

Appendix H

Noise Data and Modeling

Noise Measurement 1 (near IW-1)

Data Logger 2

Duration (seconds)		3
Weighting	A	
Response	SLOW	
Range	40-100	
L05		72.4
L10		71
L50		63
L90		51.9
L95		50.8
Lmax		82.1
Time	12/20/2019 13:53	
SEL		95.1
Leq		67.4

Leq (Manual)

67.4

No.s	Date Time	dB	Sound Energy
1	12/20/2019 13:49	51.9	464644.9857
2	12/20/2019 13:49	58.3	2028248.926
3	12/20/2019 13:49	71.8	45406837.45
4	12/20/2019 13:49	69.7	27997629.02
5	12/20/2019 13:49	70.3	32145579.16
6	12/20/2019 13:49	66.8	14358902.77
7	12/20/2019 13:49	59.5	2673752.814
8	12/20/2019 13:49	57.3	1611095.389
9	12/20/2019 13:49	55.5	1064440.168
10	12/20/2019 13:50	55.1	970780.9708
11	12/20/2019 13:50	69.5	26737528.14
12	12/20/2019 13:50	65.5	10644401.68
13	12/20/2019 13:50	69.8	28649777.58
14	12/20/2019 13:50	69.2	24952913.13
15	12/20/2019 13:50	70.3	32145579.16
16	12/20/2019 13:50	61.4	4141152.794
17	12/20/2019 13:50	56.1	1222140.833
18	12/20/2019 13:50	55	948683.2981
19	12/20/2019 13:50	53.4	656328.4872
20	12/20/2019 13:50	54.1	771118.7348
21	12/20/2019 13:50	68.4	20754929.13
22	12/20/2019 13:50	63	5985786.945
23	12/20/2019 13:50	65	9486832.981
24	12/20/2019 13:50	74.8	90598551.61
25	12/20/2019 13:50	65.8	11405681.89
26	12/20/2019 13:50	64.7	8853627.68
27	12/20/2019 13:50	64.7	8853627.68

28	12/20/2019 13:50	56.9	1469336.458
29	12/20/2019 13:50	57	1503561.701
30	12/20/2019 13:51	70	30000000
31	12/20/2019 13:51	70.9	36908063.12
32	12/20/2019 13:51	70.1	30698789.77
33	12/20/2019 13:51	69.1	24384915.48
34	12/20/2019 13:51	60.2	3141385.644
35	12/20/2019 13:51	57.7	1766530.966
36	12/20/2019 13:51	63.1	6125213.834
37	12/20/2019 13:51	68.3	20282489.26
38	12/20/2019 13:51	60.2	3141385.644
39	12/20/2019 13:51	58.2	1982080.344
40	12/20/2019 13:51	66.6	13712645.69
41	12/20/2019 13:51	63.1	6125213.834
42	12/20/2019 13:51	65.3	10165324.68
43	12/20/2019 13:51	56.7	1403205.424
44	12/20/2019 13:51	73.5	67161634.16
45	12/20/2019 13:51	65.1	9707809.708
46	12/20/2019 13:51	56.7	1403205.424
47	12/20/2019 13:51	54.3	807460.4412
48	12/20/2019 13:51	62.1	4865430.292
49	12/20/2019 13:51	75.7	111460568.7
50	12/20/2019 13:52	74.5	84551487.94
51	12/20/2019 13:52	64.7	8853627.68
52	12/20/2019 13:52	67.3	16110953.89
53	12/20/2019 13:52	66.8	14358902.77
54	12/20/2019 13:52	58.7	2223930.724
55	12/20/2019 13:52	54.8	905985.5161
56	12/20/2019 13:52	53.4	656328.4872
57	12/20/2019 13:52	53	598578.6945
58	12/20/2019 13:52	51.1	386474.8655
59	12/20/2019 13:52	50.8	360679.3304
60	12/20/2019 13:52	51.6	433631.9312
61	12/20/2019 13:52	51.9	464644.9857
62	12/20/2019 13:52	56.4	1309547.497
63	12/20/2019 13:52	65.8	11405681.89
64	12/20/2019 13:52	71.1	38647486.55
65	12/20/2019 13:52	71.2	39547702.16
66	12/20/2019 13:52	64.3	8074604.412
67	12/20/2019 13:52	60.4	3289434.588
68	12/20/2019 13:52	56.5	1340050.776
69	12/20/2019 13:52	70.4	32894345.88
70	12/20/2019 13:53	67.5	16870239.76
71	12/20/2019 13:53	58.3	2028248.926
72	12/20/2019 13:53	54.3	807460.4412
73	12/20/2019 13:53	54.3	807460.4412
74	12/20/2019 13:53	60.9	3690806.312

75	12/20/2019 13:53	72.6	54591025.76
76	12/20/2019 13:53	72.9	58495337.99
77	12/20/2019 13:53	71.9	46464498.57
78	12/20/2019 13:53	69.7	27997629.02
79	12/20/2019 13:53	73.4	65632848.72
80	12/20/2019 13:53	68.1	19369626.87
81	12/20/2019 13:53	68.3	20282489.26
82	12/20/2019 13:53	80.9	369080631.2
83	12/20/2019 13:53	72.7	55862614.1
84	12/20/2019 13:53	68.8	22757327.25
85	12/20/2019 13:53	68.8	22757327.25
86	12/20/2019 13:53	70.1	30698789.77
87	12/20/2019 13:53	68.2	19820803.44
88	12/20/2019 13:53	71.3	40468886.48
89	12/20/2019 13:53	68.2	19820803.44
90	12/20/2019 13:54	64.2	7890803.976
91	12/20/2019 13:54	57.2	1574422.381
92	12/20/2019 13:54	54.1	771118.7348
93	12/20/2019 13:54	67.3	16110953.89
94	12/20/2019 13:54	63.2	6267888.393
95	12/20/2019 13:54	72.4	52134024.86
96	12/20/2019 13:54	63.9	7364126.747
97	12/20/2019 13:54	54.9	927088.6298
98	12/20/2019 13:54	54.6	865209.4509
99	12/20/2019 13:54	60.3	3214557.916
100	12/20/2019 13:54	70.9	36908063.12
101	12/20/2019 13:54	74	75356592.95
102	12/20/2019 13:54	68.6	21733078.8
103	12/20/2019 13:54	60.3	3214557.916
104	12/20/2019 13:54	54.4	826268.611
105	12/20/2019 13:54	52.5	533483.823
106	12/20/2019 13:54	52.3	509473.0957
107	12/20/2019 13:54	53.5	671616.3416
108	12/20/2019 13:54	64.6	8652094.509
109	12/20/2019 13:54	67.8	18076787.58
110	12/20/2019 13:55	58.4	2075492.913
111	12/20/2019 13:55	53.4	656328.4872
112	12/20/2019 13:55	51.4	414115.2794
113	12/20/2019 13:55	51.4	414115.2794
114	12/20/2019 13:55	52.2	497876.0722
115	12/20/2019 13:55	56.3	1279738.556
116	12/20/2019 13:55	63.4	6563284.872
117	12/20/2019 13:55	69.6	27360325.18
118	12/20/2019 13:55	67.2	15744223.81
119	12/20/2019 13:55	62.7	5586261.41
120	12/20/2019 13:55	61.2	3954770.216
121	12/20/2019 13:55	75.4	104021055.1

122	12/20/2019 13:55	70.3	32145579.16
123	12/20/2019 13:55	67	15035617.01
124	12/20/2019 13:55	59	2382984.704
125	12/20/2019 13:55	68.1	19369626.87
126	12/20/2019 13:55	68.6	21733078.8
127	12/20/2019 13:55	59	2382984.704
128	12/20/2019 13:55	51.2	395477.0216
129	12/20/2019 13:55	48.8	227573.2725
130	12/20/2019 13:56	48.6	217330.788
131	12/20/2019 13:56	49.4	261289.077
132	12/20/2019 13:56	48.9	232874.135
133	12/20/2019 13:56	49.4	261289.077
134	12/20/2019 13:56	50.2	314138.5644
135	12/20/2019 13:56	52.9	584953.3799
136	12/20/2019 13:56	64	7535659.295
137	12/20/2019 13:56	69.1	24384915.48
138	12/20/2019 13:56	58.1	1936962.687
139	12/20/2019 13:56	51.6	433631.9312
140	12/20/2019 13:56	50.7	352469.2665
141	12/20/2019 13:56	52.3	509473.0957
142	12/20/2019 13:56	70.6	34444608.64
143	12/20/2019 13:56	63.2	6267888.393
144	12/20/2019 13:56	68.9	23287413.5
145	12/20/2019 13:56	63.5	6716163.416
146	12/20/2019 13:56	54.9	927088.6298
147	12/20/2019 13:56	59.3	2553414.115
148	12/20/2019 13:56	71	37767762.35
149	12/20/2019 13:56	67.4	16486226.22
150	12/20/2019 13:57	67.4	16486226.22
151	12/20/2019 13:57	57.9	1849785.006
152	12/20/2019 13:57	51.9	464644.9857
153	12/20/2019 13:57	60.6	3444460.864
154	12/20/2019 13:57	67.2	15744223.81
155	12/20/2019 13:57	57.1	1538584.152
156	12/20/2019 13:57	51.1	386474.8655
157	12/20/2019 13:57	53.3	641388.6269
158	12/20/2019 13:57	60.1	3069878.977
159	12/20/2019 13:57	65.8	11405681.89
160	12/20/2019 13:57	71.2	39547702.16
161	12/20/2019 13:57	71.1	38647486.55
162	12/20/2019 13:57	63.5	6716163.416
163	12/20/2019 13:57	57.8	1807678.758
164	12/20/2019 13:57	53.5	671616.3416
165	12/20/2019 13:57	53.4	656328.4872
166	12/20/2019 13:57	59.7	2799762.902
167	12/20/2019 13:57	69.5	26737528.14
168	12/20/2019 13:57	71.1	38647486.55

169	12/20/2019 13:57	65.9	11671354.35
170	12/20/2019 13:58	63.8	7196498.757
171	12/20/2019 13:58	64.3	8074604.412
172	12/20/2019 13:58	57.1	1538584.152
173	12/20/2019 13:58	70.1	30698789.77
174	12/20/2019 13:58	72.8	57163821.54
175	12/20/2019 13:58	69.8	28649777.58
176	12/20/2019 13:58	66.3	12797385.56
177	12/20/2019 13:58	66.1	12221408.33
178	12/20/2019 13:58	56.1	1222140.833
179	12/20/2019 13:58	51.3	404688.8648
180	12/20/2019 13:58	64.3	8074604.412
181	12/20/2019 13:58	65.2	9933933.644
182	12/20/2019 13:58	55.1	970780.9708
183	12/20/2019 13:58	52.4	521340.2486
184	12/20/2019 13:58	69.8	28649777.58
185	12/20/2019 13:58	72.9	58495337.99
186	12/20/2019 13:58	66.1	12221408.33
187	12/20/2019 13:58	62.1	4865430.292
188	12/20/2019 13:58	70.2	31413856.44
189	12/20/2019 13:58	64.1	7711187.348
190	12/20/2019 13:59	58.2	1982080.344
191	12/20/2019 13:59	56	1194321.512
192	12/20/2019 13:59	55.5	1064440.168
193	12/20/2019 13:59	69.5	26737528.14
194	12/20/2019 13:59	69.6	27360325.18
195	12/20/2019 13:59	62	4754679.577
196	12/20/2019 13:59	61.5	4237612.634
197	12/20/2019 13:59	68.5	21238373.53
198	12/20/2019 13:59	66.3	12797385.56
199	12/20/2019 13:59	64.3	8074604.412
200	12/20/2019 13:59	65	9486832.981

Noise Measurement 2 (near IW-2a and -2b)

Data Logger 2

Duration (seconds) 3

Weighting A

Response SLOW

Range 40-100

L05 78.2

L10 76.9

L50 68

L90 56.9

L95 54.3

Lmax 83.6

Time 12/20/2019 13:28

SEL 97.7

Leq 72.6

Leq (Manual)

72.6

No.s	Date Time	dB	Sound Energy
1	12/20/2019 13:25	52.4	521340.2486
2	12/20/2019 13:25	57.4	1648622.622
3	12/20/2019 13:25	81.4	414115279.4
4	12/20/2019 13:26	72.1	48654302.92
5	12/20/2019 13:26	63.8	7196498.757
6	12/20/2019 13:26	79.7	279976290.2
7	12/20/2019 13:26	77.8	180767875.8
8	12/20/2019 13:26	68.6	21733078.8
9	12/20/2019 13:26	76.4	130954749.7
10	12/20/2019 13:26	77.4	164862262.2
11	12/20/2019 13:26	67.4	16486226.22
12	12/20/2019 13:26	59.8	2864977.758
13	12/20/2019 13:26	62.8	5716382.154
14	12/20/2019 13:26	72.1	48654302.92
15	12/20/2019 13:26	62.6	5459102.576
16	12/20/2019 13:26	55.5	1064440.168
17	12/20/2019 13:26	53.8	719649.8757
18	12/20/2019 13:26	70.2	31413856.44
19	12/20/2019 13:26	77.1	153858415.2
20	12/20/2019 13:26	71.2	39547702.16
21	12/20/2019 13:26	62.7	5586261.41
22	12/20/2019 13:26	70.1	30698789.77
23	12/20/2019 13:26	77.6	172631981.2
24	12/20/2019 13:27	74.4	82626861.1
25	12/20/2019 13:27	77.6	172631981.2
26	12/20/2019 13:27	67.9	18497850.06
27	12/20/2019 13:27	76.5	134005077.6

28	12/20/2019 13:27	78.8	227573272.5
29	12/20/2019 13:27	75	94868329.81
30	12/20/2019 13:27	71.2	39547702.16
31	12/20/2019 13:27	62.5	5334838.23
32	12/20/2019 13:27	57	1503561.701
33	12/20/2019 13:27	65.4	10402105.51
34	12/20/2019 13:27	75.7	111460568.7
35	12/20/2019 13:27	73	59857869.45
36	12/20/2019 13:27	63.3	6413886.269
37	12/20/2019 13:27	58.9	2328741.35
38	12/20/2019 13:27	68.7	22239307.24
39	12/20/2019 13:27	64.6	8652094.509
40	12/20/2019 13:27	75.2	99339336.44
41	12/20/2019 13:27	75.9	116713543.5
42	12/20/2019 13:27	74	75356592.95
43	12/20/2019 13:27	73.4	65632848.72
44	12/20/2019 13:28	74.2	78908039.76
45	12/20/2019 13:28	63.8	7196498.757
46	12/20/2019 13:28	56.5	1340050.776
47	12/20/2019 13:28	56.6	1371264.569
48	12/20/2019 13:28	75.3	101653246.8
49	12/20/2019 13:28	79.3	255341411.5
50	12/20/2019 13:28	70.4	32894345.88
51	12/20/2019 13:28	61.7	4437325.165
52	12/20/2019 13:28	58.4	2075492.913
53	12/20/2019 13:28	68.6	21733078.8
54	12/20/2019 13:28	61.1	3864748.655
55	12/20/2019 13:28	60.1	3069878.977
56	12/20/2019 13:28	75.1	97078097.08
57	12/20/2019 13:28	66.4	13095474.97
58	12/20/2019 13:28	59.2	2495291.313
59	12/20/2019 13:28	58.7	2223930.724
60	12/20/2019 13:28	63.8	7196498.757
61	12/20/2019 13:28	80.4	328943458.8
62	12/20/2019 13:28	77.2	157442238.1
63	12/20/2019 13:28	68.4	20754929.13
64	12/20/2019 13:29	63.1	6125213.834
65	12/20/2019 13:29	78	189287203.3
66	12/20/2019 13:29	68.7	22239307.24
67	12/20/2019 13:29	76	119432151.2
68	12/20/2019 13:29	76.2	125060815
69	12/20/2019 13:29	67	15035617.01
70	12/20/2019 13:29	59.8	2864977.758
71	12/20/2019 13:29	60	3000000
72	12/20/2019 13:29	78.3	202824892.6
73	12/20/2019 13:29	76.5	134005077.6
74	12/20/2019 13:29	74.8	90598551.61

75	12/20/2019 13:29	65.8	11405681.89
76	12/20/2019 13:29	72.4	52134024.86
77	12/20/2019 13:29	66.3	12797385.56
78	12/20/2019 13:29	78.5	212383735.3
79	12/20/2019 13:29	69.4	26128907.7
80	12/20/2019 13:29	61.9	4646449.857
81	12/20/2019 13:29	65.6	10892341.64
82	12/20/2019 13:29	74.2	78908039.76
83	12/20/2019 13:29	63.8	7196498.757
84	12/20/2019 13:30	57.6	1726319.812
85	12/20/2019 13:30	65.4	10402105.51
86	12/20/2019 13:30	77.6	172631981.2
87	12/20/2019 13:30	77.1	153858415.2
88	12/20/2019 13:30	75.8	114056818.9
89	12/20/2019 13:30	77.6	172631981.2
90	12/20/2019 13:30	67.7	17665309.66
91	12/20/2019 13:30	77	150356170.1
92	12/20/2019 13:30	79	238298470.4
93	12/20/2019 13:30	75	94868329.81
94	12/20/2019 13:30	66.8	14358902.77
95	12/20/2019 13:30	59.7	2799762.902
96	12/20/2019 13:30	56.4	1309547.497
97	12/20/2019 13:30	62.1	4865430.292
98	12/20/2019 13:30	68.4	20754929.13
99	12/20/2019 13:30	59.9	2931711.663
100	12/20/2019 13:30	78.5	212383735.3
101	12/20/2019 13:30	68	18928720.33
102	12/20/2019 13:30	62.7	5586261.41
103	12/20/2019 13:30	71.8	45406837.45
104	12/20/2019 13:31	66.7	14032054.24
105	12/20/2019 13:31	80.1	306987897.7
106	12/20/2019 13:31	75.3	101653246.8
107	12/20/2019 13:31	78.6	217330788
108	12/20/2019 13:31	68	18928720.33
109	12/20/2019 13:31	58.9	2328741.35
110	12/20/2019 13:31	63.2	6267888.393
111	12/20/2019 13:31	74.1	77111873.48
112	12/20/2019 13:31	71.7	44373251.65
113	12/20/2019 13:31	62.9	5849533.799
114	12/20/2019 13:31	62.4	5213402.486
115	12/20/2019 13:31	71.9	46464498.57
116	12/20/2019 13:31	62.5	5334838.23
117	12/20/2019 13:31	55.6	1089234.164
118	12/20/2019 13:31	59.3	2553414.115
119	12/20/2019 13:31	75	94868329.81
120	12/20/2019 13:31	65.6	10892341.64
121	12/20/2019 13:31	58.6	2173307.88

122	12/20/2019 13:31	58.6	2173307.88
123	12/20/2019 13:31	73.8	71964987.57
124	12/20/2019 13:32	68.6	21733078.8
125	12/20/2019 13:32	71.8	45406837.45
126	12/20/2019 13:32	63.1	6125213.834
127	12/20/2019 13:32	56.7	1403205.424
128	12/20/2019 13:32	55.8	1140568.189
129	12/20/2019 13:32	52.7	558626.141
130	12/20/2019 13:32	59.4	2612890.77
131	12/20/2019 13:32	75.1	97078097.08
132	12/20/2019 13:32	74.9	92708862.98
133	12/20/2019 13:32	67.4	16486226.22
134	12/20/2019 13:32	60.9	3690806.312
135	12/20/2019 13:32	57.5	1687023.976
136	12/20/2019 13:32	64.6	8652094.509
137	12/20/2019 13:32	71.1	38647486.55
138	12/20/2019 13:32	73.7	70326864.46
139	12/20/2019 13:32	70.3	32145579.16
140	12/20/2019 13:32	68.9	23287413.5
141	12/20/2019 13:32	74.6	86520945.09
142	12/20/2019 13:32	72.1	48654302.92
143	12/20/2019 13:32	76.8	143589027.7
144	12/20/2019 13:33	73.2	62678883.93
145	12/20/2019 13:33	63.8	7196498.757
146	12/20/2019 13:33	58.4	2075492.913
147	12/20/2019 13:33	61.5	4237612.634
148	12/20/2019 13:33	72.7	55862614.1
149	12/20/2019 13:33	65	9486832.981
150	12/20/2019 13:33	56.9	1469336.458
151	12/20/2019 13:33	58.6	2173307.88
152	12/20/2019 13:33	63.9	7364126.747
153	12/20/2019 13:33	73	59857869.45
154	12/20/2019 13:33	66.2	12506081.5
155	12/20/2019 13:33	59	2382984.704
156	12/20/2019 13:33	61	3776776.235
157	12/20/2019 13:33	68.7	22239307.24
158	12/20/2019 13:33	61	3776776.235
159	12/20/2019 13:33	56.6	1371264.569
160	12/20/2019 13:33	64.4	8262686.11
161	12/20/2019 13:33	76.6	137126456.9
162	12/20/2019 13:33	69.7	27997629.02
163	12/20/2019 13:33	69.3	25534141.15
164	12/20/2019 13:34	75.9	116713543.5
165	12/20/2019 13:34	71.8	45406837.45
166	12/20/2019 13:34	74.2	78908039.76
167	12/20/2019 13:34	71.3	40468886.48
168	12/20/2019 13:34	71	37767762.35

169	12/20/2019 13:34	76.9	146933645.8
170	12/20/2019 13:34	67.6	17263198.12
171	12/20/2019 13:34	60.3	3214557.916
172	12/20/2019 13:34	57.1	1538584.152
173	12/20/2019 13:34	60.4	3289434.588
174	12/20/2019 13:34	75.7	111460568.7
175	12/20/2019 13:34	71.2	39547702.16
176	12/20/2019 13:34	72.8	57163821.54
177	12/20/2019 13:34	64.6	8652094.509
178	12/20/2019 13:34	59.6	2736032.518
179	12/20/2019 13:34	79.8	286497775.8
180	12/20/2019 13:34	73.8	71964987.57
181	12/20/2019 13:34	69.8	28649777.58
182	12/20/2019 13:34	62.5	5334838.23
183	12/20/2019 13:34	57.4	1648622.622
184	12/20/2019 13:35	66.1	12221408.33
185	12/20/2019 13:35	68.4	20754929.13
186	12/20/2019 13:35	58.3	2028248.926
187	12/20/2019 13:35	52.8	571638.2154
188	12/20/2019 13:35	51.8	454068.3745
189	12/20/2019 13:35	50.8	360679.3304
190	12/20/2019 13:35	51.3	404688.8648
191	12/20/2019 13:35	52.5	533483.823
192	12/20/2019 13:35	54.9	927088.6298
193	12/20/2019 13:35	60.3	3214557.916
194	12/20/2019 13:35	78.1	193696268.7
195	12/20/2019 13:35	77.6	172631981.2
196	12/20/2019 13:35	68	18928720.33
197	12/20/2019 13:35	67.7	17665309.66
198	12/20/2019 13:35	69.6	27360325.18
199	12/20/2019 13:35	72.8	57163821.54
200	12/20/2019 13:35	63	5985786.945

Noise Measurement 3 (near IW-3)

Data Logger 2

Duration (seconds) 3

Weighting A

Response SLOW

Range 40-100

L05 72.1

L10 70.6

L50 62.9

L90 52.4

L95 51.3

Lmax 78

Time 12/20/2019 12:44

SEL 94.3

Leq 66.9

Leq (Manual)

66.9

No.s	Date Time	dB	Sound Energy
1	12/20/2019 12:44	55.8	1140568.189
2	12/20/2019 12:44	56.1	1222140.833
3	12/20/2019 12:44	55.9	1167135.435
4	12/20/2019 12:44	61.6	4336319.312
5	12/20/2019 12:44	77.8	180767875.8
6	12/20/2019 12:44	77.1	153858415.2
7	12/20/2019 12:44	67.7	17665309.66
8	12/20/2019 12:44	69.6	27360325.18
9	12/20/2019 12:44	61.3	4046888.648
10	12/20/2019 12:44	60.5	3366055.363
11	12/20/2019 12:44	61	3776776.235
12	12/20/2019 12:45	60.4	3289434.588
13	12/20/2019 12:45	61.3	4046888.648
14	12/20/2019 12:45	69.4	26128907.7
15	12/20/2019 12:45	62.1	4865430.292
16	12/20/2019 12:45	55.7	1114605.687
17	12/20/2019 12:45	52.9	584953.3799
18	12/20/2019 12:45	51.8	454068.3745
19	12/20/2019 12:45	52.1	486543.0292
20	12/20/2019 12:45	51.7	443732.5165
21	12/20/2019 12:45	51.3	404688.8648
22	12/20/2019 12:45	56.4	1309547.497
23	12/20/2019 12:45	66.4	13095474.97
24	12/20/2019 12:45	60.8	3606793.304
25	12/20/2019 12:45	67.5	16870239.76
26	12/20/2019 12:45	63.9	7364126.747
27	12/20/2019 12:45	69.4	26128907.7

28	12/20/2019 12:45	58.8	2275732.725
29	12/20/2019 12:45	64.2	7890803.976
30	12/20/2019 12:45	65.7	11146056.87
31	12/20/2019 12:45	68.2	19820803.44
32	12/20/2019 12:46	71.4	41411527.94
33	12/20/2019 12:46	64.7	8853627.68
34	12/20/2019 12:46	67.9	18497850.06
35	12/20/2019 12:46	58.2	1982080.344
36	12/20/2019 12:46	57.2	1574422.381
37	12/20/2019 12:46	70.3	32145579.16
38	12/20/2019 12:46	75.1	97078097.08
39	12/20/2019 12:46	63.9	7364126.747
40	12/20/2019 12:46	55.8	1140568.189
41	12/20/2019 12:46	66	11943215.12
42	12/20/2019 12:46	62.1	4865430.292
43	12/20/2019 12:46	56.1	1222140.833
44	12/20/2019 12:46	71.7	44373251.65
45	12/20/2019 12:46	64.1	7711187.348
46	12/20/2019 12:46	59.3	2553414.115
47	12/20/2019 12:46	57.3	1611095.389
48	12/20/2019 12:46	58.9	2328741.35
49	12/20/2019 12:46	60.4	3289434.588
50	12/20/2019 12:46	59.9	2931711.663
51	12/20/2019 12:46	63	5985786.945
52	12/20/2019 12:47	65.6	10892341.64
53	12/20/2019 12:47	63.1	6125213.834
54	12/20/2019 12:47	57	1503561.701
55	12/20/2019 12:47	54.3	807460.4412
56	12/20/2019 12:47	53.1	612521.3834
57	12/20/2019 12:47	50.7	352469.2665
58	12/20/2019 12:47	50.7	352469.2665
59	12/20/2019 12:47	61.4	4141152.794
60	12/20/2019 12:47	65.9	11671354.35
61	12/20/2019 12:47	72	47546795.77
62	12/20/2019 12:47	68.5	21238373.53
63	12/20/2019 12:47	58.5	2123837.353
64	12/20/2019 12:47	53.9	736412.6747
65	12/20/2019 12:47	51.5	423761.2634
66	12/20/2019 12:47	50.5	336605.5363
67	12/20/2019 12:47	52.2	497876.0722
68	12/20/2019 12:47	56.5	1340050.776
69	12/20/2019 12:47	70	30000000
70	12/20/2019 12:47	61.7	4437325.165
71	12/20/2019 12:47	56.5	1340050.776
72	12/20/2019 12:48	68.3	20282489.26
73	12/20/2019 12:48	58.8	2275732.725
74	12/20/2019 12:48	57	1503561.701

75	12/20/2019 12:48	68.1	19369626.87
76	12/20/2019 12:48	66.4	13095474.97
77	12/20/2019 12:48	59.8	2864977.758
78	12/20/2019 12:48	65.9	11671354.35
79	12/20/2019 12:48	66.2	12506081.5
80	12/20/2019 12:48	63.9	7364126.747
81	12/20/2019 12:48	56.8	1435890.277
82	12/20/2019 12:48	58.1	1936962.687
83	12/20/2019 12:48	73.4	65632848.72
84	12/20/2019 12:48	67.5	16870239.76
85	12/20/2019 12:48	58.5	2123837.353
86	12/20/2019 12:48	55.3	1016532.468
87	12/20/2019 12:48	55.7	1114605.687
88	12/20/2019 12:48	67.4	16486226.22
89	12/20/2019 12:48	73.9	73641267.47
90	12/20/2019 12:48	62.5	5334838.23
91	12/20/2019 12:48	54.2	789080.3976
92	12/20/2019 12:49	51.8	454068.3745
93	12/20/2019 12:49	50.5	336605.5363
94	12/20/2019 12:49	53.9	736412.6747
95	12/20/2019 12:49	66.4	13095474.97
96	12/20/2019 12:49	66.1	12221408.33
97	12/20/2019 12:49	59.7	2799762.902
98	12/20/2019 12:49	68.1	19369626.87
99	12/20/2019 12:49	59.9	2931711.663
100	12/20/2019 12:49	55.8	1140568.189
101	12/20/2019 12:49	67.7	17665309.66
102	12/20/2019 12:49	59.8	2864977.758
103	12/20/2019 12:49	54.4	826268.611
104	12/20/2019 12:49	56.6	1371264.569
105	12/20/2019 12:49	69.7	27997629.02
106	12/20/2019 12:49	65	9486832.981
107	12/20/2019 12:49	66.6	13712645.69
108	12/20/2019 12:49	71.1	38647486.55
109	12/20/2019 12:49	71	37767762.35
110	12/20/2019 12:49	60	3000000
111	12/20/2019 12:49	53.2	626788.8393
112	12/20/2019 12:50	64.1	7711187.348
113	12/20/2019 12:50	64.7	8853627.68
114	12/20/2019 12:50	55.5	1064440.168
115	12/20/2019 12:50	52.1	486543.0292
116	12/20/2019 12:50	52.5	533483.823
117	12/20/2019 12:50	49.2	249529.1313
118	12/20/2019 12:50	50.5	336605.5363
119	12/20/2019 12:50	58.5	2123837.353
120	12/20/2019 12:50	65.6	10892341.64
121	12/20/2019 12:50	66.9	14693364.58

122	12/20/2019 12:50	67.8	18076787.58
123	12/20/2019 12:50	65.9	11671354.35
124	12/20/2019 12:50	64.9	9270886.298
125	12/20/2019 12:50	58.9	2328741.35
126	12/20/2019 12:50	74.5	84551487.94
127	12/20/2019 12:50	64	7535659.295
128	12/20/2019 12:50	55.3	1016532.468
129	12/20/2019 12:50	71.6	43363193.12
130	12/20/2019 12:50	70.8	36067933.04
131	12/20/2019 12:50	60.4	3289434.588
132	12/20/2019 12:51	57.8	1807678.758
133	12/20/2019 12:51	67.5	16870239.76
134	12/20/2019 12:51	65.5	10644401.68
135	12/20/2019 12:51	68.6	21733078.8
136	12/20/2019 12:51	62	4754679.577
137	12/20/2019 12:51	56.6	1371264.569
138	12/20/2019 12:51	54.8	905985.5161
139	12/20/2019 12:51	53.7	703268.6446
140	12/20/2019 12:51	55	948683.2981
141	12/20/2019 12:51	61.9	4646449.857
142	12/20/2019 12:51	70.6	34444608.64
143	12/20/2019 12:51	72.2	49787607.22
144	12/20/2019 12:51	64.5	8455148.794
145	12/20/2019 12:51	63.7	7032686.446
146	12/20/2019 12:51	62.2	4978760.722
147	12/20/2019 12:51	62.5	5334838.23
148	12/20/2019 12:51	61.8	4540683.745
149	12/20/2019 12:51	73.5	67161634.16
150	12/20/2019 12:51	66	11943215.12
151	12/20/2019 12:51	63.9	7364126.747
152	12/20/2019 12:52	65.6	10892341.64
153	12/20/2019 12:52	65.2	9933933.644
154	12/20/2019 12:52	67.5	16870239.76
155	12/20/2019 12:52	67.4	16486226.22
156	12/20/2019 12:52	65.1	9707809.708
157	12/20/2019 12:52	62.6	5459102.576
158	12/20/2019 12:52	72.1	48654302.92
159	12/20/2019 12:52	71.2	39547702.16
160	12/20/2019 12:52	67.5	16870239.76
161	12/20/2019 12:52	66	11943215.12
162	12/20/2019 12:52	61.1	3864748.655
163	12/20/2019 12:52	72.1	48654302.92
164	12/20/2019 12:52	71.9	46464498.57
165	12/20/2019 12:52	70.3	32145579.16
166	12/20/2019 12:52	68.2	19820803.44
167	12/20/2019 12:52	63.7	7032686.446
168	12/20/2019 12:52	73.2	62678883.93

169	12/20/2019 12:52	75.9	116713543.5
170	12/20/2019 12:52	69.4	26128907.7
171	12/20/2019 12:52	71.5	42376126.34
172	12/20/2019 12:53	63.8	7196498.757
173	12/20/2019 12:53	73.4	65632848.72
174	12/20/2019 12:53	62.1	4865430.292
175	12/20/2019 12:53	55.3	1016532.468
176	12/20/2019 12:53	54.3	807460.4412
177	12/20/2019 12:53	68	18928720.33
178	12/20/2019 12:53	62.1	4865430.292
179	12/20/2019 12:53	54.8	905985.5161
180	12/20/2019 12:53	56.5	1340050.776
181	12/20/2019 12:53	69.9	29317116.63
182	12/20/2019 12:53	68.8	22757327.25
183	12/20/2019 12:53	70.1	30698789.77
184	12/20/2019 12:53	67.7	17665309.66
185	12/20/2019 12:53	68	18928720.33
186	12/20/2019 12:53	61.8	4540683.745
187	12/20/2019 12:53	55.1	970780.9708
188	12/20/2019 12:53	51.3	404688.8648
189	12/20/2019 12:53	50.6	344446.0864
190	12/20/2019 12:53	51	377677.6235
191	12/20/2019 12:53	59	2382984.704
192	12/20/2019 12:54	64.3	8074604.412
193	12/20/2019 12:54	70.1	30698789.77
194	12/20/2019 12:54	64.2	7890803.976
195	12/20/2019 12:54	55.1	970780.9708
196	12/20/2019 12:54	52.5	533483.823
197	12/20/2019 12:54	53.6	687260.2958
198	12/20/2019 12:54	67.3	16110953.89
199	12/20/2019 12:54	68.4	20754929.13
200	12/20/2019 12:54	61.3	4046888.648

Noise Measurement 4 (near IW-4)

Data Logger 2

Duration (seconds) 3

Weighting A

Response SLOW

Range 40-100

L05 71.2

L10 70.1

L50 61.7

L90 51.3

L95 49.2

Lmax 84.7

Time 12/20/2019 12:23

SEL 94.5

Leq 66.9

Leq (Manual)

66.9

No.s	Date Time	dB	Sound Energy
1	12/20/2019 12:18	61.1	3864748.655
2	12/20/2019 12:18	62.6	5459102.576
3	12/20/2019 12:18	53.3	641388.6269
4	12/20/2019 12:18	49.8	286497.7758
5	12/20/2019 12:18	52.5	533483.823
6	12/20/2019 12:18	67.6	17263198.12
7	12/20/2019 12:18	65.2	9933933.644
8	12/20/2019 12:18	56.4	1309547.497
9	12/20/2019 12:18	50.4	328943.4588
10	12/20/2019 12:18	48.5	212383.7353
11	12/20/2019 12:18	49.2	249529.1313
12	12/20/2019 12:18	51.1	386474.8655
13	12/20/2019 12:18	56.6	1371264.569
14	12/20/2019 12:18	71.6	43363193.12
15	12/20/2019 12:18	65.8	11405681.89
16	12/20/2019 12:18	69.1	24384915.48
17	12/20/2019 12:18	69.3	25534141.15
18	12/20/2019 12:18	72.1	48654302.92
19	12/20/2019 12:18	68.8	22757327.25
20	12/20/2019 12:18	64	7535659.295
21	12/20/2019 12:19	69.2	24952913.13
22	12/20/2019 12:19	67.3	16110953.89
23	12/20/2019 12:19	71.8	45406837.45
24	12/20/2019 12:19	65.9	11671354.35
25	12/20/2019 12:19	65.6	10892341.64
26	12/20/2019 12:19	69.8	28649777.58
27	12/20/2019 12:19	60.3	3214557.916

28	12/20/2019 12:19	64.8	9059855.161
29	12/20/2019 12:19	57.9	1849785.006
30	12/20/2019 12:19	51.7	443732.5165
31	12/20/2019 12:19	52.7	558626.141
32	12/20/2019 12:19	56.9	1469336.458
33	12/20/2019 12:19	66.2	12506081.5
34	12/20/2019 12:19	75.7	111460568.7
35	12/20/2019 12:19	67.3	16110953.89
36	12/20/2019 12:19	64.2	7890803.976
37	12/20/2019 12:19	68.2	19820803.44
38	12/20/2019 12:19	59.2	2495291.313
39	12/20/2019 12:19	56.5	1340050.776
40	12/20/2019 12:19	59.6	2736032.518
41	12/20/2019 12:20	69.8	28649777.58
42	12/20/2019 12:20	72.9	58495337.99
43	12/20/2019 12:20	63.1	6125213.834
44	12/20/2019 12:20	59.3	2553414.115
45	12/20/2019 12:20	66.9	14693364.58
46	12/20/2019 12:20	58.2	1982080.344
47	12/20/2019 12:20	54.4	826268.611
48	12/20/2019 12:20	53.3	641388.6269
49	12/20/2019 12:20	60.1	3069878.977
50	12/20/2019 12:20	69.9	29317116.63
51	12/20/2019 12:20	68.1	19369626.87
52	12/20/2019 12:20	68.2	19820803.44
53	12/20/2019 12:20	69.7	27997629.02
54	12/20/2019 12:20	63.7	7032686.446
55	12/20/2019 12:20	57.6	1726319.812
56	12/20/2019 12:20	55.7	1114605.687
57	12/20/2019 12:20	57.6	1726319.812
58	12/20/2019 12:20	69	23829847.04
59	12/20/2019 12:20	60.4	3289434.588
60	12/20/2019 12:20	51.4	414115.2794
61	12/20/2019 12:21	52.6	545910.2576
62	12/20/2019 12:21	65.6	10892341.64
63	12/20/2019 12:21	64.1	7711187.348
64	12/20/2019 12:21	57.2	1574422.381
65	12/20/2019 12:21	57.5	1687023.976
66	12/20/2019 12:21	65.1	9707809.708
67	12/20/2019 12:21	60.1	3069878.977
68	12/20/2019 12:21	56.8	1435890.277
69	12/20/2019 12:21	52.9	584953.3799
70	12/20/2019 12:21	68.3	20282489.26
71	12/20/2019 12:21	61.7	4437325.165
72	12/20/2019 12:21	54.2	789080.3976
73	12/20/2019 12:21	52.2	497876.0722
74	12/20/2019 12:21	52	475467.9577

75	12/20/2019 12:21	50.7	352469.2665
76	12/20/2019 12:21	57.6	1726319.812
77	12/20/2019 12:21	64.8	9059855.161
78	12/20/2019 12:21	61.2	3954770.216
79	12/20/2019 12:21	63.7	7032686.446
80	12/20/2019 12:21	66.8	14358902.77
81	12/20/2019 12:22	61.8	4540683.745
82	12/20/2019 12:22	73.9	73641267.47
83	12/20/2019 12:22	68.8	22757327.25
84	12/20/2019 12:22	68.6	21733078.8
85	12/20/2019 12:22	74.5	84551487.94
86	12/20/2019 12:22	65.3	10165324.68
87	12/20/2019 12:22	58.5	2123837.353
88	12/20/2019 12:22	63.2	6267888.393
89	12/20/2019 12:22	68.3	20282489.26
90	12/20/2019 12:22	68.1	19369626.87
91	12/20/2019 12:22	60.9	3690806.312
92	12/20/2019 12:22	56.1	1222140.833
93	12/20/2019 12:22	52.8	571638.2154
94	12/20/2019 12:22	49.7	279976.2902
95	12/20/2019 12:22	48.6	217330.788
96	12/20/2019 12:22	48.3	202824.8926
97	12/20/2019 12:22	49.5	267375.2814
98	12/20/2019 12:22	58.3	2028248.926
99	12/20/2019 12:22	66	11943215.12
100	12/20/2019 12:22	57.5	1687023.976
101	12/20/2019 12:23	64.8	9059855.161
102	12/20/2019 12:23	69.1	24384915.48
103	12/20/2019 12:23	61.6	4336319.312
104	12/20/2019 12:23	54.7	885362.768
105	12/20/2019 12:23	51.6	433631.9312
106	12/20/2019 12:23	51.8	454068.3745
107	12/20/2019 12:23	58.1	1936962.687
108	12/20/2019 12:23	69.6	27360325.18
109	12/20/2019 12:23	68.2	19820803.44
110	12/20/2019 12:23	65.8	11405681.89
111	12/20/2019 12:23	69.1	24384915.48
112	12/20/2019 12:23	83.3	641388626.9
113	12/20/2019 12:23	72.8	57163821.54
114	12/20/2019 12:23	67.6	17263198.12
115	12/20/2019 12:23	70.7	35246926.65
116	12/20/2019 12:23	64.4	8262686.11
117	12/20/2019 12:23	56.8	1435890.277
118	12/20/2019 12:23	53.8	719649.8757
119	12/20/2019 12:23	64.9	9270886.298
120	12/20/2019 12:23	65	9486832.981
121	12/20/2019 12:24	56.3	1279738.556

122	12/20/2019 12:24	51.4	414115.2794
123	12/20/2019 12:24	50.2	314138.5644
124	12/20/2019 12:24	49.8	286497.7758
125	12/20/2019 12:24	52.8	571638.2154
126	12/20/2019 12:24	60	3000000
127	12/20/2019 12:24	65.4	10402105.51
128	12/20/2019 12:24	69.5	26737528.14
129	12/20/2019 12:24	67.7	17665309.66
130	12/20/2019 12:24	64.4	8262686.11
131	12/20/2019 12:24	60.1	3069878.977
132	12/20/2019 12:24	57.3	1611095.389
133	12/20/2019 12:24	61.5	4237612.634
134	12/20/2019 12:24	64.9	9270886.298
135	12/20/2019 12:24	67.9	18497850.06
136	12/20/2019 12:24	60.3	3214557.916
137	12/20/2019 12:24	59.8	2864977.758
138	12/20/2019 12:24	70.3	32145579.16
139	12/20/2019 12:24	63.6	6872602.958
140	12/20/2019 12:24	60.7	3524692.665
141	12/20/2019 12:25	56.2	1250608.15
142	12/20/2019 12:25	52.6	545910.2576
143	12/20/2019 12:25	60.6	3444460.864
144	12/20/2019 12:25	59.3	2553414.115
145	12/20/2019 12:25	68	18928720.33
146	12/20/2019 12:25	71.6	43363193.12
147	12/20/2019 12:25	74.7	88536276.8
148	12/20/2019 12:25	63.6	6872602.958
149	12/20/2019 12:25	55.6	1089234.164
150	12/20/2019 12:25	52.5	533483.823
151	12/20/2019 12:25	51.4	414115.2794
152	12/20/2019 12:25	49.8	286497.7758
153	12/20/2019 12:25	46.2	125060.815
154	12/20/2019 12:25	46.5	134005.0776
155	12/20/2019 12:25	48	189287.2033
156	12/20/2019 12:25	48.5	212383.7353
157	12/20/2019 12:25	52.4	521340.2486
158	12/20/2019 12:25	64.7	8853627.68
159	12/20/2019 12:25	65.1	9707809.708
160	12/20/2019 12:25	56.8	1435890.277
161	12/20/2019 12:26	67.7	17665309.66
162	12/20/2019 12:26	68.4	20754929.13
163	12/20/2019 12:26	66.7	14032054.24
164	12/20/2019 12:26	72.3	50947309.57
165	12/20/2019 12:26	60.9	3690806.312
166	12/20/2019 12:26	54.9	927088.6298
167	12/20/2019 12:26	55.6	1089234.164
168	12/20/2019 12:26	65.5	10644401.68

169	12/20/2019 12:26	69.6	27360325.18
170	12/20/2019 12:26	68.3	20282489.26
171	12/20/2019 12:26	65.6	10892341.64
172	12/20/2019 12:26	59	2382984.704
173	12/20/2019 12:26	53.3	641388.6269
174	12/20/2019 12:26	51.9	464644.9857
175	12/20/2019 12:26	52.5	533483.823
176	12/20/2019 12:26	53.1	612521.3834
177	12/20/2019 12:26	63.7	7032686.446
178	12/20/2019 12:26	71.5	42376126.34
179	12/20/2019 12:26	69.1	24384915.48
180	12/20/2019 12:26	69.3	25534141.15
181	12/20/2019 12:27	63.3	6413886.269
182	12/20/2019 12:27	59	2382984.704
183	12/20/2019 12:27	71	37767762.35
184	12/20/2019 12:27	66.1	12221408.33
185	12/20/2019 12:27	59	2382984.704
186	12/20/2019 12:27	54.8	905985.5161
187	12/20/2019 12:27	53.4	656328.4872
188	12/20/2019 12:27	54.3	807460.4412
189	12/20/2019 12:27	62	4754679.577
190	12/20/2019 12:27	68.9	23287413.5
191	12/20/2019 12:27	63.2	6267888.393
192	12/20/2019 12:27	66.7	14032054.24
193	12/20/2019 12:27	72.5	53348382.3
194	12/20/2019 12:27	68.9	23287413.5
195	12/20/2019 12:27	66.6	13712645.69
196	12/20/2019 12:27	67	15035617.01
197	12/20/2019 12:27	67.1	15385841.52
198	12/20/2019 12:27	62.7	5586261.41
199	12/20/2019 12:27	56.4	1309547.497
200	12/20/2019 12:27	52.6	545910.2576

Noise Measurement 5 (near IW-5a and -5b)

Data Logger 2

Duration (seconds)		3
Weighting	A	
Response	SLOW	
Range	40-100	
L05		50.9
L10		48.8
L50		45.5
L90		44.5
L95		44.2
Lmax		55.7
Time	12/20/2019 11:51	
SEL		74.6
Leq		47

Leq (Manual)

47.0

No.s	Date Time	dB	Sound Energy
1	12/20/2019 11:43	52.6	545910.2576
2	12/20/2019 11:43	53.1	612521.3834
3	12/20/2019 11:43	51.5	423761.2634
4	12/20/2019 11:43	51.4	414115.2794
5	12/20/2019 11:43	50.5	336605.5363
6	12/20/2019 11:43	48.8	227573.2725
7	12/20/2019 11:44	48.6	217330.788
8	12/20/2019 11:44	48.1	193696.2687
9	12/20/2019 11:44	47.8	180767.8758
10	12/20/2019 11:44	47.1	153858.4152
11	12/20/2019 11:44	46.6	137126.4569
12	12/20/2019 11:44	46.7	140320.5424
13	12/20/2019 11:44	46.5	134005.0776
14	12/20/2019 11:44	46.5	134005.0776
15	12/20/2019 11:44	46.7	140320.5424
16	12/20/2019 11:44	46.8	143589.0277
17	12/20/2019 11:44	46.6	137126.4569
18	12/20/2019 11:44	46.2	125060.815
19	12/20/2019 11:44	46.1	122214.0833
20	12/20/2019 11:44	45.6	108923.4164
21	12/20/2019 11:44	45.5	106444.0168
22	12/20/2019 11:44	45	94868.32981
23	12/20/2019 11:44	45.4	104021.0551
24	12/20/2019 11:44	45	94868.32981
25	12/20/2019 11:44	44.6	86520.94509
26	12/20/2019 11:44	44.5	84551.48794
27	12/20/2019 11:45	44	75356.59295

28	12/20/2019 11:45	44	75356.59295
29	12/20/2019 11:45	45	94868.32981
30	12/20/2019 11:45	45.6	108923.4164
31	12/20/2019 11:45	45.4	104021.0551
32	12/20/2019 11:45	44.8	90598.55161
33	12/20/2019 11:45	44.2	78908.03976
34	12/20/2019 11:45	44.3	80746.04412
35	12/20/2019 11:45	44.8	90598.55161
36	12/20/2019 11:45	44.5	84551.48794
37	12/20/2019 11:45	44.8	90598.55161
38	12/20/2019 11:45	45.2	99339.33644
39	12/20/2019 11:45	45	94868.32981
40	12/20/2019 11:45	44.9	92708.86298
41	12/20/2019 11:45	45.1	97078.09708
42	12/20/2019 11:45	44.8	90598.55161
43	12/20/2019 11:45	44.9	92708.86298
44	12/20/2019 11:45	45.1	97078.09708
45	12/20/2019 11:45	45.3	101653.2468
46	12/20/2019 11:45	45.1	97078.09708
47	12/20/2019 11:46	45.5	106444.0168
48	12/20/2019 11:46	45.7	111460.5687
49	12/20/2019 11:46	44.9	92708.86298
50	12/20/2019 11:46	44.7	88536.2768
51	12/20/2019 11:46	44.8	90598.55161
52	12/20/2019 11:46	45	94868.32981
53	12/20/2019 11:46	45.8	114056.8189
54	12/20/2019 11:46	45.2	99339.33644
55	12/20/2019 11:46	45.8	114056.8189
56	12/20/2019 11:46	45.5	106444.0168
57	12/20/2019 11:46	45.3	101653.2468
58	12/20/2019 11:46	45.5	106444.0168
59	12/20/2019 11:46	45.2	99339.33644
60	12/20/2019 11:46	44.9	92708.86298
61	12/20/2019 11:46	45.2	99339.33644
62	12/20/2019 11:46	45.6	108923.4164
63	12/20/2019 11:46	45.1	97078.09708
64	12/20/2019 11:46	45.7	111460.5687
65	12/20/2019 11:46	45	94868.32981
66	12/20/2019 11:46	45.5	106444.0168
67	12/20/2019 11:47	45.5	106444.0168
68	12/20/2019 11:47	45.3	101653.2468
69	12/20/2019 11:47	45.1	97078.09708
70	12/20/2019 11:47	46	119432.1512
71	12/20/2019 11:47	46.7	140320.5424
72	12/20/2019 11:47	45.7	111460.5687
73	12/20/2019 11:47	45.2	99339.33644
74	12/20/2019 11:47	45.5	106444.0168

75	12/20/2019 11:47	44.8	90598.55161
76	12/20/2019 11:47	45.1	97078.09708
77	12/20/2019 11:47	45.1	97078.09708
78	12/20/2019 11:47	45	94868.32981
79	12/20/2019 11:47	44.7	88536.2768
80	12/20/2019 11:47	46.1	122214.0833
81	12/20/2019 11:47	47.6	172631.9812
82	12/20/2019 11:47	45.4	104021.0551
83	12/20/2019 11:47	45	94868.32981
84	12/20/2019 11:47	45.1	97078.09708
85	12/20/2019 11:47	45.2	99339.33644
86	12/20/2019 11:47	46.4	130954.7497
87	12/20/2019 11:48	45.6	108923.4164
88	12/20/2019 11:48	45.5	106444.0168
89	12/20/2019 11:48	46.3	127973.8556
90	12/20/2019 11:48	44.9	92708.86298
91	12/20/2019 11:48	45	94868.32981
92	12/20/2019 11:48	45.3	101653.2468
93	12/20/2019 11:48	46.5	134005.0776
94	12/20/2019 11:48	46.4	130954.7497
95	12/20/2019 11:48	45.7	111460.5687
96	12/20/2019 11:48	44.7	88536.2768
97	12/20/2019 11:48	45.3	101653.2468
98	12/20/2019 11:48	45.3	101653.2468
99	12/20/2019 11:48	46.1	122214.0833
100	12/20/2019 11:48	47.8	180767.8758
101	12/20/2019 11:48	46.3	127973.8556
102	12/20/2019 11:48	45.8	114056.8189
103	12/20/2019 11:48	45.9	116713.5435
104	12/20/2019 11:48	46.4	130954.7497
105	12/20/2019 11:48	46.7	140320.5424
106	12/20/2019 11:48	46.2	125060.815
107	12/20/2019 11:49	45.4	104021.0551
108	12/20/2019 11:49	45.4	104021.0551
109	12/20/2019 11:49	45.2	99339.33644
110	12/20/2019 11:49	45.5	106444.0168
111	12/20/2019 11:49	44.9	92708.86298
112	12/20/2019 11:49	44.9	92708.86298
113	12/20/2019 11:49	44.9	92708.86298
114	12/20/2019 11:49	44	75356.59295
115	12/20/2019 11:49	43.9	73641.26747
116	12/20/2019 11:49	44.2	78908.03976
117	12/20/2019 11:49	44.2	78908.03976
118	12/20/2019 11:49	44.3	80746.04412
119	12/20/2019 11:49	44.2	78908.03976
120	12/20/2019 11:49	44.8	90598.55161
121	12/20/2019 11:49	44.8	90598.55161

122	12/20/2019 11:49	44.4	82626.8611
123	12/20/2019 11:49	44.3	80746.04412
124	12/20/2019 11:49	44.3	80746.04412
125	12/20/2019 11:49	45.7	111460.5687
126	12/20/2019 11:49	44.5	84551.48794
127	12/20/2019 11:50	44.9	92708.86298
128	12/20/2019 11:50	44.9	92708.86298
129	12/20/2019 11:50	45.5	106444.0168
130	12/20/2019 11:50	44.4	82626.8611
131	12/20/2019 11:50	44.9	92708.86298
132	12/20/2019 11:50	45.5	106444.0168
133	12/20/2019 11:50	45.5	106444.0168
134	12/20/2019 11:50	45.2	99339.33644
135	12/20/2019 11:50	44.9	92708.86298
136	12/20/2019 11:50	45.1	97078.09708
137	12/20/2019 11:50	44.6	86520.94509
138	12/20/2019 11:50	44.7	88536.2768
139	12/20/2019 11:50	43.8	71964.98757
140	12/20/2019 11:50	44.6	86520.94509
141	12/20/2019 11:50	45.5	106444.0168
142	12/20/2019 11:50	46.6	137126.4569
143	12/20/2019 11:50	48.1	193696.2687
144	12/20/2019 11:50	50.5	336605.5363
145	12/20/2019 11:50	52.6	545910.2576
146	12/20/2019 11:50	54.1	771118.7348
147	12/20/2019 11:51	54.7	885362.768
148	12/20/2019 11:51	53	598578.6945
149	12/20/2019 11:51	50.7	352469.2665
150	12/20/2019 11:51	49	238298.4704
151	12/20/2019 11:51	48.4	207549.2913
152	12/20/2019 11:51	49.5	267375.2814
153	12/20/2019 11:51	47.5	168702.3976
154	12/20/2019 11:51	47.2	157442.2381
155	12/20/2019 11:51	47.3	161109.5389
156	12/20/2019 11:51	46	119432.1512
157	12/20/2019 11:51	46.5	134005.0776
158	12/20/2019 11:51	48.7	222393.0724
159	12/20/2019 11:51	47.7	176653.0966
160	12/20/2019 11:51	46.4	130954.7497
161	12/20/2019 11:51	45.7	111460.5687
162	12/20/2019 11:51	44.8	90598.55161
163	12/20/2019 11:51	46.6	137126.4569
164	12/20/2019 11:51	45.5	106444.0168
165	12/20/2019 11:51	50.6	344446.0864
166	12/20/2019 11:51	46.3	127973.8556
167	12/20/2019 11:52	45.7	111460.5687
168	12/20/2019 11:52	45.2	99339.33644

169	12/20/2019 11:52	45.6	108923.4164
170	12/20/2019 11:52	44.6	86520.94509
171	12/20/2019 11:52	46.7	140320.5424
172	12/20/2019 11:52	44.9	92708.86298
173	12/20/2019 11:52	45.3	101653.2468
174	12/20/2019 11:52	46.2	125060.815
175	12/20/2019 11:52	46.7	140320.5424
176	12/20/2019 11:52	47.1	153858.4152
177	12/20/2019 11:52	46.3	127973.8556
178	12/20/2019 11:52	46.9	146933.6458
179	12/20/2019 11:52	46.3	127973.8556
180	12/20/2019 11:52	47.3	161109.5389
181	12/20/2019 11:52	46	119432.1512
182	12/20/2019 11:52	48.2	198208.0344
183	12/20/2019 11:52	48.3	202824.8926
184	12/20/2019 11:52	48.7	222393.0724
185	12/20/2019 11:52	49.4	261289.077
186	12/20/2019 11:52	50.5	336605.5363
187	12/20/2019 11:53	53.1	612521.3834
188	12/20/2019 11:53	51.7	443732.5165
189	12/20/2019 11:53	51	377677.6235
190	12/20/2019 11:53	49.6	273603.2518
191	12/20/2019 11:53	48.4	207549.2913
192	12/20/2019 11:53	47.8	180767.8758
193	12/20/2019 11:53	48.3	202824.8926
194	12/20/2019 11:53	46.9	146933.6458
195	12/20/2019 11:53	45.9	116713.5435
196	12/20/2019 11:53	46.8	143589.0277
197	12/20/2019 11:53	46.1	122214.0833
198	12/20/2019 11:53	45.8	114056.8189
199	12/20/2019 11:53	46.9	146933.6458
200	12/20/2019 11:53	44.9	92708.86298

Noise Measurement 5 (near ATF Complex)

Data Logger 2

Duration (seconds) 3

Weighting A

Response SLOW

Range 40-100

L05 47.1

L10 46.4

L50 44.2

L90 42.5

L95 42

Lmax 50.2

Time 12/20/2019 10:31

SEL 72.3

Leq 44.6

Leq (Manual)

44.6

No.s	Date Time	dB	Sound Energy
1	12/20/2019 10:31	47	150356.1701
2	12/20/2019 10:31	47	150356.1701
3	12/20/2019 10:31	46.1	122214.0833
4	12/20/2019 10:31	44.7	88536.2768
5	12/20/2019 10:31	44.6	86520.94509
6	12/20/2019 10:31	45.3	101653.2468
7	12/20/2019 10:31	44.2	78908.03976
8	12/20/2019 10:31	44.5	84551.48794
9	12/20/2019 10:31	45	94868.32981
10	12/20/2019 10:31	45.8	114056.8189
11	12/20/2019 10:31	46	119432.1512
12	12/20/2019 10:31	47.2	157442.2381
13	12/20/2019 10:31	46.4	130954.7497
14	12/20/2019 10:31	46.5	134005.0776
15	12/20/2019 10:31	46.2	125060.815
16	12/20/2019 10:32	45.3	101653.2468
17	12/20/2019 10:32	44.8	90598.55161
18	12/20/2019 10:32	44.6	86520.94509
19	12/20/2019 10:32	44.3	80746.04412
20	12/20/2019 10:32	43.8	71964.98757
21	12/20/2019 10:32	44.1	77111.87348
22	12/20/2019 10:32	43.5	67161.63416
23	12/20/2019 10:32	43.6	68726.02958
24	12/20/2019 10:32	42.7	55862.6141
25	12/20/2019 10:32	42.6	54591.02576
26	12/20/2019 10:32	42.9	58495.33799
27	12/20/2019 10:32	43.6	68726.02958

28	12/20/2019 10:32	46.7	140320.5424
29	12/20/2019 10:32	46.7	140320.5424
30	12/20/2019 10:32	47.8	180767.8758
31	12/20/2019 10:32	46.2	125060.815
32	12/20/2019 10:32	45	94868.32981
33	12/20/2019 10:32	44.7	88536.2768
34	12/20/2019 10:32	45.2	99339.33644
35	12/20/2019 10:32	45.5	106444.0168
36	12/20/2019 10:33	45.3	101653.2468
37	12/20/2019 10:33	45.1	97078.09708
38	12/20/2019 10:33	44.9	92708.86298
39	12/20/2019 10:33	44.8	90598.55161
40	12/20/2019 10:33	44.2	78908.03976
41	12/20/2019 10:33	44.4	82626.8611
42	12/20/2019 10:33	43.7	70326.86446
43	12/20/2019 10:33	43.4	65632.84872
44	12/20/2019 10:33	44.3	80746.04412
45	12/20/2019 10:33	45.6	108923.4164
46	12/20/2019 10:33	43.7	70326.86446
47	12/20/2019 10:33	44.6	86520.94509
48	12/20/2019 10:33	42.4	52134.02486
49	12/20/2019 10:33	43.2	62678.88393
50	12/20/2019 10:33	43.3	64138.86269
51	12/20/2019 10:33	43.9	73641.26747
52	12/20/2019 10:33	44	75356.59295
53	12/20/2019 10:33	47.2	157442.2381
54	12/20/2019 10:33	44.9	92708.86298
55	12/20/2019 10:33	44.6	86520.94509
56	12/20/2019 10:34	44.8	90598.55161
57	12/20/2019 10:34	45.4	104021.0551
58	12/20/2019 10:34	44.8	90598.55161
59	12/20/2019 10:34	45.4	104021.0551
60	12/20/2019 10:34	45	94868.32981
61	12/20/2019 10:34	44.2	78908.03976
62	12/20/2019 10:34	43.5	67161.63416
63	12/20/2019 10:34	43.8	71964.98757
64	12/20/2019 10:34	46.3	127973.8556
65	12/20/2019 10:34	44	75356.59295
66	12/20/2019 10:34	42.8	57163.82154
67	12/20/2019 10:34	43.3	64138.86269
68	12/20/2019 10:34	43.2	62678.88393
69	12/20/2019 10:34	44.6	86520.94509
70	12/20/2019 10:34	45.7	111460.5687
71	12/20/2019 10:34	48.6	217330.788
72	12/20/2019 10:34	47.7	176653.0966
73	12/20/2019 10:34	48.5	212383.7353
74	12/20/2019 10:34	48.3	202824.8926

75	12/20/2019 10:34	47.1	153858.4152
76	12/20/2019 10:35	47.3	161109.5389
77	12/20/2019 10:35	43.6	68726.02958
78	12/20/2019 10:35	44.2	78908.03976
79	12/20/2019 10:35	45.3	101653.2468
80	12/20/2019 10:35	44	75356.59295
81	12/20/2019 10:35	43.2	62678.88393
82	12/20/2019 10:35	46.3	127973.8556
83	12/20/2019 10:35	44.9	92708.86298
84	12/20/2019 10:35	44.1	77111.87348
85	12/20/2019 10:35	44	75356.59295
86	12/20/2019 10:35	42.6	54591.02576
87	12/20/2019 10:35	44.2	78908.03976
88	12/20/2019 10:35	45.6	108923.4164
89	12/20/2019 10:35	44.6	86520.94509
90	12/20/2019 10:35	42.7	55862.6141
91	12/20/2019 10:35	42.8	57163.82154
92	12/20/2019 10:35	42	47546.79577
93	12/20/2019 10:35	41.8	45406.83745
94	12/20/2019 10:35	43.2	62678.88393
95	12/20/2019 10:35	43.5	67161.63416
96	12/20/2019 10:36	44.7	88536.2768
97	12/20/2019 10:36	44.1	77111.87348
98	12/20/2019 10:36	43.4	65632.84872
99	12/20/2019 10:36	44.2	78908.03976
100	12/20/2019 10:36	44.2	78908.03976
101	12/20/2019 10:36	43.9	73641.26747
102	12/20/2019 10:36	44.8	90598.55161
103	12/20/2019 10:36	43.7	70326.86446
104	12/20/2019 10:36	45.5	106444.0168
105	12/20/2019 10:36	43.4	65632.84872
106	12/20/2019 10:36	43.3	64138.86269
107	12/20/2019 10:36	43.8	71964.98757
108	12/20/2019 10:36	43.5	67161.63416
109	12/20/2019 10:36	43.1	61252.13834
110	12/20/2019 10:36	42.7	55862.6141
111	12/20/2019 10:36	42.8	57163.82154
112	12/20/2019 10:36	43.3	64138.86269
113	12/20/2019 10:36	43	59857.86945
114	12/20/2019 10:36	43.4	65632.84872
115	12/20/2019 10:36	45.3	101653.2468
116	12/20/2019 10:37	43.3	64138.86269
117	12/20/2019 10:37	43.6	68726.02958
118	12/20/2019 10:37	43.7	70326.86446
119	12/20/2019 10:37	43	59857.86945
120	12/20/2019 10:37	42.5	53348.3823
121	12/20/2019 10:37	42.5	53348.3823

122	12/20/2019 10:37	42.8	57163.82154
123	12/20/2019 10:37	42.2	49787.60722
124	12/20/2019 10:37	42.4	52134.02486
125	12/20/2019 10:37	43.7	70326.86446
126	12/20/2019 10:37	46.1	122214.0833
127	12/20/2019 10:37	44.4	82626.8611
128	12/20/2019 10:37	44.9	92708.86298
129	12/20/2019 10:37	45.3	101653.2468
130	12/20/2019 10:37	46.9	146933.6458
131	12/20/2019 10:37	45.9	116713.5435
132	12/20/2019 10:37	44.4	82626.8611
133	12/20/2019 10:37	44.1	77111.87348
134	12/20/2019 10:37	45.6	108923.4164
135	12/20/2019 10:37	44.2	78908.03976
136	12/20/2019 10:38	44.1	77111.87348
137	12/20/2019 10:38	45.4	104021.0551
138	12/20/2019 10:38	43.7	70326.86446
139	12/20/2019 10:38	43.4	65632.84872
140	12/20/2019 10:38	45.3	101653.2468
141	12/20/2019 10:38	42.5	53348.3823
142	12/20/2019 10:38	42.8	57163.82154
143	12/20/2019 10:38	44.2	78908.03976
144	12/20/2019 10:38	43.3	64138.86269
145	12/20/2019 10:38	42	47546.79577
146	12/20/2019 10:38	42.2	49787.60722
147	12/20/2019 10:38	42.3	50947.30957
148	12/20/2019 10:38	43	59857.86945
149	12/20/2019 10:38	41.7	44373.25165
150	12/20/2019 10:38	42	47546.79577
151	12/20/2019 10:38	42.5	53348.3823
152	12/20/2019 10:38	42.7	55862.6141
153	12/20/2019 10:38	42.5	53348.3823
154	12/20/2019 10:38	42	47546.79577
155	12/20/2019 10:38	41.6	43363.19312
156	12/20/2019 10:39	42.8	57163.82154
157	12/20/2019 10:39	42.5	53348.3823
158	12/20/2019 10:39	42	47546.79577
159	12/20/2019 10:39	42.1	48654.30292
160	12/20/2019 10:39	42.2	49787.60722
161	12/20/2019 10:39	42.6	54591.02576
162	12/20/2019 10:39	43.8	71964.98757
163	12/20/2019 10:39	44.1	77111.87348
164	12/20/2019 10:39	44.4	82626.8611
165	12/20/2019 10:39	44.7	88536.2768
166	12/20/2019 10:39	44.6	86520.94509
167	12/20/2019 10:39	45.2	99339.33644
168	12/20/2019 10:39	46.2	125060.815

169	12/20/2019 10:39	45.5	106444.0168
170	12/20/2019 10:39	44.6	86520.94509
171	12/20/2019 10:39	43.2	62678.88393
172	12/20/2019 10:39	43.9	73641.26747
173	12/20/2019 10:39	43.1	61252.13834
174	12/20/2019 10:39	43.7	70326.86446
175	12/20/2019 10:39	44.2	78908.03976
176	12/20/2019 10:40	44.5	84551.48794
177	12/20/2019 10:40	45.8	114056.8189
178	12/20/2019 10:40	45.9	116713.5435
179	12/20/2019 10:40	46.3	127973.8556
180	12/20/2019 10:40	47.2	157442.2381
181	12/20/2019 10:40	46.6	137126.4569
182	12/20/2019 10:40	47	150356.1701
183	12/20/2019 10:40	45	94868.32981
184	12/20/2019 10:40	44.2	78908.03976
185	12/20/2019 10:40	43.2	62678.88393
186	12/20/2019 10:40	42.6	54591.02576
187	12/20/2019 10:40	42.5	53348.3823
188	12/20/2019 10:40	43.2	62678.88393
189	12/20/2019 10:40	43.9	73641.26747
190	12/20/2019 10:40	44.3	80746.04412
191	12/20/2019 10:40	45.2	99339.33644
192	12/20/2019 10:40	44.9	92708.86298
193	12/20/2019 10:40	44.9	92708.86298
194	12/20/2019 10:40	47.2	157442.2381
195	12/20/2019 10:40	47.2	157442.2381
196	12/20/2019 10:41	46	119432.1512
197	12/20/2019 10:41	44.9	92708.86298
198	12/20/2019 10:41	45.2	99339.33644
199	12/20/2019 10:41	44.1	77111.87348
200	12/20/2019 10:41	46.9	146933.6458

Construction Noise Levels - Well Drilling

Noise Levels at 50 Feet

Drill Rig	Generators				Air Compressor	Total Summed Noise Level (dBA)
79.0	77.6	77.6	77.6	77.6	73.7	85.2

Construction Noise Levels - Well Drilling

Noise Levels at 50 Feet

Drill Rig	Generators				Air Compressor	Total Summed Noise Level (dBA)
69.0	67.6	67.6	67.6	67.6	63.7	75.2

Barrier Calculations - IW-1

Input Variables

Reference Noise Level (dBA)	75.2
Reference Distance (ft)	50
Site Conditions <i>(Choice: Hard or Soft)</i>	Hard

Output Calculations

Distance from Barrier to Source (ft)	Distance from Barrier to Receiver (ft)	Distance from Source to Receiver (ft)	Height of Source (ft)	Height of Wall (ft)	Height of Receiver (ft)	Noise Level Reduction (dBA)	Unabated Noise Level (dBA)	Resultant Noise Level (dBA)
25	175	200	10	13	5	8.64	63	54.52

Barrier Calculations - IW-2A, IW-2B, MW-2A/2B/2C (Well Drilling)

Input Variables

Reference Noise Level (dBA)	75.2
Reference Distance (ft)	50
Site Conditions <i>(Choice: Hard or Soft)</i>	Hard

Output Calculations

Distance from Barrier to Source (ft)	Distance from Barrier to Receiver (ft)	Distance from Source to Receiver (ft)	Height of Source (ft)	Height of Wall (ft)	Height of Receiver (ft)	Noise Level Reduction (dBA)	Unabated Noise Level (dBA)	Resultant Noise Level (dBA)
25	175	200	10	13	5	8.64	63	54.52

Barrier Calculations - IW-3 (Well Drilling)

Input Variables

Reference Noise Level (dBA)	75.2
Reference Distance (ft)	50
Site Conditions <i>(Choice: Hard or Soft)</i>	Hard

Output Calculations

Distance from Barrier to Source (ft)	Distance from Barrier to Receiver (ft)	Distance from Source to Receiver (ft)	Height of Source (ft)	Height of Wall (ft)	Height of Receiver (ft)	Noise Level Reduction (dBA)	Unabated Noise Level (dBA)	Resultant Noise Level (dBA)
25	175	200	10	22	5	18.05	63	45.10

Barrier Calculations - IW-5A, IW-5B, MW-5A/5B/5C

Input Variables

Reference Noise Level (dBA)	75.2
Reference Distance (ft)	50
Site Conditions <i>(Choice: Hard or Soft)</i>	Hard

Output Calculations

Distance from Barrier to Source (ft)	Distance from Barrier to Receiver (ft)	Distance from Source to Receiver (ft)	Height of Source (ft)	Height of Wall (ft)	Height of Receiver (ft)	Noise Level Reduction (dBA)	Unabated Noise Level (dBA)	Resultant Noise Level (dBA)
25	675	700	10	13	5	7.76	52	44.52

Barrier Calculations - MW-1A/1B and MW-3A/3B

Input Variables

Reference Noise Level (dBA)	75.2
Reference Distance (ft)	50
Site Conditions <i>(Choice: Hard or Soft)</i>	Hard

Output Calculations

Distance from Barrier to Source (ft)	Distance from Barrier to Receiver (ft)	Distance from Source to Receiver (ft)	Height of Source (ft)	Height of Wall (ft)	Height of Receiver (ft)	Noise Level Reduction (dBA)	Unabated Noise Level (dBA)	Resultant Noise Level (dBA)
25	175	200	10	13	5	8.64	63	54.52

Barrier Calculations - MW-1C/1D and MW-2C/2D/2E (Well Drilling)

Input Variables

Reference Noise Level (dBA)	75.2
Reference Distance (ft)	50
Site Conditions <i>(Choice: Hard or Soft)</i>	Hard

Output Calculations

Distance from Barrier to Source (ft)	Distance from Barrier to Receiver (ft)	Distance from Source to Receiver (ft)	Height of Source (ft)	Height of Wall (ft)	Height of Receiver (ft)	Noise Level Reduction (dBA)	Unabated Noise Level (dBA)	Resultant Noise Level (dBA)
10	90	100	10	15	5	14.73	69	54.45

Barrier Calculations - MW-3D/3E (Well Drilling)

Input Variables

Reference Noise Level (dBA)	75.2
Reference Distance (ft)	50
Site Conditions <i>(Choice: Hard or Soft)</i>	Hard

Output Calculations

Distance from Barrier to Source (ft)	Distance from Barrier to Receiver (ft)	Distance from Source to Receiver (ft)	Height of Source (ft)	Height of Wall (ft)	Height of Receiver (ft)	Noise Level Reduction (dBA)	Unabated Noise Level (dBA)	Resultant Noise Level (dBA)
25	200	225	10	12	5	7.06	62	55.07

Barrier Calculations -MW-4C/4D (Well Drilling)

Input Variables

Reference Noise Level (dBA)	75.2
Reference Distance (ft)	50
Site Conditions <i>(Choice: Hard or Soft)</i>	Hard

Output Calculations

Distance from Barrier to Source (ft)	Distance from Barrier to Receiver (ft)	Distance from Source to Receiver (ft)	Height of Source (ft)	Height of Wall (ft)	Height of Receiver (ft)	Noise Level Reduction (dBA)	Unabated Noise Level (dBA)	Resultant Noise Level (dBA)
25	125	150	10	14	5	10.57	66	55.09

Barrier Calculations -MW-5D/5E/5F (Well Drilling)

Input Variables

Reference Noise Level (dBA)	75.2
Reference Distance (ft)	50
Site Conditions <i>(Choice: Hard or Soft)</i>	Hard

Output Calculations

Distance from Barrier to Source (ft)	Distance from Barrier to Receiver (ft)	Distance from Source to Receiver (ft)	Height of Source (ft)	Height of Wall (ft)	Height of Receiver (ft)	Noise Level Reduction (dBA)	Unabated Noise Level (dBA)	Resultant Noise Level (dBA)
25	150	175	10	24	5	19.42	64	44.90

Barrier Calculations - New Production Well

Input Variables

Reference Noise Level (dBA)	75.2
Reference Distance (ft)	50
Site Conditions <i>(Choice: Hard or Soft)</i>	Hard

Output Calculations

Distance from Barrier to Source (ft)	Distance from Barrier to Receiver (ft)	Distance from Source to Receiver (ft)	Height of Source (ft)	Height of Wall (ft)	Height of Receiver (ft)	Noise Level Reduction (dBA)	Unabated Noise Level (dBA)	Resultant Noise Level (dBA)
25	75	100	10	16	5	14.10	69	55.08

Groundborne Noise and Vibration Modeling

Notes

The reference distance is measured from the nearest anticipated point of construction equipment to the nearest structure.

Equipment	Reference Level Inputs			
	PPV _{ref} (in/sec)	Lv _{ref} (VdB)	RMS _{ref} (in/sec)	Reference Distance
Vibratory Roller	0.21	94	0.050	25
Large bulldozer	0.089	87	0.022	25
Caisson drilling	0.089	87	0.022	25
Loaded trucks	0.076	83	0.014	25
Jack hammer	0.035	79	0.009	25
Small bulldozer	0.003	58	0.001	25

Equipment	Vibration Level at Receiver			
	Distance (feet)	PPV _x (in/sec)	Lv _x (VdB)	RMS _x (in/sec)
Vibratory Roller	150	0.0293	77	0.007
Large bulldozer	150	0.0124	70	0.003
Caisson drilling	150	0.0124	70	0.003
Loaded trucks	150	0.0106	66	0.002
Jack hammer	150	0.0049	62	0.001
Small bulldozer	150	0.0004	41	0.000

Equipment	Vibration Contours		
	Distance to (feet)		
	0.500 PPV	100.0 VdB	0.0080 RMS
Vibratory Roller	11	13	133
Hoe Ram	5	6	64
Large bulldozer	5	6	64
Caisson drilling	5	6	64
Loaded trucks	5	4	42
Jack hammer	2	3	28
Small bulldozer	0	0	3

Source

California Department of Transportation (Caltrans). 2020. Transportation and Construction Vibration Guidance Manual (CT-HWANP-RT-20-365.01.01). April. <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf> (accessed June 2020).
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