PROJECT ACOUSTICAL INFORMATION

The following information is needed in order to reach a determination on whether an acoustical analysis will or will not be required for this project. The information is presented in a check off list format to assist you in providing all of the information necessary for an adequate review. Please include your name and daytime phone number in case any additional information is needed. If you have any questions, please contact the San Bernardino County Division of Environmental Health Services (DEHS) at (800) 442-2283.

1. Describe the project with emphasis on all aspects of the project that may generate noise. Include potential noise sources, times of day noises may occur, duration, if noises are restricted to indoor or outdoor areas and if there are plans to change the size or intensity of operations.
2. Zoning and current land uses of the properties to the north, south, east and west.
3. Distances to the adjacent property lines from the adjacent or onsite noise source.
4. Is the noise a fixed source (business, machinery, etc.) or a mobile source (roadway, rail line, etc.)?
5. Are there any structures or other obstacles that may aid in reducing the noise exposure?
6. Provide an area map (copy of Thomas Guide page or other map noting the location of the facility).
7. Provide a facility map (hand drawn is adequate) noting the information in questions 2, 3, 4, and 5.

APN #: 0257-013-12 / 0257-013-13	**TPM or TT # (if available):**
Project Name: Chevron Gas Station C-Store	**Applicant:** Issam Ghreiwatti (c/o Joseph Karaki)
File Index #:	**Phone #:** 714-695-9300
Signature:	**Date:** 03-28-17

VISTA ENVIRONMENTAL

March 20, 2017

Josh Haskins
Environmental Advisors
2390 E. Orangewood Avenue, Suite 510
Anaheim, CA 92806

Subject: County of San Bernardino – Bloomington Chevron Convenience Store & Service Station Project Acoustical Information Report.

Dear Mr. Haskins:

Vista Environmental is pleased to submit this Project Acoustical Information report pursuant to the County of San Bernardino requirements for the proposed Bloomington Chevron Convenience Store & Service Station project (Proposed Project) that consists of development of a gas canopy with 10 fueling station, a diesel canopy with three fueling stations, a 5,812 square foot convenience store with a quick serve restaurant (QSR), and a 49-space parking lot located on the southwest corner of the intersection of Slover Avenue and Cedar Avenue (the "Project").

1. Describe the project with emphasis on all aspects of the project that may generate noise. Include potential noise sources, times of day noises may occur, duration, if noises are restricted to indoor or outdoor areas and if there are plans to change the size or intensity of operations.

The Proposed Project consists of a convenience store and service station that may generate noise from vehicle traveling onsite to and from the fueling stations and parking spaces, fuel pumps, rooftop mechanical equipment, refrigerators, and people talking. The following Table provides a summary of these sources. Since this is a new project, the change to the size or intensity is not applicable.

Noise Source	Time of Day of Occurrence	Indoor or Outdoor Areas	Potentially Significant Noise
Vehicles Traveling Onsite	24-hours per day	Outdoor	Yes
Fuel Pumps	24-hours per day	Outdoor	No (not audible for more than a few feet)
Rooftop Mechanical Equipment	24-hours per day	Outdoor	No (shielded by parapet walls)
Refrigerators/microwaves	24-hours per day	Indoor	No (indoor)
People talking inside store	24-hours per day	Indoor	No (indoor)

2. Zoning and current land uses of the properties to the north, south, east and west.

Direction	Zoning	Current Land Use
North	Bloomington/Community Industrial (BL/IC) and Bloomington/General Commercial (BL/CG)	General Commercial (7-eleven)
South	Bloomington/General Commercial (BL/CG)	Vacant Land
East	Bloomington/General Commercial (BL/GC)	Vacant Land
West	Bloomington/Single Residential (BL/RS)	Single-family residential

1021 DIDRIKSON WAY
LAGUNA BEACH CALIFORNIA 92651
PHONE 949 510 5355
FACSIMILE 949 494 3150
ELECTRONIC GREG@VISTALB.COM

3. Distances to the adjacent property lines from the adjacent or onsite noise source.

Noise Source	Distance to Nearest SFR to West
Vehicles Traveling Onsite	25 feet
Fuel Pumps	40 feet
Rooftop Mechanical Equipment	130 feet
Refrigerators/microwaves	130 feet
People Talking inside store	130 feet

4. Is the noise a fixed source (business, machinery, etc.) or a mobile source (roadway, rail line, etc.)?

Noise Source	Fixed or Mobile Source
Vehicles Traveling Onsite	Mobile
Fuel Pumps	Fixed
Rooftop Mechanical Equipment	Fixed
Refrigerators/microwaves	Fixed
People Talking inside store	Fixed

5. Are there any structures or other obstacles that may aid in reducing the noise exposure?

   On the west side of the project site, the project applicant is providing an 8-foot-tall concrete masonry unit (CMU) sound wall. Of the noise sources listed above only vehicles traveling onsite is anticipated to exceed the County Noise Standards provided in Chapter 83.01.080 of the Development Code that limits mobile noise sources to 60 dB CNEL at the nearby homes. Reference noise measurements were taken of a delivery truck and semi-truck in order to determine the noise impacts from trucks operating at the proposed gas station. The noise level at the nearest homes to the west were calculated through use of the FHWA-RD-77-108 model, which found that **the 8-foot high wall is adequate to limit truck noise to within the 60 dBA CNEL exterior noise standard at the nearby homes**. The reference noise measurements and FHWA-RD-77-108 noise calculation worksheet are attached to this letter.

6. Provide an area map (copy of Thomas Guide page or other map noting the location of the facility).
   See Figure 1 – Project Location Map.

7. Provide a facility map (hand drawn is adequate) noting the information in questions 2, 3, 4, and 5.
   See Figure 2 – Proposed Site Plan.

VISTA ENVIRONMENTAL
1021 DIDRIKSON WAY
LAGUNA BEACH CALIFORNIA 92651
PHONE 949 510 5355
FACSIMILE 949 494 3150
EMAIL GREG@VISTALB.COM

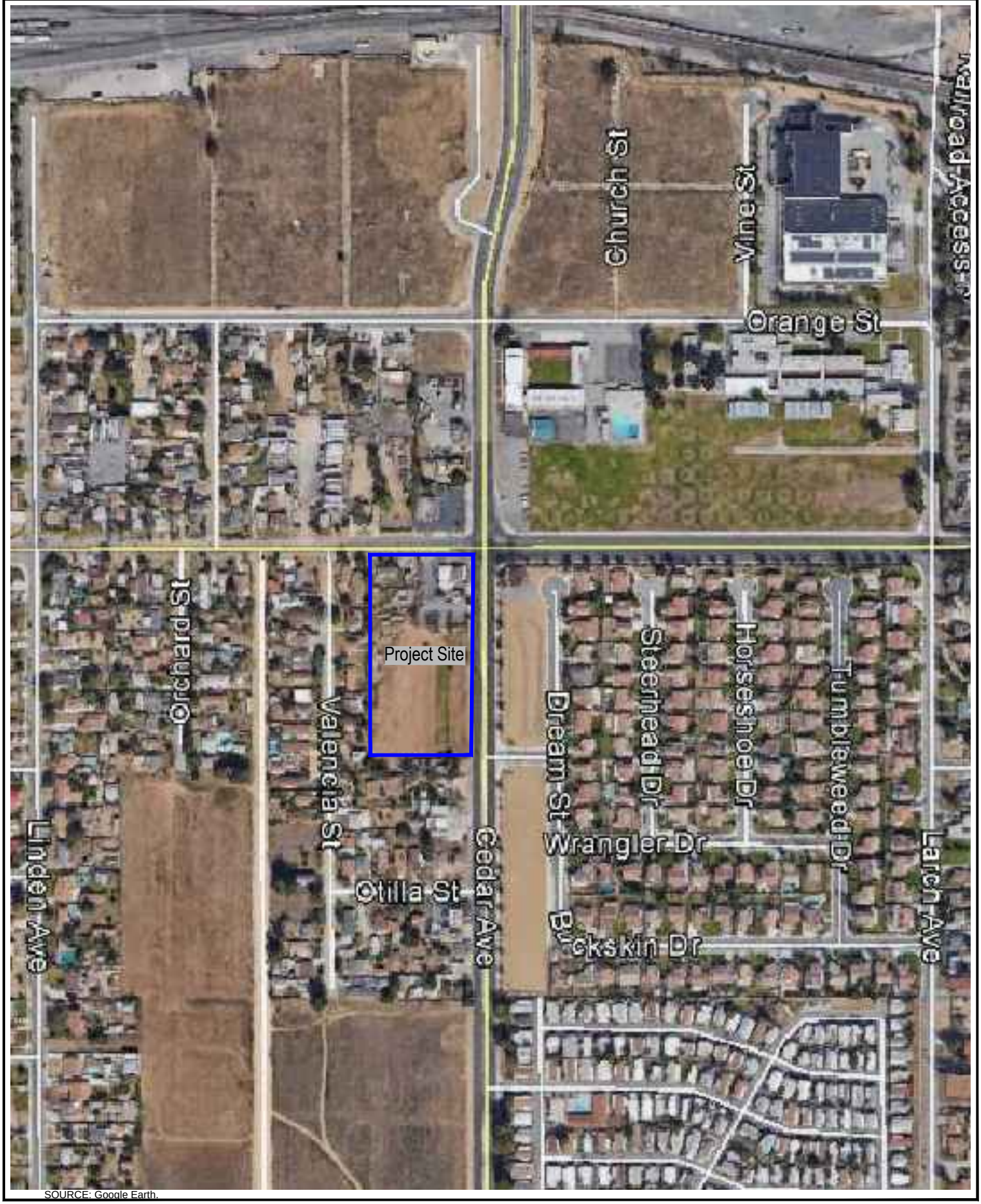
Please let me know if you have any questions or need additional information with regard to the above analysis. I can be reached at (949) 510-5355, or email me at greg@vistalb.com.

Sincerely,

Greg Tonkovich, INCE
Senior Noise Analyst
Vista Environmental

Encl.: Figure 1 – Project Location Map
Figure 2 – Proposed Site Plan
Reference Noise Measurements of Trucks
FHWA-RD-77-108 Noise Calculation Spreadsheet

VISTA ENVIRONMENTAL
1021 DIDRIKSON WAY
LAGUNA BEACH CALIFORNIA 92651
PHONE 949 510 5355
FACSIMILE 949 494 3150
EMAIL GREG@VISTALB.COM

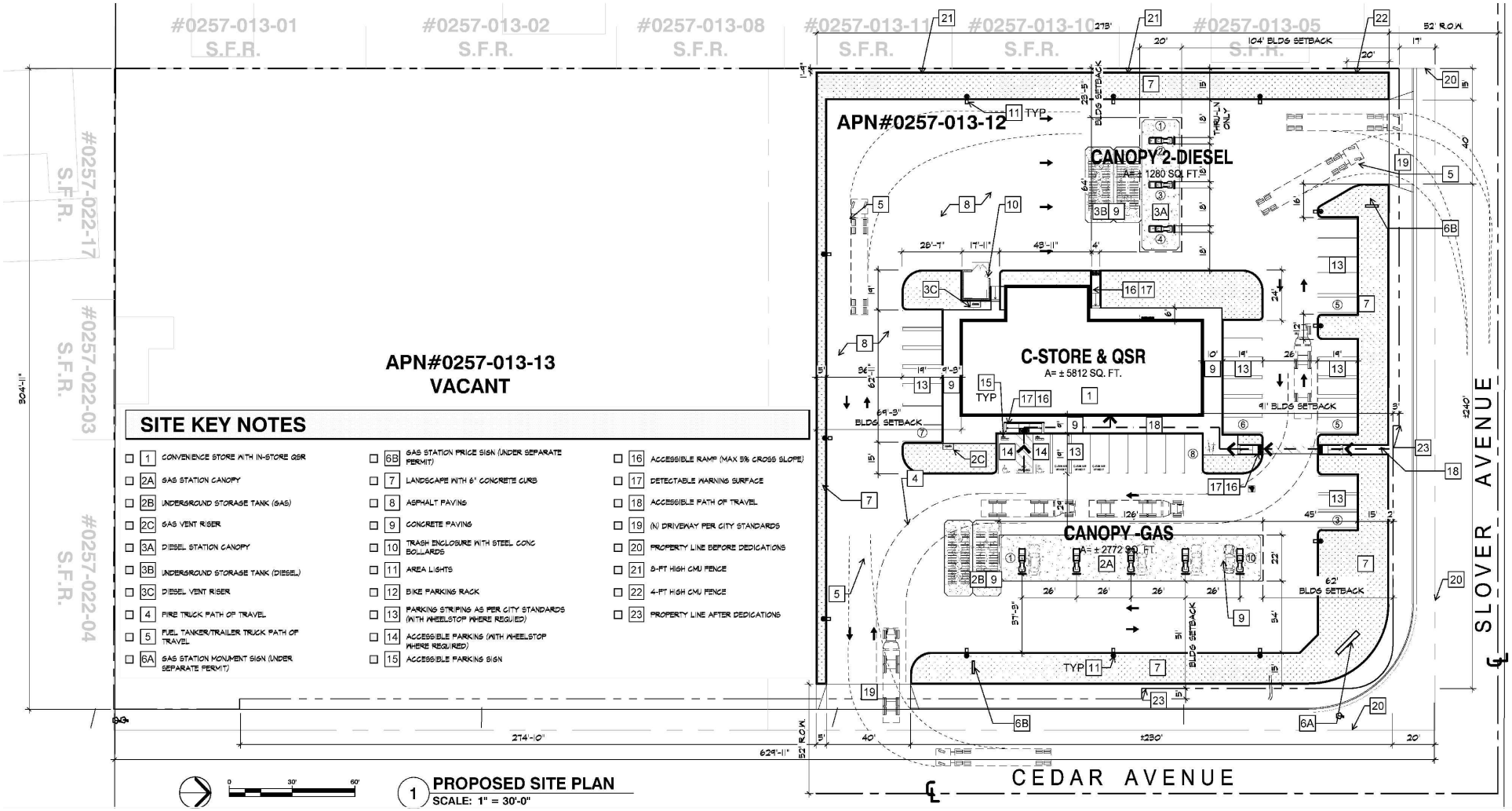


SOURCE: Google Earth.

N

VISTA ENVIRONMENTAL

Figure 1
Project Location Map



SOURCE: Karaki Western States Engineering.

VISTA ENVIRONMENTAL

Figure 2
Proposed Site Plan

General Information

Serial Number	02509
Model	831
Firmware Version	2.000
Filename	831_Data.009
User	GT
Job Description	Commerce Retail Center
Location	At 4915 Sheila St - 90 Day Annual DOT Inspections

Measurement Description	
Start Time	Monday, 2012 December 17 15:17:35
Stop Time	Monday, 2012 December 17 15:25:36
Duration	00:08:00.5
Run Time	00:08:00.5
Pause	00:00:00.0
Pre Calibration	Monday, 2012 December 17 15:03:28
Post Calibration	None
Calibration Deviation	---

Note

On southern portion of 4915 Sheila St and approx 10' from operating Tractor style trucks being tested. Multiple trucks operating at all times
62 F, 29.45 in Hg., 54% hu., 2 mph wind, partly cloudy

Overall Data

LAeq		79.5	dB
LASmax	2012 Dec 17 15:18:21	87.2	dB
LZpeak (max)	2012 Dec 17 15:17:40	106.3	dB
LASmin	2012 Dec 17 15:19:33	66.9	dB
LCeq		84.5	dB
LAeq		79.5	dB
LCeq - LAeq		5.0	dB
LAIeq		80.8	dB
LAeq		79.5	dB
LAIeq - LAeq		1.2	dB
Ldn		79.5	dB
LDay 07:00-23:00		79.5	dB
LNight 23:00-07:00		---	dB
Lden		79.5	dB
LDay 07:00-19:00		79.5	dB
LEvening 19:00-23:00		---	dB
LNight 23:00-07:00		---	dB
LAE		106.4	dB
# Overloads		0	
Overload Duration		0.0	s
# OBA Overloads		0	
OBA Overload Duration		0.0	s

Statistics

LAS1.70	85.2	dBA
LAS8.30	83.2	dBA
LAS25.00	81.2	dBA
LAS50.00	77.7	dBA
LAS75.00	75.5	dBA
LAS90.00	70.6	dBA

LAS > 65.0 dB (Exceedence Counts / Duration)	1 / 480.5 s
LAS > 85.0 dB (Exceedence Counts / Duration)	3 / 18.0 s
LZpeak > 135.0 dB (Exceedence Counts / Duration)	0 / 0.0 s
LZpeak > 137.0 dB (Exceedence Counts / Duration)	0 / 0.0 s
LZpeak > 140.0 dB (Exceedence Counts / Duration)	0 / 0.0 s

Settings

RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamp	PRM831	
Integration Method	Linear	
OBA Range	Low	
OBA Bandwidth	1/1 and 1/3	
OBA Freq. Weighting	A Weighting	
OBA Max Spectrum	At Bin Max	
Gain	+0	dB
Under Range Limit	26.2	dB
Under Range Peak	77.9	dB
Noise Floor	17.1	dB
Overload	143.5	dB

1/1 Spectra

Freq. (Hz):	8.0	16.0	31.5	63.0	125	250	500	1k	2k	4k	8k	16k
LAeq	-2.2	21.2	41.8	54.0	61.1	64.4	71.0	76.1	74.0	68.1	60.3	46.6
LASmax	11.4	30.1	55.5	66.4	76.8	73.4	81.4	83.4	82.2	80.1	75.3	62.0
LASmin	-11.1	12.6	32.4	46.8	51.8	52.8	58.9	63.6	60.6	52.8	39.6	24.5

1/3 Spectra

Freq. (Hz):	6.3	8.0	10.0	12.5	16.0	20.0	25.0	31.5	40.0	50.0	63.0	80.0
LAeq	-20.6	-11.2	-3.0	7.6	14.6	19.9	26.0	37.5	39.5	45.3	47.4	52.2
LASmax	-4.7	9.4	6.3	15.2	22.5	29.7	39.2	47.7	54.8	58.9	55.4	66.4
LASmin	-30.1	-24.5	-11.7	0.0	5.8	12.1	19.1	26.0	29.5	34.6	38.4	42.9

Freq. (Hz):	100	125	160	200	250	315	400	500	630	800	1k	1.25k
LAeq	55.1	56.5	57.3	58.7	59.9	60.1	62.1	65.6	68.7	71.4	71.2	71.4
LASmax	65.9	69.5	76.2	71.3	68.7	71.4	71.8	79.2	80.0	79.3	80.3	81.4
LASmin	44.9	45.6	45.6	41.3	45.9	48.2	50.5	53.4	55.9	59.3	57.4	58.7

Freq. (Hz):	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
LAeq	70.9	69.4	66.4	65.4	63.2	59.9	58.8	54.0	48.9	45.0	40.2	33.4
LASmax	78.6	76.8	76.9	76.1	75.8	74.5	74.4	70.1	65.0	61.3	57.9	54.0
LASmin	57.6	55.2	53.1	51.3	45.7	41.1	37.5	33.3	28.2	22.9	17.7	9.9

Calibration History

Preamp	Date	dB re. 1V/Pa
Direct	07 Dec 2010 00:05:22	-26.4
PRM831	17 Dec 2012 15:03:28	-26.0
PRM831	17 Dec 2012 13:11:58	-28.0
PRM831	15 Nov 2012 15:24:29	-25.3
PRM831	08 Nov 2012 17:29:59	-26.2
PRM831	02 Oct 2012 12:54:35	-26.1
PRM831	01 Oct 2012 18:21:11	-25.1
PRM831	18 Jul 2012 13:24:59	-25.9
PRM831	02 May 2012 10:07:05	-25.6
PRM831	27 Apr 2012 11:57:42	-24.7
PRM831	27 Apr 2012 09:50:45	-24.4
PRM831	18 Apr 2012 16:17:56	-25.1

File Translated: V:\Vista Env\2010\10022-Fresno Walmart\Noise Measurements\LD\15.slmdl
Model/Serial Number: 824 / A3176
Firmware/Software Revs: 4.283 / 3.120
Name:
Descr1: 1021 Didrikson Way
Descr2: Laguna Beach, CA 92651
Setup/Setup Descr: slm&rta.ssa / SLM & Real-Time Analyzer
Location: 30' N of vendor truck loading area for Fresno Walmart
Note1: Approx 70' S of Locust Ave CL
Note2: 52F, 29.57 in Hg, 67% Humid., no wind, clear sky

Overall Any Data
Start Time: 19-May-2011 07:05:53
Elapsed Time: 00:08:30.5

	A Weight		C Weight		Flat	
Leq:	54.8 dBA		65.1 dBC		66.1 dBF	
SEL:	81.9 dBA		92.2 dBC		93.2 dBF	
Peak:	85.2 dBA		85.8 dBC		86.0 dBF	
	19-May-2011	07:09:58	19-May-2011	07:09:52	19-May-2011	07:09:52
Lmax (slow):	67.9 dBA		73.2 dBC		73.8 dBF	
	19-May-2011	07:09:50	19-May-2011	07:13:57	19-May-2011	07:13:57
Lmin (slow):	43.7 dBA		60.0 dBC		61.6 dBF	
	19-May-2011	07:11:17	19-May-2011	07:06:52	19-May-2011	07:06:51
Lmax (fast):	70.7 dBA		75.5 dBC		75.7 dBF	
	19-May-2011	07:09:58	19-May-2011	07:11:34	19-May-2011	07:11:34
Lmin (fast):	43.1 dBA		57.8 dBC		58.9 dBF	
	19-May-2011	07:11:17	19-May-2011	07:09:10	19-May-2011	07:09:10
Lmax (impulse):	72.1 dBA		76.8 dBC		77.1 dBF	
	19-May-2011	07:09:58	19-May-2011	07:11:34	19-May-2011	07:11:34
Lmin (impulse):	43.6 dBA		61.1 dBC		62.4 dBF	
	19-May-2011	07:11:17	19-May-2011	07:06:51	19-May-2011	07:09:10

Spectra

Date	Time	Run Time
19-May-2011	07:05:53	00:08:30.5

Hz	Leq1/3	Leq1/1	Max1/3	Max1/1	Min1/3	Min1/1	Hz	Leq1/3	Leq1/1	Max1/3	Max1/1	Min1/3	Min1/1
12.5	50.2		56.3		35.5		630	46.5		61.4		31.0	
16.0	50.9	55.5	56.1	61.5	37.1	41.8	800	45.4		60.8		30.5	
20.0	51.0		57.6		38.0		1000	44.5	49.3	56.1	63.9	31.7	35.6
25.0	55.8		57.5		41.1		1250	43.5		59.4		30.2	
31.5	57.7	61.6	57.1	63.3	46.2	49.9	1600	42.6		56.3		28.1	
40.0	56.7		60.3		46.3		2000	41.1	46.1	56.4	61.9	24.9	30.4
50.0	56.8		57.9		44.0		2500	40.0		58.4		21.7	
63.0	55.7	61.0	56.5	62.1	45.9	49.1	3150	40.2		60.8		19.4	
80.0	56.2		57.4		42.2		4000	39.5	43.8	58.6	63.4	18.7	24.1
100	55.6		55.1		42.3		5000	36.7		54.4		19.7	
125	54.3	59.2	59.0	63.8	40.7	45.7	6300	32.8		50.2		21.5	
160	52.8		61.0		39.4		8000	30.2	35.2	57.7	58.5	21.2	25.9
200	51.1		57.3		35.5		10000	25.4		41.5		20.5	
250	51.4	55.2	70.6	71.0	34.6	39.0	12500	22.9		32.2		19.4	
315	48.2		58.2		32.0		16000	20.8	26.5	27.4	33.9	19.1	24.4
400	47.0		59.0		30.1		20000	21.2		23.8		20.3	
500	47.0	51.6	64.3	66.9	30.4	35.3							

Ln Start Level: 15 dB

L1.00	0.0 dBA	L50.00	0.0 dBA	L95.00	0.0 dBA
L5.00	0.0 dBA	L90.00	0.0 dBA	L99.00	0.0 dBA

Detector: Slow
Weighting: A
SPL Exceedance Level 1: 85.0 dB Exceeded: 0 times
SPL Exceedance level 2: 120 dB Exceeded: 0 times
Peak-1 Exceedance Level: 105 dB Exceeded: 0 times
Peak-2 Exceedance Level: 100 dB Exceeded: 0 times
Hysteresis: 2
Overloaded: 0 time(s)
Paused: 0 times for 00:00:00.0

File Translated: V:\Vista Env\2010\10022-Fresno Walmart\Noise Measurements\LD\15.slmdl
Model/Serial Number: 824 / A3176

Current Any Data
Start Time: 19-May-2011 07:05:53
Elapsed Time: 00:08:30.5

	A Weight		C Weight		Flat	
Leq:	54.8 dBA		65.1 dBC		66.1 dBF	
SEL:	81.9 dBA		92.2 dBC		93.2 dBF	
Peak:	85.2 dBA		85.8 dBC		86.0 dBF	
	19-May-2011	07:09:58	19-May-2011	07:09:52	19-May-2011	07:09:52
Lmax (slow):	67.9 dBA		73.2 dBC		73.8 dBF	
	19-May-2011	07:09:50	19-May-2011	07:13:57	19-May-2011	07:13:57
Lmin (slow):	43.7 dBA		60.0 dBC		61.6 dBF	
	19-May-2011	07:11:17	19-May-2011	07:06:52	19-May-2011	07:06:51
Lmax (fast):	70.7 dBA		75.5 dBC		75.7 dBF	
	19-May-2011	07:09:58	19-May-2011	07:11:34	19-May-2011	07:11:34
Lmin (fast):	43.1 dBA		57.8 dBC		58.9 dBF	
	19-May-2011	07:11:17	19-May-2011	07:09:10	19-May-2011	07:09:10
Lmax (impulse):	72.1 dBA		76.8 dBC		77.1 dBF	
	19-May-2011	07:09:58	19-May-2011	07:11:34	19-May-2011	07:11:34
Lmin (impulse):	43.6 dBA		61.1 dBC		62.4 dBF	
	19-May-2011	07:11:17	19-May-2011	07:06:51	19-May-2011	07:09:10

Calibrated: 18-May-2011 13:09:02 Offset: -48.2 dB
Checked: 19-May-2011 06:46:08 Level: 113.9 dB
Calibrator not set Level: 114.0 dB
Cal Records Count: 0

Interval Records: Disabled Number Interval Records: 0
History Records: Disabled Number History Records: 0
Run/Stop Records: Number Run/Stop Records: 2

Truck Noise Calculations at Single-Family Homes to West

Mobile Noise Sources	Reference Distance	Reference Leq	Commercial to North Distance	Leq		
					1	(Line Source: hard=0, soft=.5; Point Source: hard=1, soft=1.5)
Semi Truck	10	79.5	30	70		(eq. N-2141.2 of TeNS)
2 or 3 axle Truck	30	54.8	30	55		

Mobile Noise Sources	Distance from Receptor to Wall	Distance from source to Wall	Height of Wall (feet)	Without Wall Noise Level at Residence	With Wall Noise Level at Residence	Source Height (feet)	Exterior Observer Height (feet)	Source Frequency (hz)	barrier to receiver - b (all)	source to barrier - a	source to receiver - c	path difference y =a+b-c (auto)	line of sight (slope)	fresnel	Barrier Atten
Semi Truck	5	25	8	70	**60**	12	5	800	5.8310	25.31798	30.80584	0.3431	1	0.975889	-10.21
2 or 3 axle Truck	5	25	8	55	**41**	3	5	800	5.8310	25.4951	30.06659	1.2595	1	3.582455	-14.18