Appendix B

Detailed Project Description

Hellman Properties, LLC
Hellman Ranch Gas Plant Project

Project Description

November 2019

Submitted To:

City of Seal Beach

Seal Beach, California

Submitted by:

Hellman Properties, LLC

Table of Contents

List of Table

List of Figures

1.0 Introduction

Hellman Properties, LLC is proposing to construct and operate a one million standard cubic foot per day (MMscfd) gas plant at their Hellman Ranch Oil and Gas Production Facility (OGPF). This document provides a description of the proposed gas plant project and includes a discussion of (1) the project location and current setting; (2) the purpose and need for the project; (3) a description of the gas plant; and (4) decommissioning and abandonment of the gas plant. The description of the gas plant covers both construction and operation of the proposed facility.

2.0 Project Location and Current Setting

This section of the project description discusses (1) the existing oil and gas operations; (2) the site for the proposed gas plant; and (3) the land use regulations covering the existing operations.

2.1 Existing Mineral Production Operations

The existing Hellman Ranch OGPF site is located east of the San Gabriel River, and north of Pacific Coast Highway in the City of Seal Beach. Seal Beach is located in the northwest portion of the County of Orange. A "Regional Map" is provided as Figure 1. Hellman Properties, LLC owns and operates the OGPF on the Hellman Ranch in Seal Beach, California. A project area map is provided in Figure 2. This facility has been in operation since the 1930's and consists of over 60 wells, oil and gas pipelines, offices, storage facilities, crude oil truck loading facilities, and a crude oil tank farm.

Currently the produced oil is treated at the site, placed in crude oil tanks and then loaded on to trucks for shipment to local refineries. The gas produced from the production wells is shipped via pipeline to a joint gas processing facility located at the Breitburn Energy Partners, LP site in Seal Beach. This gas processing facility is a joint venture and is used to process gas from several local oil and gas production sites. The processed gas is sold to Sothern California Gas (SoCal Gas). Some of the natural gas liquids (NGLs) produced as part of the gas processing operations are trucked back to the Hellman Ranch facility where they are blended with the crude oil. Figure 3 shows the location of the current gas processing site, the pipeline routes used to get the produced gas to the Seal Beach Gas Processing Joint Venture Gas Plant, and the location of the sales gas injection point for SoCal Gas.

2.2 Proposed Hellman Ranch Gas Plant Site

The proposed gas plant would be located within the southeastern part of the active oil production area, east of the office and west of the existing tank farm. The location is central to the oil field and provides existing access to all required pipelines and electrical power connections. Figure 4 shows the location of the proposed gas plant within the Hellman Ranch OGPF. The area currently includes several oil wells and tanks.

Figure 1 Regional Map

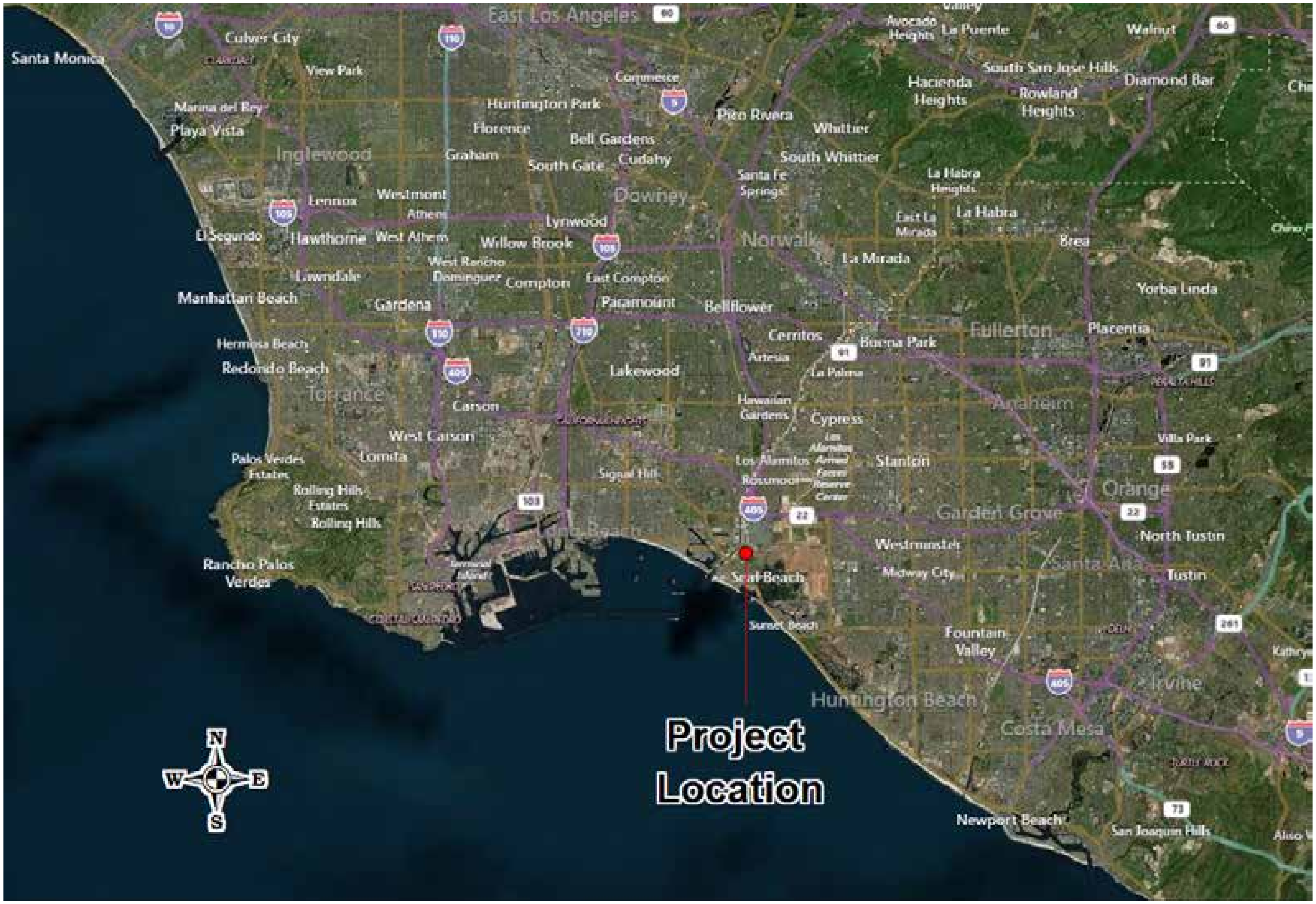


Figure 2 Project Area Map

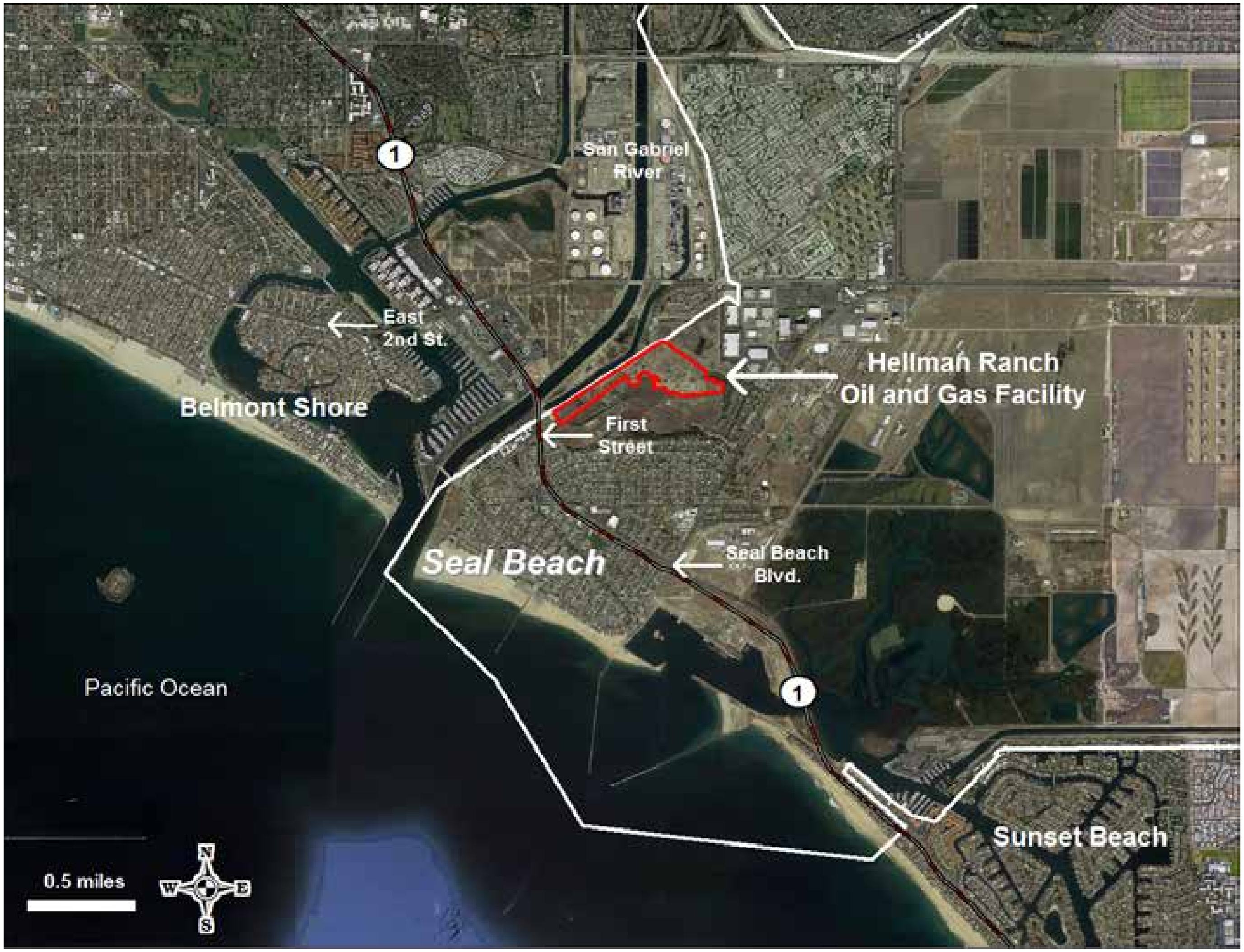


Figure 3 **Existing Facility Map**

The proposed site has been previously disturbed. The gas plant pad would be about 0.37 acres in size. The area is relatively level with surface elevation of about three feet above mean sea level. Existing improvements near the site consist of graded unpaved roads, graded pads, above and below ground pipelines, storage tanks, pumping units and electrical power lines.

The proposed gas plant site is accessible from the main roads within the Hellmann Ranch. Entrance to the Hellman Ranch OGPF is from Pacific Coast Highway.

The SoCal Gas pipeline injection point is located at a Hellman facility that is at the corner of Seal Beach Boulevard and Anchor Way. The site contains two wells, several oil storage tanks, and a SoCal Gas odorant injection/metering station. Sales gas from the Joint Venture Gas Plant is currently delivered to this location for injection into the SoCal Gas pipeline. This facility is connected to the Hellman Ranch OGPF via several pipelines (see Figure 3). The existing pipelines from the proposed gas plant location to the SoCal Gas injection point are about 4,800 feet in length.

The proposed gas plant is considered consistent with relevant provisions of the California Coastal Act and the approved Hellman Ranch project under CDP 5-97-367-A1.

2.3 Existing General Plan, Zoning and Other Land Use Regulations

City of Seal Beach

The Hellman Ranch property is zoned S.P.R. (Specific Plan Regulation). The Hellman Ranch Specific Plan (HRSP) was adopted by the City in October 1997. The HRSP provides for mineral production uses on portions of the property. The proposed gas plant is located on parcel APN 95-010-68. The proposed gas plant facilities would be located in Planning Area 9. Permitted land uses identified in the HRSP in Section 7.4.4, Development Planning Area 9, include the following:

- Drilling operations for the extraction, processing and transport of oil, gas or other mineral substances,
- Separation centers for oil and gas,
- Storage tanks and related facilities,
- Maintenance and operations yards in conjunction with mineral production,
- Administrative offices, and
- All facilities and equipment required for oil, gas and hydrocarbon production.

Therefore, the gas plant proposed for Planning Area 9 is consistent with the land use regulations of the HRSP. The HRSP was previously analyzed for compliance under the California Environmental Quality Act (CEQA) through the Final Environmental Impact Report (FEIR) for the HRSP, certified through City Council Resolution 4562. The FEIR for the HRSP did not analyze the installation of a new gas plant.

In addition, a Mitigated Negative Declaration (MND) was prepared by the City for the Hellman Ranch Tank Farm Replacement Project. This project was approved by the City of Seal Beach on

July 17, 2006; Resolution No. 5317 of the City Council of Seal Beach adopting Mitigated Negative Declaration 05-1 for the Hellman Ranch Tank Farm Replacement Project.

Orange County

The property is within the jurisdiction of the Orange County Fire Authority (OCFA). The OCFA regulates combustible materials in Seal Beach. Hellman LLC has permits from the OCFA that allows the installation, construction, alteration and operation of oil and gas processing facilities. It is likely that modification to the existing permits will be needed for the construction and operation of the gas plant.

California Coastal Commission

The Hellman Ranch is located within the coastal zone as determined in accordance with California Coastal Act, Section 30103 and is subject to the jurisdiction of the California Coastal Commission (CCC).

Sections 30260 and 30262 of the Coastal Act encourage and allow oil and gas development. Section 30260 states, in relevant part that:

> *"Coastal-dependent industrial facilities shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with this division."*

Section 30262 states, in relevant part that:

> *"Oil and gas development shall be permitted in accordance with Section 30260 if development is performed safely and consistent with the geologic conditions of the site .... and if the facilities are consolidated to the maximum extent feasible."*

Additionally, the CCC approved Hellman Ranch Coastal Development Permit 5-97-367-A1 on October 11, 2000. This approval included residential and open space land uses as well as grading and the subdivision of land. There were a number of special conditions associated with the approval. Special Condition 28 specifically relates to the mineral production property in the lowlands, where the proposed gas plant would be located. Special Condition 28 requires that once oil production ceases on the property the area needs to be reserved for public acquisition and wetland restoration/open space uses for a period of 25 years. This condition does not restrict maintenance, replacement of facilities, new facilities or in any way prohibit the continuing business of mineral production activities on the property.

In addition, the CCC issued a Coastal Development Permit for the Hellman Ranch Tank Farm Replacement Project. This project was approved by the CCC in April 2007; Application No. 5-05-229.

California Division of Oil, Gas and Geothermal Resources (DOGGR)

The State of California Division of Oil and Gas and Geothermal Resources (DOGGR) permits and oversees the production of oil and gas at the Hellman Ranch facility. Their primary focus is on the construction and operation of the production and water injection wells, as well as reservoir issues. DOGGR does not regulate the construction and operation of gas plants.

South Coast Air Quality Management District (SCAQMD)

All facilities that have the potential to emit at the OGPF are permitted with the SCAQMD. These include the vapor recovery system, the production tanks, wash tanks, Wemco unit, crude oil storage tanks, the crude oil truck loading rack, the thermal oxidizer, etc. Permits for the existing facilities from the SCAQMD are in place. New air permits will be required for the construction and operations of the proposed gas plant.

3.0 Purpose and Need for Project

The produced gas from the Hellman OGPF is currently shipped via pipeline to the Joint Venture gas processing plant located in the Seal Beach National Wildlife Refuge, a distance of about 9,400 feet. The Joint Venture Gas Plant is located within a facility owned by Breitburn Energy Partners, LP. Figure 3 shows the location of Breitburn gas processing plant and the connecting pipelines. The Joint Venture gas processing facility is used by several local producer for processing gas. The joint venture that operates the gas plant is being shut down and the assets will be distributed to the owners.

The proposed gas plant at the Hellman OGPF is need as a replacement for the Joint Venture gas plant. Without the proposed gas plant Hellman would need to flare the produced gas resulting in a substantial increase in air emissions and the loss of a local supply of natural gas and NGLs.

The purpose of the project is:

1. To construct and operate a new state of the art gas plant that is on the Hellman Ranch OGPF site, and
2. Design the gas plant to have adequate capacity to handle production from other gas producers displaced from the Joint Venture facility if they choose to use the proposed facility. At this time two operators have expressed interest in using the new gas plant when it is built.

Building a new gas plant at the Hellman Ranch OGPF site would offer several advantages that include the following:

1. The plant would be a new state-of-the-art facility that would be replacing a much older and less efficient facility, thereby increasing overall safety.
2. The project would eliminate the need to transport NGLs via truck from the Joint Venture facility to the Helman site.

3. The project would eliminate the need for Hellman to transport produced gas by pipeline to the Joint Venture facility.
4. The project would generate electrical power by burning the waste portion of the produced gas in a microturbine. This electrical power would be used to supply the power needs for the oil field operations.

4.0 Proposed Gas Plant

Hellman Properties, LLC is proposing to construct and operate a one MMscfd gas plant at their Hellman Ranch OGPF site in Seal Beach. The current joint venture for the gas plant at the Breitburn Energy Partners, LP site in Seal Beach is being terminated. The proposed gas plant has been designed with capacity to allow other users that currently process their gas at the Joint Venture facility to process their gas at the proposed gas plant. Existing pipelines are in place from the to deliver other gas to the proposed gas plant for processing.

The major pieces of equipment that would be needed for the gas plant are listed in Table 1 .

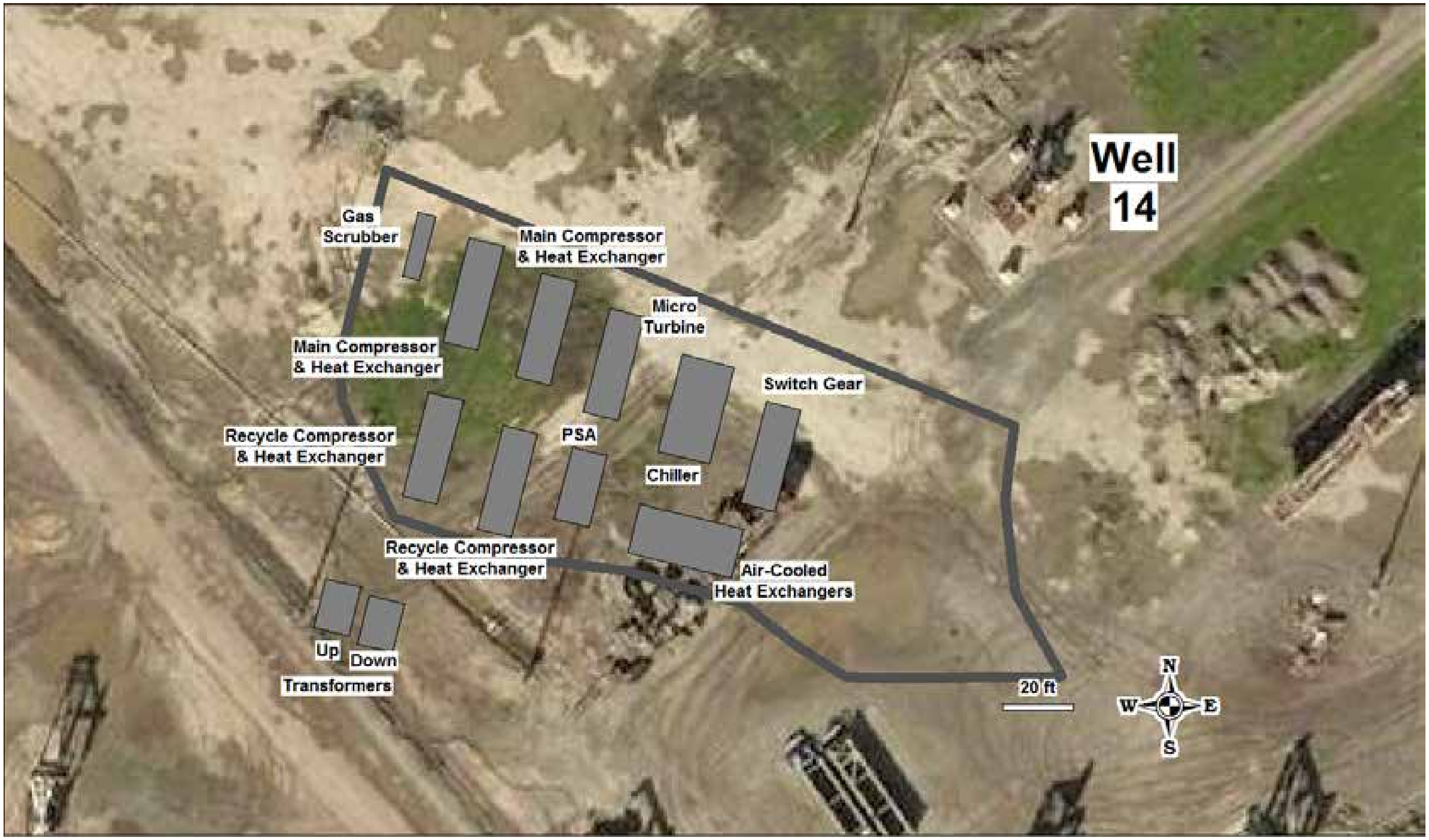
Table 1 Major Gas Plant Equipment Specifications

Equipment	Quantity	Dimensions	Power Use	Design Size
Gas Scrubbers	2	5’ diameter x 24’H	NA	1,000 Mscfd
Main Gas Compressors	2[a]	22’L x 8’W x7’10”H	200 hp	1,000 Mscfd
Recycle Compressors	2 [a]	20’L x 8’W x 7’6”H	100 hp	420 Mscfd
Pressure Swing Absorption Unit	1	19’L x7’6”Wx10’H	NA	1,000 Mscfd
Microturbines	5b	32’L x 8’W x 13’H	NA	1,000 kW output
Absorption Chiller	1	21’6”L x 7’9”W x 8’4”H	7 hp	859 MBtu/hr
Air-Chilled Heat Exchangers	1	21’L x 12”W x 13’H	20 hp	859 MBtu/hr
Main Gas Compressor Discharge Heat Exchangers	2 [a]	Included with Main Gas Compressor	NA	657.6 MBtu/hr
Recycle Gas Compressor Discharge Heat Exchangers	2 [a]	Included with Recycle Gas Compressor	NA	201.4 MBtu/hr
Switch Gear	1	15’L x 3’W x 10’H	NA	NA
Transformers	2	4’L x 3’6”W x 7’H	NA	1,500 KVA
Sales Gas Compressor[c]	1	10’L x 6’W x 5’H	100 hp	673 Mscfd

a. One is a backup for use during downtime on the main unit.
b. Each microturbine unit has a design capacity of 200 kW.
b. Sales gas compressor would be located offsite at the SoCal Gas injection point (see Figure 2).
MBtu/hr – thousand british thermal units per hour.
Mscfd – thousand standard cubic feet per day.
KVA– kilo-volt-ampere
kW– kilowatts

Figure 4 shows the layout of the equipment at the proposed gas plant site. The proposed site for the gas plant has access to the existing gas pipelines, and SCE powerlines.

Figure 4 Equipment Layout for the Proposed Gas Plant



4.1 Proposed Gas Plant Construction

Construction of the proposed gas plant would take about six to eight months to complete and involve several phases that include (1) Site Preparation and Grading; (2) Foundation Installation; (3) Equipment Installation; and (4) Paving and Finish Work. Each of these phases is discuss later in this section.

Table 2 provides a list of estimated onsite equipment that would be needed for each phase of construction. Table 3 provides a list of estimated offsite equipment that would be needed for each phase of construction.

Table 2 Estimated Onsite Construction Equipment

Phase/Equipment	Number	Horsepower	Duration (working days)
Site Preparation/Grading			
Dozer, Cat D6	1	207	60
Grader, Cat14	1	259	60
Excavator, 4.0 cy	1	225	60
Tractor/Loader/Backhoe, 1.5-2.0 cy	2	100	60
Wheel Loader, 3.4-4.0 cy	1	200	60
Truck, 10 cy	2	210	60
Compactor, Cat815	1	235	60
Water Truck, 4-5k Gallons	1	175	60
Concrete Intertrial Saw, ,5-7” wet cut	2	35	60
Foundation Installation			
Tractor/Loader/Backhoe, 1.5-2.0 CY	1	100	20
Bore/Drill Rig, 24-36” Auger	1	68	20
Water Pump, 100-500 gpm	2	50	20
Concrete Pump	1	150	15
Concrete Vibrator, heavy duty	2	6	15
Water Truck, 4-5k Gallons	1	175	20
Equipment Installation			
Crane, 20-50 ton, hydraulic	1	150	10
Forklift, 8-9 K# teleboom	2	73	60
Aerial Lift, 30’	2	60	40
Tractor/Loader/Backhoe, 1.5-2.0 CY	2	100	60
Generator Set, 6-10kW, diesel	4	18	75
Welding Units, 500-800 AMP, diesel	4	42	75
Air Compressor, 100-200 CFM, diesel	3	50	75
Paving and Finish Work			
Paver	1	130	10
Compactor, 24-36” Roller Walk behind	1	10	10
Tractor/Loader/Backhoe, 1.5-2.0 CY	1	100	10

Table 3 Estimated Offsite Construction Equipment

Phase/Equipment	Vehicle	Vehicle Type	Quantity (Round Trips)	
			Peak Day	Total
Site Preparation/Grading				
Equipment Delivery/Removal	Truck	T7 Tractor Con.	10	20
Soil and Other Base Material	Truck	T7 Tractor Con.	35	360
Other Supplies	Truck	T7 Tractor Con.	8	40
Other Deliveries	Truck	T7 Tractor Con.	3	40
Workers	Auto/Pickup	LDA	22	1,320
Foundation Installation				
Concrete Deliveries	Truck	T7 Tractor Con.	16	30
Other Supplies	Truck	T7 Tractor Con.	3	25
Other Deliveries	Truck	T7 Tractor Con.	3	25
Workers	Auto/Pickup	LDA	14	250
Equipment Installation				
Equipment Delivery/Removal	Truck	T7 Tractor Con.	10	40
Other Supplies	Truck	T7 Tractor Con.	3	50
Other Deliveries	Truck	T7 Tractor Con.	5	70
Workers	Auto/Pickup	LDA	25	1,850
Paving and Finish Work				
Equipment Delivery/Removal	Truck	T7 Tractor Con.	3	6
Other Supplies	Truck	T7 Tractor Con.	3	20
Other Deliveries	Truck	T7 Tractor Con.	3	20
Workers	Auto/Pickup	LDA	8	80

Site Preparation and Grading

The initial site preparation would involve removal of the vegetative cover and over-excavating within the limits of earth fill pad. The construction area would be cleared of any vegetation and stripped of miscellaneous debris and other deleterious material. Organic matter and other material that may interfere with the completion of the work would be removed from the limits of the construction area.

Due to the clay rich composition of the existing soils, the pad area would need to be excavated down and engineered material would need to be brought into the site to construct the final pad. This work would require approximately 2,305 cubic yards of cut and 3,555 cubic yards of fill. The site would be excavated down about four feet and the soil would be removed. The excavated depth would be about minus one-foot mean sea level. The excavated material would spread out in various soil recovery areas that were also used for cut removed during the tank farm replacement project. The location of these soil recovery areas is shown in Figure 5. Any organic rich soil would be stockpiled separately for future landscaping use.

All active or inactive utility lines within the construction area would be relocated, abandoned, or fully protected during construction.

Figure 5 Location of Soil Relocation Areas

During all ground disturbance activities archeological and Native American monitors would be present. These monitors would be actively involved in the planning and implementation of the earth disturbance and moving activities.

The clays at the bottom of the over-excavation are anticipated to be saturated and soft based on the soil conditions encountered during the geotechnical studies. Nonwoven geotextile would be placed at the bottom of the excavation as a separator fabric and then a minimum of 8-inch thick open-graded crushed rock would be placed down to serve as a stabilization mat for the remainder of the compacted earth fill.

Based on groundwater levels encountered during the geotechnical investigations, excavations for earthwork and foundation preparation for the at-grade structures are not expected to encounter groundwater. However, near ground surface soils are anticipated to be nearly saturated and wet soil conditions would likely be encountered.

Fill material would be imported to the site to construct the final pad to an elevation of five to six feet mean sea level. This will increase the overall height of the pad by about two to three feet from the existing conditions. It is anticipated that up to four principal fill types may be used to create the final pad. These would include:

- Open-Grade Crushed Rock,
- Aggregate Base,
- Sand-Cement Slurry, and
- General Engineered Fill/Backfill.

Only existing roads would be used to access the site. Crushed gravel would make up the final base of the gas plant pad. Final site grading would provide surface drainage away from at-grade structures and slabs-on-grade toward suitable discharge facilities. The grading work is expected to take about six weeks to complete.

Foundation Installation

Each of the major pieces of equipment would be placed on concrete at-grade mat foundations. The estimated size of the various foundations is listed in Table 4. The foundations would be supported by cast-in-drilled-hole (CIDH) piles that would be 24 to 30 inches in diameter. The depth of the CIDH piles would be approximately 25 feet below finished grade.

Table 4 Estimated Equipment Foundation Sizes

Equipment Pad	Length (ft)	Width (ft)	Height (ft)
Gas Scrubbers	20	5	2.5
Main Gas Compressor #1	32	10	2.5
Main Gas Compressor #2	32	10	2.5
Recycle Compressor #1	32	10	2.5

Table 4 Estimated Equipment Foundation Sizes

Equipment Pad	Length (ft)	Width (ft)	Height (ft)
Recycle Compressor #2	32	10	2.5
PSA	22	10	2.5
Micro Turbine	32	10	2.5
Absorption Chiller	30	15	2.5
Cooling ACHE	30	15	2.5
Switch Gear	32	10	2.5
Transformers	12	6	2.5

An alternative to at-grade mat foundations, would be to use deep foundation design that would involve installing square precast prestressed concrete (SPPC) piles that would be used to support the equipment loads. The SPPC piles would likely be 12 to 14-inches and be driven to a depth of about 34 feet below top of the completed pad. The decision on the foundation design would be made during the final design phase.

All new pipelines installed as part of the project would be above ground. The only new piping that is needed is the interconnecting piping for the gas plant equipment. As needed, the piping would be supported with shallow foundations or CIDH pile foundations. The typical shallow foundations for concrete sleeper type pipe supports consist of strip footings which are typically approximately 4 feet wide and as long as 30 feet depending on the number of pipes supported. The shallow foundations would be set at a minimum of one-foot below finished grade.

The installation of the foundations is expected to take about four weeks to complete.

Equipment Installation

This task would involve (1) delivering the equipment to the site; (2) installing the equipment on their foundations; (3) installing the interconnecting piping and associated electrical and control systems; and (4) testing and startup of the equipment. All the equipment will be skid mounted for direct installation on the pads except for the scrubber vessels. As each piece of equipment is delivered it will be placed on the appropriate pad and then bolted into place using tiedown bolts that were installed as part of the foundation installation.

Once equipment has been installed, the interconnecting piping and associated electrical lines will be run to each piece of equipment. Control systems for the equipment will be installed and connected to electrical power. Powerlines will be installed from the microturbine to the transformers. The transformers will be connected to the facility power grid and the SCE powerlines.

During this phase of the project, the fire protection system would be installed that would include combustible gas detectors, a stand pipe to allow the connection of fire hoses, and fire extinguishers for use when area is attended by maintenance or operations personnel. Fire water to the gas plant site would be provided from the fire water tank located at the oil tank farm. The oil tank farm has an existing 1,500 bbl fire water tank with a 1,000 gpm pump rated at 105 psi. The fire water tank is connected to the Seal Beach City water supply.

Lighting for the facility would also be installed during this phase. All required lighting would be directed and shielded so that light is directed away from wetlands, other sensitive habitat areas, and residential areas. None of the lighting would be skyward-casting, and all the lighting would be dark sky compliant. The lowest intensity lighting would be used that is appropriate to the intended use of the lighting. Use of night lighting shall be avoided, except for intermittent use during facility maintenance and during any emergency.

Once all the equipment has been installed, it will go through a test phase and then a startup phase prior to beginning full operation. Equipment installation, testing and startup is expected to take about four months to complete.

Paving and Finish Work

During the equipment installation phase, the entrance road to the gas plant pad would be paved and final work on the gas plant pad surface would be conducted. This work is expected to take about one week to complete.

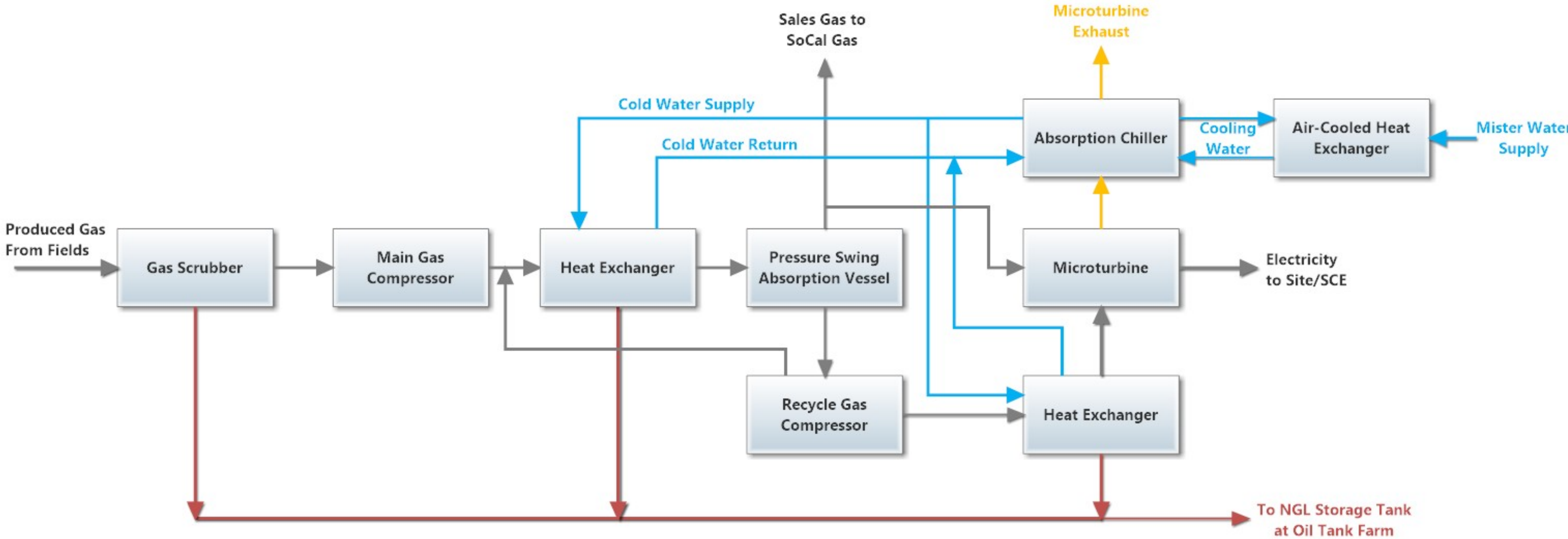
4.2 Proposed Gas Plant Operations

Figure 6 shows a simplified block flow diagram of the proposed gas plant. Produced gas from the Hellman Ranch site as well as possibly other local producers would be delivered to the gas plant via existing pipelines. The gas would pass through scrubber vessels to knock out any natural gas liquids (NGLs). The liquids would be sent via an existing pipeline to the exiting 12,000-gallon NGL storage tank, which is located at the existing field gas compressor plant. The gas from the scrubber vessels would be compressed using an electrically driven compressor and then cooled in a heat exchange.

The gas would then travel to the pressure swing absorption vessels (PSAs), which are used to separate out the produced gas components such as carbon dioxide, propane, butane, and NGLs. The resulting sales gas that comes off the top of the PSAs, would meet the requirements for sales to SoCal Gas. The sales gas from the PSA would be sent to the existing SoCal Gas injection point via an existing pipeline. This pipeline operates at low pressure (20-50 psig). The gas would be compressed at the injection site to the SoCal Gas delivery pressure of 120 psig. SoCal Gas maintains an odorant station at the injection point, where odorant would be added to the gas prior to injection into the SoCal Gas pipeline.

The heavier produced gas components recovered from the PSAs would be compressed using an electrically driven compressor and then cooled in a heat exchange to remove the remaining NGLs. The gas liquids would be sent via pipeline to the exiting 12,000-gallon NGL storage tank.

Figure 6 Simple Block Flow Diagram of the Proposed Gas Plant



The remaining produced gas would be sent to a microturbine to generate electricity for use at the site or could be sold to Southern California Edison (SCE). Some of the waste heat from the exhaust of the microturbine would be used to provide energy to the absorption chiller, which provides the cooling fluid for the heat exchangers associated with each of the compressors

The absorption chiller uses a refrigerant with a very low boiling point. When the refrigerant evaporates (boils), it takes some heat away with it, providing the cooling effect that is used to cool the water that circulates to the compressor heat exchangers. The absorption chiller changes the gas back into a liquid using a method that needs only heat and has no moving parts other than the pumps to move the refrigerant. The heat source for the absorption chiller would be the exhaust from the microturbine.

The absorption cooling cycle occurs in three phases:

- **Evaporation:** A liquid refrigerant evaporates in a low-pressure environment, thus extracting heat from its surroundings. Because of the low-pressure, the temperature needed for evaporation is also low.
- **Absorption:** The now gaseous refrigerant is absorbed by another liquid (e.g. a salt solution), which is then used to cool the water that feeds the compressor heat exchangers.
- **Regeneration:** The refrigerant-saturated liquid is heated using the exhaust gas from the microturbine, causing the refrigerant to evaporate out. The hot gaseous refrigerant passes through a heat exchanger, transferring its heat to the water from the air-cooled heat exchangers and condenses. The condensed (liquid) refrigerant returns to the evaporator where the process starts again.

The heat recovered from the regeneration process is carried away from the absorption chiller via a closed water system that is sent to the air-cooled heat exchangers (ACHEs). The heat from the water is removed in the ACHEs using fans that blow air along a set of fins, where the heat is dissipated to the atmosphere. The cooled water from the ACHEs is returned to the absorption cooler regenerator to pick up additional heat. During periods of hot weather, when the air temperature is above 77^{o}F, water misters are needed on the ACHEs to aid in removing the required heat.

No new employees would be needed to operate the gas plant. The existing staffing at the Hellman facility would be adequate to operate the plant. Maintenance work on the facility would be done by outside contracts. It is expected that as many as three maintenance visits per week would be required. In addition, three to four deliveries per month would be needed to service the new gas plant.

All electrical supply for the gas plant would be provide by the microturbine. The annual average daily water use for the gas plant has been estimated to be between 500 and 1,000 gallons per day. Most of this water would be needed for the ACHE misters.

An alternative to the absorption chiller that could be used would be a refrigerant based air-cooled scroll compressor system. This system would have a similar footprint as the absorption chiller. This type of system would use more electrical power, but less water for misting. The exhaust gas from the microturbine would not be used with this type of system. This system can achieve lower cooling water temperatures that could help to improve the recovery efficiency of the NGLs. The selection of the chiller will be made as part of the final design engineering.

5.0 Proposed Gas Plant Lifetime and Decommissioning

The gas plant would be in operation for the remaining life of the Hellman Ranch Oil Field. The remaining life of the oil field is dependent on many factors, some of which include the price of oil, the production levels of the reservoir, and the overall operating costs of the field. It is expected that the oil field would continue to operate for another 30 to 50 years based upon current economic conditions. Once the oil field has shutdown, all the facilities, including the gas plant would be decommissioned and removed and the site would be restored.