APPENDIX O BASELINE NOISE LEVEL REPORT – MAINLINE

BASELINE NOISE LEVEL REPORT – MGP 2015-2016 FIELD SURVEYS

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1.0 EXECUTIVE SUMMARY

Baseline outdoor ambient sound data were collected at selected representative noise-sensitive areas (NSAs) in the vicinity of proposed Project compressor stations (CS), heater stations (HS), and horizontal directional drilling (HDD) sites along the Project main gas pipeline (MGP) route during the periods of May 22-29, 2015, August 16-28, 2015, and July 31-August 2, 2016. Sound levels were monitored with unattended instruments over a 48-hour continuous period at a total of 15 NSAs which were located within a 1-mile radius from proposed Project facilities and HDD sites. Additional short-term sound level measurements were collected with attended instrumentation co-located at the monitored NSAs where practicable.

In general, measured day-night sound levels (L_{dn}) were found to be higher than estimated values as presented in the Noise Emission Modeling Data Gaps & Requirements Report ("Data Gaps", USAKE-UR-BRZZZ-00-0003) at the originally studied NSA positions, but are considered representative of the geography and environmental conditions (i.e., rural residential and neighboring industrial/commercial facilities). The L_{dn} values calculated from measured hourly L_{eq} values were generally at or below the Federal Energy Regulatory Commission (FERC) threshold of 55 dBA L_{dn} with exception of two NSA locations in close proximity to existing major roadways.

2.0 INTRODUCTION

The purpose of the noise monitoring program is to conduct baseline sound pressure level (SPL) measurement surveys to quantify and characterize the outdoor ambient sound environment at representative noise-sensitive areas (NSAs) that are nearest to proposed facilities within the Project footprint. This field investigation, which initially focused on a survey of the area surrounding the proposed LNG liquefaction facility in Nikiski, Alaska, focuses on the proposed Project facilities and expected HDD sites along the MGP route.

The collected SPL measurement data from field surveys is necessary to complete predictive Project noise impact assessments as required for the development of the Federal Energy Regulatory Commission (FERC) Resource Report 9, Air and Noise Quality. Additionally, this data will constitute baseline information for the National Environmental Policy Act (NEPA) Environmental Impact Statement (EIS).

The specific objectives for the Alaska LNG MGP baseline noise studies are:

- Complete baseline (a.k.a., “pre-Project”) ambient outdoor SPL measurements at pre-existing NSAs in the vicinity of Project facility and HDD sites.
- Document observed or measured factors, including meteorological conditions and witnessed or perceived sources of natural and man-made sounds, which describe the pre-existing outdoor ambient sound environment at NSAs prior to Project construction and operation.

Detailed descriptions of field survey procedures and instrumentation are included in the Noise Monitoring Protocols (USAI-UR-SPFLD-00-000010-000).

3.0 METHODOLOGIES

3.1 FIELD SURVEY APPROACH

The field noise survey approach included the following steps:

1. **Select Monitoring Locations** – Access permission from owner/occupants of pre-selected candidate NSA properties was confirmed for the setup of long-term (LT) unattended noise level monitoring equipment and/or attended short-term (ST) sound level measurements. These candidate locations were determined from a GIS effort that identified NSAs within a distance of one mile from proposed Project facilities.
2. **Setup Unattended Monitors** – LT sound level monitoring instrumentation was installed at the NSA where access was approved. Aside from periodic checks of SLM functionality and measurement data storage, these LT monitors were left alone in the field to automatically measure (and record to onboard instrument memory) SPL at regular pre-defined time intervals (e.g., one-minute duration each).
3. **Perform Attended Measurements** – After the LT monitors were deployed and operating, ST measurements were collected at positions that included re-visits to the LT monitor setups and another NSA where access had been granted. These ST measurements help characterize the ambient sound environment and supply documentable observations of conditions via field notes and digital photographs.
4. **Check LT Monitor Status, Collect and Check Data** – During the survey period, LT monitors were periodically checked to ensure their security and nominal operation. Data were downloaded from the SLMs at the measurement site and subsequently reviewed to confirm validity and completeness.
5. **Repeat Steps #3 and #4** – For each day/night cycle after setup of LT monitors, ST measurements were conducted and data was collected and checked.
6. **Retrieve Unattended Monitors** – After approximately 48 continuous hours of measurement, a final data download and check of LT monitoring equipment was performed (per step #4), then LT monitors were removed.

3.2 MEASUREMENT LOCATIONS

The following NSAs were granted permission for access from the owner/occupant of the property or set up on publicly accessible lands abutting the NSA:

N74AY001 : Residence - Department of Natural Resources Land Abutting Parcel

(NSA_00410; Lat: 67.253804, Long: -150.174717)

N74AY002 : Residence – BLM Land Abutting Parcel

(NSA_02100; Lat: 65.883302, Long: -149.744213)

N74LH001 : Residence (NSA_00010; Lat: 64.977479, Long: -148.679141)

N74LH002 : Residence (NSA_00015; Lat: 64.976628, Long: -148.678074)

N74LH003 : Residence (NSA_02116; Lat: 64.577755, Long: -149.121186)

N74LH004 : Residence (NSA_02101; Lat: 64.560273, Long: -149.099362)

N104LH005 : Residence – Denali Borough Land Abutting Parcel

(NSA_02337; Lat: 63.968615, Long: -149.130248)

N74HT001 : Commercial – Resort (NSA_02001; Lat: 62.553901, Long: -150.231888)

N74HT002 : Residence – Denali State Park Land Abutting Parcel (NSA_02102; Lat: 62.61053, Long: -150.222976)

N74HT003 : Residence (NSA_01999; Lat: 62.53443, Long: -150.266371)

N74TI001: Residence – Matanuska-Susitna Borough Land Abutting Parcel (NSA_01888; Lat: 62.183818, Long: -150.200783)

N74TI002 : Residence (NSA_01838; Lat: 61.446811, Long: -150.673622)

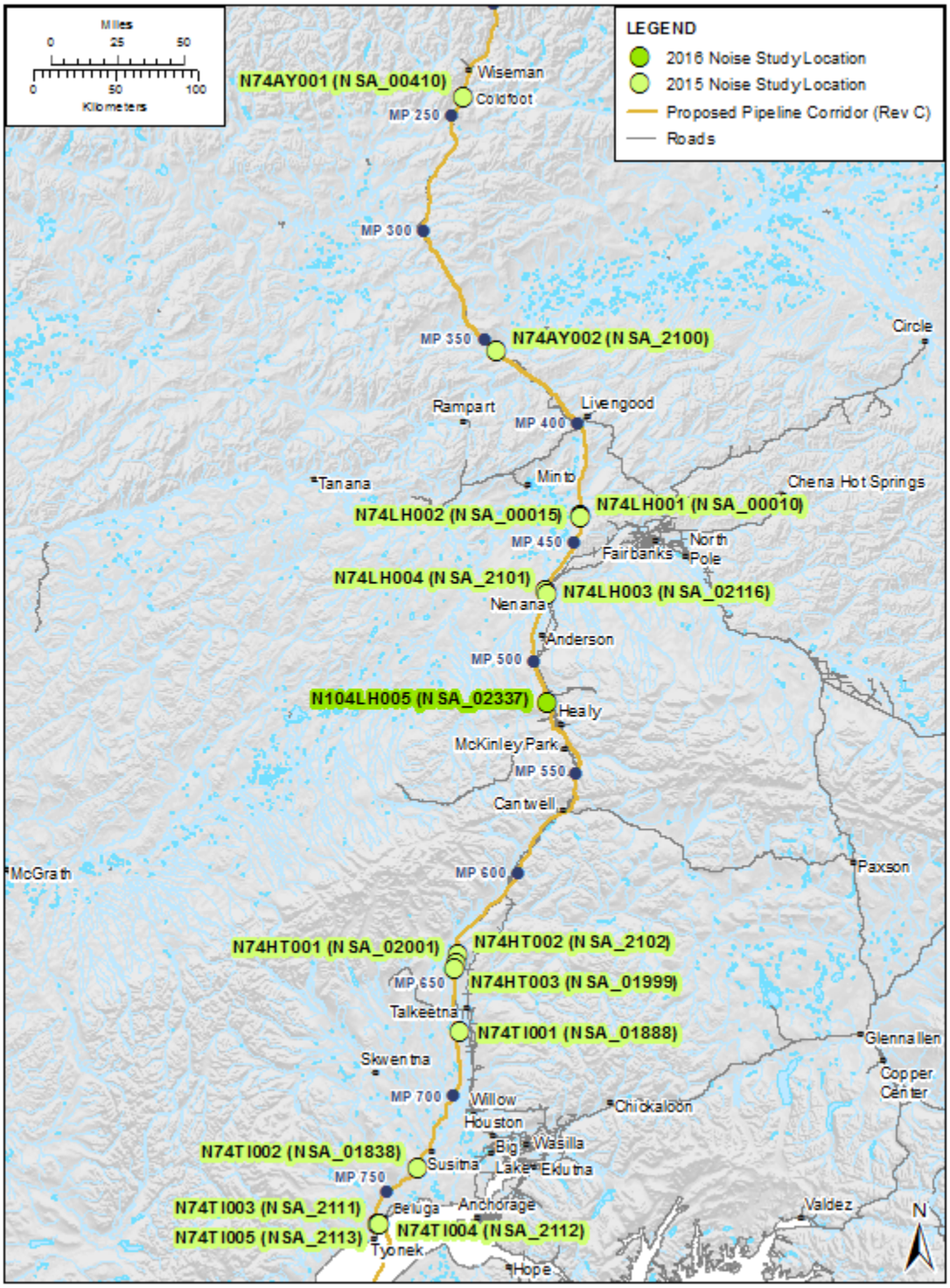
N74TI003 : Residence – Matanuska-Susitna Borough Land Abutting Parcel (NSA_02111; Lat: 61.136528, Long: -151.103105)

N74TI004 : Residence – Matanuska-Susitna Borough Land Abutting Parcel (NSA_02112; Lat: 61.141504, Long: -151.09598)

N74TI005 : Residence – Matanuska-Susitna Borough Land Abutting Parcel (NSA_02113; Lat: 61.143815, Long: -151.09447)

These locations, identified by GIS feature ID number and NSA ID number, are depicted on Figure 1. Section 5 of this report contains detailed measurement location figures specific to each proposed Project site.

Figure 1: Overview of Noise Sensitive Area (NSA) Survey Locations along MGP Route



3.3 INSTRUMENTATION

3.3.1 Sound Level Meters

The SPL measurements were conducted using Larson-Davis (L/D) sound level meters (SLM), rated by the American National Standards Institute (ANSI) as Type 1 per ANSI S1.4-1983.

The SLM LT microphones were fitted with standard 3" diameter cylindrical-shaped open-cell foam windscreens and positioned roughly 8 feet (approximately 2.4 meters) above grade. The SLM ST microphones were fitted with standard 3.5" diameter spherical-shaped open-cell foam windscreens and positioned roughly 5 feet (approximately 1.5 meters) above grade. The microphones were also placed at least 10 feet (3 meters) from any acoustically reflecting surfaces. The SLMs were set using slow time-response and the A-weighting scale. SLM calibration was field-checked before and after each measurement period with L/D Model Cal 200 (SN 11082, 11087, and 8048) acoustic calibrators. Where not already described, sound level measurements performed for this field survey were conducted in accordance with applicable portions of International Organization for Standardization (ISO 1996a, b, and c) standards.

3.3.2 Anemometer

Available data from local weather stations and/or a Kestrel Model 3500 (SN 2058303 and 2073924) handheld anemometers were used to determine or measure average wind speed, temperature, and relative humidity at each of the LT and ST noise measurement locations.

3.3.3 GIS Device

The noise field investigators used a GPS-enabled Panasonic Toughpad FZ-M1 tablet for capturing location, observation and measurement information at the SLM positions. The GPS receiver used was a Trimble R1, an antenna which utilizes the Satellite Based Augmented System (SBAS). At all MGP route sites visited by the field investigators, this GPS system was able to achieve sub-meter accuracy in real time.

Key GPS/data entry software was a customized interface built on the ArcPad 10.2 platform. The entry form data structure was built around the Alaska LNG Noise Study feature class. After QA review by the field investigators, the collected data was loaded into the Project's enterprise geodatabase feature class.

4.0 RESULTS

4.1 BASELINE NOISE LEVELS

Sound level measurements were conducted from May 22 to 29, 2015, August 16 to 28, 2015, and July 31-August 2, 2016, to collect SPL data at or near representative NSAs to characterize and quantify the existing pre-construction ambient environmental noise. A total of fifteen (15) long-term (48-hour duration) and fourteen (14) short-term (10-30 minute duration) measurements were conducted. Short-term measurements were conducted at six locations for up to three different times of day (daytime, evening, and night).

4.1.1 Observed Meteorological Conditions

Measured weather conditions were relatively consistent during both field surveys. Table 4-1 lists these conditions in the column "Measured Meteorological Data at Time of Initial SLM Setup" as they were recorded at each NSA site or vicinity.

4.1.2 SPL Data Summary

Per language from U.S. Code of Federal Regulations (CFR) 380.12(k)(2), the FERC requires for existing compressor stations that will be upgraded (and expects for new compressor stations) a baseline outdoor ambient sound level survey at nearby noise-sensitive areas (NSA). The draft FERC Guidance Manual for Environmental Report Generation, issued in December 2015 as a proposed replacement for the 2002 document version (and as of this writing is currently under review with respect to received public comments in February 2016) reiterates these expectations, and suggests a level of thoroughness and care for the collection of data that allows the reasonably accurate and representative quantification of three key metrics: L_{eq}(day), L_{eq}(night) and day-night sound level (L_{dn}), the latter of which is calculated and used to assess noise impacts.

As mentioned in Section 2.8.3.1 of the 2016 Noise Monitoring Protocols, AECOM recommends a minimum of 48 continuous hours as a sound level measurement data collection period at a studied NSA. While this two consecutive day monitoring duration is not explicitly required by FERC, collection of measurement data over such a period provides the following benefits:

- Redundancy for the measurement of L_{eq}, at hourly or even partial-hour (e.g., 5-minute intervals) resolution, to cover a complete diurnal cycle and thus enable calculation of an L_{dn} value entirely from empirical data.
- Identification of any trends or patterns in the measurement data that would help characterize the existing outdoor sound environment at the NSA and its apparent acoustical contributors that may—or may not—vary with time of day.

This intended two-day monitoring practice is also consistent with the following advice from the aforesaid FERC guidance manual (FERC, 2002), as it collects measurement data over longer than a 24-hour period and thus helps identify what noise(s) may be atypical or extraneous:

> "During any sound level measurement, try to avoid times when unusual or extraneous noise which is not typical of station operation, such as noise from pets, lawnmowers, air compressors used in spray painting, or nearby construction activity, is occurring."

In performance of the baseline outdoor ambient noise level field surveys, at some NSA locations identified in Appendix B, AECOM collected data for less than a 48-hour continuous period. In such cases, AECOM reported data at these NSA as two successive 24-hour periods that "share" or overlap a common quantity of hours. In this fashion, the L_{dn} value for each day is calculated

from a complete set of empirical data and thus avoids omission of multi-hour time periods that might compromise the accuracy of the derivation—particularly for nighttime hour L_{eq} values that receive the +10 dB sensitivity adjustment.

Tables 4-1 and 4-2 present a summary of acoustical metrics and statistical values representing the measured SPL during both field survey periods as indexed by Feature ID.

Table 4-1: Baseline MGP, Long-Term SPL Measurement Results at NSAs

Feature ID	2015 Start Date (mm/dd)	Start Time (hh:mm)	Duration (minutes)	SPL Metrics and Statistical Values (dBA)							Measured Meteorological Data at Time of Initial SLM Setup		
				L_{eq}	L_{dn}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}	Temp. (°F)	RH (%)	Avg. Wind Speed (mph) & Direction
N74AY001 (LT)	5/22/2015	8:30	1440	41	47	69	32	41	38	37	64	-	0
	5/23/2015	8:30	1440	42	48	72	32	42	38	37			
N74AY002 (LT)	8/16/2015	13:00	1440	40	41	74	17	35	28	25	60	76	2-6 / SW
	8/17/2015	13:00	1440	42	46	63	17	40	33	29			
N74LH001 (LT)	5/26/2015	9:50	1440	44	48	73	21	41	34	28	62	-	0 / NA
	5/26/2015	18:00	1440	46	49	69	21	44	35	28			
N74LH002 (LT)	5/26/2015	9:50	1440	38	44	72	29	37	33	31	62	-	0
	5/27/2015	9:50	1440	37	44	61	28	37	33	32			
N74LH003 (LT)	5/26/2015	14:20	1440	49	55	82	23	50	38	30	67	-	0-1 / NA
	5/27/2015	14:20	1440	49	55	79	22	51	39	32			
	5/28/2015	14:20	1440	49	55	82	21	51	39	31			
N74LH004 (LT)	8/18/2015	19:00	1440	53	60	90	23	50	41	36	54	82	0 / NA
	8/19/2015	19:00	1440	52	58	89	24	51	40	32			
N104LH005 (LT)	7/31/2016	16:00	1440	46	52	88	30	46	41	38	58	84	2 / SE
	8/1/2016	16:00	1440	47	52	72	30	45	41	37			
N74HT001 (LT)	8/21/2015	13:00	1440	48	52	88	39	47	42	41	59	61	0-2 / NA
	8/22/2015	13:00	1440	47	50	77	38	46	42	41			
N74HT002 (LT)	8/21/2015	22:00	1440	58	64	87	25	57	39	32	61	75	0-2 / NA
	8/22/2015	14:00	1440	57	61	66	33	51	36	32			
N74HT003 (LT)	8/24/2015	12:00	1440	43	43	75	16	35	26	22	68	53	0 / NA
	8/25/2015	11:00	1440	42	46	74	16	38	32	29			
N74TI001 (LT)	8/21/2015	16:00	1440	48	53	67	19	51	42	33	70	46	0 / NA
	8/22/2015	16:00	1440	48	51	69	18	49	39	31			
N74TI002 (LT)	8/24/2015	14:00	1440	43	48	70	39	42	40	40	68	53	0 / NA
	8/25/2015	13:00	1440	42	49	63	39	44	42	41			
N74TI003 (LT)	8/27/2015	13:00	1440	51	52	79	20	45	38	34	64	68	0-2 / NA
	8/28/2015	13:00	1440	48	47	73	22	43	36	32			
N74TI004 (LT)	8/27/2015	14:00	1440	51	52	75	20	45	39	36	64	68	0-2 / NA
	8/28/2015	0:00	1440	46	47	74	20	43	38	35			
N74TI005 (LT)	8/27/2015	15:00	1440	53	54	81	22	48	43	39	64	68	0-2 / NA
	8/28/2015	14:00	1440	49	49	80	24	44	39	35			

Table 4-2: Baseline MGP, Short-Term SPL Measurement Results at NSAs

Feature ID	2015 Start Date (mm/dd)	Start Time (hh:mm)	Dur. (min.)*	SPL Metrics and Statistical Values (dBA)							Measured Meteorological Data at Time of SLM Setup		
				L_{eq}	L_{dn}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}	Temp. (°F)	RH (%)	Avg. Wind Speed (mph) & Direction
N74LH003 (ST)	5/27/2015	13:20	20	46	50	62	25	50	36	28	71	-	0 / NA
	5/27/2015	22:10	20	43		56	25	48	36	29	66	-	0 / NA
N74LH004 (ST)	8/18/2015	21:30	30	43	51	60	26	46	35	30	54	82	0 / NA
	8/18/2015	22:00	20	42		66	32	44	36	33	54	82	0 / NA
	8/19/2015	13:20	20	50		65	34	52	46	40	54	72	2-8 / NA
N104LH005 (ST)	8/1/2016	10:27	20	47	54	62	40	50	47	44	65	63	2.4 / E
	8/1/2016	19:24	20	48		66	32	48	42	37	63	63	1.6 / E
N74HT001 (ST)	8/21/2015	21:30	30	43	48	60	26	46	35	30	61	75	0-2 / NA
	8/21/2015	22:00	20	42		66	32	44	36	33	61	75	0-2 / NA
	8/22/2015	11:00	20	42		51	38	44	41	39	58	56	0-2 / NA
N74HT002 (ST)	8/21/2015	21:50	10	57	64	75	30	61	43	32	61	75	0-2 / NA
	8/21/2015	22:00	20	57		76	29	58	36	30	61	75	0-2 / NA
	8/22/2015	11:52	20	58		75	34	61	45	40	58	56	0-2 / NA
N74TI001 (ST)	8/22/2015	13:05	15	49	55	56	34	52	48	43	58	56	0-2 / NA

*duration of the measurement in minutes

The LT noise levels shown in Table 4-1 represent data collected during the indicated measurement period (two consecutive 24-hour monitoring durations). Appendix B presents the SPL metrics and statistical values for these fifteen LT monitoring positions at hourly resolution. Refer to Appendix A for photographs that document SLM installations associated with the following measurement location descriptions.

Although access to some properties was not permitted, the SLMs in these instances were placed at a location determined to experience outdoor ambient sound levels representative of the acoustic environment of the target NSA. This was achieved by identifying a permitted measurement site with a geospatially similar acoustic environment, wherein specific distances from the SLM to primary noise sources (e.g. highways, rivers, etc.) were considered comparable to those with relation to the target NSA.

N74AY001: An LT (48-hour) SPL measurement was conducted on State of Alaska Department of Natural Resources Land north of a residence located south of the proposed Coldfoot Compressor Station. The meter was located approximately 187 feet northeast of the target NSA, which is situated approximately 480 feet east of the Dalton Highway/Alaska Route 11 right-of-way centerline and approximately 4,490 feet south of the proposed MLBV 15 facility. The audible noise sources perceived during SLM setup and disassembly at this location were roadway traffic, aircraft flyovers, birdcall, and electric generator noise to the south-southeast.

N74AY002: An LT (48-hour) SPL measurement was conducted on Bureau of Land Management (BLM) land east of a residence located west of a proposed HDD entry/exit site. The meter was

placed approximately 330 feet east-southeast of the target NSA, which is situated approximately 2,645 feet from the Dalton Highway/Alaska Route 11, approximately 80 feet north-northeast of the Yukon River beach, and approximately 716 feet from the proposed HDD entry/exit site. The audible noise source perceived during SLM setup and disassembly at this location was rustling leaves.

N74LH001: An LT (48-hour) SPL measurement was conducted in the front yard of a residence to the southeast of a proposed HDD entry/exit site at the Chatanika River. The meter was placed approximately 90 feet northwest of the target NSA, which is located on the western side of a low-density neighborhood of residences located at the northern terminus of Murphy Dome Road Extension at the Chatanika River, and sits approximately 450 feet east of the proposed HDD entry/exit site. The audible noise sources perceived during SLM setup at this location were birdcalls and electric generator noise from the target NSA.

N74LH002: An LT (48-hour) SPL measurement was conducted in the side yard of a residence to the southeast of a proposed HDD entry/exit site at the Chatanika River. The meter was placed approximately 30 feet northwest of the target NSA, which is situated on the western side of a low-density neighborhood of residences located at the northern terminus of Murphy Dome Road Extension at the Chatanika River, and sits approximately 750 feet southeast of the proposed HDD entry/exit site. The audible noise sources perceived during SLM setup at this location were birdcalls and electric generator noise from the target NSA to the north.

N74LH003: LT (48-hour) and ST (10-20-minute) SPL measurements were conducted in the front yard of a residence to the northwest of a proposed HDD entry/exit site at the Tanana River. The meter was placed approximately 35 feet southwest of the house. The home is located on the north/east side of the Tanana River bend northwest of Nenana, AK, situated approximately 155 feet east of the Tanana River edge, 260 feet west of the Parks Highway edge of pavement, and approximately 1,580 feet northwest of the anticipated HDD entry/exit site. The audible noise sources perceived during SLM setup and disassembly at this location were aircraft flyovers, boat passbys on the Tanana River, birdcalls, and roadway traffic.

N74LH004: LT (48-hour) and ST (10-20-minute) SPL measurements were conducted on the property of a residence to the southeast of a proposed HDD entry/exit site at the Tanana River. The meter was placed approximately 12 feet west of the target NSA, which is situated on the south side of the Tanana River bend in eastern Nenana, AK, approximately 265 feet east of the Parks Highway right-of-way centerline, approximately 380 feet from the railroad right of way center, and approximately 3,260 feet southeast of the anticipated HDD entry/exit site. The audible noise sources perceived during SLM setup and disassembly at this location were rustling leaves, roadway traffic, aircraft flyovers, and barking dogs.

N104LH005: LT (48-hour) and ST (10-20-minute) SPL measurements were conducted on Denali Borough land east of a residence situated northeast of a proposed compressor station facility. The meter was placed approximately 1,170 feet west of the Parks Highway right-of-way centerline. The target NSA is located on the east side of the Parks Highway between Ferry and Healy, AK, approximately 1,400 feet east of the center of the Parks Highway right-of-way centerline, and approximately 2,350 feet northeast of the proposed Healy Compressor Station facility footprint. The audible noise sources perceived during SLM setup and disassembly at this location were roadway traffic and rustling leaves.

N74HT001: LT (48-hour) and ST (10-20-minute) SPL measurements were conducted on the property of Mt. McKinley Princess Wilderness Lodge located northeast of proposed compressor station facility site. The meter was placed at the southwestern edge of the property in an undeveloped clearing approximately 240 feet south from the nearest lodging building. The lodge is located on the east side of the Chulitna River and Parks Highway north of Trapper Creek, AK. The monitoring position is situated approximately 350 feet east of the river, and approximately 5200 feet northeast of the proposed Compressor Station 15 facility footprint. The audible noise

sources perceived during SLM setup and disassembly at this location were roadway traffic, rustling leaves, and noise from the Chulitna River flow.

N74HT002: LT (48-hour) and ST (10-20-minute) SPL measurements were conducted on Denali State Park land just north of a residence situated south of a proposed HDD entry/exit site at the Chulitna River. The meter was placed approximately 315 feet north of the target NSA, which is situated on the west side of the Parks Highway north of Trapper Creek, AK, approximately 145 feet east of the Parks Highway edge of pavement, approximately 1560 feet from an extension of the Chulitna River, and approximately 5205 feet south-southeast of the anticipated HDD entry/exit site. The audible noise sources perceived during SLM setup and disassembly at this location were dominated by roadway traffic.

N74HT003: An LT (48-hour) SPL measurement was conducted in the back yard of a residence located southwest of a proposed Compressor Station facility. The meter was placed approximately 25 feet from the northwest corner of the target NSA, which is situated on the west side of the Chulitna River and Parks Highway north of Trapper Creek, AK., approximately 1.1 miles west of the river, 5150 feet west of the Parks Highway, and approximately 3,840 feet west-southwest of the proposed Compressor Station 15 facility footprint. The audible noise sources perceived during SLM setup and disassembly at this location were rustling leaves.

N74TI001: LT (48-hour) and ST (10-20-minute) SPL measurements were conducted on Matanuska-Susitna Borough land across the Parks Highway from a residence situated northeast of a proposed compressor station facility. The meter was placed approximately 570 feet southwest of the Parks Highway right-of-way centerline. The target NSA is located on the northeast side of the Parks Highway in Trapper Creek, AK, approximately 590 feet northeast of the center of the Parks Highway right-of-way centerline, and approximately 4,338 feet northeast of the proposed Rabideux Creek Compressor Station facility footprint. The audible noise sources perceived during SLM setup and disassembly at this location were roadway traffic and rustling leaves.

N74TI002: An LT (48-hour) SPL measurement was conducted on Matanuska-Susitna Borough land abutting a residence situated northwest of a proposed compressor station facility. The meter was placed approximately 180 feet southwest of the target NSA, which is situated on the east side of Mount Susitna, approximately 4,200 feet west of Granite Creek, 267 feet northeast of an unnamed Mount Susitna tributary, and approximately 2747 feet northwest of the proposed Compressor Station 18 facility footprint. The audible noise sources perceived during SLM setup and disassembly at this location were aircraft flyovers and flowing water from the creek located southwest of the monitoring position.

N74TI003: An LT (48-hour) SPL measurement was conducted on Kenai Peninsula Borough land abutting a residence situated south of a proposed heater station facility. The meter was placed approximately 180 feet north of the target NSA, which is situated on the northeast shore of Viapan Lake at the terminus of Viapan Highway in Beluga, AK. The home is situated approximately 26 feet from the lakeshore, approximately 2,700 feet from Beluga Highway, and approximately 4,170 feet south of the proposed Heater Station 3 facility footprint. The audible noise sources perceived during SLM setup and disassembly at this location were rustling leaves.

N74TI004: An LT (48-hour) SPL measurement was conducted on Kenai Peninsula Borough land abutting a residence situated southeast of a proposed heater station facility. The meter was placed approximately 170 feet northwest of the target NSA, which is situated on McLane Street in Beluga, AK. The home is 2,050 feet northwest of Beluga Highway, and approximately 3,613 feet southeast of the proposed Heater Station 3 facility footprint. The audible noise sources perceived during SLM setup and disassembly at this location were rustling leaves and distant speech.

N74TI005: An LT (48-hour) SPL measurement was conducted on Kenai Peninsula Borough land abutting a residence situated southeast of a proposed heater station facility. The meter was placed approximately 170 feet northwest of the target NSA, which is situated on Three Mile Creek

Drive in Beluga, AK. The home is approximately 1,620 feet west of Beluga Highway, approximately 200 feet south of Three Mile Creek, and approximately 3,509 feet southeast of the proposed Heater Station 3 facility footprint. The audible noise sources perceived during SLM setup and disassembly at this location were rustling leaves and distant speech.

4.2 COMPARISON WITH DATA GAP ANALYSIS

For informational purposes, at each of the NSAs where SPL measurements were conducted, Table 4-3 shows a comparison of day-night sound levels (L_{dn}) calculated from the SPL measurement data in Table 4-2 with estimated L_{dn} values as presented in Appendix B of the Noise Emission Modeling Data Gaps & Requirements Report ("Data Gaps", USAKE-UR-BRZZZ-00-0003).

Table 4-3: Differences between Measured and Estimated Baseline L_{dn} at Selected NSAs

Measurement Feature ID	NSA #	Measured L_{dn} (dBA)	Estimated L_{dn} (dBA)	L_{dn} Difference (Lowest Measured – Estimated, dBA)
N74AY001	0410	47-48	54	-7
N74AY002	2100	41-46	35	6
N74LH001	0010	48-49	35	13
N74LH002	0015	44	35	9
N74LH003	2116	55	n/a *	n/a *
N74LH004	2101	58-60	n/a *	n/a *
N104LH005	2337	46-47	n/a *	n/a *
N74HT001	2001	50-52	44	6
N74HT002	2102	61-64	45	16
N74HT003	1999	43-46	35	8
N74TI001	1888	51-53	49	2
N74TI002	1838	48-49	39	9
N74TI003	2111	47-52	n/a *	n/a *
N74TI004	2112	47-52	n/a *	n/a *
N74TI005	2113	49-54	n/a *	n/a *

*Estimated L_{dn} not available at these NSAs, as these were not known NSAs (i.e., they have been newly added as the Project design has developed) at the time the Data Gaps report was prepared.

Table 4-3 indicates that the L_{dn} calculated from SPL measurements in the field are, with the exception of NSA_00410, at least 2 dBA greater than the estimated L_{dn} values. This difference is expected and consistent with language from the aforementioned Data Gaps report, which acknowledged that the following acoustical contributors to the outdoor ambient sound levels were not reflected in the estimated L_{dn} values and would thus help cause L_{dn} from measured L_{eq} to be higher:

- Other natural sounds (birdsong, insect noise, dog barks, etc.);
- Aviation traffic (civil, commercial and military);
- Commercial or residential noise-producing activities (e.g., landscaping);
- Usage of portable (a.k.a., hand-held) power tools or other construction activities; and,
- Building pumps, generators, HVAC and other electro-mechanical systems and equipment.

As to why measured L_{dn} was several dBA less than estimated L_{dn} at NSA_00410, the prediction of L_{dn} at this location assumed noise from the nearest highway would be present (and dominant, from among common source types considered in the methodology). While field notes in Appendix C indicate that traffic noise was indeed an audible contributor, the actual roadway traffic volumes,

speeds, vehicle type proportions and other factors (including the presence of forest between the monitoring location and the Dalton Highway) may have resulted in the measured acoustical contribution from such traffic to be less than the prediction algorithm presented in the Data Gaps report.

4.3 GIS AND FIELD DATA MANAGEMENT

In general, and supplementing information handwritten to field noise measurement data forms that appear in Appendix C, baseline ambient noise data was collected electronically as points in ArcPad using a Panasonic Toughpad FZ-M1 tablet. The GIS interface setup and data recording procedures are summarized below.

4.3.1 Information Collection Setup

Prior to the actual field survey, the investigators pre-planned what location and measurement information they were going to collect and sent this to GIS support staff as a paper data collection form. These requirements guided how to set up the geodatabase, such as what data fields to include and what default values were to be pre-populated. This work was done in ArcGIS and the GIS data structure was setup in the project enterprise geodatabase. A data entry form was built in ArcPad, based upon the GIS data structures. GPS coordinates for the candidate field targets were loaded into ArcPad to help navigate to locations where noise monitoring was to be conducted. The GIS team also gathered relevant parcel boundaries/information and road GIS layers, which were then loaded as data sets onto the Yuma to assist navigation between survey locations in the field.

4.3.2 Survey Field Targets

At confirmed survey locations, the field investigators recorded positions of the SLM deployments on the GPS tablet.

4.3.3 Noise Data Collection Points

Information about each noise measurement location was recorded both electronically into the pre-designed ArcPad template available on the GPS tablet, and physically on the field noise measurement data forms (i.e., Appendix C). Data fields on both forms were nearly identical, with the exception of hand-drawn site diagram sketches and detailed source descriptions reserved for the physical forms. Data fields from the field measurement data forms are similar to those described in Appendix B of the Noise Monitoring Protocols document (USAKE-UR-SPFLD-00-0015).

Electronic data forms were generated at each of the survey locations when measurements were performed, with measurement/observational data appended to the location data, since LT and ST positions were re-visited multiple times during the survey to collect and document observations and measurement data associated with different times of day (e.g., daytime, evening and nighttime).

4.3.4 Photographs

Conduct of the field survey included taking digital photographs of the deployed ST and LT SLM from multiple cardinal directions. Reasonable efforts were made to also capture the view of a building (receiver) or other sort of landmark associated with the NSA at which noise level measurements or monitoring was being conducted.

4.3.5 Data Upload

Upon completion of the field work, which included the sum of data downloads from the deployed SLMs at the LT and ST positions, data was uploaded to the project website. The office GIS personnel would download the data, and with the remote assistance of a field investigator, verify and QA the attribute data. Once verified, the data were uploaded into the project enterprise geodatabase.

5.0 FIGURES

2016 Noise Report
Figures ALL_Optimize

6.0 APPENDICES

APPENDIX A – DIGITAL PHOTOGRAPH LOG

The following are photographs of the noise level measurement instrumentation deployments during the baseline survey at the indicated measurement locations (please refer to same identification tags shown in Figure 1). Up to two directional views at each measurement location are provided to help show the deployment position and its surrounding environment.

Photograph 1

Date: 5/22/15

Study Area: MGP

Site ID:
N74AY001

GPS Coordinates:
Lat: 67.253804
Long: -150.174717

View Direction: NA

Comment:
Specific site (N74AY001) is not pictured - image is an aerial view of the measurement location at the above-indicated GPS coordinates. (Source: Google Earth Pro [2015])

Photograph 2

Date: 8/16/15

Study Area: MGP

Site ID:
N74AY002

GPS Coordinates:
Lat: 65.883302
Long: -149.744213

View Direction: South

Photograph 3

Date: 8/16/15

Study Area: MGP

Site ID:
N74AY002

GPS Coordinates:
Lat: 65.883302
Long: -149.744213

View Direction: Northeast

Photograph 4

Date: 5/26/15

Study Area: MGP

Site ID:
N74LH001

GPS Coordinates:
Lat: 64.977479
Long: -148.679141

View Direction: Southeast

Photograph 5

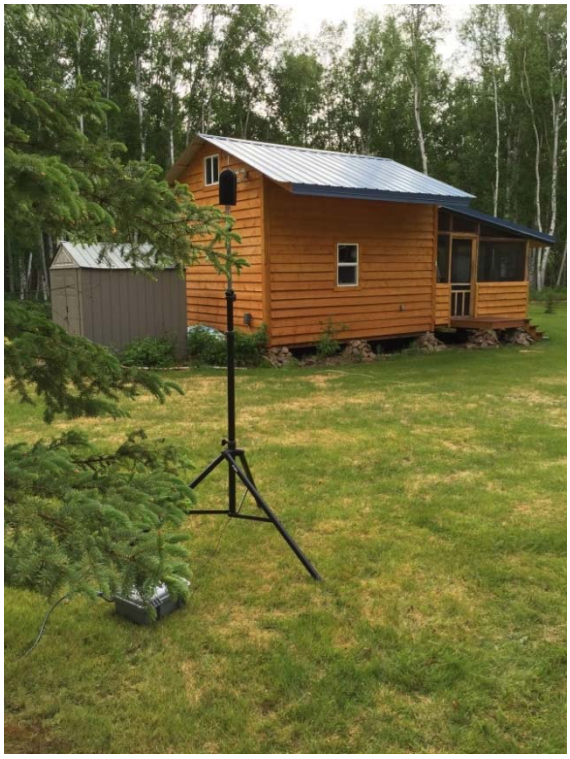
Date: 5/26/15

Study Area: MGP

Site ID:
N74LH001

GPS Coordinates:
Lat: 64.977479
Long: -148.679141

View Direction: Southwest



Photograph 6

Date: 5/26/15

Study Area: MGP

Site ID:
N74LH002

GPS Coordinates:
Lat: 64.976628
Long: -148.678074

View Direction: Southeast

Photograph 7

Date: 5/26/15

Study Area: MGP

Site ID:
N74LH002

GPS Coordinates:
Lat: 64.976628
Long: -148.678074

View Direction: Northwest

Photograph 8

Date: 5/26/15

Study Area: MGP

Site ID:
N74LH003
(Pictured alongside ST Meter)

GPS Coordinates:
Lat: 64.577755
Long: -149.121186

View Direction: Northeast

Photograph 9

Date: 5/26/15

Study Area: MGP

Site ID:
N74LH003
(Pictured alongside ST Meter)

GPS Coordinates:
Lat: 64.577755
Long: -149.121186

View Direction: South

Photograph 10

Date: 8/18/15

Study Area: MGP

Site ID:
N74LH004

GPS Coordinates:
Lat: 64.560273
Long: -149.099362

View Direction: North

Photograph 11

Date: 8/18/15

Study Area: MGP

Site ID:
N74LH004

GPS Coordinates:
Lat: 64.560273
Long: -149.099362

View Direction: South

Photograph 12

Date: 7/31/16

Study Area: MGP

Site ID:
N104LH005

GPS Coordinates:
Lat: 63.968615
Long: -149.130248

View Direction: West

Photograph 13

Date: 7/31/16

Study Area: MGP

Site ID:
N104LH005

GPS Coordinates:
Lat: 63.968615
Long: -149.130248

View Direction: East

Photograph 14

Date: 8/21/15

Study Area: MGP

Site ID:
N74HT001

GPS Coordinates:
Lat: 62.553901
Long: -150.231888

View Direction: North

Photograph 15

Date: 8/21/15

Study Area: MGP

Site ID:
N74HT001

GPS Coordinates:
Lat: 62.553901
Long: -150.231888

View Direction: West

Photograph 16

Date: 8/21/15

Study Area: MGP

Site ID:
N74HT002
(Pictured alongside ST Meter)

GPS Coordinates:
Lat: 62.61053
Long: -150.222976

View Direction: West

Site ID:
N74HT002
No Additional Photos

Cell Intentionally Left Blank

Photograph 17

Date: 8/24/15

Study Area: MGP

Site ID:
N74HT003

GPS Coordinates:
Lat: 62.53443
Long: -150.266371

View Direction: Southeast

Photograph 18

Date: 8/24/15

Study Area: MGP

Site ID:
N74HT003

GPS Coordinates:
Lat: 62.53443
Long: -150.266371

View Direction: Southwest

Photograph 19

Date: 8/21/15

Study Area: MGP

Site ID:
N74TI001

GPS Coordinates:
Lat: 62.183818
Long: -150.200783

View Direction: Northeast

Photograph 20

Date: 8/21/15

Study Area: MGP

Site ID:
N74TI001

GPS Coordinates:
Lat: 62.183818
Long: -150.200783

View Direction: Northwest

Photograph 21

Date: 8/24/15

Study Area: MGP

Site ID:
N74TI002

GPS Coordinates:
Lat: 61.446811
Long: -150.673622

View Direction: Northwest

Photograph 22

Date: 8/24/15

Study Area: MGP

Site ID:
N74TI002

GPS Coordinates:
Lat: 61.446811
Long: -150.673622

View Direction: Southeast

Photograph 23

Date: 8/27/15

Study Area: MGP

Site ID:
N74TI003

GPS Coordinates:
Lat: 61.136528
Long: -151.103105

View Direction: West

Photograph 24

Date: 8/27/15

Study Area: MGP

Site ID:
N74TI003

GPS Coordinates:
Lat: 61.136528
Long: -151.103105

View Direction: Southeast

Photograph 25

Date: 8/27/15

Study Area: MGP

Site ID:
N74TI004

GPS Coordinates:
Lat: 61.141504
Long: -151.09598

View Direction: East

Photograph 26

Date: 8/27/15

Study Area: MGP

Site ID:
N74TI004

GPS Coordinates:
Lat: 61.141504
Long: -151.09598

View Direction: Southwest

Photograph 27

Date: 8/27/15

Study Area: MGP

Site ID:
N74TI005

GPS Coordinates:
Lat: 61.143815
Long: -151.09447

View Direction: Southwest

Photograph 28

Date: 8/27/15

Study Area: MGP

Site ID:
N74TI005

GPS Coordinates:
Lat: 61.143815
Long: -151.09447

View Direction: East

APPENDIX B – LONG-TERM MONITORING HOURLY DETAIL

Table B.1 – Monitoring Position N74AY001, First 24 hours (Start 05/22/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
8:30	42	51	38	44	41	39
9:30	44	65	36	44	40	39
10:30	41	54	35	43	40	38
11:30	39	46	35	40	38	36
12:30	47	69	35	46	40	37
13:30	44	61	34	45	38	36
14:30	37	51	33	38	36	35
15:30	37	52	33	39	35	34
16:30	37	56	32	37	35	34
17:30	38	55	34	39	36	35
18:30	43	66	33	41	36	35
19:30	41	59	34	42	36	35
20:30	44	67	34	42	37	35
21:30	42	58	37	43	41	40
22:30	43	63	37	44	40	38
23:30	40	50	37	41	39	38
0:30	41	57	36	42	39	38
1:30	38	53	35	39	37	36
2:30	37	40	34	37	36	36
3:30	39	59	35	38	37	36
4:30	37	50	35	38	37	36
5:30	39	54	35	40	38	37
6:30	40	52	35	43	38	36
7:30	39	50	34	42	38	36

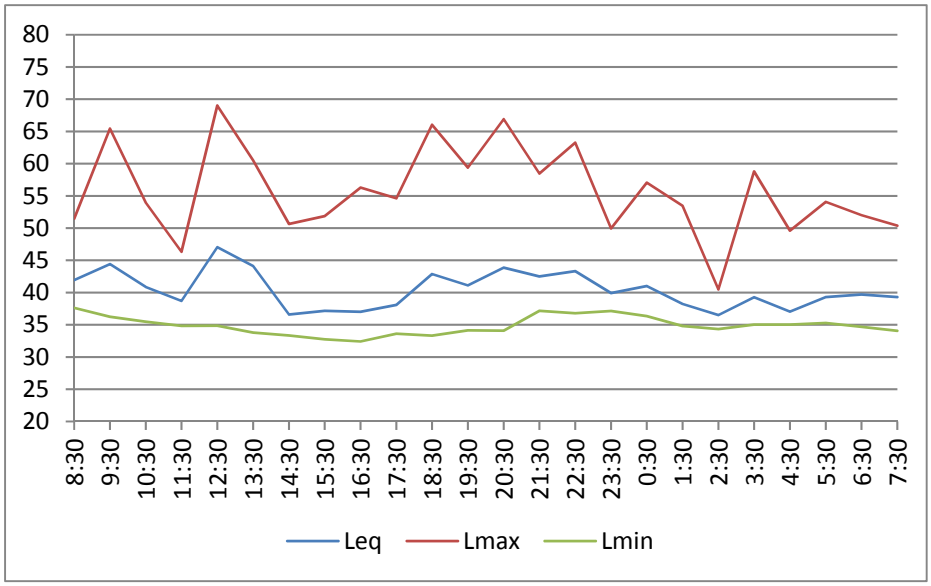


Table B.2 – Monitoring Position N74AY001, Second 24 hours (Start 05/23/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
8:30	39	51	34	41	37	35
9:30	45	66	32	40	35	34
10:30	47	72	33	43	37	35
11:30	43	66	33	42	37	35
12:30	36	47	32	38	35	34
13:30	48	69	33	43	38	34
14:30	38	53	32	40	36	34
15:30	39	49	33	41	37	35
16:30	46	66	33	45	37	35
17:30	39	51	33	40	37	35
18:30	40	51	35	42	39	37
19:30	38	49	35	39	38	36
20:30	41	56	35	40	38	37
21:30	44	59	37	45	42	41
22:30	43	53	39	44	42	41
23:30	41	47	38	43	41	39
0:30	42	56	38	43	42	40
1:30	40	52	35	42	40	39
2:30	44	55	38	45	42	40
3:30	41	49	35	43	41	38
4:30	37	52	34	38	37	36
5:30	39	48	35	40	38	37
6:30	39	47	36	40	38	37
7:30	40	58	36	42	38	37

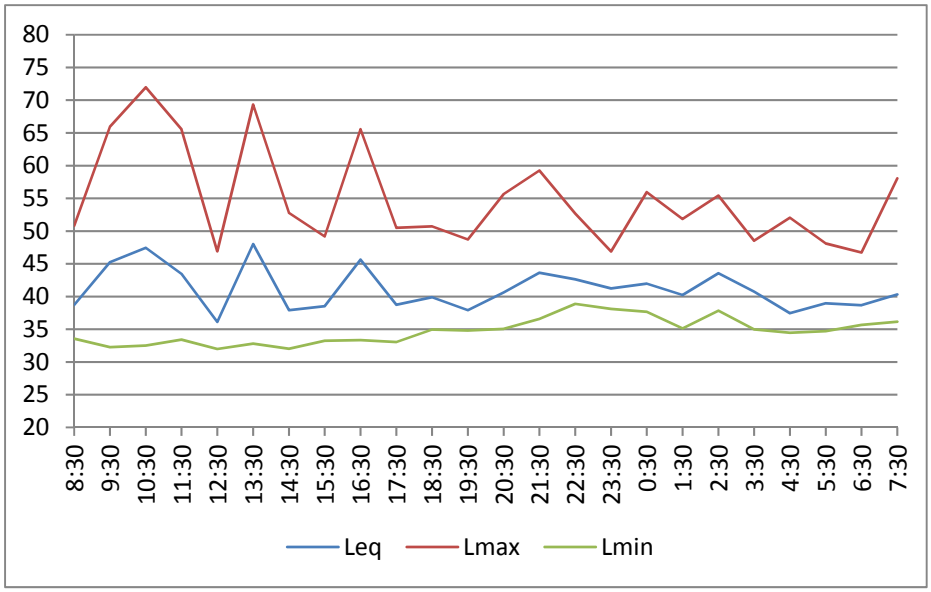


Table B.3 – Monitoring Position N74AY002, First 24 hours (Start 08/16/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
13:00	45	57	35	47	43	39
14:00	44	54	36	47	42	39
15:00	36	53	23	37	33	30
16:00	45	60	32	48	43	40
17:00	41	60	28	42	38	34
18:00	38	59	21	36	30	26
19:00	28	49	20	29	24	22
20:00	37	56	22	37	31	27
21:00	32	50	19	31	25	22
22:00	28	47	19	28	22	20
23:00	32	50	18	33	24	21
0:00	33	58	17	30	22	19
1:00	24	44	17	25	20	19
2:00	29	49	18	27	22	20
3:00	24	37	18	26	22	21
4:00	26	45	18	26	22	20
5:00	26	49	17	27	22	20
6:00	29	49	18	29	23	21
7:00	42	68	18	38	26	20
8:00	31	58	18	32	25	21
9:00	42	69	18	35	23	20
10:00	42	62	18	39	26	22
11:00	35	55	22	36	30	26
12:00	48	74	23	45	33	27

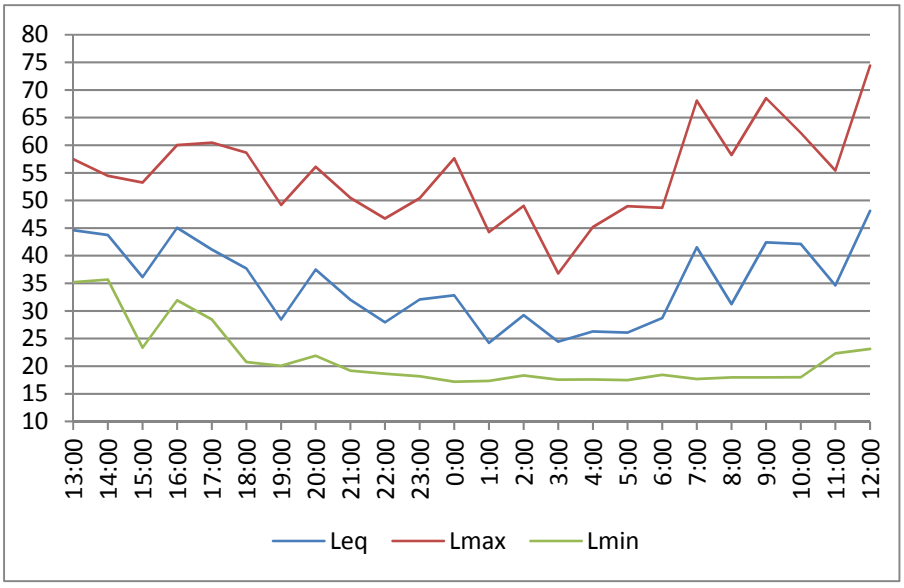


Table B.4 – Monitoring Position N74AY002, Second 24 hours (Start 08/17/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
13:00	35	53	23	38	32	26
14:00	43	61	26	44	38	32
15:00	37	51	26	40	35	31
16:00	38	52	28	40	36	33
17:00	42	60	26	43	36	31
18:00	41	54	24	44	37	32
19:00	36	53	20	38	28	23
20:00	47	62	20	46	37	32
21:00	50	59	43	52	48	46
22:00	45	63	25	43	39	36
23:00	32	49	24	35	29	26
0:00	34	56	19	33	27	24
1:00	31	43	17	31	25	23
2:00	34	59	24	37	31	27
3:00	41	56	33	43	39	37
4:00	35	47	19	33	28	26
5:00	36	53	19	38	25	22
6:00	40	58	24	42	31	27
7:00	36	51	22	38	30	27
8:00	37	54	20	40	30	26
9:00	38	54	19	41	29	23
10:00	42	49	26	45	40	36
11:00	33	55	19	33	26	23
12:00	33	54	18	34	26	22

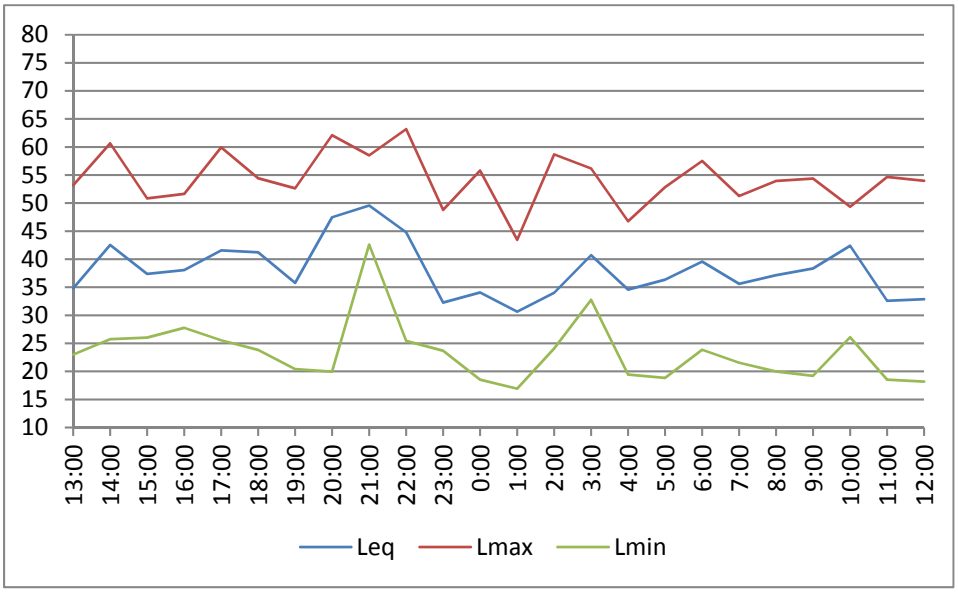


Table B.5 – Monitoring Position N74LH001, First 24 hours (Start 05/26/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
9:50	45	58	33	47	43	41
10:50	50	73	32	43	40	38
11:50	41	63	23	41	34	28
12:50	38	55	23	40	34	28
13:50	38	62	23	40	31	26
14:50	47	73	22	38	29	25
15:50	32	47	23	35	29	25
16:50	34	47	23	34	30	25
17:50	35	61	23	37	28	25
18:50	49	65	22	47	34	26
19:50	45	60	23	46	34	27
20:50	40	51	23	42	34	27
21:50	37	51	22	39	30	24
22:50	39	50	23	40	32	25
23:50	33	48	24	35	27	25
0:50	27	39	23	30	25	24
1:50	36	46	23	39	32	28
2:50	38	47	26	41	36	31
3:50	42	56	24	45	37	30
4:50	47	57	21	49	43	34
5:50	40	52	21	42	36	28
6:50	41	60	21	44	35	27
7:50	47	63	21	46	37	28
8:50	48	61	24	52	41	32

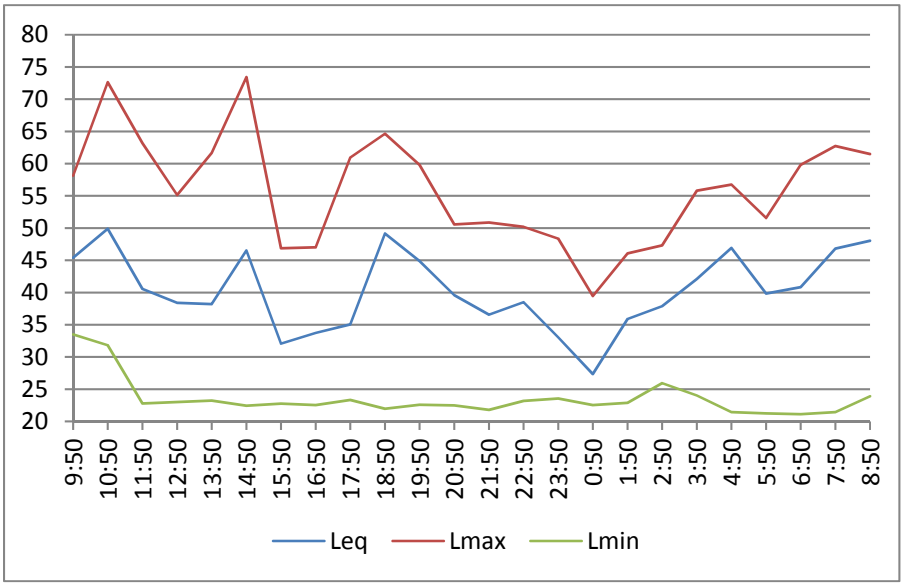


Table B.6 – Monitoring Position N74LH001, Second 24 hours (Start 05/26/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
18:00[1]	36	61	23	38	29	25
19:00[1]	49	65	22	44	33	26
20:00[1]	45	60	23	45	34	26
21:00[1]	41	51	22	45	37	27
22:00[1]	34	48	22	37	28	24
23:00[1]	39	50	23	41	32	26
0:00[1]	31	48	24	32	26	25
1:00[1]	28	40	23	31	26	24
2:00[1]	37	46	23	40	34	29
3:00[1]	38	48	26	42	36	31
4:00[1]	44	57	24	46	39	31
5:00[1]	46	55	21	47	40	31
6:00[1]	41	53	21	44	37	28
7:00[1]	40	60	21	43	35	27
8:00[1]	47	63	21	47	39	30
9:00	48	61	23	50	39	30
10:00	50	62	24	51	42	32
11:00	49	66	23	47	36	27
12:00	45	61	24	47	37	29
13:00	49	65	23	51	39	30
14:00	51	69	23	50	35	27
15:00	47	68	24	44	34	27
16:00	48	65	23	51	40	28
17:00	46	62	23	47	36	29

1. Where 48 hours of continuous noise level monitoring were precluded at a location by field conditions, collected data from hours occurring on the later portion of the preceding day of monitoring were used to fulfill the hourly data deficiencies in the subsequent day of monitoring.

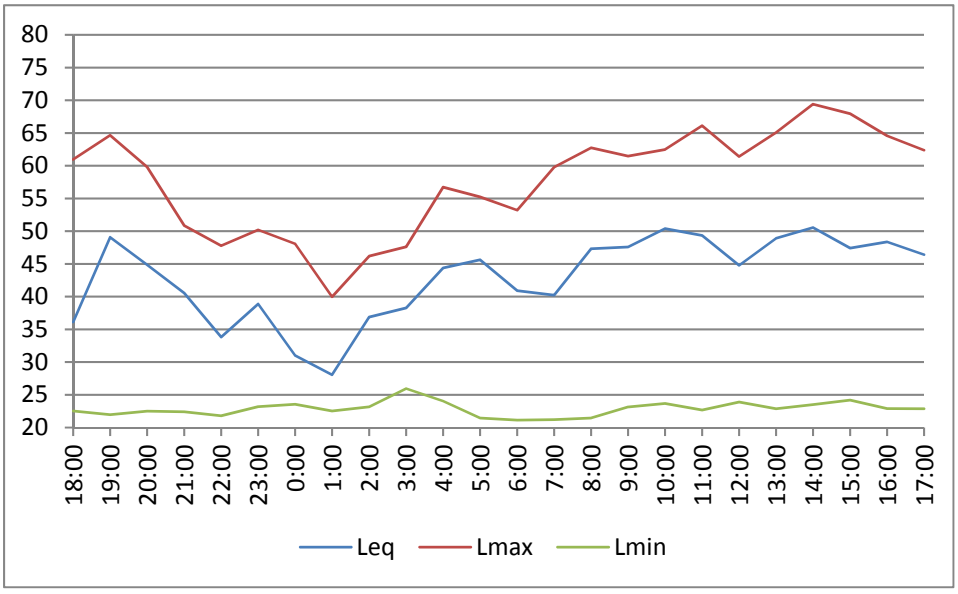


Table B.7 – Monitoring Position N74LH002, First 24 hours (Start 05/26/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
9:50	35	45	32	37	34	33
10:50	37	58	30	36	33	32
11:50	36	50	30	39	34	31
12:50	40	57	30	41	35	32
13:50	36	54	30	37	33	31
14:50	46	72	30	39	32	31
15:50	33	45	30	36	32	31
16:50	34	47	30	35	33	30
17:50	35	61	29	36	31	30
18:50	35	58	29	35	32	30
19:50	36	52	29	37	33	31
20:50	32	44	29	34	32	30
21:50	31	40	29	33	31	30
22:50	36	57	29	36	32	30
23:50	32	39	29	34	31	30
0:50	32	42	29	34	31	30
1:50	40	55	29	39	35	31
2:50	40	50	33	43	39	36
3:50	39	55	30	40	36	34
4:50	36	50	29	39	35	32
5:50	36	55	30	37	33	31
6:50	33	44	30	35	32	31
7:50	36	49	30	37	33	31
8:50	40	58	30	41	36	33

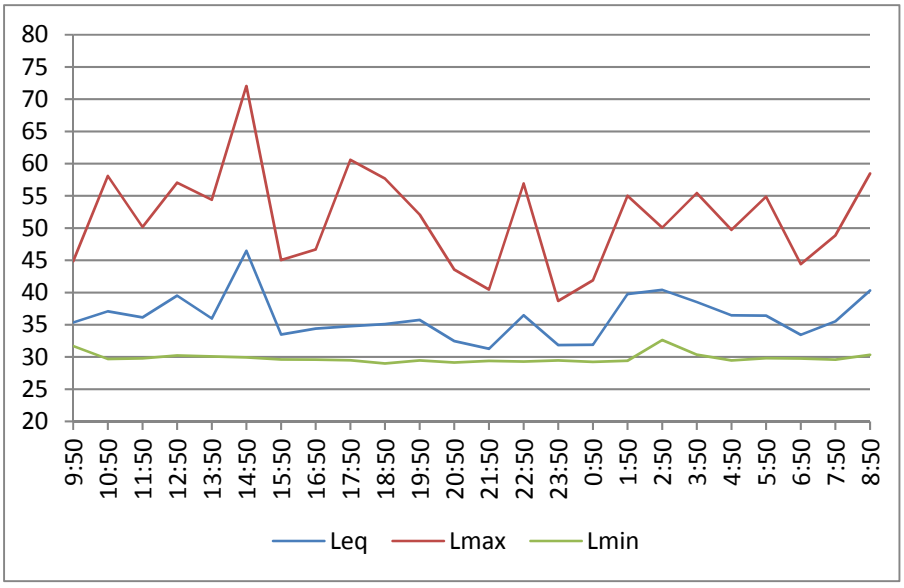


Table B.8 – Monitoring Position N74LH002, Second 24 hours (Start 05/27/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
9:50	36	51	30	38	34	32
10:50	38	60	30	38	34	32
11:50	39	61	31	37	33	32
12:50	36	55	30	39	35	32
13:50	34	49	31	35	33	31
14:50	34	49	30	36	33	31
15:50	39	55	30	42	34	31
16:50	38	56	29	40	35	32
17:50	32	48	29	34	31	30
18:50	33	51	28	34	30	29
19:50	30	39	28	31	30	29
20:50	31	41	29	32	30	29
21:50	31	38	29	33	30	30
22:50	31	39	30	32	31	30
23:50	31	38	30	32	31	31
0:50	32	41	30	33	31	31
1:50	37	47	30	40	35	32
2:50	41	51	33	43	40	37
3:50	43	53	31	44	40	37
4:50	35	45	31	37	34	32
5:50	33	42	30	35	32	31
6:50	35	50	30	37	33	32
7:50	37	49	31	39	36	33
8:50	41	58	32	42	38	35

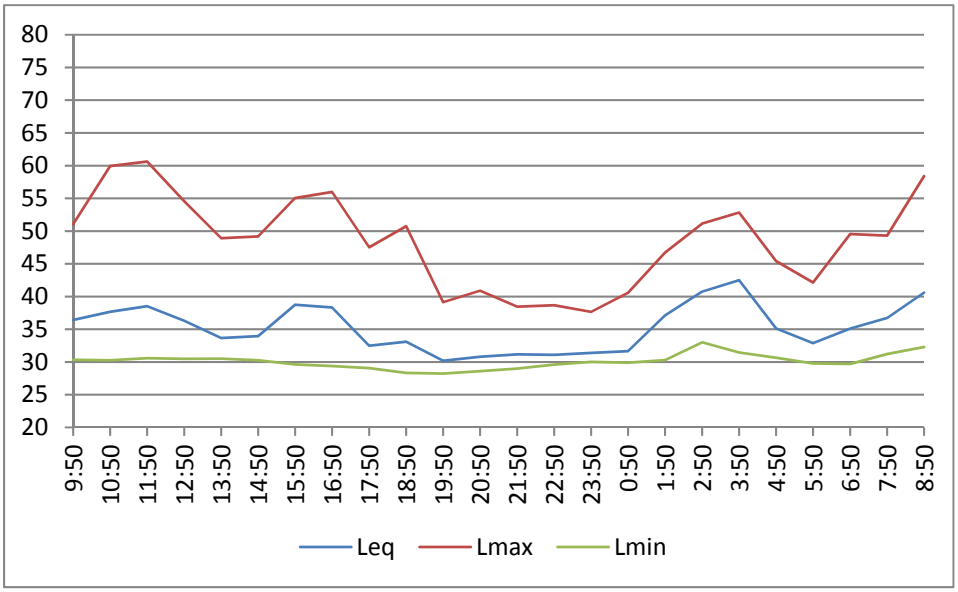


Table B.9 – Monitoring Position N74LH003, First 24 hours (Start 05/26/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
14:20	47	62	26	51	39	31
15:20	47	63	27	51	41	33
16:20	48	63	25	52	42	32
17:20	54	82	24	52	41	32
18:20	50	69	26	53	44	35
19:20	48	69	24	51	40	29
20:20	48	66	24	51	37	28
21:20	49	70	28	52	42	35
22:20	46	65	23	48	33	26
23:20	48	66	23	50	34	26
00:20	45	64	25	44	28	26
01:20	46	64	24	44	28	25
02:20	54	81	25	51	38	31
03:20	50	72	26	48	36	31
04:20	45	63	25	43	36	30
05:20	50	71	27	51	39	32
06:20	47	65	24	51	38	29
07:20	48	65	25	50	39	31
08:20	48	65	29	52	41	34
09:20	49	75	25	51	39	31
10:20	50	69	24	54	39	30
11:20	54	74	25	53	40	31
12:20	48	64	24	52	39	30
13:20	46	63	25	46	36	29

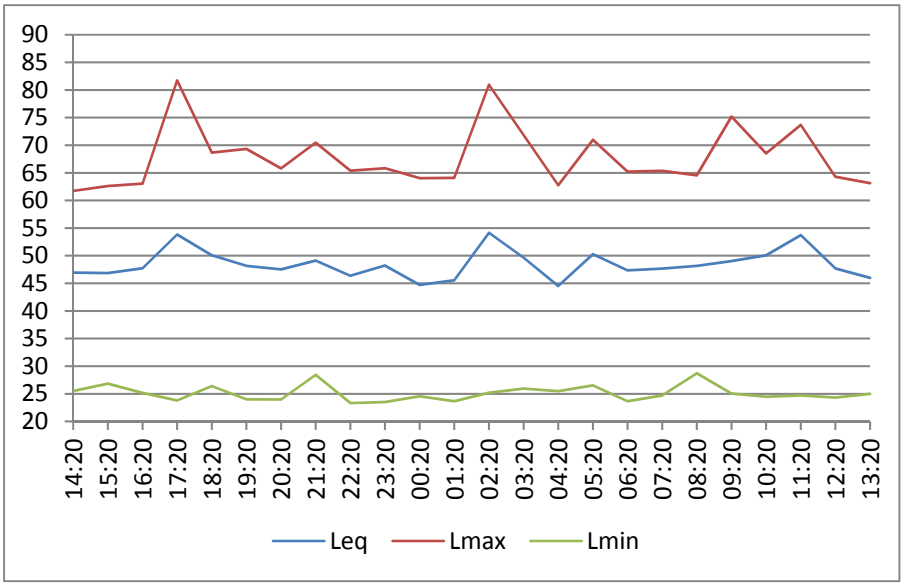


Table B.10 – Monitoring Position N74LH003, Second 24 hours (Start 05/27/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
14:20	48	63	24	52	40	31
15:20	49	66	23	52	41	32
16:20	52	76	26	54	43	33
17:20	52	79	26	52	42	32
18:20	47	63	23	51	37	27
19:20	49	65	22	52	37	27
20:20	46	63	23	49	34	26
21:20	50	79	24	50	36	28
22:20	47	64	25	50	34	28
23:20	49	65	26	52	36	28
00:20	48	64	26	49	36	31
01:20	47	64	26	47	39	34
02:20	49	66	25	51	39	31
03:20	46	66	27	47	37	32
04:20	47	70	24	45	34	29
05:20	47	68	26	47	34	28
06:20	52	76	26	52	41	32
07:20	47	69	26	51	40	33
08:20	46	62	28	51	41	33
09:20	49	72	26	52	42	35
10:20	47	62	29	51	42	36
11:20	50	67	30	53	48	41
12:20	51	65	38	54	48	43
13:20	49	63	32	52	44	37

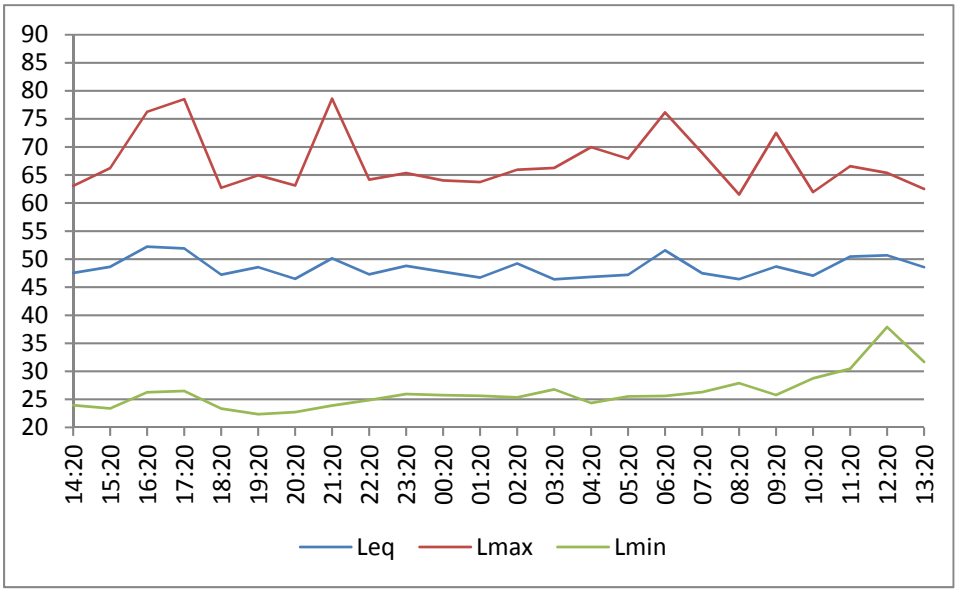


Table B.11 – Monitoring Position N74LH003, Third 24 hours (Start 05/28/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
14:20	49	63	31	52	45	39
15:20	48	63	33	52	45	40
16:20	51	64	33	54	48	43
17:20	49	62	33	52	45	39
18:20	52	79	27	53	43	35
19:20	48	65	26	51	40	32
20:20	47	63	23	50	37	30
21:20	51	80	23	50	36	26
22:20	46	63	22	49	33	25
23:20	48	65	23	50	33	25
00:20	53	82	23	51	33	26
01:20	47	66	22	47	28	23
02:20	48	66	22	48	37	27
03:20	47	66	23	46	34	29
04:20	46	64	24	46	37	29
05:20	47	68	21	49	35	27
06:20	47	63	21	51	34	25
07:20	47	64	22	51	39	30
08:20	48	64	24	52	42	33
09:20	54	74	23	55	43	32
10:20	48	64	25	52	42	32
11:20	49	69	26	52	42	34
12:20	47	65	29	51	42	34
13:20	48	63	25	51	42	32

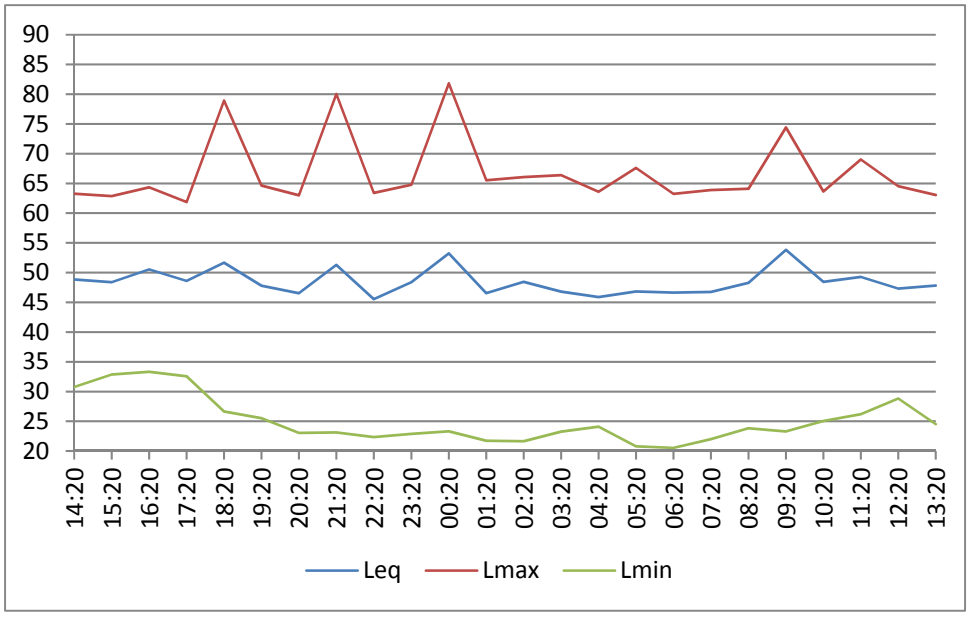


Table B.12 – Monitoring Position N74LH004, First 24 hours (Start 08/18/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
19:00	60	90	29	54	44	38
20:00	49	70	29	51	40	35
21:00	46	63	29	49	40	35
22:00	59	89	28	55	40	32
23:00	47	68	25	48	37	31
0:00	47	65	27	48	35	31
1:00	46	70	26	45	36	31
2:00	48	72	28	47	36	31
3:00	46	64	28	45	36	31
4:00	47	71	24	44	33	29
5:00	59	87	23	49	37	29
6:00	45	62	24	48	34	29
7:00	48	68	29	49	38	32
8:00	48	66	34	51	42	38
9:00	51	72	37	53	46	42
10:00	54	83	37	55	47	42
11:00	51	72	38	53	46	41
12:00	52	74	35	54	47	42
13:20	52	73	34	53	46	40
14:00	48	66	34	51	43	38
15:00	50	69	34	51	44	40
16:00	49	67	37	52	47	42
17:00	50	69	31	53	44	37
18:00	49	65	31	52	43	36

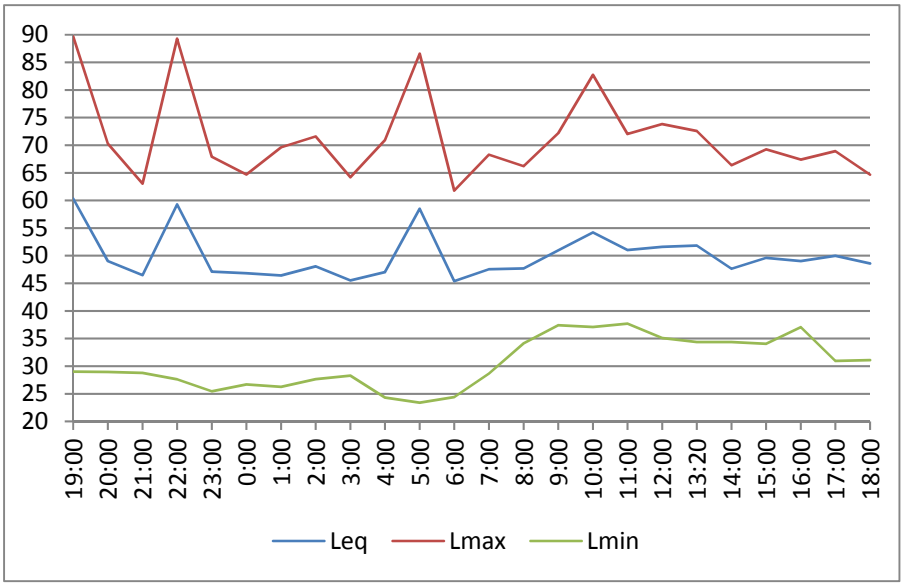


Table B.13 – Monitoring Position N74LH004, Second 24 hours (Start 08/19/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
19:00	59	89	25	55	44	35
20:00	47	67	24	49	37	30
21:00	46	62	25	49	36	30
22:00	45	63	24	47	36	32
23:00	50	79	24	48	34	27
0:00	56	82	24	54	39	30
1:00	47	66	24	48	34	28
2:00	48	68	24	48	33	27
3:00	45	64	26	41	30	28
4:00	43	63	26	43	30	28
5:00	47	64	26	47	35	30
6:00	57	85	28	52	39	32
7:00	48	65	28	51	39	32
8:00	50	74	29	52	41	34
9:00	49	70	30	52	42	36
10:00	56	83	29	55	45	38
11:00	52	72	31	53	45	37
12:00	49	68	26	53	43	33
13:20	52	75	25	53	43	31
14:00	50	73	29	53	44	35
15:00	52	74	31	55	48	41
16:00	55	81	29	56	45	35
17:00	49	69	25	51	42	32
18:00	62	89	26	55	45	33

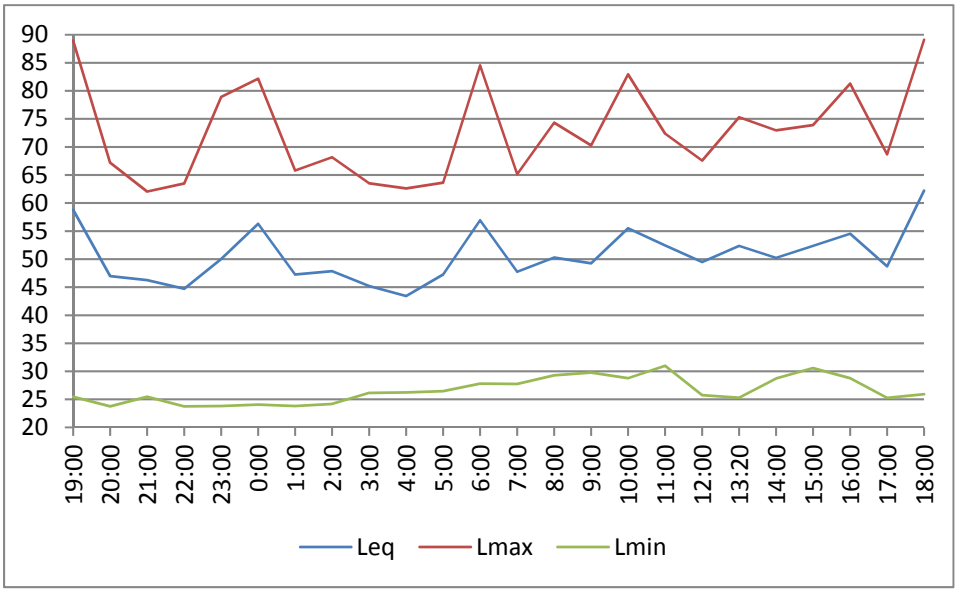


Table B.14 – Monitoring Position N104LH005, First 24 hours (Start 07/31/16)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
16:00	44	58	30	45	40	36
17:00	47	62	30	48	42	37
18:00	48	67	31	49	44	38
19:00	49	63	33	50	45	40
20:00	47	63	31	47	41	37
21:00	45	61	32	45	40	36
22:00	46	61	32	46	40	36
23:00	46	62	32	45	40	36
0:00	46	63	32	42	37	34
1:00	41	60	31	38	35	33
2:00	43	61	33	39	36	34
3:00	43	66	33	39	35	34
4:00	44	61	32	40	36	35
5:00	44	64	31	41	36	34
6:00	42	56	32	42	38	35
7:00	45	66	32	44	38	35
8:00	47	65	32	46	40	36
9:00	47	62	32	47	42	37
10:00	49	64	37	51	47	44
11:00	49	69	33	50	45	41
12:00	48	64	37	50	45	42
13:00	49	63	38	50	47	44
14:00	50	60	39	52	48	45
15:00	51	64	41	53	50	47

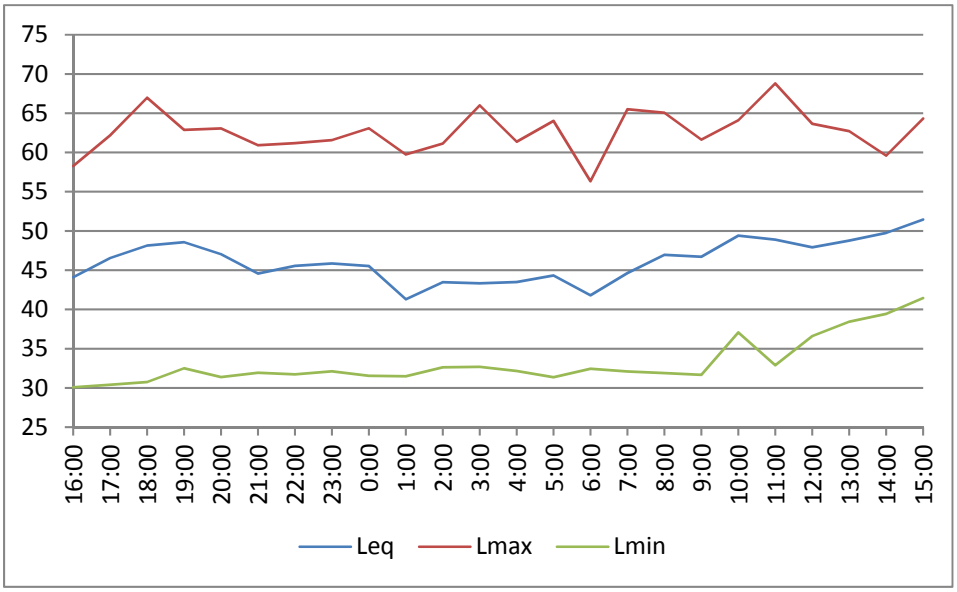


Table B.15 – Monitoring Position N104LH005, Second 24 hours (Start 08/1/16)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
16:00	51	61	41	53	49	46
17:00	51	61	41	53	49	46
18:00	49	62	37	51	47	44
19:00	47	67	32	48	43	39
20:00	47	68	31	47	41	35
21:00	47	65	31	46	40	36
22:00	48	64	31	46	41	36
23:00	46	60	31	45	39	36
0:00	46	65	31	42	38	36
1:00	47	66	30	39	35	32
2:00	44	61	30	39	34	32
3:00	44	63	31	37	34	32
4:00	40	59	32	36	34	33
5:00	46	67	31	40	36	34
6:00	45	61	31	44	38	35
7:00	41	55	31	41	37	34
8:00	43	63	30	42	36	33
9:00	47	63	32	47	41	37
10:00	48	62	34	50	45	41
11:00	51	64	38	53	48	44
12:00	49	67	32	48	44	39
13:00	48	65	31	48	43	38
14:00	47	64	30	48	41	36
15:00	46	60	30	47	41	36

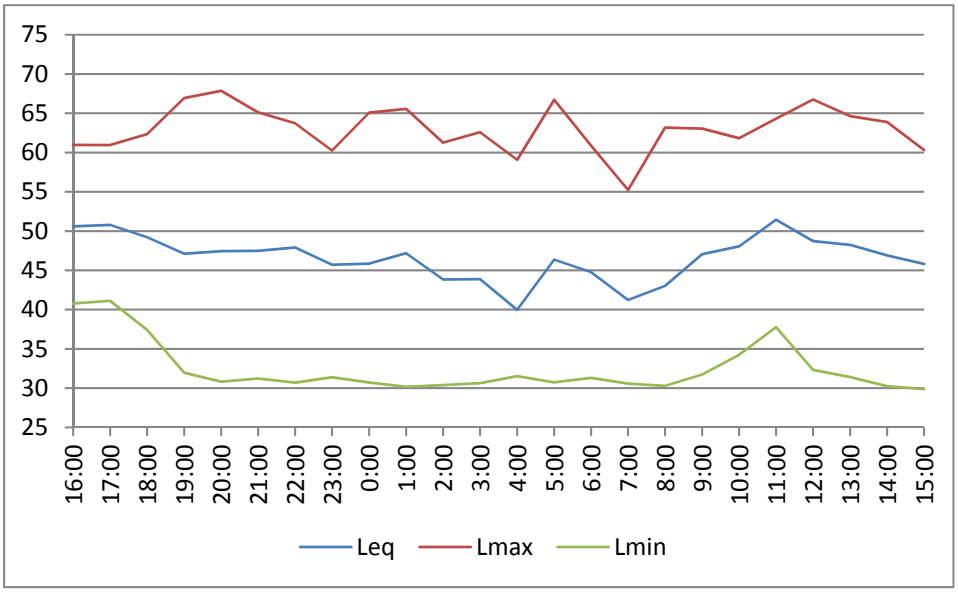


Table B.16 – Monitoring Position N74HT001, First 24 hours (Start 08/21/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
13:00	58	88	40	51	45	41
14:00	45	57	39	47	43	40
15:00	45	59	39	48	42	40
16:00	45	59	39	48	43	40
17:00	45	58	39	48	42	40
18:00	45	61	39	47	41	40
19:00	46	70	39	47	42	40
20:00	47	69	39	47	41	40
21:00	45	60	39	47	42	41
22:00	45	66	39	47	43	41
23:00	44	58	40	47	42	41
0:00	44	56	40	46	42	41
1:00	43	54	40	45	42	41
2:00	44	62	40	45	42	41
3:00	45	63	40	46	42	41
4:00	43	54	39	44	41	40
5:00	43	58	39	45	41	40
6:00	45	62	40	46	42	41
7:00	46	61	40	48	43	41
8:00	45	60	40	47	44	42
9:00	45	58	40	47	43	41
10:00	43	61	39	45	42	40
11:00	49	72	39	47	43	41
12:00	46	63	39	48	44	42

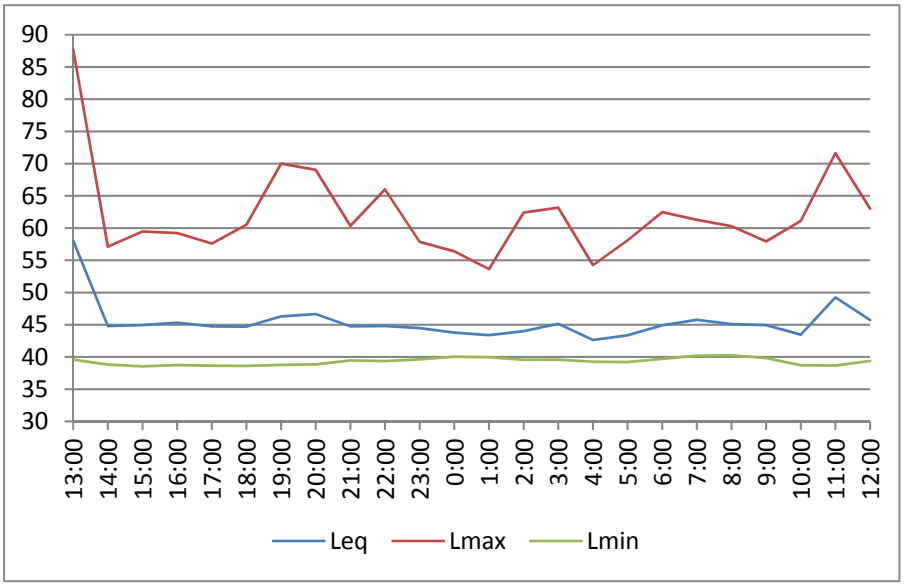


Table B.17 – Monitoring Position N74HT001, Second 24 hours (Start 08/22/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
13:00	47	69	39	48	44	42
14:00	44	54	38	47	43	41
15:00	45	61	38	48	43	41
16:00	48	60	40	52	46	43
17:00	51	77	40	52	46	43
18:00	46	61	39	49	44	41
19:00	46	66	39	47	43	41
20:00	54	77	38	47	41	40
21:00	42	54	39	44	41	40
22:00	45	61	40	47	42	41
23:00	43	56	39	45	41	40
0:00	44	59	39	46	41	40
1:00	41	50	39	43	41	40
2:00	41	54	39	42	41	40
3:00	43	58	39	45	41	40
4:00	41	45	39	41	40	40
5:00	41	47	39	42	40	40
6:00	42	53	39	44	41	40
7:00	43	57	40	45	42	41
8:00	47	67	40	47	42	41
9:00	47	71	39	46	42	41
10:00	44	56	39	45	42	41
11:00	47	67	39	48	43	41
12:00	50	65	38	50	46	42

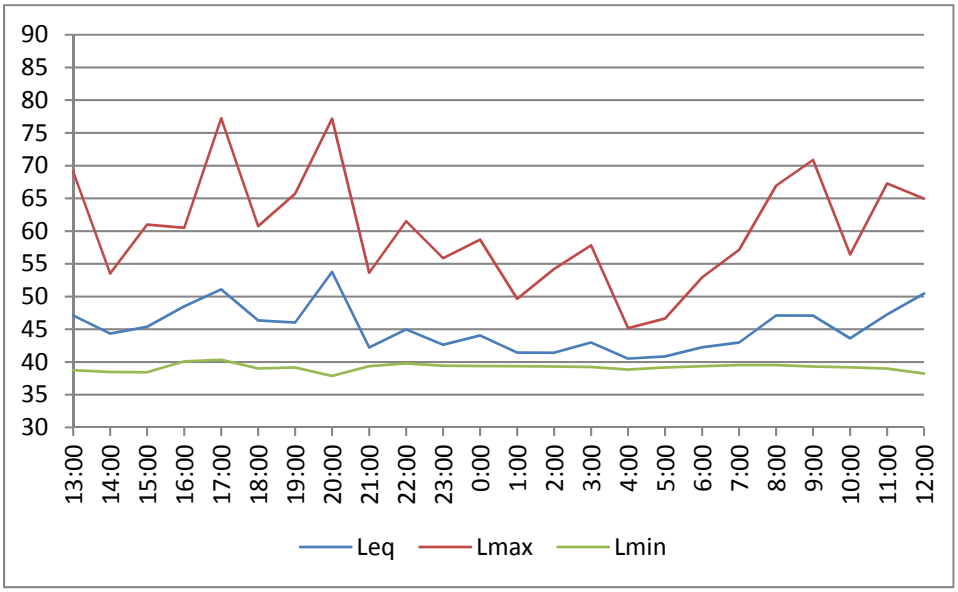


Table B.18 – Monitoring Position N74HT002, First 24 hours (Start 08/21/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
22:00	59	81	28	58	37	31
23:00	60	87	29	58	38	32
0:00	57	79	30	51	34	31
1:00	58	80	31	50	33	32
2:00	56	83	29	44	32	30
3:00	58	83	29	47	32	30
4:00	50	75	30	39	32	31
5:00	52	74	31	45	34	32
6:00	55	81	31	46	34	33
7:00	56	78	31	53	34	32
8:00	59	78	30	60	40	32
9:00	60	80	28	63	40	32
10:00	59	79	28	63	42	32
11:00	59	77	28	63	43	36
12:00	61	79	28	64	46	35
13:00	60	77	25	64	43	32
14:00	59	75	28	64	44	35
15:00	59	77	27	63	45	35
16:00	61	81	33	63	47	38
17:00	60	79	31	64	45	35
18:00	60	81	28	63	42	34
19:00	57	76	26	60	37	30
20:00	58	77	26	60	37	29
21:00	56	79	29	57	36	30

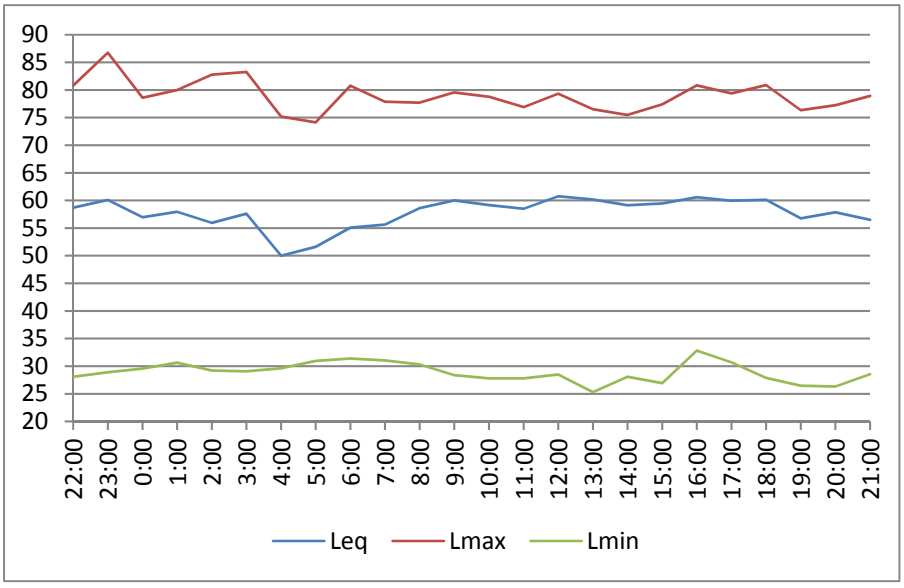


Table B.19 – Monitoring Position N74HT002, Second 24 hours (Start 08/21/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
14:00[1]	59	75	28	64	44	35
15:00[1]	59	77	27	63	45	35
16:00[1]	61	81	33	63	47	38
17:00[1]	60	79	31	64	45	35
18:00[1]	60	81	28	63	42	34
19:00[1]	57	76	26	60	37	30
20:00[1]	58	77	26	60	37	29
21:00[1]	56	79	29	57	36	30
22:00	57	83	30	56	35	31
23:00	53	76	30	49	33	31
0:00	56	79	30	47	33	30
1:00	48	68	29	41	31	30
2:00	49	74	30	39	32	31
3:00	53	78	29	39	30	30
4:00	44	66	28	34	30	30
5:00	46	70	29	37	31	30
6:00	48	71	30	38	31	31
7:00	51	70	30	46	32	31
8:00	56	77	29	52	35	31
9:00	59	80	30	62	40	32
10:00	59	79	28	63	41	31
11:00	60	77	27	64	44	33
12:00	60	77	34	64	47	39
13:00	59	78	30	63	45	36

1. Where 48 hours of continuous noise level monitoring were precluded at a location by field conditions, collected data from hours occurring on the later portion of the preceding day of monitoring were used to fulfill the hourly data deficiencies in the subsequent day of monitoring.

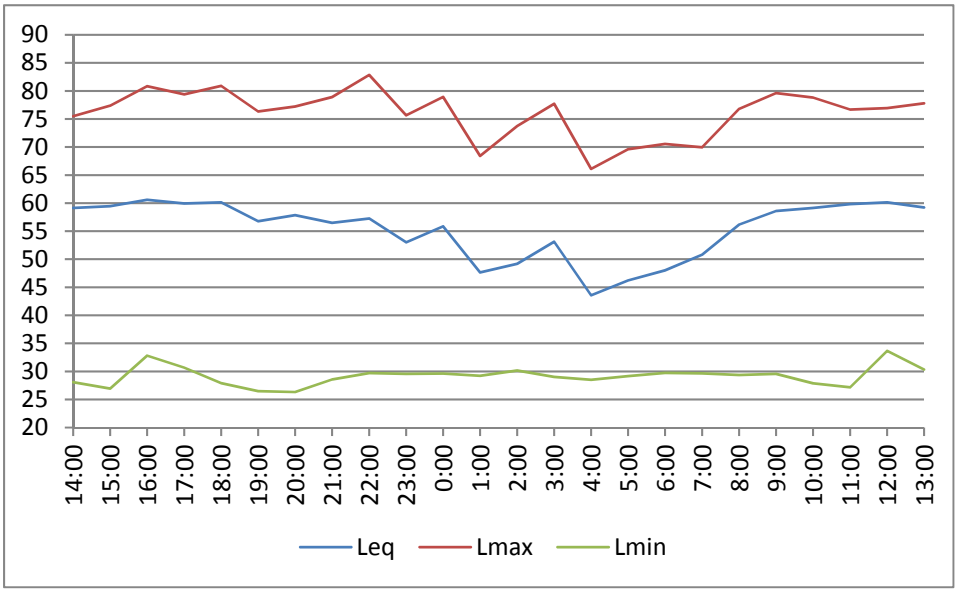


Table B.20 – Monitoring Position N74HT003, First 24 hours (Start 08/24/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
12:00	39	57	20	39	28	24
13:00	43	62	19	43	28	22
14:00	40	62	20	37	25	21
15:00	45	69	19	43	31	24
16:00	35	54	20	36	30	25
17:00	50	71	23	48	34	28
18:00	45	70	22	41	33	27
19:00	48	75	21	42	30	26
20:00	47	68	19	40	29	24
21:00	38	63	18	32	26	21
22:00	29	41	17	32	24	19
23:00	28	40	17	32	23	18
0:00	28	44	17	31	24	20
1:00	26	41	16	29	22	18
2:00	22	38	16	23	18	17
3:00	21	36	16	23	19	17
4:00	28	47	16	30	21	17
5:00	22	38	16	24	18	16
6:00	31	47	16	34	25	21
7:00	31	47	18	33	24	21
8:00	46	63	20	45	35	26
9:00	45	67	21	39	29	24
10:00	38	58	19	35	25	22
11:00	47	71	18	31	22	20

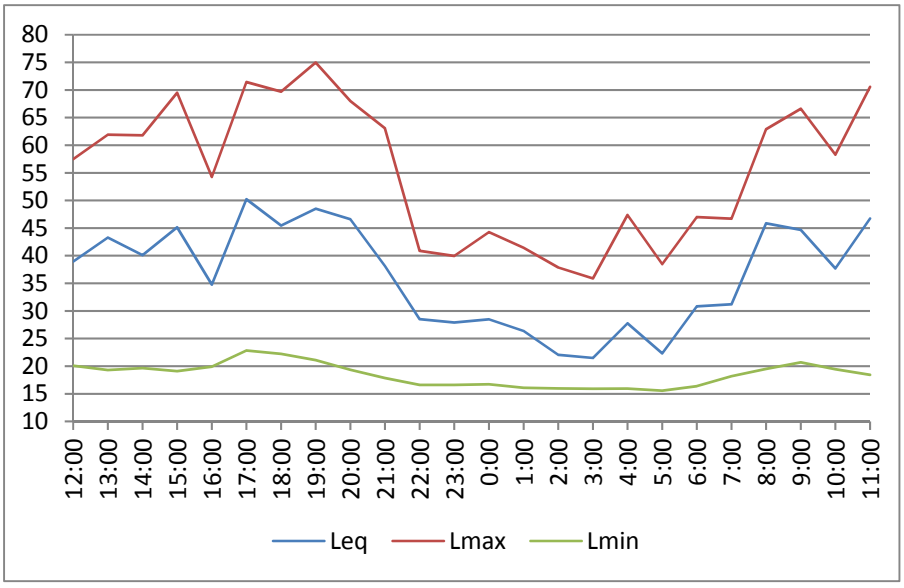


Table B.21 – Monitoring Position N74HT003, Second 24 hours (Start 08/25/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
11:00[1]	47	71	18	54	50	44
12:00	49	74	18	54	49	40
13:00	40	60	18	54	47	38
14:00	42	66	18	52	44	32
15:00	38	56	17	52	44	31
16:00	40	59	18	50	42	29
17:00	41	62	18	49	41	31
18:00	43	65	17	50	37	25
19:00	38	63	17	49	35	24
20:00	42	65	17	45	27	21
21:00	28	40	17	37	22	20
22:00	32	51	16	40	22	20
23:00	37	55	20	38	23	20
0:00	35	45	27	39	26	21
1:00	36	46	32	44	31	21
2:00	35	45	30	48	34	24
3:00	41	48	35	47	39	25
4:00	42	50	35	51	41	31
5:00	40	45	36	52	46	34
6:00	40	49	31	53	46	37
7:00	46	50	40	53	48	40
8:00	49	53	47	53	48	39
9:00	46	52	35	55	50	41
10:00	34	44	28	54	49	42

1. Where 48 hours of continuous noise level monitoring were precluded at a location by field conditions, collected data from hours occurring on the later portion of the preceding day of monitoring were used to fulfill the hourly data deficiencies in the subsequent day of monitoring.

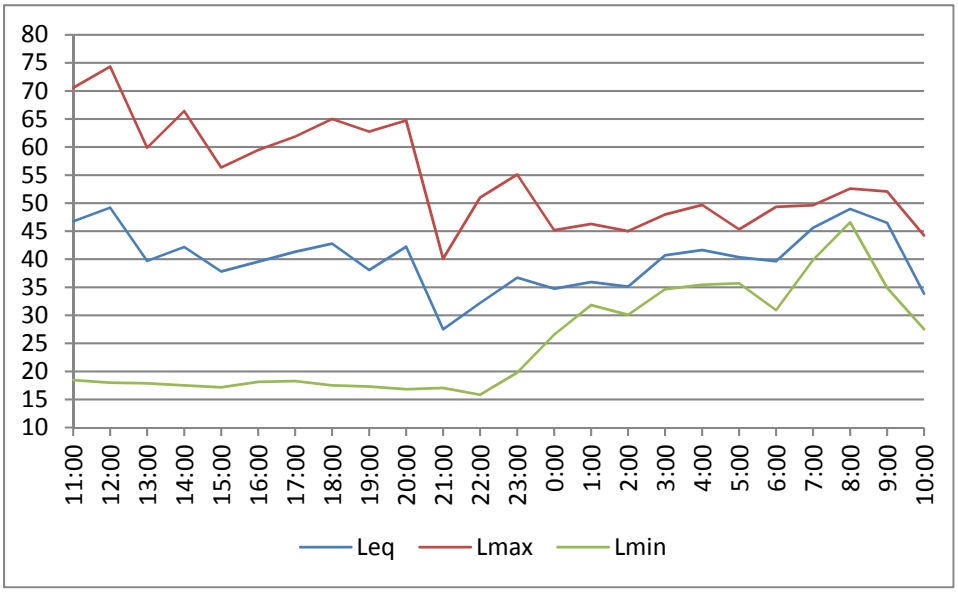


Table B.22 – Monitoring Position N74TI001, First 24 hours (Start 08/21/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
16:00	49	61	20	53	46	33
17:00	50	61	29	54	47	38
18:00	50	60	30	54	48	38
19:00	50	61	27	53	47	34
20:00	49	59	26	53	46	32
21:00	46	61	22	50	42	30
22:00	48	62	19	52	44	31
23:00	47	60	23	51	41	33
0:00	44	59	22	47	35	27
1:00	44	57	20	47	32	24
2:00	44	64	21	45	27	23
3:00	44	64	20	47	27	22
4:00	45	59	21	49	31	24
5:00	45	61	22	47	32	27
6:00	46	59	25	50	38	30
7:00	47	61	27	51	39	30
8:00	48	59	25	53	44	34
9:00	49	61	29	53	46	36
10:00	47	58	28	51	45	34
11:00	50	60	29	53	48	39
12:00	50	59	30	54	49	41
13:00	51	67	35	54	50	43
14:00	51	62	35	53	49	44
15:00	51	59	36	55	50	43

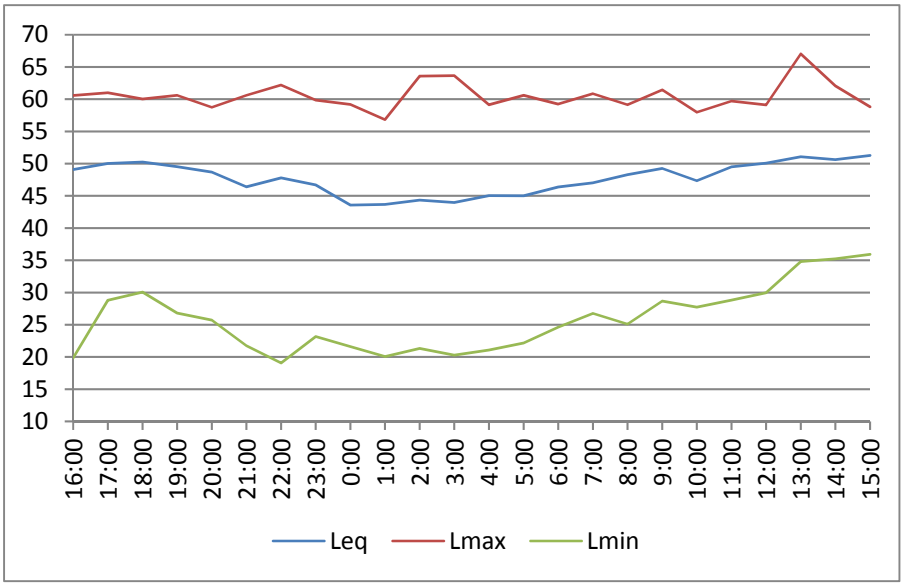


Table B.23 – Monitoring Position N74TI001, Second 24 hours (Start 08/22/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
16:00	51	59	35	54	50	44
17:00	51	69	31	54	49	40
18:00	50	61	32	54	47	38
19:00	48	61	23	52	44	32
20:00	48	60	23	52	44	31
21:00	46	59	22	50	42	29
22:00	45	57	24	49	41	31
23:00	46	59	20	50	37	25
0:00	45	58	19	49	35	24
1:00	43	61	19	45	27	21
2:00	38	54	18	37	22	20
3:00	42	59	18	40	22	20
4:00	41	62	19	38	23	20
5:00	39	54	18	39	26	21
6:00	42	55	19	44	31	21
7:00	43	58	19	48	34	24
8:00	45	57	20	47	39	25
9:00	47	60	21	51	41	31
10:00	48	59	26	52	46	34
11:00	49	58	27	53	46	37
12:00	50	58	33	53	48	40
13:00	50	61	29	53	48	39
14:00	52	67	33	55	50	41
15:00	50	58	33	54	49	42

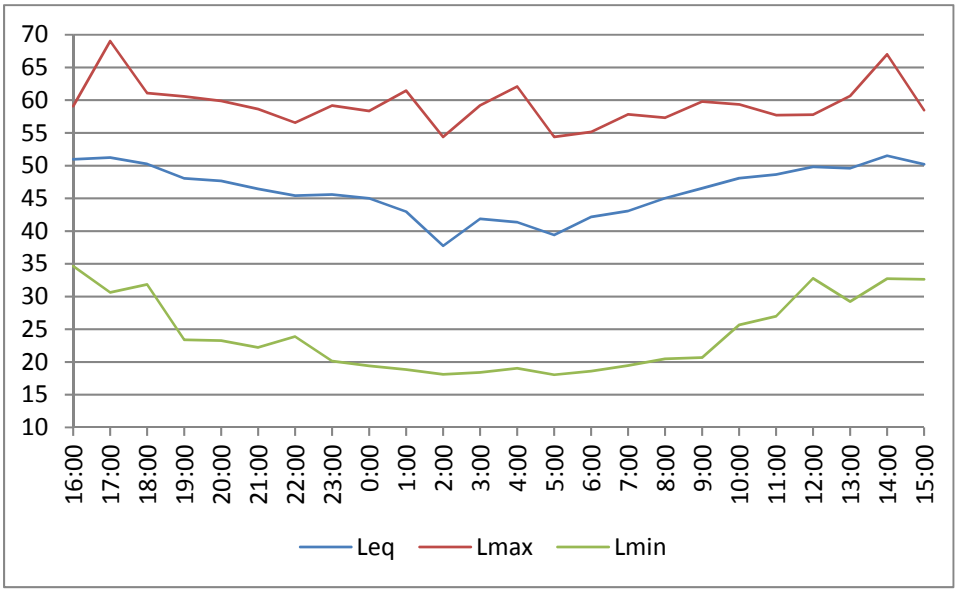


Table B.24 – Monitoring Position N74TI002, First 24 hours (Start 08/24/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
14:00	43	60	39	44	40	40
15:00	42	58	39	43	40	40
16:00	41	54	39	42	41	40
17:00	43	59	39	44	41	40
18:00	46	70	40	42	40	40
19:00	41	52	40	42	41	40
20:00	41	50	40	42	41	40
21:00	41	45	40	41	41	40
22:00	41	42	40	41	41	41
23:00	41	41	40	41	41	41
0:00	41	44	40	41	41	41
1:00	40	42	40	41	40	40
2:00	40	41	40	41	40	40
3:00	42	60	40	42	40	40
4:00	41	51	40	41	40	40
5:00	40	48	40	41	40	40
6:00	42	56	40	42	40	40
7:00	44	60	40	44	40	40
8:00	41	56	39	41	40	40
9:00	46	62	39	45	40	40
10:00	44	62	39	44	40	40
11:00	44	58	39	43	41	40
12:00	45	66	39	47	41	39
13:00	42	57	39	44	40	39

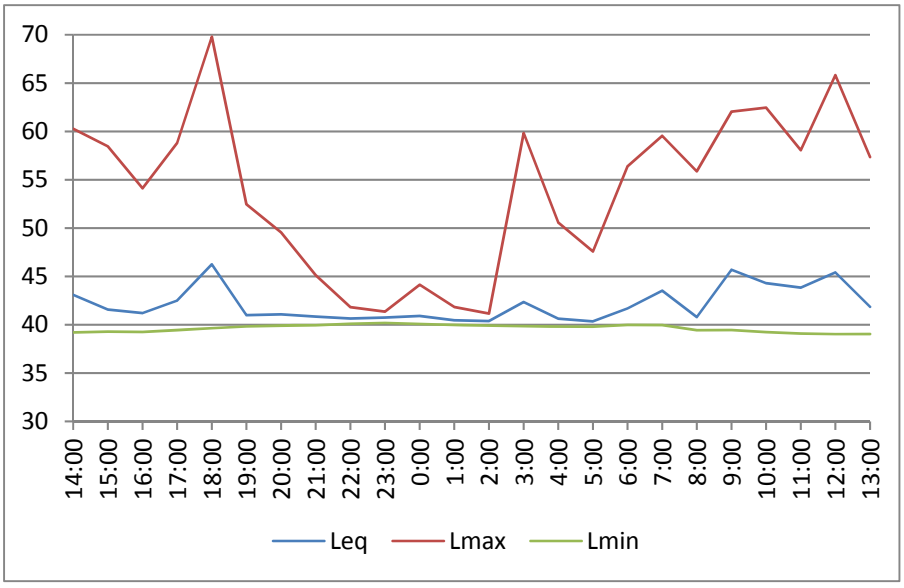


Table B.25 – Monitoring Position N74LH002, Second 24 hours (Start 08/25/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
13:00[1]	42	57	39	44	40	39
14:00	40	53	39	41	39	39
15:00	41	59	39	41	40	39
16:00	42	56	39	43	40	40
17:00	44	63	39	44	40	40
18:00	43	58	39	44	40	40
19:00	42	59	39	41	40	40
20:00	41	55	40	41	40	40
21:00	42	57	40	43	40	40
22:00	41	57	40	41	40	40
23:00	40	41	39	40	40	40
0:00	41	53	40	41	41	40
1:00	41	46	40	42	41	41
2:00	43	58	40	43	41	41
3:00	41	50	40	42	41	41
4:00	42	47	41	43	42	41
5:00	44	55	41	45	44	43
6:00	44	56	41	46	43	42
7:00	46	62	42	48	44	43
8:00	47	61	42	49	46	44
9:00	47	60	43	49	46	44
10:00	46	61	41	48	44	43
11:00	46	58	40	47	44	42
12:00	46	60	40	47	44	42

1. Where 48 hours of continuous noise level monitoring were precluded at a location by field conditions, collected data from hours occurring on the later portion of the preceding day of monitoring were used to fulfill the hourly data deficiencies in the subsequent day of monitoring.

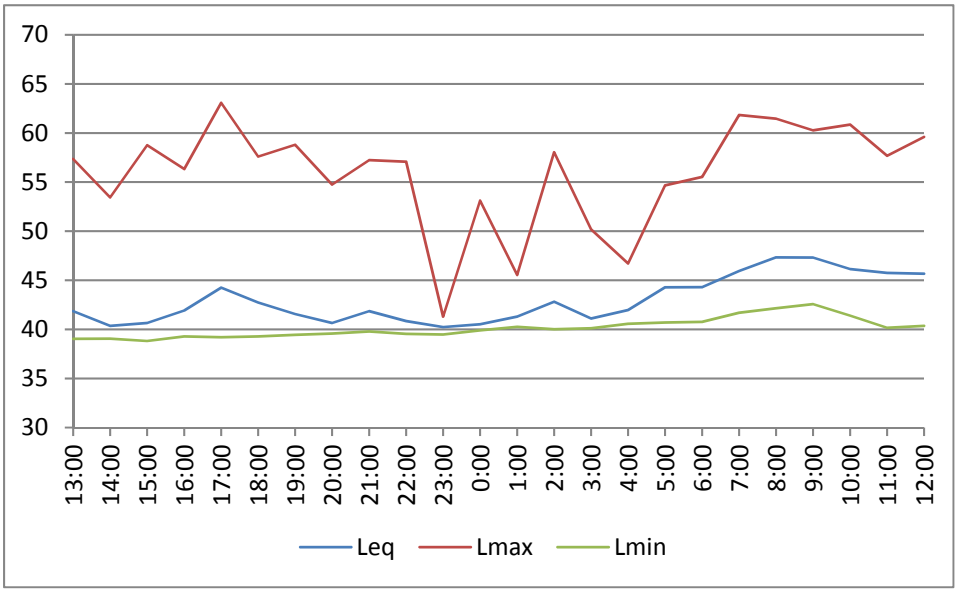


Table B.26 – Monitoring Position N74TI003, First 24 hours (Start 08/27/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
13:00	51	75	24	41	32	29
14:00	40	60	23	38	30	26
15:00	51	75	25	46	38	32
16:00	47	59	31	50	44	38
17:00	53	70	30	54	47	40
18:00	59	79	38	62	53	48
19:00	57	70	42	60	54	49
20:00	59	76	41	62	54	49
21:00	54	68	37	56	49	44
22:00	47	61	32	50	44	38
23:00	44	61	31	47	41	36
0:00	36	50	22	37	32	28
1:00	30	47	20	32	26	24
2:00	31	40	23	34	30	27
3:00	36	50	23	36	32	29
4:00	36	55	22	35	28	25
5:00	31	45	23	31	28	26
6:00	31	48	21	32	26	24
7:00	37	54	21	36	28	25
8:00	37	55	23	37	28	26
9:00	45	71	25	42	33	29
10:00	49	71	27	48	39	33
11:00	50	67	34	53	47	41
12:00	51	73	37	53	47	42

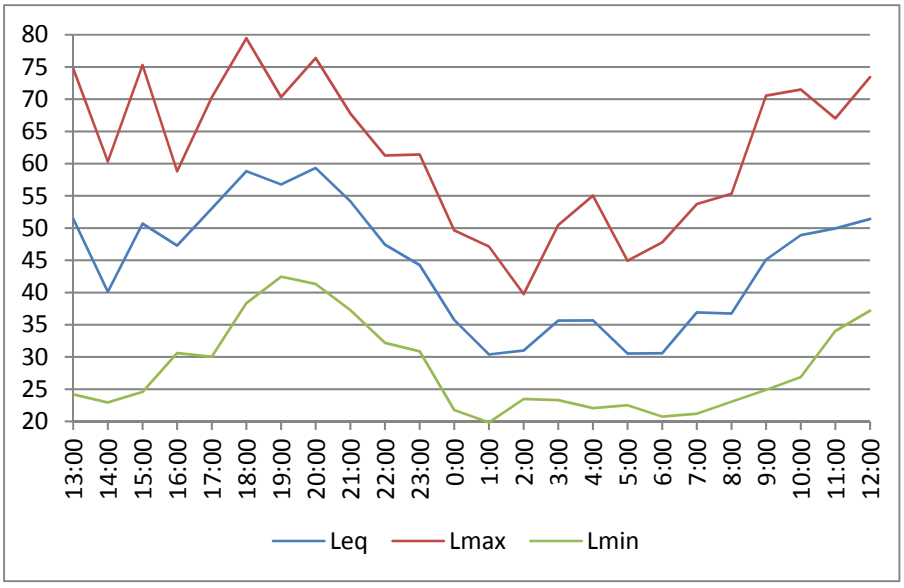


Table B.27 – Monitoring Position N74TI003, Second 24 hours (Start 08/28/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
13:00	51	71	34	54	47	41
14:00	53	65	40	56	51	46
15:00	53	66	37	57	49	42
16:00	53	73	36	55	49	42
17:00	46	64	32	49	43	38
18:00	48	67	31	50	42	36
19:00	47	61	33	51	43	38
20:00	47	68	34	50	43	39
21:00	45	66	32	46	41	37
22:00	36	48	27	39	34	31
23:00	33	44	25	36	31	29
0:00	31	46	23	34	29	27
1:00	34	46	24	35	31	28
2:00	37	52	28	41	34	30
3:00	35	48	27	38	33	30
4:00	33	50	25	35	31	28
5:00	30	40	23	32	29	27
6:00	32	49	22	32	26	24
7:00	34	59	22	34	28	26
8:00	48	73	26	40	33	29
9:00	41	62	25	43	31	28
10:00	35	53	24	36	29	27
11:00	42	66	22	41	30	26
12:00	46	65	23	45	35	29

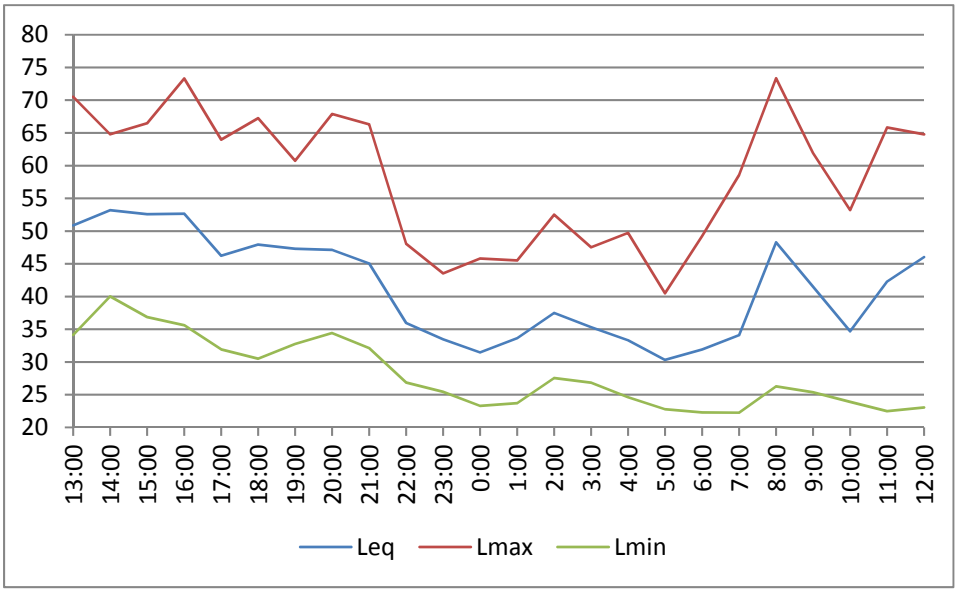


Table B.28 – Monitoring Position N74TI004, First 24 hours (Start 08/27/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
14:00	42	66	25	41	33	29
15:00	54	75	25	49	40	35
16:00	47	61	36	49	45	41
17:00	53	66	33	53	48	43
18:00	59	70	42	61	56	51
19:00	56	66	44	59	53	49
20:00	57	67	44	59	54	51
21:00	52	63	38	52	48	45
22:00	47	62	37	50	45	41
23:00	44	62	32	46	42	39
0:00	35	49	22	36	32	28
1:00	31	47	20	32	28	25
2:00	32	49	25	33	31	28
3:00	35	44	25	37	34	31
4:00	36	54	22	36	29	27
5:00	31	43	22	31	28	25
6:00	29	45	22	31	26	25
7:00	35	54	24	35	29	26
8:00	35	56	25	35	29	27
9:00	44	69	28	42	35	31
10:00	49	74	34	48	43	37
11:00	50	67	40	52	47	43
12:00	50	72	40	52	47	43
13:00	49	64	38	52	47	42

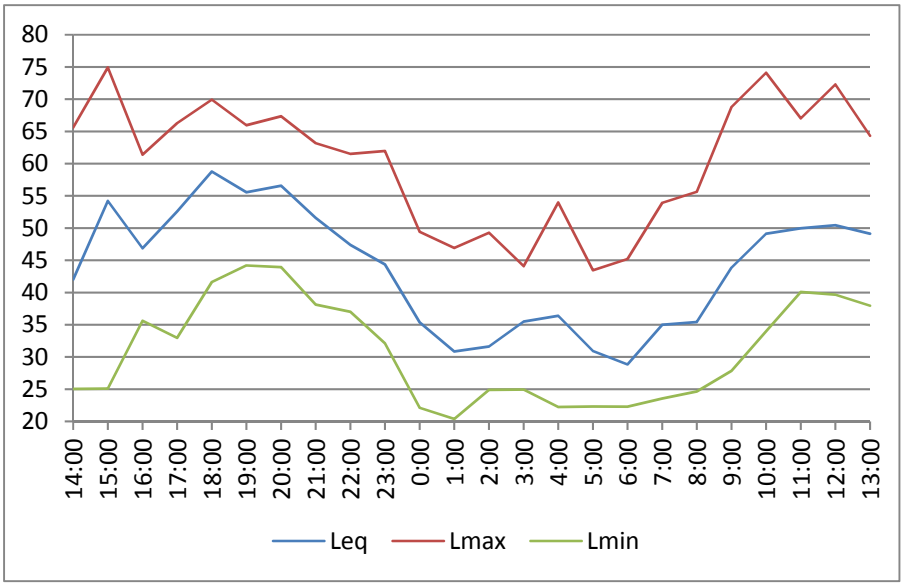


Table B.29 – Monitoring Position N74TI004, Second 24 hours (Start 08/28/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
0:00[1]	35	49	22	36	32	28
1:00[1]	31	47	20	32	28	25
2:00[1]	32	49	25	33	31	28
3:00[1]	35	44	25	37	34	31
4:00[1]	36	54	22	36	29	27
5:00[1]	31	43	22	31	28	25
6:00[1]	29	45	22	31	26	25
7:00[1]	35	54	24	35	29	26
8:00[1]	35	56	25	35	29	27
9:00[1]	44	69	28	42	35	31
10:00[1]	49	74	34	48	43	37
11:00[1]	50	67	40	52	47	43
12:00[1]	50	72	40	52	47	43
13:00	49	64	38	52	47	42
14:00	51	63	42	54	50	47
15:00	51	68	39	54	49	44
16:00	51	71	41	53	49	45
17:00	46	64	34	48	43	39
18:00	49	72	32	47	42	38
19:00	47	62	35	50	45	41
20:00	46	68	36	47	43	41
21:00	46	69	33	44	41	38
22:00	35	46	29	37	34	32
23:00	35	43	29	37	34	32

1. Where 48 hours of continuous noise level monitoring were precluded at a location by field conditions, collected data from hours occurring on the later portion of the preceding day of monitoring were used to fulfill the hourly data deficiencies in the subsequent day of monitoring.

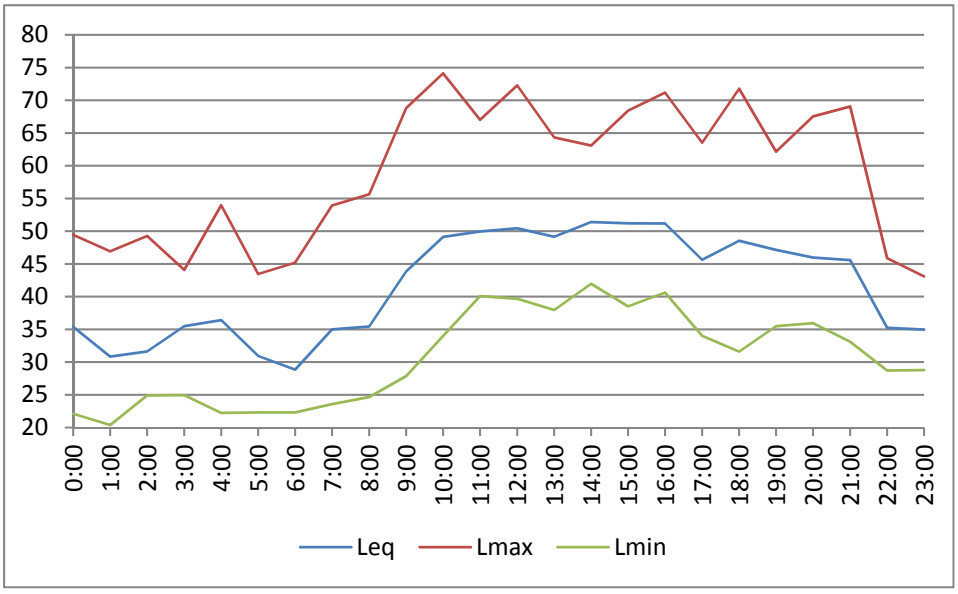


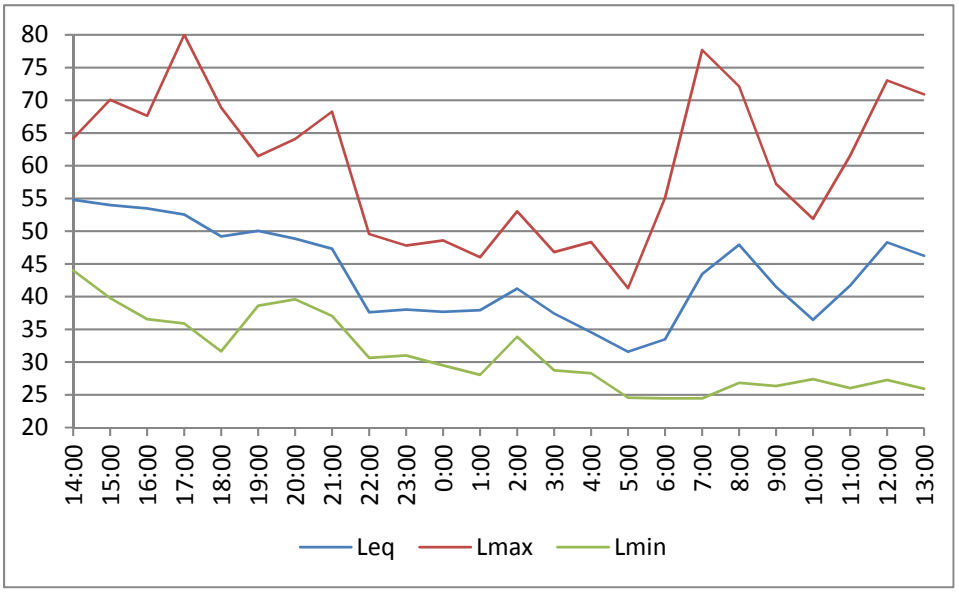
Table B.30 – Monitoring Position N74TI005, First 24 hours (Start 08/27/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
15:00	56	81	25	51	42	37
16:00	49	61	37	52	47	43
17:00	56	71	34	55	50	45
18:00	61	73	44	64	58	53
19:00	58	71	46	62	56	50
20:00	60	72	43	63	57	52
21:00	54	68	40	55	50	46
22:00	50	63	38	52	47	43
23:00	46	61	34	48	44	41
0:00	38	50	23	41	35	31
1:00	35	49	22	37	32	28
2:00	35	43	27	38	35	32
3:00	39	49	26	41	37	33
4:00	39	56	23	38	31	29
5:00	37	54	23	35	31	28
6:00	30	44	23	33	28	26
7:00	35	53	25	35	30	27
8:00	37	52	27	39	33	30
9:00	45	69	29	45	38	34
10:00	51	75	35	52	46	41
11:00	52	70	41	56	50	45
12:00	52	72	41	54	50	45
13:00	51	63	39	55	49	44
14:00	55	64	44	58	53	48

Table B.31 – Monitoring Position N74TI005, Second 24 hours (Start 08/28/15)

Hour Start Time (hh:mm)	A-weighted SPL Metric or Statistical Value					
	L_{eq}	L_{max}	L_{min}	L_{10}	L_{50}	L_{90}
14:00[1]	55	64	44	58	53	48
15:00	54	70	40	56	51	46
16:00	53	68	37	57	51	46
17:00	53	80	36	52	46	41
18:00	49	69	32	50	45	39
19:00	50	61	39	53	48	44
20:00	49	64	40	52	47	43
21:00	47	68	37	48	44	41
22:00	38	50	31	40	37	34
23:00	38	48	31	40	37	34
0:00	38	49	30	40	36	34
1:00	38	46	28	40	36	34
2:00	41	53	34	44	40	37
3:00	37	47	29	39	36	34
4:00	35	48	28	37	33	31
5:00	32	41	25	34	31	29
6:00	33	55	24	33	29	27
7:00	43	78	24	35	30	27
8:00	48	72	27	40	33	29
9:00	42	57	26	44	33	30
10:00	36	52	27	38	32	30
11:00	42	62	26	43	34	30
12:00	48	73	27	46	36	31
13:00	46	71	26	44	36	32

1. Where 48 hours of continuous noise level monitoring were precluded at a location by field conditions, collected data from hours occurring on the later portion of the preceding day of monitoring were used to fulfill the hourly data deficiencies in the subsequent day of monitoring.



APPENDIX C – FIELD SURVEY NOTATION SHEETS

Appendix C_FieldSurveyNotatic

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: AK LNG Project #: Date: 5/22/15 Page of

Monitoring Location: MGP LT 1 N74AY001 (NSA 410) Analyst: CK, DJ

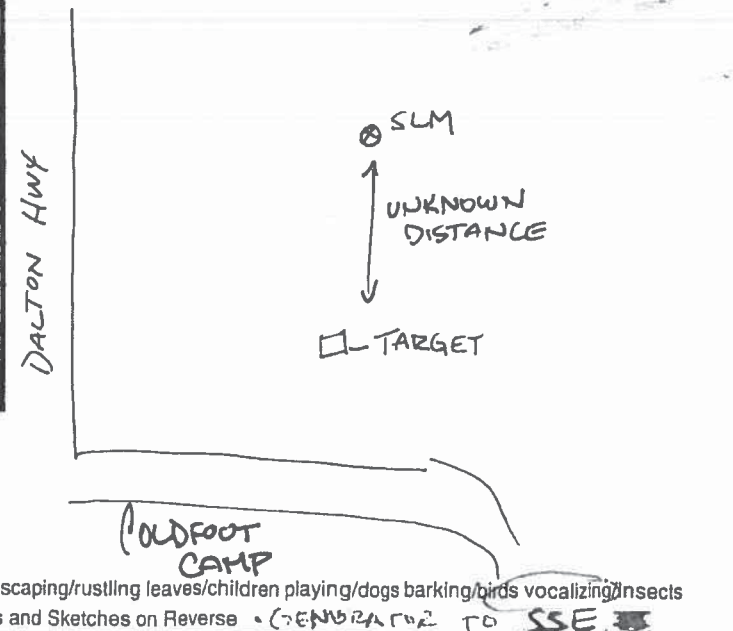
Sound Level Meter	Field Calibration	Weather Data
Model #: 831	Model #: CAL 200	Model #: N/A
Serial #: 3221	Serial #: 11087	Serial #:
Weighting: (A) / C / Flat	Calibration Level (dBA): 94 / (114)	Wind: Steady/Gusty/(Calm)
Response: (Slow) / Fast / Impl	Pre-Test -0.08 dBA	Precipitation: Yes (explain) / (No)
Windscreen : (Yes) / No (explain)	Post-Test 0.06 dBA	Avg Wind Speed/Direction: -0-
Topo: (Flat) / Hilly	GPS Coordinates (at SLM location)#	Temp (°F): 64 RH (%):
Terrain: Hard/(Soft)/Mixed/Snow		Bar Psr (Hg): Cloud Cover (%): 20

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	8:30								(5/22/15)
	8:45	9:15							BATTERY/MEM. CHECK & DATA D/L (5/23/15)
		8:30							(5/24/15)

Roadway Name/Dir		
Speed (post/obs)*		
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? (Yes)/No

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/insects

Additional Notes and Sketches on Reverse • GENERATOR TO SSE

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: AK LNG - MGP Project #:* Date: 8/16/15 Page 1 of 1
Monitoring Location: PARCEL 110, N74AY002, MGP LT 5 Analyst: CK, DJ

Sound Level Meter
Model #: LD 831
Serial #: 3327
Weighting: (A) / C / Flat
Response: (S)low / Fast / Impl
Windscreen : (Yes) / No (explain)

Field Calibration
Model #: CAL200
Serial #: 11082
Calibration Level (dBA): 94 / (114)
Pre-Test +.34 dBA
Post-Test -.22 dBA

Weather Data
Model #: KESTREL 3500
Serial #: 2058303
Wind: Steady/(Gusty)/Calm
Precipitation: Yes (explain) / (No)
Avg Wind Speed/Direction: 2-6/SW
Temp (°F): 59.5 RH (%): 76.3
Bar Psr (Hg): 1003.5 Cloud Cover (%): 100

Topo: (Flat) / Hilly
Terrain: Hard/(Soft)/Mixed/Snow

GPS Coordinates (at SLM location)#

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	13:00	13:00							

Roadway Name/Dir		
Speed (post/obs)*		
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/(No)

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects
Additional Notes and Sketches on Reverse

FIELD NOISE MEASUREMENT DATA FORM

Project Name: ALASKA LNG Project #: Date: 5/26/15 Page of

Monitoring Location: MGP LT 2 N74LH001 NSA00010 Analyst: CK, DJ

Sound Level Meter		Field Calibration		Weather Data	
Model #:	831	Model #:	CAL200	Model #:	N/A
Serial #:	3221	Serial #:	11087	Serial #:	
Weighting: A / C / Flat		Calibration Level (dBA):	94 (114)	Wind: Steady/Gusty/Calm	
Response: Slow / Fast / Impl		Pre-Test	+0.08 dBA	Precipitation: Yes (explain)	No
Windscreen : Yes / No (explain)		Post-Test	-0.02 dBA	Avg Wind Speed/Direction:	
Topo: Flat / Hilly		GPS Coordinates (at SLM location)#		Temp (°F):	62 RH (%):
Terrain: Hard/Soft/Mixed/Snow		64.977479, 148.679121		Bar Psr (Hg):	Cloud Cover (%): 80%

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	9:45								5/26/15
		10:10							5/28/15

Roadway Name/Dir		
Speed (post/obs)*		
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:

- note coordinate system * Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No

Additional Notes/Comments.

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/insects

Additional Notes and Sketches on Reverse • GENERATOR TO SOUTH

FIELD NOISE MEASUREMENT DATA FORM

Project Name: ALASKA LNG Project #: Date: 5/26/15 Page of

Monitoring Location: MGP LT3 N74LH002 NSA00015A Analyst: CK, DJ

Sound Level Meter	Field Calibration	Weather Data
Model #: 831	Model #: CAL200	Model #: N/A
Serial #: 3558	Serial #: 11087	Serial #:
Weighting (A) / C / Flat ~~LEQ~~	Calibration Level (dBA): 94 / (114)	Wind: Steady/Gusty/(Calm)
Response: (Slow) / Fast / Impl	Pre-Test −0.02 dBA	Precipitation: Yes (explain) / (No)
Windscreen: (Yes) / No (explain)	Post-Test +0.07 dBA	Avg Wind Speed/Direction:
Topo: (Flat) / Hilly	GPS Coordinates (at SLM location)#	Temp (°F): 62 RH (%):
Terrain: Hard/(Soft)/Mixed/Snow		Bar Psr (Hg): Cloud Cover (%): 80%

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	9:45								5/26/15
	~~[illegible]~~	10:10							5/28/15

Roadway Name/Dir		
Speed (post/obs)*		
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? (Yes)/No

Additional Notes/Comments.

Other Noise Sources: distant aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/(birds vocalizing)/insects

Additional Notes and Sketches on Reverse . GENERATOR TO NORTH

FIELD NOISE MEASUREMENT DATA FORM

Project Name: ALASKA LNG Project #: Date: 5/26/15 Page of

Monitoring Location: MGP-LT 4 N74003 LH NSA216 Analyst: CK, DS

Sound Level Meter	Field Calibration	Weather Data
Model #: 831	Model #: CAL200	Model #: N/A
Serial #: 3651	Serial #: 11087	Serial #:
Weighting: (A) / C / Flat	Calibration Level (dBA): 94 / (114)	Wind: Steady/Gusty/(Calm)
Response: (Slow) / Fast / Impl	Pre-Test +0.01 dBA	Precipitation: Yes (explain) / (No)
Windscreen : (Yes) / No (explain)	Post-Test +0.11 dBA	Avg Wind Speed/Direction: 0-1 MPH (NW)
Topo: (Flat) / Hilly	GPS Coordinates (at SLM location)*	Temp (°F): 67 RH (%):
Terrain: Hard/(Soft)/Mixed/Snow	64.577757, 149.121194	Bar Psr (Hg): Cloud Cover (%): 30%

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	14:15	[illegible]							5/26/15
	13:10	13:20							5/27/15 - REMOVE INTERVAL
	13:40	[illegible]	14:10						5/27/15 - REMOVE INTERVAL
	22:00	22:10							5/27/15 - REMOVE INT.
	-	10:45							5/30/15

Roadway Name/Dir		
Speed (post/obs)*		
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? (Yes)/No

Additional Notes/Comments:

Other Noise Sources: distant: (aircraft) (roadway traffic) trains/landscaping/rustling leaves/children playing/dogs barking/(birds vocalizing)/insects

Additional Notes and Sketches on Reverse BOAT PASSBY [illegible] CLOSEST PASS-BY 1 PER HR

FIELD NOISE MEASUREMENT DATA FORM

Project Name: ALASKA LNG Project #: Date: 5/27/15 Page of

Monitoring Location: ST NIGHT MGP LT 4 N74LH003 , Analyst: CK, DJ

Sound Level Meter		Field Calibration		Weather Data	
Model #:	831	Model #:	CAL200	Model #:	N/A
Serial #:	3219	Serial #:	11087	Serial #:	
Weighting: A / C / Flat		Calibration Level (dBA):	94 / (114)	Wind: Steady/Gusty/Calm	
Response: Slow / Fast / Impl		Pre-Test	+0.05 dBA	Precipitation: Yes (explain) / No	
Windscreen : Yes / No (explain)		Post-Test	-0.06 dBA	Avg Wind Speed/Direction:	0
Topo: Flat / Hilly		GPS Coordinates (at SLM location)#		Temp (°F):	66 RH (%):
Terrain: Hard/Soft/Mixed/Snow		64.577757, 149.121914		Bar Psr (Hg):	Cloud Cover (%): 10%

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
NIGHT	22:10	22:30							

Roadway Name/Dir		
Speed (post/obs)*		
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:

SEE LT-4 NENANA DATA SHEET

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes / No

Additional Notes/Comments.

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/insects

Additional Notes and Sketches on Reverse

FIELD NOISE MEASUREMENT DATA FORM

Project Name: ALASKA LNG Project #: _____ Date: 5/27/15 Page _____ of _____

Monitoring Location: ST-DAY MGR LT 4 N7444003 Analyst: CK, DJ

Sound Level Meter		Field Calibration		Weather Data	
Model #:	831	Model #:	CAL200	Model #:	N/A
Serial #:	3219	Serial #:	11087	Serial #:	
Weighting: (A) / C / Flat		Calibration Level (dBA):	94 / (114)	Wind: Steady/Gusty/(Calm)	
Response: (Slow) / Fast / Impl		Pre-Test	-0.25 dBA	Precipitation: Yes (explain) / (No)	
Windscreen (Yes) / No (explain)		Post-Test	+0.05 dBA	Avg Wind Speed/Direction:	0
Topo: (Flat) / Hilly		GPS Coordinates (at SLM location)#		Temp (°F):	71 RH (%):
Terrain: Hard/(Soft)/Mixed/Snow		64.577157, 149.121194		Bar Psr (Hg):	Cloud Cover (%): 0 (CLEAR)

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
DAY	13:20	13:40							
~~NIGHT~~									

Roadway Name/Dir		
Speed (post/obs)*		
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:

SEE LT-4 NENANA DATA SHEET

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? (Yes)/No

Additional Notes/Comments.

Other Noise Sources: distant/(distant) roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/(birds vocalizing)/insects

Additional Notes and Sketches on Reverse

AECOM Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Project Name: AK LNG - MGP Project #: _____ Date: 8/18/15 Page 1 of 1

Monitoring Location: N74LH094, MGP LT 6 - NENANA Analyst: CK, DS

Sound Level Meter	Field Calibration	Weather Data
Model #: LD 831	Model #: CAL200	Model #: KESTREL 3500
Serial #: 3327	Serial #: 11082	Serial #: 2058303
Weighting: (A) / C / Flat	Calibration Level (dBA): 94 / (114)	Wind: Steady/Gusty/(Calm)
Response: (Slow) / Fast / Impl	Pre-Test -0.22 dBA	Precipitation: Yes (explain) / (No)
Windscreen : (Yes) / No (explain)	Post-Test -0.02 dBA	Avg Wind Speed/Direction: 0/NA
Topo: (Flat) / Hilly	GPS Coordinates (at SLM location)#	Temp (°F): 54.1 RH (%): 82.1
Terrain: Hard/(Soft)/Mixed/Snow		Bar Psr (Hg): 1007.5 HPa Cloud Cover (%): 95%

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	~~XXXXX~~								
	19:00	19:00							

Roadway Name/Dir		
Speed (post/obs)*		
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:

SEE ST DATA FORM

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? (Yes)/No

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: AK LNG MGP Project #: Date: 8/19/15 Page 1 of 1
Monitoring Location: MGP-LT6 ST- DAY - NENANA Analyst: DJ/CK

Sound Level Meter
Model #: LD831
Serial #: 3213
Weighting: (A) / C / Flat
Response: (Slow) / Fast / Impl
Windscreen: (Yes) / No (explain)

Field Calibration
Model #: CAL200
Serial #: 11082
Calibration Level (dBA): 94 / (114)
Pre-Test −0.79 dBA
Post-Test −0.05 dBA

Weather Data
Model #: KESTREL 3500
Serial #: 2058303
Wind: Steady/(Gusty)/Calm
Precipitation: Yes (explain) / (No) — INTERMITTENT SPRINKLES BUT DRY ASPHALT
Avg Wind Speed/Direction: 2-8 MPH (VARIES)
Temp (°F): 53.9 RH (%): 72.3
Bar Psr (Hg): 1007.3 (HPa) Cloud Cover (%): 100%

Topo: (Flat) / Hilly
Terrain: Hard/(Soft)/Mixed/Snow

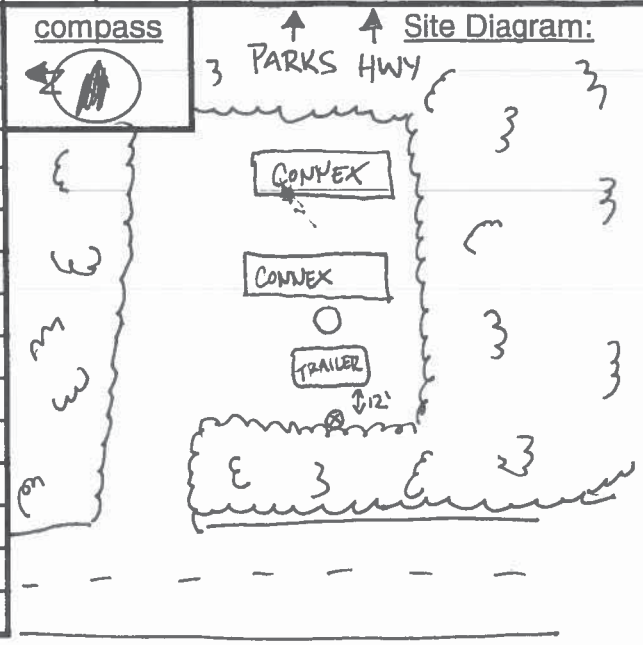
GPS Coordinates (at SLM location)#

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	13:20	13:30							CAR PASSBY ON NENANA (1)
	13:30	13:40							13:33 - FW PASSBY (DISTANT)

Roadway Name/Dir		
Speed (post/obs)*		
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? (Yes)/No

Additional Notes/Comments:

PARKS HWY ~4-10 CARS/MINUTE

Other Noise Sources: distant: aircraft/(roadway) traffic/trains/landscaping/(rustling) leaves/children playing/dogs barking/birds vocalizing/Insects (DOMINANT WHEN NO TRUCK TRAFFIC) (DURING SETUP)

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: AK LNG MGP Project #: _____ Date: 8/18/15 Page 1 of 1
Monitoring Location: MGP LTG. - ST. EVENING/NIGHT Analyst: DT, CK

ST-1ANG

Sound Level Meter
Model #: LD831
Serial #: 3213
Weighting: A / C / Flat
Response: Slow / Fast / Impl
Windscreen : Yes / No (explain)

Field Calibration
Model #: CAL200
Serial #: 11082
Calibration Level (dBA): 94 / 114
Pre-Test -.05 dBA
Post-Test ±.00 dBA

Weather Data
Model #: KESTREL 3500
Serial #: 2058303
Wind: Steady/Gusty/Calm
Precipitation: Yes (explain) / No
Avg Wind Speed/Direction: 0/NA
Temp (°F): 54.1 RH (%): 82.1
Bar Psr (Hg): 1007.5 Cloud Cover (%): 95

Topo: Flat / Hilly
Terrain: Hard/Soft/Mixed/Snow

GPS Coordinates (at SLM location)#

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	~~21:30~~	~~21:40~~							
	21:30	21:40							
	~~21:40~~	~~21:50~~							
	21:40	21:50							
	~~21:50~~	~~22:00~~							
	21:50	22:00							
	~~22:00~~	~~22:10~~							
	22:00	22:10							
	~~22:10~~	~~22:20~~							
	22:10	22:20							

Roadway Name/Dir		
Speed (post/obs)*		
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:

SEE DAYTIME ST DATA FORM

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No

Additional Notes/Comments:

ITEMS BEING MOVED/DROPPED @ CHEVRON STATION TO THE SOUTH. (PALLETS MAYBE?)

10-20/HR

POSSIBLE DISTANT IDLING TRUCK @ GAS STATION

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

HOWLS

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Project Name: AK LNG MGP Project #: _____ Date: 7/31/16 Page 1 of 1

Monitoring Location: N104LH005 - HEALY CS TARGET Analyst: CK

Sound Level Meter
Model #: LD LXT
Serial #: 3786
Weighting: (A) / C / Flat
Response: (Slow) / Fast / Impl
Windscreen : (Yes) / No (explain)

Field Calibration
Model #: CAL200
Serial #: 8048
Calibration Level (dBA): 94 / (114)
Pre-Test .17 dBA
Post-Test -.18 dBA

Weather Data
Model #: K3500
Serial #: 2073924
Wind: Steady/Gusty/(Calm) WAITING FOR DRY ROADS.
Precipitation: (Yes) (explain) / No @16:00 DRY ROADS
Avg Wind Speed/Direction: .2-1 /SE
Temp (°F): 57.7 RH (%): 84.6
Bar Psr (Hg): 28.4 Cloud Cover (%): 100

Topo: Flat / Hilly
Terrain: Hard/(Soft)/Mixed/Snow

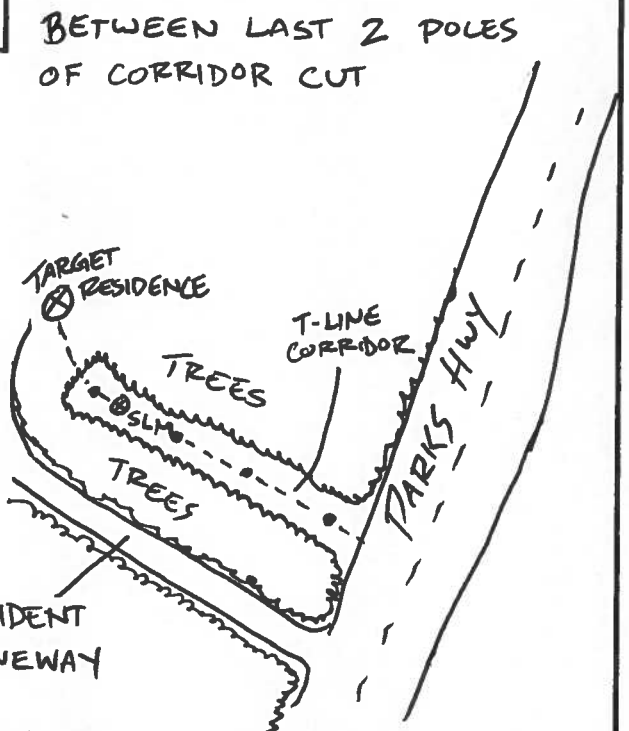
GPS Coordinates (at SLM location)#
63.968615; -149.130248

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	11:03								LONG-TERM DEPLOYMENT
	1600	1600							ROADS OBSERVED TO BE DRY. 1600= START OF MEASUREMENT

Roadway Name/Dir		
Speed (post/obs)*	55-65	55-65
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? (Yes)/No

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Project Name: AK LNG MGP Project #: _____ Date: 8/1/16 Page ___ of ___

Monitoring Location: N104LH005 - ST-DAY Analyst: CK

Sound Level Meter

Model #: LD LXT

Serial #: 4715

Weighting: (A) / C / Flat

Response: Slow / (Fast) / Impl

Windscreen : (Yes) / No (explain)

Field Calibration

Model #: CAL200

Serial #: 8048

Calibration Level (dBA): 94 / (114)

Pre-Test .12 dBA

Post-Test -.17 dBA

Weather Data

Model #: K3500

Serial #: 2073924

Wind: Steady/(Gusty)/Calm

Precipitation: Yes (explain) / (No)

Avg Wind Speed/Direction: 1.1/E

Temp (°F): 65.3 RH (%): 62.8

Bar Psr (Hg): 28.4 Cloud Cover (%): 30

Topo: Flat / (Hilly)

Terrain: Hard/(Soft)/Mixed/Snow

GPS Coordinates (at SLM location)#

SAME

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	10:27	10:47							WIND GUSTS DOMINANT DURING PERIODS OF NO TRAFFIC (RUSTLING LEAVES)
									10:44 - RESIDENT DRIVES UP DRIVEWAY

Roadway Name/Dir		
Speed (post/obs)*		
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:

SEE LT SHEET

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? (Yes)/No

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/(roadway traffic)/trains/(landscaping/rustling leaves)/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice

FIELD NOISE MEASUREMENT DATA FORM

Project Name: AK LNG MGP Project #: _____ Date: 8/1/16 Page ___ of ___

Monitoring Location: N104 LH005 ST-EVENING Analyst: CK

Sound Level Meter

Model #: LD LxT

Serial #: 4715

Weighting: (A) / C / Flat

Response: (Slow) / Fast / Impl

Windscreen : (Yes) / No (explain)

Field Calibration

Model #: CAL200

Serial #: 8048

Calibration Level (dBA): 94 / (114)

Pre-Test .1 dBA

Post-Test -.09 dBA

Weather Data

Model #: K3500

Serial #: 2073924

Wind: Steady/Gusty/(Calm)

Precipitation: Yes (explain) / (No)

Avg Wind Speed/Direction: .7/E

Temp (°F): 63.1 RH (%): 62.9

Bar Psr (Hg): 28.4 Cloud Cover (%): 90

Topo: Flat / (Hilly)

Terrain: Hard/Soft/(Mixed)/Snow

GPS Coordinates (at SLM location)#

SAME

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	19:24	19:44							19:33 RESIDENT DRIVES UP DRIVEWAY.
									19:36 - VEHICLE ON HWY WITH LOUD TIRES - ~~EARLY~~ SPANS INTO 19:37.
									FW FLYOVER (DISTANT) - SAME TIME AS ABOVE EVENT

Roadway Name/Dir			compass
Speed (post/obs)*			
Number of Lanes			
Width (pave/row)			
1- or 2- way			
Grade			
Bus Stops			
Stoplights			
Motorcycles			
Automobiles			
Medium Trucks			
Heavy Trucks			
Buses			
Count duration			

Site Diagram:

SEE LT SHEET

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/(No)

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: AK LNG MGP Project #: _____ Date: 6/21/15 Page 1 of 1

Monitoring Location: PRINCESS LODGE, N74HT001, MGP LT 7 Analyst: DT, CK

Sound Level Meter

Model #: LD 831

Serial #: 3213

Weighting: (A) / C / Flat

Response: (Slow) / Fast / Impl

Windscreen : (Yes) / No (explain)

Field Calibration

Model #: CAL200

Serial #: 11082

Calibration Level (dBA): 94 / (114)

Pre-Test .01 dBA

Post-Test -.12 dBA

Weather Data 2001

Model #: KESTREL 3500

Serial #: 2058303

Wind: Steady/Gusty/(Calm)

Precipitation: Yes (explain) / (No)

Avg Wind Speed/Direction: 0-2/NA

Temp (°F): 59.3 RH (%): 60.8

Bar Psr (Hg): 986.8 Cloud Cover (%): 90

Topo: Flat / (Hilly)

Terrain: Hard/(Soft)/Mixed/Snow

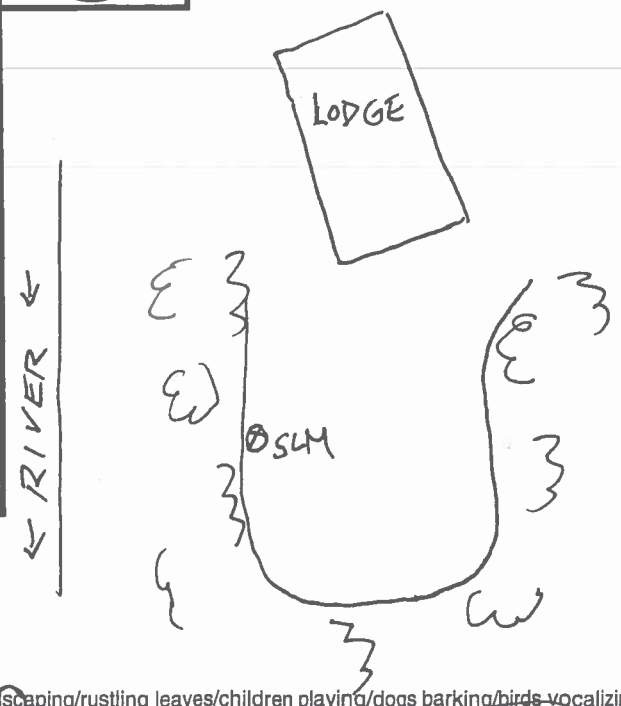
GPS Coordinates (at SLM location)#

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	13:00								

Roadway Name/Dir		
Speed (post/obs)*		
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass (N)

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? (Yes)/No

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

RIVER

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: AK LNG - MGP Project #: _____ Date: 8/21/15 Page ___ of ___

Monitoring Location: N74HT001, MGP LT 7 / ST - EV/NIGHT Analyst: DJ, CK

Sound Level Meter	Field Calibration	Weather Data (EVENING/NIGHT)
Model #: LD 831	Model #: CAL200	Model #: KESTREL 3500
Serial #: S 3218	Serial #: 11082	Serial #: 2058303
Weighting: (A) / C / Flat	Calibration Level (dBA): 94 / (114)	Wind: Steady/Gusty/(Calm)
Response: (Slow) / Fast / Impl	Pre-Test -0.20 dBA	Precipitation: Yes (explain) (No)
Windscreen : (Yes) / No (explain)	Post-Test -0.53 dBA	Avg Wind Speed/Direction: 0-2 MPH
Topo: Flat / (Hilly)	GPS Coordinates (at SLM location)#	Temp (°F): 60.6 RH (%): 75.4
Terrain: Hard/Soft/(Mixed)/Snow		Bar Psr (Hg): 984.5 HPa Cloud Cover (%): 40%

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	21:30	21:40							21:36 - SHUTTLEBUS PASSBY
	21:40	21:50							
	21:50	22:00							21:50-21:54 SHUTTLEBUS PASSBY/IDLING
	22:00	22:10							22:02-22:05 - PEDESTRIAN CONVERSATION
	22:10	22:20							22:08 - CAR HORN
	~~33~~								22:14 - SHUTTLEBUS PASSBY

Roadway Name/Dir			compass
Speed (post/obs)*			
Number of Lanes			
Width (pave/row)			
1- or 2- way			
Grade			
Bus Stops			
Stoplights			
Motorcycles			
Automobiles			
Medium Trucks			
Heavy Trucks			
Buses			
Count duration			

Site Diagram:

SEE LT DATA FORM

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No

Additional Notes/Comments:

- WATER/RIVER

Other Noise Sources: distant: aircraft/(roadway traffic)/trains/landscaping/rustling leaves/children playing/dogs barking/(birds vocalizing)/insects (DISTANT)

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: AK LNG Project #: Date: 8/22/15 Page of

Monitoring Location: N74HT001, MGP-LT7, ST-DAY Analyst: DJ, CK

Sound Level Meter

Model #: LD 831

Serial #: 3327

Weighting: (A) / C / Flat

Response: (Slow) / Fast / Impl

Windscreen : (Yes) / No (explain)

Field Calibration

Model #: CAL200

Serial #: 11082

Calibration Level (dBA): 94 / (114)

Pre-Test +0.01 dBA

Post-Test +0.03 dBA

Weather Data

Model #: KESTREL 3500

Serial #: 2058303

Wind: Steady/Gusty/(Calm)

Precipitation: Yes (explain) / (No)

Avg Wind Speed/Direction: 0-2 MPH

Temp (°F): 58.2 RH (%): 56.2

Bar Psr (Hg): 981.5 Cloud Cover (%): 10%

Topo: Flat / (Hilly)

Terrain: Hard/Soft/(Mixed)/Snow

GPS Coordinates (at SLM location)#

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	HP2 Notes/Events
	11:00	11:10							11:03 – AIRCRAFT FLYOVER
									11:07-11:10 – SHUTTLEBUS PASSBY/IDLING
	11:10	11:20							11:14 – AIRCRAFT FLYOVER
									11:18 – AIRCRAFT FLYOVER
									11:19 – AIRCRAFT FLYOVER
									11:20 – DISTANT TRUCK JAKE BRAKE

Roadway Name/Dir			compass
Speed (post/obs)*			
Number of Lanes			
Width (pave/row)			
1- or 2- way			
Grade			
Bus Stops			
Stoplights			
Motorcycles			
Automobiles			
Medium Trucks			
Heavy Trucks			
Buses			
Count duration			

Site Diagram:

SEE LT DATA FORM

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No

Additional Notes/Comments:

• WATER/RIVER

Other Noise Sources: distant: aircraft/(roadway traffic)/trains/landscaping/(rustling leaves)/children playing/dogs barking/(birds vocalizing)/insects (DISTANT)

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: AK LNG Project #: Date: 8/21/15 Page of
Monitoring Location: N74HT002, DSP MGP LT 8 2 Analyst: CK, DJ

Sound Level Meter
Model #: LD831
Serial #: 3219
Weighting: A / C / Flat
Response: Slow / Fast / Impl
Windscreen : Yes / No (explain)

Field Calibration
Model #: CAL200
Serial #: 11087
Calibration Level (dBA): 94 / 114
Pre-Test -.4 dBA
Post-Test +.23 dBA

Weather Data
Model #: KESTREL 3500
Serial #: 2058303
Wind: Steady/Gusty/Calm
Precipitation: Yes (explain) / No
Avg Wind Speed/Direction: 0/N/A
Temp (°F): 69.8 RH (%): 46.1
Bar Psr (Hg): 29.45.9 Cloud Cover (%): 100

VOID, MOVED SLM, USE ST-EVENING DATA

Topo: Flat / Hilly
Terrain: Hard/Soft/Mixed/Snow

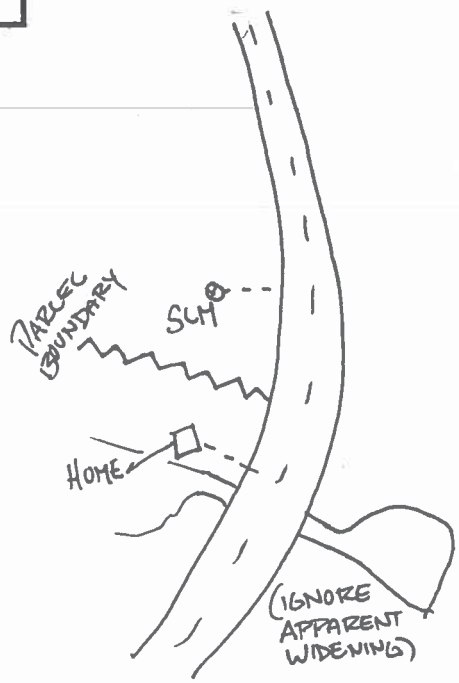
GPS Coordinates (at SLM location)#

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	22:00	14:00							

Roadway Name/Dir		
Speed (post/obs)*		
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass (N)

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No

Additional Notes/Comments:

SEE ST-EVENING

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: AK LNG Project #:* Date: 8/21/15 Page of
Monitoring Location: N74HT002, DSP MGP LT 8, Analyst: CL, DJ

Sound Level Meter
Model #: LD831
Serial #: 3 3219
Weighting: (A) / C / Flat
Response: (Slow) / Fast / Impl
Windscreen : (Yes) / No (explain)

Field Calibration
Model #: CAL200
Serial #: 11087
Calibration Level (dBA): 94 / (114)
Pre-Test -.4 dBA
Post-Test +.23 dBA

Weather Data
Model #: KESTREL 3500
Serial #: 2058303
Wind: Steady/Gusty/(Calm)
Precipitation: Yes (explain) / (No)
Avg Wind Speed/Direction: 0/NA
Temp (°F): 69.8 RH (%): 46.1
Bar Psr (Hg): 965.9 Cloud Cover (%): 100

Topo: (Flat) / Hilly
Terrain: Hard/(Soft)/Mixed/Snow

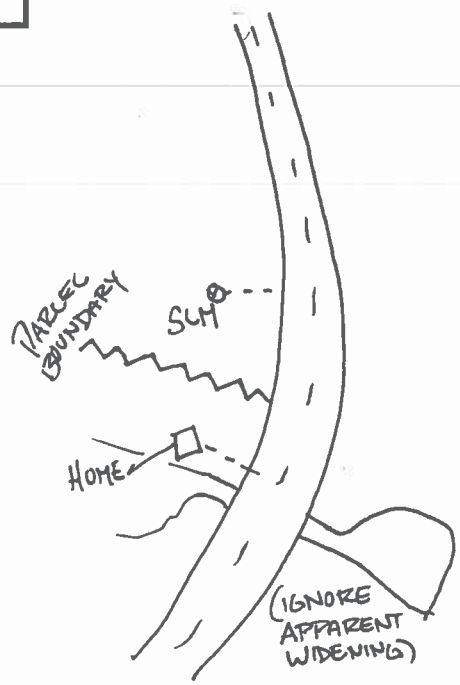
GPS Coordinates (at SLM location)#

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	22:00	14:00							

Roadway Name/Dir		
Speed (post/obs)*		
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass (N)

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation
Photos Taken? (Yes)/No
Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects
Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: AKUNA Project #:* Date: 8/21/15 Page 1 of 1

Monitoring Location: N74HT002 M6P LT 8, ST-EV/NIGHT Analyst:

Sound Level Meter	N74HT002 Field Calibration	NIGHT Weather Data
Model #: LD831	Model #: CAL200	Model #: KESTREL 3500
Serial #: LT1 3327	Serial #: 110 82	Serial #: 2058303
Weighting: (A) C / Flat	Calibration Level (dBA): 94 / 114	Wind: Steady/Gusty/(Calm)
Response: (Slow) / Fast / Impl	Pre-Test +.04 dBA	Precipitation: Yes (explain) / (No)
Windscreen : (Yes) / No (explain)	Post-Test -.08 dBA	Avg Wind Speed/Direction: 0-2
Topo: (Flat) / Hilly	GPS Coordinates (at SLM location)#	Temp (°F): 60.6 RH (%): 75.4
Terrain: (Hard)/Soft/(Mixed)/Snow		Bar Psr (Hg): 984.5 Cloud Cover (%): 40%

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	21:50	22:20							

Roadway Name/Dir		
Speed (post/obs)*		
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:

SEE LT DATA FORM

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? (Yes)/No

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: AK LNG Project #: _____ Date: 8/22/15 Page ___ of

Monitoring Location: N74HT002, MBP LT & ST - Day Analyst: CK, DJ

Sound Level Meter
Model #: LD 831
Serial #: 3327
Weighting: (A) / C / Flat
Response: (Slow) / Fast / Impl
Windscreen : (Yes) / No (explain)

Field Calibration
Model #: CAL200
Serial #: 11082
Calibration Level (dBA): 94 / (114)
Pre-Test +.01 dBA
Post-Test +0.03 dBA

Weather Data
Model #: KESTREL 3500
Serial #: 2058303
Wind: Steady/Gusty/(Calm)
Precipitation: Yes (explain) / (No)
Avg Wind Speed/Direction: 0-2 MPH
Temp (°F): 58.2 RH (%): 56.2
Bar Psr (Hg): 981.5 Cloud Cover (%): 10%

Topo: Flat / Hilly
Terrain: Hard/Soft/Mixed/Snow

GPS Coordinates (at SLM location)#

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	11:53	12:03							AIRCRAFT - 11:53 THRU 11:57
	12:03	12:13							AIRCRAFT - 12:04 THRU 12:08

Roadway Name/Dir		
Speed (post/obs)*		
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:

SEE LT DATA FORM

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? (Yes)/No

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: AKLNG Project #:* Date: 8/24/15 Page 1 of 1
Monitoring Location: N74HT003, MGP LT 10. Analyst: CK, DJ

Sound Level Meter		Field Calibration		Weather Data	
Model #:	LD 831	Model #:	CAL200	Model #:	KESTREL3500
Serial #: LT 1	3327	Serial #:	110682	Serial #:	2058303
Weighting: A / C / Flat		Calibration Level (dBA):	94 / 114	Wind: Steady/Gusty/Calm	
Response: Slow / Fast / Impl		Pre-Test	+.11 dBA	Precipitation: Yes (explain) / No	
Windscreen : Yes / No (explain)		Post-Test	-0.03 dBA	Avg Wind Speed/Direction:	0
Topo: Flat / Hilly		GPS Coordinates (at SLM location)#		Temp (°F):	68.4 RH (%): 52.9
Terrain: Hard/Soft/Mixed/Snow				Bar Psr (Hg): 29.9 Cloud Cover (%):	0

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	11:30								

Roadway Name/Dir		
Speed (post/obs)*		
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: AK LNG Project #: _____ Date: 8/21/15 Page 1 of 1
Monitoring Location: N74TI001, M6P LT 9 Analyst: CK, DT

Sound Level Meter
Model #: UD831
Serial #: 3559
Weighting: A / C / Flat
Response: Slow / Fast / Impl
Windscreen : Yes / No (explain)

Field Calibration NSA-1888
Model #: CAL200
Serial #: 11062
Calibration Level (dBA): 94 / 114
Pre-Test -.15 dBA
Post-Test -.00 dBA

Weather Data
Model #: KESTREL 3500
Serial #: 2058303
Wind: Steady/Gusty/Calm
Precipitation: Yes (explain) / No
Avg Wind Speed/Direction: 0 MPH
Temp (°F): 69.8 RH (%): 46.1
Bar Psr (Hg): 9859 Cloud Cover (%): 100%

Topo: Flat / Hilly
Terrain: Hard/Soft/Mixed/Snow

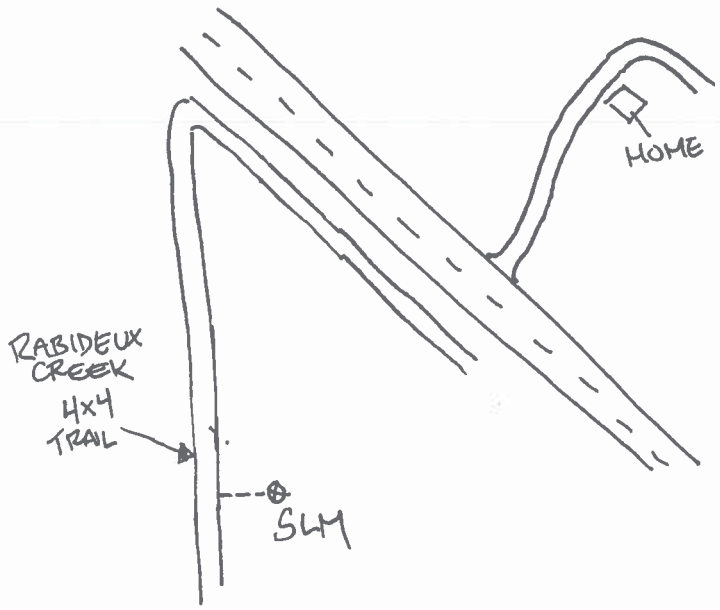
GPS Coordinates (at SLM location)#

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	16:00	16:00							

Roadway Name/Dir		
Speed (post/obs)*		
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation
Photos Taken? Yes/No
Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects
Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: ARLNGMGP Project #: _____ Date: 8/22/15 Page ___ of

Monitoring Location: N74TI001 MGP LT 9 ST, DAY Analyst: DT CK

Sound Level Meter		Field Calibration		Weather Data	
Model #:	LD 831	Model #:	CAL 200	Model #:	KESTREL 3500
Serial #: LT1	3327	Serial #:	11062	Serial #:	2058303
Weighting: (A) / C / Flat		Calibration Level (dBA):	94 / (114)	Wind: Steady/Gusty/(Calm)	
Response: (Slow) / Fast / Impl		Pre-Test	+.01 dBA	Precipitation: Yes (explain) / (No)	
Windscreen : (Yes) / No (explain)		Post-Test	+.03 dBA	Avg Wind Speed/Direction:	0-2 MPH
Topo: Flat / (Hilly)		GPS Coordinates (at SLM location)#		Temp (°F):	58.2 RH (%): 56.2
Terrain: (Hard)/Soft/Mixed/Snow				Bar Psr (Hg): 981.5 HPa	Cloud Cover (%): 10%

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	13:05	13:15							
	13:15	13:25							

Roadway Name/Dir			compass
Speed (post/obs)*			
Number of Lanes			
Width (pave/row)			
1- or 2- way			
Grade			
Bus Stops			
Stoplights			
Motorcycles			
Automobiles			
Medium Trucks			
Heavy Trucks			
Buses			
Count duration			

Site Diagram:

SEE LT DATA FORM

- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? (Yes) / No

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway (1) affic/trains/landscaping/rustling (3) eaves/children playing/dogs barking/birds vocalizing/Insects (DOMINANT)

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: AK LNG Project #: Date: 6/24/15 Page of

Monitoring Location: N74TI002 MGP LT 11 NSA 18338 Analyst: CK, DJ

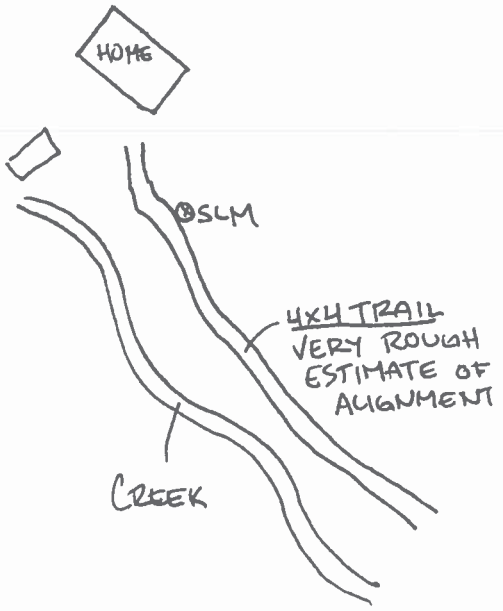
Sound Level Meter		Field Calibration		Weather Data	
Model #:	LD831	Model #:	CAL200	Model #:	KESTREL 3500
Serial #: 02	3213	Serial #:	11082	Serial #:	2058303
Weighting: (A) / C / Flat		Calibration Level (dBA):	94 / (114)	Wind: Steady/Gusty/(Calm)	
Response: (Slow) / Fast / Impl		Pre-Test	-.61 dBA	Precipitation: Yes (explain)/ (No)	
Windscreen : (Yes) / No (explain)		Post-Test	-0.06 dBA	Avg Wind Speed/Direction:	0-2/NA
Topo: Flat / (Hilly)		GPS Coordinates (at SLM location)#		Temp (°F):	68.4 RH (%): 52.9
Terrain: Hard/(Soft)/Mixed/Snow				Bar Psr (Hg):	1009.9 Cloud Cover (%): 0

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	14:00	~~14:00~~							
		13:00							

Roadway Name/Dir		
Speed (post/obs)*		
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass (N)

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? (Yes)/No

Additional Notes/Comments:

- RIVER/CREEK TO SW

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

DURING SETUP

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: AK LNG – MGP Project #: Date: 8/27/15 Page 1 of 1

Monitoring Location: ALT 1, N74TI003 ~~ALT~~ MGP LT 12 Analyst: CK, DT

Sound Level Meter
Model #: LD831
Serial #: 3327
Weighting: A / C / Flat
Response: Slow / Fast / Impl
Windscreen : Yes / No (explain)

Field Calibration
Model #: CAL200
Serial #: 11082
Calibration Level (dBA): 94 / 114
Pre-Test -0.03 ~~NONE~~ dBA
Post-Test -0.06 dBA

Weather Data
Model #: KESTREL 3500
Serial #: 2058303
Wind: Steady/Gusty/Calm
Precipitation: Yes (explain) / No
Avg Wind Speed/Direction: 0-2 / NA
Temp (°F): 64.0 RH (%): 67.9
Bar Psr (Hg): 1002.0 Cloud Cover (%): 80%

Topo: Flat / Hilly
Terrain: Hard/Soft/Mixed/Snow

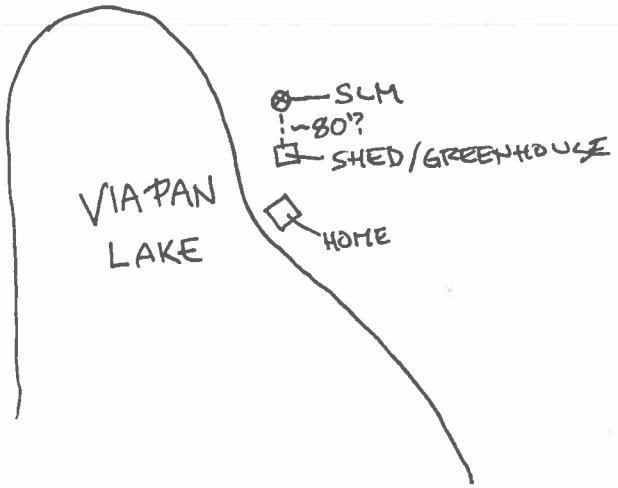
GPS Coordinates (at SLM location)#

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	13:00	13:00							HP2

Roadway Name/Dir		
Speed (post/obs)*		
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? Yes/No

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/rustling leaves/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: AKLNG Project #: _____ Date: 8/27/15 Page 1 of 1
Monitoring Location: ACT 2, N74TI004, MGP LT 13 Analyst: CK, DT

Sound Level Meter
Model #: LD 831
Serial #: 3215
Weighting: (A) / C / Flat
Response: (Slow) / Fast / Impl
Windscreen: (Yes) / No (explain)

Field Calibration
Model #: CAL200
Serial #: 11082
Calibration Level (dBA): 94 / (114)
Pre-Test -.06 dBA
Post-Test +0.13 dBA

Weather Data
Model #: KESTREL 3500
Serial #: 2058303
Wind: Steady/Gusty/(Calm)
Precipitation: Yes (explain) (No)
Avg Wind Speed/Direction: 0 - 2/NA
Temp (°F): 64.0 RH (%): 67.9
Bar Psr (Hg): 1002.0 Cloud Cover (%): 80%

Topo: (Flat) / Hilly
Terrain: Hard/(Soft)/Mixed/Snow

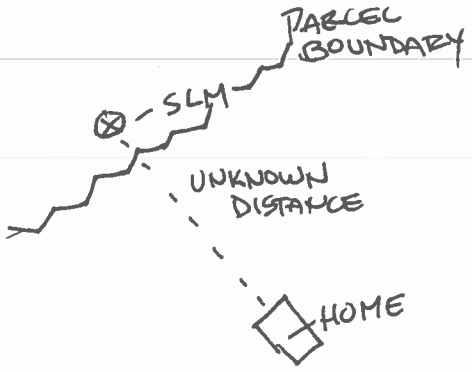
GPS Coordinates (at SLM location)#

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
HP1	14:00	14:00							

Roadway Name/Dir		
Speed (post/obs)*		
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? (Yes)/No

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/(rustling leaves)/children playing/dogs barking/birds vocalizing/Insects
Additional Notes and Sketches on Reverse

URS Acoustics and Noise Control Practice
FIELD NOISE MEASUREMENT DATA FORM

Project Name: AK LNG Project #: Date: 8/27/15 Page of

Monitoring Location: ALT 3, N74TI005, MGP LT14 Analyst: CK, DS

Sound Level Meter

Model #: LD831

Serial #: 3219

Weighting: (A) / C / Flat

Response: (Slow) / Fast / Impl

Windscreen: (Yes) / No (explain)

Field Calibration

Model #: CAL200

Serial #: 11082

Calibration Level (dBA): 94 / (114)

Pre-Test -.11 dBA

Post-Test -.17 dBA

Weather Data

Model #: KESTREL 3500

Serial #: 2058303

Wind: Steady/Gusty/(Calm)

Precipitation: Yes (explain) (No)

Avg Wind Speed/Direction: 0-2/NA

Temp (°F): 64.0 RH (%): 67.9

Bar Psr (Hg): 1002.0 Cloud Cover (%): 80%

Topo: (Flat) / Hilly

Terrain: Hard/(Soft)/Mixed/Snow

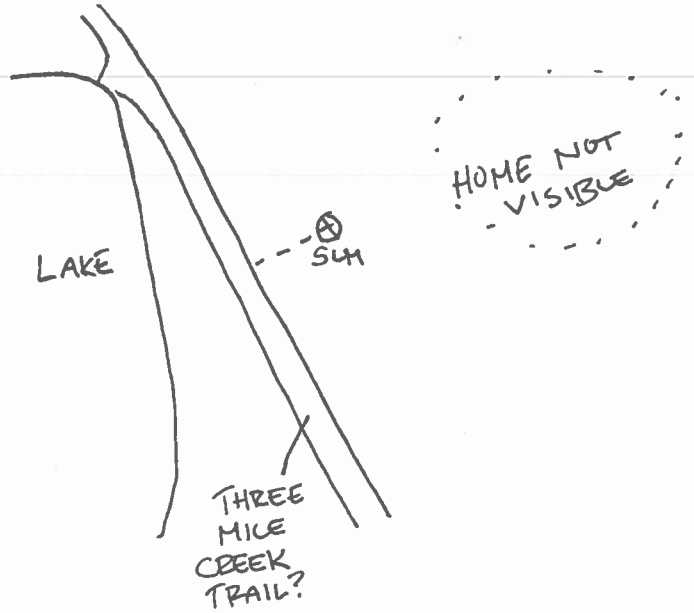
GPS Coordinates (at SLM location)#

ID	Start Time	Stop Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}	Notes/Events
	15:00	15:00							HP2

Roadway Name/Dir		
Speed (post/obs)*		
Number of Lanes		
Width (pave/row)		
1- or 2- way		
Grade		
Bus Stops		
Stoplights		
Motorcycles		
Automobiles		
Medium Trucks		
Heavy Trucks		
Buses		
Count duration		

compass

Site Diagram:



- note coordinate system * - Speed estimated by Radar / Driving / Observation

Photos Taken? (Yes)/No

Additional Notes/Comments:

Other Noise Sources: distant: aircraft/roadway traffic/trains/landscaping/(rustling leaves)/children playing/dogs barking/birds vocalizing/Insects

Additional Notes and Sketches on Reverse

APPENDIX D – GLOSSARY OF ACOUSTICAL TERMS

The following descriptions help explain and differentiate important terms, metrics, statistical values and concepts that are used in the presentation of field survey data and observations in this report.

- **Noise** – Whether something is perceived as a noise event is influenced by the type of sound, the perceived importance of the sound, and its appropriateness in the setting, the time of day and the type of activity during which the noise occurs and the sensitivity of the listener.
- **Sound** – For purposes of the sound survey, is a physical phenomenon generated by minute vibrations that result in waves that travel through a medium, such as air, and result in auditory perception by the human brain.
- **Frequency** – Sound frequency is measured in Hertz (Hz), which is a measure of how many times each second the crest of a sound pressure wave passes a fixed point. For example, when a drummer beats a drum, the skin of the drum vibrates a number of times per second. When the drum skin vibrates 100 times per second it generates a sound pressure wave that is oscillating at 100 Hz, and this pressure oscillation is perceived by the ear/brain as a tonal pitch of 100 Hz. Sound frequencies between 20 and 20,000 Hz are within the range of sensitivity of the best human ear.
- **Amplitude or Level** – Is measured in decibels (dB) using a logarithmic scale. A sound level of zero dB is approximately the threshold of human hearing and is barely audible under extremely quiet listening conditions. Normal speech has a sound level of approximately 60 dB. Sound levels above approximately 110 dB begin to be felt inside the human ear as discomfort and eventually pain at 120 dB and higher levels. The minimum change in the sound level of individual events that an average human ear can detect is about one to two dB. A three to five dB change is readily perceived. A change in sound level of about 10 dB is usually perceived by the average person as a doubling (or if decreasing by 10 dB, halving) of the sound's loudness.
- **Sound pressure** – Sound level is usually expressed by reference to a known standard. This report refers to sound pressure level (SPL or L_p). In expressing sound pressure on a logarithmic scale, the sound pressure is compared to a reference value of 20 micropascals (µPa). L_p depends not only on the power of the source, but also on the distance from the source and on the acoustical characteristics of the space surrounding the source.
- **A-weighting** – Sound from a tuning fork contains a single frequency (a pure tone), but most sounds one hears in the environment do not consist of a single frequency and instead are composed of a broad band of frequencies differing in sound level. The method commonly used to quantify environmental sounds consists of evaluating all frequencies of a sound according to a weighting system that reflects the typical frequency-dependent sensitivity of average healthy human hearing. This is called "A-weighting," and the decibel level measured is referred to as dBA. In practice, the level of a noise source is conveniently measured using a sound level meter that includes a filter corresponding to the dBA "curve" of decibel adjustment per octave band center frequency (OBCF) from a "flat" or unweighted SPL.
- **Equivalent sound level** – Although sound level value may adequately indicate the level of environmental noise at any instant in time, community noise levels vary continuously. Most environmental noise includes a mixture of noise from distant sources that creates a relatively steady background noise in which no particular source is identifiable. A single descriptor, L_{eq}, may be used to describe sound that is changing in level. L_{eq} is the energy-average dBA during a measured time interval. It is the "equivalent" constant sound level that would have to be produced by a given source to equal the acoustic energy contained in the fluctuating sound level measured.

- **L_{max} and L_{min}** – It is often desirable to know the range of amplitudes for the noise source(s) under study. This is typically accomplished by reporting the L_{max} and L_{min} indicators that represent the root mean square (RMS) maximum and minimum noise levels during a given monitoring interval. The L_{min} value obtained for a particular monitoring location is often called the "noise floor."
- **Statistical sound values** – To describe the time-varying character of environmental noise, the statistical noise descriptors L_{10}, L_{50}, and L_{90} are commonly used. These are the noise levels exceeded during 10, 50, and 90 percent of a stated time interval, respectively. Sound levels associated with L_{10} typically describe transient or short-term events, while levels associated with L_{90} describe the "steady state" (or most prevalent) background noise conditions.
- **Day-night sound level** – Average sound exposure over a 24-hour period is often presented as a day-night average, or time-weighted, sound level (L_{dn}). L_{dn} values are calculated from hourly L_{eq} values, with the L_{eq} values for the nighttime period (10 p.m. to 7 a.m.) increased by 10 dB to reflect the greater disturbance potential from nighttime sounds.