	2,011,687.500	121.00	34.3	1987 - 2019	1995 - 2019	Teichert	
TA-5	Monitoring	NA	6,593,335.232	2,011,588.210	119.72	27.9	1986 - 2019	- - -	Teichert	1
TA-6	Monitoring	NA	3,594,064.231	2,011,596.049	118.12	28.4	1986 - 2019	- - -	Teichert	1
TA-7	Monitoring	NA	6,596,495.252	2,010,447.499	113.71	35.0	1986 - 1986	- - -	Teichert	1
TA-8	Monitoring	NA	6,597,595.911	2,011,068.992	112.69	32.3	1986 - 2019	- - -	Teichert	1
TA-9R	Monitoring	NA	6,599,597.971	2,011,102.202	114.26	71.8	1987 - 2015	1992 - 1995	Teichert	1
TA-9	Monitoring	NA	6,599,597.971	2,011,102.202	114.24	50.0	1986 - 2015	- - -	Teichert	1
TA-10	Monitoring	NA	6,600,001.230	2,012,833.841	105.79	36.3	1986 - 2019	- - -	Teichert	1
TA-11	Monitoring	NA	6,601,085.682	2,015,970.833	104.64	39.8	1986 - 2019	- - -	Teichert	1
TA-12	Monitoring	NA	6,601,403.237	2,014,158.845	96.98	36.3	1986 - 2019	- - -	Teichert	1
TA-13A	Monitoring	NA	6,602,927.500	2,016,472.184	99.83	61.5	1987 - 2019	1995 - 2018	Teichert	
TA-13	Monitoring	NA	6,604,070.698	2,017,114.992	95.81	39.6	1986 - 2019	- - -	Teichert	1
TA-14	Monitoring	NA	6,601,118.400	2,018,700.842	106.25	37.0	1986 - 2019	1992 - 2018	Teichert	
TA-15	Monitoring	NA	6,603,031.427	2,013,458.300	77.04	40.0	1986 - 2019	- - -	Teichert	1
TA-16	Monitoring	NA	6,603,335.510	2,015,813.980	96.98	40.2	1986 - 2019	- - -	Teichert	1
TA-17	Monitoring	NA	6,604,880.000	2,014,934.000	73.35	34.0	1986 - 2019	- 1992	Teichert	1
TA-18	Monitoring	NA	6,607,284.738	2,017,834.784	84.43	59.8	1986 - 2019	2012 - 2019	Teichert	
TA-22	Monitoring	NA	6,596,440.720	2,013,008.912	115.48	39.0	1992 - 2019	- - -	Teichert	1
TA-23	Monitoring	NA	6,595,092.555	2,013,115.726	116.87	33.0	1992 - 2019	- - -	Teichert	1
TA-24	Monitoring	NA	6,601,446.540	2,015,497.387	119.06	45.0	1992 - 2019	- - -	Teichert	1
TA-25	Monitoring	NA	6,598,321.777	2,011,614.577	110.53	71.2	2009 - 2019	2009 - 2019	Teichert	
YFC-West	Water Supply	Inactive	6,596,845.242	2,009,602.955	116.91	65	1986 - 2019	- - -	Teichert	1
Stephens	Water Supply	Inactive	6,599,721.321	2,011,828.482	112.62	75	1987 - 2019	2009 - 2019	Teichert	
Schwarzgruber	Water Supply	Inactive	6,607,315.531	2,016,472.184	95.25	65	1987 - 2019	2012 - 2019	Teichert	
Coors North	Irrigation	Inactive	6,593,416.229	2,012,435.273	119.88	580	1987 - 2019	- - -	Teichert	1
Coors South	Irrigation	Inactive	6,593,270.563	2,011,845.972	119.58	630	1987 - 1990	- - -	Teichert	1
YFC-East	Irrigation	Active	6,596,976.775	2,009,563.983	116.86	566	1986 - 2019	- - -	Teichert	1
Storz	Water Supply	Active	6,599,553.841	2,010,932.897	115.40	168	1987 - 2015	- - -	Teichert	1
Muller	Irrigation	Inactive	6,604,170.776	2,019,093.456	95.65	- - -	1991 - 2019	- - -	Teichert	1, 2
Muller #2	Irrigation	Active	6,599,463.265	2,013,577.624	109.67	430	1992 - 2019	- - -	Teichert	1
Schwarzgruber #2	Industrial	Active	6,607,315.531	2,016,472.184	94.54	198	1991 - 2019	- - -	Teichert	1
Teichert Plant	Industrial	Active	6,604,232.362	2,014,116.505	97.73	453	1987 - 2019	- - -	Teichert	1
Teichert Plant Domestic	Water Supply	Active	6,603,516.420	2,014,332.057	97.54	- - -	1998 - 2015	- 1995	Teichert	1, 2
Teichert Domestic	Water Supply	Active	6,598,363.371	2,013,141.707	110.79	108	1991 - 2019	- - -	Teichert	1
09N/1E-03C3	Water Supply	Unknown	6,603,535.812	2,003,025.135	102.78	567	1941 - 2019	- - -	YCFCWCD	1, 3
10N/1E-14K1	Water Supply	Unknown	6,610,259.000	2,021,345.000	92.8	77	1957 - 2019	- - -	YCFCWCD	1, 3
10N/1E-23Q2	Water Supply	Unknown	6,611,157.000	2,014,209.000	91.8	220	1950 - 2019	- - -	YCFCWCD	1, 3
10N/1E-24E1	Water Supply	Unknown	6,612,807.000	2,017,307.000	88.8	194	1950 - 2019	- - -	YCFCWCD	1, 3
10N/1E-26E3	Water Supply	Unknown	6,608,451.000	2,011,472.000	100.8	142	1956 - 2019	- - -	YCFCWCD	1, 3
10N/1E-29K1	Water Supply	Unknown	6,595,693.000	2,010,251.000	113.8	336	1951 - 2019	- - -	YCFCWCD	1, 3
10N/1E-33L2	Water Supply	Unknown	6,598,497.000	2,005,957.000	134.3	416	1972 - 2019	- - -	YCFCWCD	1, 3
10N/1E-34A3	Water Supply	Unknown	6,606,845.000	2,008,551.000	102.8	242	1951 - 2019	- - -	YCFCWCD	1, 3

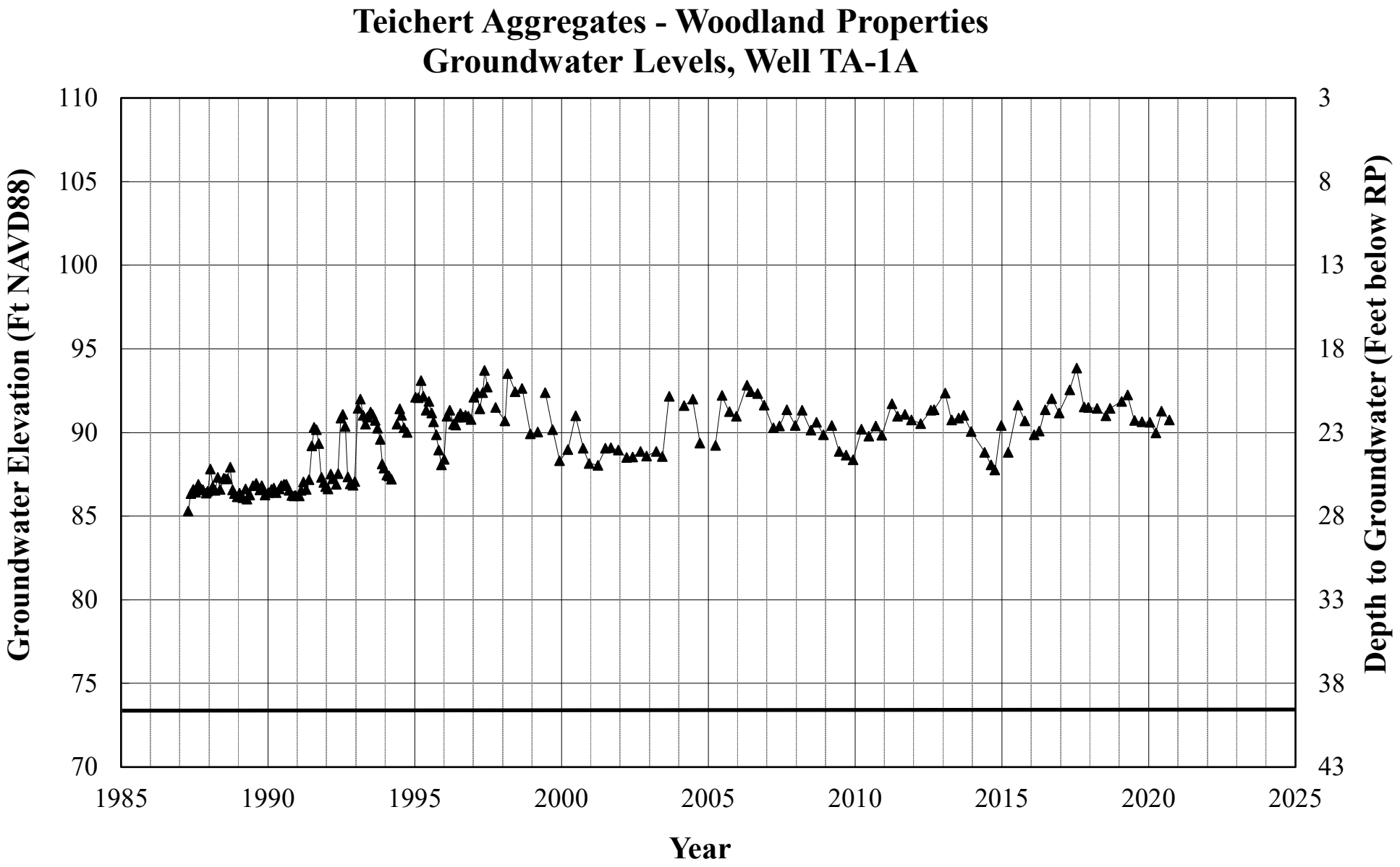
Ponds

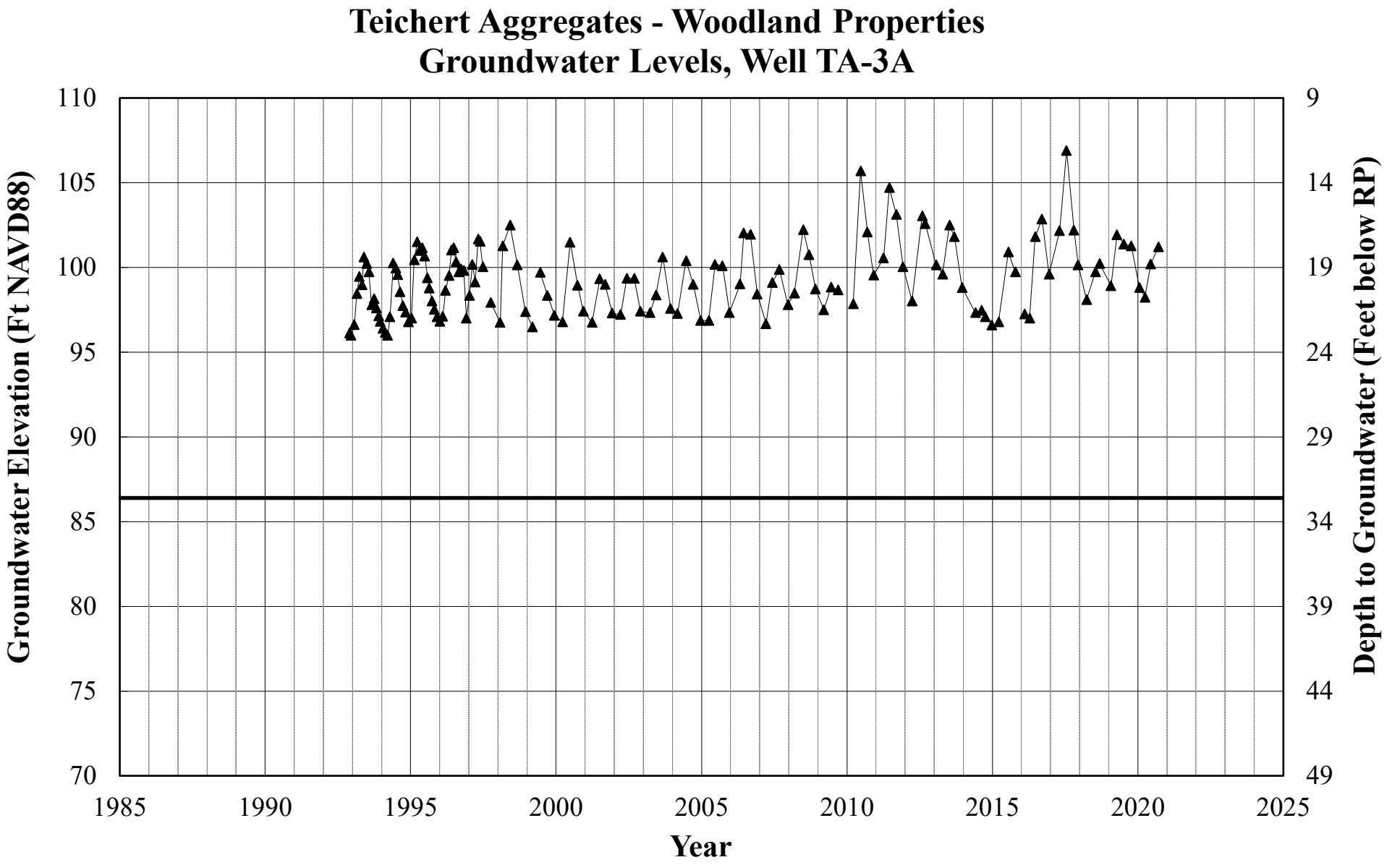
Pond Name	Pond Type	Current Status	Period of Record (Quality)	Monitoring and Reporting Entity	Note Code
Muller	Wet Pit	Reclamation complete, backfilled agricultural land and restored wetland	2005 - 2018	Teichert	
Coors	Wet Pit	Reclamation complete, backfilled entirely to agricultural land	2007 - 2014	Teichert	
Storz	Wet Pit	Active	2011 - 2019	Teichert	

1) Well monitored for groundwater levels only, not used for groundwater quality monitoring

2) Well depth unknown

3) Reference Point Elevations updated October 2015, from Yolo County WRID


Teichert Aggregates - Woodland Properties
Groundwater Levels, Well TA-1A
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (Feet below RP)
Year
110
105
100
95
90
85
80
75
70
3
8
13
18
23
28
33
38
43
1985
1990
1995
2000
2005
2010
2015
2020
2025


Teichert Aggregates - Woodland Properties
Groundwater Levels, Well TA-3A
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (Feet below RP)
Year
110
105
100
95
90
85
80
75
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19
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49
1985
1990
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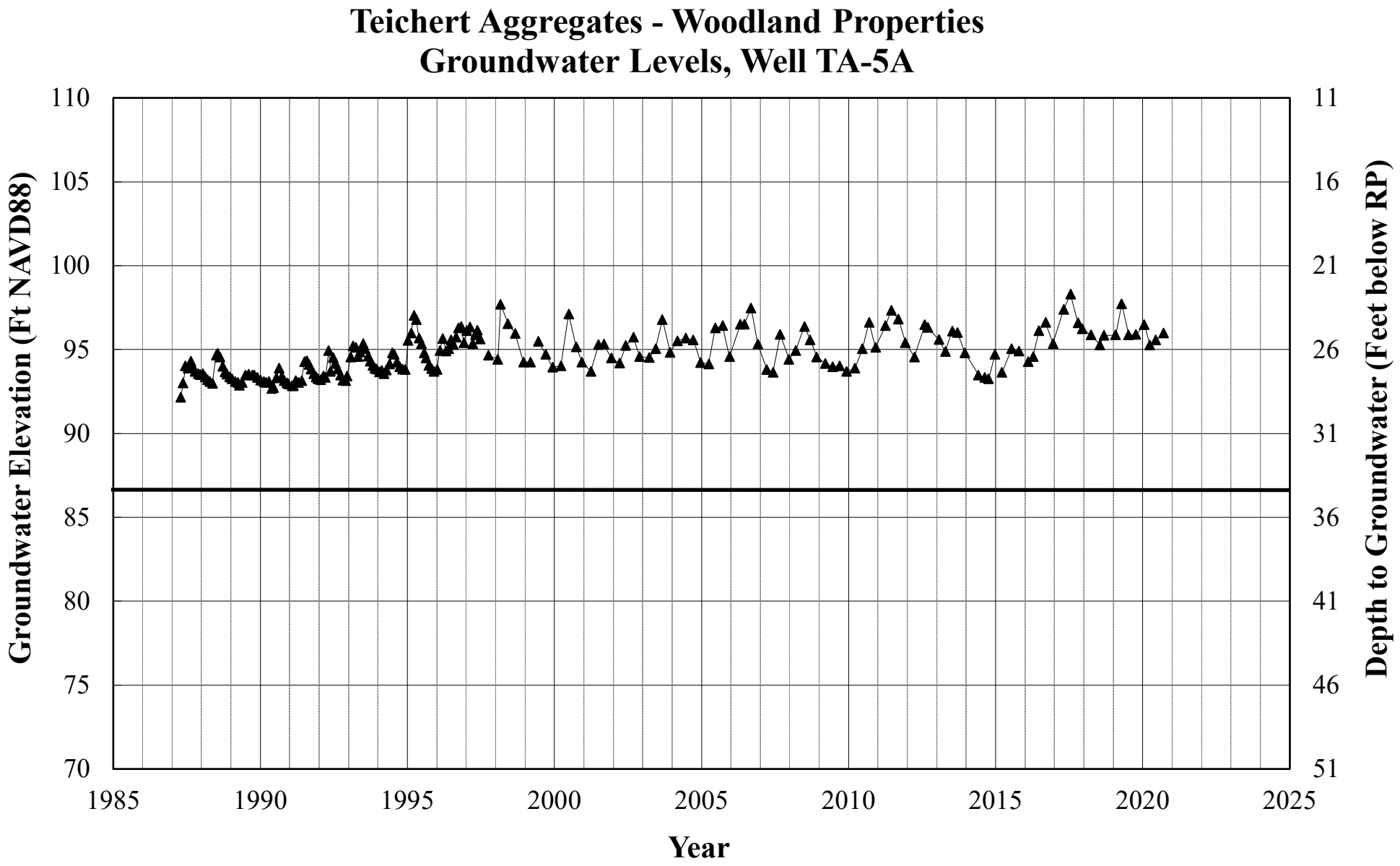
2020
2025


Teichert Aggregates - Woodland Properties
Groundwater Levels, Well TA-5A
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (Feet below RP)
Year
110
105
100
95
90
85
80
75
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11
16
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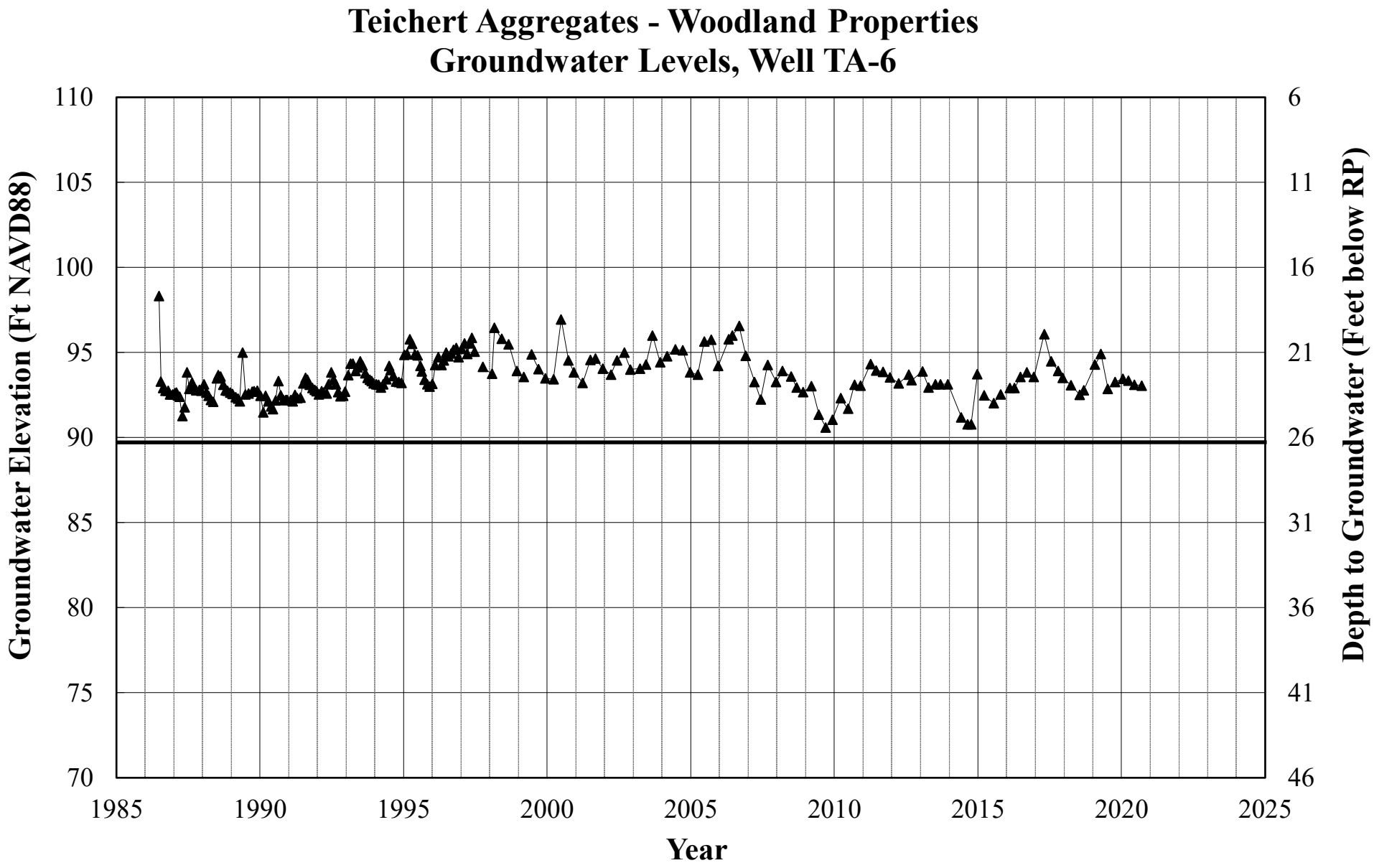
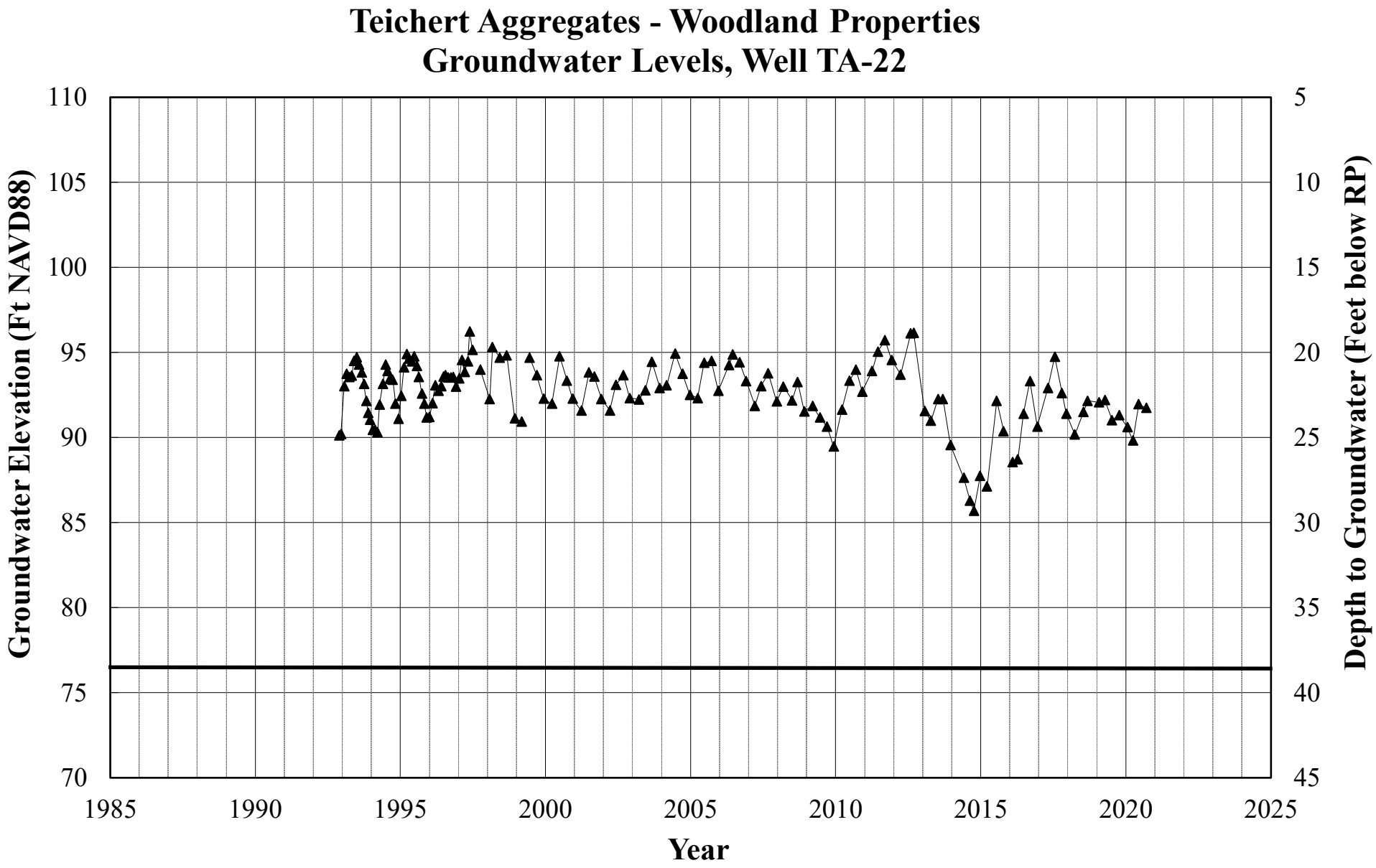
26
31
36
41
46
51
1985
1990
1995
2000
2005
2010
2015
2020
2025


Teichert Aggregates - Woodland Properties
Groundwater Levels, Well TA-6
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (Feet below RP)
Year
110
105
100
95
90
85
80
75
70
6
11
16
21
26
31
36
41
46
1985
1990
1995
2000
2005
2010
2015
2020
2025


Teichert Aggregates - Woodland Properties
Groundwater Levels, Well TA-22
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (Feet below RP)
Year
110
105
100
95
90
85
80
75
70
5
10
15
20
25
30
35
40
45
1985
1990
1995
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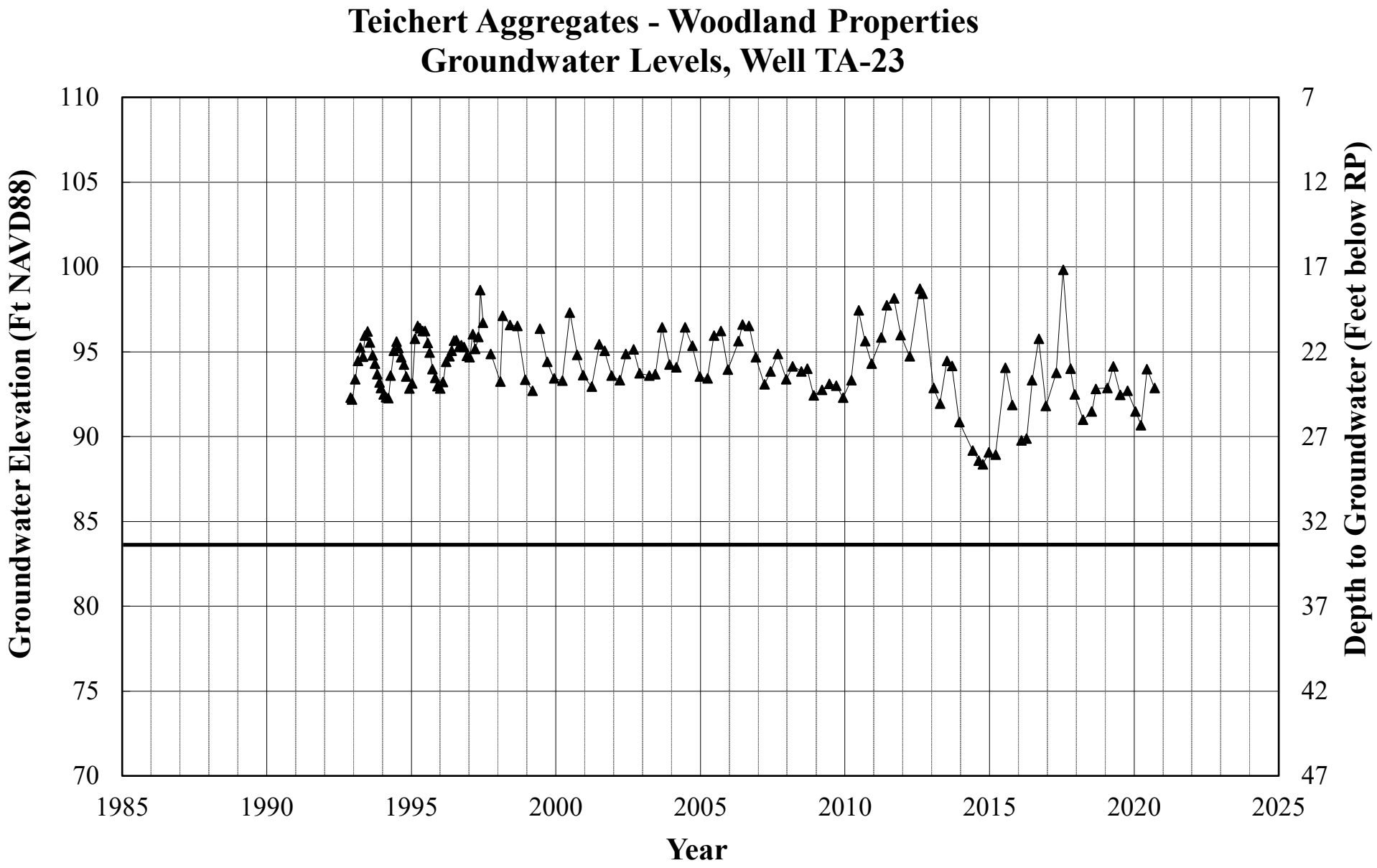
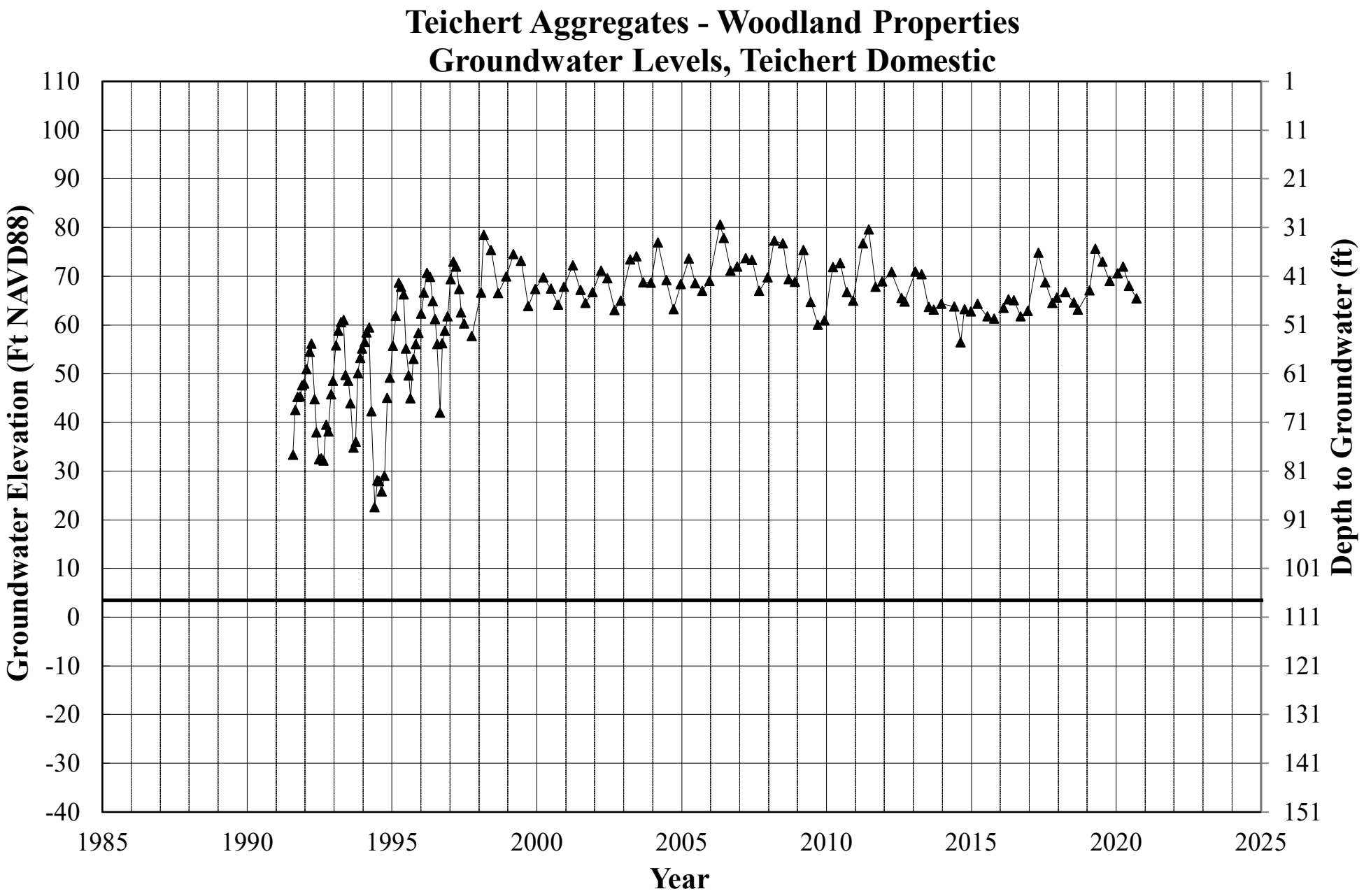
2005
2010
2015
2020
2025


Teichert Aggregates - Woodland Properties
Groundwater Levels, Well TA-23
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (Feet below RP)
Year
110
105
100
95
90
85
80
75
70
7
12
17
22
27
32
37
42
47
1985
1990
1995
2000
2005
2010
2015
2020
2025


Teichert Aggregates - Woodland Properties
Groundwater Levels, Teichert Domestic
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
1
11
21
31
41
51
61
71
81
91
101
111
121
131
141
151
1985
1990
1995
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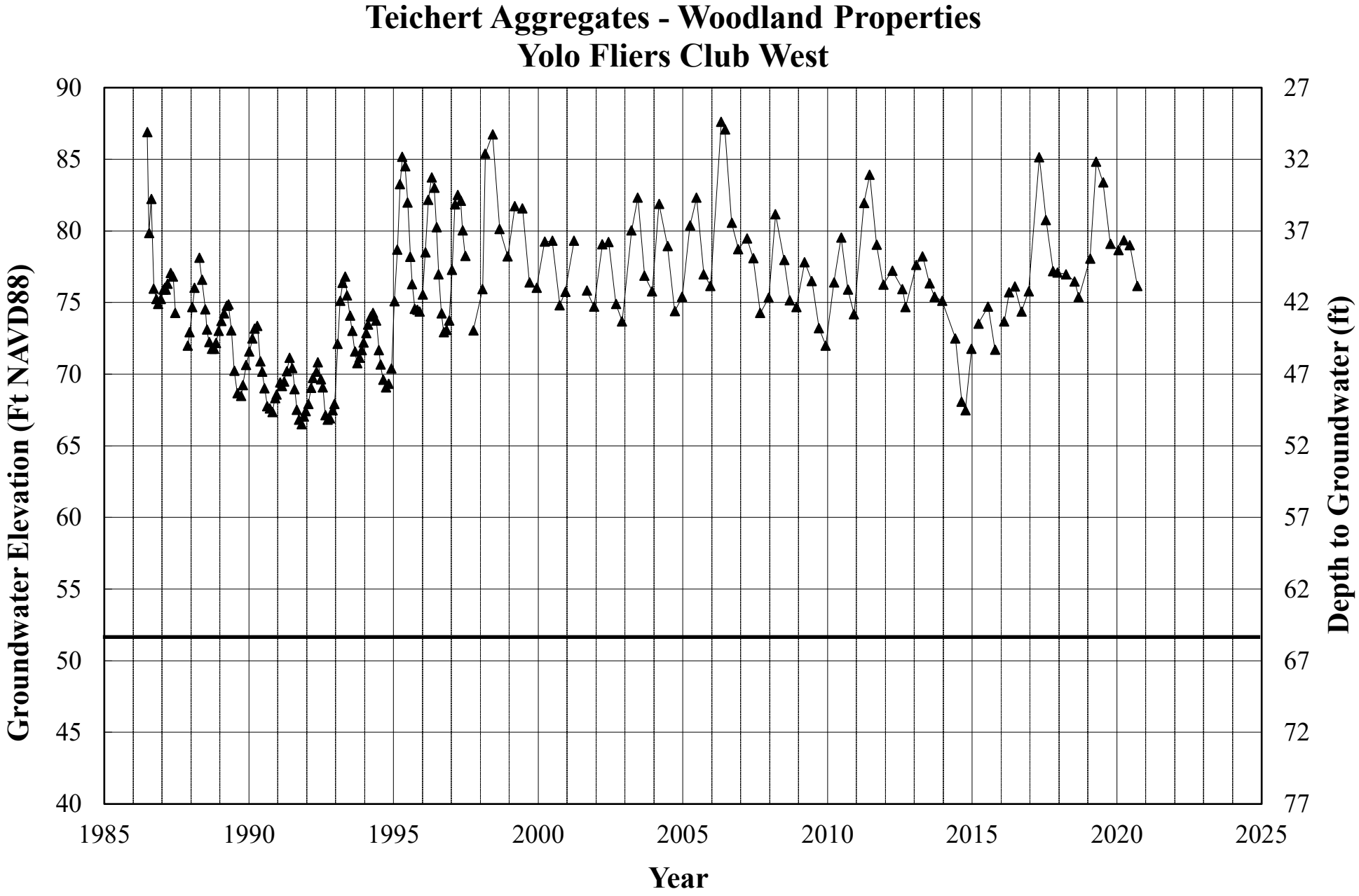
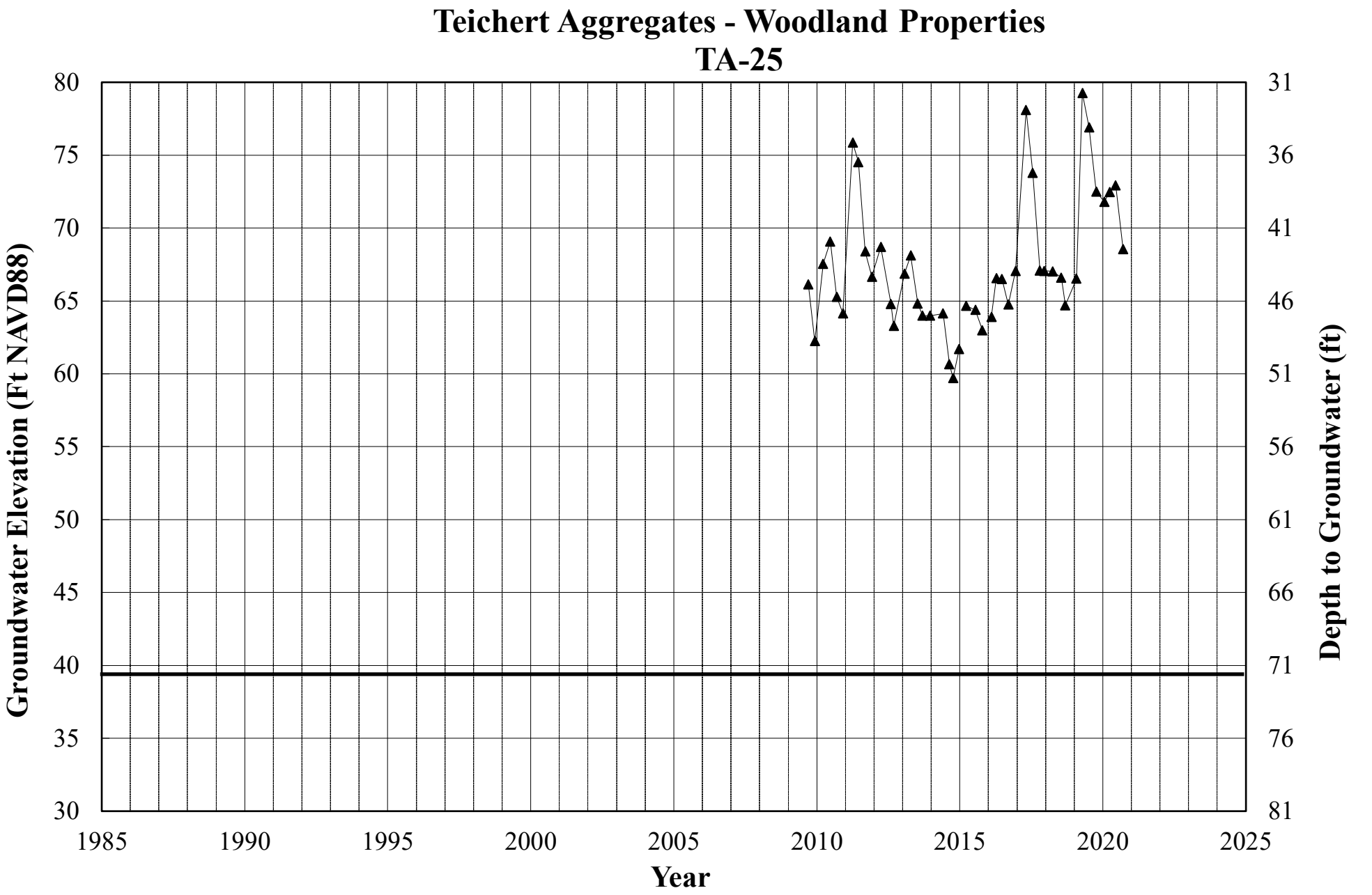
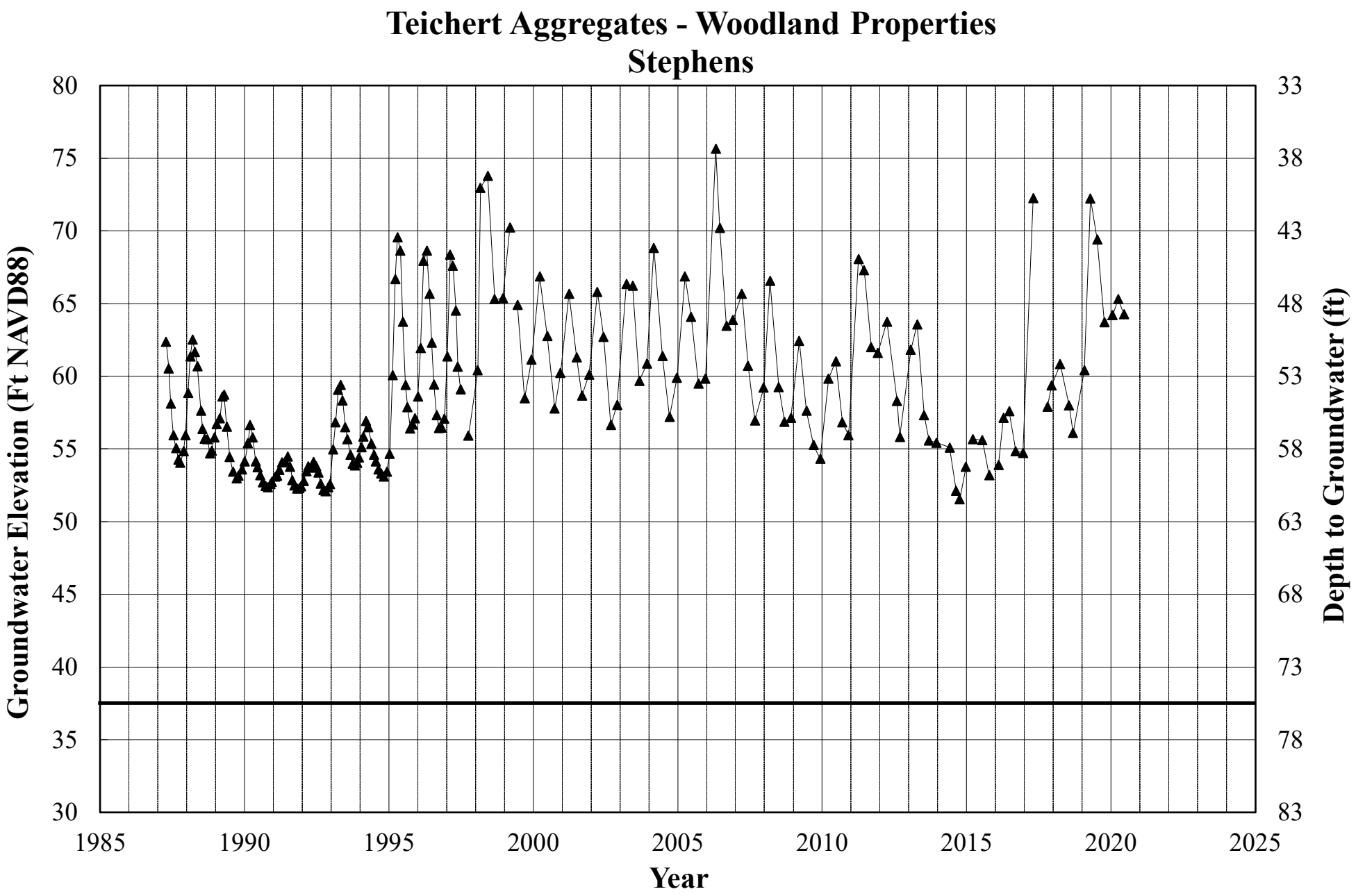
2010
2015
2020
2025


Teichert Aggregates - Woodland Properties
Yolo Fliers Club West
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
90
85
80
75
70
65
60
55
50
45
40
27
32
37
42
47
52
57
62
67
72
77
1985
1990
1995
2000
2005
2010
2015
2020
2025


Teichert Aggregates - Woodland Properties
TA-25
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
80
75
70
65
60
55
50
45
40
35
30
31
36
41
46
51
56
61
66
71
76
81
1985
1990
1995
2000
2005
2010
2015
2020
2025


Teichert Aggregates - Woodland Properties
Stephens
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
80
75
70
65
60
55
50
45
40
35
30
33
38
43
48
53
58
63
68
73
78
83
1985
1990
1995
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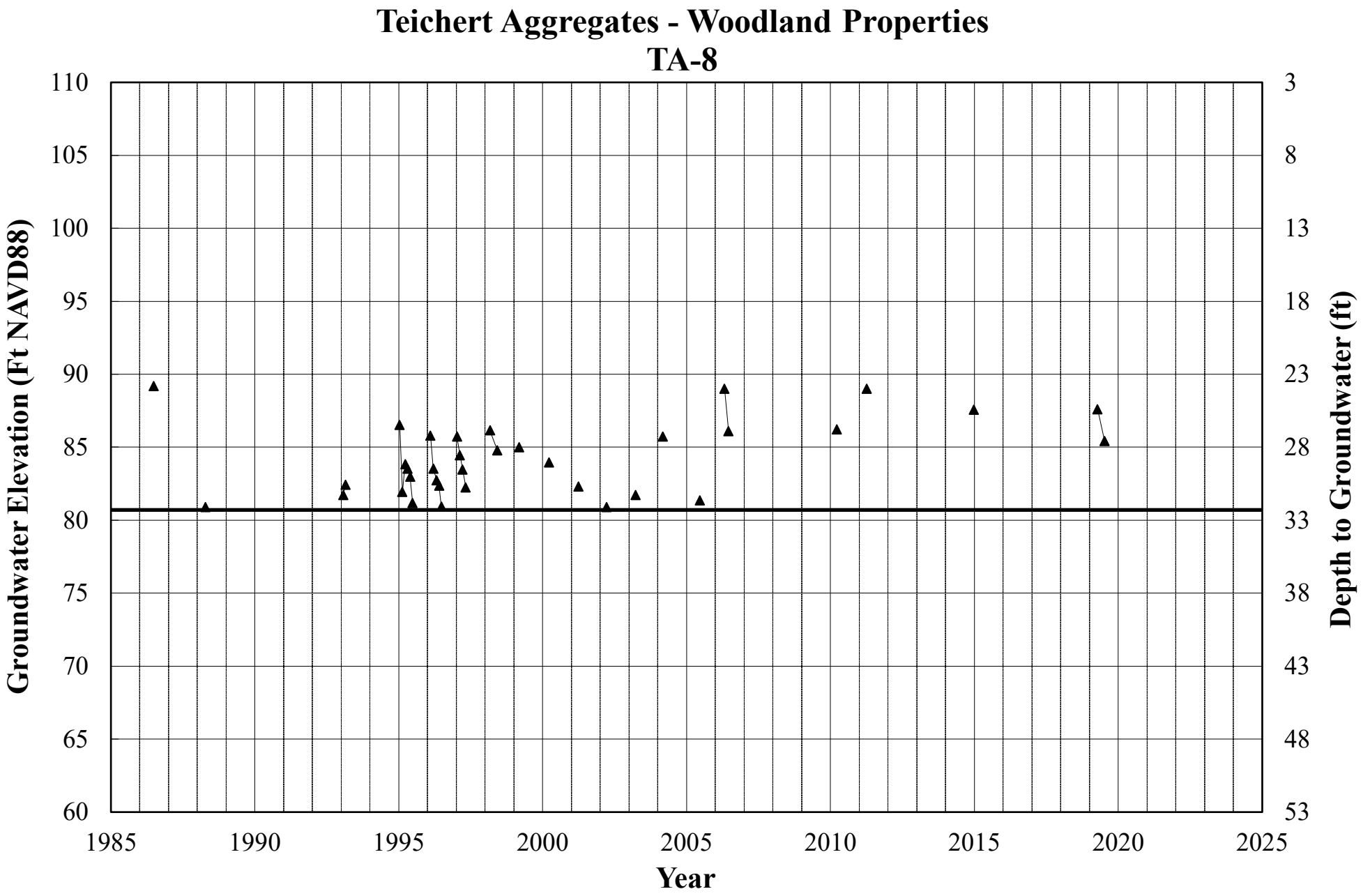
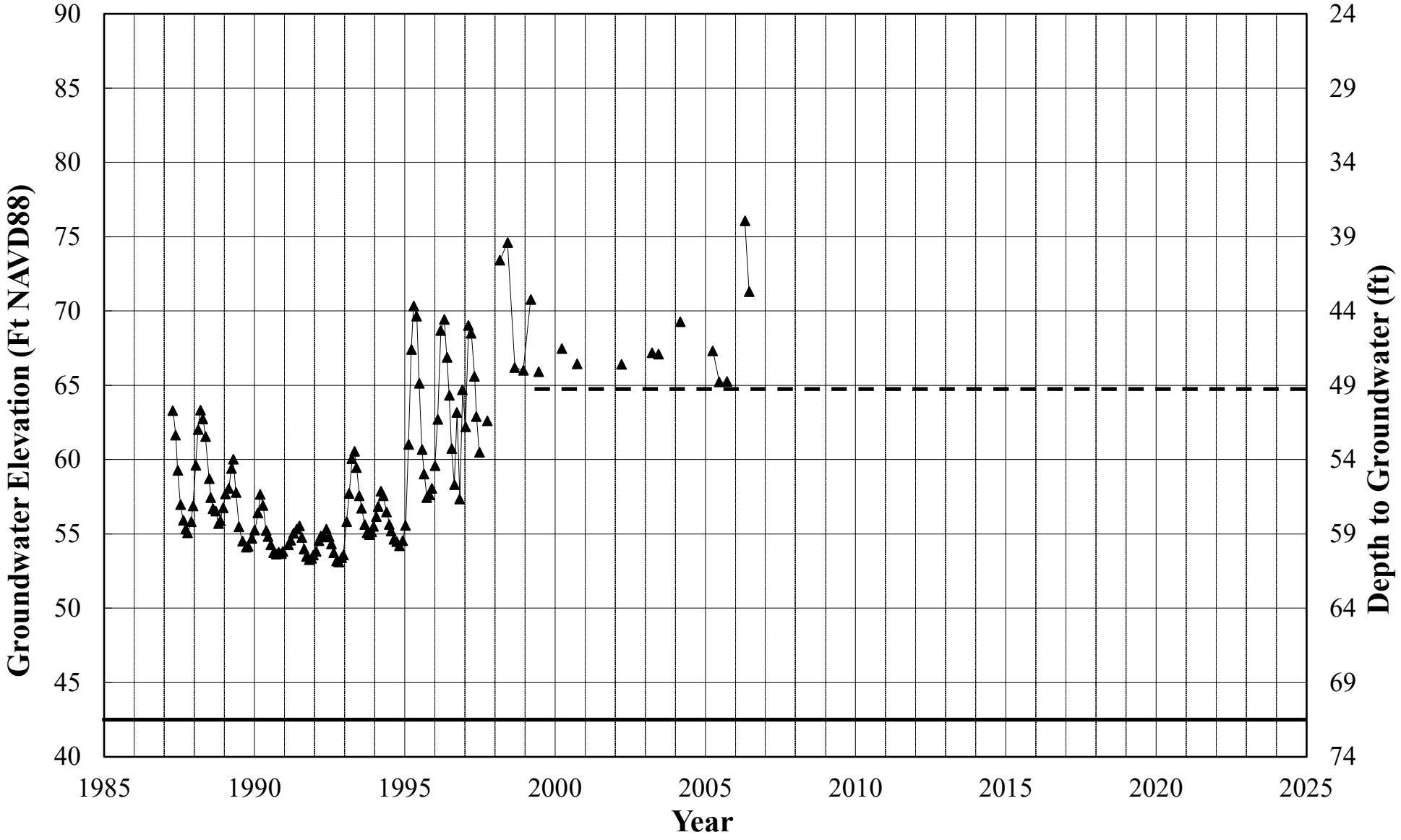
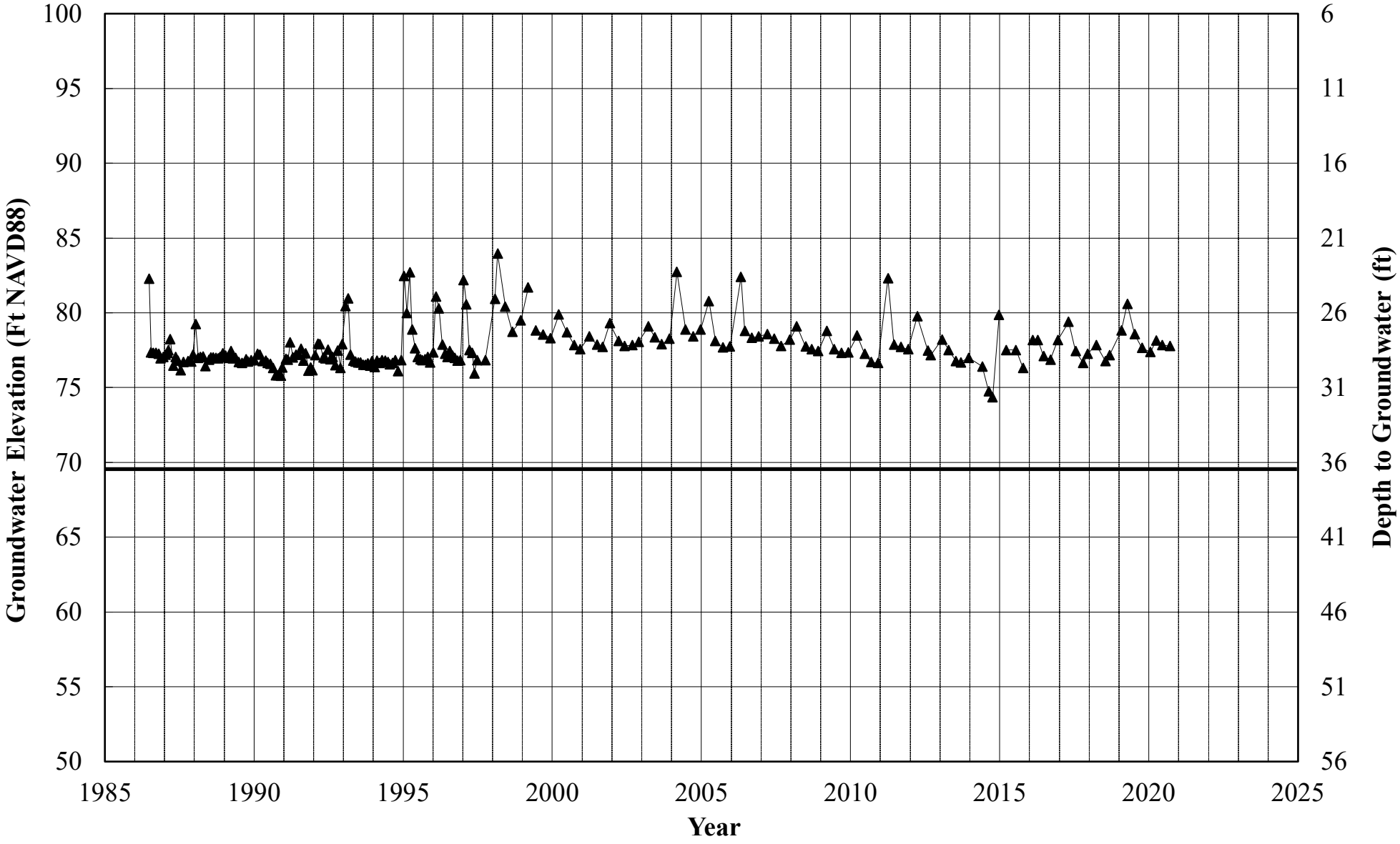

Teichert Aggregates - Woodland Properties
TA-8
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
110
105
100
95
90
85
80
75
70
65
60
3
8
13
18
23
28
33
38
43
48
53
1985
1990
1995
2000
2005
2010
2015
2020
2025

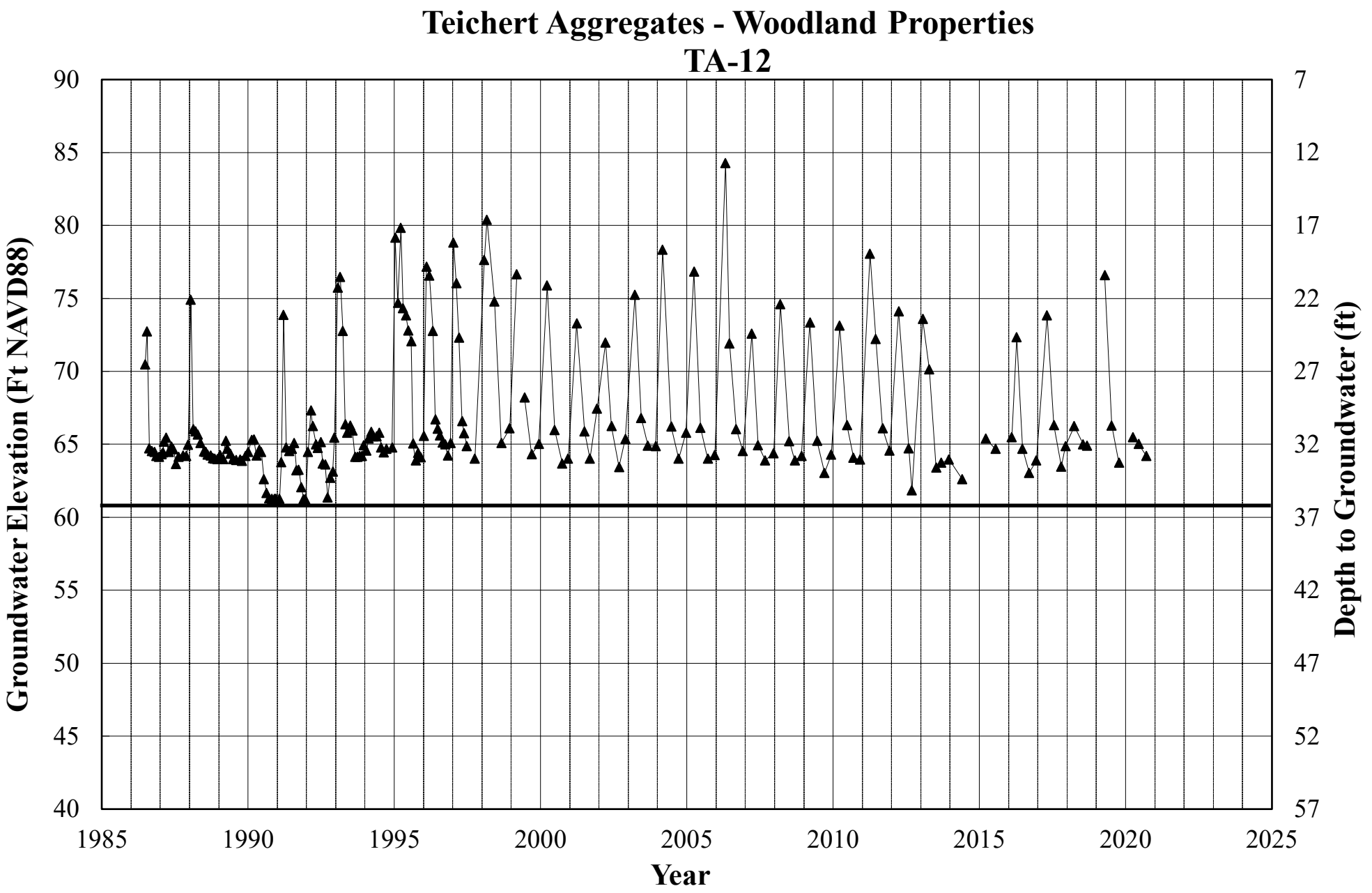
Teichert Aggregates - Woodland Properties
TA-9R

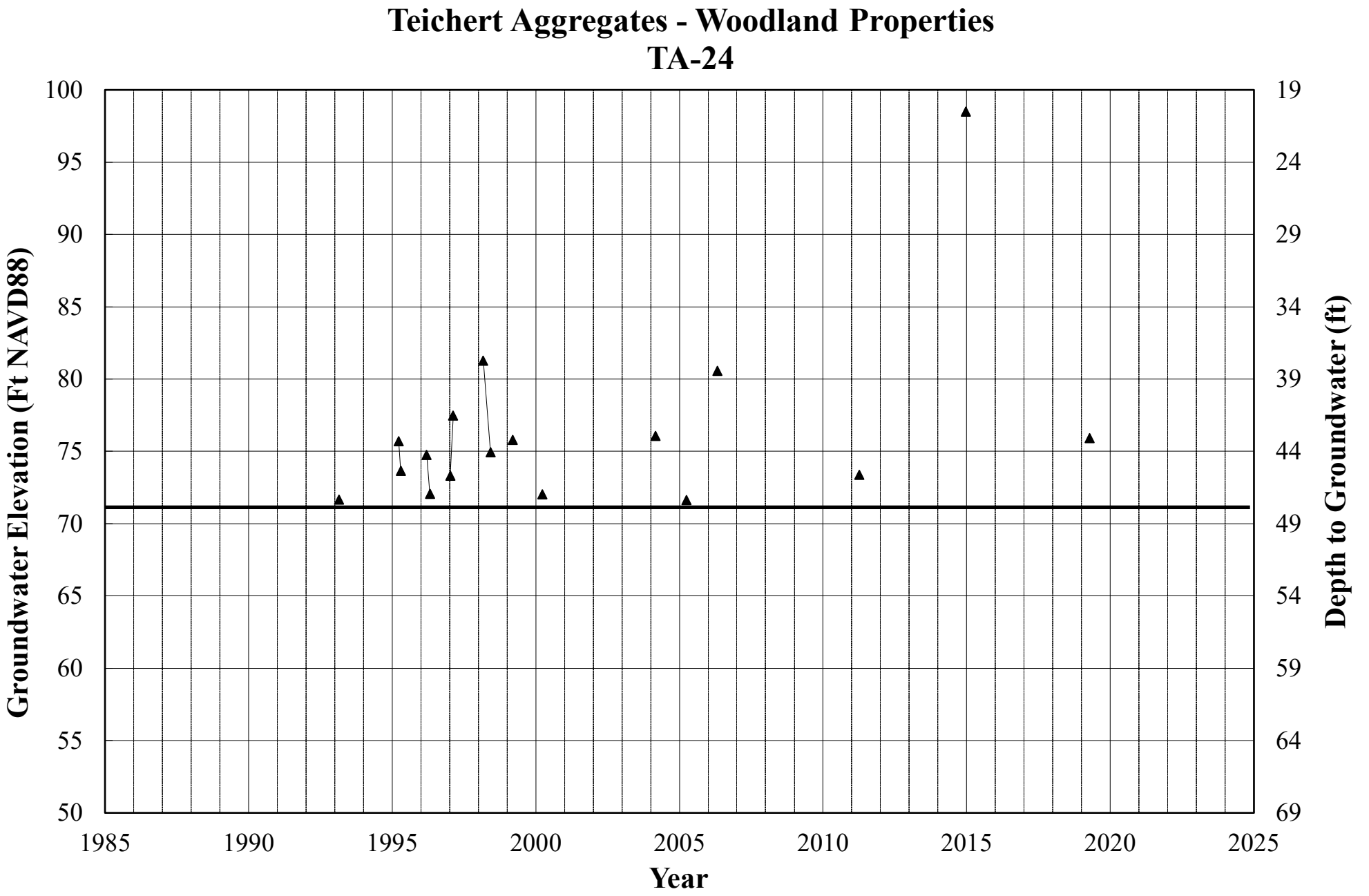


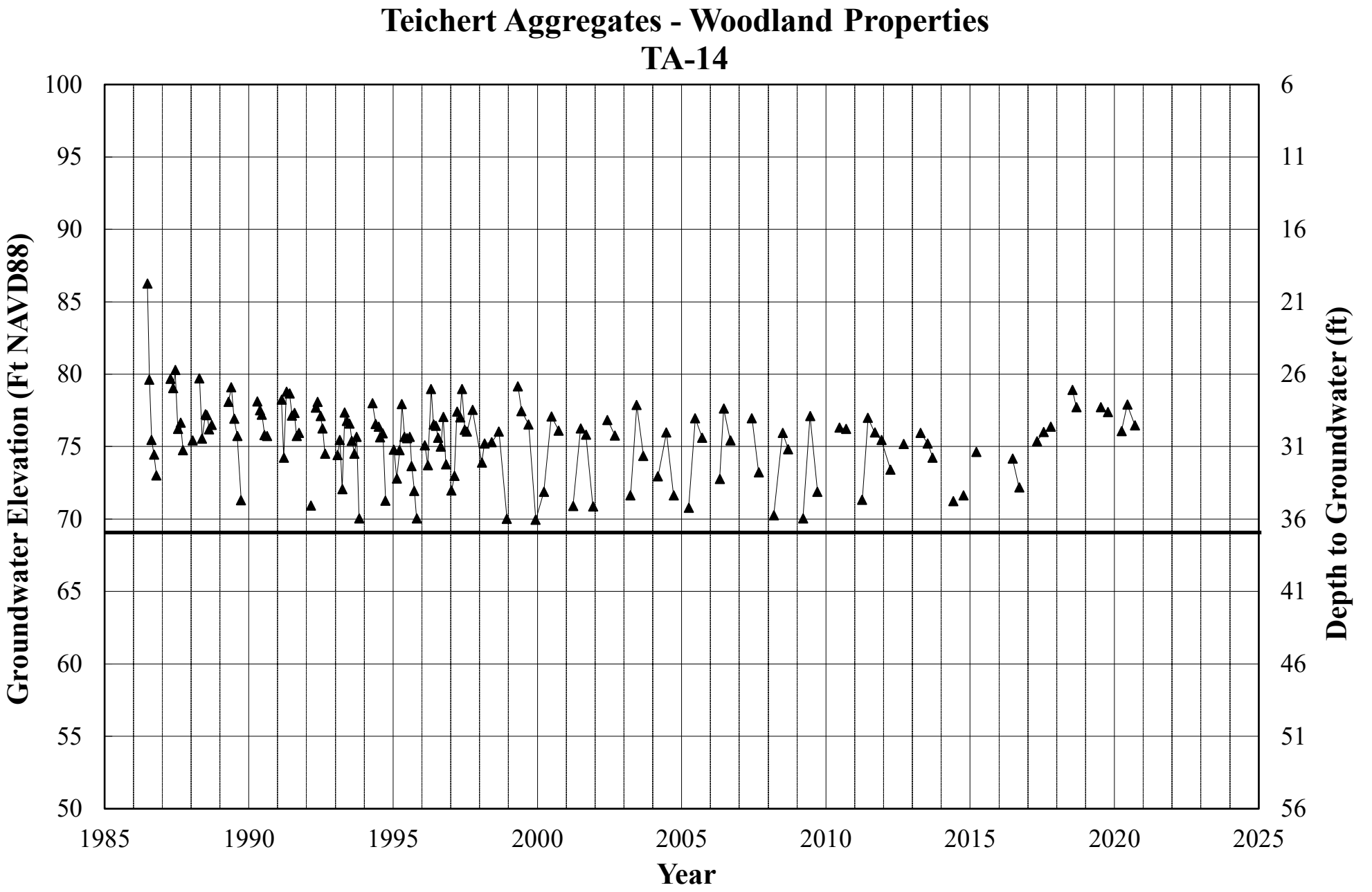
Note: An obstruction at a depth of approximately 49 feet blocks access to water levels below that depth since 1999.

Teichert Aggregates - Woodland Properties
TA-10

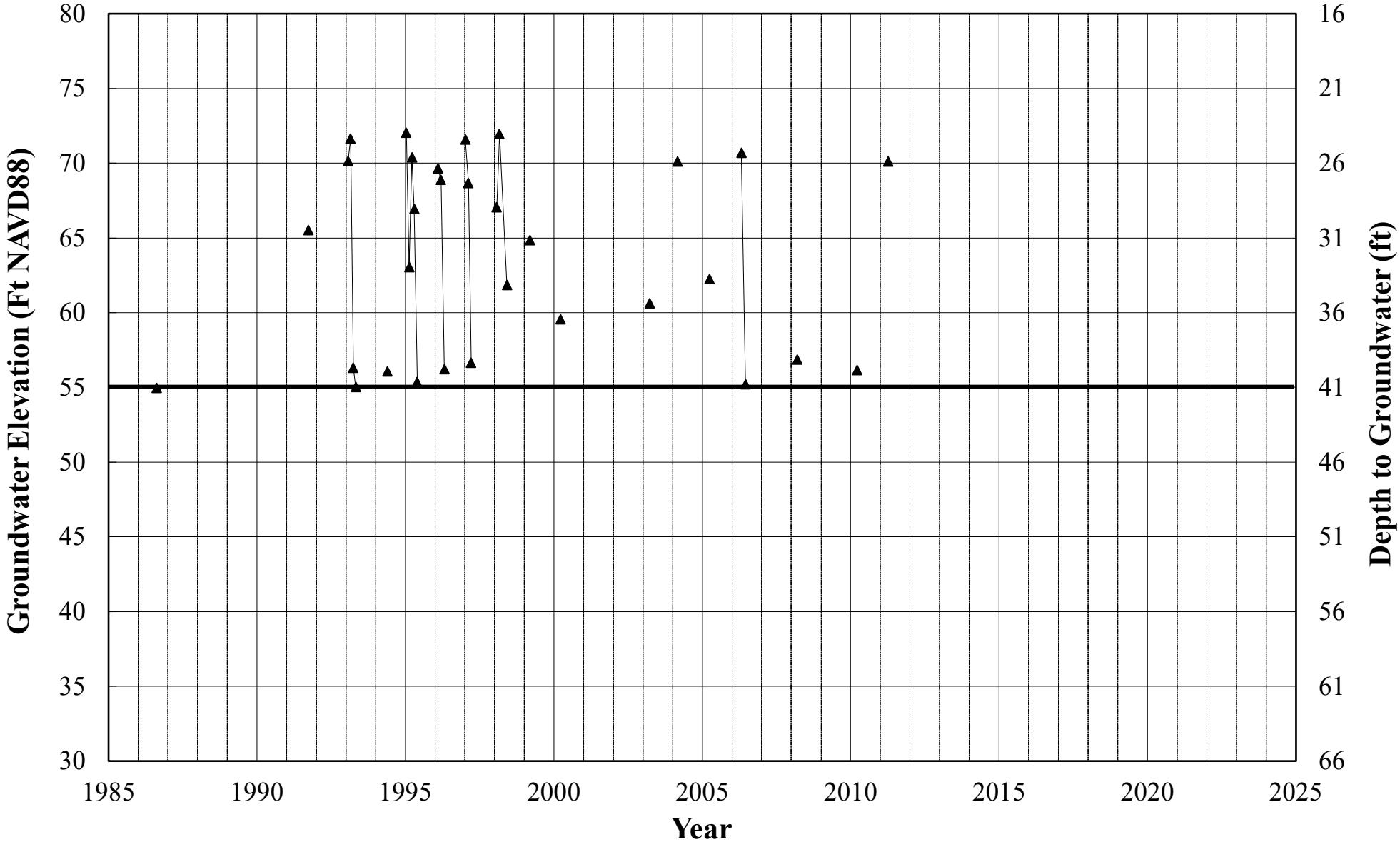


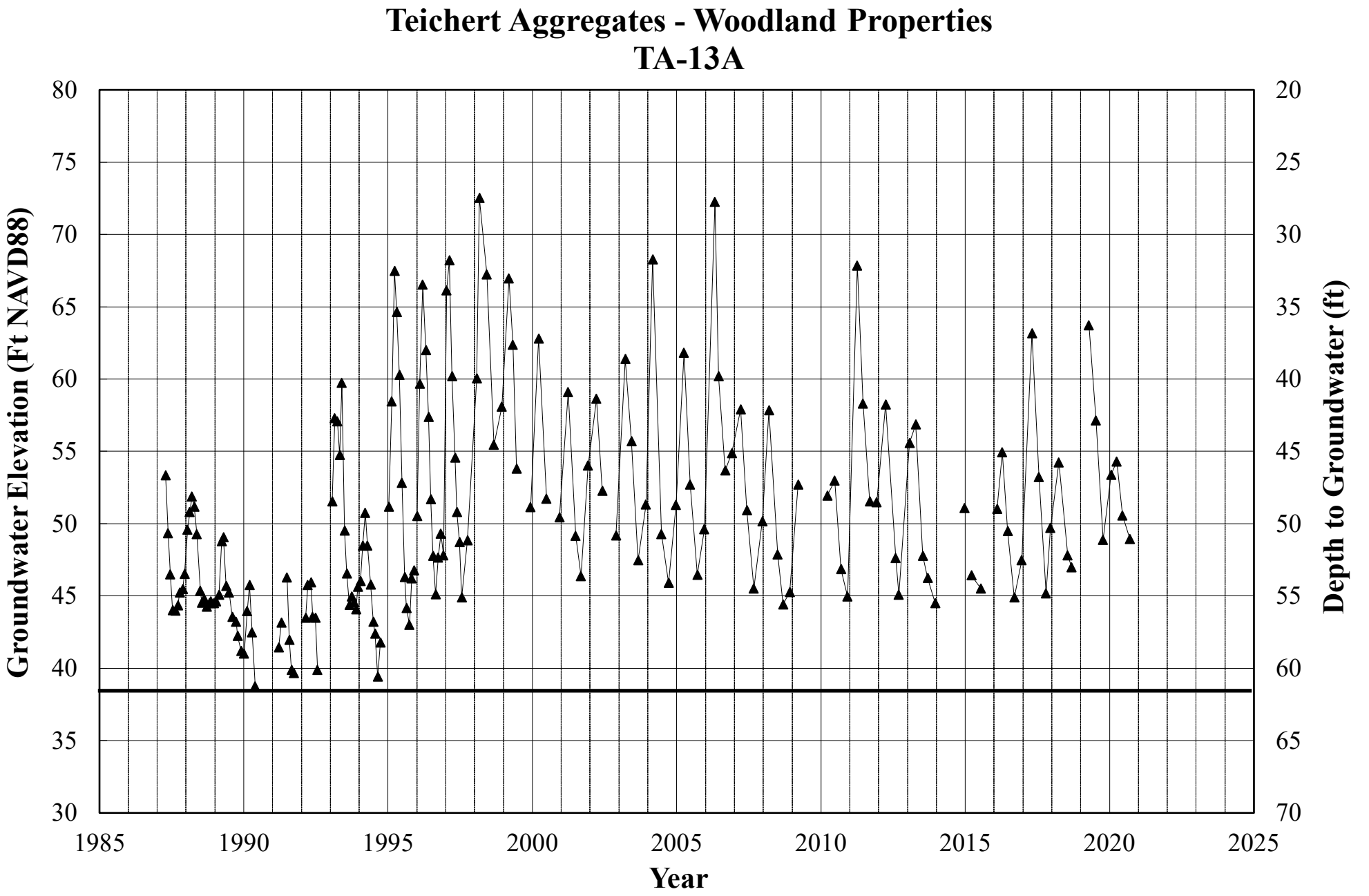

Teichert Aggregates - Woodland Properties
TA-12
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
90
85
80
75
70
65
60
55
50
45
40
7
12
17
22
27
32
37
42
47
52
57
1985
1990
1995
2000
2005
2010
2015
2020
2025

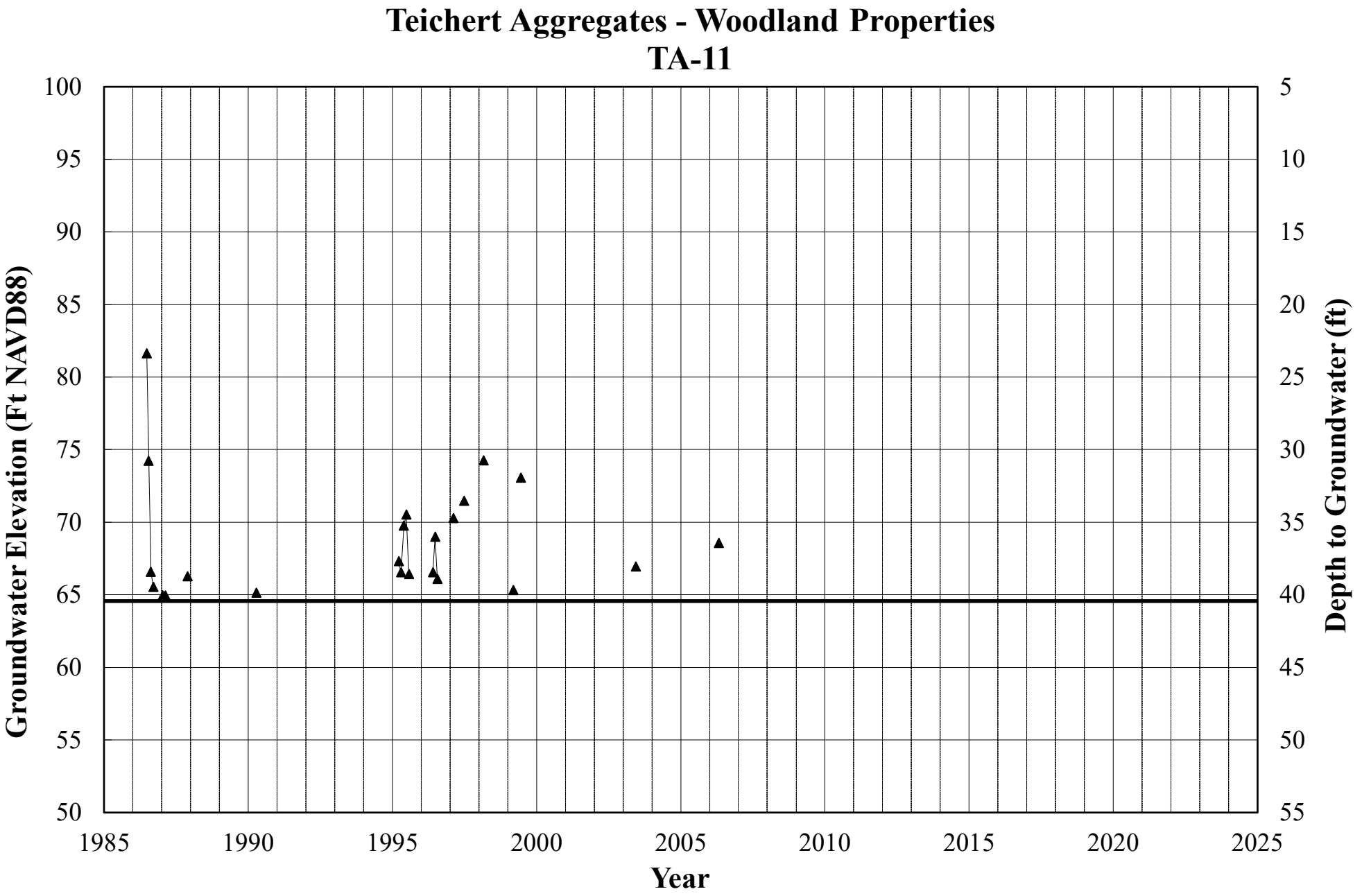

Teichert Aggregates - Woodland Properties
TA-24
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
100
95
90
85
80
75
70
65
60
55
50
19
24
29
34
39
44
49
54
59
64
69
1985
1990
1995
2000
2005
2010
2015
2020
2025

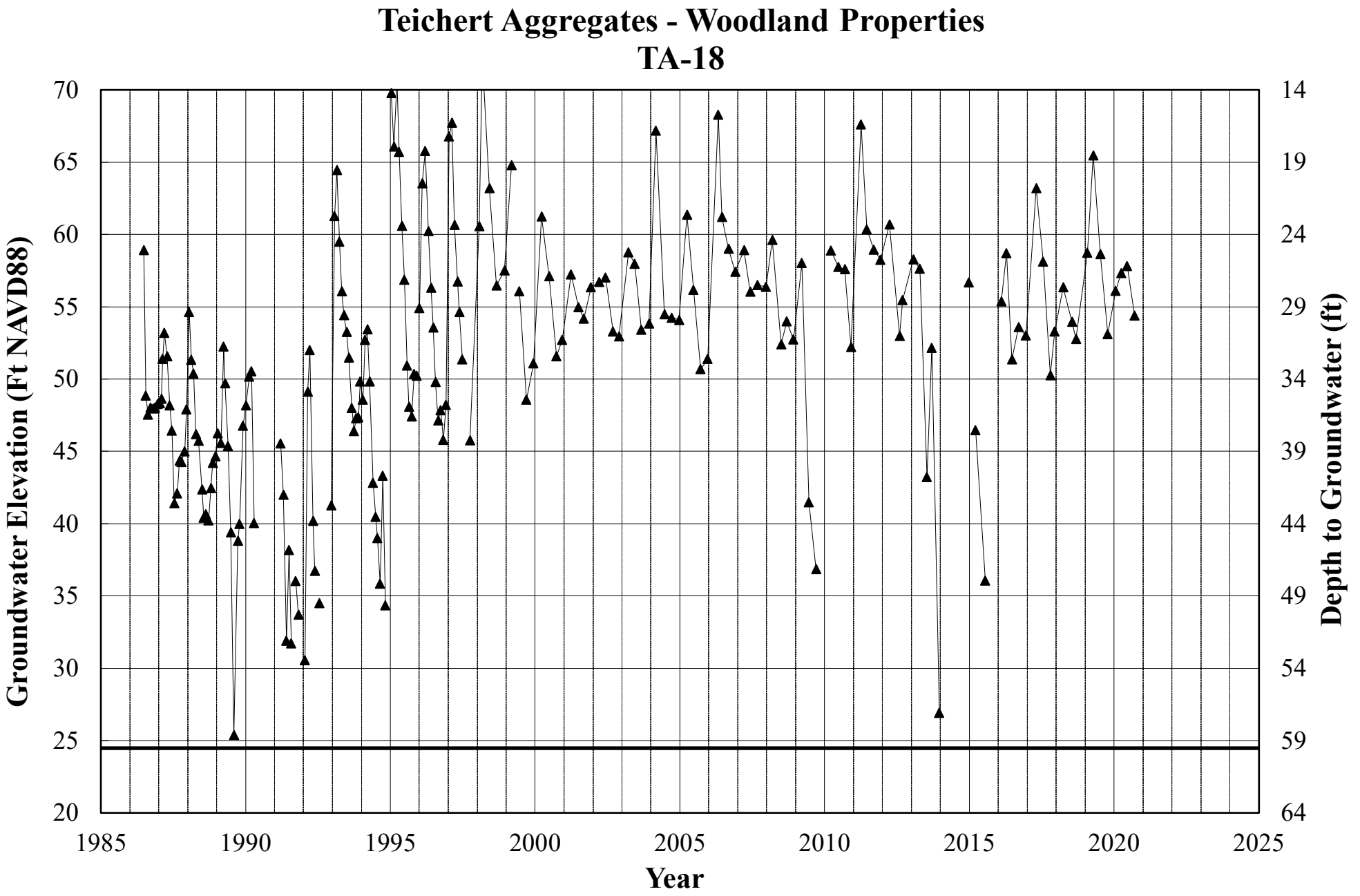

Teichert Aggregates - Woodland Properties
TA-14
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
100
95
90
85
80
75
70
65
60
55
50
6
11
16
21
26
31
36
41
46
51
56
1985
1990
1995
2000
2005
2010
2015
2020
2025

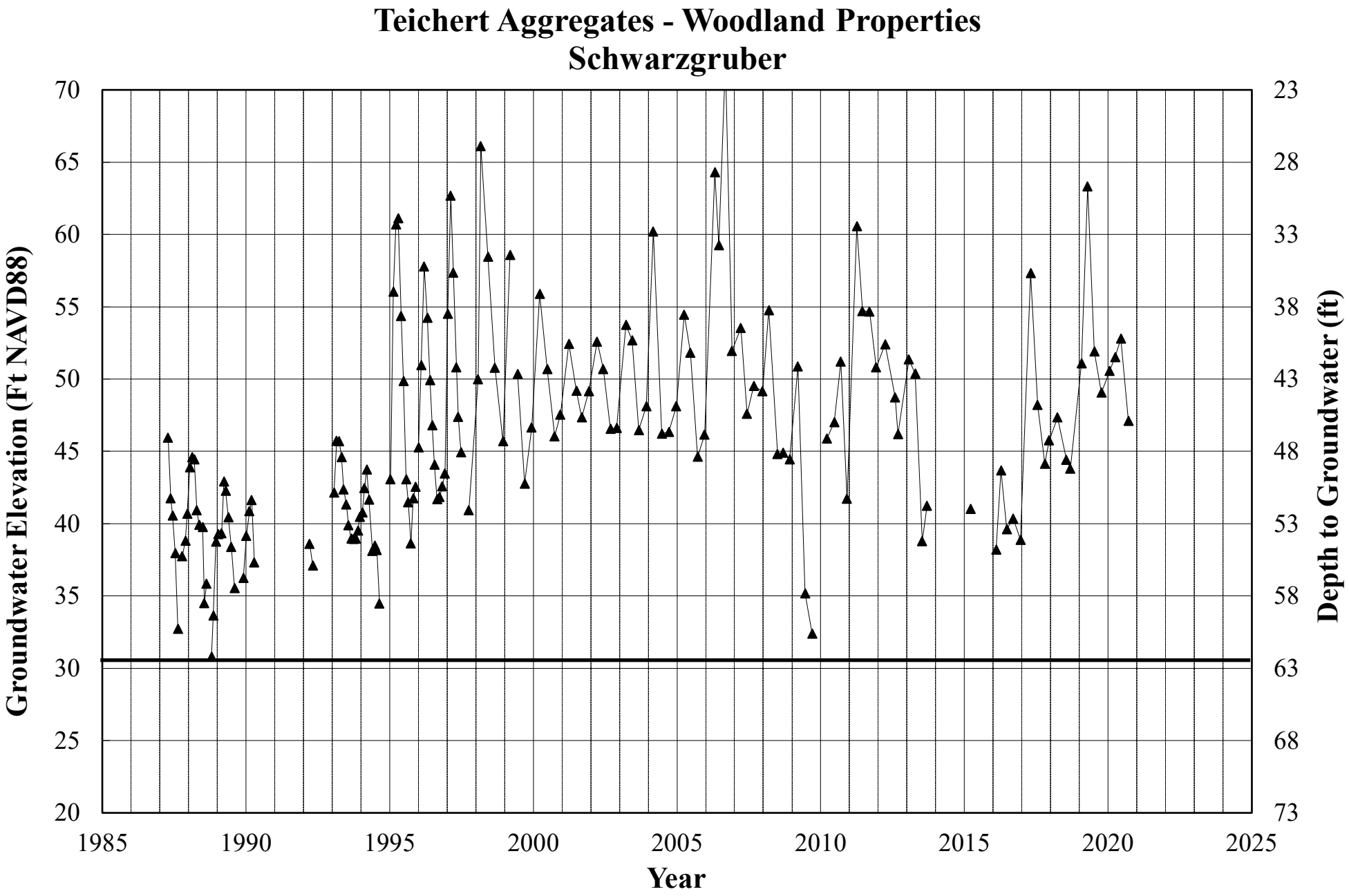
Teichert Aggregates - Woodland Properties
TA-13

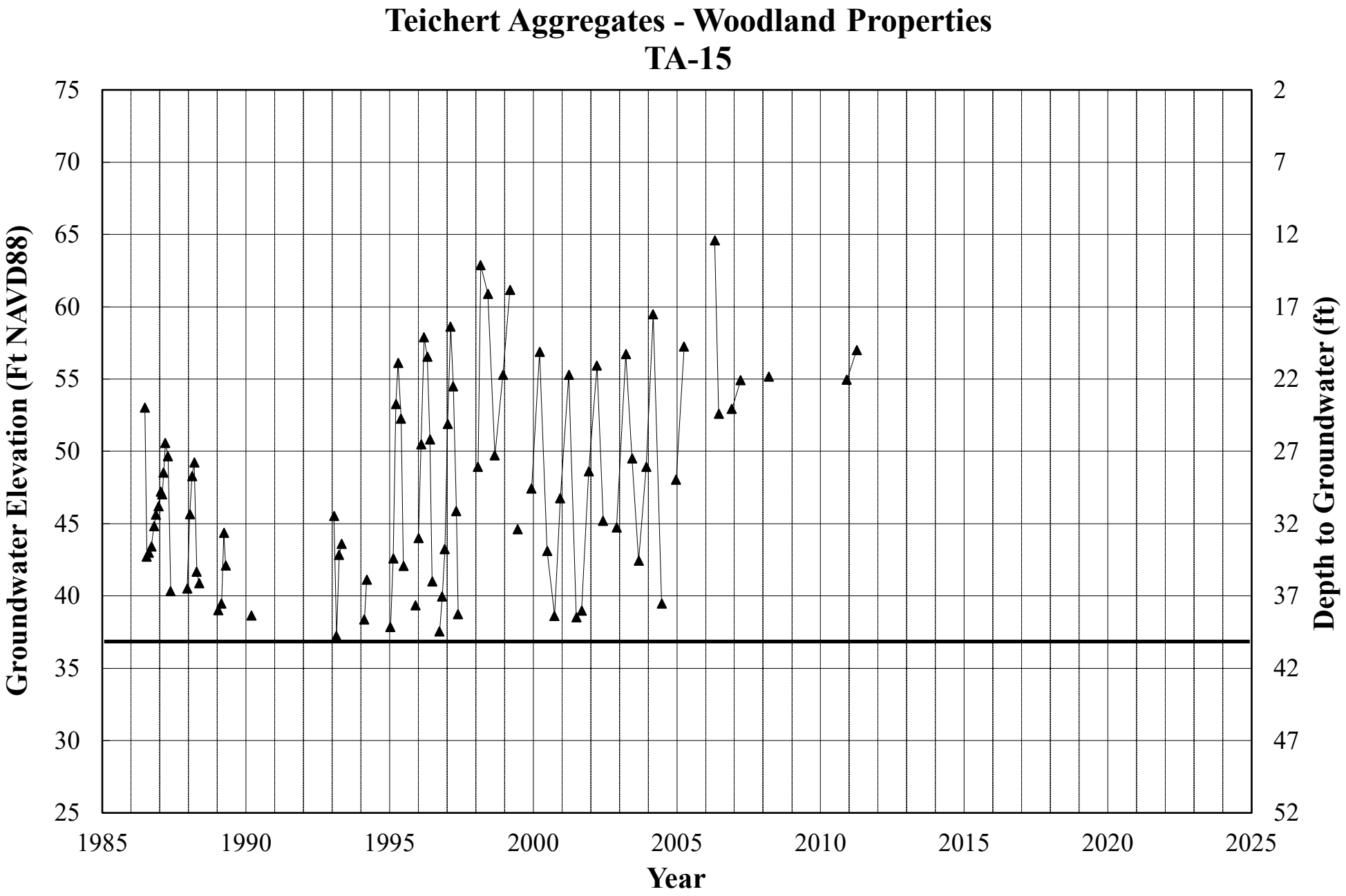


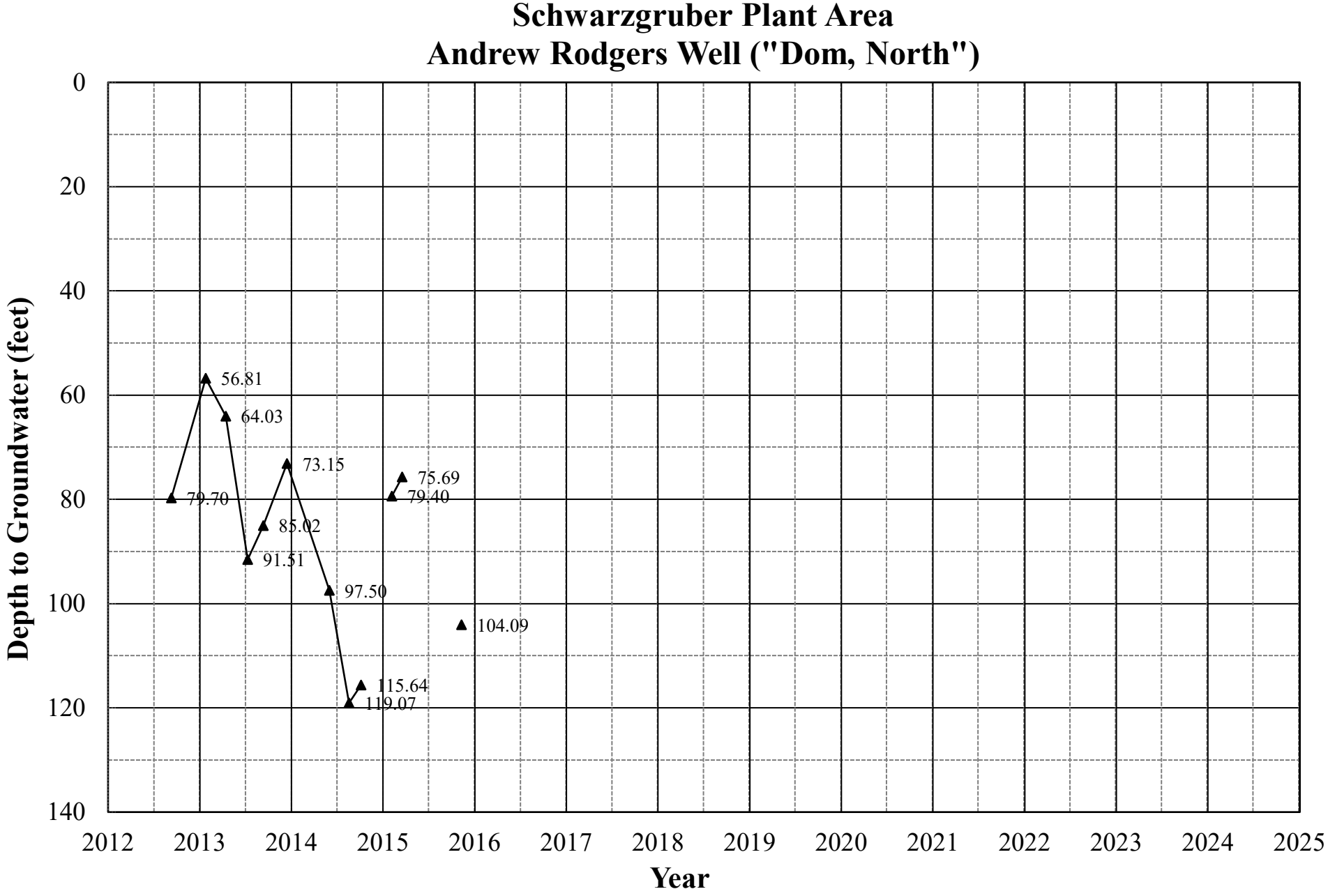

Teichert Aggregates - Woodland Properties
TA-13A
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
80
75
70
65
60
55
50
45
40
35
30
20
25
30
35
40
45
50
55
60
65
70
1985
1990
1995
2000
2005
2010
2015
2020
2025

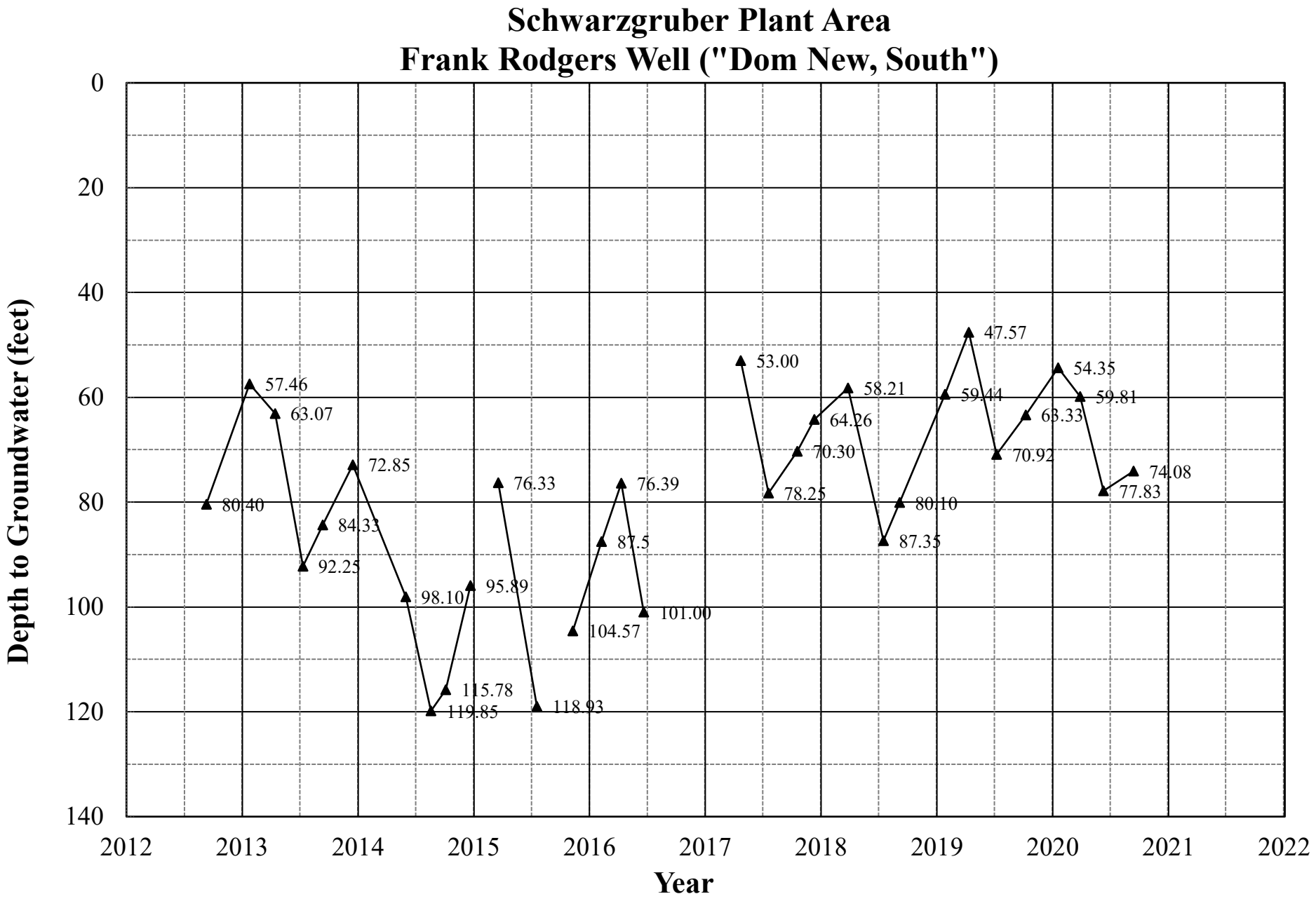

Teichert Aggregates - Woodland Properties
TA-11
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
100
95
90
85
80
75
70
65
60
55
50
5
10
15
20
25
30
35
40
45
50
55
1985
1990
1995
2000
2005
2010
2015
2020
2025


Teichert Aggregates - Woodland Properties
TA-18
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
70
65
60
55
50
45
40
35
30
25
20
14
19
24
29
34
39
44
49
54
59
64
1985
1990
1995
2000
2005
2010
2015
2020
2025


Teichert Aggregates - Woodland Properties
Schwarzgruber
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
70
65
60
55
50
45
40
35
30
25
20
23
28
33
38
43
48
53
58
63
68
73
1985
1990
1995
2000
2005
2010
2015
2020
2025


Teichert Aggregates - Woodland Properties
TA-15
Groundwater Elevation (Ft NAVD88)
Depth to Groundwater (ft)
Year
75
70
65
60
55
50
45
40
35
30
25
2
7
12
17
22
27
32
37
42
47
52
1985
1990
1995
2000
2005
2010
2015
2020
2025


Schwarzgruber Plant Area
Andrew Rodgers Well ("Dom, North")
Depth to Groundwater (feet)
0
20
40
60
80
100
120
140
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
Year
56.81
64.03
73.15
79.70
75.69
79.40
85.02
91.51
97.50
104.09
115.64
119.07


Schwarzgruber Plant Area
Frank Rodgers Well ("Dom New, South")
Depth to Groundwater (feet)
0
20
40
60
80
100
120
140
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
Year
80.40
57.46
63.07
92.25
84.33
72.85
98.10
119.85
115.78
95.89
76.33
118.93
104.57
87.5
76.39
101.00
53.00
78.25
70.30
64.26
58.21
87.35
80.10
59.44
47.57
70.92
63.33
54.35
59.81
77.83
74.08

Teichert Woodland Groundwater Monitoring Network Date(s) 1/20/2020

Job Number 07-1-004 By Scott

Well	Parcel	Date (Check if all same ✓)	Time	DTW (Ft)		Reference Point	Well Depth (Ft)	Pumping? Y/N	Observations	Site Info
TA-1A	Coors	1/20/20	1159	22	35	TOC, south rim	39.7	---		
TA-22	Coors		1201	24	67	TOC, south rim	39.0	---		
TA-23	Coors		1204	25	38	TOC, south rim	33.0	---		
TA-3A	Coors		1207	20	24	TOC, south rim	33.0	---		
Coors N	Coors		1211	32	33	Port in pad, N side; bottom of lip	580.0	N		
TA-4	Coors		1212	25	65	TOC, south rim	28.6	---		
TA-5A	Coors		1215	24	52	TOC, south rim	34.3	---		
TA-5	Coors		1217	24	85	TOC, south rim	27.9	---		
TA-6	Coors		1219	24	68	TOC, south rim	28.4	---		Well outside parcel gate
Teich Domestic	Coors		1229	40	18	Plug in plate, S side; south rim	108.0	N		
Muller #2	Coors		1157			Airline	430.0	N	8.5 psi	Airline length = 200 Ft DTW(Ft) = PSI x2.31
TA-25	Storz	✓	1128	38	72	TOC, south rim	71.2	---	—	Storz gate key: Master 3207
TA-8	Storz	1/20/20	1132	Dry		TOC, south rim	32.3	---		Storz gate key: Master 3207 Well outside parcel fence Road post painted white
YFC-West	Storz	X	—	—		TOC, south rim	65.0	---	Access Gate Locked	Well cover plate in ground
YFC-East	Storz	X	—	—		Plug in plate, S side; south rim	566.0			Oil will coat sounder line and make buzzer eratic
Stephens	Storz	1/20/20	1144	48	42	TOC, south rim	75.0	---		Cap key: Master 3207

Teichert Woodland Groundwater Monitoring Network Date(s) 1/20/2020

Job Number 07-1-004 By SEK

Well	Parcel	Check if all Date same	Time	DTW (Ft)		Reference Point	Well Depth (Ft)	Pumping? Y/N	Observations	Site Info
TA-10	Haller	1/20/2020	1240	25	41	TOC, south rim	36.3	---		Haller gate key: Master 3207
TA-12	Haller	X	—	—		TOC, south rim	36.3	---	Unaccessable Mud hole	Haller gate key: Master 3207
TA-24	Haller	1/20/2020	1246	Dry		TOC, south rim	45.0	---	Mud on Tip	Haller gate key: Master 3207
TA-11	Haller		1248	Dry		TOC, south rim	39.8	---	Tip Dry	Haller gate key: Master 3207
TA-13A	Muller		1252	46	45	TOC, south rim	61.5	---		Haller gate key: Master 3207 Well near bee hives
TA-13	Muller		1259	Dry		TOC, south rim	39.6	---	Tip Dry	Haller gate key: Master 3207
Muller	Muller		1313	58	36	Casing cut, E side; bottom of cut		---		Muller gate key (smaller lock): American Well cover key: unknown
TA-14	Muller		1317	Dry		TOC, south rim	37.0	---	Tip Dry	Muller gate key: American
TA-18	Schwarz	√	1336	26	31	TOC, south rim	59.8	---		Schwarz Entry Gate key: Master 3207 Cap key: Master 3793
Schwarzgruber	Schwarz	1/20/2020	1340	44	68	TOC, south rim	65.0	---		Schwarz Entry Gate key: Master 3207
Schwarzgruber #2	Schwarz	X	—	—		Plug in plate, W side; south rim	198.0	N	Inaccessible	Schwarz Entry Gate key: Master 3207
Rodgers Dom N	Schwarz	X	—	—		Plug in plate, E side; south rim	165.0	N	Obstruction @ 18'	Shed door key: owner's key buried in gravel, E side well typically blocked at 18'
Rodgers Dom S	Schwarz	1/20/2020	1348	54	35	Plug in plate, W side; south rim	165.0	N		Shed unlocked well typically blocked at 98'
Teich Plant Main	TW Plant	1/20/2020	1356	52	38	PVC Port in plate, S side; south rim	453.0	N		Gate key: Master 3207
TA-16	TW Plant	1/20/2020	1359	Dry		TOC, south rim	40.2	---	Tip Dry	Next to pad w/flight cross

Adams Canal (TA-14) Full and flowing? NO

Moore Canal (YFC) Full and flowing? NO

Luhdorff & Scalmanini
Consulting Engineers

INSPECTOR'S DAILY REPORT

Client: Teichert Woodland
Project Name:
Project No.: 07-1-004
Contractor:
Item(s) of Work: WLS

Date: 1/24/2020
Location:
Day: M T W T (F) S S
Weather:
Time: Arrived: Left:

Time	Description
1214	Onsite Yolo Fliers Club Golf Course
	YFC-West - well cover plate in ground
1217	SWL= @ 38.24' TOC
	YFC-East - Off
1221	SWL= 111.37' TOC
1223	Offsite.
	No water in Canal

Signature:

Teichert Woodland Groundwater Monitoring Network Date(s) 3/30/20

Job Number 07-1-004 By JEH

Well	Parcel	Date	Check if all same	Time	DTW (Ft)		Reference Point	Well Depth (Ft)	Pumping? Y/N	Observations	Site Info
TA-1A	Coors	3/30		1056	22	98	TOC, south rim	39.7	---		
TA-22	Coors	3/30		1058	25	65	TOC, south rim	39.0	---		
TA-23	Coors	3/30		1202	26	21	TOC, south rim	33.0	---		
TA-3A	Coors	3/30		1030	20	82	TOC, south rim	33.0	---		
Coors N	Coors	3/30		1037	106	21	Port in pad, N side; bottom of lip	580.0			
TA-4	Coors	3/30		1055	26	29	TOC, south rim	28.6	---		
TA-5A	Coors	3/30		1040	25	73	TOC, south rim	34.3	---		
TA-5	Coors	3/30		1042	24	57	TOC, south rim	27.9	---		
TA-6	Coors	3/30		1046	24	77	TOC, south rim	28.4	---		Well outside parcel gate
Teich Domestic	Coors	3/31/20		1230	38	85	Plug in plate, S side; south rim	108.0			
Muller #2	Coors	3/31/20		1220	—	—	Airline	430.0		8.7 psi	Airline length = 200 Ft DTW(Ft) = PSI x2.31
TA-25	Storz	3/30/20		0918	38	05	TOC, south rim	71.2	---		Storz gate key: Master 3207
TA-8	Storz	3/30		0922	Dry		TOC, south rim	32.3	---	Dry Mud on Tip	Storz gate key: Master 3207 Well outside parcel fence Road post painted white
YFC-West	Storz	3/31/20		1200	37	55	TOC, south rim	65.0	---		Well cover plate in ground
YFC-East	Storz	3/31/20		1203	113	24	Plug in plate, S side; south rim	566.0			Oil will coat sounder line and make buzzer eratic
Stephens	Storz	3/30/20		1000	47	32	TOC, south rim	75.0	---	16" well ~3 hrs to purge/sample	Cap key: Master 3207

Storz Pond + Muller Pond

Teichert Woodland Groundwater Monitoring Network

Date(s)

Job Number 07-1-004

By

Well	Parcel	Check if all Date same	Time	DTW (Ft)		Reference Point	Well Depth (Ft)	Pumping? Y/N	Observations	Site Info
TA-10	Haller	3/30	1125	27	63	TOC, south rim	36.3	---		Haller gate key: Master 3207
TA-12	Haller	3/30	1126	31	48	TOC, south rim	36.3	---		Haller gate key: Master 3207
TA-24	Haller	3/30	1134	Dry	—	TOC, south rim	45.0	---	Tip Dry	Haller gate key: Master 3207
TA-11	Haller	3/30	1136	Dry	—	TOC, south rim	39.8	---	Dry Tip	Haller gate key: Master 3207
TA-13A	Muller	3/30	1140	45	52	TOC, south rim	61.5	---		Haller gate key: Master 3207 Well near bee hives
TA-13	Muller	3/30	1210	Dry	—	TOC, south rim	39.6	---	Dry Tip	Haller gate key: Master 3207
Muller	Muller	3/30	1221	58	89	Casing cut, E side; bottom of cut		---		Muller gate key (smaller lock): American Well cover key: unknown
TA-14	Muller	3/30	1225	30	17	TOC, south rim	37.0	---		Muller gate key: American
TA-18	Schwarz	3/30	1255	27	11	TOC, south rim	59.8	---		Schwarz Entry Gate key: Master 3207 Cap key: Master 3793
Schwarzgruber	Schwarz	3/30	1300	43	72	TOC, south rim	65.0	---		Schwarz Entry Gate key: Master 3207
Schwarzgruber #2	Schwarz	3/30	—	—	—	Plug in plate, W side; south rim	198.0		Not Accessible	Schwarz Entry Gate key: Master 3207
Rodgers Dom N	Schwarz					Plug in plate, E side; south rim	165.0			Shed door key: owner's key buried in gravel, E side well typically blocked at 18'
Rodgers Dom S	Schwarz	3/30	1245	59	81	Plug in plate, W side; south rim	165.0			Shed unlocked well typically blocked at 98'
Teich Plant Main	TW Plant	3/31/20	1435	55	41	PVC Port in plate, S side; south rim	453.0			Gate key: Master 3207
TA-16	TW Plant	3/31/20	1422	Dry	—	TOC, south rim	40.2	---	Tip Dry	Next to pad w/flight cross

Adams Canal (TA-14) Full and flowing? Yes

Moore Canal (YFC) Full and flowing? Yes

Teichert Woodland Groundwater Monitoring Network Date(s) 6/12/2020

Job Number 07-1-004 By SEF

Well	Parcel	Date	Check if all same	Time	DTW (Ft)		Reference Point	Well Depth (Ft)	Pumping? Y/N	Observations	Site Info
TA-1A	Coors	6/12/20		1031	21	68	TOC, south rim	39.7	---		
TA-22	Coors			1034	23	52	TOC, south rim	39.0	---		
TA-23	Coors			1037	22	89	TOC, south rim	33.0	---		
TA-3A	Coors			1040	18	84	TOC, south rim	33.0	---		
Coors N	Coors			1045	105	23	Port in pad, N side; bottom of lip	580.0	N		
TA-4	Coors			1047	24	92	TOC, south rim	28.6	---		
TA-5A	Coors			1050	25	43	TOC, south rim	34.3	---		
TA-5	Coors			1052	24	37	TOC, south rim	27.9	---		
TA-6	Coors			1056	25	01	TOC, south rim	28.4	---		Well outside parcel gate
Teich Domestic	Coors			1103	42	75	Plug in plate, S side; south rim	108.0	Y		
Muller #2	Coors			1112	—	—	Airline	430.0	N	7.9 psi	Airline length = 200 Ft DTW(Ft) = PSI x2.31
TA-25	Storz	6/12/20		0932	37	61	TOC, south rim	71.2	---		Storz gate key: Master 3207
TA-8	Storz	6/12/20		0935	Dry		TOC, south rim	32.3	---		Storz gate key: Master 3207 Well outside parcel fence Road post painted white
YFC-West	Storz			1126	37	92	TOC, south rim	65.0	---		Well cover plate in ground
YFC-East	Storz			1128	121	73	Plug in plate, S side; south rim	566.0	Y		Oil will coat sounder line and make buzzer erratic
Stephens	Storz	6/12/20		1118	46	34	TOC, south rim	75.0	---		Cap key: Master 3207

Teichert Woodland Groundwater Monitoring Network Date(s) 6/12/2020

Job Number 07-1-004 By SEK

Well	Parcel	Check if all Date same	Time	DTW (Ft)		Reference Point	Well Depth (Ft)	Pumping? Y/N	Observations	Site Info
TA-10	Haller	6/12/20	0945	27	93	TOC, south rim	36.3	—		Haller gate key: Master 3207
TA-12	Haller	6/12	0950	31	95	TOC, south rim	36.3	—		Haller gate key: Master 3207
TA-24	Haller		0957	Dry	—	TOC, south rim	45.0	—		Haller gate key: Master 3207
TA-11	Haller		1001	Dry	—	TOC, south rim	39.8	—		Haller gate key: Master 3207
TA-13A	Muller		1004	49	26	TOC, south rim	61.5	—		Haller gate key: Master 3207 Well near bee hives
TA-13	Muller		1006	Dry	—	TOC, south rim	39.6	—		Haller gate key: Master 3207
Muller	Muller		1019	67	88	Casing cut, E side; bottom of cut		—		Muller gate key (smaller lock): American Well cover key: unknown
TA-14	Muller		1024	28	35	TOC, south rim	37.0	—		Muller gate key: American
TA-18	Schwarz		1141	26	61	TOC, south rim	59.8	—		Schwarz Entry Gate key: Master 3207 Cap key: Master 3793
Schwarzgruber	Schwarz		1147	42	46	TOC, south rim	65.0	—		Schwarz Entry Gate key: Master 3207
Schwarzgruber #2	Schwarz		—	—	—	Plug in plate, W side; south rim	198.0		Unaccessable.	Schwarz Entry Gate key: Master 3207
Rodgers Dom N	Schwarz		1155	—	—	Plug in plate, E side; south rim	165.0		Obstruction	Middle S Shed door key: owner's key buried in gravel, E side well typically blocked at 18'
Rodgers Dom S	Schwarz		1158	77	83	Plug in plate, W side; south rim	165.0			Shed unlocked well typically blocked at 98'
Teich Plant Main	TW Plant		1210	69	15	PVC Port in plate, S side; south rim	453.0			Gate key: Master 3207
TA-16	TW Plant		1205	Dry	—	TOC, south rim	40.2	—		Next to pad w/flight cross

Adams Canal (TA-14) Full and flowing? Yes

Moore Canal (YFC) Full and flowing? Yes

Teichert Woodland Groundwater Monitoring Network Date(s) 9/15/2020

Job Number 07-1-004 By C. Jenkins

Well	Parcel	Date	Check if all same	Time	DTW (Ft)		Reference Point	Well Depth (Ft)	Pumping? Y/N	Observations	Site Info
TA-1A	Coors	9/15		12:28	22	21	TOC, south rim	39.7	—		
TA-22	Coors	9/15		12:36	23	74	TOC, south rim	39.0	—		
TA-23	Coors	9/15		13:01	24	02	TOC, south rim	33.0	—		
TA-3A	Coors	9/15		12:58	17	85	TOC, south rim	33.0	—		
Coors N	Coors	9/15		12:52	131	85	Port in pad, N side; bottom of lip	580.0	No		
TA-4	Coors	9/15		12:50	24	10	TOC, south rim	28.6	—		
TA-5A	Coors	9/15		12:47	25	00	TOC, south rim	34.3	—		
TA-5	Coors	9/15		12:45	24	04	TOC, south rim	27.9	—		
TA-6	Coors	9/15		12:41	25	06	TOC, south rim	28.4	—		Well outside parcel gate
Teich Domestic	Coors	9/15		12:16	45	32	Plug in plate, S side; south rim	108.0	No		
Muller #2	Coors	9/15		13:10	189	4	Airline	430.0	No	4.6 psi = 189.4 Ft	Airline length = 200 Ft DTW(Ft) = PSI x2.31
TA-25	Storz	9/15		13:20	41	97	TOC, south rim	71.2	—		Storz gate key: Master 3207
TA-8	Storz	9/15		13:22	Dry	-	TOC, south rim	32.3	—		Storz gate key: Master 3207 Well outside parcel fence Road post painted white
YFC-West	Storz	9/15		14:05	40	75	TOC, south rim	65.0	—		Well cover plate in ground
YFC-East	Storz	9/15		14:00	139	46	Plug in plate, S side; south rim	566.0	No		Oil will coat sounder line and make buzzer eratic

Teichert Woodland Groundwater Monitoring Network Date(s) 9/15/2020

Job Number 07-1-004 By C. Jenkins

Well	Parcel	Date	Check if all same	Time	DTW (Ft)		Reference Point	Well Depth (Ft)	Pumping? Y/N	Observations	Site Info
Stephens	Storz	9/15		10:40	—	—	TOC, south rim	75.0	—	Plate welded to top of casing, no access	Cap key: Master 3207
TA-10	Haller	9/15		10:55	28	01	TOC, south rim	36.3	—		Haller gate key: Master 3207
TA-12	Haller	9/15		11:01	32	77	TOC, south rim	36.3	—		Haller gate key: Master 3207
TA-24	Haller	9/15		11:10	Dry	—	TOC, south rim	45.0	—		Haller gate key: Master 3207
TA-11	Haller	9/15		11:13	Dry	—	TOC, south rim	39.8	—		Haller gate key: Master 3207
TA-13A	Muller	9/15		11:50	50	89	TOC, south rim	61.5	—		Haller gate key: Master 3207 Well near bee hives
TA-13	Muller	9/15		11:55	Dry	—	TOC, south rim	39.6	—		Haller gate key: Master 3207
Muller	Muller	9/15		12:07	73	55	Casing cut, E side; bottom of cut		—		Muller gate key (smaller lock): American Well cover key: unknown
TA-14	Muller	9/15		12:05	29	77	TOC, south rim	37.0	—		Muller gate key: American
TA-18	Schwarz	9/15		11:35	30	05	TOC, south rim	59.8	—		Schwarz Entry Gate key: Master 3207 Cap key: Master 3793
Schwarzgruber	Schwarz	9/15		11:30	48	15	TOC, south rim	65.0	—		Schwarz Entry Gate key: Master 3207
Schwarzgruber #2	Schwarz	9/15		11:30	—	—	Plug in plate, W side; south rim	198.0	—	No access to well for WL	Schwarz Entry Gate key: Master 3207
Rodgers Dom N	Schwarz	9/15		10:15	—	—	Plug in plate, E side; south rim	165.0	—	No key to access well house	Shed door key: owner's key buried in gravel, E side well typically blocked at 18'
Rodgers Dom S	Schwarz	9/15		10:25	74	08	Plug in plate, W side; south rim	165.0	N		Shed unlocked well typically blocked at 98'
Teich Plant Main	TW Plant	9/15		10:00	82	48	PVC Port in plate, S side; south rim	453.0	N		Gate key: Master 3207
TA-16	TW Plant	9/15		9:50	Dry	—	TOC, south rim	40.2	—		Next to pad w/flight cross

Teichert Woodland Groundwater Monitoring Network Date(s) 9/15/20

Job Number 07-1-004 By C. Jenkins

Well	Parcel	Date	Check if all same	Time	DTW (Ft)	Reference Point	Well Depth (Ft)	Pumping? Y/N	Observations	Site Info
Adams Canal (TA-14)	Full and flowing?		Y							
Moore Canal (YFC)	Full and flowing?		Y							

Analytical Laboratory Reports and Field Notes

CALIFORNIA LABORATORY SERVICES
Committed. Responsive. Flexible.

April 09, 2020

CLS Work Order #: 20C1377
COC #: 204032

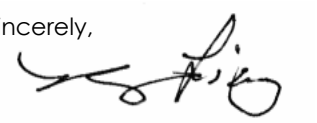
Jeanette Lovelis
Luhdorff & Scalmanini
500 First St.
Woodland, CA 95695

Project Name: MW Samples - TW

Enclosed are the results of analyses for samples received by the laboratory on 03/30/20 15:45. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,



James Liang, Ph.D.
Laboratory Director

CA SWRCB ELAP Accreditation/Registration number 1233

CALIFORNIA LABORATORY SERVICES
Committed. Responsive. Flexible.

CHAIN OF CUSTODY

CLS ID No.; 2011372 LOG № 204032

Total/Recd → Al, As, Ba, Cd, Cr, Ca, Fe, Hg, Mn, Pb, Se, + Zn

HIGHLIGHTED AREAS MUST BE FILLED OUT PRIOR TO ACCEPTANCE

REPORT TO:

NAME AND ADDRESS: LSCE
500 First St.
Woodland, CA 95695

PROJECT MANAGER: Jeanette Lovelis PHONE#: 530-661-0109

PROJECT NAME: MW Samples-TW

SAMPLED BY: JEH

JOB DESCRIPTION: Teichert Woodland

SITE LOCATION: Woodland

CLIENT JOB NUMBER:

DESTINATION LABORATORY:
☐ CLS (916) 638-7301
3249 FITZGERALD RD.
RANCHO CORDOVA, CA.
95742
☐ OTHER

GEOTRACKER:
EDF REPORT ☐ YES ☐ NO
GLOBAL ID:

CDPH WRITE ON EDT TRANSMISSION? ☐ YES ☐ NO
STATE SYSTEM NUMBER
IF "YES" PLEASE ENTER THE SOURCE NUMBER(S).

COMPOSITE: Grab

DATE	TIME	SAMPLE IDENTIFICATION	MATRIX	CONTAINER NO.	CONTAINER TYPE	PRESERVATIVES	General Mineral + Turbidity	EPA 8141 + EPA 8151	TPH-Diesel + MO	Coliform-15 tube-E.Coli	BTEX	Metals	Total P + BOD	TURN AROUND TIME 1 DAY	2 DAY	3 DAY	5 DAY	SPECIAL INSTRUCTIONS OR ALT. ID:
3/30/20	0940	Storz Pond	H_2O	8	–	X	X	X	X	X	X	X					X	
3/30/20	1200	Muller Pond	H_2O	3	–	X	X			X			X				X	
3/30/20	1430	Schwarzgruber	H_2O	8	–	X	X	X	X	X	X	X					X	

INVOICE TO:

P.O. #

QUOTE #

Email/Address

PRESERVATIVES: (1) HCL (2) HNO_3 (3) = COLD (4) = NaOH (5) = H_2SO_4 (6) = $Na_2S_2O_3$ (7) =

RELINQUISHED BY (SIGN)	PRINT NAME / COMPANY	DATE / TIME	RECEIVED BY (SIGN)	PRINT NAME / COMPANY
[signature]	Jay Heffernan/LSCE	3/30/20 1545		

REC'D AT LAB BY: [signature] DATE / TIME: 3.30.20/ 1545 CONDITIONS / COMMENTS: 1.2/1.2

SHIPPED BY: ☐ FED X ☐ UPS ☐ OTHER AIR BILL #

Gold-Project Mgr./Field Sampler/Terms and conditions
Pink- Origin/Terms and Conditions
Yellow- Lab file copy/Terms and Conditions
White-Lab/Terms and conditions

CLS LABS
SAMPLE RECEIVING EXCEPTION REPORTS

CLS Labs Job # 20C1377

Problem discovered by: SMITH **Date:** 3/30/20

Nature of problem

- Client supplied extra containers, labeled the following - WITH NO REQUESTED ANALYSIS:
- TRIP BLANK
- DI H_2O

Client contacted? Yes X **No** ____ **Spoke With:** Jeanette Loucks

By whom: M. SMITH **Date:** 3/31/20 **Time:** 0912 **HRS**

Client instructions:

- TRIP BLANK - analyze only if hit on BTXE
- DI H_2O - DO NOTHING WITH. AS THIS WAS TO BE USED TO CREATE FIELD BLANKS

Resolution of problem:

LOGGED ACCORDINGLY.

3/31/20

H:\WillOrellana\SampleException.Doc

Luhdorff & Scalmanini	Project:	MW Samples - TW	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1377**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204032

Chlorinated Herbicides by EPA Method 8151A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Storz Pond (20C1377-01) Water Sampled: 03/30/20 09:40 Received: 03/30/20 15:45									**QRL-7**
2,4,5-T	ND	0.58	µg/L	1	2002641	04/03/20	04/08/20	EPA 8151A	
2,4,5-TP (Silvex)	ND	0.23	"	"	"	"	"	"	
2,4-D (2,4-Dichlorophenoxyacetic acid)	ND	1.2	"	"	"	"	"	"	
2,4-DB	ND	2.3	"	"	"	"	"	"	
Dalapon	ND	2.3	"	"	"	"	"	"	
Dicamba	ND	1.2	"	"	"	"	"	"	
Dichloroprop	ND	2.3	"	"	"	"	"	"	
Dinoseb	ND	1.2	"	"	"	"	"	"	
MCPA	ND	290	"	"	"	"	"	"	
MCPP	ND	290	"	"	"	"	"	"	
Pentachlorophenol	ND	0.23	"	"	"	"	"	"	
Surrogate: 2,4-DCAA		*90 %*		*50-150*		"	"	"	"
Schwarzgruber (20C1377-03) Water Sampled: 03/30/20 14:30 Received: 03/30/20 15:45									**QRL-7**
2,4,5-T	ND	0.60	µg/L	1	2002641	04/03/20	04/08/20	EPA 8151A	
2,4,5-TP (Silvex)	ND	0.24	"	"	"	"	"	"	
2,4-D (2,4-Dichlorophenoxyacetic acid)	ND	1.2	"	"	"	"	"	"	
2,4-DB	ND	2.4	"	"	"	"	"	"	
Dalapon	ND	2.4	"	"	"	"	"	"	
Dicamba	ND	1.2	"	"	"	"	"	"	
Dichloroprop	ND	2.4	"	"	"	"	"	"	
Dinoseb	ND	1.2	"	"	"	"	"	"	
MCPA	ND	300	"	"	"	"	"	"	
MCPP	ND	300	"	"	"	"	"	"	
Pentachlorophenol	ND	0.24	"	"	"	"	"	"	
Surrogate: 2,4-DCAA		*77 %*		*50-150*		"	"	"	"

Luhdorff & Scalmanini
500 First St.
Woodland, CA 95695

Project: MW Samples - TW
Project Number: [none]
Project Manager: Jeanette Lovelis

CLS Work Order #: 20C1377
COC #: 204032

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Storz Pond (20C1377-01) Water Sampled: 03/30/20 09:40 Received: 03/30/20 15:45									
Bicarbonate as CaCO3	**350**	5.0	mg/L	1	2002578	04/01/20	04/01/20	SM2320B	
Calcium	**41**	1.0	"	"	2002575	04/01/20	04/03/20	EPA 200.7	
Carbonate as CaCO3	**20**	5.0	"	"	2002578	04/01/20	04/01/20	SM2320B	
Chloride	**110**	5.0	"	10	2002527	03/31/20	03/31/20	EPA 300.0	
Fluoride	ND	0.10	"	1	"	"	03/31/20	"	
Hardness as CaCO3	**340**	1.0	"	"	2002575	04/01/20	04/03/20	EPA 200.7	
Hydroxide as CaCO3	ND	5.0	"	"	2002578	04/01/20	04/01/20	SM2320B	
Magnesium	**57**	1.0	"	"	2002575	04/01/20	04/03/20	EPA 200.7	
MBAS as LAS, mol wt 340	ND	0.10	"	"	2002543	03/31/20	03/31/20	SM5540 C	
Nitrate as N	**7.3**	0.40	"	"	2002527	03/31/20	03/31/20	EPA 300.0	
pH	**8.47**	0.01	pH Units	"	2002529	03/31/20	03/31/20	SM4500-H B	HT-F
Potassium	**2.8**	1.0	mg/L	"	2002575	04/01/20	04/03/20	EPA 200.7	
Sodium	**100**	1.0	"	"	"	"	"	"	
Specific Conductance (EC)	**1200**	1.0	µmhos/cm	"	2002549	03/31/20	03/31/20	EPA 120.1	
Sulfate as SO4	**110**	5.0	mg/L	10	2002527	03/31/20	03/31/20	EPA 300.0	
Total Alkalinity	**370**	5.0	"	1	2002578	04/01/20	04/01/20	SM2320B	
Total Dissolved Solids	**640**	10	"	"	2002596	04/01/20	04/02/20	SM2540C	
Turbidity	**0.87**	0.10	NTU	"	2002519	03/30/20	03/30/20	EPA 180.1	
Muller Pond (20C1377-02) Water Sampled: 03/30/20 12:00 Received: 03/30/20 15:45									
Bicarbonate as CaCO3	**180**	5.0	mg/L	1	2002578	04/01/20	04/01/20	SM2320B	
Biochemical Oxygen Demand	ND	3.0	"	"	2002550	03/31/20	04/05/20	SM5210B	
Calcium	**29**	1.0	"	"	2002575	04/01/20	04/03/20	EPA 200.7	
Carbonate as CaCO3	**30**	5.0	"	"	2002578	04/01/20	04/01/20	SM2320B	
Chloride	**83**	2.5	"	5	2002527	03/31/20	03/31/20	EPA 300.0	
Fluoride	**0.15**	0.10	"	1	"	"	03/31/20	"	
Hardness as CaCO3	**240**	1.0	"	"	2002575	04/01/20	04/03/20	EPA 200.7	
Hydroxide as CaCO3	ND	5.0	"	"	2002578	04/01/20	04/01/20	SM2320B	
Magnesium	**40**	1.0	"	"	2002575	04/01/20	04/03/20	EPA 200.7	
MBAS as LAS, mol wt 340	ND	0.10	"	"	2002543	03/31/20	03/31/20	SM5540 C	
Nitrate as N	ND	0.40	"	"	2002527	03/31/20	03/31/20	EPA 300.0	
pH	**8.69**	0.01	pH Units	"	2002529	03/31/20	03/31/20	SM4500-H B	HT-F

Luhdorff & Scalmanini
500 First St.
Woodland, CA 95695

Project: MW Samples - TW
Project Number: [none]
Project Manager: Jeanette Lovelis

CLS Work Order #: 20C1377
COC #: 204032

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Muller Pond (20C1377-02) Water Sampled: 03/30/20 12:00 Received: 03/30/20 15:45									
Potassium	**2.6**	1.0	mg/L	1	2002575	04/01/20	04/03/20	EPA 200.7	
Sodium	**52**	1.0	"	"	"	"	"	"	
Specific Conductance (EC)	**740**	1.0	µmhos/cm	"	2002549	03/31/20	03/31/20	EPA 120.1	
Sulfate as SO4	**48**	2.5	mg/L	5	2002527	03/31/20	03/31/20	EPA 300.0	
Total Alkalinity	**210**	5.0	"	1	2002578	04/01/20	04/01/20	SM2320B	
Total Dissolved Solids	**390**	10	"	"	2002596	04/01/20	04/02/20	SM2540C	
Total Phosphorus as P	ND	0.050	"	"	2002593	04/01/20	04/01/20	SM4500-P E	
Turbidity	**2.4**	0.10	NTU	"	2002519	03/30/20	03/30/20	EPA 180.1	
Schwarzgruber (20C1377-03) Water Sampled: 03/30/20 14:30 Received: 03/30/20 15:45									
Bicarbonate as CaCO3	**210**	5.0	mg/L	1	2002578	04/01/20	04/01/20	SM2320B	
Calcium	**36**	1.0	"	"	2002575	04/01/20	04/03/20	EPA 200.7	
Carbonate as CaCO3	ND	5.0	"	"	2002578	04/01/20	04/01/20	SM2320B	
Chloride	**64**	2.5	"	5	2002527	03/31/20	03/31/20	EPA 300.0	
Fluoride	**0.20**	0.10	"	1	"	"	03/31/20	"	
Hardness as CaCO3	**220**	1.0	"	"	2002575	04/01/20	04/03/20	EPA 200.7	
Hydroxide as CaCO3	ND	5.0	"	"	2002578	04/01/20	04/01/20	SM2320B	
Magnesium	**31**	1.0	"	"	2002575	04/01/20	04/03/20	EPA 200.7	
MBAS as LAS, mol wt 340	ND	0.10	"	"	2002543	03/31/20	03/31/20	SM5540 C	
Nitrate as N	**0.95**	0.40	"	"	2002527	03/31/20	03/31/20	EPA 300.0	
pH	**7.80**	0.01	pH Units	"	2002529	03/31/20	03/31/20	SM4500-H B	HT-F
Potassium	**2.2**	1.0	mg/L	"	2002575	04/01/20	04/03/20	EPA 200.7	
Sodium	**46**	1.0	"	"	"	"	"	"	
Specific Conductance (EC)	**660**	1.0	µmhos/cm	"	2002549	03/31/20	03/31/20	EPA 120.1	
Sulfate as SO4	**40**	2.5	mg/L	5	2002527	03/31/20	03/31/20	EPA 300.0	
Total Alkalinity	**210**	5.0	"	1	2002578	04/01/20	04/01/20	SM2320B	
Total Dissolved Solids	**360**	10	"	"	2002596	04/01/20	04/02/20	SM2540C	
Turbidity	**1.2**	0.10	NTU	"	2002519	03/30/20	03/30/20	EPA 180.1	

Luhdorff & Scalmanini	Project:	MW Samples - TW	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1377**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204032

Extractable Petroleum Hydrocarbons by EPA Method 8015M

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Storz Pond (20C1377-01) Water Sampled: 03/30/20 09:40 Received: 03/30/20 15:45									
Diesel	ND	0.050	mg/L	1	2002586	04/01/20	04/01/20	EPA 8015M	
Motor Oil	ND	0.050	"	"	"	"	"	"	
Surrogate: o-Terphenyl		*90 %*	*65-135*		*"*	*"*	*"*	*"*	
Schwarzgruber (20C1377-03) Water Sampled: 03/30/20 14:30 Received: 03/30/20 15:45									
Diesel	ND	0.050	mg/L	1	2002586	04/01/20	04/01/20	EPA 8015M	
Motor Oil	ND	0.050	"	"	"	"	"	"	
Surrogate: o-Terphenyl		*89 %*	*65-135*		*"*	*"*	*"*	*"*	

Luhdorff & Scalmanini	Project:	MW Samples - TW
500 First St.	Project Number:	[none]
Woodland, CA 95695	Project Manager:	Jeanette Lovelis

CLS Work Order #: 20C1377
COC #: 204032

Metals by EPA 200 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Storz Pond (20C1377-01) Water Sampled: 03/30/20 09:40 Received: 03/30/20 15:45									
Aluminum	ND	50	µg/L	1	2002571	04/01/20	04/01/20	EPA 200.7	
Arsenic	ND	2.0	"	"	2002554	03/31/20	04/06/20	EPA 200.8	
Barium	**150**	20	"	"	2002571	04/01/20	04/01/20	EPA 200.7	
Cadmium	ND	10	"	"	"	"	"	"	
Chromium	ND	10	"	"	"	"	"	"	
Copper	ND	10	"	"	"	"	"	"	
Iron	ND	100	"	"	"	"	"	"	
Lead	ND	5.0	"	"	2002554	03/31/20	04/06/20	EPA 200.8	
Manganese	ND	10	"	"	2002571	04/01/20	04/01/20	EPA 200.7	
Mercury	ND	0.20	"	"	2002619	04/02/20	04/02/20	EPA 245.1	QC-2H
Selenium	ND	5.0	"	"	2002554	03/31/20	04/06/20	EPA 200.8	
Zinc	ND	20	"	"	2002571	04/01/20	04/01/20	EPA 200.7	
Schwarzgruber (20C1377-03) Water Sampled: 03/30/20 14:30 Received: 03/30/20 15:45									
Aluminum	**89**	50	µg/L	1	2002571	04/01/20	04/01/20	EPA 200.7	
Arsenic	ND	2.0	"	"	2002554	03/31/20	04/06/20	EPA 200.8	
Barium	**130**	20	"	"	2002571	04/01/20	04/01/20	EPA 200.7	
Cadmium	ND	10	"	"	"	"	"	"	
Chromium	ND	10	"	"	"	"	"	"	
Copper	ND	10	"	"	"	"	"	"	
Iron	**120**	100	"	"	"	"	"	"	
Lead	ND	5.0	"	"	2002554	03/31/20	04/06/20	EPA 200.8	
Manganese	ND	10	"	"	2002571	04/01/20	04/01/20	EPA 200.7	
Mercury	ND	0.20	"	"	2002619	04/02/20	04/02/20	EPA 245.1	QC-2H
Selenium	ND	5.0	"	"	2002554	03/31/20	04/06/20	EPA 200.8	
Zinc	ND	20	"	"	2002571	04/01/20	04/01/20	EPA 200.7	

Luhdorff & Scalmanini	Project:	MW Samples - TW	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1377**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204032

Microbiological Parameters by APHA Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Storz Pond (20C1377-01) Water Sampled: 03/30/20 09:40 Received: 03/30/20 15:45									
E. Coli	**2.0**	1.8	MPN/100 mL	1	2002524	03/30/20	04/03/20	SM 9221	
Fecal Coliforms	**4.0**	1.8	"	"	"	"	"	"	
Total Coliforms	**540**	1.8	"	"	"	"	"	"	
Muller Pond (20C1377-02) Water Sampled: 03/30/20 12:00 Received: 03/30/20 15:45									
E. Coli	**33**	1.8	MPN/100 mL	1	2002524	03/30/20	04/03/20	SM 9221	
Fecal Coliforms	**46**	1.8	"	"	"	"	"	"	
Total Coliforms	**1600**	1.8	"	"	"	"	"	"	
Schwarzgruber (20C1377-03) Water Sampled: 03/30/20 14:30 Received: 03/30/20 15:45									
E. Coli	**350**	1.8	MPN/100 mL	1	2002524	03/30/20	04/03/20	SM 9221	
Fecal Coliforms	**920**	1.8	"	"	"	"	"	"	
Total Coliforms	**1600**	1.8	"	"	"	"	"	"	

Luhdorff & Scalmanini	Project:	MW Samples - TW	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1377**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204032

Organophosphorus Pesticides by EPA Method 8141A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Storz Pond (20C1377-01) Water Sampled: 03/30/20 09:40 Received: 03/30/20 15:45									
Bolstar	ND	0.050	µg/L	1	2002574	04/01/20	04/01/20	EPA 8141A	
Chlorpyrifos	ND	0.050	"	"	"	"	"	"	
Coumaphos	ND	0.10	"	"	"	"	"	"	
Demeton	ND	0.10	"	"	"	"	"	"	
Diazinon	ND	0.050	"	"	"	"	"	"	
Dichlorvos	ND	0.10	"	"	"	"	"	"	
Disulfoton	ND	0.050	"	"	"	"	"	"	
Ethoprop	ND	0.050	"	"	"	"	"	"	
Fensulfothion	ND	0.050	"	"	"	"	"	"	
Fenthion	ND	0.050	"	"	"	"	"	"	
Guthion	ND	0.10	"	"	"	"	"	"	
Malathion	ND	0.050	"	"	"	"	"	"	
Merphos	ND	0.050	"	"	"	"	"	"	
Methyl parathion	ND	0.050	"	"	"	"	"	"	
Mevinphos	ND	0.050	"	"	"	"	"	"	
Phorate	ND	0.050	"	"	"	"	"	"	
Prothiofos	ND	0.050	"	"	"	"	"	"	
Ronnel	ND	0.050	"	"	"	"	"	"	
Stirophos	ND	0.050	"	"	"	"	"	"	
Trichloronate	ND	0.050	"	"	"	"	"	"	
Surrogate: EPN		*95 %*	*50-150*		"	"	"	"	
Schwarzgruber (20C1377-03) Water Sampled: 03/30/20 14:30 Received: 03/30/20 15:45									
Bolstar	ND	0.058	µg/L	1	2002574	04/01/20	04/01/20	EPA 8141A	
Chlorpyrifos	ND	0.058	"	"	"	"	"	"	
Coumaphos	ND	0.12	"	"	"	"	"	"	
Demeton	ND	0.12	"	"	"	"	"	"	
Diazinon	ND	0.058	"	"	"	"	"	"	
Dichlorvos	ND	0.12	"	"	"	"	"	"	
Disulfoton	ND	0.058	"	"	"	"	"	"	
Ethoprop	ND	0.058	"	"	"	"	"	"	

Luhdorff & Scalmanini	Project:	MW Samples - TW	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1377**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204032

Organophosphorus Pesticides by EPA Method 8141A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Schwarzgruber (20C1377-03) Water Sampled: 03/30/20 14:30 Received: 03/30/20 15:45									
Fensulfothion	ND	0.058	µg/L	1	2002574	"	04/01/20	EPA 8141A	
Fenthion	ND	0.058	"	"	"	"	"	"	
Guthion	ND	0.12	"	"	"	"	"	"	
Malathion	ND	0.058	"	"	"	"	"	"	
Merphos	ND	0.058	"	"	"	"	"	"	
Methyl parathion	ND	0.058	"	"	"	"	"	"	
Mevinphos	ND	0.058	"	"	"	"	"	"	
Phorate	ND	0.058	"	"	"	"	"	"	
Prothiofos	ND	0.058	"	"	"	"	"	"	
Ronnel	ND	0.058	"	"	"	"	"	"	
Stirophos	ND	0.058	"	"	"	"	"	"	
Trichloronate	ND	0.058	"	"	"	"	"	"	
Surrogate: EPN		*98 %*		*50-150*	"	"	"	"	

Luhdorff & Scalmanini	Project:	MW Samples - TW	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1377**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204032

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Storz Pond (20C1377-01) Water Sampled: 03/30/20 09:40 Received: 03/30/20 15:45									
Benzene	ND	0.50	µg/L	1	2002639	04/01/20	04/01/20	EPA 8260B	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	
Surrogate: Toluene-d8		*102 %*		*72-125*	"	"	"	"	
Schwarzgruber (20C1377-03) Water Sampled: 03/30/20 14:30 Received: 03/30/20 15:45									
Benzene	ND	0.50	µg/L	1	2002639	04/01/20	04/01/20	EPA 8260B	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	
Surrogate: Toluene-d8		*101 %*		*72-125*	"	"	"	"	

Luhdorff & Scalmanini	Project:	MW Samples - TW	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1377**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204032

Chlorinated Herbicides by EPA Method 8151A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002641 - EPA 8151A										
Blank (2002641-BLK1)				Prepared: 04/03/20 Analyzed: 04/08/20						
2,4-D (2,4-Dichlorophenoxyacetic acid)	ND	1.0	µg/L							
Dalapon	ND	2.0	"							
2,4-DB	ND	2.0	"							
Dicamba	ND	1.0	"							
Dichloroprop	ND	2.0	"							
Dinoseb	ND	1.0	"							
MCPA	ND	250	"							
MCPP	ND	250	"							
Pentachlorophenol	ND	0.20	"							
2,4,5-T	ND	0.50	"							
2,4,5-TP (Silvex)	ND	0.20	"							
Surrogate: 2,4-DCAA	*2.14*		*"*	*2.50*		*86*	*50-150*			
LCS (2002641-BS1)				Prepared: 04/03/20 Analyzed: 04/08/20						
Dicamba	1.14	1.0	µg/L	1.25		91	50-150			
Dichloroprop	1.76	2.0	"	1.25		141	50-150			
Surrogate: 2,4-DCAA	*2.01*		*"*	*2.50*		*80*	*50-150*			
LCS Dup (2002641-BSD1)				Prepared: 04/03/20 Analyzed: 04/08/20						
Dicamba	1.27	1.0	µg/L	1.25		102	50-150	11	30	
Dichloroprop	1.85	2.0	"	1.25		148	50-150	5	30	
Surrogate: 2,4-DCAA	*2.25*		*"*	*2.50*		*90*	*50-150*			

Luhdorff & Scalmanini	Project:	MW Samples - TW	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1377**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204032

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002519 - General										
Blank (2002519-BLK1)				Prepared & Analyzed: 03/30/20						
Turbidity	ND	0.10	NTU							
Duplicate (2002519-DUP1)		**Source: 20C1360-01**		Prepared & Analyzed: 03/30/20						
Turbidity	5.16	0.10	NTU		5.23			1	20	
Batch 2002527 - General Preparation										
Blank (2002527-BLK1)				Prepared & Analyzed: 03/31/20						
Fluoride	ND	0.10	mg/L							
Sulfate as SO4	ND	0.50	"							
Chloride	ND	0.50	"							
Nitrate as N	ND	0.40	"							
LCS (2002527-BS1)				Prepared & Analyzed: 03/31/20						
Chloride	4.75	0.50	mg/L	5.00		95	80-120			
Fluoride	1.99	0.10	"	2.00		100	80-120			
Sulfate as SO4	4.92	0.50	"	5.00		98	80-120			
Nitrate as N	2.01	0.40	"	2.00		100	80-120			
LCS Dup (2002527-BSD1)				Prepared & Analyzed: 03/31/20						
Sulfate as SO4	4.80	0.50	mg/L	5.00		96	80-120	3	20	
Chloride	4.77	0.50	"	5.00		95	80-120	0.5	20	
Fluoride	2.03	0.10	"	2.00		101	80-120	2	20	
Nitrate as N	2.03	0.40	"	2.00		101	80-120	1	20	
Matrix Spike (2002527-MS1)		**Source: 20C1374-01**		Prepared & Analyzed: 03/31/20						
Fluoride	2.03	0.10	mg/L	2.00	0.0667	98	80-120			
Chloride	30.0	0.50	"	5.00	25.7	85	80-120			
Sulfate as SO4	19.5	0.50	"	5.00	14.3	103	80-120			
Nitrate as N	2.30	0.40	"	2.00	0.355	97	80-120			

Luhdorff & Scalmanini	Project:	MW Samples - TW	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1377**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204032

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002527 - General Preparation										
Matrix Spike Dup (2002527-MSD1)		**Source: 20C1374-01**		Prepared & Analyzed: 03/31/20						
Chloride	30.0	0.50	mg/L	5.00	25.7	85	80-120	0.05	20	
Sulfate as SO4	19.5	0.50	"	5.00	14.3	103	80-120	0.05	20	
Fluoride	2.01	0.10	"	2.00	0.0667	97	80-120	0.7	20	
Nitrate as N	2.27	0.40	"	2.00	0.355	96	80-120	1	20	
Batch 2002529 - General Prep										
Duplicate (2002529-DUP1)		**Source: 20C1377-01**		Prepared & Analyzed: 03/31/20						
pH	8.49	0.01	pH Units		8.47			0.236	20	
Batch 2002543 - General Preparation										
Blank (2002543-BLK1)				Prepared & Analyzed: 03/31/20						
MBAS as LAS, mol wt 340	ND	0.10	mg/L							
LCS (2002543-BS1)				Prepared & Analyzed: 03/31/20						
MBAS as LAS, mol wt 340	0.509	0.10	mg/L	0.500		102	80-120			
LCS Dup (2002543-BSD1)				Prepared & Analyzed: 03/31/20						
MBAS as LAS, mol wt 340	0.490	0.10	mg/L	0.500		98	80-120	4	20	
Matrix Spike (2002543-MS1)		**Source: 20C1352-01**		Prepared & Analyzed: 03/31/20						
MBAS as LAS, mol wt 340	0.504	0.10	mg/L	0.500	ND	101	75-125			
Matrix Spike Dup (2002543-MSD1)		**Source: 20C1352-01**		Prepared & Analyzed: 03/31/20						
MBAS as LAS, mol wt 340	0.493	0.10	mg/L	0.500	ND	99	75-125	2	25	

Luhdorff & Scalmanini	Project:	MW Samples - TW	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1377**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204032

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002549 - General Preparation										
Blank (2002549-BLK1)				Prepared & Analyzed: 03/31/20						
Specific Conductance (EC)	ND	1.0	µmhos/cm							
Duplicate (2002549-DUP1)		**Source: 20C1352-01**		Prepared & Analyzed: 03/31/20						
Specific Conductance (EC)	335	1.0	µmhos/cm		326			2.72	20	
Batch 2002550 - General										
Blank (2002550-BLK1)				Prepared: 03/31/20 Analyzed: 04/05/20						
Biochemical Oxygen Demand	ND	3.0	mg/L							
LCS (2002550-BS1)				Prepared: 03/31/20 Analyzed: 04/05/20						
Biochemical Oxygen Demand	198	3.0	mg/L	167		119	83-138			
LCS Dup (2002550-BSD1)				Prepared: 03/31/20 Analyzed: 04/05/20						
Biochemical Oxygen Demand	192	3.0	mg/L	167		115	83-138	3	21	
Batch 2002575 - 6010A/No Digestion										
Blank (2002575-BLK1)				Prepared: 04/01/20 Analyzed: 04/03/20						
Calcium	ND	1.0	mg/L							
Hardness as CaCO3	ND	1.0	"							
Magnesium	ND	1.0	"							
Potassium	ND	1.0	"							
Sodium	ND	1.0	"							
LCS (2002575-BS1)				Prepared: 04/01/20 Analyzed: 04/03/20						
Calcium	4.69	1.0	mg/L	5.00		94	85-115			
Hardness as CaCO3	32.8	1.0	"	33.1		99	85-115			
Magnesium	5.08	1.0	"	5.00		102	85-115			
Potassium	5.34	1.0	"	5.00		107	85-115			
Sodium	4.62	1.0	"	5.00		92	85-115			

Luhdorff & Scalmanini	Project:	MW Samples - TW	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1377**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204032

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002575 - 6010A/No Digestion										
Matrix Spike (2002575-MS1)		**Source: 20C1377-01**		Prepared: 04/01/20 Analyzed: 04/03/20						
Calcium	44.9	1.0	mg/L	5.00	41.1	75	70-130			
Hardness as CaCO3	357	1.0	"	33.1	336	61	70-130			QM-7
Magnesium	58.9	1.0	"	5.00	56.7	44	70-130			QM-7
Potassium	7.98	1.0	"	5.00	2.81	103	70-130			
Sodium	101	1.0	"	5.00	101	NR	70-130			QM-7
Batch 2002578 - General Prep										
Blank (2002578-BLK1)				Prepared & Analyzed: 04/01/20						
Total Alkalinity	ND	5.0	mg/L							
Bicarbonate as CaCO3	ND	5.0	"							
Carbonate as CaCO3	ND	5.0	"							
Hydroxide as CaCO3	ND	5.0	"							
Duplicate (2002578-DUP1)		**Source: 20C1352-01**		Prepared & Analyzed: 04/01/20						
Total Alkalinity	125	5.0	mg/L		124			1	20	
Bicarbonate as CaCO3	125	5.0	"		124			1	20	
Carbonate as CaCO3	ND	5.0	"		ND				20	
Hydroxide as CaCO3	ND	5.0	"		ND				20	
Batch 2002593 - General Preparation										
Blank (2002593-BLK1)				Prepared & Analyzed: 04/01/20						
Total Phosphorus as P	ND	0.050	mg/L							
LCS (2002593-BS1)				Prepared & Analyzed: 04/01/20						
Total Phosphorus as P	0.307	0.050	mg/L	0.300		102	80-120			

Luhdorff & Scalmanini	Project:	MW Samples - TW	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1377**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204032

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002593 - General Preparation										
LCS Dup (2002593-BSD1)				Prepared & Analyzed: 04/01/20						
Total Phosphorus as P	0.310	0.050	mg/L	0.300		103	80-120	1	25	
Matrix Spike (2002593-MS1)		**Source: 20C1407-01**		Prepared & Analyzed: 04/01/20						
Total Phosphorus as P	0.353	0.050	mg/L	0.300	0.0675	95	75-125			
Matrix Spike Dup (2002593-MSD1)		**Source: 20C1407-01**		Prepared & Analyzed: 04/01/20						
Total Phosphorus as P	0.358	0.050	mg/L	0.300	0.0675	97	75-125	2	30	
Batch 2002596 - General Preparation										
Blank (2002596-BLK1)				Prepared: 04/01/20 Analyzed: 04/02/20						
Total Dissolved Solids	ND	10	mg/L							
Duplicate (2002596-DUP1)		**Source: 20C1339-02**		Prepared: 04/01/20 Analyzed: 04/02/20						
Total Dissolved Solids	ND	10	mg/L		ND				20	

Luhdorff & Scalmanini	Project:	MW Samples - TW	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1377**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204032

Extractable Petroleum Hydrocarbons by EPA Method 8015M - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002586 - EPA 3510B GCNV										
Blank (2002586-BLK1)				Prepared & Analyzed: 04/01/20						
Diesel	ND	0.050	mg/L							
Motor Oil	ND	0.050	"							
Surrogate: o-Terphenyl	*0.0289*		"	*0.0250*		*116*	*65-135*			
LCS (2002586-BS1)				Prepared & Analyzed: 04/01/20						
Diesel	1.83	0.050	mg/L	2.50		73	65-135			
Surrogate: o-Terphenyl	*0.0260*		"	*0.0250*		*104*	*65-135*			
LCS Dup (2002586-BSD1)				Prepared & Analyzed: 04/01/20						
Diesel	1.66	0.050	mg/L	2.50		67	65-135	10	30	
Surrogate: o-Terphenyl	*0.0226*		"	*0.0250*		*91*	*65-135*			
Matrix Spike (2002586-MS1)	**Source: 20C1407-05**			Prepared & Analyzed: 04/01/20						
Diesel	1.75	0.050	mg/L	2.50	ND	70	46-137			
Surrogate: o-Terphenyl	*0.0240*		"	*0.0250*		*96*	*65-135*			
Matrix Spike Dup (2002586-MSD1)	**Source: 20C1407-05**			Prepared & Analyzed: 04/01/20						
Diesel	1.75	0.050	mg/L	2.50	ND	70	46-137	0.1	30	
Surrogate: o-Terphenyl	*0.0247*		"	*0.0250*		*99*	*65-135*			

Luhdorff & Scalmanini	Project:	MW Samples - TW	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1377**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204032

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002554 - EPA 200 Series										
Blank (2002554-BLK1)				Prepared: 03/31/20 Analyzed: 04/01/20						
Arsenic	ND	2.0	µg/L							
Cadmium	ND	0.50	"							
Chromium	ND	1.0	"							
Copper	ND	2.0	"							
Lead	ND	5.0	"							
Nickel	ND	2.0	"							
Selenium	ND	5.0	"							
Silver	ND	0.50	"							
Zinc	ND	10	"							
LCS (2002554-BS1)				Prepared: 03/31/20 Analyzed: 04/01/20						
Arsenic	98.7	2.0	µg/L	100		99	85-115			
Cadmium	107	0.50	"	100		107	85-115			
Chromium	113	1.0	"	100		113	85-115			
Copper	101	2.0	"	100		101	85-115			
Lead	106	5.0	"	100		106	85-115			
Nickel	102	2.0	"	100		102	85-115			
Selenium	94.6	5.0	"	100		95	85-115			
Silver	103	0.50	"	100		103	85-115			
Zinc	90.5	10	"	100		91	85-115			
Matrix Spike (2002554-MS1)	**Source: 20C1249-01**			Prepared: 03/31/20 Analyzed: 04/01/20						
Arsenic	97.2	2.0	µg/L	100	0.810	96	70-130			
Cadmium	104	0.50	"	100	ND	104	70-130			
Chromium	111	1.0	"	100	3.03	108	70-130			
Copper	289	2.0	"	100	198	91	70-130			
Lead	117	5.0	"	100	8.29	109	70-130			
Nickel	234	2.0	"	100	137	97	70-130			
Selenium	92.4	5.0	"	100	0.860	92	70-130			
Silver	65.7	0.50	"	100	0.790	65	70-130			QM-7
Zinc	406	10	"	100	328	77	70-130			

Luhdorff & Scalmanini
500 First St.
Woodland, CA 95695

Project: MW Samples - TW
Project Number: [none]
Project Manager: Jeanette Lovelis

CLS Work Order #: 20C1377
COC #: 204032

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002554 - EPA 200 Series										
Matrix Spike (2002554-MS2)	**Source: 20C1397-01**			Prepared: 03/31/20 Analyzed: 04/01/20						
Arsenic	108	2.0	µg/L	100	2.19	106	70-130			
Cadmium	106	0.50	"	100	ND	106	70-130			
Chromium	107	1.0	"	100	2.74	104	70-130			
Copper	89.6	2.0	"	100	0.390	89	70-130			
Lead	108	5.0	"	100	0.0200	108	70-130			
Nickel	92.5	2.0	"	100	0.140	92	70-130			
Selenium	105	5.0	"	100	1.83	103	70-130			
Silver	90.2	0.50	"	100	ND	90	70-130			
Zinc	86.7	10	"	100	ND	87	70-130			
Batch 2002571 - EPA 200 Series										
Blank (2002571-BLK1)				Prepared & Analyzed: 04/01/20						
Aluminum	ND	50	µg/L							
Barium	ND	20	"							
Cadmium	ND	10	"							
Calcium	ND	1000	"							
Chromium	ND	10	"							
Copper	ND	10	"							
Iron	ND	100	"							
Manganese	ND	10	"							
Zinc	ND	20	"							
LCS (2002571-BS1)				Prepared & Analyzed: 04/01/20						
Aluminum	5140	50	µg/L	5000		103	85-115			
Barium	995	20	"	1000		100	85-115			
Cadmium	1100	10	"	1000		110	85-115			
Calcium	5160	1000	"	5000		103	85-115			
Chromium	1060	10	"	1000		106	85-115			
Copper	1080	10	"	1000		108	85-115			
Iron	1090	100	"	1000		109	85-115			
Manganese	1070	10	"	1000		107	85-115			
Zinc	1040	20	"	1000		104	85-115			

Luhdorff & Scalmanini	Project:	MW Samples - TW	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1377**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204032

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002571 - EPA 200 Series										
Matrix Spike (2002571-MS1)	**Source: 20C1352-01**			Prepared & Analyzed: 04/01/20						
Aluminum	5340	50	µg/L	5000	26.2	106	70-130			
Barium	1080	20	"	1000	66.4	101	70-130			
Cadmium	1100	10	"	1000	ND	110	70-130			
Calcium	29600	1000	"	5000	24500	102	70-130			
Chromium	1040	10	"	1000	ND	104	70-130			
Copper	1080	10	"	1000	ND	108	70-130			
Iron	1160	100	"	1000	73.9	109	70-130			
Manganese	1050	10	"	1000	1.93	105	70-130			
Zinc	1070	20	"	1000	ND	107	70-130			
Matrix Spike (2002571-MS2)	**Source: 20C1429-04**			Prepared & Analyzed: 04/01/20						
Aluminum	5330	50	µg/L	5000	ND	107	70-130			
Barium	1310	20	"	1000	234	107	70-130			
Cadmium	1030	10	"	1000	ND	103	70-130			
Calcium	61100	1000	"	5000	47600	270	70-130			QM-7
Chromium	1070	10	"	1000	ND	107	70-130			
Copper	978	10	"	1000	ND	98	70-130			
Iron	1400	100	"	1000	191	121	70-130			
Manganese	1860	10	"	1000	856	101	70-130			
Zinc	943	20	"	1000	ND	94	70-130			
Batch 2002619 - EPA 7470A										
Blank (2002619-BLK1)				Prepared & Analyzed: 04/02/20						
Mercury	ND	0.20	µg/L							
LCS (2002619-BS1)				Prepared & Analyzed: 04/02/20						
Mercury	5.28	0.20	µg/L	5.00		106	85-115			

Luhdorff & Scalmanini	Project:	MW Samples - TW	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1377**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204032

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002619 - EPA 7470A										
Matrix Spike (2002619-MS1)		**Source: 20C1377-01**		Prepared & Analyzed: 04/02/20						
Mercury	5.32	0.20	µg/L	5.00	ND	106	70-130			
Matrix Spike Dup (2002619-MSD1)		**Source: 20C1377-01**		Prepared & Analyzed: 04/02/20						
Mercury	4.93	0.20	µg/L	5.00	ND	99	70-130	7	25	

Luhdorff & Scalmanini	Project:	MW Samples - TW	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1377**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204032

Organophosphorus Pesticides by EPA Method 8141A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002574 - EPA 3510B GCNV										
Blank (2002574-BLK1)				Prepared & Analyzed: 04/01/20						
Bolstar	ND	0.050	µg/L							
Chlorpyrifos	ND	0.050	"							
Coumaphos	ND	0.10	"							
Demeton	ND	0.10	"							
Diazinon	ND	0.050	"							
Dichlorvos	ND	0.10	"							
Disulfoton	ND	0.050	"							
Ethoprop	ND	0.050	"							
Fensulfothion	ND	0.050	"							
Fenthion	ND	0.050	"							
Guthion	ND	0.10	"							
Malathion	ND	0.050	"							
Merphos	ND	0.050	"							
Methyl parathion	ND	0.050	"							
Mevinphos	ND	0.050	"							
Phorate	ND	0.050	"							
Prothiofos	ND	0.050	"							
Ronnel	ND	0.050	"							
Stirophos	ND	0.050	"							
Trichloronate	ND	0.050	"							
Surrogate: EPN	*2.18*		*"*	*2.50*		*87*	*50-150*			
LCS (2002574-BS1)				Prepared & Analyzed: 04/01/20						
Methyl parathion	0.262	0.050	µg/L	0.250		105	50-150			
Ronnel	0.243	0.050	"	0.250		97	50-150			
Stirophos	0.292	0.050	"	0.250		117	50-150			
Trichloronate	0.237	0.050	"	0.250		95	50-150			
Surrogate: EPN	*2.40*		*"*	*2.50*		*96*	*50-150*			

Luhdorff & Scalmanini	Project:	MW Samples - TW	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1377**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204032

Organophosphorus Pesticides by EPA Method 8141A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002574 - EPA 3510B GCNV										
LCS Dup (2002574-BSD1)				Prepared & Analyzed: 04/01/20						
Methyl parathion	0.256	0.050	µg/L	0.250		102	50-150	2	30	
Ronnel	0.238	0.050	"	0.250		95	50-150	2	30	
Stirophos	0.290	0.050	"	0.250		116	50-150	0.6	30	
Trichloronate	0.245	0.050	"	0.250		98	50-150	3	30	
Surrogate: EPN	*2.26*		*"*	*2.50*		*90*	*50-150*			

Luhdorff & Scalmanini	Project:	MW Samples - TW	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1377**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204032

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002639 - EPA 5030 Water MS										
Blank (2002639-BLK1)				Prepared & Analyzed: 04/01/20						
Di-isopropyl ether	ND	0.50	µg/L							
Ethyl tert-butyl ether	ND	0.50	"							
Methyl tert-butyl ether	ND	0.50	"							
tert-Amyl methyl ether	ND	0.50	"							
tert-Butyl alcohol	ND	5.0	"							
1,2-Dibromoethane (EDB)	ND	0.50	"							
1,2-Dichloroethane	ND	0.50	"							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	1.0	"							
Naphthalene	ND	0.50	"							
Surrogate: Toluene-d8	*10.1*		*"*	*10.0*		*101*	*72-125*			
LCS (2002639-BS1)				Prepared & Analyzed: 04/01/20						
Methyl tert-butyl ether	22.3	0.50	µg/L	20.0		112	52-130			
Benzene	21.3	0.50	"	20.0		106	52-130			
Surrogate: Toluene-d8	*9.71*		*"*	*10.0*		*97*	*72-125*			
LCS Dup (2002639-BSD1)				Prepared & Analyzed: 04/01/20						
Methyl tert-butyl ether	20.9	0.50	µg/L	20.0		104	52-130	7	30	
Benzene	21.6	0.50	"	20.0		108	52-130	1	30	
Surrogate: Toluene-d8	*9.68*		*"*	*10.0*		*97*	*72-125*			
Matrix Spike (2002639-MS1)	**Source: 20C1397-01**			Prepared & Analyzed: 04/01/20						
Methyl tert-butyl ether	21.3	0.50	µg/L	20.0	ND	107	52-140			
Benzene	23.4	0.50	"	20.0	ND	117	52-140			
Surrogate: Toluene-d8	*9.63*		*"*	*10.0*		*96*	*72-125*			

Luhdorff & Scalmanini	Project:	MW Samples - TW	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1377**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204032

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002639 - EPA 5030 Water MS										
Matrix Spike Dup (2002639-MSD1)	**Source: 20C1397-01**			Prepared: 04/01/20 Analyzed: 04/02/20						
Methyl tert-butyl ether	21.7	0.50	µg/L	20.0	ND	109	52-140	2	30	
Benzene	23.0	0.50	"	20.0	ND	115	52-140	2	30	
Surrogate: Toluene-d8	*9.73*		*"*	*10.0*		*97*	*72-125*			

Luhdorff & Scalmanini	Project:	MW Samples - TW	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1377**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204032

Notes and Definitions

QRL-7	The initial volume was decreased or the final volume of the extract was increased due to matrix interference, which resulted in higher reporting limits.
QM-7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS and/or LCSD recovery.
QC-2H	The recovery of one CCV was greater than the acceptance limit. However, all analytes in the associated samples were ND; therefore a reanalysis was not performed.
HT-F	This is a field test method and it is performed in the lab outside holding time.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

CALIFORNIA LABORATORY SERVICES
Committed. Responsive. Flexible.

April 13, 2020

CLS Work Order #: 20C1429
COC #: 204033

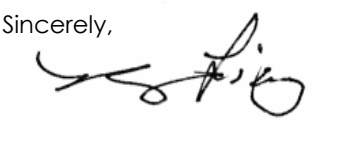
Jeanette Lovelis
Luhdorff & Scalmanini
500 First St.
Woodland, CA 95695

Project Name: Teichert Woodland

Enclosed are the results of analyses for samples received by the laboratory on 03/31/20 16:00. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,



James Liang, Ph.D.
Laboratory Director

CA SWRCB ELAP Accreditation/Registration number 1233

CALIFORNIA LABORATORY SERVICES
Committed. Responsive. Flexible.

20C1429

→ Al, As, Ba, Ca, Cr, Cu, Fe, Hg, Mn, Pb, Se, + Zn

CHAIN OF CUSTODY

CLS ID No.: _____

LOG № 204033

HIGHLIGHTED AREAS MUST BE FILLED OUT PRIOR TO ACCEPTANCE

REPORT TO:

NAME AND ADDRESS: LSCE
500 First St.
Woodland, CA 95695

PROJECT MANAGER: Jeanette L. PHONE#: 530-661-0109

PROJECT NAME: Teichert Woodland

SAMPLED BY: JEH

JOB DESCRIPTION: MW Sample

SITE LOCATION: Woodland Area

CLIENT JOB NUMBER:

DESTINATION LABORATORY:
☐ CLS (916) 638-7301
3249 FITZGERALD RD.
RANCHO CORDOVA, CA. 95742
☐ OTHER

GEOTRACKER:
EDF REPORT ☐ YES ☐ NO
GLOBAL ID:

CDPH WRITE ON EDT TRANSMISSION? ☐ YES ☐ NO
STATE SYSTEM NUMBER
IF "YES" PLEASE ENTER THE SOURCE NUMBER(S).

COMPOSITE: Grab

DATE	TIME	SAMPLE IDENTIFICATION	MATRIX	CONTAINER NO.	CONTAINER TYPE	PRESERVATIVES	General Mineral + Turbidity	EPA 8141 + EPA 8151	TPH Diesel + MO	Coliform-15 tube E Coli Total/Fecal	BTEX	Metals	Total P + BOD	TURN AROUND TIME 1 DAY	2 DAY	3 DAY	5 DAY	SPECIAL INSTRUCTIONS OR ALT. ID:
3/31/20	1015	TA-25	H_2O	8	–	X	X	X	X	X	X	X						
3/31/20	1140	TA-13A	H_2O	3	–	X	X			X			X					
3/31/20	1315	TA-18	H_2O	8	–	X	X	X	X	X	X	X						
3/31/20	1445	Stephens	H_2O	8	–	X	X	X	X	X	X	X						
3/31/20		Trip Blank																
3/31/20		Field Blank																

INVOICE TO:

P.O. #

QUOTE #

Email/Address

PRESERVATIVES: (1) HCL (2) HNO_3 (3) = COLD (4) = NaOH (5) = H_2SO_4 (6) = $Na_2S_2O_3$ (7) =

RELINQUISHED BY (SIGN)	PRINT NAME / COMPANY	DATE / TIME	RECEIVED BY (SIGN)	PRINT NAME / COMPANY
[signature]	Jay Hetterman/LSCE	3/31/20 1600		

REC'D AT LAB BY: [signature]

DATE / TIME: 3/31/2020 1600

CONDITIONS / COMMENTS: 2.7/2.7

SHIPPED BY: ☐ FED X ☐ UPS ☐ OTHER _____ AIR BILL #

White-Lab/Terms and conditions Yellow-Lab file copy/Terms and Conditions Pink-Origin/Terms and Conditions Gold-Project Mgr./Field Sampler/Terms and conditions

CLS LABS
SAMPLE RECEIVING EXCEPTION REPORTS

CLS Labs Job # 20C1429

Problem discovered by: _____ **Date:** 3/31/20

Nature of problem

Sulfite **Chlorine, Total** **Chlorine, Residual** **Ph** **Dissolved O2**

(Circle analysis above) **Received out of HOLD time.**

Client contacted? Yes _____ **No** _____ **Spoke With:** _____

By whom: _____ **Date:** ___/___/___ **Time:** _____ **HRS**

Client instructions:

Resolution of problem:

Logged in regardless and will be ran for analysis requested.

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1429**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204033

Chlorinated Herbicides by EPA Method 8151A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TA-25 (20C1429-01) Water Sampled: 03/31/20 10:15 Received: 03/31/20 16:00									**QRL-7**
2,4,5-T	ND	0.61	µg/L	1	2002641	04/03/20	04/08/20	EPA 8151A	
2,4,5-TP (Silvex)	ND	0.25	"	"	"	"	"	"	
2,4-D (2,4-Dichlorophenoxyacetic acid)	ND	1.2	"	"	"	"	"	"	
2,4-DB	ND	2.5	"	"	"	"	"	"	
Dalapon	ND	2.5	"	"	"	"	"	"	
Dicamba	ND	1.2	"	"	"	"	"	"	
Dichloroprop	ND	2.5	"	"	"	"	"	"	
Dinoseb	ND	1.2	"	"	"	"	"	"	
MCPA	ND	310	"	"	"	"	"	"	
MCPP	ND	310	"	"	"	"	"	"	
Pentachlorophenol	ND	0.25	"	"	"	"	"	"	
Surrogate: 2,4-DCAA		*93 %*		*50-150*		"	"	"	"
TA-18 (20C1429-03) Water Sampled: 03/31/20 13:15 Received: 03/31/20 16:00									
2,4,5-T	ND	0.50	µg/L	1	2002641	04/03/20	04/08/20	EPA 8151A	
2,4,5-TP (Silvex)	ND	0.20	"	"	"	"	"	"	
2,4-D (2,4-Dichlorophenoxyacetic acid)	ND	1.0	"	"	"	"	"	"	
2,4-DB	ND	2.0	"	"	"	"	"	"	
Dalapon	ND	2.0	"	"	"	"	"	"	
Dicamba	ND	1.0	"	"	"	"	"	"	
Dichloroprop	ND	2.0	"	"	"	"	"	"	
Dinoseb	ND	1.0	"	"	"	"	"	"	
MCPA	ND	250	"	"	"	"	"	"	
MCPP	ND	250	"	"	"	"	"	"	
Pentachlorophenol	ND	0.20	"	"	"	"	"	"	
Surrogate: 2,4-DCAA		*52 %*		*50-150*		"	"	"	"

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1429**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204033

Chlorinated Herbicides by EPA Method 8151A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Stephens (20C1429-04) Water Sampled: 03/31/20 14:45 Received: 03/31/20 16:00									**QRL-7**
2,4,5-T	ND	0.56	µg/L	1	2002641	04/03/20	04/08/20	EPA 8151A	
2,4,5-TP (Silvex)	ND	0.22	"	"	"	"	"	"	
2,4-D (2,4-Dichlorophenoxyacetic acid)	ND	1.1	"	"	"	"	"	"	
2,4-DB	ND	2.2	"	"	"	"	"	"	
Dalapon	ND	2.2	"	"	"	"	"	"	
Dicamba	ND	1.1	"	"	"	"	"	"	
Dichloroprop	ND	2.2	"	"	"	"	"	"	
Dinoseb	ND	1.1	"	"	"	"	"	"	
MCPA	ND	280	"	"	"	"	"	"	
MCPP	ND	280	"	"	"	"	"	"	
Pentachlorophenol	ND	0.22	"	"	"	"	"	"	
Surrogate: 2,4-DCAA		*79 %*		*50-150*	"	"	"	"	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1429**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204033

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TA-25 (20C1429-01) Water Sampled: 03/31/20 10:15 Received: 03/31/20 16:00									
Bicarbonate as CaCO3	**330**	5.0	mg/L	1	2002578	04/01/20	04/01/20	SM2320B	
Calcium	**68**	1.0	"	"	2002571	04/01/20	04/02/20	EPA 200.7	
Carbonate as CaCO3	ND	5.0	"	"	2002578	04/01/20	04/01/20	SM2320B	
Chloride	**77**	2.5	"	5	2002564	04/01/20	04/01/20	EPA 300.0	
Fluoride	**0.11**	0.10	"	1	"	"	04/01/20	"	
Hardness as CaCO3	**370**	1.0	"	"	2002571	04/01/20	04/02/20	EPA 200.7	
Hydroxide as CaCO3	ND	5.0	"	"	2002578	04/01/20	04/01/20	SM2320B	
Magnesium	**48**	1.0	"	"	2002571	04/01/20	04/02/20	EPA 200.7	
MBAS as LAS, mol wt 340	ND	0.10	"	"	2002589	04/01/20	04/01/20	SM5540 C	
Nitrate as N	**2.4**	0.40	"	"	2002564	04/01/20	04/01/20	EPA 300.0	
pH	**7.71**	0.01	pH Units	"	2002565	04/01/20	04/01/20	SM4500-H B	HT-F
Potassium	**3.4**	1.0	mg/L	"	2002571	04/01/20	04/02/20	EPA 200.7	
Sodium	**62**	1.0	"	"	"	"	"	"	
Specific Conductance (EC)	**1000**	1.0	µmhos/cm	"	2002584	04/01/20	04/01/20	EPA 120.1	
Sulfate as SO4	**100**	2.5	mg/L	5	2002564	04/01/20	04/01/20	EPA 300.0	
Total Alkalinity	**330**	5.0	"	1	2002578	04/01/20	04/01/20	SM2320B	
Total Dissolved Solids	**580**	10	"	"	2002631	04/02/20	04/03/20	SM2540C	
Turbidity	**2.8**	0.10	NTU	"	2002598	04/01/20	04/01/20	EPA 180.1	
TA-13A (20C1429-02) Water Sampled: 03/31/20 11:40 Received: 03/31/20 16:00									
Bicarbonate as CaCO3	**270**	5.0	mg/L	1	2002578	04/01/20	04/01/20	SM2320B	
Biochemical Oxygen Demand	ND	3.0	"	"	2002590	04/01/20	04/06/20	SM5210B	
Calcium	**43**	1.0	"	"	2002575	04/01/20	04/03/20	EPA 200.7	
Carbonate as CaCO3	ND	5.0	"	"	2002578	04/01/20	04/01/20	SM2320B	
Chloride	**85**	2.5	"	5	2002564	04/01/20	04/01/20	EPA 300.0	
Fluoride	**0.14**	0.10	"	1	"	"	04/01/20	"	
Hardness as CaCO3	**260**	1.0	"	"	2002575	04/01/20	04/03/20	EPA 200.7	
Hydroxide as CaCO3	ND	5.0	"	"	2002578	04/01/20	04/01/20	SM2320B	
Magnesium	**37**	1.0	"	"	2002575	04/01/20	04/03/20	EPA 200.7	
MBAS as LAS, mol wt 340	ND	0.10	"	"	2002589	04/01/20	04/01/20	SM5540 C	
Nitrate as N	**2.5**	0.40	"	"	2002564	04/01/20	04/01/20	EPA 300.0	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1429**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204033

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TA-13A (20C1429-02) Water Sampled: 03/31/20 11:40 Received: 03/31/20 16:00									
pH	**7.66**	0.01	pH Units	1	2002565	04/01/20	04/01/20	SM4500-H B	HT-F
Potassium	**2.6**	1.0	mg/L	"	2002575	04/01/20	04/03/20	EPA 200.7	
Sodium	**58**	1.0	"	"	"	"	"	"	
Specific Conductance (EC)	**820**	1.0	µmhos/cm	"	2002584	04/01/20	04/01/20	EPA 120.1	
Sulfate as SO4	**45**	2.5	mg/L	5	2002564	04/01/20	04/01/20	EPA 300.0	
Total Alkalinity	**270**	5.0	"	1	2002578	04/01/20	04/01/20	SM2320B	
Total Dissolved Solids	**440**	10	"	"	2002631	04/02/20	04/03/20	SM2540C	
Total Phosphorus as P	ND	0.050	"	"	2002593	04/01/20	04/01/20	SM4500-P E	
Turbidity	**2.8**	0.10	NTU	"	2002598	04/01/20	04/01/20	EPA 180.1	
TA-18 (20C1429-03) Water Sampled: 03/31/20 13:15 Received: 03/31/20 16:00									
Bicarbonate as CaCO3	**270**	5.0	mg/L	1	2002578	04/01/20	04/01/20	SM2320B	
Calcium	**44**	1.0	"	"	2002571	04/01/20	04/02/20	EPA 200.7	
Carbonate as CaCO3	ND	5.0	"	"	2002578	04/01/20	04/01/20	SM2320B	
Chloride	**92**	2.5	"	5	2002564	04/01/20	04/01/20	EPA 300.0	
Fluoride	**0.14**	0.10	"	1	"	"	04/01/20	"	
Hardness as CaCO3	**290**	1.0	"	"	2002571	04/01/20	04/02/20	EPA 200.7	
Hydroxide as CaCO3	ND	5.0	"	"	2002578	04/01/20	04/01/20	SM2320B	
Magnesium	**45**	1.0	"	"	2002571	04/01/20	04/02/20	EPA 200.7	
MBAS as LAS, mol wt 340	ND	0.10	"	"	2002589	04/01/20	04/01/20	SM5540 C	
Nitrate as N	**2.7**	0.40	"	"	2002564	04/01/20	04/01/20	EPA 300.0	
pH	**7.82**	0.01	pH Units	"	2002565	04/01/20	04/01/20	SM4500-H B	HT-F
Potassium	**2.4**	1.0	mg/L	"	2002571	04/01/20	04/06/20	EPA 200.7	
Sodium	**59**	1.0	"	"	"	"	04/02/20	"	
Specific Conductance (EC)	**880**	1.0	µmhos/cm	"	2002584	04/01/20	04/01/20	EPA 120.1	
Sulfate as SO4	**46**	2.5	mg/L	5	2002564	04/01/20	04/01/20	EPA 300.0	
Total Alkalinity	**270**	5.0	"	1	2002578	04/01/20	04/01/20	SM2320B	
Total Dissolved Solids	**460**	10	"	"	2002631	04/02/20	04/03/20	SM2540C	
Turbidity	**2.7**	0.10	NTU	"	2002598	04/01/20	04/01/20	EPA 180.1	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1429**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204033

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Stephens (20C1429-04) Water Sampled: 03/31/20 14:45 Received: 03/31/20 16:00									
Bicarbonate as CaCO3	**380**	5.0	mg/L	1	2002578	04/01/20	04/01/20	SM2320B	
Calcium	**48**	1.0	"	"	2002571	04/01/20	04/02/20	EPA 200.7	
Carbonate as CaCO3	ND	5.0	"	"	2002578	04/01/20	04/01/20	SM2320B	
Chloride	**110**	2.5	"	5	2002564	04/01/20	04/01/20	EPA 300.0	
Fluoride	**0.13**	0.10	"	1	"	"	04/01/20	"	
Hardness as CaCO3	**370**	1.0	"	"	2002571	04/01/20	04/02/20	EPA 200.7	
Hydroxide as CaCO3	ND	5.0	"	"	2002578	04/01/20	04/01/20	SM2320B	
Magnesium	**60**	1.0	"	"	2002571	04/01/20	04/02/20	EPA 200.7	
MBAS as LAS, mol wt 340	ND	0.10	"	"	2002589	04/01/20	04/01/20	SM5540 C	
Nitrate as N	ND	0.40	"	"	2002564	04/01/20	04/01/20	EPA 300.0	
pH	**7.69**	0.01	pH Units	"	2002565	04/01/20	04/01/20	SM4500-H B	HT-F
Potassium	**2.5**	1.0	mg/L	"	2002571	04/01/20	04/06/20	EPA 200.7	
Sodium	**82**	1.0	"	"	"	"	04/02/20	"	
Specific Conductance (EC)	**1200**	1.0	µmhos/cm	"	2002584	04/01/20	04/01/20	EPA 120.1	
Sulfate as SO4	**120**	2.5	mg/L	5	2002564	04/01/20	04/01/20	EPA 300.0	
Total Alkalinity	**380**	5.0	"	1	2002578	04/01/20	04/01/20	SM2320B	
Total Dissolved Solids	**670**	10	"	"	2002631	04/02/20	04/03/20	SM2540C	
Turbidity	**1.3**	0.10	NTU	"	2002598	04/01/20	04/01/20	EPA 180.1	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1429**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204033

Extractable Petroleum Hydrocarbons by EPA Method 8015M

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TA-25 (20C1429-01) Water Sampled: 03/31/20 10:15 Received: 03/31/20 16:00									
Diesel	ND	0.050	mg/L	1	2002586	04/01/20	04/01/20	EPA 8015M	
Motor Oil	ND	0.050	"	"	"	"	"	"	
Surrogate: o-Terphenyl		*92 %*	*65-135*		"	"	"	"	
TA-18 (20C1429-03) Water Sampled: 03/31/20 13:15 Received: 03/31/20 16:00									
Diesel	ND	0.050	mg/L	1	2002586	04/01/20	04/01/20	EPA 8015M	
Motor Oil	ND	0.050	"	"	"	"	"	"	
Surrogate: o-Terphenyl		*103 %*	*65-135*		"	"	"	"	
Stephens (20C1429-04) Water Sampled: 03/31/20 14:45 Received: 03/31/20 16:00									
Diesel	ND	0.050	mg/L	1	2002586	04/01/20	04/01/20	EPA 8015M	
Motor Oil	ND	0.050	"	"	"	"	"	"	
Surrogate: o-Terphenyl		*106 %*	*65-135*		"	"	"	"	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1429**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204033

Metals by EPA 200 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TA-25 (20C1429-01) Water Sampled: 03/31/20 10:15 Received: 03/31/20 16:00									
Aluminum	**290**	50	µg/L	1	2002571	04/01/20	04/01/20	EPA 200.7	
Arsenic	ND	2.0	"	"	2002616	04/02/20	04/02/20	EPA 200.8	
Barium	**200**	20	"	"	2002571	04/01/20	04/02/20	EPA 200.7	
Cadmium	ND	10	"	"	"	"	04/01/20	"	
Calcium	**68000**	1000	"	"	"	"	04/02/20	"	
Chromium	ND	10	"	"	"	"	"	"	
Copper	ND	10	"	"	"	"	04/01/20	"	
Iron	**240**	100	"	"	"	"	04/02/20	"	
Lead	ND	5.0	"	"	2002616	04/02/20	04/02/20	EPA 200.8	
Manganese	ND	10	"	"	2002571	04/01/20	04/01/20	EPA 200.7	
Mercury	ND	0.20	"	"	2002619	04/02/20	04/02/20	EPA 245.1	QC-2H
Selenium	ND	5.0	"	"	2002616	04/02/20	04/02/20	EPA 200.8	
Zinc	ND	20	"	"	2002571	04/01/20	04/01/20	EPA 200.7	
TA-18 (20C1429-03) Water Sampled: 03/31/20 13:15 Received: 03/31/20 16:00									
Aluminum	**120**	50	µg/L	1	2002571	04/01/20	04/01/20	EPA 200.7	
Arsenic	ND	2.0	"	"	2002616	04/02/20	04/03/20	EPA 200.8	
Barium	**150**	20	"	"	2002571	04/01/20	04/02/20	EPA 200.7	
Cadmium	ND	10	"	"	"	"	04/01/20	"	
Calcium	**44000**	1000	"	"	"	"	04/02/20	"	
Chromium	ND	10	"	"	"	"	"	"	
Copper	ND	10	"	"	"	"	04/01/20	"	
Iron	**250**	100	"	"	"	"	04/02/20	"	
Lead	ND	5.0	"	"	2002616	04/02/20	04/03/20	EPA 200.8	
Manganese	ND	10	"	"	2002571	04/01/20	04/01/20	EPA 200.7	
Mercury	ND	0.20	"	"	2002619	04/02/20	04/02/20	EPA 245.1	QC-2H
Selenium	ND	5.0	"	"	2002616	04/02/20	04/03/20	EPA 200.8	
Zinc	ND	20	"	"	2002571	04/01/20	04/01/20	EPA 200.7	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1429**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204033

Metals by EPA 200 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Stephens (20C1429-04) Water Sampled: 03/31/20 14:45 Received: 03/31/20 16:00									
Aluminum	ND	50	µg/L	1	2002571	04/01/20	04/01/20	EPA 200.7	
Arsenic	ND	2.0	"	"	2002616	04/02/20	04/03/20	EPA 200.8	
Barium	**230**	20	"	"	2002571	04/01/20	04/02/20	EPA 200.7	
Cadmium	ND	10	"	"	"	"	04/01/20	"	
Calcium	**48000**	1000	"	"	"	"	04/02/20	"	
Chromium	ND	10	"	"	"	"	"	"	
Copper	ND	10	"	"	"	"	04/01/20	"	
Iron	**190**	100	"	"	"	"	04/02/20	"	
Lead	ND	5.0	"	"	2002616	04/02/20	04/03/20	EPA 200.8	
Manganese	**860**	10	"	"	2002571	04/01/20	04/01/20	EPA 200.7	
Mercury	ND	0.20	"	"	2002619	04/02/20	04/02/20	EPA 245.1	QC-2H
Selenium	ND	5.0	"	"	2002616	04/02/20	04/03/20	EPA 200.8	
Zinc	ND	20	"	"	2002571	04/01/20	04/01/20	EPA 200.7	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1429**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204033

Microbiological Parameters by APHA Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TA-25 (20C1429-01) Water Sampled: 03/31/20 10:15 Received: 03/31/20 16:00									
E. Coli	<1.8	1.8	MPN/100 mL	1	2002559	03/31/20	04/02/20	SM 9221	
Fecal Coliforms	<1.8	1.8	"	"	"	"	"	"	
Total Coliforms	<1.8	1.8	"	"	"	"	"	"	
TA-13A (20C1429-02) Water Sampled: 03/31/20 11:40 Received: 03/31/20 16:00									
E. Coli	**14**	1.8	MPN/100 mL	1	2002559	03/31/20	04/04/20	SM 9221	
Fecal Coliforms	**49**	1.8	"	"	"	"	"	"	
Total Coliforms	**49**	1.8	"	"	"	"	"	"	
TA-18 (20C1429-03) Water Sampled: 03/31/20 13:15 Received: 03/31/20 16:00									
E. Coli	**2.0**	1.8	MPN/100 mL	1	2002559	03/31/20	04/04/20	SM 9221	
Fecal Coliforms	**2.0**	1.8	"	"	"	"	"	"	
Total Coliforms	**2.0**	1.8	"	"	"	"	"	"	
Stephens (20C1429-04) Water Sampled: 03/31/20 14:45 Received: 03/31/20 16:00									
E. Coli	<1.8	1.8	MPN/100 mL	1	2002559	03/31/20	04/04/20	SM 9221	
Fecal Coliforms	**2.0**	1.8	"	"	"	"	"	"	
Total Coliforms	**2.0**	1.8	"	"	"	"	"	"	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1429**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204033

Organophosphorus Pesticides by EPA Method 8141A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TA-25 (20C1429-01) Water Sampled: 03/31/20 10:15 Received: 03/31/20 16:00									
Bolstar	ND	0.067	µg/L	1	2002574	04/01/20	04/01/20	EPA 8141A	
Chlorpyrifos	ND	0.067	"	"	"	"	"	"	
Coumaphos	ND	0.13	"	"	"	"	"	"	
Demeton	ND	0.13	"	"	"	"	"	"	
Diazinon	ND	0.067	"	"	"	"	"	"	
Dichlorvos	ND	0.13	"	"	"	"	"	"	
Disulfoton	ND	0.067	"	"	"	"	"	"	
Ethoprop	ND	0.067	"	"	"	"	"	"	
Fensulfothion	ND	0.067	"	"	"	"	"	"	
Fenthion	ND	0.067	"	"	"	"	"	"	
Guthion	ND	0.13	"	"	"	"	"	"	
Malathion	ND	0.067	"	"	"	"	"	"	
Merphos	ND	0.067	"	"	"	"	"	"	
Methyl parathion	ND	0.067	"	"	"	"	"	"	
Mevinphos	ND	0.067	"	"	"	"	"	"	
Phorate	ND	0.067	"	"	"	"	"	"	
Prothiofos	ND	0.067	"	"	"	"	"	"	
Ronnel	ND	0.067	"	"	"	"	"	"	
Stirophos	ND	0.067	"	"	"	"	"	"	
Trichloronate	ND	0.067	"	"	"	"	"	"	
Surrogate: EPN		*98 %*	*50-150*		"	"	"	"	
TA-18 (20C1429-03) Water Sampled: 03/31/20 13:15 Received: 03/31/20 16:00									
Bolstar	ND	0.058	µg/L	1	2002574	04/01/20	04/01/20	EPA 8141A	
Chlorpyrifos	ND	0.058	"	"	"	"	"	"	
Coumaphos	ND	0.12	"	"	"	"	"	"	
Demeton	ND	0.12	"	"	"	"	"	"	
Diazinon	ND	0.058	"	"	"	"	"	"	
Dichlorvos	ND	0.12	"	"	"	"	"	"	
Disulfoton	ND	0.058	"	"	"	"	"	"	

Luhdorff & Scalmanini	Project: Teichert Woodland	
500 First St.	Project Number: [none]	**CLS Work Order #: 20C1429**
Woodland, CA 95695	Project Manager: Jeanette Lovelis	COC #: 204033

Organophosphorus Pesticides by EPA Method 8141A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TA-18 (20C1429-03) Water Sampled: 03/31/20 13:15 Received: 03/31/20 16:00									
Ethoprop	ND	0.058	µg/L	1	2002574	"	04/01/20	EPA 8141A	
Fensulfothion	ND	0.058	"	"	"	"	"	"	
Fenthion	ND	0.058	"	"	"	"	"	"	
Guthion	ND	0.12	"	"	"	"	"	"	
Malathion	ND	0.058	"	"	"	"	"	"	
Merphos	ND	0.058	"	"	"	"	"	"	
Methyl parathion	ND	0.058	"	"	"	"	"	"	
Mevinphos	ND	0.058	"	"	"	"	"	"	
Phorate	ND	0.058	"	"	"	"	"	"	
Prothiofos	ND	0.058	"	"	"	"	"	"	
Ronnel	ND	0.058	"	"	"	"	"	"	
Stirophos	ND	0.058	"	"	"	"	"	"	
Trichloronate	ND	0.058	"	"	"	"	"	"	
Surrogate: EPN		*95 %*		*50-150*	"	"	"	"	
Stephens (20C1429-04) Water Sampled: 03/31/20 14:45 Received: 03/31/20 16:00									
Bolstar	ND	0.050	µg/L	1	2002574	04/01/20	04/01/20	EPA 8141A	
Chlorpyrifos	ND	0.050	"	"	"	"	"	"	
Coumaphos	ND	0.10	"	"	"	"	"	"	
Demeton	ND	0.10	"	"	"	"	"	"	
Diazinon	ND	0.050	"	"	"	"	"	"	
Dichlorvos	ND	0.10	"	"	"	"	"	"	
Disulfoton	ND	0.050	"	"	"	"	"	"	
Ethoprop	ND	0.050	"	"	"	"	"	"	
Fensulfothion	ND	0.050	"	"	"	"	"	"	
Fenthion	ND	0.050	"	"	"	"	"	"	
Guthion	ND	0.10	"	"	"	"	"	"	
Malathion	ND	0.050	"	"	"	"	"	"	
Merphos	ND	0.050	"	"	"	"	"	"	
Methyl parathion	ND	0.050	"	"	"	"	"	"	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1429**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204033

Organophosphorus Pesticides by EPA Method 8141A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Stephens (20C1429-04) Water Sampled: 03/31/20 14:45 Received: 03/31/20 16:00									
Mevinphos	ND	0.050	µg/L	1	2002574	"	04/01/20	EPA 8141A	
Phorate	ND	0.050	"	"	"	"	"	"	
Prothiofos	ND	0.050	"	"	"	"	"	"	
Ronnel	ND	0.050	"	"	"	"	"	"	
Stirophos	ND	0.050	"	"	"	"	"	"	
Trichloronate	ND	0.050	"	"	"	"	"	"	
Surrogate: EPN		*125 %*		*50-150*	"	"	"	"	

Luhdorff & Scalmanini	Project:	Teichert Woodland
500 First St.	Project Number:	[none]
Woodland, CA 95695	Project Manager:	Jeanette Lovelis

CLS Work Order #: 20C1429
COC #: 204033

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TA-25 (20C1429-01) Water Sampled: 03/31/20 10:15 Received: 03/31/20 16:00									
Benzene	ND	0.50	µg/L	1	2002639	04/01/20	04/01/20	EPA 8260B	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	
Surrogate: Toluene-d8		*101 %*		*72-125*	"	"	"	"	
TA-18 (20C1429-03) Water Sampled: 03/31/20 13:15 Received: 03/31/20 16:00									
Benzene	ND	0.50	µg/L	1	2002639	04/01/20	04/01/20	EPA 8260B	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	
Surrogate: Toluene-d8		*101 %*		*72-125*	"	"	"	"	
Stephens (20C1429-04) Water Sampled: 03/31/20 14:45 Received: 03/31/20 16:00									
Benzene	ND	0.50	µg/L	1	2002639	04/01/20	04/01/20	EPA 8260B	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	
Surrogate: Toluene-d8		*101 %*		*72-125*	"	"	"	"	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1429**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204033

Chlorinated Herbicides by EPA Method 8151A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002641 - EPA 8151A										
Blank (2002641-BLK1)				Prepared: 04/03/20 Analyzed: 04/08/20						
2,4-D (2,4-Dichlorophenoxyacetic acid)	ND	1.0	µg/L							
Dalapon	ND	2.0	"							
2,4-DB	ND	2.0	"							
Dicamba	ND	1.0	"							
Dichloroprop	ND	2.0	"							
Dinoseb	ND	1.0	"							
MCPA	ND	250	"							
MCPP	ND	250	"							
Pentachlorophenol	ND	0.20	"							
2,4,5-T	ND	0.50	"							
2,4,5-TP (Silvex)	ND	0.20	"							
Surrogate: 2,4-DCAA	*2.14*		*"*	*2.50*		*86*	*50-150*			
LCS (2002641-BS1)				Prepared: 04/03/20 Analyzed: 04/08/20						
Dicamba	1.14	1.0	µg/L	1.25		91	50-150			
Dichloroprop	1.76	2.0	"	1.25		141	50-150			
Surrogate: 2,4-DCAA	*2.01*		*"*	*2.50*		*80*	*50-150*			
LCS Dup (2002641-BSD1)				Prepared: 04/03/20 Analyzed: 04/08/20						
Dicamba	1.27	1.0	µg/L	1.25		102	50-150	11	30	
Dichloroprop	1.85	2.0	"	1.25		148	50-150	5	30	
Surrogate: 2,4-DCAA	*2.25*		*"*	*2.50*		*90*	*50-150*			

Luhdorff & Scalmanini	Project:	Teichert Woodland
500 First St.	Project Number:	[none]
Woodland, CA 95695	Project Manager:	Jeanette Lovelis

CLS Work Order #: 20C1429
COC #: 204033

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002564 - General Prep										
Blank (2002564-BLK1)				Prepared & Analyzed: 04/01/20						
Sulfate as SO4	ND	0.50	mg/L							
Fluoride	ND	0.10	"							
Chloride	ND	0.50	"							
Nitrate as N	ND	0.40	"							
LCS (2002564-BS1)				Prepared & Analyzed: 04/01/20						
Chloride	4.81	0.50	mg/L	5.00		96	80-120			
Fluoride	1.98	0.10	"	2.00		99	80-120			
Sulfate as SO4	4.83	0.50	"	5.00		97	80-120			
Nitrate as N	2.04	0.40	"	2.00		102	80-120			
LCS Dup (2002564-BSD1)				Prepared & Analyzed: 04/01/20						
Fluoride	2.05	0.10	mg/L	2.00		102	80-120	3	20	
Chloride	4.73	0.50	"	5.00		95	80-120	2	20	
Sulfate as SO4	4.77	0.50	"	5.00		95	80-120	1	20	
Nitrate as N	2.01	0.40	"	2.00		100	80-120	2	20	
Matrix Spike (2002564-MS1)	**Source: 20C1429-01**			Prepared & Analyzed: 04/01/20						
Fluoride	1.96	0.10	mg/L	2.00	0.110	93	80-120			
Chloride	74.4	0.50	"	5.00	77.3	NR	80-120			QM-4X
Sulfate as SO4	98.0	0.50	"	5.00	103	NR	80-120			QM-4X
Nitrate as N	4.56	0.40	"	2.00	2.35	110	80-120			
Matrix Spike Dup (2002564-MSD1)	**Source: 20C1429-01**			Prepared & Analyzed: 04/01/20						
Fluoride	1.94	0.10	mg/L	2.00	0.110	91	80-120	1	20	
Sulfate as SO4	98.0	0.50	"	5.00	103	NR	80-120	0.07	20	QM-4X
Chloride	74.4	0.50	"	5.00	77.3	NR	80-120	0.01	20	QM-4X
Nitrate as N	4.59	0.40	"	2.00	2.35	112	80-120	0.7	20	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1429**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204033

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002565 - General Prep										
Duplicate (2002565-DUP1)		**Source: 20C1417-01**		Prepared & Analyzed: 04/01/20						
pH	7.76	0.01	pH Units		7.81			0.642	20	
Batch 2002571 - EPA 200 Series										
Blank (2002571-BLK1)				Prepared & Analyzed: 04/01/20						
Calcium	ND	1.0	mg/L							
Hardness as CaCO3	ND	1.0	"							
Magnesium	ND	1.0	"							
Potassium	ND	1.0	"							
Sodium	ND	1.0	"							
LCS (2002571-BS1)				Prepared & Analyzed: 04/01/20						
Calcium	5.16	1.0	mg/L	5.00		103	85-115			
Hardness as CaCO3	34.1	1.0	"	33.1		103	85-115			
Magnesium	5.11	1.0	"	5.00		102	85-115			
Potassium	5.35	1.0	"	5.00		107	85-115			
Sodium	4.54	1.0	"	5.00		91	85-115			
Matrix Spike (2002571-MS1)		**Source: 20C1352-01**		Prepared & Analyzed: 04/01/20						
Calcium	29.6	1.0	mg/L	5.00	24.5	102	70-130			
Hardness as CaCO3	171	1.0	"	33.1	138	99	70-130			
Magnesium	23.3	1.0	"	5.00	18.5	94	70-130			
Potassium	9.75	1.0	"	5.00	4.27	110	70-130			
Sodium	18.6	1.0	"	5.00	14.1	91	70-130			
Matrix Spike (2002571-MS2)		**Source: 20C1429-04**		Prepared & Analyzed: 04/01/20						
Calcium	61.1	1.0	mg/L	5.00	47.6	270	70-130			QM-7
Hardness as CaCO3	412	1.0	"	33.1	366	140	70-130			QM-7
Magnesium	62.6	1.0	"	5.00	59.9	52	70-130			QM-7
Potassium	8.87	1.0	"	5.00	2.51	127	70-130			
Sodium	81.1	1.0	"	5.00	81.8	NR	70-130			QM-7

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1429**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204033

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002575 - 6010A/No Digestion										
Blank (2002575-BLK1)				Prepared: 04/01/20 Analyzed: 04/03/20						
Calcium	ND	1.0	mg/L							
Hardness as CaCO3	ND	1.0	"							
Magnesium	ND	1.0	"							
Potassium	ND	1.0	"							
Sodium	ND	1.0	"							
LCS (2002575-BS1)				Prepared: 04/01/20 Analyzed: 04/03/20						
Calcium	4.69	1.0	mg/L	5.00		94	85-115			
Hardness as CaCO3	32.8	1.0	"	33.1		99	85-115			
Magnesium	5.08	1.0	"	5.00		102	85-115			
Potassium	5.34	1.0	"	5.00		107	85-115			
Sodium	4.62	1.0	"	5.00		92	85-115			
Matrix Spike (2002575-MS1)	**Source: 20C1377-01**			Prepared: 04/01/20 Analyzed: 04/03/20						
Calcium	44.9	1.0	mg/L	5.00	41.1	75	70-130			
Hardness as CaCO3	357	1.0	"	33.1	336	61	70-130			QM-7
Magnesium	58.9	1.0	"	5.00	56.7	44	70-130			QM-7
Potassium	7.98	1.0	"	5.00	2.81	103	70-130			
Sodium	101	1.0	"	5.00	101	NR	70-130			QM-7
Batch 2002578 - General Prep										
Blank (2002578-BLK1)				Prepared & Analyzed: 04/01/20						
Total Alkalinity	ND	5.0	mg/L							
Bicarbonate as CaCO3	ND	5.0	"							
Carbonate as CaCO3	ND	5.0	"							
Hydroxide as CaCO3	ND	5.0	"							

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1429**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204033

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002578 - General Prep										
Duplicate (2002578-DUP1)		**Source: 20C1352-01**		Prepared & Analyzed: 04/01/20						
Total Alkalinity	125	5.0	mg/L		124			1	20	
Bicarbonate as CaCO3	125	5.0	"		124			1	20	
Carbonate as CaCO3	ND	5.0	"		ND				20	
Hydroxide as CaCO3	ND	5.0	"		ND				20	
Batch 2002584 - General Preparation										
Blank (2002584-BLK1)				Prepared & Analyzed: 04/01/20						
Specific Conductance (EC)	ND	1.0	µmhos/cm							
Duplicate (2002584-DUP1)		**Source: 20C1417-01**		Prepared & Analyzed: 04/01/20						
Specific Conductance (EC)	1370	1.0	µmhos/cm		1360			0.733	20	
Batch 2002589 - General Preparation										
Blank (2002589-BLK1)				Prepared & Analyzed: 04/01/20						
MBAS as LAS, mol wt 340	ND	0.10	mg/L							
LCS (2002589-BS1)				Prepared & Analyzed: 04/01/20						
MBAS as LAS, mol wt 340	0.436	0.10	mg/L	0.500		87	80-120			
LCS Dup (2002589-BSD1)				Prepared & Analyzed: 04/01/20						
MBAS as LAS, mol wt 340	0.429	0.10	mg/L	0.500		86	80-120	2	20	
Matrix Spike (2002589-MS1)		**Source: 20C1429-01**		Prepared & Analyzed: 04/01/20						
MBAS as LAS, mol wt 340	0.429	0.10	mg/L	0.500	ND	86	75-125			

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1429**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204033

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002589 - General Preparation										
Matrix Spike Dup (2002589-MSD1)		**Source: 20C1429-01**		Prepared & Analyzed: 04/01/20						
MBAS as LAS, mol wt 340	0.428	0.10	mg/L	0.500	ND	86	75-125	0.2	25	
Batch 2002590 - General										
Blank (2002590-BLK1)				Prepared: 04/01/20 Analyzed: 04/06/20						
Biochemical Oxygen Demand	ND	3.0	mg/L							
LCS (2002590-BS1)				Prepared: 04/01/20 Analyzed: 04/06/20						
Biochemical Oxygen Demand	201	3.0	mg/L	167		121	83-138			
LCS Dup (2002590-BSD1)				Prepared: 04/01/20 Analyzed: 04/06/20						
Biochemical Oxygen Demand	198	3.0	mg/L	167		119	83-138	2	21	
Batch 2002593 - General Preparation										
Blank (2002593-BLK1)				Prepared & Analyzed: 04/01/20						
Total Phosphorus as P	ND	0.050	mg/L							
LCS (2002593-BS1)				Prepared & Analyzed: 04/01/20						
Total Phosphorus as P	0.307	0.050	mg/L	0.300		102	80-120			
LCS Dup (2002593-BSD1)				Prepared & Analyzed: 04/01/20						
Total Phosphorus as P	0.310	0.050	mg/L	0.300		103	80-120	1	25	
Matrix Spike (2002593-MS1)		**Source: 20C1407-01**		Prepared & Analyzed: 04/01/20						
Total Phosphorus as P	0.353	0.050	mg/L	0.300	0.0675	95	75-125			

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1429**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204033

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002593 - General Preparation										
Matrix Spike Dup (2002593-MSD1)		**Source: 20C1407-01**		Prepared & Analyzed: 04/01/20						
Total Phosphorus as P	0.358	0.050	mg/L	0.300	0.0675	97	75-125	2	30	
Batch 2002598 - General										
Blank (2002598-BLK1)				Prepared & Analyzed: 04/01/20						
Turbidity	ND	0.10	NTU							
Duplicate (2002598-DUP1)		**Source: 20C1429-01**		Prepared & Analyzed: 04/01/20						
Turbidity	2.61	0.10	NTU		2.75			6	20	
Batch 2002631 - General Preparation										
Blank (2002631-BLK1)				Prepared: 04/02/20 Analyzed: 04/03/20						
Total Dissolved Solids	ND	10	mg/L							
Duplicate (2002631-DUP1)		**Source: 20C1407-07**		Prepared: 04/02/20 Analyzed: 04/03/20						
Total Dissolved Solids	251	10	mg/L		252			0.4	20	

Luhdorff & Scalmanini	Project:	Teichert Woodland
500 First St.	Project Number:	[none]
Woodland, CA 95695	Project Manager:	Jeanette Lovelis

CLS Work Order #: 20C1429
COC #: 204033

Extractable Petroleum Hydrocarbons by EPA Method 8015M - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002586 - EPA 3510B GCNV										
Blank (2002586-BLK1)				Prepared & Analyzed: 04/01/20						
Diesel	ND	0.050	mg/L							
Motor Oil	ND	0.050	"							
Surrogate: o-Terphenyl	*0.0289*		*"*	*0.0250*		*116*	*65-135*			
LCS (2002586-BS1)				Prepared & Analyzed: 04/01/20						
Diesel	1.83	0.050	mg/L	2.50		73	65-135			
Surrogate: o-Terphenyl	*0.0260*		*"*	*0.0250*		*104*	*65-135*			
LCS Dup (2002586-BSD1)				Prepared & Analyzed: 04/01/20						
Diesel	1.66	0.050	mg/L	2.50		67	65-135	10	30	
Surrogate: o-Terphenyl	*0.0226*		*"*	*0.0250*		*91*	*65-135*			
Matrix Spike (2002586-MS1)		**Source: 20C1407-05**		Prepared & Analyzed: 04/01/20						
Diesel	1.75	0.050	mg/L	2.50	ND	70	46-137			
Surrogate: o-Terphenyl	*0.0240*		*"*	*0.0250*		*96*	*65-135*			
Matrix Spike Dup (2002586-MSD1)		**Source: 20C1407-05**		Prepared & Analyzed: 04/01/20						
Diesel	1.75	0.050	mg/L	2.50	ND	70	46-137	0.1	30	
Surrogate: o-Terphenyl	*0.0247*		*"*	*0.0250*		*99*	*65-135*			

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1429**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204033

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002571 - EPA 200 Series										
Blank (2002571-BLK1)				Prepared & Analyzed: 04/01/20						
Aluminum	ND	50	µg/L							
Barium	ND	20	"							
Cadmium	ND	10	"							
Calcium	ND	1000	"							
Chromium	ND	10	"							
Copper	ND	10	"							
Iron	ND	100	"							
Manganese	ND	10	"							
Zinc	ND	20	"							
LCS (2002571-BS1)				Prepared & Analyzed: 04/01/20						
Aluminum	5140	50	µg/L	5000		103	85-115			
Barium	995	20	"	1000		100	85-115			
Cadmium	1100	10	"	1000		110	85-115			
Calcium	5160	1000	"	5000		103	85-115			
Chromium	1060	10	"	1000		106	85-115			
Copper	1080	10	"	1000		108	85-115			
Iron	1090	100	"	1000		109	85-115			
Manganese	1070	10	"	1000		107	85-115			
Zinc	1040	20	"	1000		104	85-115			
Matrix Spike (2002571-MS1)	**Source: 20C1352-01**			Prepared & Analyzed: 04/01/20						
Aluminum	5340	50	µg/L	5000	26.2	106	70-130			
Barium	1080	20	"	1000	66.4	101	70-130			
Cadmium	1100	10	"	1000	ND	110	70-130			
Calcium	29600	1000	"	5000	24500	102	70-130			
Chromium	1040	10	"	1000	ND	104	70-130			
Copper	1080	10	"	1000	ND	108	70-130			
Iron	1160	100	"	1000	73.9	109	70-130			
Manganese	1050	10	"	1000	1.93	105	70-130			
Zinc	1070	20	"	1000	ND	107	70-130			

Luhdorff & Scalmanini	Project:	Teichert Woodland
500 First St.	Project Number:	[none]
Woodland, CA 95695	Project Manager:	Jeanette Lovelis

CLS Work Order #: 20C1429
COC #: 204033

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002571 - EPA 200 Series										
Matrix Spike (2002571-MS2)	**Source: 20C1429-04**			Prepared & Analyzed: 04/01/20						
Aluminum	5330	50	µg/L	5000	ND	107	70-130			
Barium	1310	20	"	1000	234	107	70-130			
Cadmium	1030	10	"	1000	ND	103	70-130			
Calcium	61100	1000	"	5000	47600	270	70-130			QM-7
Chromium	1070	10	"	1000	ND	107	70-130			
Copper	978	10	"	1000	ND	98	70-130			
Iron	1400	100	"	1000	191	121	70-130			
Manganese	1860	10	"	1000	856	101	70-130			
Zinc	943	20	"	1000	ND	94	70-130			
Batch 2002616 - EPA 200 Series										
Blank (2002616-BLK1)				Prepared & Analyzed: 04/02/20						
Arsenic	ND	2.0	µg/L							
Lead	ND	5.0	"							
Selenium	ND	5.0	"							
LCS (2002616-BS1)				Prepared & Analyzed: 04/02/20						
Arsenic	100	2.0	µg/L	100		100	85-115			
Lead	104	5.0	"	100		104	85-115			
Selenium	97.2	5.0	"	100		97	85-115			
Matrix Spike (2002616-MS1)	**Source: 20D0032-01**			Prepared & Analyzed: 04/02/20						
Arsenic	148	2.0	µg/L	100	46.5	101	70-130			
Lead	111	5.0	"	100	2.17	109	70-130			
Selenium	102	5.0	"	100	ND	102	70-130			

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1429**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204033

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002619 - EPA 7470A										
Blank (2002619-BLK1)				Prepared & Analyzed: 04/02/20						
Mercury	ND	0.20	µg/L							
LCS (2002619-BS1)				Prepared & Analyzed: 04/02/20						
Mercury	5.28	0.20	µg/L	5.00		106	85-115			
Matrix Spike (2002619-MS1)		**Source: 20C1377-01**		Prepared & Analyzed: 04/02/20						
Mercury	5.32	0.20	µg/L	5.00	ND	106	70-130			
Matrix Spike Dup (2002619-MSD1)		**Source: 20C1377-01**		Prepared & Analyzed: 04/02/20						
Mercury	4.93	0.20	µg/L	5.00	ND	99	70-130	7	25	

Luhdorff & Scalmanini	Project:	Teichert Woodland
500 First St.	Project Number:	[none]
Woodland, CA 95695	Project Manager:	Jeanette Lovelis

CLS Work Order #: 20C1429
COC #: 204033

Organophosphorus Pesticides by EPA Method 8141A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002574 - EPA 3510B GCNV										
Blank (2002574-BLK1)				Prepared & Analyzed: 04/01/20						
Bolstar	ND	0.050	µg/L							
Chlorpyrifos	ND	0.050	"							
Coumaphos	ND	0.10	"							
Demeton	ND	0.10	"							
Diazinon	ND	0.050	"							
Dichlorvos	ND	0.10	"							
Disulfoton	ND	0.050	"							
Ethoprop	ND	0.050	"							
Fensulfothion	ND	0.050	"							
Fenthion	ND	0.050	"							
Guthion	ND	0.10	"							
Malathion	ND	0.050	"							
Merphos	ND	0.050	"							
Methyl parathion	ND	0.050	"							
Mevinphos	ND	0.050	"							
Phorate	ND	0.050	"							
Prothiofos	ND	0.050	"							
Ronnel	ND	0.050	"							
Stirophos	ND	0.050	"							
Trichloronate	ND	0.050	"							
Surrogate: EPN	*2.18*		*"*	*2.50*		*87*	*50-150*			
LCS (2002574-BS1)				Prepared & Analyzed: 04/01/20						
Methyl parathion	0.262	0.050	µg/L	0.250		105	50-150			
Ronnel	0.243	0.050	"	0.250		97	50-150			
Stirophos	0.292	0.050	"	0.250		117	50-150			
Trichloronate	0.237	0.050	"	0.250		95	50-150			
Surrogate: EPN	*2.40*		*"*	*2.50*		*96*	*50-150*			

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1429**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204033

Organophosphorus Pesticides by EPA Method 8141A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002574 - EPA 3510B GCNV										
LCS Dup (2002574-BSD1)				Prepared & Analyzed: 04/01/20						
Methyl parathion	0.256	0.050	µg/L	0.250		102	50-150	2	30	
Ronnel	0.238	0.050	"	0.250		95	50-150	2	30	
Stirophos	0.290	0.050	"	0.250		116	50-150	0.6	30	
Trichloronate	0.245	0.050	"	0.250		98	50-150	3	30	
Surrogate: EPN	*2.26*		*"*	*2.50*		*90*	*50-150*			

Luhdorff & Scalmanini	Project:	Teichert Woodland
500 First St.	Project Number:	[none]
Woodland, CA 95695	Project Manager:	Jeanette Lovelis

CLS Work Order #: 20C1429
COC #: 204033

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002639 - EPA 5030 Water MS										
Blank (2002639-BLK1)				Prepared & Analyzed: 04/01/20						
Di-isopropyl ether	ND	0.50	µg/L							
Ethyl tert-butyl ether	ND	0.50	"							
Methyl tert-butyl ether	ND	0.50	"							
tert-Amyl methyl ether	ND	0.50	"							
tert-Butyl alcohol	ND	5.0	"							
1,2-Dibromoethane (EDB)	ND	0.50	"							
1,2-Dichloroethane	ND	0.50	"							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	1.0	"							
Naphthalene	ND	0.50	"							
Surrogate: Toluene-d8	*10.1*		"	*10.0*		*101*	*72-125*			
LCS (2002639-BS1)				Prepared & Analyzed: 04/01/20						
Methyl tert-butyl ether	22.3	0.50	µg/L	20.0		112	52-130			
Benzene	21.3	0.50	"	20.0		106	52-130			
Surrogate: Toluene-d8	*9.71*		"	*10.0*		*97*	*72-125*			
LCS Dup (2002639-BSD1)				Prepared & Analyzed: 04/01/20						
Methyl tert-butyl ether	20.9	0.50	µg/L	20.0		104	52-130	7	30	
Benzene	21.6	0.50	"	20.0		108	52-130	1	30	
Surrogate: Toluene-d8	*9.68*		"	*10.0*		*97*	*72-125*			
Matrix Spike (2002639-MS1)	**Source: 20C1397-01**			Prepared & Analyzed: 04/01/20						
Methyl tert-butyl ether	21.3	0.50	µg/L	20.0	ND	107	52-140			
Benzene	23.4	0.50	"	20.0	ND	117	52-140			
Surrogate: Toluene-d8	*9.63*		"	*10.0*		*96*	*72-125*			

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1429**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204033

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002639 - EPA 5030 Water MS										
Matrix Spike Dup (2002639-MSD1)	**Source: 20C1397-01**			Prepared: 04/01/20 Analyzed: 04/02/20						
Methyl tert-butyl ether	21.7	0.50	µg/L	20.0	ND	109	52-140	2	30	
Benzene	23.0	0.50	"	20.0	ND	115	52-140	2	30	
Surrogate: Toluene-d8	*9.73*		*"*	*10.0*		*97*	*72-125*			

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20C1429**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204033

Notes and Definitions

QRL-7	The initial volume was decreased or the final volume of the extract was increased due to matrix interference, which resulted in higher reporting limits.
QM-7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS and/or LCSD recovery.
QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
QC-2H	The recovery of one CCV was greater than the acceptance limit. However, all analytes in the associated samples were ND; therefore a reanalysis was not performed.
HT-F	This is a field test method and it is performed in the lab outside holding time.
BT-4	<1.8
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

CALIFORNIA LABORATORY SERVICES
Committed. Responsive. Flexible.

April 13, 2020

CLS Work Order #: 20D0183
COC #: 204036

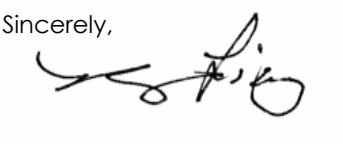
Jeanette Lovelis
Luhdorff & Scalmanini
500 First St.
Woodland, CA 95695

Project Name: Teichert Woodland

Enclosed are the results of analyses for samples received by the laboratory on 04/03/20 11:30. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,



James Liang, Ph.D.
Laboratory Director

CA SWRCB ELAP Accreditation/Registration number 1233

CALIFORNIA LABORATORY SERVICES
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CHAIN OF CUSTODY

CLS ID No.: 20D983 LOG № 204036

total → Al, As, Ba, Ca, Cr, Cu, Fe, Hg, Mn, Pb, Se, & Zn

HIGHLIGHTED AREAS MUST BE FILLED OUT PRIOR TO ACCEPTANCE

REPORT TO:

NAME AND ADDRESS: LSCE
500 First St.
Woodland, CA 95695
PROJECT MANAGER: Jeanette PHONE #: 530-661-1009
PROJECT NAME: Teichert Woodland
SAMPLED BY: J & H
JOB DESCRIPTION: MW Sample
SITE LOCATION: Woodland

CLIENT JOB NUMBER:

DESTINATION LABORATORY:
☐ CLS (916) 638-7301
3249 FITZGERALD RD.
RANCHO CORDOVA, CA.
95742
☐ OTHER

PRESERVATIVES

ANALYSIS REQUESTED

GEOTRACKER:
EDF REPORT ☐ YES ☐ NO
GLOBAL ID:

COPH WRITE ON EDT TRANSMISSION? ☐ YES ☐ NO
STATE SYSTEM NUMBER
IF "YES" PLEASE ENTER THE SOURCE NUMBER(S).

COMPOSITE: Grab

DATE	TIME	SAMPLE IDENTIFICATION	MATRIX	CONTAINER NO.	CONTAINER TYPE	PRESERVATIVES	General/Mineral + Turbidity	EPA 8141 + 8151	TPH-Diesel + MO	Coliform Stube Edit	BTEX	Metals
4/3/20	1020	Rodgers South	H_2O	8	—	X	X	X	X	X	X	X

TURN AROUND TIME				SPECIAL INSTRUCTIONS
1 DAY	2 DAY	3 DAY	5 DAY	OR
			X	ALT. ID:

INVOICE TO:

P.O. #

QUOTE #

Email/Address:

PRESERVATIVES: (1) HCL (2) HNO_3 (3) = COLD (4) = NaOH (5) = H_2SO_4 (6) = $Na_2S_2O_3$ (7) =

RELINQUISHED BY (SIGN)	PRINT NAME / COMPANY	DATE / TIME	RECEIVED BY (SIGN)	PRINT NAME / COMPANY
[signature]	Jay Heffernan / LSCE	4/3/20 1130		

REC'D AT LAB BY: [signature] DATE / TIME: 4/3/2020 1130 CONDITIONS / COMMENTS: 1.2/1.2

SHIPPED BY: ☐ FED X ☐ UPS ☐ OTHER AIR BILL #

White-Lab/Terms and conditions Yellow- Lab file copy/Terms and Conditions Pink- Origin/Terms and Conditions Gold-Project Mgr./Field Sampler/Terms and conditions

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20D0183**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204036

Chlorinated Herbicides by EPA Method 8151A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Rogers South (20D0183-01) Water	**Sampled: 04/03/20 10:20**	**Received: 04/03/20 11:30**							**QRL-7**
2,4,5-T	ND	0.61	µg/L	1	2002641	04/03/20	04/08/20	EPA 8151A	
2,4,5-TP (Silvex)	ND	0.24	"	"	"	"	"	"	
2,4-D (2,4-Dichlorophenoxyacetic acid)	ND	1.2	"	"	"	"	"	"	
2,4-DB	ND	2.4	"	"	"	"	"	"	
Dalapon	ND	2.4	"	"	"	"	"	"	
Dicamba	ND	1.2	"	"	"	"	"	"	
Dichloroprop	ND	2.4	"	"	"	"	"	"	
Dinoseb	ND	1.2	"	"	"	"	"	"	
MCPA	ND	310	"	"	"	"	"	"	
MCPP	ND	310	"	"	"	"	"	"	
Pentachlorophenol	ND	0.24	"	"	"	"	"	"	
Surrogate: 2,4-DCAA		*85 %*		*50-150*	"	"	"	"	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20D0183**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204036

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Rogers South (20D0183-01) Water Sampled: 04/03/20 10:20 Received: 04/03/20 11:30									
Bicarbonate as CaCO3	**250**	5.0	mg/L	1	2002848	04/09/20	04/09/20	SM2320B	
Calcium	**34**	1.0	"	"	2002742	04/07/20	04/08/20	EPA 200.7	
Carbonate as CaCO3	ND	5.0	"	"	2002848	04/09/20	04/09/20	SM2320B	
Chloride	**37**	2.5	"	5	2002664	04/03/20	04/03/20	EPA 300.0	
Fluoride	**0.18**	0.10	"	1	"	"	04/03/20	"	
Hardness as CaCO3	**200**	1.0	"	"	2002742	04/07/20	04/08/20	EPA 200.7	
Hydroxide as CaCO3	ND	5.0	"	"	2002848	04/09/20	04/09/20	SM2320B	
Magnesium	**28**	1.0	"	"	2002742	04/07/20	04/08/20	EPA 200.7	
MBAS as LAS, mol wt 340	ND	0.10	"	"	2002670	04/03/20	04/03/20	SM5540 C	
Nitrate as N	**2.2**	0.40	"	"	2002664	04/03/20	04/03/20	EPA 300.0	
pH	**7.60**	0.01	pH Units	"	2002638	04/03/20	04/03/20	SM4500-H B	HT-F
Potassium	**3.3**	1.0	mg/L	"	2002742	04/07/20	04/10/20	EPA 200.7	
Sodium	**45**	1.0	"	"	"	"	04/08/20	"	
Specific Conductance (EC)	**620**	1.0	µmhos/cm	"	2002800	04/08/20	04/08/20	EPA 120.1	
Sulfate as SO4	**33**	0.50	mg/L	"	2002664	04/03/20	04/03/20	EPA 300.0	
Total Alkalinity	**250**	5.0	"	"	2002848	04/09/20	04/09/20	SM2320B	
Total Dissolved Solids	**350**	10	"	"	2002709	04/06/20	04/07/20	SM2540C	
Turbidity	**0.60**	0.10	NTU	"	2002708	04/03/20	04/03/20	EPA 180.1	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20D0183**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204036

Extractable Petroleum Hydrocarbons by EPA Method 8015M

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Rogers South (20D0183-01) Water Sampled: 04/03/20 10:20 Received: 04/03/20 11:30									
Diesel	ND	0.050	mg/L	1	2002809	04/08/20	04/08/20	EPA 8015M	
Motor Oil	ND	0.050	"	"	"	"	"	"	
Surrogate: o-Terphenyl		*98 %*	*65-135*		*"*	"	*"*	*"*	

Luhdorff & Scalmanini	Project:	Teichert Woodland
500 First St.	Project Number:	[none]
Woodland, CA 95695	Project Manager:	Jeanette Lovelis

CLS Work Order #: 20D0183
COC #: 204036

Metals by EPA 200 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Rogers South (20D0183-01) Water Sampled: 04/03/20 10:20 Received: 04/03/20 11:30									
Aluminum	ND	50	µg/L	1	2002742	04/07/20	04/08/20	EPA 200.7	
Arsenic	ND	2.0	"	"	2002741	04/07/20	04/07/20	EPA 200.8	
Barium	**120**	20	"	"	2002742	04/07/20	04/08/20	EPA 200.7	
Cadmium	ND	10	"	"	"	"	"	"	QC-2H
Calcium	**34000**	1000	"	"	"	"	"	"	
Chromium	ND	10	"	"	"	"	"	"	
Copper	ND	10	"	"	"	"	"	"	
Iron	ND	100	"	"	"	"	"	"	
Lead	ND	5.0	"	"	2002741	04/07/20	04/07/20	EPA 200.8	
Manganese	ND	10	"	"	2002742	04/07/20	04/08/20	EPA 200.7	
Mercury	ND	0.20	"	"	2002738	04/07/20	04/07/20	EPA 245.1	
Selenium	ND	5.0	"	"	2002741	04/07/20	04/07/20	EPA 200.8	
Zinc	ND	20	"	"	2002742	04/07/20	04/08/20	EPA 200.7	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20D0183**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204036

Microbiological Parameters by APHA Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Rogers South (20D0183-01) Water Sampled: 04/03/20 10:20 Received: 04/03/20 11:30									
E. Coli	<1.8	1.8	MPN/100 mL	1	2002681	04/03/20	04/05/20	SM 9221	
Fecal Coliforms	<1.8	1.8	"	"	"	"	"	"	
Total Coliforms	<1.8	1.8	"	"	"	"	"	"	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20D0183**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204036

Organophosphorus Pesticides by EPA Method 8141A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Rogers South (20D0183-01) Water Sampled: 04/03/20 10:20 Received: 04/03/20 11:30									
Bolstar	ND	0.056	µg/L	1	2002815	04/09/20	04/09/20	EPA 8141A	
Chlorpyrifos	ND	0.056	"	"	"	"	"	"	
Coumaphos	ND	0.11	"	"	"	"	"	"	
Demeton	ND	0.11	"	"	"	"	"	"	
Diazinon	ND	0.056	"	"	"	"	"	"	
Dichlorvos	ND	0.11	"	"	"	"	"	"	
Disulfoton	ND	0.056	"	"	"	"	"	"	
Ethoprop	ND	0.056	"	"	"	"	"	"	
Fensulfothion	ND	0.056	"	"	"	"	"	"	
Fenthion	ND	0.056	"	"	"	"	"	"	
Guthion	ND	0.11	"	"	"	"	"	"	
Malathion	ND	0.056	"	"	"	"	"	"	
Merphos	ND	0.056	"	"	"	"	"	"	
Methyl parathion	ND	0.056	"	"	"	"	"	"	
Mevinphos	ND	0.056	"	"	"	"	"	"	
Phorate	ND	0.056	"	"	"	"	"	"	
Prothiofos	ND	0.056	"	"	"	"	"	"	
Ronnel	ND	0.056	"	"	"	"	"	"	
Stirophos	ND	0.056	"	"	"	"	"	"	
Trichloronate	ND	0.056	"	"	"	"	"	"	
Surrogate: EPN		*96 %*		*50-150*	"	"	"	"	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20D0183**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204036

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Rogers South (20D0183-01) Water Sampled: 04/03/20 10:20 Received: 04/03/20 11:30									
Benzene	ND	0.50	µg/L	1	2002740	04/06/20	04/06/20	EPA 8260B	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	
Surrogate: Toluene-d8		*101 %*		*72-125*		"	"	"	"

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20D0183**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204036

Chlorinated Herbicides by EPA Method 8151A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002641 - EPA 8151A										
Blank (2002641-BLK1)				Prepared: 04/03/20 Analyzed: 04/08/20						
2,4-D (2,4-Dichlorophenoxyacetic acid)	ND	1.0	µg/L							
Dalapon	ND	2.0	"							
2,4-DB	ND	2.0	"							
Dicamba	ND	1.0	"							
Dichloroprop	ND	2.0	"							
Dinoseb	ND	1.0	"							
MCPA	ND	250	"							
MCPP	ND	250	"							
Pentachlorophenol	ND	0.20	"							
2,4,5-T	ND	0.50	"							
2,4,5-TP (Silvex)	ND	0.20	"							
Surrogate: 2,4-DCAA	*2.14*		*"*	*2.50*		*86*	*50-150*			
LCS (2002641-BS1)				Prepared: 04/03/20 Analyzed: 04/08/20						
Dicamba	1.14	1.0	µg/L	1.25		91	50-150			
Dichloroprop	1.76	2.0	"	1.25		141	50-150			
Surrogate: 2,4-DCAA	*2.01*		*"*	*2.50*		*80*	*50-150*			
LCS Dup (2002641-BSD1)				Prepared: 04/03/20 Analyzed: 04/08/20						
Dicamba	1.27	1.0	µg/L	1.25		102	50-150	11	30	
Dichloroprop	1.85	2.0	"	1.25		148	50-150	5	30	
Surrogate: 2,4-DCAA	*2.25*		*"*	*2.50*		*90*	*50-150*			

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20D0183**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204036

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002638 - General Preparation										
Duplicate (2002638-DUP1)		**Source: 20D0133-01**		Prepared & Analyzed: 04/03/20						
pH	4.96	0.01	pH Units		4.97			0.201	20	
Batch 2002664 - General Prep										
Blank (2002664-BLK1)				Prepared & Analyzed: 04/03/20						
Chloride	ND	0.50	mg/L							
Fluoride	ND	0.10	"							
Sulfate as SO4	ND	0.50	"							
Nitrate as N	ND	0.40	"							
LCS (2002664-BS1)				Prepared & Analyzed: 04/03/20						
Chloride	4.71	0.50	mg/L	5.00		94	80-120			
Sulfate as SO4	4.77	0.50	"	5.00		95	80-120			
Fluoride	2.05	0.10	"	2.00		102	80-120			
Nitrate as N	2.00	0.40	"	2.00		100	80-120			
LCS Dup (2002664-BSD1)				Prepared & Analyzed: 04/03/20						
Sulfate as SO4	4.78	0.50	mg/L	5.00		96	80-120	0.1	20	
Fluoride	1.98	0.10	"	2.00		99	80-120	3	20	
Chloride	4.69	0.50	"	5.00		94	80-120	0.3	20	
Nitrate as N	2.00	0.40	"	2.00		100	80-120	0.1	20	
Matrix Spike (2002664-MS1)		**Source: 20D0177-01**		Prepared & Analyzed: 04/03/20						
Sulfate as SO4	43.0	0.50	mg/L	5.00	40.3	55	80-120			QM-4X
Fluoride	2.01	0.10	"	2.00	0.105	95	80-120			
Chloride	5.14	0.50	"	5.00	0.699	89	80-120			
Nitrate as N	2.02	0.40	"	2.00	ND	101	80-120			

Luhdorff & Scalmanini	Project:	Teichert Woodland
500 First St.	Project Number:	[none]
Woodland, CA 95695	Project Manager:	Jeanette Lovelis

CLS Work Order #: 20D0183
COC #: 204036

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002664 - General Prep										
Matrix Spike Dup (2002664-MSD1)	**Source: 20D0177-01**			Prepared & Analyzed: 04/03/20						
Fluoride	2.17	0.10	mg/L	2.00	0.105	103	80-120	8	20	
Chloride	5.23	0.50	"	5.00	0.699	91	80-120	2	20	
Sulfate as SO4	43.3	0.50	"	5.00	40.3	61	80-120	0.7	20	QM-4X
Nitrate as N	2.04	0.40	"	2.00	ND	102	80-120	1	20	
Batch 2002670 - General Preparation										
Blank (2002670-BLK1)				Prepared & Analyzed: 04/03/20						
MBAS as LAS, mol wt 340	ND	0.10	mg/L							
LCS (2002670-BS1)				Prepared & Analyzed: 04/03/20						
MBAS as LAS, mol wt 340	0.427	0.10	mg/L	0.500		85	80-120			
LCS Dup (2002670-BSD1)				Prepared & Analyzed: 04/03/20						
MBAS as LAS, mol wt 340	0.428	0.10	mg/L	0.500		86	80-120	0.2	20	
Matrix Spike (2002670-MS1)	**Source: 20D0183-01**			Prepared & Analyzed: 04/03/20						
MBAS as LAS, mol wt 340	0.429	0.10	mg/L	0.500	ND	86	75-125			
Matrix Spike Dup (2002670-MSD1)	**Source: 20D0183-01**			Prepared & Analyzed: 04/03/20						
MBAS as LAS, mol wt 340	0.430	0.10	mg/L	0.500	ND	86	75-125	0.2	25	
Batch 2002708 - General										
Blank (2002708-BLK1)				Prepared & Analyzed: 04/03/20						
Turbidity	ND	0.10	NTU							

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20D0183**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204036

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002708 - General										
Duplicate (2002708-DUP1)		**Source: 20D0126-02**		Prepared & Analyzed: 04/03/20						
Turbidity	28.8	1.0	NTU		26.8			7	20	
Batch 2002709 - General Preparation										
Blank (2002709-BLK1)				Prepared: 04/06/20 Analyzed: 04/07/20						
Total Dissolved Solids	ND	10	mg/L							
Duplicate (2002709-DUP1)		**Source: 20D0136-01**		Prepared: 04/06/20 Analyzed: 04/07/20						
Total Dissolved Solids	343	10	mg/L		335			2	20	
Batch 2002742 - EPA 200 Series										
Blank (2002742-BLK1)				Prepared: 04/07/20 Analyzed: 04/08/20						
Calcium	ND	1.0	mg/L							
Hardness as CaCO3	ND	1.0	"							
Magnesium	ND	1.0	"							
Potassium	ND	1.0	"							
Sodium	ND	1.0	"							
LCS (2002742-BS1)				Prepared: 04/07/20 Analyzed: 04/08/20						
Calcium	4.68	1.0	mg/L	5.00		94	85-115			
Hardness as CaCO3	31.1	1.0	"	33.1		94	85-115			
Magnesium	4.68	1.0	"	5.00		94	85-115			
Potassium	5.34	1.0	"	5.00		107	85-115			
Sodium	4.48	1.0	"	5.00		90	85-115			

Luhdorff & Scalmanini	Project:	Teichert Woodland
500 First St.	Project Number:	[none]
Woodland, CA 95695	Project Manager:	Jeanette Lovelis

CLS Work Order #: 20D0183
COC #: 204036

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002742 - EPA 200 Series										
Matrix Spike (2002742-MS1)	**Source: 20D0243-02**			Prepared: 04/07/20 Analyzed: 04/08/20						
Calcium	12.1	1.0	mg/L	5.00	7.74	87	70-130			
Hardness as CaCO3	77.6	1.0	"	33.1	29.8	145	70-130			QM-7
Magnesium	7.04	1.0	"	5.00	2.53	90	70-130			
Potassium	11.4	1.0	"	5.00	6.55	97	70-130			
Sodium	12.2	1.0	"	5.00	8.13	81	70-130			
Matrix Spike (2002742-MS2)	**Source: 20D0270-06**			Prepared: 04/07/20 Analyzed: 04/08/20						
Calcium	24.0	1.0	mg/L	5.00	20.3	75	70-130			
Hardness as CaCO3	127	1.0	"	33.1	101	78	70-130			
Magnesium	16.1	1.0	"	5.00	12.2	77	70-130			
Potassium	5.77	1.0	"	5.00	1.10	93	70-130			
Sodium	59.1	1.0	"	5.00	57.1	38	70-130			QM-7
Batch 2002800 - General Preparation										
Blank (2002800-BLK1)				Prepared & Analyzed: 04/08/20						
Specific Conductance (EC)	ND	1.0	µmhos/cm							
Duplicate (2002800-DUP1)	**Source: 20D0385-01**			Prepared & Analyzed: 04/08/20						
Specific Conductance (EC)	2020	1.0	µmhos/cm		2000			0.943	20	
Batch 2002848 - General Preparation										
Blank (2002848-BLK1)				Prepared & Analyzed: 04/09/20						
Total Alkalinity	ND	5.0	mg/L							
Bicarbonate as CaCO3	ND	5.0	"							
Carbonate as CaCO3	ND	5.0	"							
Hydroxide as CaCO3	ND	5.0	"							

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20D0183**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204036

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002848 - General Preparation										
Duplicate (2002848-DUP1)		**Source: 20D0196-01**		Prepared & Analyzed: 04/09/20						
Total Alkalinity	24.6	5.0	mg/L		26.0			6	20	
Bicarbonate as CaCO3	19.0	5.0	"		22.0			15	20	
Carbonate as CaCO3	5.60	5.0	"		4.00			33	20	QD-5X
Hydroxide as CaCO3	ND	5.0	"		ND				20	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20D0183**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204036

Extractable Petroleum Hydrocarbons by EPA Method 8015M - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002809 - EPA 3510B GCNV										
Blank (2002809-BLK1)				Prepared & Analyzed: 04/08/20						
Diesel	ND	0.050	mg/L							
Motor Oil	ND	0.050	"							
Surrogate: o-Terphenyl	*0.0315*		*"*	*0.0250*		*126*	*65-135*			
LCS (2002809-BS1)				Prepared & Analyzed: 04/08/20						
Diesel	2.27	0.050	mg/L	2.50		91	65-135			
Surrogate: o-Terphenyl	*0.0303*		*"*	*0.0250*		*121*	*65-135*			
LCS Dup (2002809-BSD1)				Prepared & Analyzed: 04/08/20						
Diesel	2.47	0.050	mg/L	2.50		99	65-135	8	30	
Surrogate: o-Terphenyl	*0.0299*		*"*	*0.0250*		*119*	*65-135*			
Matrix Spike (2002809-MS1)		**Source: 20D0183-01**		Prepared & Analyzed: 04/08/20						
Diesel	2.61	0.050	mg/L	2.50	ND	105	46-137			
Surrogate: o-Terphenyl	*0.0303*		*"*	*0.0250*		*121*	*65-135*			
Matrix Spike Dup (2002809-MSD1)		**Source: 20D0183-01**		Prepared & Analyzed: 04/08/20						
Diesel	2.63	0.050	mg/L	2.50	ND	105	46-137	0.5	30	
Surrogate: o-Terphenyl	*0.0275*		*"*	*0.0250*		*110*	*65-135*			

Luhdorff & Scalmanini	Project: Teichert Woodland	
500 First St.	Project Number: [none]	**CLS Work Order #: 20D0183**
Woodland, CA 95695	Project Manager: Jeanette Lovelis	COC #: 204036

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002738 - EPA 7470A										
Blank (2002738-BLK1)				Prepared & Analyzed: 04/07/20						
Mercury	ND	0.20	µg/L							
LCS (2002738-BS1)				Prepared & Analyzed: 04/07/20						
Mercury	5.18	0.20	µg/L	5.00		104	85-115			
Matrix Spike (2002738-MS1)		**Source: 20D0097-03**		Prepared & Analyzed: 04/07/20						
Mercury	5.21	0.20	µg/L	5.00	ND	104	70-130			
Matrix Spike Dup (2002738-MSD1)		**Source: 20D0097-03**		Prepared & Analyzed: 04/07/20						
Mercury	5.09	0.20	µg/L	5.00	ND	102	70-130	2	25	
Batch 2002741 - EPA 200 Series										
Blank (2002741-BLK1)				Prepared & Analyzed: 04/07/20						
Arsenic	ND	2.0	µg/L							
Lead	ND	5.0	"							
Selenium	ND	5.0	"							
LCS (2002741-BS1)				Prepared & Analyzed: 04/07/20						
Arsenic	94.2	2.0	µg/L	100		94	85-115			
Lead	93.2	5.0	"	100		93	85-115			
Selenium	92.7	5.0	"	100		93	85-115			
Matrix Spike (2002741-MS1)		**Source: 20D0303-01**		Prepared & Analyzed: 04/07/20						
Arsenic	115	2.0	µg/L	100	17.1	98	70-130			
Lead	278	5.0	"	100	187	91	70-130			
Selenium	97.0	5.0	"	100	100	NR	70-130			QM-7

Luhdorff & Scalmanini	Project:	Teichert Woodland
500 First St.	Project Number:	[none]
Woodland, CA 95695	Project Manager:	Jeanette Lovelis

CLS Work Order #: 20D0183
COC #: 204036

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002741 - EPA 200 Series										
Matrix Spike (2002741-MS2)	**Source: 20D0243-01**			Prepared & Analyzed: 04/07/20						
Arsenic	97.8	2.0	µg/L	100	ND	98	70-130			
Lead	97.1	5.0	"	100	1.83	95	70-130			
Selenium	98.3	5.0	"	100	ND	98	70-130			
Batch 2002742 - EPA 200 Series										
Blank (2002742-BLK1)				Prepared: 04/07/20 Analyzed: 04/08/20						
Aluminum	ND	50	µg/L							
Barium	ND	20	"							
Cadmium	ND	10	"							
Calcium	ND	1000	"							
Chromium	ND	10	"							
Copper	ND	10	"							
Iron	ND	100	"							
Manganese	ND	10	"							
Zinc	ND	20	"							
LCS (2002742-BS1)				Prepared: 04/07/20 Analyzed: 04/08/20						
Aluminum	4600	50	µg/L	5000		92	85-115			
Barium	951	20	"	1000		95	85-115			
Cadmium	1070	10	"	1000		107	85-115			
Calcium	4680	1000	"	5000		94	85-115			
Chromium	1010	10	"	1000		101	85-115			
Copper	1070	10	"	1000		107	85-115			
Iron	979	100	"	1000		98	85-115			
Manganese	1040	10	"	1000		104	85-115			
Zinc	1000	20	"	1000		100	85-115			

Luhdorff & Scalmanini	Project:	Teichert Woodland
500 First St.	Project Number:	[none]
Woodland, CA 95695	Project Manager:	Jeanette Lovelis

CLS Work Order #: 20D0183
COC #: 204036

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002742 - EPA 200 Series										
Matrix Spike (2002742-MS1)	**Source: 20D0243-02**			Prepared: 04/07/20 Analyzed: 04/08/20						
Aluminum	8740	50	µg/L	5000	1750	140	70-130			QM-7
Barium	975	20	"	1000	43.8	93	70-130			
Cadmium	1060	10	"	1000	ND	106	70-130			
Calcium	12100	1000	"	5000	7740	87	70-130			
Chromium	929	10	"	1000	ND	93	70-130			
Copper	1070	10	"	1000	10.5	106	70-130			
Iron	3100	100	"	1000	1700	139	70-130			QM-7
Manganese	1060	10	"	1000	50.8	101	70-130			
Zinc	1010	20	"	1000	21.0	99	70-130			
Matrix Spike (2002742-MS2)	**Source: 20D0270-06**			Prepared: 04/07/20 Analyzed: 04/08/20						
Aluminum	4420	50	µg/L	5000	ND	88	70-130			
Barium	924	20	"	1000	16.2	91	70-130			
Cadmium	964	10	"	1000	ND	96	70-130			
Calcium	24000	1000	"	5000	20300	75	70-130			
Chromium	741	10	"	1000	ND	74	70-130			
Copper	988	10	"	1000	ND	99	70-130			
Iron	944	100	"	1000	ND	94	70-130			
Manganese	968	10	"	1000	ND	97	70-130			
Zinc	973	20	"	1000	14.9	96	70-130			

Luhdorff & Scalmanini	Project:	Teichert Woodland
500 First St.	Project Number:	[none]
Woodland, CA 95695	Project Manager:	Jeanette Lovelis

CLS Work Order #: 20D0183
COC #: 204036

Organophosphorus Pesticides by EPA Method 8141A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002815 - EPA 3510B GCNV										
Blank (2002815-BLK1)				Prepared & Analyzed: 04/09/20						
Bolstar	ND	0.050	µg/L							
Chlorpyrifos	ND	0.050	"							
Coumaphos	ND	0.10	"							
Demeton	ND	0.10	"							
Diazinon	ND	0.050	"							
Dichlorvos	ND	0.10	"							
Disulfoton	ND	0.050	"							
Ethoprop	ND	0.050	"							
Fensulfothion	ND	0.050	"							
Fenthion	ND	0.050	"							
Guthion	ND	0.10	"							
Malathion	ND	0.050	"							
Merphos	ND	0.050	"							
Methyl parathion	ND	0.050	"							
Mevinphos	ND	0.050	"							
Phorate	ND	0.050	"							
Prothiofos	ND	0.050	"							
Ronnel	ND	0.050	"							
Stirophos	ND	0.050	"							
Trichloronate	ND	0.050	"							
Surrogate: EPN	*2.71*		*"*	*2.50*		*108*	*50-150*			
LCS (2002815-BS1)				Prepared & Analyzed: 04/09/20						
Methyl parathion	0.271	0.050	µg/L	0.250		108	50-150			
Ronnel	0.244	0.050	"	0.250		98	50-150			
Stirophos	0.330	0.050	"	0.250		132	50-150			
Trichloronate	0.266	0.050	"	0.250		106	50-150			
Surrogate: EPN	*2.44*		*"*	*2.50*		*98*	*50-150*			

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20D0183**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204036

Organophosphorus Pesticides by EPA Method 8141A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002815 - EPA 3510B GCNV										
LCS Dup (2002815-BSD1)				Prepared & Analyzed: 04/09/20						
Methyl parathion	0.278	0.050	µg/L	0.250		111	50-150	3	30	
Ronnel	0.256	0.050	"	0.250		102	50-150	5	30	
Stirophos	0.335	0.050	"	0.250		134	50-150	2	30	
Trichloronate	0.264	0.050	"	0.250		106	50-150	0.6	30	
Surrogate: EPN	*2.55*		*"*	*2.50*		*102*	*50-150*			

Luhdorff & Scalmanini	Project:	Teichert Woodland
500 First St.	Project Number:	[none]
Woodland, CA 95695	Project Manager:	Jeanette Lovelis

CLS Work Order #: 20D0183
COC #: 204036

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2002740 - EPA 5030 Water MS										
Blank (2002740-BLK1)				Prepared & Analyzed: 04/06/20						
Di-isopropyl ether	ND	0.50	µg/L							
Ethyl tert-butyl ether	ND	0.50	"							
Methyl tert-butyl ether	ND	0.50	"							
tert-Amyl methyl ether	ND	0.50	"							
tert-Butyl alcohol	ND	5.0	"							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	1.0	"							
Surrogate: Toluene-d8	*9.99*		*"*	*10.0*		*100*	*72-125*			
LCS (2002740-BS1)				Prepared & Analyzed: 04/06/20						
Methyl tert-butyl ether	21.0	0.50	µg/L	20.0		105	52-130			
Benzene	24.0	0.50	"	20.0		120	52-130			
Surrogate: Toluene-d8	*10.7*		*"*	*10.0*		*107*	*72-125*			
LCS Dup (2002740-BSD1)				Prepared & Analyzed: 04/06/20						
Methyl tert-butyl ether	24.7	0.50	µg/L	20.0		123	52-130	16	30	
Benzene	24.1	0.50	"	20.0		121	52-130	0.6	30	
Surrogate: Toluene-d8	*10.5*		*"*	*10.0*		*105*	*72-125*			
Matrix Spike (2002740-MS1)	**Source: 20D0185-01**			Prepared & Analyzed: 04/06/20						
Methyl tert-butyl ether	23.7	0.50	µg/L	20.0	ND	118	52-140			
Benzene	24.3	0.50	"	20.0	ND	121	52-140			
Surrogate: Toluene-d8	*11.3*		*"*	*10.0*		*113*	*72-125*			
Matrix Spike Dup (2002740-MSD1)	**Source: 20D0185-01**			Prepared & Analyzed: 04/06/20						
Methyl tert-butyl ether	19.2	0.50	µg/L	20.0	ND	96	52-140	21	30	
Benzene	24.1	0.50	"	20.0	ND	120	52-140	0.7	30	
Surrogate: Toluene-d8	*10.4*		*"*	*10.0*		*104*	*72-125*			

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	[none]	**CLS Work Order #: 20D0183**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 204036

Notes and Definitions

QRL-7	The initial volume was decreased or the final volume of the extract was increased due to matrix interference, which resulted in higher reporting limits.
QM-7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS and/or LCSD recovery.
QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
QD-5X	The RPD was outside of the QC acceptance limit for the Duplicate due to that the analyte concentration is less than 5 times of the reporting limit. No correction action is needed.
QC-2H	The recovery of one CCV was greater than the acceptance limit. However, all analytes in the associated samples were ND; therefore a reanalysis was not performed.
HT-F	This is a field test method and it is performed in the lab outside holding time.
BT-4	<1.8
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

CALIFORNIA LABORATORY SERVICES
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September 22, 2020

CLS Work Order #: 20I0722
COC #: 209132

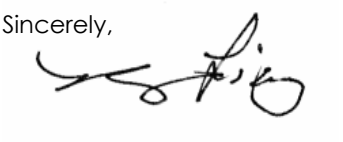
Jeanette Lovelis
Luhdorff & Scalmanini
500 First St.
Woodland, CA 95695

Project Name: Teichert Woodland

Enclosed are the results of analyses for samples received by the laboratory on 09/15/20 15:45. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,



James Liang, Ph.D.
Laboratory Director

CA SWRCB ELAP Accreditation/Registration number 1233

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CHAIN OF CUSTODY

→ Al, As, Ba, Cd, Cr, Cu, Fe, Hg, Mn, Pb, Se, Zn

CLS ID No.: 20I0722 LOG № 209132

HIGHLIGHTED AREAS MUST BE FILLED OUT PRIOR TO ACCEPTANCE

REPORT TO:

NAME AND ADDRESS: LSCE
500 First Street
Woodland, CA 95695
PROJECT MANAGER: Jeanette Lovelis PHONE# 530-661-0109
PROJECT NAME: Teichert Woodland
SAMPLED BY: Charlie Jenkins
JOB DESCRIPTION:
SITE LOCATION: Teichert Woodland

CLIENT JOB NUMBER: 17-1-004

DESTINATION LABORATORY:
☒ CLS (916) 638-7301
3249 FITZGERALD RD.
RANCHO CORDOVA, CA. 95742
☐ OTHER

GEOTRACKER:
EDF REPORT ☐ YES ☐ NO
GLOBAL ID:

CDPH WRITE ON EDT TRANSMISSION? ☐ YES ☐ NO
STATE SYSTEM NUMBER
IF "YES" PLEASE ENTER THE SOURCE NUMBER(S).

COMPOSITE: Grab

DATE	TIME	SAMPLE IDENTIFICATION	MATRIX	CONTAINER NO.	CONTAINER TYPE	PRESERVATIVES	Gen Min + Turbidity	Metals	EPA 8141 + EPA 8151	TPH-d + TPH-mo	Coliform - 15 Tube E. Coli	BTEX	TURN AROUND TIME 1 DAY	2 DAY	3 DAY	5 DAY	SPECIAL INSTRUCTIONS OR ALT. ID:
9/15/20	13:30	Storz Pond	Water		Various	1,2,3	X	X	X	X	X	X				X	
↓	13:45	Field Blank	↓	1	1L Amb	3				X						X	

INVOICE TO:
P.O. #
QUOTE #

Email/Address: jLovelis@LSCE.com

PRESERVATIVES: (1) HCL (2) HNO_3 (3) = COLD (4) = NaOH (5) = H_2SO_4 (6) = $Na_2S_2O_3$ (7) =

RELINQUISHED BY (SIGN)	PRINT NAME / COMPANY	DATE / TIME	RECEIVED BY (SIGN)	PRINT NAME / COMPANY
	Charlie Jenkins/LSCE	9/15/20 15:45		

REC'D AT LAB BY: DATE / TIME: 9/15/20 1545 CONDITIONS / COMMENTS: 2.5

SHIPPED BY: ☐ FED X ☐ UPS ☐ OTHER AIR BILL #

White-Lab/Terms and conditions Yellow- Lab file copy/Terms and Conditions Pink- Origin/Terms and Conditions Gold-Project Mgr./Field Sampler/Terms and conditions

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	17-1-004	**CLS Work Order #: 20I0722**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 209132

Chlorinated Herbicides by EPA Method 8151A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Storz Pond (20I0722-01) Water Sampled: 09/15/20 13:30 Received: 09/15/20 15:45									
2,4,5-T	ND	0.50	µg/L	1	2007477	09/17/20	09/18/20	EPA 8151A	
2,4,5-TP (Silvex)	ND	0.20	"	"	"	"	"	"	
2,4-D (2,4-Dichlorophenoxyacetic acid)	ND	1.0	"	"	"	"	"	"	
2,4-DB	ND	2.0	"	"	"	"	"	"	
Dalapon	ND	2.0	"	"	"	"	"	"	
Dicamba	ND	1.0	"	"	"	"	"	"	
Dichloroprop	ND	2.0	"	"	"	"	"	"	
Dinoseb	ND	1.0	"	"	"	"	"	"	
MCPA	ND	250	"	"	"	"	"	"	
MCPP	ND	250	"	"	"	"	"	"	
Pentachlorophenol	ND	0.20	"	"	"	"	"	"	
Surrogate: 2,4-DCAA		*85 %*		*50-150*	"	"	"	"	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	17-1-004	**CLS Work Order #: 20I0722**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 209132

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Storz Pond (20I0722-01) Water Sampled: 09/15/20 13:30 Received: 09/15/20 15:45									
Bicarbonate as CaCO3	**210**	5.0	mg/L	1	2007450	09/16/20	09/16/20	SM2320B	
Calcium	**16**	1.0	"	"	2007444	09/16/20	09/16/20	EPA 200.7	
Carbonate as CaCO3	**130**	5.0	"	"	2007450	09/16/20	09/16/20	SM2320B	
Chloride	**110**	5.0	"	10	2007435	09/16/20	09/16/20	EPA 300.0	
Fluoride	ND	0.10	"	1	"	"	09/16/20	"	
Hardness as CaCO3	**310**	1.0	"	"	2007444	09/16/20	09/16/20	EPA 200.7	
Hydroxide as CaCO3	ND	5.0	"	"	2007450	09/16/20	09/16/20	SM2320B	
Magnesium	**65**	1.0	"	"	2007444	09/16/20	09/16/20	EPA 200.7	
MBAS as LAS, mol wt 340	ND	0.10	"	"	2007478	09/17/20	09/17/20	SM5540 C	
Nitrate as N	**1.4**	0.40	"	"	2007435	09/16/20	09/16/20	EPA 300.0	
pH	**8.98**	0.01	pH Units	"	2007437	09/16/20	09/16/20	SM4500-H B	HT-F
Potassium	**4.3**	1.0	mg/L	"	2007444	09/16/20	09/17/20	EPA 200.7	
Sodium	**110**	1.0	"	"	"	"	09/16/20	"	
Specific Conductance (EC)	**1000**	1.0	µmhos/cm	"	2007504	09/17/20	09/17/20	EPA 120.1	
Sulfate as SO4	**120**	5.0	mg/L	10	2007435	09/16/20	09/16/20	EPA 300.0	
Total Alkalinity	**340**	5.0	"	1	2007450	09/16/20	09/16/20	SM2320B	
Total Dissolved Solids	**640**	10	"	"	2007479	09/17/20	09/21/20	SM2540C	
Turbidity	**2.7**	0.10	NTU	"	2007514	09/15/20	09/15/20	EPA 180.1	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	17-1-004	**CLS Work Order #: 20I0722**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 209132

Extractable Petroleum Hydrocarbons by EPA Method 8015M

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Storz Pond (20I0722-01) Water Sampled: 09/15/20 13:30 Received: 09/15/20 15:45									
Diesel	ND	0.050	mg/L	1	2007471	09/16/20	09/17/20	EPA 8015M	
Motor Oil	ND	0.050	"	"	"	"	"	"	
Surrogate: o-Terphenyl		*132 %*	*65-135*		*"*	*"*	*"*	*"*	
Field Blank (20I0722-02) Water Sampled: 09/15/20 13:45 Received: 09/15/20 15:45									
Diesel	ND	0.050	mg/L	1	2007471	09/16/20	09/17/20	EPA 8015M	
Motor Oil	ND	0.050	"	"	"	"	"	"	
Surrogate: o-Terphenyl		*134 %*	*65-135*		*"*	*"*	*"*	*"*	

Luhdorff & Scalmanini	Project: Teichert Woodland	
500 First St.	Project Number: 17-1-004	**CLS Work Order #: 20I0722**
Woodland, CA 95695	Project Manager: Jeanette Lovelis	COC #: 209132

Metals by EPA 200 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Storz Pond (20I0722-01) Water Sampled: 09/15/20 13:30 Received: 09/15/20 15:45									
Aluminum	ND	50	µg/L	1	2007444	09/16/20	09/16/20	EPA 200.7	
Arsenic	ND	2.0	"	"	2007496	09/17/20	09/17/20	EPA 200.8	
Barium	**40**	20	"	"	2007444	09/16/20	09/16/20	EPA 200.7	
Cadmium	ND	10	"	"	"	"	"	"	
Chromium	ND	10	"	"	"	"	"	"	
Copper	ND	10	"	"	"	"	"	"	
Iron	ND	100	"	"	"	"	"	"	
Lead	ND	5.0	"	"	2007496	09/17/20	09/17/20	EPA 200.8	
Manganese	ND	10	"	"	2007444	09/16/20	09/16/20	EPA 200.7	
Mercury	ND	0.20	"	"	2007521	09/18/20	09/21/20	EPA 245.1	
Selenium	ND	5.0	"	"	2007496	09/17/20	09/17/20	EPA 200.8	
Zinc	ND	20	"	"	2007444	09/16/20	09/16/20	EPA 200.7	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	17-1-004	**CLS Work Order #: 20I0722**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 209132

Microbiological Parameters by APHA Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Storz Pond (20I0722-01) Water Sampled: 09/15/20 13:30 Received: 09/15/20 15:45									
E. Coli	**33**	1.8	MPN/100 mL	1	2007452	09/15/20	09/18/20	SM 9221	
Fecal Coliforms	**33**	1.8	"	"	"	"	"	"	
Total Coliforms	**220**	1.8	"	"	"	"	"	"	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	17-1-004	**CLS Work Order #: 20I0722**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 209132

Organophosphorus Pesticides by EPA Method 8141A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Storz Pond (20I0722-01) Water Sampled: 09/15/20 13:30 Received: 09/15/20 15:45									
Bolstar	ND	0.050	µg/L	1	2007476	09/17/20	09/18/20	EPA 8141A	
Chlorpyrifos	ND	0.050	"	"	"	"	"	"	
Coumaphos	ND	0.10	"	"	"	"	"	"	
Demeton	ND	0.10	"	"	"	"	"	"	
Diazinon	ND	0.050	"	"	"	"	"	"	
Dichlorvos	ND	0.10	"	"	"	"	"	"	
Disulfoton	ND	0.050	"	"	"	"	"	"	
Ethoprop	ND	0.050	"	"	"	"	"	"	
Fensulfothion	ND	0.050	"	"	"	"	"	"	
Fenthion	ND	0.050	"	"	"	"	"	"	
Guthion	ND	0.10	"	"	"	"	"	"	
Malathion	ND	0.050	"	"	"	"	"	"	
Merphos	ND	0.050	"	"	"	"	"	"	
Methyl parathion	ND	0.050	"	"	"	"	"	"	
Mevinphos	ND	0.050	"	"	"	"	"	"	
Phorate	ND	0.050	"	"	"	"	"	"	
Prothiofos	ND	0.050	"	"	"	"	"	"	
Ronnel	ND	0.050	"	"	"	"	"	"	
Stirophos	ND	0.050	"	"	"	"	"	"	
Trichloronate	ND	0.050	"	"	"	"	"	"	
Surrogate: EPN		*82 %*		*50-150*	"	"	"	"	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	17-1-004	**CLS Work Order #: 20I0722**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 209132

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Storz Pond (20I0722-01) Water Sampled: 09/15/20 13:30 Received: 09/15/20 15:45									
Benzene	ND	0.50	µg/L	1	2007522	09/17/20	09/17/20	EPA 8260B	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	
Surrogate: Toluene-d8		*92 %*		*72-125*	"	"	"	"	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	17-1-004	**CLS Work Order #: 20I0722**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 209132

Chlorinated Herbicides by EPA Method 8151A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2007477 - EPA 8151A										
Blank (2007477-BLK1)				Prepared: 09/17/20 Analyzed: 09/18/20						
2,4-D (2,4-Dichlorophenoxyacetic acid)	ND	1.0	µg/L							
Dalapon	ND	2.0	"							
2,4-DB	ND	2.0	"							
Dicamba	ND	1.0	"							
Dichloroprop	ND	2.0	"							
Dinoseb	ND	1.0	"							
MCPA	ND	250	"							
MCPP	ND	250	"							
Pentachlorophenol	ND	0.20	"							
2,4,5-T	ND	0.50	"							
2,4,5-TP (Silvex)	ND	0.20	"							
Surrogate: 2,4-DCAA	*2.12*		*"*	*2.50*		*85*	*50-150*			
LCS (2007477-BS1)				Prepared: 09/17/20 Analyzed: 09/18/20						
Dicamba	1.22	1.0	µg/L	1.25		98	50-150			
Dichloroprop	1.52	2.0	"	1.25		121	50-150			
Surrogate: 2,4-DCAA	*2.96*		*"*	*2.50*		*118*	*50-150*			
LCS Dup (2007477-BSD1)				Prepared: 09/17/20 Analyzed: 09/18/20						
Dicamba	1.09	1.0	µg/L	1.25		88	50-150	11	30	
Dichloroprop	1.44	2.0	"	1.25		115	50-150	5	30	
Surrogate: 2,4-DCAA	*2.60*		*"*	*2.50*		*104*	*50-150*			

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	17-1-004	**CLS Work Order #: 20I0722**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 209132

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2007435 - General Prep										
Blank (2007435-BLK1)				Prepared & Analyzed: 09/16/20						
Chloride	ND	0.50	mg/L							
Fluoride	ND	0.10	"							
Sulfate as SO4	ND	0.50	"							
Nitrate as N	ND	0.40	"							
LCS (2007435-BS1)				Prepared & Analyzed: 09/16/20						
Fluoride	2.12	0.10	mg/L	2.00		106	80-120			
Sulfate as SO4	5.16	0.50	"	5.00		103	80-120			
Chloride	4.65	0.50	"	5.00		93	80-120			
Nitrate as N	1.98	0.40	"	2.00		99	80-120			
LCS Dup (2007435-BSD1)				Prepared & Analyzed: 09/16/20						
Chloride	4.65	0.50	mg/L	5.00		93	80-120	0.07	20	
Fluoride	2.08	0.10	"	2.00		104	80-120	2	20	
Sulfate as SO4	5.11	0.50	"	5.00		102	80-120	0.9	20	
Nitrate as N	1.97	0.40	"	2.00		98	80-120	0.9	20	
Matrix Spike (2007435-MS1)	**Source: 20I0725-01**			Prepared & Analyzed: 09/16/20						
Chloride	16.6	0.50	mg/L	5.00	11.7	97	80-120			
Sulfate as SO4	11.7	0.50	"	5.00	6.45	104	80-120			
Fluoride	2.15	0.10	"	2.00	0.0589	104	80-120			
Nitrate as N	9.88	0.40	"	2.00	8.39	74	80-120			QM-4X
Matrix Spike Dup (2007435-MSD1)	**Source: 20I0725-01**			Prepared & Analyzed: 09/16/20						
Sulfate as SO4	11.6	0.50	mg/L	5.00	6.45	102	80-120	0.8	20	
Fluoride	1.95	0.10	"	2.00	0.0589	95	80-120	10	20	
Chloride	16.5	0.50	"	5.00	11.7	95	80-120	0.5	20	
Nitrate as N	9.88	0.40	"	2.00	8.39	74	80-120	0.008	20	QM-4X

Luhdorff & Scalmanini	Project:	Teichert Woodland
500 First St.	Project Number:	17-1-004
Woodland, CA 95695	Project Manager:	Jeanette Lovelis

CLS Work Order #: 20I0722
COC #: 209132

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2007437 - General Prep										
Duplicate (2007437-DUP1)		**Source: 20I0703-01**		Prepared & Analyzed: 09/16/20						
pH	7.36	0.01	pH Units		7.38			0.271	20	
Duplicate (2007437-DUP2)		**Source: 20I0721-08**		Prepared & Analyzed: 09/16/20						
pH	6.77	0.01	pH Units		6.84			1.03	20	
Batch 2007444 - EPA 200 Series										
Blank (2007444-BLK1)				Prepared & Analyzed: 09/16/20						
Calcium	ND	1.0	mg/L							
Hardness as CaCO3	ND	1.0	"							
Magnesium	ND	1.0	"							
Potassium	ND	1.0	"							
Sodium	ND	1.0	"							
LCS (2007444-BS1)				Prepared & Analyzed: 09/16/20						
Calcium	5.15	1.0	mg/L	5.00		103	85-115			
Magnesium	5.20	1.0	"	5.00		104	85-115			
Potassium	5.24	1.0	"	5.00		105	85-115			
Sodium	5.39	1.0	"	5.00		108	85-115			
Matrix Spike (2007444-MS1)		**Source: 20I0725-01**		Prepared & Analyzed: 09/16/20						
Calcium	34.2	1.0	mg/L	5.00	29.6	94	70-130			
Magnesium	14.8	1.0	"	5.00	9.99	96	70-130			
Potassium	6.74	1.0	"	5.00	1.47	105	70-130			QM-7
Sodium	18.7	1.0	"	5.00	13.9	97	70-130			
Matrix Spike (2007444-MS2)		**Source: 20I0722-01**		Prepared & Analyzed: 09/16/20						
Calcium	21.0	1.0	mg/L	5.00	16.5	90	70-130			
Magnesium	67.6	1.0	"	5.00	65.1	50	70-130			QM-7
Potassium	11.7	1.0	"	5.00	4.33	147	70-130			QM-7
Sodium	108	1.0	"	5.00	110	NR	70-130			QM-7

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	17-1-004	**CLS Work Order #: 20I0722**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 209132

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2007450 - General Preparation										
Blank (2007450-BLK1)				Prepared & Analyzed: 09/16/20						
Total Alkalinity	ND	5.0	mg/L							
Bicarbonate as CaCO3	ND	5.0	"							
Carbonate as CaCO3	ND	5.0	"							
Hydroxide as CaCO3	ND	5.0	"							
Duplicate (2007450-DUP1)	**Source: 20I0724-01**			Prepared & Analyzed: 09/16/20						
Total Alkalinity	11.0	5.0	mg/L		11.0			0	20	
Bicarbonate as CaCO3	11.0	5.0	"		11.0			0	20	
Carbonate as CaCO3	ND	5.0	"		ND				20	
Hydroxide as CaCO3	ND	5.0	"		ND				20	
Batch 2007478 - General Preparation										
Blank (2007478-BLK1)				Prepared & Analyzed: 09/17/20						
MBAS as LAS, mol wt 340	ND	0.10	mg/L							
LCS (2007478-BS1)				Prepared & Analyzed: 09/17/20						
MBAS as LAS, mol wt 340	0.455	0.10	mg/L	0.500		91	80-120			
LCS Dup (2007478-BSD1)				Prepared & Analyzed: 09/17/20						
MBAS as LAS, mol wt 340	0.470	0.10	mg/L	0.500		94	80-120	3	20	
Matrix Spike (2007478-MS1)	**Source: 20I0722-01**			Prepared & Analyzed: 09/17/20						
MBAS as LAS, mol wt 340	0.529	0.10	mg/L	0.500	ND	106	75-125			
Matrix Spike Dup (2007478-MSD1)	**Source: 20I0722-01**			Prepared & Analyzed: 09/17/20						
MBAS as LAS, mol wt 340	0.526	0.10	mg/L	0.500	ND	105	75-125	0.6	25	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	17-1-004	**CLS Work Order #: 20I0722**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 209132

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2007479 - General Preparation										
Blank (2007479-BLK1)				Prepared: 09/17/20 Analyzed: 09/21/20						
Total Dissolved Solids	ND	10	mg/L							
Duplicate (2007479-DUP1)		**Source: 20I0710-01**		Prepared: 09/17/20 Analyzed: 09/21/20						
Total Dissolved Solids	92.0	10	mg/L		83.0			10	20	
Batch 2007504 - General Prep										
Blank (2007504-BLK1)				Prepared & Analyzed: 09/17/20						
Specific Conductance (EC)	ND	1.0	µmhos/cm							
Duplicate (2007504-DUP1)		**Source: 20I0794-01**		Prepared & Analyzed: 09/17/20						
Specific Conductance (EC)	546	1.0	µmhos/cm		555			1.63	20	
Batch 2007514 - General										
Blank (2007514-BLK1)				Prepared & Analyzed: 09/15/20						
Turbidity	ND	0.10	NTU							
Duplicate (2007514-DUP1)		**Source: 20I0630-01**		Prepared & Analyzed: 09/15/20						
Turbidity	1.94	0.10	NTU		1.92			1	20	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	17-1-004	**CLS Work Order #: 20I0722**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 209132

Extractable Petroleum Hydrocarbons by EPA Method 8015M - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2007471 - EPA 3510B GCNV										
Blank (2007471-BLK1)				Prepared: 09/16/20 Analyzed: 09/17/20						
Diesel	ND	0.050	mg/L							
Motor Oil	ND	0.050	"							
Surrogate: o-Terphenyl	*0.0317*		*"*	*0.0250*		*127*	*65-135*			
LCS (2007471-BS1)				Prepared: 09/16/20 Analyzed: 09/17/20						
Diesel	2.13	0.050	mg/L	2.50		85	65-135			
Surrogate: o-Terphenyl	*0.0287*		*"*	*0.0250*		*115*	*65-135*			
LCS Dup (2007471-BSD1)				Prepared: 09/16/20 Analyzed: 09/17/20						
Diesel	2.56	0.050	mg/L	2.50		103	65-135	18	30	
Surrogate: o-Terphenyl	*0.0327*		*"*	*0.0250*		*131*	*65-135*			
Matrix Spike (2007471-MS1)		**Source: 20I0622-01**		Prepared: 09/16/20 Analyzed: 09/17/20						
Diesel	3.30	0.050	mg/L	2.50	ND	132	46-137			
Surrogate: o-Terphenyl	*0.0356*		*"*	*0.0250*		*142*	*65-135*			*QS-4*
Matrix Spike Dup (2007471-MSD1)		**Source: 20I0622-01**		Prepared: 09/16/20 Analyzed: 09/17/20						
Diesel	2.84	0.050	mg/L	2.50	ND	114	46-137	15	30	
Surrogate: o-Terphenyl	*0.0335*		*"*	*0.0250*		*134*	*65-135*			

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	17-1-004	**CLS Work Order #: 20I0722**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 209132

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2007444 - EPA 200 Series										
Blank (2007444-BLK1)				Prepared & Analyzed: 09/16/20						
Aluminum	ND	50	µg/L							
Barium	ND	20	"							
Boron	ND	50	"							
Cadmium	ND	10	"							
Chromium	ND	10	"							
Copper	ND	10	"							
Iron	ND	100	"							
Manganese	ND	10	"							
Sodium	ND	1000	"							
Zinc	ND	20	"							
LCS (2007444-BS1)				Prepared & Analyzed: 09/16/20						
Aluminum	5020	50	µg/L	5000		100	85-115			
Barium	1060	20	"	1000		106	85-115			
Boron	1050	50	"	1000		105	85-115			
Cadmium	1080	10	"	1000		108	85-115			
Chromium	1060	10	"	1000		106	85-115			
Copper	1060	10	"	1000		106	85-115			
Iron	1070	100	"	1000		107	85-115			
Manganese	1090	10	"	1000		109	85-115			
Sodium	5390	1000	"	5000		108	85-115			
Zinc	1090	20	"	1000		109	85-115			
Matrix Spike (2007444-MS1)	**Source: 20I0725-01**			Prepared & Analyzed: 09/16/20						
Aluminum	5100	50	µg/L	5000	85.8	100	70-130			
Barium	1090	20	"	1000	34.3	105	70-130			
Boron	1140	50	"	1000	75.9	107	70-130			
Cadmium	1080	10	"	1000	ND	108	70-130			
Chromium	1060	10	"	1000	ND	106	70-130			
Copper	1050	10	"	1000	ND	105	70-130			
Iron	1140	100	"	1000	76.1	107	70-130			
Manganese	1240	10	"	1000	178	106	70-130			

Luhdorff & Scalmanini	Project:	Teichert Woodland
500 First St.	Project Number:	17-1-004
Woodland, CA 95695	Project Manager:	Jeanette Lovelis

CLS Work Order #: 20I0722
COC #: 209132

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2007444 - EPA 200 Series										
Matrix Spike (2007444-MS1)		**Source: 20I0725-01**		Prepared & Analyzed: 09/16/20						
Sodium	18700	1000	µg/L	5000	13900	97	70-130			
Zinc	1100	20	"	1000	ND	110	70-130			
Matrix Spike (2007444-MS2)		**Source: 20I0722-01**		Prepared & Analyzed: 09/16/20						
Aluminum	4780	50	µg/L	5000	ND	96	70-130			
Barium	1090	20	"	1000	39.6	105	70-130			
Boron	5200	50	"	1000	4280	92	70-130			
Cadmium	1030	10	"	1000	ND	103	70-130			
Chromium	1010	10	"	1000	ND	101	70-130			
Copper	991	10	"	1000	ND	99	70-130			
Iron	1060	100	"	1000	25.1	104	70-130			
Manganese	1010	10	"	1000	6.81	101	70-130			
Sodium	108000	1000	"	5000	110000	NR	70-130			QM-4X
Zinc	1080	20	"	1000	5.00	108	70-130			
Batch 2007496 - EPA 200 Series										
Blank (2007496-BLK1)				Prepared & Analyzed: 09/17/20						
Arsenic	ND	2.0	µg/L							
Lead	ND	5.0	"							
Selenium	ND	5.0	"							
LCS (2007496-BS1)				Prepared & Analyzed: 09/17/20						
Arsenic	106	2.0	µg/L	100		106	85-115			
Lead	99.3	5.0	"	100		99	85-115			
Selenium	102	5.0	"	100		102	85-115			

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	17-1-004	**CLS Work Order #: 20I0722**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 209132

Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2007496 - EPA 200 Series										
Matrix Spike (2007496-MS1)	**Source: 20I0653-01**			Prepared & Analyzed: 09/17/20						
Arsenic	109	2.0	µg/L	100	5.53	103	70-130			
Lead	99.1	5.0	"	100	0.413	99	70-130			
Selenium	95.4	5.0	"	100	ND	95	70-130			
Batch 2007521 - EPA 7470A										
Blank (2007521-BLK1)				Prepared: 09/18/20 Analyzed: 09/21/20						
Mercury	ND	0.20	µg/L							
LCS (2007521-BS1)				Prepared: 09/18/20 Analyzed: 09/21/20						
Mercury	4.41	0.20	µg/L	5.00		88	85-115			
Matrix Spike (2007521-MS1)	**Source: 20I0722-01**			Prepared: 09/18/20 Analyzed: 09/21/20						
Mercury	4.34	0.20	µg/L	5.00	ND	87	70-130			
Matrix Spike (2007521-MS2)	**Source: 20I0894-01**			Prepared: 09/18/20 Analyzed: 09/21/20						
Mercury	4.71	0.20	µg/L	5.00	ND	94	70-130			
Matrix Spike Dup (2007521-MSD1)	**Source: 20I0722-01**			Prepared: 09/18/20 Analyzed: 09/21/20						
Mercury	4.40	0.20	µg/L	5.00	ND	88	70-130	1	25	

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	17-1-004	**CLS Work Order #: 20I0722**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 209132

Organophosphorus Pesticides by EPA Method 8141A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2007476 - EPA 3510B GCNV										
Blank (2007476-BLK1)				Prepared: 09/17/20 Analyzed: 09/18/20						
Bolstar	ND	0.050	µg/L							
Chlorpyrifos	ND	0.050	"							
Coumaphos	ND	0.10	"							
Demeton	ND	0.10	"							
Diazinon	ND	0.050	"							
Dichlorvos	ND	0.10	"							
Disulfoton	ND	0.050	"							
Ethoprop	ND	0.050	"							
Fensulfothion	ND	0.050	"							
Fenthion	ND	0.050	"							
Guthion	ND	0.10	"							
Malathion	ND	0.050	"							
Merphos	ND	0.050	"							
Methyl parathion	ND	0.050	"							
Mevinphos	ND	0.050	"							
Phorate	ND	0.050	"							
Prothiofos	ND	0.050	"							
Ronnel	ND	0.050	"							
Stirophos	ND	0.050	"							
Trichloronate	ND	0.050	"							
Surrogate: EPN	*2.04*		*"*	*2.50*		*82*	*50-150*			
LCS (2007476-BS1)				Prepared: 09/17/20 Analyzed: 09/18/20						
Methyl parathion	0.152	0.050	µg/L	0.250		61	50-150			
Ronnel	0.141	0.050	"	0.250		56	50-150			
Stirophos	0.284	0.050	"	0.250		113	50-150			
Trichloronate	0.137	0.050	"	0.250		55	50-150			
Surrogate: EPN	*1.94*		*"*	*2.50*		*78*	*50-150*			

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	17-1-004	**CLS Work Order #: 20I0722**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 209132

Organophosphorus Pesticides by EPA Method 8141A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2007476 - EPA 3510B GCNV										
LCS Dup (2007476-BSD1)				Prepared: 09/17/20 Analyzed: 09/18/20						
Methyl parathion	0.152	0.050	µg/L	0.250		61	50-150	0.4	30	
Ronnel	0.145	0.050	"	0.250		58	50-150	3	30	
Stirophos	0.275	0.050	"	0.250		110	50-150	3	30	
Trichloronate	0.140	0.050	"	0.250		56	50-150	2	30	
Surrogate: EPN	*1.86*		*"*	*2.50*		*74*	*50-150*			

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	17-1-004	**CLS Work Order #: 20I0722**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 209132

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2007522 - EPA 5030 Water MS										
Blank (2007522-BLK1)				Prepared & Analyzed: 09/17/20						
Di-isopropyl ether	ND	0.50	µg/L							
Ethyl tert-butyl ether	ND	0.50	"							
Methyl tert-butyl ether	ND	0.50	"							
tert-Amyl methyl ether	ND	0.50	"							
tert-Butyl alcohol	ND	5.0	"							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	1.0	"							
Surrogate: Toluene-d8	*9.22*		*"*	*10.0*		*92*	*72-125*			
LCS (2007522-BS1)				Prepared & Analyzed: 09/17/20						
Methyl tert-butyl ether	19.7	0.50	µg/L	20.0		98	52-130			
Surrogate: Toluene-d8	*9.45*		*"*	*10.0*		*95*	*72-125*			
LCS Dup (2007522-BSD1)				Prepared & Analyzed: 09/17/20						
Methyl tert-butyl ether	19.1	0.50	µg/L	20.0		96	52-130	3	30	
Surrogate: Toluene-d8	*9.48*		*"*	*10.0*		*95*	*72-125*			

Luhdorff & Scalmanini	Project:	Teichert Woodland	
500 First St.	Project Number:	17-1-004	**CLS Work Order #: 20I0722**
Woodland, CA 95695	Project Manager:	Jeanette Lovelis	COC #: 209132

Notes and Definitions

QS-4	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS and/or LCSD recovery.
QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
HT-F	This is a field test method and it is performed in the lab outside holding time.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Luhdorff & Scalmanini
Consulting Engineers

INSPECTOR'S DAILY REPORT

Client: Teichert Woodland
Project Name:
Project No.:
Contractor:
Item(s) of Work:

Date: 3-30-20
Location:
Day: M T W T F S S
Weather:
Time: Arrived: Left:

Time	Description
0940	Store Pond
	PH: 8.59 EC = 1318 TDS = 857 ORP = 130.4
	T = 15.9°C Turb = 2.34
1200	Muller Pond
	PH = 8.50 EC = 812 TDS = 529 ORP = 196
	T = 18.1°C Turb = 12.9

Signature:

Schwarzgraber well

Field Purge Data (Monitoring Wells)

Project Information			
Client Teichert Woodland	Date 3/30/20	Project No.	
Project	Technician SEK		

Well Information			
Well ID Schwarzgraber	Total Depth 65'	Casing Diameter 10"	PVC/Steel
Static Depth to Water (ft) 43.7	MP above GS (ft)		

Fluid Volumes

Standing Water Column (ft) 22' x ~~100~~ 4949 (0.16 (2"); 0.37 (3"); 0.65 (4"); 1.0 (5"); 1.5(6"); 2.6 (8")) = 90 Casing Volume (gal)

Casing Volume x 3 = 270 gallons / 5gpm = 54 minutes

Collected Data

Clock Time	Pumping Time	Q (gpm)	Total Q (gal)	Temp (F°/°C)	pH	Spec Cond (µS/cm)	Turbidity (NTU)	ORP (mV)	DO (mg/L)	TDS (mg/L)	
1325	0	~5									
1335	10		~50	18.5	7.76	694	4.54	137.9	8.14	454	
1340	15			18.1	7.77	692	10.1	136.5	7.98	473	
1355	30		~150	17.9	7.74	684	5.95	135.7	8.10	445	
1410	45			17.3	7.73	686	5.56	125.1	8.11	446	
1425	60		~300	17.0	7.75	682	3.57	128	8.06	443	

Notes
Sample Collected @ 1430

Signature

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Consulting Engineers

TA-25 Storz

Field Purge Data (Monitoring Wells)

Project Information			
Client	Date 3/31/20	Project No.	
Project	Technician		

Well Information			
Well ID	Total Depth 71'	Casing Diameter 2"	PVC/Steel
Static Depth to Water (ft) 37.94	MP above GS (ft)		

Fluid Volumes			
Standing Water Column (ft) 33	x 0.16 (2"); 0.37 (3"); 0.65 (4"); 1.0 (5"); 1.5(6"); 2.6 (8")	= 5.3	Casing Volume (gal)
Casing Volume x 3 = 15.9			

Collected Data

Clock Time	Pumping Time	Q (gpm)	Total Q (gal)	Temp (F°C)	pH	Spec Cond (µS/cm)	Turbidity (NTU)	ORP (mV)	DO (mg/L)	TDS (mg/L)
1000 ~~1005~~	0	~5								
1005	5		~~~25~~	18.2	7.68	1015	15.4	111.0	5.33	660
1010	10		~50	18.7	7.73	1110	9.6	108.7	6.44	678
1015	15		~75	18.1	7.71	1085	4.9	113.1	5.23	673

Notes

TA-25
3.31.20
1015

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Signature

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Consulting Engineers

TA-14

Field Purge Data (Monitoring Wells)

Project Information		
Client	Date 3-31-20	Project No.
Project	Technician	

Well Information			
Well ID	Total Depth 37'	Casing Diameter 2"	PVC/Steel
Static Depth to Water (ft) 30.07	MP above GS (ft)		

Fluid Volumes

Standing Water Column (ft) 7 x 0.16 (2"); 0.37 (3"); 0.65 (4"); 1.0 (5"); 1.5(6"); 2.6 (8") = 1.1 Casing Volume (gal)

Casing Volume x 3 = 3gallons

Collected Data

Clock Time	Pumping Time	Q (gpm)	Total Q (gal)	Temp (F°/°C)	pH	Spec Cond (µS/cm)	Turbidity (NTU)	ORP (mV)	DO (mg/L)	TDS (mg/L)	
	0										

Notes

Casing Bent Can't Get Pump Down!!

Page ____ of ____

Signature

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TA-13A

Field Purge Data (Monitoring Wells)

Project Information			
Client	Date 3-31-20	Project No.	
Project	Technician		

Well Information				
Well ID	Total Depth 61.5	Casing Diameter 2"	PVC/Steel	
Static Depth to Water (ft) 45.6	MP above GS (ft)			

Fluid Volumes			
Standing Water Column (ft) 16'	x 0.16 (2"); 0.37 (3"); 0.65 (4"); 1.0 (5"); 1.5(6"); 2.6 (8")	= 2.6	Casing Volume (gal)
Casing Volume x 3 = 7.8 gallons			

Collected Data

Clock Time	Pumping Time	Q (gpm)	Total Q (gal)	Temp (F°/C°)	pH	Spec Cond (uS/cm)	Turbidity (NTU)	ORP (mV)	DO (mg/L)	TDS (mg/L)
1120	0	~2								
1125	5	~2	~10	16.3	7.69	769	690.	125.3	5.66	499
1130	10	~2	~20	17.2	7.68	819	47.2	125.2	5.04	532
1135	15		~30	17.0	7.68	838	9.51	130	5.15	545
1140	20	~2	~40	17.1	7.69	832	5.8	130.7	5.03	541

Notes

Could not deploy pump past ~55'

so, only 10' of H_2O in column.

TA-13A 3-31-20 1140

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Signature

TA-18

Field Purge Data (Monitoring Wells)

Project Information			
Client		Date 3-31-20	Project No.
Project		Technician JCH	

Well Information			
Well ID	Total Depth 60'	Casing Diameter	(PVC)/Steel
Static Depth to Water (ft) 27.04		MP above GS (ft)	

Fluid Volumes

Standing Water Column (ft) 33' x (0.16 (2"); 0.37 (3"); 0.65 (4"); 1.0 (5"); 1.5(6"); 2.6 (8")) = 5.3 Casing Volume (gal)

Casing Volume x 3 = 15.9 gallons

Collected Data

Clock Time	Pumping Time	Q (gpm)	Total Q (gal)	Temp (F°/(C))	pH	Spec Cond (µS/cm)	Turbidity (NTU)	ORP (mV)	DO (mg/L)	TDS (mg/L)
1255	0	~3								
1300	5		15	18.1	7.77	869	22.1	142.3	4.94	565
1305	10		30	17.3	7.72	869	8.22	122.4	4.83	565
1310	15	~3	45	17.1	7.73	871	4.83	121.7	4.91	568

Notes TA-18
3-31-20
1315

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Signature

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Field Purge Data (Monitoring Wells)

Project Information

Client Tiechert	Date 3-31-2020	Project No.	
Project Tiechert Woodland	Technician B. Kearney		

Well Information

Well ID Stephens	Total Depth 75'	Casing Diameter 16"	PVC/Steel
Static Depth to Water (ft) 47.30'	MP above GS (ft) 1.0'	75-46.30' = 28.7'	

Fluid Volumes

Standing Water Column (ft) 28.7 x 0.16 (2"); 0.37 (3"); 0.65 (4"); 1.0 (5"); 1.5(6"); 2.6 (8") 10.4 ≈ 298.5 Casing Volume (gal)

Casing Volume x 3 = 895 gal

Collected Data

Clock Time	Pumping Time	Q (gpm)	Total Q (gal)	Temp (F°C)	pH	Spec Cond (µS/cm)	Turbidity (NTU)	ORP (mV)	DO (mg/L)	TDS (mg/L)	
10:35	Ø	ON	Ø								
10:40	5	2.9	14.3	17.92	8.49	1204	5.56	130.0	7.31	0.781	↑Q
11:00	25	3.7	88.3	17.96	8.50	1226	1.98	123.7	5.04	0.796	
11:30	55	"	199.3	17.78	8.58	1240	2.14	186.0	5.30	0.803	
12:00	85	"	310.3	17.83	8.54	1248	1.43	200.5	5.55	0.808	
12:30	115	"	421.3	17.82	8.48	1265	2.27	208.8	6.05	0.813	
13:00	145	"	532.3	17.98	8.38	1243	0.58	228.1	6.01	0.805	
13:30	175	"	643.3	18.08	8.40	1235	0.84	225.0	5.43	0.800	
14:00	205	"	754.3	18.10	8.42	1233	0.91	224.1	6.31	0.795	
14:45	250	"	920.8	18.13	8.40	1228	0.85	222.3	6.04	0.802	sample

Notes

N 38.68491° W 121.86669° NAD 83 handheld GPS

Bryn Kearney
Signature

Luhdorff & Scalmanini
Consulting Engineers

Appendix O

FEHR PEERS

Memorandum

Date: September 6, 2021

To: Heidi Tschudin, Tschudin Consulting Group

From: David Manciati, Fehr & Peers

Subject: Teichert Shifler Mining and Reclamation Project – Additional Traffic Analysis

RS19-3831

As requested by Yolo County, this memorandum provides a summary of the following items related to the Teichert Shifler Mining and Reclamation Project EIR:

- Intersection operations analysis methodology and results for the SR 16/Wildwing Drive intersection
- Revised project fair share estimates at State Route 16/CR 94B and State Route 16/CR 96

SR 16/Wildwing Drive Intersection Operations

Background

In November 2013, Fehr & Peers prepared a scope of work for a traffic study of the proposed project, which was subsequently approved by Yolo County. The scope of work identified several study intersections within the vicinity of the project site. However, the SR 16/Wildwing Drive intersection was not identified as a study intersection. Fehr & Peers could not locate documentation related to the reasoning for not including SR 16/Wildwing Drive as a study intersection.

It is possible that the intersection was not included because Wildwing Drive is a private roadway and, therefore, outside the jurisdiction of Yolo County and Yolo County General Plan policies. This practice is not uncommon in instances where a private roadway or driveway constitute one or more legs of an intersection within a study area. However, absent additional information regarding the traffic study scoping process, it would be speculative to assume that this was the rationale.

The Teichert Shifler Mining and Reclamation Project DEIR was released in December 2020. Multiple DEIR public comments pertained to traffic operations at SR 16/Wildwing Drive. As a result, Yolo County requested additional information regarding traffic operations at SR 16/Wildwing Drive to inform the preparation of the FEIR. Fehr & Peers subsequently prepared an intersection operations analysis for the SR 16/Wildwing Drive intersection, which is summarized in the following section.

LOS Analysis

Methodology

In support of the original traffic study, intersection turning movement data was collected at study intersections in 2014. Because SR 16/Wildwing Drive was not a study intersection, existing traffic volume data at this intersection is not currently available. Therefore, this analysis utilizes available nearby traffic volume data and industry standards to estimate peak hour traffic volumes at SR 16/Wildwing Drive.

Turning movement volumes collected at adjacent study intersections (SR 16/CR 94B and SR 16/I-505 Northbound Ramps) in 2014 were utilized to estimate eastbound and westbound approach volumes at SR 16/Wildwing Drive. Traffic volume estimates for vehicles entering and exiting the Wild Wings subdivision at Wildwing Drive were derived using trip generation data contained in the *Trip General Manual, 10th Edition* (Institute of Transportation Engineers, 2017). Peak hour trip rates for the Wild Wings subdivision were applied based on the manual's single-family detached home category (ITE Code 210) and the golf course category (ITE Code 430). Internalization (i.e., internal trips between single-family homes and between single-family homes and the golf course) was estimated using Fehr & Peers' MXD+ tool.

Table 1 presents the estimated number of vehicle trips generated by the Wild Wings subdivision during the AM and PM peak hours.

Table 1: Vehicle Trip Generation Estimate – Wild Wings Subdivision

Use	Unit	Vehicle Trip Generation Estimate					
		AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Single-Family Detached Housing[1]	337 dwelling units	61	183	244	205	121	326
Golf Course[2]	9 holes	13	3	16	14	12	26
Net Raw Project Trips		74	186	260	219	133	352
Internal Capture[3]		-9	-23	-32	-15	-9	-24
Total		**65**	**163**	**228**	**204**	**124**	**328**

Notes:

1. Vehicle trip generation estimate calculated using fitted curve equations obtained from *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers, 2017) for single-family detached housing (land use code 210).
2. Vehicle trip generation estimate calculated using fitted curve equations obtained from *Trip Generation Manual, 10th Edition* (Institute of Transportation Engineers, 2017) for golf course (land use code 430).
3. Internalization estimated using Fehr & Peers' MXD+ tool.

Source: Fehr & Peers, 2021.

The following summarizes other components of the analysis methodology:

- The operations analysis was conducted using procedures and methodologies consistent with the *Highway Capacity Manual (HCM), 6th Edition* (Transportation Research Board, 2016). These methodologies were applied using the Synchro 11 traffic analysis software.
- The SR 16/Wildwing Drive intersection was analyzed for the AM and PM peak hours under existing (2014) plus project, cumulative no project, and cumulative plus project conditions.
- Wild Wings trip generation estimates were assigned to the SR 16/Wildwing Drive intersection based on outputs from the SACMET base year travel demand forecasting model used in the traffic study.
- Heavy vehicle percentages for through movements were estimated based on original data collected for adjacent study intersections (i.e., SR 16/CR 94B and SR 16/I-505 northbound ramps). Where settings differed between the adjacent study intersections, the more conservative value was used. A heavy vehicle percentage of 3% was used for entering/exiting movements at Wildwing Drive.
- Peak hour factors for through movements were estimated based on original data collected for adjacent study intersections (i.e., SR 16/CR 94B and SR 16/I-505 northbound ramps). Where settings differed between the adjacent study intersections, the more conservative value was used. The HCM recommended default rural area peak hour factor of 0.88 was used for entering/exiting movements at Wildwing Drive.
- For the purposes of this analysis, the Yolo County General Plan was utilized to establish thresholds for acceptable intersection operations. Policy CI-3.1 H establishes LOS D or better as acceptable for SR 16 between I-505 and CR 98, which includes the SR 16/Wildwing Drive intersection. Because the intersection is side-street stop-controlled, this threshold is applied to the worst-case movement LOS.

Intersection Operations

Table 2 presents the weekday AM and PM peak hour traffic operations analysis results at SR 16/Wildwing Drive under existing plus project, cumulative, and cumulative plus project conditions (refer to Appendix for technical calculations).

The intersection would operate at acceptable LOS D or better under existing plus project conditions during both peak hours.

Under cumulative no project conditions, the intersection would operate at unacceptable LOS E during the AM peak hour and LOS F during the PM peak hour. Under cumulative plus project conditions, the project would increase delay but maintain LOS E during the AM peak hour. The project would not change PM Peak hour delay or LOS from cumulative no project conditions.

Table 2: Peak Hour Intersection Operations

Intersection	Traffic Control[1]	Peak Hour	Existing Plus Project Conditions		Cumulative No Project Conditions		Cumulative Plus Project Conditions	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]
State Route 16/Wildwing Drive	SSSC	AM	3 (19)	A (C)	**4 (36)**	**A (E)**	**4 (42)**	**A (E)**
		PM	4 (30)	A (D)	**6 (82)**	**A (F)**	**6 (82)**	**A (F)**

Notes: **Bold** indicates unacceptable conditions.

1. SSSC = side-street stop-controlled intersection
2. The table presents the average control delay for the whole intersection with the control delay for the lane group with the highest delay presented in parentheses.
3. LOS = level of service; calculated based on methodologies contained in the *Highway Capacity Manual* (HCM) *6th Edition*.

Source: Fehr & Peers, 2021.

The Yolo County TIS Guidelines establish that a project would cause an adverse effect to off-site traffic operations if an intersection operates unacceptably according to Policy CI-3.1 and CI-3.2 under a no project scenario and the project would add 10 or more peak hour trips. Under both cumulative no project and cumulative plus project conditions, the intersection would operate unacceptably during both peak hours. Moreover, the project would add 58 trips during the AM peak hour and 4 trips during the PM peak hour between cumulative no project and cumulative plus project conditions. Therefore, the project would cause an adverse effect to intersection operations under cumulative plus project conditions.

Peak Hour Signal Warrant Analysis

The California Manual on Uniform Traffic Control Devices (MUTCD) contains warrants to determine whether the installation of a traffic signal at a particular location is appropriate. The peak hour signal warrant (Warrant 3), one of nine warrants, was evaluated at SR 16/Wildwing Drive for both the AM and PM peak hours under existing plus project, cumulative, and cumulative plus project conditions. Because the surrounding community has a population of less than 10,000 people, the "rural" peak hour warrant analysis was applied.

The analysis showed that the peak hour signal warrant was met for the following scenarios (refer to Appendix for technical calculations):

- Existing plus project conditions – PM peak hour only (Warrant 3B)
- Cumulative no project conditions – Both AM and PM peak hours (Warrant 3B)
- Cumulative plus project conditions – Both AM and PM peak hours (Warrant 3B)

Potential Improvements

The following potential modifications would improve peak hour operations at SR 16/Wildwing Drive to acceptable LOS D or better under cumulative plus project conditions:

- The installation of a traffic signal.
- The installation of an eastbound merge lane on the east leg of the intersection. Such a merge lane would facilitate two-stage turning movements for southbound left-turning vehicles. First, the vehicle would use a gap in westbound traffic to turn into the merge lane and, second, the vehicle would merge with eastbound traffic to travel eastbound on SR 16. This improvement would result in LOS C operations during the AM peak hour and LOS D operations during the PM peak hour under cumulative plus project conditions.

The feasibility of these potential modifications requires further evaluation. The modifications would occur within Caltrans right-of-way, and thus would require review and approval by Caltrans. Furthermore, right-of-way acquisition may be necessary to accommodate the potential modifications described above.

Fair Share Assessment

Table 3 shows the project's fair share percentages at SR 16/Wildwing Drive by peak hour. Fair share percentages were derived using the Caltrans' Equitable Share Responsibility method. Using this method, the project's fair share is determined by estimating the percentage of total future traffic growth that would be attributable to the project.

Table 3: Fair Share Percentages – SR 16/Wildwing Drive

Intersection	Fair Share Percentage[1]	
	AM Peak Hour	PM Peak Hour
State Route 16/Wildwing Drive	10.9%	0.6%

Notes: 1. Fair share percentage based on Caltrans' Equitable Share Responsibility method.
Source: Fehr & Peers, 2021.

Fair Share at State Route 16/CR 94B and State Route 16/CR 96

Background

The traffic study concluded that the proposed project would cause a General Plan inconsistency related to LOS at the SR 16/CR 94B and SR 16/CR 96 intersections during the AM peak hour under cumulative plus project conditions. Fehr & Peers provided Yolo County with fair share percentages that reflected the proposed project's cumulative plus project contribution to unacceptable traffic operations at those two

intersections. While responding to DEIR comments, Fehr & Peers discovered a spreadsheet error that resulted in the need to correct the fair share percentages.

Revised Fair Share Percentages

Table 4 shows peak hour fair share percentages as originally submitted, as well as the revised values.

Table 4: Fair Share Percentages – SR 16/CR 94B and SR 16/CR 96

Intersection	Peak Hour Fair Share Percentage[1]			
	Original Submittal		Revised Values	
	AM	PM	AM	PM
State Route 16/County Road 94B	3.2%	0.2%	11.3%	0.9%
State Route 16/County Road 96	3.4%	0.3%	19.6%	2.6%

Notes:

1. Fair share percentage based on Caltrans' Equitable Share Responsibility method.

Source: Fehr & Peers, 2021.