Olive Pit Mining and Reclamation Project EIR
Noise Appendix

Site 1 Los Angeles Street – 24-Hour Noise Plots (3 pages)

Site 2 N Park Avenue – 24-Hour Noise Plots (3 pages)

Site 3 Olive Street – 24-Hour Noise Plots (3 pages)

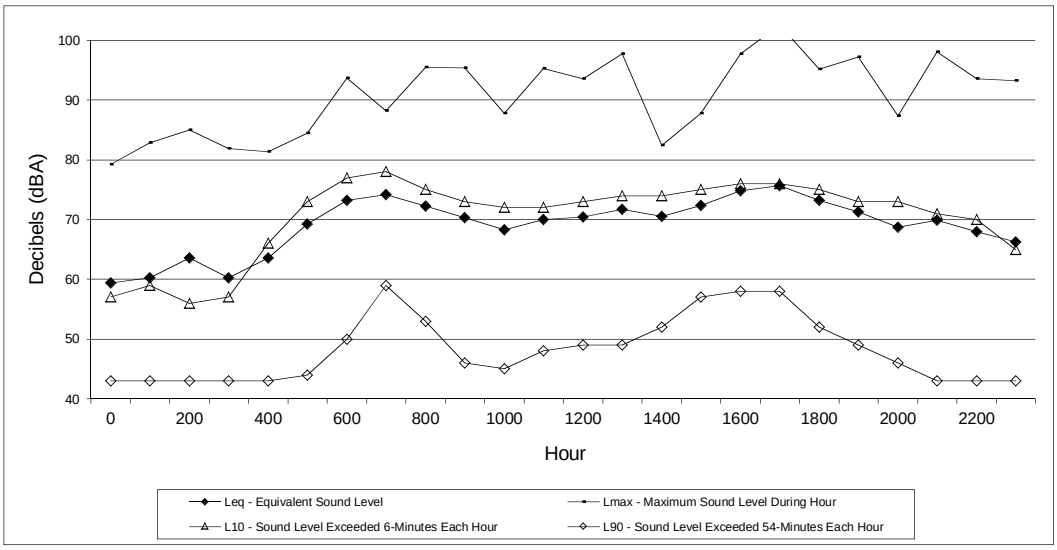
Barrier Noise Reduction Formula (2 pages)

Unmitigated A.M. Peak Hour Traffic Noise Levels (1 page)

Mitigated A.M. Peak Hour Traffic Noise Levels (2 pages)

Existing Traffic Noise Plus Mitigated Project Traffic Noise (1 page)

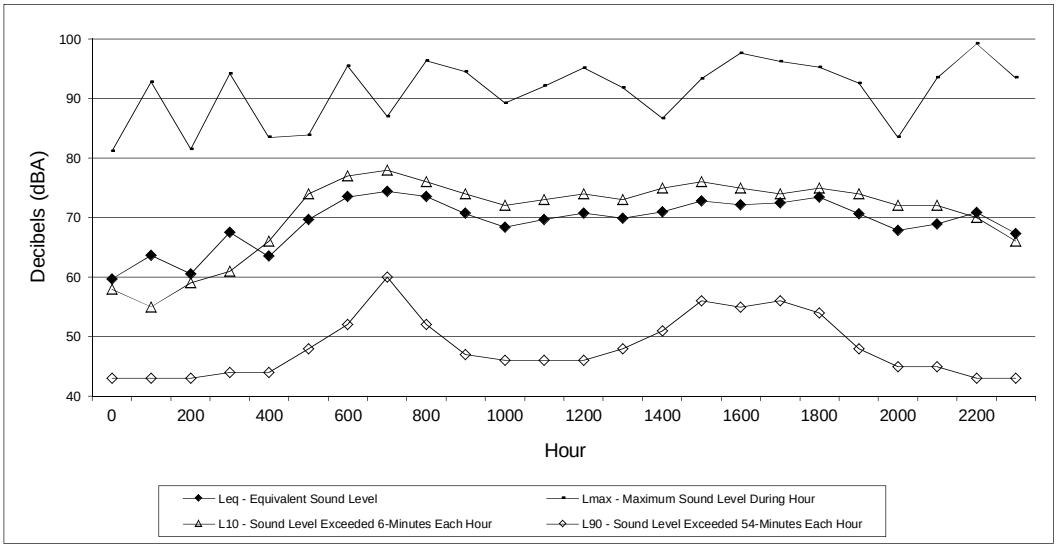
RCH GROUP
11060 WHITE ROCK ROAD, SUITE 150-A RANCHO CORDOVA, CA 95670 (916)782-4427



Site 1 - Los Angeles Street (2034)
Tuesday, May 20, 2014

Hour	Leq - Equivalent Sound Level	Lmax - Maximum Sound Level During Hour	L10 - Sound Level Exceeded 6-Minutes Each Hour	L90 - Sound Level Exceeded 54-Minutes Each Hour
0	59	79	57	43
100	60	83	59	43
200	64	85	56	43
300	60	82	57	43
400	64	81	66	43
500	69	85	73	44
600	73	94	77	50
700	74	88	78	59
800	72	96	75	53
900	70	95	73	46
1000	68	88	72	45
1100	70	95	72	48
1200	70	94	73	49
1300	72	98	74	49
1400	71	82	74	52
1500	72	88	75	57
1600	75	98	76	58
1700	76	103	76	58
1800	73	95	75	52
1900	71	97	73	49
2000	69	87	73	46
2100	70	98	71	43
2200	68	94	70	43
2300	66	93	65	43

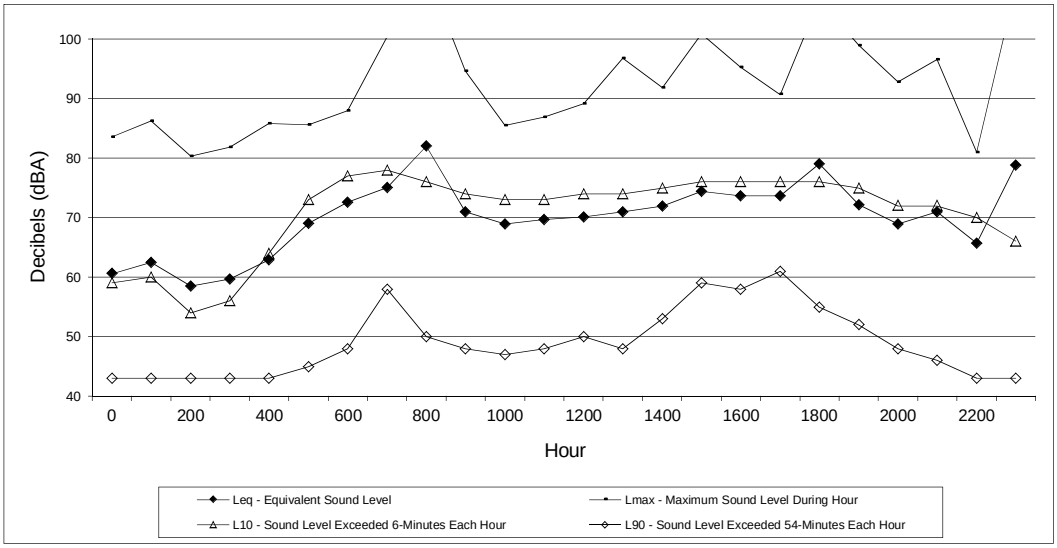
Ldn: 75



Site 1 - Los Angeles Street (2034)
Wednesday, May 21, 2014

Hour	Leq - Equivalent Sound Level	Lmax - Maximum Sound Level During Hour	L10 - Sound Level Exceeded 6-Minutes Each Hour	L90 - Sound Level Exceeded 54-Minutes Each Hour
0	60	81	58	43
100	64	93	55	43
200	61	82	59	43
300	68	94	61	44
400	64	84	66	44
500	70	84	74	48
600	74	96	77	52
700	74	87	78	60
800	74	96	76	52
900	71	95	74	47
1000	68	89	72	46
1100	70	92	73	46
1200	71	95	74	46
1300	70	92	73	48
1400	71	87	75	51
1500	73	93	76	56
1600	72	98	75	55
1700	73	96	74	56
1800	73	95	75	54
1900	71	93	74	48
2000	68	84	72	45
2100	69	94	72	45
2200	71	99	70	43
2300	67	94	66	43

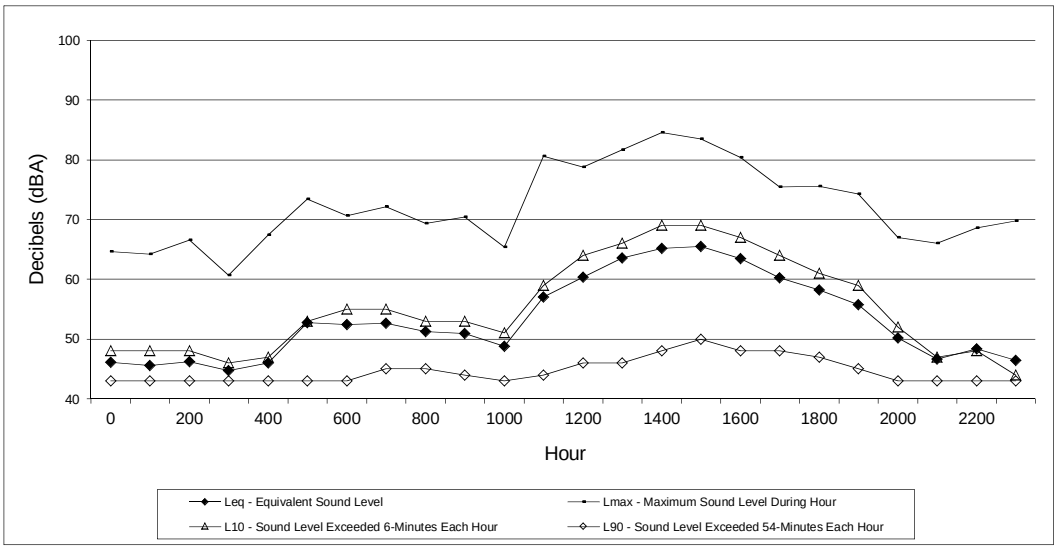
Ldn: 75



Site 1 - Los Angeles Street (2034)
Thursday, May 22, 2014

Hour	Leq - Equivalent Sound Level	Lmax - Maximum Sound Level During Hour	L10 - Sound Level Exceeded 6-Minutes Each Hour	L90 - Sound Level Exceeded 54-Minutes Each Hour
0	61	84	59	43
100	63	86	60	43
200	59	80	54	43
300	60	82	56	43
400	63	86	64	43
500	69	86	73	45
600	73	88	77	48
700	75	100	78	58
800	82	111	76	50
900	71	95	74	48
1000	69	86	73	47
1100	70	87	73	48
1200	70	89	74	50
1300	71	97	74	48
1400	72	92	75	53
1500	74	101	76	59
1600	74	95	76	58
1700	74	91	76	61
1800	79	107	76	55
1900	72	99	75	52
2000	69	93	72	48
2100	71	97	72	46
2200	66	81	70	43
2300	79	109	66	43

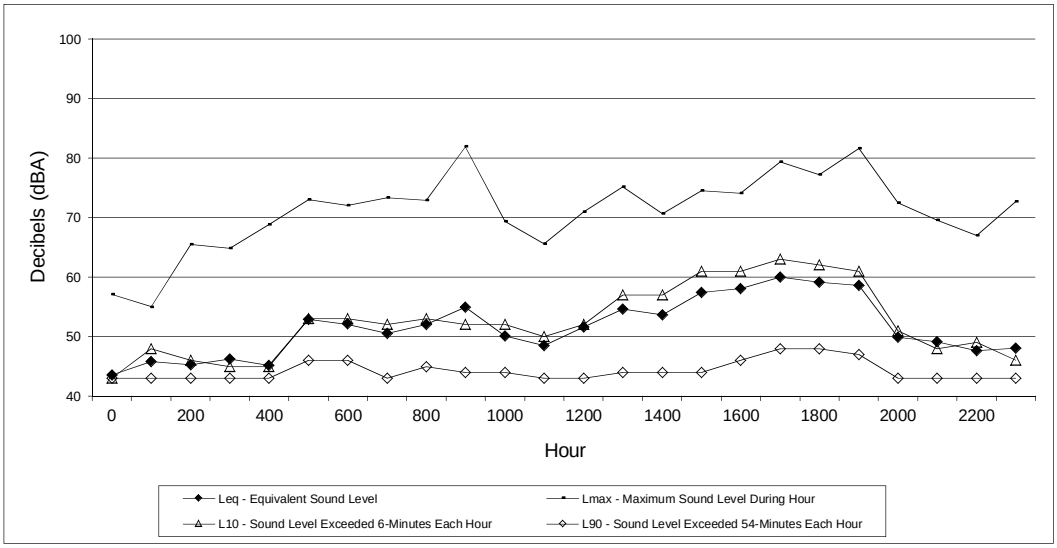
Ldn: 78



Site 2 - N Park (2671)
Tuesday, May 20, 2014

Hour	Leq - Equivalent Sound Level	Lmax - Maximum Sound Level During Hour	L10 - Sound Level Exceeded 6-Minutes Each Hour	L90 - Sound Level Exceeded 54-Minutes Each Hour
0	46	65	48	43
100	46	64	48	43
200	46	67	48	43
300	45	61	46	43
400	46	67	47	43
500	53	73	53	43
600	52	71	55	43
700	53	72	55	45
800	51	69	53	45
900	51	70	53	44
1000	49	65	51	43
1100	57	81	59	44
1200	60	79	64	46
1300	64	82	66	46
1400	65	85	69	48
1500	66	84	69	50
1600	64	80	67	48
1700	60	76	64	48
1800	58	76	61	47
1900	56	74	59	45
2000	50	67	52	43
2100	47	66	47	43
2200	48	69	48	43
2300	46	70	44	43

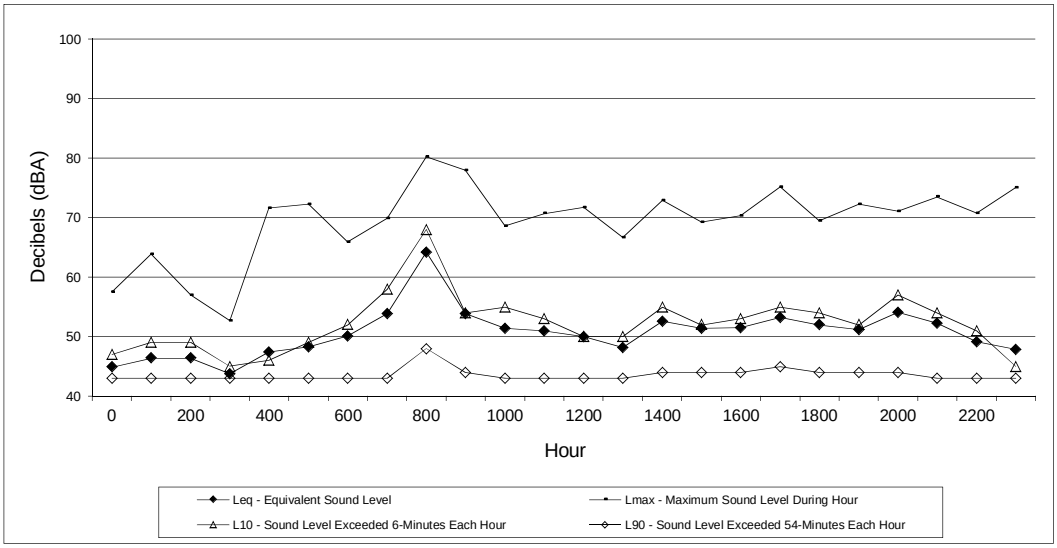
Ldn: 60



Site 2 - N Park (2671)
Wednesday, May 21, 2014

Hour	Leq - Equivalent Sound Level	Lmax - Maximum Sound Level During Hour	L10 - Sound Level Exceeded 6-Minutes Each Hour	L90 - Sound Level Exceeded 54-Minutes Each Hour
0	44	57	43	43
100	46	55	48	43
200	45	66	46	43
300	46	65	45	43
400	45	69	45	43
500	53	73	53	46
600	52	72	53	46
700	51	73	52	43
800	52	73	53	45
900	55	82	52	44
1000	50	69	52	44
1100	49	66	50	43
1200	52	71	52	43
1300	55	75	57	44
1400	54	71	57	44
1500	57	75	61	44
1600	58	74	61	46
1700	60	79	63	48
1800	59	77	62	48
1900	59	82	61	47
2000	50	73	51	43
2100	49	70	48	43
2200	48	67	49	43
2300	48	73	46	43

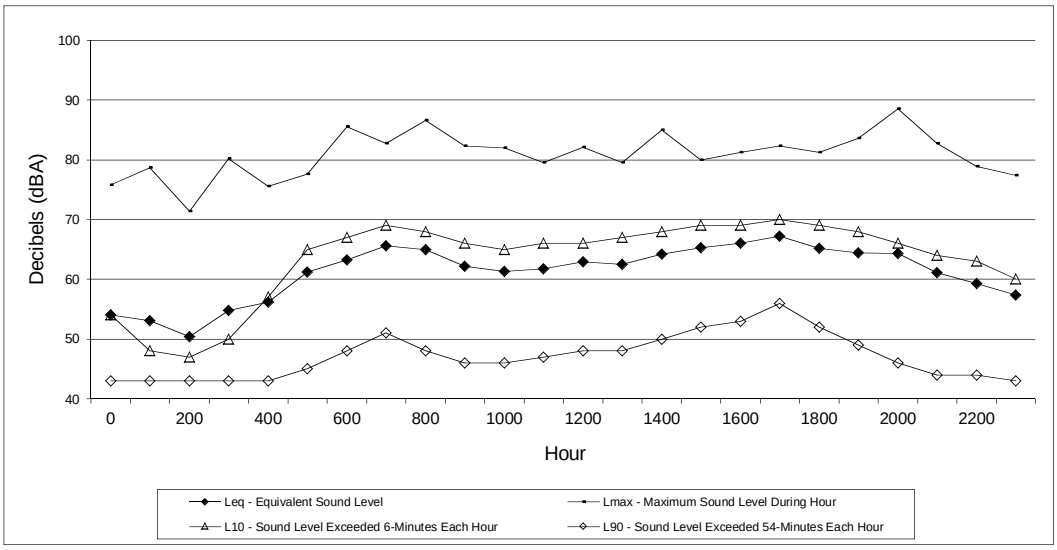
Ldn: 57



Site 2 - N Park (2671)
Thursday, May 22, 2014

Hour	Leq - Equivalent Sound Level	Lmax - Maximum Sound Level During Hour	L10 - Sound Level Exceeded 6-Minutes Each Hour	L90 - Sound Level Exceeded 54-Minutes Each Hour
0	45	58	47	43
100	46	64	49	43
200	46	57	49	43
300	44	53	45	43
400	47	72	46	43
500	48	72	49	43
600	50	66	52	43
700	54	70	58	43
800	64	80	68	48
900	54	78	54	44
1000	51	69	55	43
1100	51	71	53	43
1200	50	72	50	43
1300	48	67	50	43
1400	53	73	55	44
1500	51	69	52	44
1600	52	70	53	44
1700	53	75	55	45
1800	52	70	54	44
1900	51	72	52	44
2000	54	71	57	44
2100	52	74	54	43
2200	49	71	51	43
2300	48	75	45	43

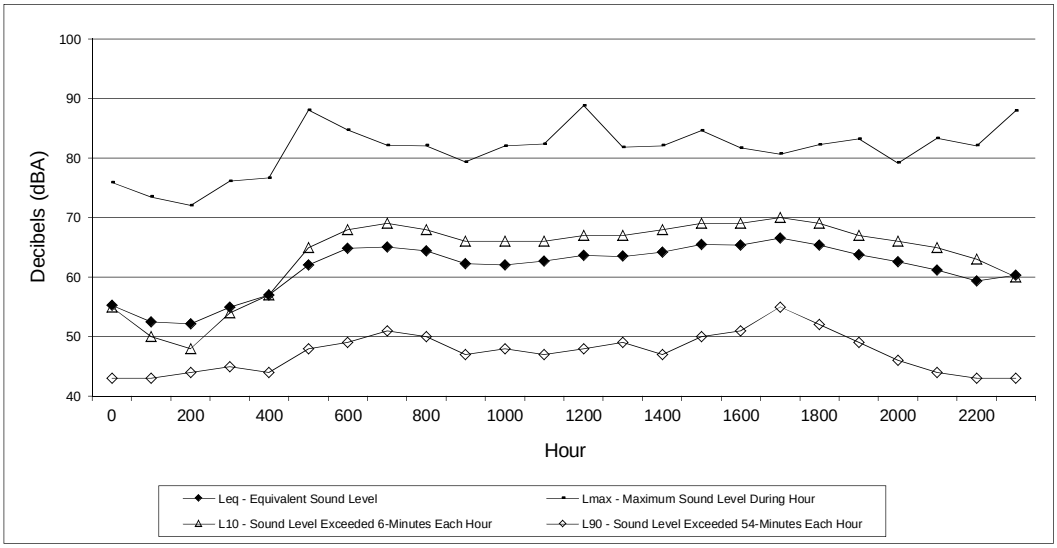
Ldn: 56



Site 3 - Olive Street (2796)
Tuesday, May 20, 2014

Hour	Leq - Equivalent Sound Level	Lmax - Maximum Sound Level During Hour	L10 - Sound Level Exceeded 6-Minutes Each Hour	L90 - Sound Level Exceeded 54-Minutes Each Hour
0	54	76	54	43
100	53	79	48	43
200	50	71	47	43
300	55	80	50	43
400	56	76	57	43
500	61	78	65	45
600	63	86	67	48
700	66	83	69	51
800	65	87	68	48
900	62	82	66	46
1000	61	82	65	46
1100	62	80	66	47
1200	63	82	66	48
1300	63	80	67	48
1400	64	85	68	50
1500	65	80	69	52
1600	66	81	69	53
1700	67	82	70	56
1800	65	81	69	52
1900	64	84	68	49
2000	64	89	66	46
2100	61	83	64	44
2200	59	79	63	44
2300	57	77	60	43

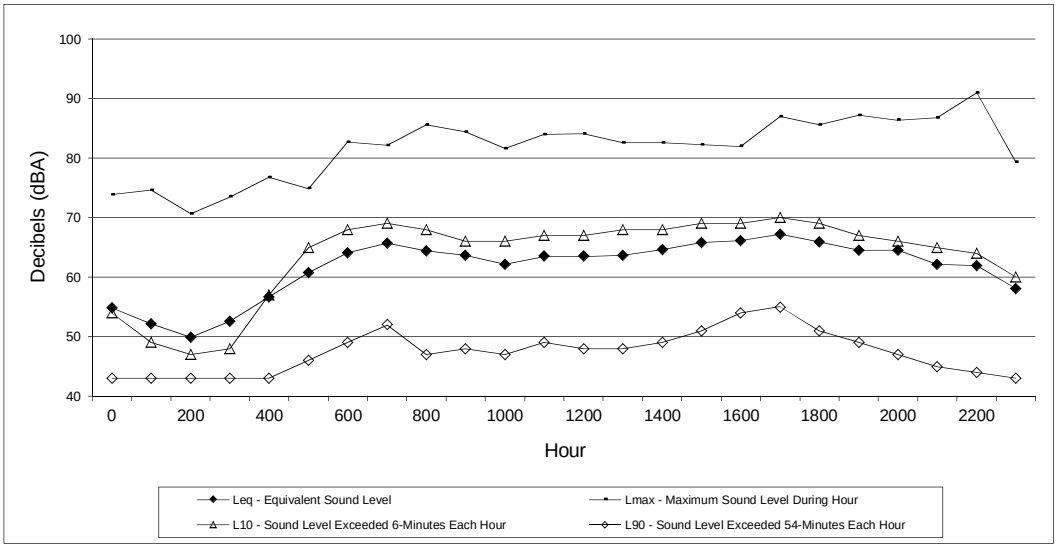
Ldn: 66



Site 3 - Olive Street (2796)
Wednesday, May 21, 2014

Hour	Leq - Equivalent Sound Level	Lmax - Maximum Sound Level During Hour	L10 - Sound Level Exceeded 6-Minutes Each Hour	L90 - Sound Level Exceeded 54-Minutes Each Hour
0	55	76	55	43
100	53	74	50	43
200	52	72	48	44
300	55	76	54	45
400	57	77	57	44
500	62	88	65	48
600	65	85	68	49
700	65	82	69	51
800	64	82	68	50
900	62	79	66	47
1000	62	82	66	48
1100	63	82	66	47
1200	64	89	67	48
1300	64	82	67	49
1400	64	82	68	47
1500	66	85	69	50
1600	65	82	69	51
1700	67	81	70	55
1800	65	82	69	52
1900	64	83	67	49
2000	63	79	66	46
2100	61	83	65	44
2200	59	82	63	43
2300	60	88	60	43

Ldn: 67



Site 3 - Olive Street (2796)
Thursday, May 22, 2014

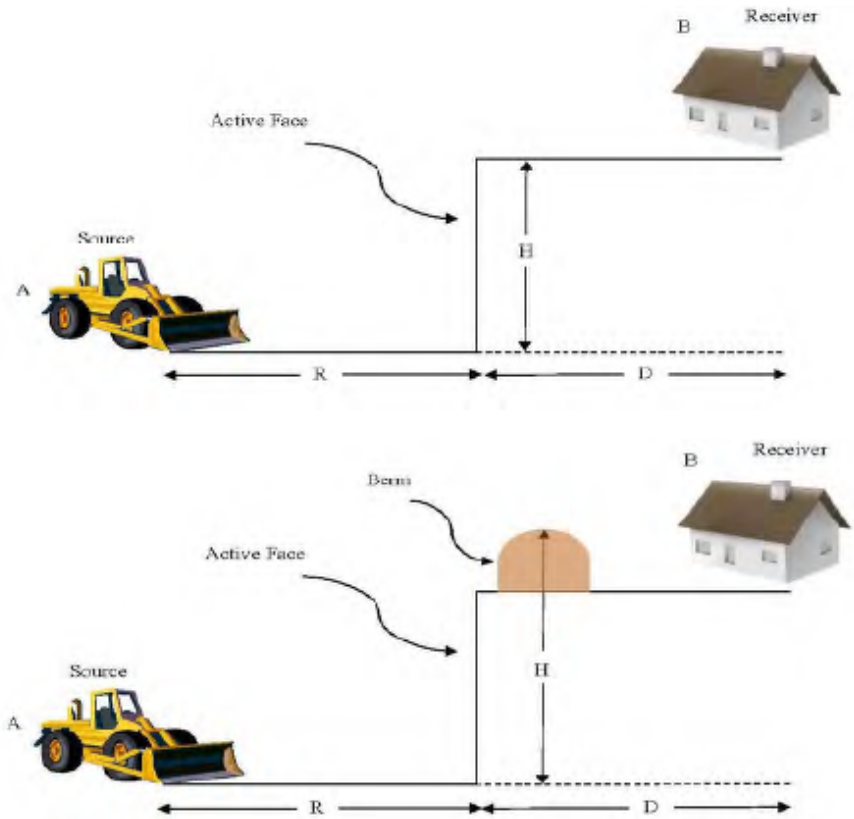
Hour	Leq - Equivalent Sound Level	Lmax - Maximum Sound Level During Hour	L10 - Sound Level Exceeded 6-Minutes Each Hour	L90 - Sound Level Exceeded 54-Minutes Each Hour
0	55	74	54	43
100	52	75	49	43
200	50	71	47	43
300	53	74	48	43
400	57	77	57	43
500	61	75	65	46
600	64	83	68	49
700	66	82	69	52
800	64	86	68	47
900	64	84	66	48
1000	62	82	66	47
1100	64	84	67	49
1200	64	84	67	48
1300	64	83	68	48
1400	65	83	68	49
1500	66	82	69	51
1600	66	82	69	54
1700	67	87	70	55
1800	66	86	69	51
1900	65	87	67	49
2000	65	86	66	47
2100	62	87	65	45
2200	62	91	64	44
2300	58	79	60	43

Ldn: 67

Barrier Noise Reduction Formula

Noise levels can be reduced if large barriers are located between the source and receptors. Typical noise barriers in mine settings are berms, stockpiles, buildings, and mine faces. The most effective use of noise barriers is to operate the equipment in the mine using the faces as a natural barrier. Formulas have been derived which take into account the noise reduction due to barriers in the path of propagating sound. Figure 10 illustrates a loader operating in a mine and behind a berm. A receptor is located on the opposite side of the noise barrier in both cases. Based on the formula presented in the figure, Table 9 is used to determine the amount of reduction the noise barrier will create from the noise source.

Figure 10: Barrier Noise Reduction Formula



A= Noise Source
B= Noise Receiver
H= Barrier Height (excavation face, berm, etc.)
R= Distance from A to base of barrier
D= Distance from base of barrier to B

If R>D then $H^2/R=Z$ (ft.)
If D>R then $H^2/D=Z$ (ft.)

Use Table 9 for dBA reductions as related to Z and the frequency of the noise source.

Using a given hertz value and a calculated Z value, the number of decibels reduced by any given barrier height is found in the values of the table. For example, a front-end loader's engine is generally assumed to emit a noise with the frequency of 500 Hz.

Table 9: Calculations Information For Determining the Effects of Barriers on Noise Levels
The formula illustrated in Figure 10 can be used to determine the effect that an active mine face or berm will have in lowering the amount of noise received by a receptor. Actual face heights will vary along the perimeter of the excavation areas.

NOISE REDUCTION IN FREQUENCY BAND

Z (ft.)	63 HZ	125 HZ	250 HZ	500 HZ	1000 HZ	2000 HZ	4000 HZ	8000 HZ
0.3 – 0.4	0	0	3	6	9	12	15	18
0.5 – 0.8	0	2	5	8	11	14	17	20
0.9 – 1.2	1	4	7	10	13	16	19	22
1.3 – 1.9	3	6	9	12	15	18	21	24
2.0 – 3.1	5	8	11	14	17	20	23	24
3.2 – 4.9	7	10	13	16	19	22	24	24
5 – 8	9	12	15	18	21	24	24	24
9 – 12	11	14	17	20	23	24	24	24
13 – 20	13	16	19	22	24	24	24	24
Over 20	15	18	21	24	24	24	24	24

Loader and Conveyor Scenario

Using the above formula, the sound reduction achieved from the pit face and perimeter berm can be calculated.

$$Z = \frac{H^2}{D}$$

Where H = 55 feet
D = 225 feet

$$Z = \frac{3{,}025}{225}$$

$$Z = 13.4$$

Noise reduction at 500HZ = 22dBA

Source: Continental Placer Inc., 2013

Note: RCH Staff consulted with John Hellert, Senior Geologist at Continental Placer, Inc. via phone conversations on June 20 and June 26, 2014. Mr. Hellert and his firm have a lot of experience working with quarries and consulted with RCH Staff on how to use the Barrier Noise Reduction Formula as an effective way to model how mining noise inside a quarry pit would be reduced by the pit face acting as a noise barrier.

Unmitigated A.M. Peak Hour Traffic Noise Levels

Traffic Noise Level Estimates rev. 3/16/07

15m= 49 FEET

ROAD SEGMENT #1: Azusa Canyon South of Arrow highway			TOTAL # VEHICLES	VEHICLE TYPE % Auto %	Medium Truck Auto	Medium Truck %	Heavy Truck MT	Heavy Truck %	Heavy Truck HT	VEHICLE SPEED Auto k/h	Auto	MT k/h	MT	HT k/h	HT	calveno factors Auto	MT	HT	Calculated dBA (15 meters from roadway center)
Existing (2014)			959	97	930	2	19	1	10	40	64	40	64	40	64	65.7	57.8	61.1	67.5
Existing (2014) + Project	999	120	999	95	949	2	20	3	30	40	64	40	64	40	64	65.8	57.9	66.0	69.2
Future (2016) + Project	1,043	120	1,043	95	992	2	21	3	30	40	64	40	64	40	64	65.9	58.1	66.1	69.4
Future (2035) No Project			1,065	97	1,033	2	21	1	11	40	64	40	64	40	64	66.1	58.2	61.6	67.9
Future (2035) + Project	1,105	120	1,105	95	1,051	2	22	3	31	40	64	40	64	40	64	66.2	58.4	66.3	69.6

ROAD SEGMENT #2: Arrow highway West of Azusa			TOTAL # VEHICLES	VEHICLE TYPE % Auto %	Medium Truck Auto	Medium Truck %	Heavy Truck MT	Heavy Truck %	Heavy Truck HT	VEHICLE SPEED Auto k/h	Auto	MT k/h	MT	HT k/h	HT	calveno factors Auto	MT	HT	Calculated dBA (15 meters from roadway center)
Existing (2014)			3,387	97	3,285	2	68	1	34	45	72	45	72	45	72	72.6	64.0	67.0	74.1
Existing (2014) + Project	3,424	117	3,424	96	3,301	2	68	2	55	45	72	45	72	45	72	72.6	64.1	69.1	74.6
Future (2016) + Project	3,682	117	3,682	96	3,549	2	74	2	59	45	72	45	72	45	72	73.0	64.4	69.5	75.0
Future (2035) No Project			3,865	97	3,749	2	77	1	39	45	72	45	72	45	72	73.2	64.6	67.6	74.7
Future (2035) + Project	3,902	117	3,902	97	3,765	2	78	2	59	45	72	45	72	45	72	73.2	64.7	69.4	75.1

ROAD SEGMENT #3: Azusa Canyon North of Los Angeles Street			TOTAL # VEHICLES	VEHICLE TYPE % Auto %	Medium Truck Auto	Medium Truck %	Heavy Truck MT	Heavy Truck %	Heavy Truck HT	VEHICLE SPEED Auto k/h	Auto	MT k/h	MT	HT k/h	HT	calveno factors Auto	MT	HT	Calculated dBA (15 meters from roadway center)
Existing (2014)			963	97	934	2	19	1	10	40	64	40	64	40	64	65.7	57.8	61.1	67.5
Existing (2014) + Project	1,005	122	1,005	95	956	2	20	3	29	40	64	40	64	40	64	65.8	58.0	65.9	69.2
Future (2016) + Project	1,048	122	1,048	95	997	2	21	3	30	40	64	40	64	40	64	66.0	58.2	66.0	69.4
Future (2035) No Project			1,070	97	1,038	2	21	1	11	40	64	40	64	40	64	66.1	58.2	61.6	67.9
Future (2035) + Project	1,112	122	1,112	95	1,059	2	22	3	31	40	64	40	64	40	64	66.2	58.4	66.2	69.6

ROAD SEGMENT #4: Los Angeles Street West of Azusa Canyon F			TOTAL # VEHICLES	VEHICLE TYPE % Auto %	Medium Truck Auto	Medium Truck %	Heavy Truck MT	Heavy Truck %	Heavy Truck HT	VEHICLE SPEED Auto k/h	Auto	MT k/h	MT	HT k/h	HT	calveno factors Auto	MT	HT	Calculated dBA (15 meters from roadway center)
Existing (2014)			771	97	748	2	15	1	8	40	64	40	64	40	64	64.7	56.8	60.1	66.5
Existing (2014) + Project	816	125	816	95	772	2	16	3	28	40	64	40	64	40	64	64.9	57.1	65.7	68.6
Future (2016) + Project	850	125	850	95	804	2	17	3	29	40	64	40	64	40	64	65.0	57.2	65.9	68.8
Future (2035) No Project			856	97	830	2	17	1	9	40	64	40	64	40	64	65.2	57.3	60.6	67.0
Future (2035) + Project	901	125	901	95	854	2	18	3	29	40	64	40	64	40	64	65.3	57.5	65.9	68.9

ROAD SEGMENT #5: Arrow Highway east of Rivergrade Road			TOTAL # VEHICLES	VEHICLE TYPE % Auto %	Medium Truck Auto	Medium Truck %	Heavy Truck MT	Heavy Truck %	Heavy Truck HT	VEHICLE SPEED Auto k/h	Auto	MT k/h	MT	HT k/h	HT	calveno factors Auto	MT	HT	Calculated dBA (15 meters from roadway center)
Existing (2014)			2,181	97	2,116	2	44	1	22	45	72	45	72	45	72	70.7	62.1	65.1	72.2
Existing (2014) + Project	2,218	117	2,218	96	2,131	2	44	2	42	45	72	45	72	45	72	70.7	62.2	68.0	73.0
Future (2016) + Project	2,912	117	2,912	96	2,805	2	58	2	49	45	72	45	72	45	72	71.9	63.4	68.6	74.0
Future (2035) No Project			3,017	97	2,926	2	60	1	30	45	72	45	72	45	72	72.1	63.5	66.5	73.6
Future (2035) + Project	3,054	117	3,054	96	2,943	2	61	2	50	45	72	45	72	45	72	72.1	63.6	68.8	74.2

ROAD SEGMENT #6: Arrow Highway west of Rivergrade Road			TOTAL # VEHICLES	VEHICLE TYPE % Auto %	Medium Truck Auto	Medium Truck %	Heavy Truck MT	Heavy Truck %	Heavy Truck HT	VEHICLE SPEED Auto k/h	Auto	MT k/h	MT	HT k/h	HT	calveno factors Auto	MT	HT	Calculated dBA (15 meters from roadway center)
Existing (2014)			2,676	97	2,596	2	54	1	27	45	72	45	72	45	72	71.6	63.0	66.0	73.1
Existing (2014) + Project	2,713	117	2,713	96	2,611	2	54	2	47	45	72	45	72	45	72	71.6	63.1	68.5	73.7
Future (2016) + Project	3,222	117	3,222	96	3,106	2	64	2	52	45	72	45	72	45	72	72.4	63.8	68.9	74.4
Future (2035) No Project			3,360	97	3,259	2	67	1	34	45	72	45	72	45	72	72.6	64.0	67.0	74.1
Future (2035) + Project	3,397	117	3,397	96	3,275	2	68	2	54	45	72	45	72	45	72	72.6	64.1	69.1	74.6

Calculated dBA

Traffic Noise Level Estimates rev. 3/16/07

Existing Traffic Noise Levels

15m= 49 FEET

ROAD SEGMENT #1: Azusa Canyon South of Arrow highway			TOTAL # VEHICLES	VEHICLE TYPE % Auto %	Medium Truck Auto	Medium Truck %	Heavy Truck MT	Heavy Truck %	Heavy Truck HT	VEHICLE SPEED Auto k/h	Auto	MT k/h	MT	HT k/h	HT	calveno factors Auto	MT	HT	Calculated dBA (15 meters from roadway center)
Existing (2014)			959	97	930	2	19	1	10	40	64	40	64	40	64	65.7	57.8	61.1	67.5
Existing (2014) + Project	959	120	959	97	930	2	19	1	10	40	64	40	64	40	64	65.7	57.8	61.1	67.5
Future (2016) + Project	1,003	120	1,003	97	973	2	20	1	10	40	64	40	64	40	64	65.9	58.0	61.3	67.7
Future (2035) No Project			1,065	97	1,033	2	21	1	11	40	64	40	64	40	64	66.1	58.2	61.6	67.9
Future (2035) + Project	1,065	120	1,065	97	1,033	2	21	1	11	40	64	40	64	40	64	66.1	58.2	61.6	67.9

ROAD SEGMENT #2: Arrow highway West of Azusa			TOTAL # VEHICLES	VEHICLE TYPE % Auto %	Medium Truck Auto	Medium Truck %	Heavy Truck MT	Heavy Truck %	Heavy Truck HT	VEHICLE SPEED Auto k/h	Auto	MT k/h	MT	HT k/h	HT	calveno factors Auto	MT	HT	Calculated dBA (15 meters from roadway center)
Existing (2014)			3,387	97	3,285	2	68	1	34	45	72	45	72	45	72	72.6	64.0	67.0	74.1
Existing (2014) + Project	3,387	117	3,387	97	3,285	2	68	1	34	45	72	45	72	45	72	72.6	64.0	67.0	74.1
Future (2016) + Project	3,645	117	3,645	97	3,536	2	73	1	36	45	72	45	72	45	72	72.9	64.4	67.4	74.4
Future (2035) No Project			3,865	97	3,749	2	77	1	39	45	72	45	72	45	72	73.2	64.6	67.6	74.7
Future (2035) + Project	3,865	117	3,865	97	3,749	2	77	1	39	45	72	45	72	45	72	73.2	64.6	67.6	74.7

ROAD SEGMENT #3: Azusa Canyon North of Los Angeles Street			TOTAL # VEHICLES	VEHICLE TYPE % Auto %	Medium Truck Auto	Medium Truck %	Heavy Truck MT	Heavy Truck %	Heavy Truck HT	VEHICLE SPEED Auto k/h	Auto	MT k/h	MT	HT k/h	HT	calveno factors Auto	MT	HT	Calculated dBA (15 meters from roadway center)
Existing (2014)			963	97	934	2	19	1	10	40	64	40	64	40	64	65.7	57.8	61.1	67.5
Existing (2014) + Project	965	122	965	97	936	2	19	1	10	40	64	40	64	40	64	65.7	57.8	61.1	67.5
Future (2016) + Project	1,008	122	1,008	97	978	2	20	1	10	40	64	40	64	40	64	65.9	58.0	61.3	67.7
Future (2035) No Project			1,070	97	1,038	2	21	1	11	40	64	40	64	40	64	66.1	58.2	61.6	67.9
Future (2035) + Project	1,072	122	1,072	97	1,040	2	21	1	11	40	64	40	64	40	64	66.1	58.2	61.6	67.9

ROAD SEGMENT #4: Los Angeles Street West of Azusa Canyon F			TOTAL # VEHICLES	VEHICLE TYPE % Auto %	Medium Truck Auto	Medium Truck %	Heavy Truck MT	Heavy Truck %	Heavy Truck HT	VEHICLE SPEED Auto k/h	Auto	MT k/h	MT	HT k/h	HT	calveno factors Auto	MT	HT	Calculated dBA (15 meters from roadway center)
Existing (2014)			771	97	748	2	15	1	8	40	64	40	64	40	64	64.7	56.8	60.1	66.5
Existing (2014) + Project	776	125	776	97	753	2	16	1	8	40	64	40	64	40	64	64.7	56.8	60.2	66.5
Future (2016) + Project	810	125	810	97	786	2	16	1	8	40	64	40	64	40	64	64.9	57.0	60.4	66.7
Future (2035) No Project			856	97	830	2	17	1	9	40	64	40	64	40	64	65.2	57.3	60.6	67.0
Future (2035) + Project	861	125	861	97	835	2	17	1	9	40	64	40	64	40	64	65.2	57.3	60.6	67.0

ROAD SEGMENT #5: Arrow Highway east of Rivergrade Road			TOTAL # VEHICLES	VEHICLE TYPE % Auto %	Medium Truck Auto	Medium Truck %	Heavy Truck MT	Heavy Truck %	Heavy Truck HT	VEHICLE SPEED Auto k/h	Auto	MT k/h	MT	HT k/h	HT	calveno factors Auto	MT	HT	Calculated dBA (15 meters from roadway center)
Existing (2014)			2,181	97	2,116	2	44	1	22	45	72	45	72	45	72	70.7	62.1	65.1	72.2
Existing (2014) + Project	2,181	117	2,181	97	2,116	2	44	1	22	45	72	45	72	45	72	70.7	62.1	65.1	72.2
Future (2016) + Project	2,875	117	2,875	97	2,789	2	58	1	29	45	72	45	72	45	72	71.9	63.3	66.3	73.4
Future (2035) No Project			3,017	97	2,926	2	60	1	30	45	72	45	72	45	72	72.1	63.5	66.5	73.6
Future (2035) + Project	3,017	117	3,017	97	2,926	2	60	1	30	45	72	45	72	45	72	72.1	63.5	66.5	73.6

ROAD SEGMENT #6: Arrow Highway west of Rivergrade Road			TOTAL # VEHICLES	VEHICLE TYPE % Auto %	Medium Truck Auto	Medium Truck %	Heavy Truck MT	Heavy Truck %	Heavy Truck HT	VEHICLE SPEED Auto k/h	Auto	MT k/h	MT	HT k/h	HT	calveno factors Auto	MT	HT	Calculated dBA (15 meters from roadway center)
Existing (2014)			2,676	97	2,596	2	54	1	27	45	72	45	72	45	72	71.6	63.0	66.0	73.1
Existing (2014) + Project	2,676	117	2,676	97	2,596	2	54	1	27	45	72	45	72	45	72	71.6	63.0	66.0	73.1
Future (2016) + Project	3,185	117	3,185	97	3,089	2	64	1	32	45	72	45	72	45	72	72.4	63.8	66.8	73.9
Future (2035) No Project			3,360	97	3,259	2	67	1	34	45	72	45	72	45	72	72.6	64.0	67.0	74.1
Future (2035) + Project	3,360	117	3,360	97	3,259	2	67	1	34	45	72	45	72	45	72	72.6	64.0	67.0	74.1

Traffic Noise Level Estimates rev. 3/16/07

Project Truck Traffic Noise

15m= 49 FEET

ROAD SEGMENT #1: Azusa Canyon South of Arrow highway			TOTAL # VEHICLES	VEHICLE TYPE % Auto %	Medium Truck Auto	Medium Truck %	Heavy Truck MT	Heavy Truck %	Heavy Truck HT	VEHICLE SPEED Auto	Auto k/h	MT	MT k/h	HT	HT k/h	calveno factors Auto	MT	HT	Calculated dBA (15 meters from roadway center)
Existing (2014)			959	97	930	2	19	1	10	40	64	40	64	40	64	65.7	57.8	61.1	67.5
Existing (2014) + Project	22	120	40	96	1	1	1	3	20	40	64	40	64	40	64	36.0	44.9	61.3	61.4
Future (2016) + Project	22	120	40	95	1	2	1	3	20	40	64	40	64	40	64	36.0	44.0	61.3	61.4
Future (2035) No Project			1,065	97	1,033	2	21	1	11	40	64	40	64	40	64	66.1	58.2	61.6	67.9
Future (2035) + Project	22	120	40	95	1	2	1	3	20	40	64	40	64	40	64	36.0	44.0	61.3	61.4

Note: Noise from Project over-the-road haul trucks was only evaluated on one road segment because Project trucks would create the same amount of noise at each road segment.
Project truck traffic noise is added to the existing traffic noise on road segments on the following page.

Existing Traffic Noise Plus Mitigated Project Traffic Noise (dBA)

Existing Plus Project (2014)

	Traffic with No Project Trucks	Project Truck Traffic	Total Traffic
Azusa Canyon South of Arrow highway	67.459	61.380	68.416
Arrow highway West of Azusa	74.129	61.380	74.354
Azusa Canyon North of Los Angeles Street	67.486	61.380	68.438
Los Angeles Street West of Azusa Canyon Road	66.539	61.380	67.695
Arrow Highway east of Rivergrade Road	72.217	61.380	72.561
Arrow Highway west of Rivergrade Road	73.106	61.380	73.388

Future Plus Project (2016)

	Traffic with No Project Trucks	Project Truck Traffic	Total Traffic
Azusa Canyon South of Arrow highway	67.654	61.380	68.573
Arrow highway West of Azusa	74.448	61.380	74.657
Azusa Canyon North of Los Angeles Street	67.675	61.380	68.591
Los Angeles Street West of Azusa Canyon Road	66.725	61.380	67.838
Arrow Highway east of Rivergrade Road	73.417	61.380	73.681
Arrow Highway west of Rivergrade Road	73.862	61.380	74.100

Future Plus Project (2035)

	Traffic with No Project Trucks	Project Truck Traffic	Total Traffic
Azusa Canyon South of Arrow highway	67.914	61.380	68.785
Arrow highway West of Azusa	74.702	61.380	74.900
Azusa Canyon North of Los Angeles Street	67.943	61.380	68.809
Los Angeles Street West of Azusa Canyon Road	66.991	61.380	68.045
Arrow Highway east of Rivergrade Road	73.627	61.380	73.878
Arrow Highway west of Rivergrade Road	74.094	61.380	74.321

Note: These noise levels are calculated 15 meters away from the roadway center.