APPENDIX N BASELINE NOISE LEVEL REPORT – LNG FACILITY

Alaska LNG

BASELINE NOISE LEVEL REPORT – NIKISKI, AK MARCH/JUNE 2015 FIELD SURVEY

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1.0 EXECUTIVE SUMMARY

Baseline outdoor ambient sound data were collected at selected representative noise sensitive areas (NSAs) nearest to the proposed LNG liquefaction facility footprint in Nikiski, Alaska during the week of March 10, 2015 and the week of June 3, 2015. Sound levels were monitored with unattended instruments over a 48-hour continuous period at three NSAs during the March ("winter") survey; and at four NSAs during the June ("summer") survey. These NSAs are located north, east and south of the proposed LNG liquefaction facility footprint. Additional short-term sound level measurements were collected with attended instrumentation co-located at the three monitored NSAs, and an additional NSA location at the southeast corner of the facility footprint.

 L_{dn} values at the studied NSA positions calculated from measured hourly L_{eq} values range from exceeding the Federal Energy Regulatory Commission (FERC) threshold of 55 dBA L_{dn} , to levels well beneath this threshold.



2.0 INTRODUCTION

The purpose of the Alaska LNG baseline noise studies program is to conduct baseline sound pressure level (SPL) measurement surveys to quantify and characterize the outdoor ambient sound environment at representative NSAs that are nearest to proposed facilities within the Project footprint. This field investigation and accompanying report is focused on the survey area surrounding the proposed LNG liquefaction facility in Nikiski, Alaska. Additional and similar multi-day field surveys were conducted at representative NSAs located in the vicinity of proposed compressor stations and other facility locations along the Project route. The results of those surveys will be reported separately.

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

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

- Complete baseline (a.k.a., "pre-project") ambient outdoor SPL measurements at selected pre-existing NSAs within one mile of Project facility site areas.
- Document observed or measured factors, including meteorological conditions and witnessed or perceived sources of natural and manmade 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 key steps:

- 1. NSA and Candidate Monitoring Location Identification As described in the Noise Sensitive Area and Data Gap Identification for Proposed Alaska LNG Project document ("Data Gaps", [2014] USAKE-UR-BRZZZ-00-0003), GIS techniques were used to locate and identify NSA within one mile of the LNG liquefaction facility, based on FERC requirements for Resource Reports 1 and 9. Among these, NSAs apparently nearest to the LNG liquefaction facility footprint in each of the three cardinal directions (north, east and south) were considered as candidates for monitoring locations. The number of candidate locations was intentionally larger than the expected number of confirmed monitoring locations, allowing for the possibility that access permission may not be obtained at an NSA, or if encountered field conditions (resulting from onsite reconnaissance) determine that data collection at one or more candidate locations would not likely yield valuable information.
- 2. Confirm 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. New candidate monitoring locations, from among these NSAs identified within a mile of the Project facility footprint, were established in the field and based on land agent reconnaissance and coordination with noise investigators.
- Setup Unattended Monitors LT sound level monitoring instrumentation was installed at the NSA where access was approved. Aside from periodic checks of sound level meter (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).
- 4. 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.
- 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.
- 6. **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.
- 7. 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

A total of eight NSAs were originally identified as possible candidates for monitoring based on the "Data Gaps" study. Of these eight NSAs, a total of four were selected as final measurement locations. The additional candidate locations were omitted from the study for various reasons, including:

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- NSAs identified did not contain a habitable structure (only accessory buildings or abandoned structures identified on parcel).
- Domestic animal vocalizations, prevalent to a degree that would deem the measurement invalid. In other words, and by way of example, SPL monitoring would unduly capture the sound of nearby dog barks and compromise the measurement of the aggregate sounds that comprise the outdoor ambient sound environment.
- Redundancy If two locations were located within proximity to one another and were both representative of a similar cardinal direction from the LNG facility footprint, only one was chosen for measurement.

Applying the above considerations, some of which required information resulting from field reconnaissance, the final selected measurement locations were considered representative of the full study area with respect to the affected sound environment in the vicinity of the LNG liquefaction facility footprint.

The winter and summer surveys were conducted at the following measurement locations:

N74IN001 : Residence (NSA_01215; Lat: 60.693823, Long: -151.376805)

N74IN002 : Residence (NSA_01533; Lat: 60.667105, Long: -151.341348)

N74IN003 : Residence (NSA_01555; Lat: 60.653763, Long: -151.342056)

N74IN004 : Residence (NSA_01486; Lat: 60.653783, Long: -151.342844)

These locations are depicted on Figure 1 and can also be found on Webmapper as shown below:



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Figure 1-1. Noise Sensitive Area Survey Locations, Proposed Liquefaction Facility, Nikiski, AK





3.3 INSTRUMENTATION

3.3.1 Sound Level Meters

The SPL measurements were conducted using Larson-Davis (L/D) 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 inch diameter cylindrical-shaped open-cell foam windscreens and positioned roughly 8 feet above grade. The SLM ST microphones were fitted with standard 3.5 inch diameter spherical-shaped open-cell foam windscreens and positioned roughly 5 feet above grade. The microphones were also placed at least 10 feet 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 10098 and SN 11087) 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 Speedtech Model SM-28 (SN 4512) handheld anemometer 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 Trimble Yuma or Panasonic Toughpad FZ-M1 tablet for capturing location, observation and measurement information at the SLM positions. The GPS receivers used were a Geneq Inc. model SXBlue with the Trimble tablet, and a Trimble R1 with the Panasonic tablet. Both antennae utilize the Satellite Based Augmented System (SBAS). In the Kenai/Nikiski area 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.

3.4 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 Trimble Yuma or Panasonic Toughpad FZ-M1 tablet. The GIS interface setup and data recording procedures are summarized below.

3.4.1 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 the geodatabase was set up, such as which data fields to include and which default values were to be pre-populated. This work was done in ArcGIS and the GIS data structure was set up 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.

3.4.2 Survey Field Targets

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

3.4.3 Noise Data Collection Points

Information about each noise measurement location was recorded both electronically into the predesigned ArcPad template available on the GPS tablet, and physically on the field noise measurement data forms (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 (USAI-UR-SPFLD-00-000010-000).

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).

3.4.4 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. Field photographs of measurement locations are located in Section 4.1 of this report.

3.4.5 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.

4.0 RESULTS

4.1 BASELINE NOISE LEVELS

Sound level measurements were conducted from March 10 to 12, 2015 and June 3 to 5, 2015 to collect SPL data at representative NSAs to characterize and quantify the existing pre-construction ambient environmental noise during both seasons represented by these survey time periods.

During the winter field season, three long-term (48-hour duration) and 16 short-term (10-20 minute duration) measurements were conducted at a total of four measurement sites. During the summer field season, the same measurement sites were visited, however, additional instrument availability allowed for the promotion of the single short-term winter measurement site into a long-term duration monitoring position. Thus, four long-term and ten short-term measurements were conducted at all four locations for up to four different times of day (morning, afternoon, evening, and night).

4.1.1 Observed Meteorological Conditions

Measured weather conditions varied during the field survey, as summarized by the following sequential time periods:

- March 10, 2015; evening (7 PM to 10 PM), 8-18 degrees Fahrenheit (deg. F), calm wind (less than 5 mph average velocity as measured with the Speedtech SM-28 handheld anemometer)
- March 10, 2015; night (10 PM to 7 AM), 4-7 deg. F, calm wind (less than 5 mph)
- March 11, 2015; morning (7 AM to 12 PM), 9-12 deg. F, calm wind (less than 5 mph)
- March 11, 2015; afternoon (12 PM to 7 PM), 16-17 deg. F, calm wind (less than 5 mph)
- June 3, 2015; night (10 PM to 7 AM), 49-50 deg. F, calm to steady wind (4-10 mph)
- June 4, 2015; night (10 PM to 7 AM), 48-49 deg. F, calm wind (less than 5 mph)
- June 5, 2015; morning (7 AM to 12 PM), 48-51 deg. F, calm wind (less than 5 mph)
- June 5, 2015; afternoon (12 PM to 7 PM), 50 deg. F, calm wind (less than 5 mph)

During the winter field season, observed relative humidity ranged between 16 and 32 percent with no precipitation observed during the measurement period. During the summer field season, observed relative humidity ranged between 83 and 95 percent with sporadic light precipitation observed during the measurement period.

4.1.2 SPL Data Summary

Long-term SPL measurements of the outdoor ambient sound environment that resulted in one or more calculated L_{dn} values equal to or greater than the FERC threshold of 55 dBA for a given day included N74IN001 in the winter and summer, N74IN002 in the summer, and N74IN003 in the summer. In these cases where the existing outdoor ambient sound environment already exceeds 55 dBA L_{dn} , the FERC threshold for Project-only noise at these receivers would be equivalent to the A-weighted measured ambient baseline L_{dn} at these receiver locations. In other words, and due to logarithmic addition, the allowable increment in outdoor ambient SPL resulting from contribution of noise attributed to the Project is no more than 3 dBA.

While L_{dn} calculated from L_{eq} values of measured SPL did exceed 55 dBA L_{dn} for a given day at the aforesaid locations, measured L_{dn} data varied daily and seasonally. Due to these variances, and as presented in Table 4-1, all measurement locations experienced at least one 24-hour period with a calculated L_{dn} below 55 dBA. Under such existing outdoor ambient sound conditions, when the baseline L_{dn} is below 55 dBA, one might reasonably expect the FERC 55



dBA L_{dn} threshold to apply to Project noise. Hence, both the upper and lower baseline L_{dn} values calculated from outdoor ambient SPL measured at the NSA should be considered when establishing appropriate FERC thresholds and assessing noise impacts at NSAs from the Project.

Table 4-1 presents a summary of acoustical metrics and statistical values representing the measured SPL during both winter and summer field survey periods as indexed by Feature ID.

Table 4-1. Baseline Nikiski, Alaska Vicinity SPL Measurement Results at NSAs

				SPL	Metric	s and	Statis	tical Va	alues (dBA)	Meteo Timo	Measu prologi e of SL	ured ical Data at .M Setup
Feature ID	2015 Start Date (mm/d d)	Start Time (hh:m m)	Duration (minutes)	L _{eq}	L _{dn}	L _{ma}	L _{mi}	L ₁₀	L 50	L ₉₀	Temp . (°F)	RH (%)	Avg. Wind Speed (mph) & Direction
N74IN001 (LT)	03/10	11:00	1440	53	56	88 82	29 26	44	42	40	28	19	0 / NA
	03/10	12:30	1440	39	43	76	20	37	34	32			
N74IN002 (LT)	03/11	12:30	1440	44	47	78	25	38	35	33	20	18	0-1 / N
N74IN003	03/10	14:00	1440	45	48	81	21	40	34	33			
(LT)	03/11	14:00	1440	54	54	81	24	43	38	35	30	21	1-3 / N
	03/10	19:33	15	41	46	50	35	40	39	37	18	21	0 / NA
N74IN001	03/11	00:11	15	40		52	35	40	38	37	5	17	0 / NA
(ST)	03/11	10:50	20	58	57	80	39	52	46	42	9	23	0-1 / N
	03/11	15:30	15	47	48	65	33	44	39	35	16	16	1-3 / E
	03/10	20:03	15	33	37	46	25	34	31	29	12	21	0 / NA
N74IN002	03/10	23:57	15	30		39	26	31	29	28	4	17	0 / NA
(ST)	03/11	11:28	20	43	42	54	27	44	39	36	11	31	0-1 / NA
	03/11	16:06	15	33	37	48	25	34	31	29	17	21	1-3 / NA
	03/10	20:42	15	41	44	50	36	42	40	38	10	22	0 / NA
N74IN003	03/10	23:00	15	36		45	25	37	33	29	7	17	0 / NA
(ST)	03/11	12:39	20	40	43	49	32	41	39	36	12	26	1-3 / E
	03/11	16:52	15	42	44	56	32	43	41	39	17	18	1-3 / W
	03/10	21:16	41	43	43	71	28	35	32	31	8	21	0 / NA
N74IN004	03/10	22:01	10	32		43	27	34	30	29	6	21	0 / NA
(ST)	03/11	12:05	20	36	39	51	26	35	32	30	10	32	0 / NA
	03/11	17:25	15	34	39	56	24	33	30	29	17	18	1-3 / NA
N74IN001	06/03	16:40	1440	52	55	80	31	50	45	42	46	92	6-8 / W
(LT)	06/04	16:40	1440	53	59	82	37	53	50	48	40	52	00/10
N74IN002	06/03	17:10	1440	51	56	81	31	50	45	42	50	94	0-1 / NA
(LT)	06/04	17:10	1440	44	50	83	21	44	39	36	00	7	
N74IN003	06/03	18:10	1440	54	60	84	30	48	45	42	51	89	0 / NA
(LT)	06/04	18:10	1440	46	49	80	22	44	39	36		00	0,111



				SPL	SPL Metrics and Statistical Values (dBA)						Measured Meteorological Data at Time of SLM Setup			
Feature ID	2015 Start Date (mm/d d)	Start Time (hh:m m)	Duration (minutes)	L _{eq}	L _{dn}	L _{ma} x	L _{mi}	L 10	L 50	L ₉₀	Temp . (°F)	RH (%)	Avg. Wind Speed (mph) & Direction	
N74IN004	06/03	17:40	1440	48	52	71	29	48	44	42	50	95	0-1 / NA	
(LT)	06/04	17:40	1440	44	49	75	42	42	38	35				
	06/03	22:30	20	38	-	48	31	39	37	35	50	86	10 / N	
N74IN001 (ST)	06/04	22:20	20	54	-	72	50	55	54	53	49	94	0 / NA	
. ,	06/05	9:40	20	54	60	63	50	55	54	52	49	91	0 / NA	
	06/03	23:20	20	38	-	53	30	39	35	33	49	86	4 / N	
N74IN002 (ST)	06/04	22:50	20	31	-	44	24	32	30	28	48	93	2 / SE	
· · /	06/05	10:40	20	46	45	61	34	45	40	37	51	85	0 / NA	
N74IN003	06/05	00:10	20	33	-	44	24	34	31	28	49	92	0 / NA	
(ST)	06/05	16:40	20	42	42	51	36	43	42	40	50	90	0 / NA	
N74IN004	06/04	23:30	20	34	-	42	26	35	33	31	48	94	2 / S	
(ST)	06/05	11:30	20	41	42	51	34	43	40	38	51	83	0 / NA	

The LT noise levels shown in Table 4-1 represent data collected during the indicated measurement period (two consecutive 24-hour monitoring durations). The ST noise levels presented in Table 4-1 reflect partial-hour measurement periods having indicated durations of consecutive minutes.

Appendix A presents the SPL metrics and statistical values for the LT monitoring positions at hourly resolution. Summarized data from Table 4-1 and plots of acoustical metrics in Appendix A indicate that the outdoor ambient sound environment at an NSA can vary by time of day, from day to day, and from season to season. While measured levels from the summer field survey were often higher than those collected during the winter survey, that finding could not be said for all locations. Hence, the two seasons of field surveys provides what might be considered a representative range of values at each monitoring location. The following measurement location descriptions provide detailed information on SLM placement, observed noise sources, and photographs displaying conditions during both field seasons. Photos of short-term measurements that were collocated with long-term sites are omitted due to redundancy.



N74IN001: LT (48-hour) and ST (10-20-minute) SPL measurements were conducted in the front yard of a residence to the north of the proposed LNG liquefaction facility. The SLM was placed approximately 50 feet south of the house located on the northwest corner of Malaitna Road and Tarawa Street, and approximately 6,740 feet north of the proposed LNG liquefaction facility construction boundary. The audible noise sources perceived during SLM setup and disassembly at this location were birdcalls, roadway traffic, and mechanical noise from the south-southeast.



Photographs 1 and 2 - N74IN001

Long-term measurements conducted on March 10, 2015 and June 3, 2015. Photographic view is north at GPS coordinates 60.693823, -151.376805.



N74IN002: LT (48-hour) and ST (10-20-minute) SPL measurements were conducted in the back yard of a residence to the east of the proposed LNG liquefaction facility. The meter was placed approximately 50 feet north of the house located on the north side of Ray Court east of Top Gun Street (Jody Street on Google Maps), and approximately 20 feet east of the proposed LNG liquefaction facility construction boundary. The audible noise sources perceived during SLM setup and disassembly at this location were wind chimes and birdcalls.



Photographs 3 and 4 – N74IN002

Long-term measurements conducted on March 10, 2015 and June 3, 2015. Photographic view is southsouthwest at GPS coordinates 60.667105, -151.341348



N74IN003: LT (48-hour) and ST (10-20-minute) SPL measurements were conducted in the back yard of a residence to the south of the proposed LNG liquefaction facility. The meter was placed approximately 50 feet north of the house located on the north side of Spruce Place north of South Miller Loop Road, and approximately 1,595 feet south of the proposed LNG liquefaction facility construction boundary. The audible noise sources perceived during monitor setup and disassembly at this location were road traffic, aircraft flyovers, dogs barking, and birdcalls.



Photographs 5 and 6 - N74IN003

Long-term measurements conducted on March 10, 2015 and June 3, 2015. Photographic view is southsoutheast at GPS coordinates 60.653763, -151.342056



N74IN004: LT (48-hour) and ST (10-20-minute) SPL measurements were conducted on the property of a residence to the southeast of the proposed LNG liquefaction facility. The house is located at the northern terminus of Redoubt Drive off of Birch Lane. During the winter survey, the ST meter was placed approximately 60 feet east of the front façade of the home, approximately 270 feet southeast of the proposed LNG liquefaction facility construction boundary. During the summer survey, the meter was placed approximately 30 feet northwest of the home, approximately 136 feet southeast of the proposed LNG liquefaction facility construction boundary. The audible noise sources perceived during the surveys at this location were dogs barking, distant roadway traffic, birdcalls, and aircraft flyovers.



Photographs 7 and 8 - N74IN004

Winter short-term measurement and summer long-term measurement conducted on March 10, 2015 and June 3, 2015 respectively. Photographic view for winter ST (front yard of home) is west at GPS coordinates 60.65376302, -151.34205585. Photographic view for summer LT (back yard of home) is southeast at GPS coordinates 60.653783, -151.342844.



5.0 ACRONYMS AND ABBREVIATIONS

- FERC Federal Energy Regulatory Commission
- LNG Liquefied Natural Gas
- LT long-term
- NSA noise sensitive area
- Project Alaska LNG
- SLM Sound Level Meter
- SPL sound pressure level
- ST short-term



6.0 APPENDICES



APPENDIX A – LONG-TERM MONITORING HOURLY DETAIL



Table A-1. Monitoring Position N74IN001-Winter, First 24 hours (Start 03/10/15)

Hour Start		A-w	A-weighted SPL Metric or Statistical Value										
Time (hh:mm)	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀							
11:00	60	88	32	43	39	36							
12:00	43	66	32	43	39	37							
13:00	38	49	31	39	37	35							
14:00	39	60	31	39	36	35							
15:00	44	65	30	41	37	35							
16:00	52	80	31	46	41	36							
17:00	41	66	30	39	36	34							
18:00	46	70	29	44	40	36							
19:00	50	72	32	44	40	38							
20:00	45	66	40	46	43	42							
21:00	47	69	41	45	44	44							
22:00	46	66	38	46	45	44							
23:00	42	55	36	43	40	38							
00:00	56	80	36	45	41	38							
01:00	40	58	35	40	39	38							
02:00	41	62	35	40	39	38							
03:00	45	68	37	42	41	40							
04:00	46	52	42	46	46	45							
05:00	46	57	39	47	45	44							
06:00	45	55	38	46	44	43							
07:00	46	53	43	47	46	45							
08:00	62	75	44	55	54	53							
09:00	47	66	43	47	46	45							
10:00	60	83	40	53	46	43							





Table A-2. Monitoring Position N74IN001-Winter, Second 24 hours (Start 03/11/15)

Hour Start	A-weighted SPL Metric or Statistical Value									
Time (hh:mm)	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀				
11:00	48	66	38	48	45	43				
12:00	43	66	32	42	39	36				
13:00	47	71	31	42	38	35				
14:00	39	57	30	40	36	34				
15:00	52	74	31	48	42	38				
16:00	47	72	31	41	38	35				
17:00	43	65	30	39	36	35				
18:00	53	82	30	40	36	35				
19:00	55	82	34	47	42	39				
20:00	45	66	40	45	43	42				
21:00	47	69	40	46	44	44				
22:00	44	61	40	45	43	42				
23:00	44	54	40	45	43	43				
00:00	45	56	28	44	43	42				
01:00	33	54	28	33	31	30				
02:00	37	47	26	34	32	31				
03:00	45	50	41	45	44	44				
04:00	43	53	40	44	43	43				
05:00	41	49	30	41	39	38				
06:00	45	52	37	45	44	43				
07:00	45	64	30	45	42	40				
08:00	40	53	30	41	39	36				
09:00	46	67	38	46	45	44				
10:00	43	67	34	42	40	39				





Table A-3. Monitoring Position N74IN002-Winter, First 24 hours (Start 03/10/15)

Hour Start	A-weighted SPL Metric or Statistical Value									
Time (hh:mm)	L _{eq}	L _{max}	L _{min}	L ₁₀	L 50	L ₉₀				
12:30	42	62	27	40	36	34				
13:30	38	52	30	39	36	34				
14:30	40	56	29	40	37	34				
15:30	44	70	26	40	36	33				
16:30	39	55	25	38	34	32				
17:30	35	54	25	35	32	30				
18:30	33	49	24	34	31	29				
19:30	33	50	26	33	31	29				
20:30	45	76	24	38	34	31				
21:30	39	51	32	39	37	36				
22:30	34	49	28	35	33	32				
23:30	38	55	27	37	35	34				
00:30	34	51	25	34	32	30				
01:30	36	58	26	34	31	30				
02:30	32	47	21	33	29	28				
03:30	37	50	23	37	35	34				
04:30	36	47	26	37	35	33				
05:30	37	55	28	37	35	34				
06:30	37	52	26	37	36	34				
07:30	38	51	30	39	36	35				
08:30	37	52	28	37	35	33				
09:30	38	56	27	38	34	33				
10:30	36	54	25	34	32	30				
11:30	37	51	28	38	36	33				





Table A-4. Monitoring Position N74IN002-Winter, Second 24 hours (Start 03/11/15)

Hour Start A-weighted SPL Metric or Statistical Value								
Time (hh:mm)	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀		
12:30	57	78	29	49	43	40		
13:30	37	51	30	38	35	33		
14:30	42	66	27	39	36	34		
15:30	38	53	28	39	35	33		
16:30	37	52	28	38	35	33		
17:30	38	54	26	38	34	31		
18:30	35	60	25	33	30	29		
19:30	42	68	26	39	34	31		
20:30	38	53	25	39	35	32		
21:30	38	56	26	37	35	33		
22:30	34	53	27	34	32	31		
23:30	42	70	27	35	33	31		
00:30	34	53	25	33	31	29		
01:30	35	52	25	34	31	29		
02:30	38	53	28	38	36	35		
03:30	36	56	30	37	35	34		
04:30	37	52	29	38	35	34		
05:30	38	54	29	39	37	36		
06:30	38	51	26	38	35	33		
07:30	41	49	34	42	40	39		
08:30	42	55	32	42	40	38		
09:30	40	58	30	38	36	34		
10:30	42	70	28	39	35	32		
11:30	44	64	28	43	38	36		





Table A-5. Monitoring Position N74IN003-Winter, First 24 hours (Start 03/10/15)

Hour Start		A-w	eighted SPL Metr	ic or Statistical Va	alue	
Time (hh:mm)	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
14:00	55	81	30	43	36	40
15:00	40	55	30	41	36	33
16:00	42	72	31	41	36	34
17:00	42	53	29	43	38	33
18:00	39	50	28	40	35	33
19:00	37	47	24	38	32	31
20:00	42	69	31	43	37	29
21:00	42	67	31	43	36	31
22:00	39	57	26	41	32	32
23:00	41	69	24	40	31	33
00:00	35	51	23	34	28	31
01:00	34	48	23	33	27	31
02:00	34	55	21	31	25	29
03:00	32	48	24	32	28	29
04:00	36	51	24	36	29	35
05:00	41	51	27	42	35	34
06:00	43	53	29	44	38	34
07:00	44	60	31	44	39	36
08:00	42	55	33	44	38	33
09:00	43	61	34	43	38	39
10:00	45	71	31	41	37	38
11:00	43	62	30	40	35	34
12:00	42	68	30	41	36	32
13:00	53	78	29	44	36	36





Table A-6. Monitoring Position N74IN003-Winter, Second 24 hours (Start 03/11/15)

Hour Start	A-weighted SPL Metric or Statistical Value								
Time (hh:mm)	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀			
14:00	43	70	31	43	37	40			
15:00	54	79	30	45	37	33			
16:00	54	79	29	48	40	35			
17:00	56	81	28	48	44	41			
18:00	61	80	27	49	39	34			
19:00	62	80	26	52	41	34			
20:00	62	79	29	51	43	37			
21:00	41	69	29	42	38	34			
22:00	39	51	27	41	36	33			
23:00	39	50	26	41	37	33			
00:00	38	52	27	39	35	32			
01:00	36	48	27	37	33	30			
02:00	33	46	26	35	32	29			
03:00	34	48	24	34	31	29			
04:00	36	49	28	37	34	32			
05:00	40	50	27	42	38	34			
06:00	42	55	28	44	41	38			
07:00	44	52	33	46	43	40			
08:00	44	59	33	46	43	40			
09:00	42	50	32	44	41	38			
10:00	39	52	32	40	38	36			
11:00	40	58	30	40	37	35			
12:00	43	58	30	44	41	38			
13:00	50	77	38	46	43	41			





Table A-7. Monitoring Position N74IN001-Summer, First 24 hours (Start 06/03/15)

Hour Start		A-w	eighted SPL Metr	ic or Statistical Va	alue	
Time (hh:mm)	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
16:40	59	80	44	59	52	49
17:40	52	72	38	55	47	44
18:40	50	72	33	47	41	38
19:40	48	72	32	48	40	36
20:40	55	79	31	49	40	35
21:40	53	73	31	48	39	35
22:40	46	69	33	44	38	35
23:40	46	66	37	46	43	42
0:40	48	62	43	50	47	45
1:40	48	61	41	50	46	44
2:40	47	73	38	49	43	41
3:40	44	67	35	46	41	38
4:40	46	58	38	49	43	40
5:40	46	63	39	48	44	42
6:40	52	75	41	49	46	43
7:40	50	73	40	50	46	44
8:40	50	63	42	52	48	46
9:40	49	59	41	50	48	46
10:40	50	68	40	51	46	44
11:40	51	74	41	50	46	43
12:40	55	80	41	51	46	44
13:40	53	74	42	53	48	46
14:40	51	68	42	52	49	46
15:40	52	76	41	51	47	44





Table A-8. Monitoring Position N74IN001-Summer, Second 24 hours (Start 06/04/15)

Hour Start	A-weighted SPL Metric or Statistical Value						
Time (hh:mm)	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀	
16:40	48	66	40	50	45	43	
17:40	50	74	37	46	42	41	
18:40	48	75	37	46	41	39	
19:40	49	78	37	45	41	39	
20:40	51	81	37	45	41	40	
21:40	58	82	40	52	50	48	
22:40	53	63	48	55	52	50	
23:40	51	64	42	53	48	45	
00:40	53	61	48	55	53	51	
01:40	51	58	48	53	51	50	
02:40	51	57	47	53	51	49	
03:40	53	60	48	55	52	50	
04:40	52	58	48	54	52	51	
05:40	50	59	46	52	50	48	
06:40	55	78	46	53	51	49	
07:40	52	57	48	53	52	50	
08:40	52	65	47	53	51	50	
09:40	56	75	50	56	54	52	
10:40	55	63	50	56	54	53	
11:40	54	73	49	55	52	51	
12:40	53	63	49	55	52	51	
13:40	53	72	48	54	51	50	
14:40	54	71	49	56	53	51	
15:40	57	75	48	57	53	51	





Table A-9. Monitoring Position N74IN002-Summer, First 24 hours (Start 06/03/15)

Hour Start	A-weighted SPL Metric or Statistical Value						
Time (hh:mm)	L _{eq}	L _{max}	L _{min}	L ₁₀	L 50	L ₉₀	
17:10	55	79	41	56	50	47	
18:10	52	72	35	53	45	41	
19:10	44	62	33	46	39	36	
20:10	55	79	32	50	40	35	
21:10	53	73	31	49	39	35	
22:10	56	81	31	47	39	35	
23:10	46	69	33	44	40	38	
00:10	48	66	41	48	45	44	
01:10	48	58	42	50	47	45	
02:10	47	62	39	49	45	42	
03:10	45	73	35	46	41	39	
04:10	46	67	37	48	43	39	
05:10	47	63	39	49	45	42	
06:10	46	61	39	48	45	42	
07:10	52	75	41	49	46	43	
08:10	51	73	40	52	47	45	
09:10	50	63	44	51	49	47	
10:10	49	68	40	50	46	44	
11:10	50	74	41	50	46	43	
12:10	54	80	41	50	46	43	
13:10	54	77	42	53	47	45	
14:10	52	74	43	53	49	47	
15:10	51	74	42	52	48	46	
16:10	51	76	39	50	45	46	





Table A-10. Monitoring Position N74IN002-Summer, Second 24 hours (Start 06/04/15)

Hour Start	A-weighted SPL Metric or Statistical Value						
Time (hh:mm)	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀	
17:10	45	64	36	47	42	40	
18:10	41	62	35	41	39	37	
19:10	39	56	32	41	37	34	
20:10	38	62	31	39	35	33	
21:10	42	58	29	43	37	33	
22:10	36	58	25	37	33	29	
23:10	37	45	25	38	36	33	
00:10	31	43	21	33	29	26	
01:10	42	64	22	42	39	33	
02:10	38	49	32	39	37	35	
03:10	47	62	31	48	41	37	
04:10	43	54	30	47	41	37	
05:10	47	57	41	50	46	44	
06:10	48	79	35	49	45	42	
07:10	45	55	34	47	43	40	
08:10	42	63	30	42	36	34	
09:10	42	60	30	44	37	34	
10:10	47	68	34	48	42	39	
11:10	43	65	33	43	37	35	
12:10	44	61	31	46	39	36	
13:10	46	69	32	48	39	37	
14:10	50	83	35	46	41	39	
15:10	45	64	34	48	39	37	
16:10	43	60	36	44	41	39	





Table A-11. Monitoring Position N74IN003-Summer, First 24 hours (Start 06/03/15)

Hour Start	A-weighted SPL Metric or Statistical Value					
Time (hh:mm)	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
18:10	45	62	36	46	42	40
19:10	42	57	31	45	40	36
20:10	43	61	33	45	41	38
21:10	61	82	37	52	44	40
22:10	63	83	34	51	43	40
23:10	38	57	30	40	36	33
0:10	38	51	32	40	37	35
1:10	43	54	36	44	41	39
2:10	45	54	38	48	44	41
3:10	44	56	39	46	43	41
4:10	45	58	40	47	44	42
5:10	46	57	41	48	45	43
6:10	48	57	42	50	48	45
7:10	49	62	43	51	48	46
8:10	49	57	43	51	48	46
9:10	51	77	44	51	49	47
10:10	55	81	43	52	48	46
11:10	54	80	43	52	49	47
12:10	50	72	43	51	48	46
13:10	58	84	43	53	48	46
14:10	50	64	43	52	48	46
15:10	52	78	43	50	48	46
16:10	48	65	40	49	47	45
17:10	47	75	39	47	45	43





Table A-12. Monitoring Position N74IN003-Summer, Second 24 hours (Start 06/04/15)

Hour Start	A-weighted SPL Metric or Statistical Value						
Time (hh:mm)	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀	
18:10	46	69	35	44	42	39	
19:10	52	80	29	43	38	36	
20:10	38	52	30	40	36	34	
21:10	38	54	28	41	37	34	
22:10	40	52	27	43	39	33	
23:10	37	52	23	41	34	28	
00:10	35	48	22	39	31	26	
01:10	44	57	24	42	36	33	
02:10	34	53	26	35	29	27	
03:10	36	51	23	38	29	26	
04:10	41	53	24	44	38	29	
05:10	45	56	35	48	44	40	
06:10	45	54	33	46	43	40	
07:10	43	55	36	45	42	40	
08:10	40	53	31	42	39	36	
09:10	43	54	32	44	41	38	
10:10	50	72	36	50	45	42	
11:10	45	65	35	47	44	41	
12:10	52	76	35	48	42	40	
13:10	43	61	35	45	41	39	
14:10	46	69	38	45	42	40	
15:10	45	54	36	47	44	41	
16:10	44	56	37	46	43	41	
17:10	53	80	32	45	41	38	





Table A-13. Monitoring Position N74IN004-Summer, First 24 hours (Start 06/03/15)

Hour Start	A-weighted SPL Metric or Statistical Value					
Time (hh:mm)	L _{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀
17:40	51	71	38	50	45	42
18:40	40	48	31	42	39	36
19:40	47	70	31	45	38	35
20:40	44	68	33	46	42	40
21:40	44	52	36	46	43	40
22:40	42	60	29	43	38	35
23:40	38	60	29	38	34	32
00:40	42	56	34	44	40	37
01:40	45	55	39	48	44	41
02:40	45	57	39	47	44	42
03:40	46	54	39	48	45	43
04:40	46	55	40	48	45	43
05:40	45	56	40	47	45	43
06:40	46	55	41	48	45	44
07:40	48	60	41	50	47	44
08:40	50	56	44	52	49	47
09:40	50	70	44	51	49	47
10:40	50	60	44	51	49	47
11:40	49	63	43	51	49	47
12:40	51	61	44	54	50	48
13:40	51	68	45	53	49	47
14:40	51	68	42	52	49	46
15:40	48	68	39	49	46	45
16:40	47	65	40	48	45	43




Table A-14. Monitoring Position N74IN004-Summer, Second 24 hours (Start 06/04/15)

Hour Start	A-weighted SPL Metric or Statistical Value										
Time (hh:mm)	L_{eq}	L _{max}	L _{min}	L ₁₀	L ₅₀	L ₉₀					
17:40	44	54	36	46	42	40					
18:40	42	65	31	41	37	35					
19:40	33	41	28	35	33	31					
20:40	35	52	28	37	33	31					
21:40	50	75	25	39	34	31					
22:40	42	74	28	39	36	32					
23:40	36	48	25	38	33	30					
00:40	46	62	22	42	35	30					
01:40	33	49	26	35	31	28					
02:40	37	51	25	39	34	30					
03:40	38	50	26	41	36	32					
04:40	44	52	30	46	43	39					
05:40	44	52	38	46	43	41					
06:40	44	55	31	46	42	39					
07:40	42	51	31	43	40	37					
08:40	38	50	31	41	37	35					
09:40	47	66	34	46	43	40					
10:40	47	69	34	45	41	38					
11:40	44	64	34	45	40	38					
12:40	50	75	33	44	38	36					
13:40	44	59	36	45	42	40					
14:40	44	62	36	45	41	39					
15:40	42	55	37	44	42	40					
16:40	43	66	35	44	41	39					





APPENDIX B – FIELD SURVEY NOTATION SHEETS

	A.		A	ECOM	I Acou	ustics	and l	Noise	Control Practice
	1.5.1	~	F	IELD	NOIS	E ME	ASUF	EME	NT DATA FORM
Proje	ct Name	Cation:	LNG	- 12	.11	Pro)ect #:	NOOI	Analyst: Analyst:
MOTIL	Sound L	vol Moto			Fiel	K2S d Calibr	1N7 41		Masthar Data
Model	<u>300110 Le</u> #•	XZ1	<u></u>	Model #	<u>r ier</u>	7 00)		Model #
Serial	#:	2546		Serial #	F •	1001	GX	•	Serial #:
Weigh	ting: A/C	/ Flat		Calibrat	tion Leve	el (dBA):	94/6	14	Wind: Steady/Gusty/Calm)
Respo	nse: Slow	V Fast / Ir	npl	Pre-Tes	st	.33	3	dBA	Precipitation: Yes (explain)
Winds	creen : Ye	s / No (e)	(plain)	Post-Te	est	0 18		- dBA	Avg Wind Speed/Direction:
Topo: Flat (Hilly G					Coordina	ates (at s	SLM loc	ation)#	Temp (°F): <u>27</u> RH (%): /8-8
Terraiı	n: Hard/S	oft/Mixed	/Snow						Bar Psr (Hg): てり.りん Cloud Cover (%): つ
ID	Start Time	Stop Time	L _{eq}	L _{min}	L _{max}	L ₁₀	L ₅₀	L ₉₀	Notes/Events
	11:20								
<u> </u>	21.00	3/11/1	ς						Mech noise seem louder
· ·									res indicated is tests @ 2300 11:00 3/12
		10:09	3110	110					
		11.0	1114	17					
<u>├</u> ──									
R	badway N	lame/Dir					com	pass	Site Diagram:
5	Speed (po	ost/obs)*							
	Number	of Lanes							
	Width (p	ave/row)							PARNELL
<u> </u>	1- c	or 2- way							KESIDENCE
		Grade							
	B	us Stops							Q 30° 12
	Motorcy	cles							ISHA I
	Automol	oiles							30'
	Medium	Trucks	-						
	Heavy T	rucks							TAN & MALAITNA ->
	Buses					······································		10	
	Count d	uration					1	20 	
# - note c	oordinate syst	em * - Speed	estimated l	oy Radar / D	riving / Obs	ervation			
Photo Additic	s Taken? nal Notes	Commer	<u>nts:</u>		5156-1	Micha		7	N74IN001
	Other Nois	e Sources: o	distant: air	craft/roadv	vav traffic/	trains/land	scaping/ri	ustling lear	res/children playing/dogs barking/birds vocalizing/psects
	0.10111010				Additi	onal Notes	and Sket	ches on R	everse
								AECOM	ANCP, Field Noise Measurement Form, Vers. 1.21, 021815

			A		I Acou	ustics	and l		Control Practice
Proje	ct Name	· Ak /	Ní.	ILLU	11013		niect #	7627	1896 Date 3/10/16 Page of
Moni	toring Lo	cation:	10-	Hovis	CRO		N74	N002	Analyst: $(k//m)$ Fage 01
	Sound I	evel Mete	r	10-16	Fiel	d Calibr	ation		Weather Data
Model	#:	831	<u>.</u>	Model 4	4.	1 201)		Model #: Sub 7.5
Serial	#:	Ern 3	213	Serial #	· ·	1009	8	-	Serial #: 4517
Weigh		C / Flat		Calibra	· tion Leve		94 (1	114)	Wind: Steady/Gusty/Calm
Respo	onse: Slow	V Fast / Ir	nol	Pro-Test				dBA	Precipitation: Yes (explain) No
Winds	creen Ye	es / No (ex	kplain)	Post-Te	est	- 1	2	dBA	Avg Wind Speed/Direction: 0-(/N
Topo:	Flat		1	GPS	Coordina	ates (at	SLM loc	ation)*	Temp (°F): 20 BH (%): 17.7
Terrai	n: Hard(§	Soft/Mixed	I/\$now						Bar Psr (Hg): 27 95 Cloud Cover (%):
ID	Start Time	Stop Time	L _{eq}	L _{min}	L _{max}	L ₁₀	L ₅₀	L ₉₀	Notes/Events
	12000								
	12:05								
		1							
		12:09	3/12/	15					
		13,01							
R	oadway N	Name/Dir					com	ipass	<u>Site Diagram:</u>
:	Speed (p	ost/obs)*						\mathcal{A}	
	Number	of Lanes							
	Width (p	ave/row)							
	1- 0	or 2- way							
		Grade						1	L Controld
	B	us Stops						2 CL	
	S	Stoplights						Ē	
	Motorcy	cles							
	Automo	biles							
	Medium	Trucks							
	Heavy T	rucks					, Q)
	Buses						\backslash	\sim	
	Count d	uration		On and	linet-str	ada: / D 1			10
1	# - D	note coordina	te system*		timated by F	ladar / Drivi	ng / Observ	ation	
	<u>A</u>	dditional N	lotes/Co	mments	<u>;</u>	1 1	1		N74IN002
	Other Nois	se Sources:	distant: aiı	cra	Wr	ft/roadway	y traffic/tra	iins/landsc al Notes a	caping/rustling leaves/children playing/dogs barkin /birds vocalizing
			_	_					

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			Al		Acou	istics E ME	and N	loise EMEI	Control Practice
Proje	ct Name	· Ak I	NG		NOIS	Pro	iect #	2177	1386 Date: 3/10/15 Page of
Monit	orina Lo	cation:	LT'B -		R	36 S	N74	IN003	Analyst: 66/00
	Sound Le	evel Meter			Field	d Calibra	ation		Weather Data
Model	#:	821		Model #	:	200	<u></u>		Model #: Sm28
Serial	#:	ST1 300	5	Serial #	:	102	89	~	Serial #: 4312
Weigh	ting: A/C	/ Flat		Calibration Level (dBA): 94 / (114)					Wind: Steady/Gusty/Calm
Respo	nse: Slow	V Fast / In	npl	Pre-Test dBA					Precipitation: Yes (explain) No
Winds	creen : Ye	s / No (ex	(plain)	Post-Test 🔶 🤟 dBA					Avg Wind Speed/Direction:
Торо:	Elat	lilly		<u>GPS</u>	Coordina	ates (at S	SLM loca	ation) [#]	Temp (°F):RH (%):
Terraiı	n: Hard	of /Mixed	/Snow						Bar Psr (Hg):२१.१३ Cloud Cover (%): 🕞
ID	Start Time	Stop Time	L _{eq}	L _{min}	L _{max}	L ₁₀	L_{50}	L ₉₀	Notes/Events
	14.05								
		14:10	3/12/	K					
		ļ							
<u> </u>									
<u> </u>									
R	oadway N	Name/Dir					com	pass	<u>Site Diagram:</u>
	Speed (p	ost/obs)*						\mathcal{I}	
	Number	of Lanes							13
	Width (p	ave/row)						٢	
	1- (or 2- way						and the second second	Din 1
		Grade						v ander vers in das autom	
	B	us Stops					4	-	
	5	Stoplights					-		\setminus \checkmark $>$
	Automo	CIES							
-	Modium	Trucks					1		
	Heavy	Frucks					1		
	Buses						1		$\sim 10^{-10}$
	Count d	luration					1		
# - note	coordinate sys	tem Speed	estimated	by Radar / D	riving / Obs	ervation	-		Spirce
Photo	os Taken t	Yes/No							
Additi	onal Notes	s/Comme	nts:	_			5	a stand of the sta	N74IN003
	Other Nois	se Sources:	distant: ai	rdraft/road	way traffic Additi	trains/lanc	dscaping/ri s and Sket	ustling lea ches on F	ves/children playing/dogs barking/birds vocalizing/Insects Reverse

		A i.		IELD	11012		ASUR			
Proje	ct Name	AK	LNG	2	<u> </u>	Pro	ject #:	2122	CISK6 Date: Page	of
Monit	oring Lo	cation: S	ST1 -		N/4	INUUI	ti	enine	Analyst:	
	Sound L	evel Meter			Field	d Calibra	ation	2	Weather Data	
Model	#:	831		Model #	:	loo			Model #: <u>^</u>	
Serial	#:	US 29	184_	Serial #	: ,	1000	×	5	Serial #:	
Weigh	ting: A/C	; / Flat		Calibration Level (dBA): 94 (114)					Wind: Steady/Gusty/Calm	
Respo	nse: Şlow	Y Fast / In	npl	Pre-Tes	st	- 10		dBA	Precipitation: Yes (explain) No	
Winds	creen . Ye	s / No (ex	plain)	Post-Te	st			dBA	Avg Wind Speed/Direction:	
Topo:	Flat / H	Hilly		GPS (Coordina	ates (at S	SLM loca	ation) [#]	Temp (°F): <u>1</u> RH (%): <u>4</u>	0
Terraiı	n: Hard/S	Soft/Mixed	/Snow						Bar Psr (Hg): 24 🏠 Cloud Cover (%): 🕧	>
ID	Start Time	Stop Time	L _{eq}	L _{min}	L _{max}	L ₁₀	L_{50}	L ₉₀	Notes/Events	
	19:22	19119							970/0 Latta	
<u> </u>	11.22	11.10							The Brokery	
<u> </u>										
									· · · · · · · · · · · · · · · · · · ·	
B	oadwav N	Name/Dir					com	pass	<u>Site Diagram:</u>	
	Speed (p	ost/obs)*								
	Number	of Lanes							LTISIN	
	Width (p	ave/row)								
	1-	or 2- way								
		Grade								
	B	us Stops								
<u> </u>	Materia	stoplights								
<u> </u>	IVIOTORCY									
<u> </u>	Automo	Jules								
	Rucco	TUCKS								
	Count	uration								
	Count u						1			
# - note o	coordinate sys	tem * - Speed	estimated	by Radar / D	riving / Obs	ervation	2			
	s raken?		ato:	den 1	/ 11	1 and	1		N74INC	001
Additto	JIAI NOLES	sounner	<u>115.</u>	/	>/)	e-m	eck'			
	Other Nois	se Sources: o	distant: ai	rcraft/road	vay traffic	trains/land onal Notes	lscaping/ru and Sket	ustling lear ches on F	aves/children playing/dogs.barking/birds vocalizing/insec	cts

AECOM Acoustics and Noise Control Practice

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			F	URS A	Acous NOIS	tics an E ME	nd No ASUR	ise C EME	ontrol Practice NT DATA FORM
Proje	ct Name	: AK	LN	6		Pro	ject #:	2622	1385 Date: 3/11/15 Page of
Monit	oring Lo	cation:	STI		N74	4IN001	K	Juhha	Analyst: CR/CM
	Sound L	evel Mete	ſ		Field	d Calibra	ation		Weather Data
Model	#:	201914		Model #	:	20			Model #: $\frac{\sqrt{2}}{\sqrt{2}}$
Serial	#:	<u></u>		Serial #	: Han Law		18		
Respo	ing. A /	Fast / Ir	nnl			91 (UDA):	94/4	dBV	Wind: Steady/Gusty/Caim Procipitation: Yoo (cyplain) (No
Winds	creen : Ve	es No (e)	(plain)	Post-Te	est	y]	₹	dBA	Avg Wind Speed/Direction:
Topo:	Flat / H	Hilly	<u>/</u>	GPS	Coordina	ates (at a	ŠLM loc	ation)#	Temp (°F): 5 BH (%): 16.7
Terrai	n: Hard/S	Soft/Mixed	/Snow						Bar Psr (Hg): 2980 Cloud Cover (%):
ID	Start Time	Stop Time	L _{eq}	L _{min}	L _{max}	L ₁₀	L ₅₀	L ₉₀	Notes/Events
	11:00		-						
		60,26							
		ļ		ļ					
							4		
R	oadway N	Name/Dir					<u>com</u>	pass	<u>Site Diagram:</u>
	Speed (p	ost/obs)*						<u>ノ</u>	J
	Number	of Lanes							
		ave/row)							
	1-0	Grade							
	В	us Stops							
	S	toplights							
	Motorcy	cles							
	Automo	biles							
	Medium	Trucks							
	Heavy T	rucks							
	Buses	uration							
# . noto -			L	Dedar / D	ining (Oli				
# - note c	oordinate syst	Yes/N∩	estimated I	-3-Dal	nving / Obse	ervation			
Additic	onal Notes	Commer	its:	(-h	NU			,	
- unantic	Other Nois	se Sources: o	listant: air	craft/roadw	vay traffic/1	rains/land	€ scaping/ru		ves/children playing/dogs barking/birds vocalizing/Insects
			5	<u> </u>	Additic	nal Notes	and Sket	ches on R	everse
			re	s-dent	goes	inside		URS	ANCP, Field Noise Measurement Form, Vers. 1.2 111109

		Acous	tics a	nd No	ise C	ontrol Practice
Project Name: Ac IN		11015		ASUR	2 w77	175 Date: 3/11/16 Page of
Monitoring Location:	0		1741NC)01 Dc		Analyst: Chark
Sound Level Meter		Fiel	d Calibra	ation	, y	Weather Data
Model #: 531	Model #	#:	200	>		Model #: Smz8
Serial #: 2984	Serial #		1000	18	•	Serial #:
Weighting: A / C / Flat	Calibra	tion Leve	el (dBA):	94 / 1	14)	Wind: Steady/Gusty/Calm
Response: Slow Fast / Impl	Pre-Test <. 0 3 dBA					Precipitation: Yes (explain) / No)
Windscreen Yes / No (explain)	Post-Te	est			dBA	Avg Wind Speed/Direction: O-1 / N
Topo: Flat / Hilly	<u>GPS</u>	Coordina	ates (at	SLM loc	ation)#	Temp (°F):
Terrain: Hard/Soft/Mixed/Snow						Bar Psr (Hg): 21. 5 Cloud Cover (%): 🧿
ID Start Stop L _{eq}	L _{min}	L _{max}	L ₁₀	L ₅₀	L ₉₀	Notes/Events
104						
10.10	1					
1:10						
					ļ	
	· ·				r	
Roadway Name/Dir				<u>com</u>	pass	<u>Site Diagram:</u>
Speed (post/obs)*					\mathcal{I}_{-}	
Number of Lanes						-
Width (pave/row)						
1- or 2- way						
Grade						
Bus Stops						
Stoplights						
Motorcycles						
Automobiles						
Buooo						
Count duration						
	bu Dodar / D	Luciving (Ohe	onvotion			
Photos Taken? Yes/No	Γζ _ D	ntr: (1)	civali0(1			
Additional Notes/Comments:	518	120	L	TV	from	
Other Noise Sources: distant:	ircratt/road	way traffic Additi	trains/land	/ Iscaping/ru and Sket	ustling lea	ves/children playing/dogs barking/birds vocalizing/Insects

					coust	tics an	nd No	ise Co	ontrol Practice
Projec	rt Namo	· A/c	1.1.1	L	NUIS		iect #·	21.77	175(Date 3/11/15 Page of
Monit	orina Lo	cation:	51	6		N74IN	001 E	Day	Analyst: $C(N / C)$
	Sound Le	evel Meter			Field	d Calibra	ation		Weather Data
Model	#:	831	•	Model #	:	7 DO			Model #: model #:
Serial	#:	748	Ч	Serial #		10099	ξ		Serial #: 4512
Weigh	tina: A / C	/ Flat		Calibrat	ion Leve	dBA):	94 / 1	14)	Wind: Steady/Gusty/Calm
Respo	nse: Slow	/ Fast / In	lan	Pre-Test - 01 dBA					Precipitation: Yes (explain) No
Winds	creen : Ye	s/No (ex	(plain)	Post-Te	st			dBA	Avg Wind Speed/Direction:
Торо:	Flat / H	lilly		GPS	Coordina	ates (at S	SLM loc	ation)#	Temp (°F): 6 RH (%): 5,4
Terrair	n: Hard/S	Soft/Mixed	/Snow						Bar Psr (Hg): 24.25 Cloud Cover (%):
ID	Start Time	Stop Time	L _{eq}	L _{min}	L _{max}	L ₁₀	L ₅₀	L ₉₀	Notes/Events
	19.30								
		15:45							
		L							
L									
ļ									
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<u> </u>									
								ļ	
	<u> </u>								
									Cite Discreme
R	oadway I	Name/Dir						pass	<u>Site Diagram:</u>
	Speed (p	ost/obs)*							
	Number	of Lanes	·				-		
	Width (p	ave/row)							
]-(or 2- way	<u> </u>	<u></u>		·	-		
		Grade							
		Stoplights							
	Motorov		·						
	Automo	hiles				,			
	Medium	Trucke	<u> </u>						
	Heavy		1						
	Buses		1				1		
	Count d	luration							
# - note	coordinate sve	tem * - Sneed	estimated	by Rader / D	rivina / Obs	ervation	1		
Photo	os Taken?	Yes/No)	152	200	15			
Additi	onal Note	s/Comme	nts:	5	12101	h			N74IN001
	Other Nois	se Sources:	distant: a	ircraft/roadv	way traffic	trains/land	lscaping/r	ustling lea	vee/children playing/dogs barking/birds vocalizin Insects
					Additi	onal Note	s and Sket	ches on F	Reverse
1					2	sident	huise	URS	SANCP, Field Noise Measurement Form, Vers. 1.2 111109

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FIELD	NOISE	MEASL	JREME	NT DAT	A FORM

		Λ							
Proje	t Name	AKL	NG			Pro	ject #:	1622	-13% Date: 3/10/15 Page of
Monit	oring Lo	cation:	STZ	١	174IN0	02	6	renih	Analyst: (k/(m
	Sound Le	evel Meter	-		Field	d Calibra	ation) Weather Data
Model	#: * *	831		Model #	:	200	>		Model #: 5/h-78
Serial	#:	2981	1	Serial #	:	1000	F8	•	Serial #: 4512
Weiah	ing: A/C	/ Flat	+	Calibrat	ion Leve	el (dBA):	94 / 🕤	14	Wind: Steady/Gusty/Calm
Respo	nse Slow	Fast / In	nnl	Pre-Tes	<u>-</u>	10		dBA	Precipitation: Yes (explain) (No)
Winds	roon Ve	/ No (ex	nlain)	Post-Te	net.				Avg Wind Speed/Direction:
Terret					Coordine				
торо:	Fiat / F	lilly heft/Millinged	10000	GFS		ales (al a		allon	$\operatorname{Per}\operatorname{Per}(\operatorname{Per}): \xrightarrow{2}{4} \operatorname{Qer}(\operatorname{Per}): \xrightarrow{2}{4$
Terrair	i: Haru/S	on/wixea	/Snow						
ID	Start Time	Stop Time	L _{eq}	L _{min}	L _{max}	L ₁₀	L ₅₀	L ₉₀	Notes/Events
	70:03								LIG 9700 men
		70:18							
				1					······································
		[
R	badway N	lame/Dir					<u>com</u>	pass	<u>Site Diagram:</u>
	Speed (po	ost/obs)*			L				
	Number	of Lanes							Sec LT Sheat
	Width (p	ave/row)							
	1- c	or 2- way			-				
		Grade							
	B	us Stops							
	S	toplights							
	Motorcy	cles				2			
	Automol	biles							
	Medium	Trucks							\
	Heavy T	rucks					1		
	Buses								
	Count d	uration					1		
# - noto o	oordinate sust	em * - Spood	estimated	hy Radar / D	riving / Obc	envation			
Photo	s Taken?		Sounded		n., İ.		-1		N74IN002
Additio	nal Notoo	Commor	nte	L13	- Jul		1		
	Other Main		ilo.		mec	L	less-ir-1	undila a 1 - ¹⁰	
	Other Nois	e Sources: (distant: ai	rcrattyroad	Additi	arains/land	scaping/ru and Sket	ustling lea	ves/cnildren playing/dogs barking/birds vocalizing/Insects
				(0	shing			AECOM	ANCP, Field Noise Measurement Form, Vers. 1.21 021815

			F	IELD	NOIS	E ME	ASUR	EME	NT DATA FORM
Proje	t Name	AK	LN	2		Pro	ject #:	2622	386 Date: 3/ 10/ 15 Page of
Monit	oring Lo	cation: 4	5+2		N74	4IN002	-	N uh	Analyst: (k/(m
Model	<u>Sound Le</u> #: *·	2 ST V		Model #	Field :	d Calibra 7.5 1.0	ation D		Model #: <u>Weather Data</u>
Weigh	$\frac{1}{2}$	/ Flat	L	Calibrat	ion Leve		94/1	14	Wind: Steady/Gusty/Calm
Resno	nse: Slow	/Fast/In	nnl	Pre-Tes	at -		υ, ι	TRA	Precipitation: Yes (explain)
Winds	creen : Ye	s / No (ex	(plain)	Post-Te	est			dBA	Avg Wind Speed/Direction:
Topo:	Flat / H	lilly	· · ·	GPS	Coordina	ates (at s	SLM loc	ation) [#]	Тетр (°F): Ц RH (%): 6.7
Terrair	n: Hard/S	oft/Mixed	/Snow						Bar Psr (Hg): 29. 82 Cloud Cover (%):
ID	Start Time	Stop Time	L _{eq}	L _{min}	L _{max}	L ₁₀	L ₅₀	L ₉₀	Notes/Events
	23:37								
		23:52							
				+					
R	badway N	l Name/Dir				L	com	pass	<u>Site Diagram:</u>
	Speed (p	ost/obs)*		8.81,024.94 1 3444au				\mathcal{L}	
	Number	of Lanes							-
	Width (p	ave/row)							
	1- (or 2- way							
L		Grade							
	B	us Stops				· · · · · · · · · · · · · · · · · · ·	4		
	Mataray	stopilgnts					1		
<u>├</u>	Automo	bilos							
<u> </u>	Medium	Trucks		· · · · · · · · · · · · · · · · · · ·			1		
 	Heavy T	rucks					1		
	Buses						1		
	Count d	uration					1		
# - note o	oordinate syst	tem * - Speed	estimated	by Radar / D	riving / Obs	ervation	•		
Photo	s Taken?	Yes/No)	LT3 -	Data. C	209			N74IN002
Additio	onal Notes	s/Commer	<u>nts:</u>	_	mec	K			
	Other Nois	se Sources:	distant: ai	rcraftroad	vay traffic/	rains/lanc	lscaping/ru s and Sket	ustling lea ches on F	ves/children playing/dogs barking/birds vocalizing/Insects Reverse

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URS Acoustic	cs and Noise	Control Pra	actice
FIELD NOISE	MEASUREM	ENT DATA	FORM

			1				10011	La IVI La I	
Projec	t Name	Ák (NG			Pro	ject #2	12212	556 Date: 3/11/15 Page of
Monito	oring Loo	cation:	512		N7	4IN002	2		Analyst: CK/CM
	Sound Le	vel Meter			<u>Field</u>	d Calibra	<u>ition</u>		Weather Data
Model #	#:	831		Model #	:	ha	2		Model #: <u>\$M 78</u>
Serial #	¢:	2984		Serial #	:	1000	78		Serial #: USIZ
Weight	ing:A / C	/ Flat		Calibrat	ion Leve	el (dBA):	94 / 🕤	14	Wind: Steady/Gusty/Calm)
Respor	nse: Slow	/ Fast / In	npl	Pre-Tes	st	0	3 -	dBA	Precipitation: Yes (explain) (No
Windso	reen : Ye	s / No (ex	plain)	Post-Te	st			dBA	Avg Wind Speed/Direction:
Topo:	Flat / H	lilly		GPS	Coordina	ates (at S	SLM loca	ation) [#]	Temp (°F): RH (%):
Terrain	: Hard/S	oft/Mixed	/Snow						Bar Psr (Hg): 29.5% Cloud Cover (%):
	Start	Stop							
ID	Time	Time	L_{eq}	L _{min}	L _{max}	L ₁₀	L ₅₀	L ₉₀	Notes/Events
	11:28								
	11.00	11:48							
		11.10							
<u> </u>									
┣							0.000		Site Diegram:
Ro	badway N	lame/Dir						<u>pass</u>	<u>Site Diagram.</u>
	Speed (p	oct/obc*)	
	Number	oflanes							1
	Width (n								
	1 viuui (p	ave/IUW)					1		
	1- (Grado					1		
	P						1		
	D	toplights					1		
	Motorov								
	Automo	biloc					1		
	Modium						1		
	Russe	TUCKS					1		
	Count d	uration					1		
	Count d			hu Ded. (2	utility of the second s	on units	1		C luc
# - note o	oordinate sys	tem * - Speed	estimated	by Hadar / D	vriving / Obs	ervation			7
	s raken?		, 	CTS-	Pato.	.012	1		rooster lure
Additio	onal Notes	s/Comme	IIIS:		И	ind 1	ching	an	now ??
1	Other Nois	se Sources:	distant: a	ircraft/read	way traffic	trains/land	∽ lscaping/ri	ustling lea	wes/children playing/dogs barking/birds vocalizing/insects
			~		Addit	onal Note	s and Sket	ches on F	Reverse
				128.	y went			URS	SANCP, Field Noise Measurement Form, Vers. 1.2 111109

			F	IELD	NOIS	E ME	ASUR	EME	NT DATA FORM
Proje	ct Name	: Ak	LNG			Pro	ject #:	7.622	1376 Date: 3/1/15 Page of
Monit	oring Lo	cation:	572			N74IN()02 E	Day	Analyst: LMICK
	Sound Le	evel Meter			Field	d Calibra	ation		Weather Data
Model	#:	531		Model #	:	NÖ	0		Model #: 5/~ 7=6
Serial	#:	2984		Serial #	•	100	AP .		Serial #: 4512
Weigh	ting: A/C	/ Flat		Calibrat	ion Leve	el (dBA):	94 / (1	14	Wind: Steady/Gusty/Calm)
Respo	nse: Slow	X Fast / In	npl	Pre-Tes	st	.01	C	dBA	Precipitation: Yes (explain) No
Winds	creen : Ye	s No (ex	plain)	Post-Te	st			dBA	Avg Wind Speed/Direction: 1-3 / NA
Торо:	Flat / F	Tilly		GPS	Coordina	ates (at \$	SLM loca	ation)#	Temp (°F); 17 BH (%); 106
Terrair	h: Hard/S	oft/Mixed	/Snow						Bar Psr (Hg): LIN Cloud Cover (%):
ID	Start Time	Stop Time	L _{eq}	L _{min}	L _{max}	L ₁₀	L ₅₀	L ₉₀	Notes/Events
	Mark								
	10.00	1621							
		10.01							
				1					
R	oadway I	Name/Dir						pass	<u>Site Diagram:</u>
	Speed (p	ost/obs)*						\mathcal{L}	
	Number	of Lanes							
	Width (p	ave/row)							
	1- (or 2- way	 						
		Grade					-		
	B	us Stops					1		
	Motorov	sioplights					1		
	Automo	hilee					1		
	Medium	Trucke							
	Heavy 7	rucks					1		
	Buses						1		
	Count d	uration					1		
# - note d	coordinate svs	tem * - Speed	estimated	by Radar / D	rivina / Obs	ervation			N74IN002
Photo	os Taken?	Yes/No)	(T3.))where (516			- 1
Additi	onal Notes	s/Commer	nts:				d data	NS	Turkey
	Other Nois	se Sources:	distant: ai	ircraft/roadv	vay traffic	trains/land	lscaping/ru	ustling lea	ves/children playing/dogs barking/birds vocalizing/insects
					Additi	onal Notes	s and Sket	ches on F	Reverse
			Sun	ucre	机	ily		URS	SANCP, Field Noise Measurement Form, Vers. 1.2 111109

URS Acoustics and Noise Control Practice

A	ECOM Acou	ustics and F MFASI	l Noise	Control Practice
Project Name: Ak (N/		Project	#: 7627	136 Date: 3/10/15 Page of
Monitoring Location: 5T3	N74	IN003	Evenila	Analyst: Lic/Lim
Sound Level Meter	Fiel	d Calibration)	Weather Data
Model #: 851	Model #:	200		Model #: 4m7x
Serial #: 2984	Serial #:	10098		Serial #: 4512
Weighting 17 (C / Flat	Calibration Leve	el (dBA): 94	1/(14)	Wind: Steady/Gusty/Calm
Response: Slow / Fast / Impl	Pre-Test	- 1	dBA	Precipitation: Yes (explain) / No
Windscreen · Yes / No (explain)	Post-Test		dBA	Avg Wind Speed/Direction:
Topo: Flat / Hilly	GPS Coordina	ates (at SLM	location)#	Temp (°F): <u>(7</u>
Terrain: Hard/Soft/Mixed/Snow				Bar Psr (Hg): 2989 Cloud Cover (%): 🔿
ID Start Stop L _{eq}	L _{min} L _{max}	L ₁₀ L	50 L ₉₀	Notes/Events
20:47				
20,57	1 1			
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	<u> </u>			
		ļ,		
				011 51
Roadway Name/Dir		<u>C</u>		<u>Site Diagram:</u>
Speed (post/obs)*			\bigcirc	
Number of Lanes				
Width (pave/row)				(IT chart
1- or 2- way				re critice
Grade				
Bus Stops				
Stopiignts				
Medium Trucke				
Heavy Trucks				
Buses				
Count duration				
# - note coordinate system * - Speed estimated	by Radar / Driving / Obs	servation		
Photos Taken? Yes/No) —
Additional Notes/Comments:	LT3_Data.	005	N-me	N74IN003
Other Noise Sources: distant: ai	rcraft/roadway traffic/	ains/landscapi ional Notes and	ng/rustling lea Sketches on F	aves/children playing/dogs barking/birds vocalizing/Insects

			A] F		[Acou NOIS	istics F ME	and N ASUR	Noise REME	Control Practice	
Proied	t Name	: AK	LM			Pro	iect #:	7122	-13 Date: $3/10/15$ Page of	
Monit	oring Lo	cation:	513	<u> </u>	N74IN	003	N	LLt	Analyst: $(K/C)^{-1}$	
	Sound Le	evel Meter			Field	d Calibra	ation		Weather Data	
Model	#:	831		Model #	:	20	0		Model #: 5/1 7 8	
Serial i	#:	2984		Serial #	:	100	198		Serial #: 4512	
Weight	ting: A / C	/ Flat		Calibrat	ion Leve	el (dBA):	94 k 1	14)	Wind: Steady/Gusty/Calm	
Respo	nse: Slow	/ Fast / In	npl	Pre-Tes	st	1.1		dBA	Precipitation: Yes (explain)	
Winds	creen Ye	es / No (ex	plain)	Post-Te	st			dBA	Avg Wind Speed/Direction:	
Торо:	Flat / H	lilly		<u>GPS</u>	Coordina	ates (at S	SLM loc	ation) [#]	Temp (°F):RH (%):	
Terrair	: Hard/S	Soft/Mixed	/Snow						Bar Psr (Hg): 29 👫 Cloud Cover (%):	_
ID	Start Time	Stop Time	L_{eq}	L _{min}	L _{max}	L ₁₀	L ₅₀	L ₉₀	Notes/Events	
	79.00									
		72:15								
										n yan ing yang di
Ro	adway N	Name/Dir							<u>Site Diagram:</u>	
5	Speed (p	ost/obs)*								
	Number	of Lanes								
	Width (p	ave/row)								
	1- (or 2- way								
		Grade								
	<u> </u>	us Stops								
	S	toplights								
	Motorcy	cles								
	Automo									ŝ
<u> </u>	Heavy I	TUCKS								
<u> </u>	Count d	uration								
				Devis / C			1			
# - note c	oordinate syst	tern * - Speed	estimated	by Hadar / D	riving / Obs	ervation				
Additic	nal Notes	s/Commer	nts:	LTZ	-Det	n. 00	S		N74IN003	3
	Other Nois	se Sources: o	distant: ai	rcraft/roadv	vay traffic/ Additio	ains/land	Iscaping/ru and Sket	∽ ⊔stling lea ches on F	ves/children playing/dogs barking/birds vocalizing/Insects	

			F		Acous	tics ai	nd No	ise C	Control Practice
Project	Name	AŁ	LA	/ (,		Pro	iect #:	7(77	$7\sqrt{3}$ Date: $3/1 \leq Page of$
Monito	ring Lo	cation:	53			N74IN	003	1000	Analyst: CK/
S	Sound Le	evel Meter			Field	d Calibra	ation		Weather Data
Model #	:	831		Model #	:	200			Model #: (MZF
Serial #:		2980	1	Serial #	:	10009	5	•	Serial #: 4512
Weightir	ng.AXC	/ Flat		Calibrat	ion Leve	el (dBA):	94 / [14	Wind: Steady/Gusty/Calm
Respon	se: Slow	Fast / In	npl	Pre-Tes	st	03	-	dBA	Precipitation: Yes (explain) //No
Windscr	reen : Ye	es / No (ex	plain)	Post-Te	est	01		dBA	Avg Wind Speed/Direction: 1-3/6
Торо:	Flat / F	titly		<u>GPS</u>	Coordina	ates (at S	SLM loc	ation) [#]	Temp (°F): 12 RH (%): 76 20.3
Terrain:	Hard/S	Soft/Mixed	/Snow						Bar Psr (Hg): 29.5% Cloud Cover (%):
ID	Start Time	Stop Time	L_{eq}	L _{min}	L _{max}	L ₁₀	L ₅₀	L ₉₀	Notes/Events
	12120			1					
 †'		12'69							
		10,11							
Roa	adway N	Name/Dir					<u>com</u>	pass	<u>Site Diagram:</u>
S	peed (p	ost/obs)*						\mathcal{I}	
N	lumber	of Lanes							_
V	Vidth (p	ave/row)							
	1- (or 2- way							
		Grade							
	В	us Stops							
	S	Stoplights							
	Motorcy								
	Automo	DIIES							
	Rucoc	TUCKS		· · · · · · · · · · · · · · · · · · ·					
	Count d	uration							
			a otimata d	hu Dodro / D	riving / Oh	onvotion	1		
# - note coo	Takon2	YesNo	esumateo	Dy Hadar / L		ervation			
Additior	nal Notes	s/Commer	nts: h	el _	n.	eighte	last	l	N74IN003
	Other Nois	se Sources:	distant: ai	rcraft/road	vay traffic	trains/land	scaping/ru	ustling lea	aves/children playing/dogs barking/birds vocalizing/Insects

			Acoust	tics an	nd No	ise C	ontrol Practice
Project Name: Ak	[]] [IELD	11013		ASUN	2197	1357 Data: 2/11/1/ Dago of
Monitoring Location:	<u>573</u>	,	١	174IN0	03	4600	Analyst: (1/ / / /
Sound Level Mete	r		Field	d Calibra	ation		Weather Data
Model #: 151	<u> </u>	Model #	<u>1 1010</u>	700)		Model #: SM ZX
Serial #: 7984		Serial #		100	9X	•	Serial #: 4517
Weighting: A/C/Flat		Calibrat	ion Leve	el (dBA):	94 1	14	Wind: Steady/Gusty/Calm)
Response: Slow / Fast / Ir	npl	Pre-Tes	st	~.0		dBA	Precipitation: Yes (explain) /No
Windscreen Yes / No (ex	(plain)	Post-Te	est			dBA	Avg Wind Speed/Direction:
Topo: Flat / Hilly		<u>GPS</u>	Coordina	ates (at s	SLM loc	ation)#	Temp (°F): 17 RH (%): 17,7
Terrain: Hard/Soft/Mixed	/Snow						Bar Psr (Hg): ZIM Cloud Cover (%):
ID Start Stop Time Time	L _{eq}	L _{min}	L _{max}	L ₁₀	L ₅₀	L ₉₀	Notes/Events
1652							
17:07							
						<u> </u>	
		<u> </u>					
					<u> </u>		
Roadway Name/Di	·			1	com	pass	Site Diagram:
Speed (post/obs))	
Number of Lanes							1
Width (pave/row)					1		
1- or 2- way	/				1		
Grade					1		
Bus Stops							
Stoplights							
Motorcycles	ļ						
Automobiles	ļ						
Medium Trucks	ļ	!	ļ		1		
Heavy Trucks	 						
Buses							
Count duration	<u> </u>				1		
# - note coordinate system * - Speed	l estimated	by Radar / D	riving / Obs	ervation			
Additional Notae/Comme) nto:	-1)-	V. m				N74IN003
Autional Notes/Comme	1115.			ern			
Other Noise Sources:	distant: ai	rcraft/road	way traffic/	trains/lanc	Iscaping/ru s and Sket	ustling lea ches on F	aves/children playing/dogs barking/birds vocalizing/Insects Reverse

AECON	I Acous	tics and	l Noise	Control	Practice
FIELD	NOISE	MEASL	JREME	NT DAT	A FORM

	+ Name o	κ Í.	1.11			D	inct #	2100	1391 Deter 2 (1) // Dens of
	n iname	AK	LN6	× 1 ¬		Pro	ject #:	4.00	Applyot 2 - 10/17 Page Of
wonit	oring LO	cation:	514	N/	4IN004	1	[-	venil	M Analyst: CETCM
	Sound Le	evel Meter			Field	d Calibra	<u>ition</u>		Weather Data
Model	#:	Xn		Model #	:	200)		Model #: <u>\\\\\\</u>
Serial #	#:	2981		Serial #	:	00	98	and the second se	Serial #: 4512
Weight	ing: A C	/ Flat		Calibrat	ion Leve	el (dBA):	94 (1	14)	Wind: Steady/Gusty/Calm)
Respo	nse: Slow	/ Fast / In	npl	Pre-Tes	st	1	-34	dBA	Precipitation: Yes (explain) / No
Windso	creen : Ye	s)/ No (ex	plain)	Post-Te	st			dBA	Avg Wind Speed/Direction:
Торо:	Flat / H	lilly		GPS (Coordina	ates (at S	SLM loca	ation)#	Temp (°F):
Terrair	: Hard/S	oft/Mixed	/Snow						Bar Psr (Hg): 29.84Cloud Cover (%):
	Start	Stop							
ID	Time	Time	L _{eq}	L _{min}	L _{max}	L ₁₀	L ₅₀	L ₉₀	Notes/Events
	21111								
	21.15	-A.A.							
		211/1							
		4,71							
									·
				ļ					
B	adwav N	lame/Dir					com	pass	<u>Site Diagram:</u>
5	Speed (po	ost/obs)*							
	Number	of Lanes							
	Width (p	ave/row)							Dee 4 Sheet
	1- c	or 2- way							
		Grade							
	В	us Stops							
	S	toplights							
	Motorcy	cles							
	Automol	oiles							
	Medium	Trucks							
	Heavy T	rucks							
	Buses						ч		
	Count d	uration							
# - note o	oordinate svet	em * - Speed	estimated	ov Badar / D	rivina / Obe	ervation			
Photo	s Taken?	Yes/No	20timutod	T'7 A	tr.C	06			
Additic	nal Notes	Commer	nts:	13-0	F- 1	nech			
Additte	10163		1.0.				~		
	Other Nois	e Sources:	distant: ai	rcraft/road	way traffic	trains/land	scaping/ru	ustling lea	ves/children playing/dogs barking/birds vocalizing/Insects
				(Som	Additi	onal Notes	and Sket	ches on F	Reverse
				TV	tru	ma	ζ	AECOM	ANCP, Field Noise Measurement Form, Vers. 1.21 021815

			A]		I Acou	istics	and N	Noise	Control Practice
Proje	rt Name	· Ak	<u> </u>	IELD	INOIS		ASUR	TIVIE	NI DATA FORM
Monit	oring Lo	cation:	ST M	1	174INC	04	yeer π . λ	NAHT	Analyst: Ck/(m
	Sound L	evel Mete	r		Field	d Calibra	ation	<u>, , , , , , , , , , , , , , , , , , , </u>	Weather Data
Model	#:	831	-	Model #	 	200			Model #:
Serial :	#:	2984		Serial #	:	1009	X	_	Serial #: <u>4/7</u>
Weigh	ting AC	/ Flat		Calibrat	ion Leve	el (dBA):	94 / 1	14	Wind: Steady/Gusty/Calm)
Respo	nse: Slow	Fast / Ir	npl	Pre-Tes	st	-11		dBA	Precipitation: Yes (explain) No.
Winds	creen Ye	es / No (e)	(plain)	Post-Te	est			dBA	Avg Wind Speed/Direction:
Topo:	Flat /	tíly		<u>GPS</u>	Coordina	ates (at s	SLM loc	ation) [#]	Temp (°F):RH (%):
Terrair	n: Hard/S	Soft/Mixed	/Snow					1	Bar Psr (Hg): C4 \S4 Cloud Cover (%):
ID	Start Time	Stop Time	L _{eq}	L _{min}	L _{max}	L ₁₀	L_{50}	L ₉₀	Notes/Events
,	101								
		72:11							
		L							
				ļ					
<u> </u>									
R	badway N	Name/Dir					com	pass	<u>Site Diagram:</u>
	Speed (p	ost/obs)*							
	Number	of Lanes							-
	Width (p	ave/row)							
	1- (or 2- way							Jee LI sheet
		Grade							
	В	us Stops							
<u> </u>	5	Stoplights							
	Motorcy								
	Automo	DIIES							
	Ruses	TUCKS							
	Count d	uration							
# - note c	oordinate svs	tem * - Speed	estimated t	ov Radar / D	riving / Obse	ervation			
Photo	s Taken?	Yes/No)	LT3	D, h.	.007			
Additic	nal Notes	s/Commer	<u>nts:</u>		INCO	(h-			
	Other Nois	se Sources:	distant: air	craft/roadv	vay traffic	t'M trains/land	scaping/ru	istling lea	N74IN004 ves/children playing/dogs barking/hirds vocalizing/Insects
				C .	Additio	onal Notes	and Sket	ches on F	leverse

AECOM ANCP, Field Noise Measurement Form, Vers. 1.21 021815

			F		Acoust	tics ai	nd No	ise C	ontrol Practice
Projec	t Name	AK	IN	6		Pro	iect #:	1.622	13 \6 Date: 3/1/16 Page of
Monit	oring Lo	cation:	ity	<u> </u>	N74IN	004	j e e e		Analyst: $C_K / (M)$
	Sound Le	evel Meter			Field	d Calibra	ation		Weather Data
Model	#:	831	-	Model #	:	U	Ð		Model #: SMZ8
Serial i	#: <u> </u>	298	4	Serial #	:	LOUGH	2		Serial #: 4512
Weight	ing; A C	/ Flat		Calibrat	ion Leve	el (dBA):	94 /(1	14	Wind: Steady/Gusty/Calm
Respo	nse: Slow	√ Fast / Ir	npl	Pre-Tes	st	~.03	-	dBA	Precipitation: Yes (explain) No
Winds	creen Ye	s / No (e)	plain)	Post-Te	st	M34		dBA	Avg Wind Speed/Direction:
Topo:	Flat / H	lilly		<u>GPS</u>	Coordina	ates (at S	SLM loca	ation) [#]	Temp (°F): <u>10</u> RH (%): <u>31, 5</u>
Terrair	: Hard/S	Soft/Mixed	/Snow	ļ					Bar Psr (Hg): 29.) Cloud Cover (%):
ID	Start Time	Stop Time	L_{eq}	L _{min}	L _{max}	L ₁₀	L ₅₀	L ₉₀	Notes/Events
	12:05								
		12:28							
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				+					
				1					
R	badway N	Name/Dir		•		•	com	pass	Site Diagram:
S	Speed (p	ost/obs)*						\mathcal{L}	
	Number	of Lanes							-
L	Width (p	ave/row)							
	1- (or 2- way							
		Grade					1		
	B	us Stops					1		
	Motorcy				<u> </u>				
<u> </u>	Automo	biles					1		
	Medium	Trucks					1		
	Heavy T	rucks					1		
	Buses						1		
	Count d	uration							
# - note c	oordinate sys	tem * - Speed	estimated	by Radar / D	riving / Obs	ervation			
Photo	s Taken?	Yes/No)	1.53-	Data. 01	3			
<u>Additic</u>	onal Notes	s/Commei	nts:			Gun	shots		N74IN004
	Other Nois	se Sources:	distan(: ai	ircraftroad	way traffic/ Addit	trains/lanc	lscaping/ru s and Sket	ustling lea tches on F	ves/children playing/dogs barking/birds vocalizing/insects Reverse

URS Acoustics and Noise Control Practice FIELD NOISE MEASUREMENT DATA FORM

Projec	t Name:	AK	IN	16		Pro	iect #:	71.7	z 139 b Date: 03/11/15 Page of
Monito	oring Loc	cation:	GTU	<u> </u>	N	74IN00)4	LUL	Analyst: (,~ / / /c
	Sound Le	vel Meter			Field	Calibra	ition		Weather Data
Model #	<u></u>	831		Model #	:	210			Model #:
Serial #	· ·	2997.4	/	Serial #		1000	18		Serial #: 4517
Weiaht	ingi A / C	/ Flat		Calibrat	ion Leve	dBA):	94/1	14	Wind: Steady/Gustw/Calm
Respor	nse: Slow	/ Fast / Im	Iqr	Pre-Tes	et e	0	1	dBA	Precipitation: Yes (explain) No
Windso	reen : Ye	s / No (ex	plain)	Post-Te	st	- 27	2	dBA	Avg Wind Speed/Direction:
Торо:	Flat / H	lilly		GPS	Coordina	ates (at S	SLM loca	ation) [#]	Temp (°F): 17 RH (%): 17.8
Terrain	: Hard/S	oft/Mixed/	/Snow						Bar Psr (Hg): 79.4 & Cloud Cover (%): 0
ID	Start Time	Stop Time	L _{eq}	L _{min}	L _{max}	L ₁₀	L ₅₀	L ₉₀	Notes/Events
	17:25								
		17:40							
				ļ					
R	badway N	Name/Dir					<u>com</u>	pass	<u>Site Diagram:</u>
	Speed (p	ost/obs)*						\sum	
L	Number	of Lanes							
	Width (p	ave/row)					4		
	1- (or 2- way					4		
		Grade			 		-		
<u> </u>	B	us Stops					1		
	Motores						1		
	Automo	bilos					1		
	Medium	Trucke					1		
	Heavy 7	rucke							
	Buses						1		
	Count d	uration					1		
# . noto r		tem * - Speed	estimated	by Bader / F	riving / Obs	envetion			
Photo	s Taken?	Yes/No)	L1	ົງ Ds	y la. C	18		
Additio	onal Notes	s/Comme	<u>nts:</u>	N-	Mech				N74IN004
	Other Nois	se Sources:	distant: a	rcraft/road	way traffic/	trains/lanc onal Notes	Iscaping/ru s and Sket	ustling lea ches on f	aves/children playing/dogs barking/birds vocalizing/bisects Reverse

Project Name: N	ASKAL		<u>NOIS</u>		\ <u>5</u>		NT DATA FORM
ivionitoring Locatic	n: ST-DA	Y IN	GIT	1 117	HNIO	<u></u>	Analystick DT
Sound Level N	leter	1 01-	Field	Calibra	tion	94	Weather Data
Model #:	831	Model #	. (Aizo	20		Model #: VANTAGE PAOZ PULS Serial #: MADIS: D2066 Wind: Steady/Gusty/Calm) Precipitation: Yas (explain) (No)
Serial #: 3	219	Serial #:	Ì	103	7		
Weighting: (AY C / Fla	t	Calibrat	on Leve	(dBA):	94 (1	14	
Besoonse: Gow / Fas	st / Imol	Pre-Tes	í e		07	dBA	
Windscreen : (Yes / N	o (explain)	Post-Te	st ·	+0.	05	dBA	Avg Wind Speed/Direction:
Topo: JACA AHIL	an ar an	GPS (Coordina	tes (at S	SLM loca	ation) [#]	Temp (°F): 49 BH (%): 912
Terrain: Hard/Goft/N	ixed/Snow						Bar Psr (Hg): 29.6Cloud Cover (%): 100.2
Start St			rig projektion of or	* *** end: <u>22.22</u> [19]**	1999-1997 HANDON H 20	10.000000000000000000000000000000000000	
ID Time Tir	ne Leq	L-min	Lmax	L ₁₀	L ₅₀	L90	
9:40 10:	00						
1							
-						1	
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		_					
		1					
		ar where we are and a ser-			al too like the second		19. ふかい コンドン (19.1) かんか (19.1) かんぎん かんざい (19.10) (19
Roadway Name	/Dir				<u>com</u>	ioass	<u>Site Diagram:</u>
Speed (post/o	bs)*						
Number of La	nes		1				
Width (pave/	ow)				1		CEE DATA
1- or 2-	way		1				JUC F EROM
Gr	ade				-		SHEEL
Bus Si	ops	· · · · · · · · · · · · · · · ·					MAIL
Stoplig	ghts						
Motorcycles							
Automobiles							
Medium Truc	ks				1		
Heavy Truck	s I						
Buses							
Count duratio							
# - note coordinate system •	peed estimated	by Radar / D	riving / Obs	ervation			
Photos Taken? (Yes	No						
Additional Notes/Com	ments.						
		woraftinad	way traffic	hains/land	dscaping/i	rustlina le	aves/children plaving/dogs barking/lurgs vocalizing/insects
Other Noise Sour	ces: distant: a	in a raina (octo			1 0		

Monitoring Location: St - NIGHT UNG LT NTHNIOOI Mails: CV / ST Mails: CV / ST Sound Level Mark Eled Calibration Mails: CV / ST Model #: Statil #: MASS Senal #: Statil #: MASS Senal #: Sarial #: MASS Weighting (St C / Flat Calibration Level (CBA): 94 (CIV) Mind Streedy Cuety Calibration Wind Screen (YEV / No (explain) Pro-Test:	Project Name: NASU	JELD:	NDISEME	ASUBENE loct #:	NIDATA FORM
Scale Scale Scale Scale Scale Scale Wather bas Model # 331 Model # Scale Model # Wather bas Senal #: Scale Scale Scale Model # Model # Model # Senal #: IOST Scale # IOST Scale # Model # <td>Monitoring Location:</td> <td>ST-NIGHT</td> <td>1.16 1 - 1</td> <td></td> <td>Analysi: (V NT</td>	Monitoring Location:	ST-NIGHT	1.16 1 - 1		Analysi: (V NT
Model #: Class Landmann Model #: CALZO Senal #: CALZO Senal #: CALZO Weighting:(Ar C) Flat Calibration Level (dBA): Baspone: Clow (Fast / Impl) Pra-Test - O - O U dBA Weighting:(Ar C) Flat Calibration Level (dBA): Weighting:(Ar C) Flat Calibration Level (dBA): Part Test - O - O U dBA Weighting:(Ar C) Flat Calibration Level (dBA): Weighting:(Ar C) Flat Calibration Level (dBA): Part Test - O - O U dBA Weighting:(Ar C) Flat Calibration Level (dBA): Part Test - O - O U dBA Weighting:(Ar C) Flat Calibration Level (dBA): Part Test - O - O U dBA Weighting:(Ar C) Flat Calibration Level (dBA): Part Test - O - O U dBA Weighting:(Ar C) Flat Part Test Part Test - O - O U dBA Value:(Ar C) (Part Ar C) Part Test Part Test - O - O U dBA Part Test - O - O	Sound Level Mater	DI-NIGHI	UNG LT1	N74N1001	Allalyst. Cky b)
Incode in S214 Serial # ICODE II Serial # ICODE II Serial # ICODE II Serial # ICODE II Serial #: MADS: EC4957 Resconse (Sovy Fast / Impl Precisition Level (dBA): 94 (TE2) Precisition (the vert dAN) Precisition (the vert dAN) Vindeorsen (Ya / No (explain) Precisition (the vert dAN) Precisition (the vert dAN) Topo Strat #: MADS: EC4957 Wind Stead (the vert dAN) Precisition (the vert dAN) Precisition (the vert dAN) Topo Strat #: MADS: EC4957 ID Stat #: MADS: EC4957 ID Stat #: Man (the vert dAN) Temp (*F): SD ID Stat #: Mads Intervert Sd ID Stat #: Mads Mads Notes/Events ID Stat #: Mads Intervert Sd Notes/Events ID Stat #: Stat #: Mads Sd Notes/Events ID Stat #: Stat #: Sd Sd Notes/Events ID Sd <td< td=""><td>Modal # 83</td><td>Madal #</td><td></td><td><u></u></td><td>Weather Data</td></td<>	Modal # 83	Madal #		<u></u>	Weather Data
Weighting (Ar C / Flat California Level (IGA): 94 (Ta) Response, (Bowy Fast / Impl Pre-Test - O - O + GBA Windscreen (Yar / No (axplain) Post Tast - O - O + GBA Arg Wind Speed/Directon: [O MARK Pre-MA Vindscreen (Yar / No (axplain) Post Tast - O - O + GBA Arg Wind Speed/Directon: [O MARK Pre-MA Vindscreen (Yar / No (axplain) Post Tast - O - O + GBA Arg Wind Speed/Directon: [O MARK Pre-MA Vindscreen (Yar / No (axplain) Post Tast - O - O + GBA Arg Wind Speed/Directon: [O MARK Pre-MA I D Tame Time Les Lun (axplain) Post Tast - O - O + GBA Arg Wind Speed/Directon: [O MARK Pre-MA I D Tame Time Les Lun (axplain) Post Tast - O - O + GBA Arg Wind Speed/Directon: [O MARK Pre-MA I D Tame Time Les Lun (axplain) Post Tast - O - O + GBA Arg Wind Speed/Directon: [O MARK Pre-MA I D Tame Time Les Lun (axplain) Post Tast - O - O + GBA Arg Wind Speed/Directon: [O MARK Pre-MARK Pre	Serial # 32	Serial #	1087		Social #: MANIS - FLI 10/
Moging Story as (Solvy Fast Their Pre-Test 2 - 0000000000	Weighting: (A) C: / Elat	Calibrati	and aval (dBA):	011111	Wind Standby Cuby Colm
Image Description (Data Mark (explaint)) Person (Park Mark (explaint)) Person (Park Mark (explaint)) Topo: And Windscreen (Park Mark (explaint)) Or Control (Park Mark (Park (Park Mark (Park	Besnonse (Slow)/ East / Ir	Pro-Tog		OHARA	Procipitation Vac (avalain) (No (14 (- 457 PANN))
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ID Start Stop Time Lea Lea Lea Lea Lea Lea Notes/Events 22:30 32:50	Terrain. Hard/Soft/Mixed	/Snow		SEMPROCATION)	Bar Psr (Hg): 29.4 Cloud Cover (%): 100%
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lesponsel	Slow/ Fas	t / Imol	Pre-	Test	- 0,1	07	dBA	Precipitation: Yes (explain) (No)
Vindscree	n :(Yes/ No	(explai	n) Post	Test	-0,:	07-	dBA	Avg Wind Speed/Direction: O M&H
opo: P	Mail: (Hilly)	nina kega	GP	S Coordin	ates (at S	SLM loc	ation)#	Temp (°F): 49 RH (%): 94%
errain:	lard Soft Mi	xed/Snc)///					Bar Psr (Hg): 729-3Cloud Cover (%): 100%
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hotos Tal	ken? Yes/	No						
iditional N	lotes/Com	nents.						
Othe	r Noise Sourc	es: Ilsian	aircrait	adway traffic	/trains/lanc	lscaping/r	rustling lea	wes/children playing togs barking furds vocalizing) nsects

TO SOUTH (SIGNIFICANTSOURCE)

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Project Name: ALASIAL i	NG	Projec	ot #:	Date: 6/3/15 Page of
Monitoring Location: LNG	LT1 M	V74NTGOL	NSA 1215	Analysi: Cky DT
Sound Level Meter		Field Calibratio	n Rosi	Weather Data
Vlodel # 831	Model #:	CAUZOS)	Model #: NA
Serial #: 3221	Serial #:	1108.7		Serial #:'
Neighting A C / Flat	Calibratio	n Level (dBA):	94/114	Wind Steady/Gusty/Calm
Response: 610wil/ Fast / Impl	Pre-Test	+0.04	dBA	Precipitation Yes (explain) / No INTERNUTION
Windscreen (Yes) No (explain) Post-Test	-0.20	> dBA	Avg Wind Speed/Direction: 6-5 MPA (FRov)
Topo: Flat (Hilly)	GPS Co	ordinates (at SLi	M location)#	Temp (°F): ' 52 RH (%):
Terrain: Hard Soft Mixed/Snov	N		10 and 10 mm of Tax, 100 provide a summary solution	Bar Psr (Hg): Cloud Cover (%):
D Start Stop Le		Lmax L10	L ₅₀ L ₉₀	Notes/Events
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12:10 22:20				WILL REMARKS MERCINC
9.20 9.40				1/EUE - BELLEVE INTERVAL
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17.10				G/ SA 2 - SPOFFICES
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Speed (post/obs)*		/`		
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Heavy Trucks				
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Sr	ng co	vel Meter	ING I	141	A'/ 4h Field	1 Calibra		FL ST	Weather Data
Model #:		22	1 3	Model #	Ć	ALIC	30	- V ()	Model #: N/A
Serial #1		355	X.	Serial #:	~	110	87-		Serial #:
Weighting	(A) c	/ Flat	1-1-1-1	Calibrati	on Leve	el (dBA):	94 /(1	14)	Wind: Steady/Gusty/Calm)
Response	e:(Slow)	/ Fast / Im	ipl	Pre-Tes	L.	-0.	12	dBA	Precipitation: Yes (explain) No
Windscre	en Y.s	3 / No (ex	olain)	Post-Te	st	+0.	8	dBA	Avg Wind Speed/Direction: O-i MPH
Topo: (Flat/H	lilly		GPSC	Doordina	ates (at l	SLN loc	ation) [#]	Temp (°F): ' 50 RH (%):
Terrain:	Hard	of Mixed/	Snow		₩				Bar Psr (Hg): Cloud Cover (%): (00%
ID	Start Time	Stop Time	L _{eq}	Lmin	Lmax	L ₁₀	L ₅₀	Lgo	Notes/Events
1	1:10		- Truck State - 47] 	in the second		6/3/15
2	25100	73-20)						613/15-REMOVE INTERVAL
11	.00	11-10				1			6.5115 - REMOVE INTERVAL
		17:20							GIS/IS - STOPPED
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Ot	her Nois:	e Sources: d	listant: a	ircraft/roadt	way traffic Addi	/trains/lan ilonal Note	idscaping/ es and Ske	rustling le etcnes on	aves/children playing/dogs barking/birds vocalizing/Insects Reverse
n an antar — Bhada — Lan, tagan ganada		NDNSTR	JAL Jun 1	5000-C	B TO	NIN	(mr	SCHAN	BARCEPField Noise Measurement Form, Vers. 1.2. 11 109

Project Name: AVASICH	<u>CIELUMUDE</u>	Project #:	Date: 6/4/15 Page of
Monitoring Location: 5:-	NIGHT LNG LT 2	2 N74NIGO	2Analyst: CK_, DJ
Sound Level Meter	Field	Calibration	Weather Data
Model #: 831	Model #	CA 200	Model #: VANTACE PROZ PLUS
Serial #: 3249	Serial #	11037	Serial #: MADIS E6467
Weighting (A)/ C / Flat	Calibration Level	(dBA): 94/(114)	Wind: Steady/Gusty/Calm
Response: Slow / Fast / Impl	Pre-Test	-0.0-+ dBA	Precipitation Yes (explain) No MPN
Windscreen Wes/ No (explain	1) Post-Test	-0.0.1 dBA	Avg Wind Speed/Direction: ZFROM SE
Topo: Flat Hilly	GPS Coordinate	es (at SLM location) [#]	Temp (°F): ' 48 RH (%): 43%
Terrain. Hard Soft/Mixed/Snc		Connect Frank 2 - 1 2 the sold of all experiences by the State	Bar Psr (Hg): 29-3Cloud Cover (%): 100%
ID Start Stop L	eq Lmin Lmax	L ₁₀ L ₅₀ L ₉₀	Notes/Events
22:50 23:10			00 m/s/s/s/s/s/s/s/s/s/s/s/s/s/s/s/s/s/s/s
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Roadway Name/Dir		compass	<u>Site Diagram:</u>
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Photos Taken? Yes/No	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Additional Notes/Comments.			
Other Noise Sources, distan	t: aircraft/oadway traffio tra Addition	ains/landscaping/rustling I nal Notes and Sketches of	eaves/children playing logs barking Ords vocalizing insects
Other Noise Sources, distan	t: aircraitioadway traffid tra Addition	ains/landscaping/rustling I nal Notes and Sketches or MRCB -TO NW	eaves/children playing logs barking Ords vocalizing/insects n Reverse RS ANCP, Field Noise Measurement Form, Vers, 1,2, 111109

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	Sound L	evel Meter		21-	Field	1 Calibra	tion		Weather Data
Model	#:	83	31	Nodel #	1	CAUR	05		Model #: VANTAGE PROZ PLUS
Serial	#:	321	9	Serial #		1108	7	-	Serial #: MADIS: D2066
Weigh	iting: (A)/ C) / Flat		Calibrat	ion Leve	el (dBA):	94 / 1	Î.s.	Wind: Steady/Gust/Calm
Respo	onse: Glow	/ Fast / Ir	npl	Pre-Tes	it	+0.0	5	dBA	Precipitation: Yes (explain)
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Serial #: 3331	Serial #:	11087		Serial #:
Weighting: ADC / Flat	Calibration Leve	el (dBA): 94	(114)	Wind: Steady/Gusty(Calm)
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APPENDIX C – GLOSSARY OF ACOUSTICAL TERMS
Alaska LNG

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 L10, L50, and L90 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 L10 typically describe transient or short-term events, while levels associated with L90 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.