Appendix A Noise

SOUND FIELD TEST DATA SHEET

Project No.: Nacimiento EIR (376) Item: _____ Page: 1 of 3
Location: _____ : Date: 6-11-2002
Subject: _____ : By: D. Brooks

Day (Evening) Night

	Meter Memory Location	1		5	6		9
1	Time	7:00 PM		8:00 PM	8:45 PM		9:10 PM
2	Location of Reading	Nac. campgrd		Mahoney Rd.	River Xing		Halcon Rd.
3	" Minutes Leg	10:00		10:00	10:00		10:01
4	Temperature	72.0°F		64.9°F	62.3°F		57.0°F
5	Cloud cover	NONE		NONE	NONE		NONE
6	Relative humidity	43%		49%	61%		65%
7	Wind direction and speed (mph)	0.9 NE		3.2 W	5.8 S		3.2 S
8	Battery (V)	8.0		9.2	8.9		—
9	"A" weighted Leq dbA	38.0		37.1	54.4		52.1
10	31.5 db	44		48	56		60
11	63 db	42		46	50		60
12	125 db	36		38	44		58
13	250 db	29		36	41		38
14	500 db	28		27	42		37
15	1K db	22		21	40		42
16	2K db	20		17	39		30
17	4K db	19		20	37		22
18	8K db	14		17	19		15
19	16K db	OL		16	13		OL
20	"A" weighted, Leq dbA						
21	Range			birds	highway traffic		distant traffic (101)
22	Comments	wildlife-birds		powerline hum	crickets		crickets
23		children crying		distant aircraft	infrequent		occasional
24		powerboat on lake			nearby traffic		passing cars

02:45 put on wind baffle

Make: Quest
Model: 1900
Model: octave Band Analyzer OB-100

SOUND FIELD TEST DATA SHEET

Project No.: Nacimiento EIR (376) Item: _____ Page: 2 of 3
Location: _____: Date: 6-11-2002
Subject: _____: By: D. Brooks

Day Evening (Night)

	Meter Memory Location	10	11		12		13
1	Time	10:20 PM	1105 PM		11:35 PM		12:10 AM
2	Location of Reading	Campground	Texas Rd.		River Xing		Halcon Rd.
3	" Minutes Leg	10:01	10:01		10:00		10:24
4	Temperature	64.4°F	60.9°F		58.0°F		57.2°F
5	Cloud cover	NONE	NONE		NONE		NONE
6	Relative humidity	53%	57%		68%		69%
7	Wind direction and speed (mph)	Ø	Ø		0.7 SE		2.3 E
8	Battery (V)	8.8	8.7		8.6		8.6
9	"A" weighted Leq dbA	37.0	46.3		51.6		45.0
10	31.5 db	38	43		50		41
11	63 db	43	42		48		44
12	125 db	36	35		50		45
13	250 db	28	28		46		35
14	500 db	19	26		46		30
15	1K db	17	13		43		26
16	2K db	18	17		29		18
17	4K db	22	45		20		14
18	8K db	13	31		17		12
19	16K db	—	19		14		12
20	"A" weighted, Leq dbA						
21	Range		crickets		highway traffic		two passing cars
22	Comments	crickets	aircraft				crickets
23		diesel pickup	distant		one passing car		distant hwy
24		truck idling 300' away	dog bark				traffic

Make: Quest
Model: 1900
Model: octave Band Analyzer OB-100

SOUND FIELD TEST DATA SHEET

Project No.: Nacimiento EIR (376) Item: _____ Page: 3 of 3
Location: _____: Date: 6-12-2002
Subject: _____: By: D. Brooks

(Day) Evening Night

	Meter Memory Location	15		16		23	25
1	Time	10:30 AM		11:00 AM		12:30 PM	1:10 PM
2	Location of Reading	campground		Texas Rd.		River Xing	Heleon Rd.
3	" Minutes Leg	10:00		10:00		10:00	10:00
4	Temperature	86.9°F		86.1°F		86.4°F	88.1°F
5	Cloud cover	NONE		NONE		NONE	NONE
6	Relative humidity	37%		35%		28%	26%
7	Wind direction and speed (mph)	5.5 N		1.0 SE		10.8 SE	4.2 W
8	Battery	8.5		8.5		8.9	8.8
9	"A" weighted Leq dbA	41.2		34.7		58.2	55.3
10	31.5 db	50		45		87	52
11	63 db	48		53		79	54
12	125 db	44		42		60	62
13	250 db	34		31		56	70
14	500 db	29		22		56	63
15	1K db	27		22		52	52
16	2K db	37		26		40	40
17	4K db	25		25		33	32
18	8K db	15		13		29	19
19	16K db	13		12		22	14
20	"A" weighted, Leq dbA						
21	Range						
22	Comments	birds cawing		birds		nearby heavy traffic	birds
23		distant traffic		aircraft		trees in wind	quarry trucks
24		distant yelling		distant chainsaw		birds	passing cars
		distant boats				metal gate swinging in wind	
						insects buzzing	
						8 cars passing	

Make: Quest
Model: 1900
Model: octave Band Analyzer OB-100

Pump Station 1 Construction Noise Experienced by Sensitive Receptor at Campground							Day	Evening	Night
						Background	41	38	37
Equipment	**Number**	**Fraction of Time Generating Peak Noise During**	**Reference distance from noise source (ft)**	**Sound Level at reference distance (dBA)**	**Distance to receptor (ft)**	**Sound Level at distance (dBA)**	**Total Day Energy**	**Total Evening Energy**	**Total Night Energy**
Barge	2	0.5	50		3200		1.00E+00	-	-
Bulldozer	1	0.5	50	80	3200	44	1.22E+04	-	-
Concrete Truck	1	0.5	50	91	3200	55	1.54E+05	-	-
Compactor	1	0.5	50	74	3200	38	3.07E+03	-	-
Crane	2	0.5	50	85	3200	49	7.72E+04	-	-
Dredger	1	0.5	50	89	3200	53	9.70E+04	-	-
Dump Truck	1	0.5	50	91	3200	55	1.54E+05	-	-
Excavator	1	0.5	50	85	3200	49	3.86E+04	-	-
Grader	1	0.5	50	89	3200	53	9.70E+04	-	-
Boring Machine	1	0.5	50	91	3200	55	1.54E+05	-	-
Loader	1	0.25	50	75	3200	39	1.93E+03	-	-
Generator	2	1	50	76	3200	40	1.94E+04	-	-
Water Truck	1	0.25	50	91	3200	55	7.68E+04	-	-
Welding Truck	1	0.5	50	76	3200	40	4.86E+03	-	-
Total							8.89E+05	0.00E+00	0.00E+00
Total dBA without background							59	0	0
Total dBA with background and CNEL correction							60	43	47
Change in dBA from baseline							**18**	**0**	**0**
Total Energy							9.0E+05	2.0E+04	5.0E+04
Total Energy Weighted by Hours							4.5E+05	2.5E+03	1.9E+04
Total CNEL at 50 feet							57		
CNEL Specs	*between 7 am and 7 pm add 0 dba, assumes 12 hours*								
	between 7 pm and 10 pm add 5 dba, assumes 3 hours								
	between 10 pm and 7 am add 10 dba, assumes 9 hours								

Pump Station 1 Operation Noise Experienced by Sensitive Receptor at Campground							Day	Evening	Night
						Background	41	38	37
Equipment	Number	Fraction of Time Generating Peak Noise During	Reference distance from noise source (ft)	Sound Level at reference distance (dBA)	Distance to receptor (ft)	Sound Level at distance (dBA)	Total Day Energy	Total Evening Energy	Total night Energy
Enclosed pumps, 500 hp	4	1.00	3	74	3200	13	8.83E+01	8.83E+01	8.83E+01
Total							8.83E+01	8.83E+01	8.83E+01
Total dBA without background							19	19	19
Total dBA with background and CNEL correction							41	43	47
Change in dBA from baseline (without CNEL correction)							**0**	**0**	**0**
Total Energy							1.3E+04	2.0E+04	5.1E+04
Total Energy Weighted by Hours							6.6E+03	2.5E+03	1.9E+04
Total CNEL at 50 feet							45		

Reference distance and noise assumes loudest pump noise from range established in "Noise from Construction Equipment and Operations, Building Equipment, and Home Applicances" by Bolt, Beranek and Newman (1971) for the EPA.

Generator Operation Noise							Day	Evening	Night
						Background	41	38	37
Equipment	Number	Fraction of Time Generating Peak Noise During	Reference distance from noise source (ft)	Sound Level at reference distance (dBA)	Distance to receptor (ft)	Sound Level at distance (dBA)	Total Day Energy	Total Evening Energy	Total night Energy
Generator	1	1.00	50	71	3200	35	3.07E+03	3.07E+03	3.07E+03
Total							3.07E+03	3.07E+03	3.07E+03
Total dBA without background							35	35	35
Total dBA with background and CNEL correction							42	45	49
Change in dBA from baseline (without CNEL correction)							**1**	**2**	**2**
Total Energy							1.6E+04	3.0E+04	8.1E+04
Total Energy Weighted by Hours							8.1E+03	3.7E+03	3.0E+04
Total CNEL at 50 feet							46		

WTP Construction Noise Experienced by Mahoney Road Residence							Day	Evening	Night
						Background	35	37	46
Equipment	**Number**	**Fraction of Time Generating Peak Noise During Day**	**Reference distance from noise source (ft)**	**Sound Level at reference distance (dBA)**	**Distance to receptor (ft)**	**Sound Level at distance (dBA)**	**Total Day Energy**	**Total Evening Energy**	**Total night Energy**
Air Compressor	1	0.5	50	86	3500	49	4.06E+04	-	-
Backhoe	1	0.5	50	85	3500	48	3.23E+04	-	-
Bulldozer	1	0.5	50	80	3500	43	1.02E+04	-	-
Concrete Truck	1	0.5	50	91	3500	54	1.28E+05	-	-
Compactor	1	0.5	50	74	3500	37	2.56E+03	-	-
Crane	1	0.5	50	85	3500	48	3.23E+04	-	-
Dredger	1	0.25	50	89	3500	52	4.05E+04	-	-
Dump Truck	2	0.5	50	91	3500	54	2.57E+05	-	-
Excavator	1	0.5	50	88	3500	51	6.44E+04	-	-
Forklift	1	0.25	50	75	3500	38	1.61E+03	-	-
Grader	1	0.5	50	87	3500	50	5.11E+04	-	-
Boring Machine	1	0.5	50	75	3500	38	3.23E+03	-	-
Loader	1	0.25	50	75	3500	38	1.61E+03	-	-
Generator	2	1	50	77	3500	40	2.05E+04	-	-
Water Truck	1	0.25	50	86	3500	49	2.03E+04	-	-
Welding Truck	1	0.5	50	76	3500	39	4.06E+03	-	-
Total							4.99E+05	0.00E+00	0.00E+00
Total dBA without background							57	0	0
Total dBA with background and CNEL correction							57	42	56
Change in dBA from baseline (without CNEL correction)							**22**	**0**	**0**
Total Energy							5.0E+05	1.6E+04	4.3E+05
Total Energy Weighted by Hours							2.5E+05	2.0E+03	1.6E+05
Total CNEL at 50 feet							56		

CNEL Specs *between 7 am and 7 pm add 0 dba, assumes 12 hours*
between 7 pm and 10 pm add 5 dba, assumes 3 hours
between 10 pm and 7 am add 10 dba, assumes 9 hours

WTP Operations Noise Experienced by Mahoney Road Residence							Day	Evening	Night
						Background	35	37	46
Equipment	Number	Fraction of Time Generating Peak Noise During Day	Reference distance from noise source (ft)	Sound Level at reference distance (dBA)	Distance to receptor (ft)	Sound Level at distance (dBA)	Total Day Energy	Total Evening Energy	Total night Energy
Enclosed pumps, 40	4	1.00	3	74	2400	16	1.57E+02	1.57E+02	1.57E+02
Total							1.57E+02	1.57E+02	1.57E+02
Total dBA without background							22	22	22
Total dBA with background and CNEL correction							35	42	56
Change in dBA from baseline (without CNEL correction)							**0**	**0**	**0**
Total Energy							3.1E+03	1.7E+04	4.3E+05
Total Energy Weighted by Hours							1.6E+03	2.1E+03	1.6E+05
Total CNEL at 50 feet							52		

three new 1,250 horsepower, electric booster pumps

Generator Operation Noise							Day	Evening	Night
						Background	35	37	46
Equipment	Number	Fraction of Time Generating Peak Noise During Day	Reference distance from noise source (ft)	Sound Level at reference distance (dBA)	Distance to receptor (ft)	Sound Level at distance (dBA)	Total Day Energy	Total Evening Energy	Total night Energy
Generator	1	1.00	50	71	3200	35	3.07E+03	3.07E+03	3.07E+03
Total							3.07E+03	3.07E+03	3.07E+03
Total dBA without background							35	35	35
Total dBA with background and CNEL correction							38	44	57
Change in dBA from baseline (without CNEL correction)							**3**	**2**	**0**
Total Energy							6.0E+03	2.6E+04	4.6E+05
Total Energy Weighted by Hours							3.0E+03	3.2E+03	1.7E+05
Total CNEL at 50 feet							52		

Construction Noise for Water Recharge Ponds
(Paso Robles discharge as experience by nearby residence)

						Background	58	55	51
Equipment	**Number**	**Fraction of Time Generating Peak Noise During Day**	**Reference distance from noise source (ft)**	**Sound Level at reference distance (dBA)**	**Distance to receptor (ft)**	**Sound Level at distance (dBA)**	**Total Day Energy**	**Total Evening Energy**	**Total Night Energy**
Backhoe	1	0.25	50	86	250	72	3.98E+06	-	-
Bulldozer	1	0.25	50	80	250	66	1.00E+06	-	-
Dump Truck	1	0.25	50	91	250	77	1.26E+07	-	-
Total							1.76E+07	0.00E+00	0.00E+00
Total dBA without background							72	0	0
Total dBA with background and CNEL correction							73	60	61
Change in dBA from baseline							**15**	**0**	**0**
Total Energy							1.8E+07	1.0E+06	1.3E+06
Total Energy Weighted by Hours							9.1E+06	1.3E+05	4.7E+05
Total CNEL at 50 feet							70		

CNEL Specs *between 7 am and 7 pm add 0 dba, assumes 12 hours*
between 7 pm and 10 pm add 5 dba, assumes 3 hours
between 10 pm and 7 am add 10 dba, assumes 9 hours

Construction Noise for Water Storage Tanks
(WTP tanks as experienced by nearby residence)

						Background	55	52	45
Equipment	**Number**	**Fraction of Time Generating Peak Noise During Day**	**Reference distance from noise source (ft)**	**Sound Level at reference distance (dBA)**	**Distance to receptor (ft)**	**Sound Level at distance (dBA)**	**Total Day Energy**	**Total Evening Energy**	**Total Night Energy**
Backhoe	1	0.50	50	86	700	63	1.02E+06	-	-
Bulldozer	1	0.50	50	80	700	57	2.55E+05	-	-
Concrete Truck	1	0.50	50	91	700	68	3.21E+06	-	-
Crane	1	0.50	50	85	700	62	8.07E+05	-	-
Dump Truck	1	0.50	50	91	700	68	3.21E+06	-	-
Grader	1	0.50	50	88	700	65	1.61E+06	-	-
Loader	1	0.25	50	84	700	61	3.20E+05	-	-
Welding Truck	1	0.25	50	76	700	53	5.08E+04	-	-
Total							1.05E+07	0.00E+00	0.00E+00
Total dBA without background							70	0	0
Total dBA with background and CNEL correction							70	57	55
Change in dBA from baseline							**15**	**0**	**0**
Total Energy							1.1E+07	5.1E+05	3.2E+05
Total Energy Weighted by Hours							5.4E+06	6.4E+04	1.2E+05
Total CNEL at 50 feet							67		

CNEL Specs *between 7 am and 7 pm add 0 dba, assumes 12 hours*
between 7 pm and 10 pm add 5 dba, assumes 3 hours
between 10 pm and 7 am add 10 dba, assumes 9 hours

Pump Station 3 Construction Noise Experienced by Nearby Residence							Day	Evening	Night
						Background	55	52	45
Equipment	**Number**	**Fraction of Time Generating Peak Noise During Day**	**Reference distance from noise source (ft)**	**Sound Level at reference distance (dBA)**	**Distance to receptor (ft)**	**Sound Level at distance (dBA)**	**Total Day Energy**	**Total Evening Energy**	**Total Night Energy**
Backhoe	1	0.50	50	86	600	64	1.38E+06	-	-
Bulldozer	1	0.25	50	80	600	58	1.74E+05	-	-
Concrete Truck	1	0.50	50	91	600	69	4.37E+06	-	-
Crane	1	0.25	50	85	600	63	5.49E+05	-	-
Dump Truck	1	0.50	50	91	600	69	4.37E+06	-	-
Excavator	1	0.50	50	88	600	66	2.19E+06	-	-
Fork Lift	1	0.25	50	84	600	62	4.36E+05	-	-
Loader	1	0.25	50	84	600	62	4.36E+05	-	-
Grader	1	0.50	50	88	600	66	2.19E+06		
Welding Truck	1	0.25	50	76	600	54	6.91E+04		
Tractor	1	0.50	50	87	600	65	1.74E+06	-	-
Total							1.79E+07	0.00E+00	0.00E+00
Total dBA without background							73	0	0
Total dBA with background and CNEL correction							73	57	55
Change in dBA from baseline							**17**	**0**	**0**
Total Energy							1.8E+07	5.1E+05	3.2E+05
Total Energy Weighted by Hours							9.1E+06	6.4E+04	1.2E+05
Total CNEL at 50 feet							70		

CNEL Specs *between 7 am and 7 pm add 0 dba, assumes 12 hours*
between 7 pm and 10 pm add 5 dba, assumes 3 hours
between 10 pm and 7 am add 10 dba, assumes 9 hours

Pump Station 3 Operation Noise Experienced by Nearby Residence							Day	Evening	Night
						Background	55	52	45
Equipment	Number	Fraction of Time Generating Peak Noise During Day	Reference distance from noise source (ft)	Sound Level at reference distance (dBA)	Distance to receptor (ft)	Sound Level at distance (dBA)	Total Day Energy	Total Evening Energy	Total night Energy
Enclosed Pumps, 550	2	1.00	3	74	600	28	1.26E+03	1.26E+03	1.26E+03
Total							1.26E+03	1.26E+03	1.26E+03
Total dBA without background							31	31	31
Total dBA with background and CNEL correction							55	57	55
Change in dBA from baseline (without CNEL correction)							**0**	**0**	**0**
Total Energy							3.4E+05	5.2E+05	3.3E+05
Total Energy Weighted by Hours							1.7E+05	6.5E+04	1.2E+05
Total CNEL at 50 feet							56		

Reference distance and noise assumes loudest pump noise from range established in "Noise from Construction Equipment and Operations, Building Equipment, and Home Applicances" by Bolt, Beranek and Newman (1971) for the EPA. The number is adjusted downward

Generator Operation Noise							Day	Evening	Night
						Background	55	52	45
Equipment	Number	Fraction of Time Generating Peak Noise During Day	Reference distance from noise source (ft)	Sound Level at reference distance (dBA)	Distance to receptor (ft)	Sound Level at distance (dBA)	Total Day Energy	Total Evening Energy	Total night Energy
Generator	1	1.00	50	71	600	49	8.74E+04	8.74E+04	8.74E+04
Total							8.74E+04	8.74E+04	8.74E+04
Total dBA without background							49	49	49
Total dBA with background and CNEL correction							56	59	61
Change in dBA from baseline (without CNEL correction)							**1**	**2**	**6**
Total Energy							4.3E+05	7.9E+05	1.2E+06
Total Energy Weighted by Hours							2.1E+05	9.9E+04	4.5E+05
Total CNEL at 50 feet							59		

Pipeline Construction Noise Experienced by Sensitive Receptor at Campground							Day
						Background	55
Equipment	**Number**	**Fraction of Time Generating Peak Noise During Day**	**Reference distance from noise source (ft)**	**Sound Level at reference distance (dBA)**	**Distance to receptor (ft)**	**Sound Level at distance (dBA)**	**Total Day Energy**
Backhoe	1	0.25	50	85	500	65	7.91E+05
Blade	1	0.25	50	88	500	68	1.58E+06
Broom	1	0.25	50	76	500	56	9.95E+04
Bulldozer	1	0.25	50	80	500	60	2.50E+05
Stringing Eq.	1	0.25	50	85	500	65	7.91E+05
Concrete Truck	1	0.5	50	91	500	71	6.29E+06
Compactor	1	0.5	50	74	500	54	1.26E+05
Drilling Rig	1	0.25	50	75	500	55	7.91E+04
Dump Truck	1	0.5	50	91	500	71	6.29E+06
Excavator	1	0.5	50	85	500	65	1.58E+06
Forklift	1	0.25	50	79	500	59	1.99E+05
Loader	1	0.25	50	75	500	55	7.91E+04
Microtunneling Eq.	1	0.25	50	75	500	71	3.15E+06
Trailer w/ Dozer	1	0.1	50	93	500	73	2.00E+06
Water Truck	1	0.25	50	91	500	71	3.15E+06
Total							2.65E+07
Total dBA without background							74
Total dBA with background and CNEL correction							74
Change in dBA from baseline							**19**
Total Energy							2.7E+07
Total Energy Weighted by Hours							1.3E+07
Total CNEL at 50 feet							71

CNEL Specs *between 7 am and 7 pm add 0 dba, assumes 12 hours*
between 7 pm and 10 pm add 5 dba, assumes 3 hours
between 10 pm and 7 am add 10 dba, assumes 9 hours

WTP Construction Noise Experienced by Mahoney Road Residence							Day	Evening	Night
						Background	45	45	46
Equipment	**Number**	**Fraction of Time Generating Peak Noise During Day**	**Reference distance from noise source (ft)**	**Sound Level at reference distance (dBA)**	**Distance to receptor (ft)**	**Sound Level at distance (dBA)**	**Total Day Energy**	**Total Evening Energy**	**Total night Energy**
Air Compressor	1	0.5	50	86	3500	49	4.06E+04	-	-
Backhoe	1	0.5	50	85	3500	48	3.23E+04	-	-
Bulldozer	1	0.5	50	80	3500	43	1.02E+04	-	-
Concrete Truck	1	0.5	50	91	3500	54	1.28E+05	-	-
Compactor	1	0.5	50	74	3500	37	2.56E+03	-	-
Crane	1	0.5	50	85	3500	48	3.23E+04	-	-
Dredger	1	0.25	50	89	3500	52	4.05E+04	-	-
Dump Truck	2	0.5	50	91	3500	54	2.57E+05	-	-
Excavator	1	0.5	50	88	3500	51	6.44E+04	-	-
Forklift	1	0.25	50	75	3500	38	1.61E+03	-	-
Grader	1	0.5	50	87	3500	50	5.11E+04	-	-
Boring Machine	1	0.5	50	75	3500	38	3.23E+03	-	-
Loader	1	0.25	50	75	3500	38	1.61E+03	-	-
Generator	2	1	50	77	3500	40	2.05E+04	-	-
Water Truck	1	0.25	50	86	3500	49	2.03E+04	-	-
Welding Truck	1	0.5	50	76	3500	39	4.06E+03	-	-
Total							4.99E+05	0.00E+00	0.00E+00
Total dBA without background							57	0	0
Total dBA with background and CNEL correction							57	50	56
Change in dBA from baseline (without CNEL correction)							**12**	**0**	**0**
Total Energy							5.3E+05	1.0E+05	4.3E+05
Total Energy Weighted by Hours							2.7E+05	1.3E+04	1.6E+05
Total CNEL at 50 feet							56		

CNEL Specs *between 7 am and 7 pm add 0 dba, assumes 12 hours*
between 7 pm and 10 pm add 5 dba, assumes 3 hours
between 10 pm and 7 am add 10 dba, assumes 9 hours