



CIVITAS

EXTRACTION OIL & GAS, INC.

NOISE MITIGATION PLAN

APPLICATION FOR:

T-BONE XOG-28 PAD SITE

TOWN OF MILLIKEN, COLORADO

Latitude 40.365115 Longitude -104.785652

PREPARED BY:



APRIL 30, 2024

EDITED TO INCLUDED ECMC CHANGES
AUGUST 10, 2024

IN ACCORDANCE WITH
COLORADO ENERGY AND CARBON MANAGEMENT COMMISSION
SERIES 400 REGULATIONS
ADOPTED JANUARY 15, 2021

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INTRODUCTION

Extraction Oil & Gas, Inc. (Extraction), a wholly owned subsidiary of Civitas Resources, Inc. and The Environmental and Natural Resources Group, Inc. (ENRG) have prepared a Noise Mitigation Plan (NMP) for the T-Bone XOG-28 Pad (T-Bone) location. Per the Colorado Energy and Carbon Management Commission's (ECMC) previously adopted 400-Series Noise Ordinance, oil and gas operators drilling within Colorado must submit a NMP detailing how sound regulations will be met. It is the intention of ENRG and Extraction to incorporate and satisfy all requirements under the governing ordinance set forth above as it pertains to this NMP as a supporting document for the application of the Oil and Gas Development Plan (OGDP) permit for the T-Bone location.

SITE DESCRIPTION

The T-Bone Pad is located at approximately Latitude 40.365115 Longitude -104.785652 (Figure 1). According to Google Earth maps and visual observation, the proposed pad site is located west of 65th Avenue and north of 49th Street in the Town of Milliken, Colorado (SW/4 Sec 28, T5N, R66W). The T-Bone pad site is located in an Agricultural zoned area. The surrounding properties are primarily utilized for farming/ranching, oil and gas or residential development. Land or properties within ¼ mile the T-Bone pad site consists of relatively undisturbed uplands. At the time of the NMP, the well pad had not been constructed.

There are residential building units (RBU's) within 2,000 feet of the permanent equipment currently anticipated (i.e., wells, facilities) on the T-Bone location as indicated on Figure 1. The closest RBU is approximately 1,042 feet southeast from the edge of the working pad surface. RBU's within 2,000 feet of the working pad surface are shown on Figure 1. The approximate elevation at the proposed location is 4,812 feet above sea level (Figure 2). The elevation within one (1) mile of the proposed drill site ranges from 4,783 - 4,859 feet (Figure 3). The average slope from north to south (A-A') is 1.6% and west to east (B-B') is 2.2% (Figure 4).

72-HOUR AMBIENT SOUND RESULTS

For the 72-hour ambient sound study, ENRG utilized five (5) of our Noise Monitoring Terminals (NMTs) which are each equipped with a Type I Bruel & Kjaer (B&K) 2250 sound level meter. A graphical description of ENRG's continuous monitoring technology can be seen on Figure 5.

T-BONE - NORTH AMBIENT SOUND LOCATION

72-Hour Ambient Sound Monitoring

ENRG's Noise Monitoring Terminal (NMT), which is equipped with a Type I Bruel & Kjaer (B&K) 2250 sound level meter, was calibrated, programmed for dBA and dBC frequencies and installed at the T-Bone - North ambient sound location by ENRG personnel before 0:00 on Saturday, April 20, 2024. Initial and final readings were verified with a calibration device to ensure accuracy during and after the test. The objective was to measure and document the site's ambient sound levels until 23:59 on

Monday, April 22, 2024. The NMT was located approximately 1,160 feet north from the edge of disturbance at the drilling location and approximately 75 feet south from the nearest residential building unit boundary (Figure 1). The results of the 72-hour ambient sound levels from the T-Bone - North ambient sound location are summarized on Table A below. A copy of the ENRG ambient sound report is also attached as Exhibit A.

TABLE A
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
NORTH METER
72-HOUR SOUND LEVEL SUMMARY - dBA & dBC

dBA		72 HR AVG (dBA)	36 HR	36 HR	24 HR (dBA) DAY 1	24 HR (dBA) DAY 2	24 HR (dBA) DAY 3
DAYS	DATE		DAYTIME AVG (dBA)	NIGHTTIME AVG (dBA)			
SAT - SUN - MON	4/20/24 - 4/22/24	45.5	46.2	44.7	44.7	45.3	46.4

dBC		72 HR AVG (dBC)	36 HR	36 HR	24 HR (dBC) DAY 1	24 HR (dBC) DAY 2	24 HR (dBC) DAY 3
DAYS	DATE		DAYTIME AVG (dBC)	NIGHTTIME AVG (dBC)			
SAT - SUN - MON	4/20/24 - 4/22/24	59.1	60.8	56.2	58.4	59.1	59.8

DRILLING AND COMPLETIONS SOUND ALLOWABLES

A - Scale Allowables – T-Bone - North

As shown on Table A above, ENRG and Extraction have measured and reported a 72-hour ambient sound level of 45.5 dBA, a 36-hour daytime ambient sound level of 46.2 dBA, and a 36-hour nighttime ambient sound level of 44.7 dBA at the T-Bone - North location. Based on the ECMC 423.b.(2)A. regulation, the allowable for the T-Bone - North location will be 65.0 dBA during the day and 60.0 dBA at night during drilling and completions operations as referenced in the regulation excerpt below and summarized on Table B below:

(2) Unless otherwise required by Rule 423, drilling or completion operations, including Flowback:

A. In Residential/Rural or Commercial/Agricultural, maximum permissible noise levels will be 60 db(A) in the hours between 7:00 p.m. to 7:00 a.m. and 65 db(A) in the hours between 7:00 a.m. to 7:00 p.m.;

The regulations go on to state the following:

(6) Unless otherwise required by Rule 423.b.(7), during the hours between 7:00 a.m. and the next 7:00 p.m. the maximum permissible noise levels listed in Table 423-1 may be increased 10 dB(A)

for a period not to exceed 15 minutes in any 1-hour period. The increase is permissible only for a 1 - hour period during any 12 hours.

TABLE B
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
NORTH METER
dBA ALLOWABLES

DAYS	DATE	72 HR AVG (dBA)	36 HR DAYTIME AVG (dBA) 7:00 AM - 7:00 PM	ADJUSTED +7 DAYTIME (dBA) ALLOWABLE (IF > 65.0 dBA)	36 HR NIGHTTIME AVG (dBA) 7:00 PM - 7:00 AM	ADJUSTED +5 NIGHTTIME (dBA) ALLOWABLE (IF > 60.0 dBA)
SAT - SUN - MON	4/20/24 - 4/22/24	45.5	46.2	65.0	44.7	60.0

Based on the 72-hour ambient sound level results measured at the T-Bone - North location from April 20 – 22, 2024, the ECMC daytime allowable of 65.0 dBA was exceeded for zero (0) hours of the study, and the nighttime allowable of 60.0 dBA nighttime was exceeded for zero (0) hours of the study. This is broken down and shown on the attached Exhibit A, after Figure 20.

C - Scale Allowables – T-Bone - North

As part of the ECMC Rule 423.b. requirement regarding ambient sound studies, ENRG and Extraction have measured and reported a 72-hour ambient “C” scale sound level.

The ECMC 423.b.(2)B. regulation states the following in regard to “C” weighted data:

(2) Unless otherwise required by Rule 423, drilling or completion operations, including Flowback:

B. In all zones maximum permissible noise levels will be 65 db(C) in the hours between 7:00 p.m. to 7:00 a.m. and 65 db(C) in the hours between 7:00 a.m. to 7:00 p.m.

In situations where the dBC ambient sound levels already exceed the 423.b.(2)B. regulation above, the ECMC provides a solution for calculating a sound level allowable that takes in to account those ambient levels, as delineated in 423.d. CUMULATIVE NOISE (1) and (2) which are shown below:

(1) Noise measurements taken at noise points of compliance designated pursuant to Rule 423.a.(5) will take into account ambient noise, rather than solely the incremental increase of noise from the facility targeted for measurement.

(2) At new or substantially modified Oil and Gas Locations where ambient noise levels at noise points of compliance designated pursuant to Rule 423.a.(5) already exceed the noise thresholds identified in Table 423-1, then Operators will be considered in compliance with Rule 423, unless at any time their individual noise contribution, measured pursuant to Rule 423.c, increases noise above ambient levels by greater than 5 dBC and 5 dBA between 7:00 p.m. and 7:00 a.m. or 7 dBC and 7 dBA between 7:00 a.m. and 7:00 p.m. This Rule 423.d.(2) does not allow Operators to increase noise above

the maximum cumulative noise thresholds specified in Table 423-2 after the Commencement of Production Operations.

As shown on Table A above and on Table C below, ENRG and Extraction have measured and reported a 72-hour ambient sound level of 59.1 dBC, a 36-hour daytime ambient sound level of 60.8 dBC, and a 36-hour nighttime ambient sound level of 56.2 dBC at the T-Bone - North location. Because the 36-hour daytime average was 60.8 dBC and did not exceed the 65.0 dBC allowable, ENRG is not proposing an adjustment to the daytime allowable for the T-Bone - North ambient location as summarized on Table C below. Similarly, and because the 36-hour nighttime allowable of 65.0 dBC was not exceeded at 56.2 dBC, ENRG is not proposing an increase to the dBC nighttime allowable at the T-Bone - North location as referenced in the regulation excerpt above and summarized on Table C below:

TABLE C
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
NORTH METER
dBC ALLOWABLES

DAYS	DATE	72 HR AVG (dBC)	36 HR DAYTIME AVG (dBC) 7:00 AM - 7:00 PM	ADJUSTED +7 DAYTIME (dBC) ALLOWABLE (IF > 65.0 dBC)	36 HR NIGHTTIME AVG (dBC) 7:00 PM - 7:00 AM	ADJUSTED +5 NIGHTTIME (dBC) ALLOWABLE (IF > 65.0 dBC)
SAT - SUN - MON	4/20/24 - 4/22/24	59.1	60.8	65.0	56.2	65.0

Based on the 72-hour ambient sound level results measured at the T-Bone - North location from April 20 – 22, 2024, the ECMC daytime allowable of 65.0 dBC was exceeded for one (1) hour of the study, and the non-adjusted allowable of 65.0 dBC nighttime was exceeded for zero (0) hours of the study and therefore the ambient was not compliant 100% of the time. This is broken down and shown on the attached Exhibit A, after Figure 20.

PRODUCTION ALLOWABLES

In accordance with ECMC Table 423-1, allowables during production will be as follows:

Table 423-1 – Maximum Permissible Noise Levels LAND USE DESIGNATION	7:00 am to next 7:00 pm	7:00 pm to next 7:00 am
Residential/ Rural/State Parks & State Wildlife Areas	55 db(A)	50 db(A)
Commercial/Agricultural	60 db(A)	55 db(A)
Light Industrial	70 db(A)	65 db(A)
Industrial	80 db(A)	75 db(A)
All Zones	60 db(C)	60 db(C)

Because the T-Bone location is located in an Agricultural zone, the allowables pursuant to the Table above are 60.0 dBA during the day and 55.0 dBA at night. Allowables for both daytime and nighttime are 60.0 dBC.

Pursuant to 423.d.(2), allowables may be adjusted if the ambient sound level already exceeds the land use designation in Table 423-1 above.

(2) At new or substantially modified Oil and Gas Locations where ambient noise levels at noise points of compliance designated pursuant to Rule 423.a.(5) already exceed the noise thresholds identified in Table 423-1, then Operators will be considered in compliance with Rule 423, unless at any time their individual noise contribution, measured pursuant to Rule 423.c, increases noise above ambient levels by greater than 5 dBC and 5 dBA between 7:00 p.m. and 7:00 a.m. or 7 dBC and 7 dBA between 7:00 a.m. and 7:00 p.m. This Rule 423.d.(2) does not allow Operators to increase noise above the maximum cumulative noise thresholds specified in Table 423-2 after the Commencement of Production Operations.

Although the above regulation typically allows for ambient + 7 dBA during the day and + 5 dBA at night when ambient levels exceed the allowables in Table 423-1, there is a limit for which the decibel levels can be increased, described in 423.d.(3) and Table 423-2. Regulation 423.d.(3) states the following with regard to maximum cumulative sound levels after the commencement of production:

(3) After the Commencement of Production Operations, if ambient noise levels already exceed the maximum permissible noise thresholds identified in Table 423-1, under no circumstances will new Oil and Gas Operations or a significant modification to an existing Oil and Gas Operations raise cumulative ambient noise above:

Table 423-2 – Maximum Cumulative Noise Levels LAND USE	7:00 am to next 7:00 pm	7:00 pm to next 7:00 am
Residential /Rural/State Parks/State Wildlife Areas	65 db(A)	60 db(A)
Commercial/Agricultural	70 db(A)	65 db(A)
Light Industrial	80 db(A)	75 db(A)
Industrial	90 db(A)	85 db(A)
All Zones	75 db(C)	70 db(C)

A - Scale Allowables - Production

During the ambient sound level survey at the T-Bone - North location, the 36-hour daytime average was 46.2 dBA during the day, while the 36-hour nighttime average was 44.7 dBA. Because the daytime average of 46.2 dBA does not exceed the daytime allowable of 60.0 dBA for daytime hours, ENRG is not proposing an adjustment to the allowable at this time. Similarly, and because the nighttime ambient average of 44.7 dBA did not exceed the nighttime allowable of 55.0 dBA, ENRG is

not proposing an increase to the allowable at this time. Throughout the ambient sound level survey, zero (0) hours exceeded the ECMC allowable of 60.0 dBA for daytime hours, and zero (0) hours exceeded the ECMC allowable of 55.0 dBA for nighttime hours. This is broken down and shown on the attached Exhibit A, after Figure 20.

C - Scale Allowables - Production

During the ambient sound level survey at the T-Bone - North location, the 36-hour daytime average was 60.8 dBC during the day, while the 36-hour nighttime average was 56.2 dBC. Because the daytime average was 60.8 and exceeded the 60.0 dBC allowable, ENRG is proposing an adjustment to 67.8 dBC ($60.8 + 7 = 67.8$) for daytime hours at the T-Bone - North monitoring location. Contrarily, and because the 36-hour nighttime average was 56.2 dBC does not exceed the allowable of 60.0 dBC in Table 423-1, ENRG is not proposing an increase to the allowable at the T-Bone - North for nighttime hours. It is important to note that zero (0) hours exceeded the adjusted daytime allowable of 67.8 dBC, while one (1) hour exceeded the nighttime allowable of 60.0 dBC and therefore the ambient was not compliant 100% of the time. This is broken down and shown on the attached Exhibit A, after Figure 20.

T-BONE – NORTHEAST AMBIENT SOUND LOCATION

72-Hour Ambient Sound Monitoring

ENRG's Noise Monitoring Terminal (NMT), which is equipped with a Type I Bruel & Kjaer (B&K) 2250 sound level meter, was calibrated, programmed for dBA and dBC frequencies and installed at the T-Bone - Northeast ambient location by ENRG personnel before 0:00 on Thursday, August 1, 2024. Initial and final readings were verified with a calibration device to ensure accuracy during and after the test. The objective was to measure and document the site's ambient sound levels until 23:59 on Saturday, August 3, 2024. The NMT was located approximately 1,675 feet northeast from the edge of disturbance at the drilling location and approximately 410 feet west from the nearest residential building unit boundary (Figure 1). The results of the 72-hour ambient sound levels from the T-Bone - Northeast ambient sound location are summarized on Table D below. A copy of the ENRG ambient sound report is also attached as Exhibit A after Figure 20.

TABLE D
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
NORTHEAST METER
72-HOUR SOUND LEVEL SUMMARY - dBA & dBC

dBA			36 HR DAYTIME AVG (dBA)	36 HR NIGHTTIME AVG (dBA)	24 HR (dBA)	24 HR (dBA)	24 HR (dBA)
DAYS	DATE	72 HR AVG (dBA)	7:00 AM - 7:00 PM	7:00 PM - 7:00 AM	DAY 1	DAY 2	DAY 3
THUR - FRI - SAT	8/1/24 - 8/3/24	53.5	54.8	51.5	54.3	53.7	52.1

dBC			36 HR DAYTIME AVG (dBC)	36 HR NIGHTTIME AVG (dBC)	24 HR (dBC)	24 HR (dBC)	24 HR (dBC)
DAYS	DATE	72 HR AVG (dBC)	7:00 AM - 7:00 PM	7:00 PM - 7:00 AM	DAY 1	DAY 2	DAY 3
THUR - FRI - SAT	8/1/24 - 8/3/24	64.2	65.4	62.6	64.8	64.7	62.8

DRILLING AND COMPLETIONS SOUND ALLOWABLES

A - Scale Allowables – T-Bone - Northeast

As shown on Table D above, ENRG and Extraction have measured and reported a 72-hour ambient sound level of 53.5 dBA, a 36-hour daytime ambient sound level of 54.8 dBA, and a 36-hour nighttime ambient sound level of 51.5 dBA at the T-Bone - Northeast location. Typically, based on the ECMC 423.b.(2)A. regulation, the allowable for the T-Bone - Northeast location will be 65.0 dBA during the day and 60.0 dBA at night during drilling and completions operations as referenced in the regulation excerpt below and summarized on Table E below:

(2) Unless otherwise required by Rule 423, drilling or completion operations, including Flowback:

A. In Residential/Rural or Commercial/Agricultural, maximum permissible noise levels will be 60 db(A) in the hours between 7:00 p.m. to 7:00 a.m. and 65 db(A) in the hours between 7:00 a.m. to 7:00 p.m.;

The regulations go on to state the following:

(6) Unless otherwise required by Rule 423.b.(7), during the hours between 7:00 a.m. and the next 7:00 p.m. the maximum permissible noise levels listed in Table 423-1 may be increased 10 dB(A) for a period not to exceed 15 minutes in any 1-hour period. The increase is permissible only for a 1 - hour period during any 12 hours.

Pursuant to 423.d.(2), allowables may be adjusted if the ambient sound level already exceeds the land use designation in Table 423-1 above.

(2) At new or substantially modified Oil and Gas Locations where ambient noise levels at noise points of compliance designated pursuant to Rule 423.a.(5) already exceed the noise thresholds identified in Table 423-1, then Operators will be considered in compliance with Rule 423, unless at any time their individual noise contribution, measured pursuant to Rule 423.c, increases noise above ambient levels by greater than 5 dBC and 5 dBA between 7:00 p.m. and 7:00 a.m. or 7 dBC and 7 dBA between 7:00 a.m. and 7:00 p.m. This Rule 423.d.(2) does not allow Operators to increase noise above the maximum cumulative noise thresholds specified in Table 423-2 after the Commencement of Production Operations.

Because the daytime ambient sound level of 54.8 dBA did not exceed the 65.0 dBA allowable, ENRG is not proposing an adjustment to the allowable at this time for the T-Bone - Northeast location. Similarly, and because the nighttime ambient sound level was 51.5 did not exceed the 60.0 dBA allowable, ENRG is not proposing an adjustment to the allowable for nighttime hours at the T-Bone - Northeast location as shown above below on Table E:

TABLE E
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
NORTHEAST METER
dBA ALLOWABLES

DAYS	DATE	72 HR AVG (dBA)	36 HR DAYTIME AVG (dBA) 7:00 AM - 7:00 PM	ADJUSTED +5 DAYTIME (dBA) ALLOWABLE (IF > 65.0 dBA)	36 HR NIGHTTIME AVG (dBA) 7:00 PM - 7:00 AM	ADJUSTED +5 NIGHTTIME (dBA) ALLOWABLE (IF > 60.0 dBA)
THUR - FRI - SAT	8/1/24 - 8/3/24	53.5	54.8	65.0	51.5	60.0

Based on the 72-hour ambient sound level results measured at the T-Bone - Northeast location from August 1 – 3, 2024, the ECMC daytime allowable of 65.0 dBA was exceeded for zero (0) hours of the study, and the nighttime allowable of 60.0 dBA nighttime was exceeded for zero (0) hours of the study. This is broken down and shown on the attached Exhibit A, after Figure 20.

C - Scale Allowables – T-Bone - Northeast

As part of the ECMC Rule 423.b. requirement regarding ambient sound studies, ENRG and Extraction have measured and reported a 72-hour ambient “C” scale sound level.

The ECMC 423.b.(2)B. regulation states the following in regard to “C” weighted data:

(2) Unless otherwise required by Rule 423, drilling or completion operations, including Flowback:

B. In all zones maximum permissible noise levels will be 65 db(C) in the hours between 7:00 p.m. to 7:00 a.m. and 65 db(C) in the hours between 7:00 a.m. to 7:00 p.m.

In situations where the dBC ambient sound levels already exceed the 423.b.(2)B. regulation above, the ECMC provides a solution for calculating a sound level allowable that takes in to account those ambient levels, as delineated in 423.d. CUMULATIVE NOISE (1) and (2) which are shown below:

(1) Noise measurements taken at noise points of compliance designated pursuant to Rule 423.a.(5) will take into account ambient noise, rather than solely the incremental increase of noise from the facility targeted for measurement.

(2) At new or substantially modified Oil and Gas Locations where ambient noise levels at noise points of compliance designated pursuant to Rule 423.a.(5) already exceed the noise thresholds identified in Table 423-1, then Operators will be considered in compliance with Rule 423, unless at any time their individual noise contribution, measured pursuant to Rule 423.c, increases noise above ambient levels by greater than 5 dBC and 5 dBA between 7:00 p.m. and 7:00 a.m. or 7 dBC and 7 dBA between 7:00 a.m. and 7:00 p.m. This Rule 423.d.(2) does not allow Operators to increase noise above the maximum cumulative noise thresholds specified in Table 423-2 after the Commencement of Production Operations.

As shown on Table D above and on Table F below, ENRG and Extraction have measured and reported a 72-hour ambient sound level of 64.2 dBC, a 36-hour daytime ambient sound level of 65.4 dBC, and a 36-hour nighttime ambient sound level of 62.6 dBC at the T-Bone - Northeast location. Because the 36-hour daytime was 65.4 dBC and exceeded the 65.0 dBC allowable, ENRG is proposing an adjustment to 72.4 dBC (65.4 + 7 = 72.4) to the daytime allowable for the T-Bone - Northeast ambient location as summarized on Table F below. Contrarily, and because the 36-hour nighttime allowable of 65.0 dBC was not exceeded at 62.6 dBC, ENRG is not proposing an increase to the allowable during nighttime hours at the T-Bone - Northeast location as referenced on Table F below:

TABLE F
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
NORTHEAST METER
dBC ALLOWABLES

DAYS	DATE	72 HR AVG (dBC)	36 HR DAYTIME AVG (dBC) 7:00 AM - 7:00 PM	ADJUSTED +5 DAYTIME (dBC) ALLOWABLE (IF > 65.0 dBC)	36 HR NIGHTTIME AVG (dBC) 7:00 PM - 7:00 AM	ADJUSTED +5 NIGHTTIME (dBC) ALLOWABLE (IF > 65.0 dBC)
THUR - FRI - SAT	8/1/24 - 8/3/24	64.2	65.4	72.4	62.6	65.0

Based on the 72-hour ambient sound level results measured at the T-Bone - Northeast location from August 1 – 3, 2024, the ECMC daytime proposed adjusted allowable of 72.4 dBC was exceeded for zero (0) hours of the study, while the non-adjusted allowable of 65.0 dBC nighttime was exceeded for six (6) hours of the study and therefore the ambient was not compliant 100% of the time. This is broken down and shown on the attached Exhibit A, after Figure 20.

T-BONE – NORTHEAST PRODUCTION ALLOWABLES

In accordance with ECMC Table 423-1, allowables during production will be as follows:



Table 423-1 – Maximum Permissible Noise Levels LAND USE DESIGNATION	7:00 am to next 7:00 pm	7:00 pm to next 7:00 am
Residential/ Rural/State Parks & State Wildlife Areas	55 db(A)	50 db(A)
Commercial/Agricultural	60 db(A)	55 db(A)
Light Industrial	70 db(A)	65 db(A)
Industrial	80 db(A)	75 db(A)
All Zones	60 db(C)	60 db(C)

Because the T-Bone location is located in an Agricultural zone, the allowables pursuant to the Table above are 60.0 dBA during the day and 55.0 dBA at night. Allowables for both daytime and nighttime are 60.0 dBC.

Pursuant to 423.d.(2), allowables may be adjusted if the ambient sound level already exceeds the land use designation in Table 423-1 above.

(2) At new or substantially modified Oil and Gas Locations where ambient noise levels at noise points of compliance designated pursuant to Rule 423.a.(5) already exceed the noise thresholds identified in Table 423-1, then Operators will be considered in compliance with Rule 423, unless at any time their individual noise contribution, measured pursuant to Rule 423.c, increases noise above ambient levels by greater than 5 dBC and 5 dBA between 7:00 p.m. and 7:00 a.m. or 7 dBC and 7 dBA between 7:00 a.m. and 7:00 p.m. This Rule 423.d.(2) does not allow Operators to increase noise above the maximum cumulative noise thresholds specified in Table 423-2 after the Commencement of Production Operations.

Although the above regulation typically allows for ambient + 7 dBA during the day and + 5 dBA at night when ambient levels exceed the allowables in Table 423-1, there is a limit for which the decibel levels can be increased, described in 423.d.(3) and Table 423-2. Regulation 423.d.(3) states the following with regard to maximum cumulative sound levels after the commencement of production:

(3) After the Commencement of Production Operations, if ambient noise levels already exceed the maximum permissible noise thresholds identified in Table 423-1, under no circumstances will new Oil and Gas Operations or a significant modification to an existing Oil and Gas Operations raise cumulative ambient noise above:



Table 423-2 – Maximum Cumulative Noise Levels LAND USE	7:00 am to next 7:00 pm	7:00 pm to next 7:00 am
Residential /Rural/State Parks/State Wildlife Areas	65 db(A)	60 db(A)
Commercial/Agricultural	70 db(A)	65 db(A)
Light Industrial	80 db(A)	75 db(A)
Industrial	90 db(A)	85 db(A)
All Zones	75 db(C)	70 db(C)

A - Scale Allowables - Production

During the ambient sound level survey at the T-Bone - Northeast location, the 36-hour daytime average was 54.8 dBA during the day, while the 36-hour nighttime average was 51.5 dBA. Because the daytime average of 54.8 dBA does not exceed the ECMC allowable of 60.0 dBA for daytime hours, ENRG is not suggesting an adjustment at this time. Similarly, and because the nighttime average of 51.5 dBA does not exceed the 55.0 dBA allowable for nighttime hours, ENRG is not suggesting an adjustment to the allowable at this time. It is important to note that zero (0) hours exceeded the ECMC allowable of 60.0 dBA for daytime hours, and four (4) hours exceeded the ECMC allowable of 55.0 dBA for nighttime hours and therefore the ambient was not compliant 100% of the time. This is broken down and shown on the attached Exhibit A, after Figure 20.

C - Scale Allowables - Production

During the ambient sound level survey at the T-Bone - Northeast location, the 36-hour daytime average was 65.4 dBC during the day, while the 36-hour nighttime average was 62.6 dBC. Because the daytime average of 65.4 dBC exceeds the ECMC allowable of 60.0 dBC, ENRG is proposing an adjustment to 72.4 dBC ($65.4 + 7 = 72.4$) for daytime hours at the T – Bone Northeast location for daytime hours. Similarly, and because the 36-hour nighttime average of 62.6 dBC exceeds the 60.0 dBC allowable, ENRG is proposing an adjustment to 67.6 dBC ($62.6 + 5 = 67.6$) during nighttime hours for the T-Bone - Northeast monitoring location. It is important to note that zero (0) hours exceeded the adjusted daytime allowable of 72.4 dBC, and zero (0) hours exceeded the adjusted nighttime allowable of 67.6 dBC. This is broken down and shown on the attached Exhibit A, after Figure 20.

T-BONE – SOUTHEAST AMBIENT SOUND LOCATION

72-Hour Ambient Sound Monitoring

ENRG's Noise Monitoring Terminal (NMT), which is equipped with a Type I Bruel & Kjaer (B&K) 2250 sound level meter, was calibrated, programmed for dBA and dBC frequencies and installed at the T-Bone - Southeast ambient sound location by ENRG personnel before 0:00 on Saturday, April 20, 2024. Initial and final readings were verified with a calibration device to ensure accuracy during and after the test. The objective was to measure and document the site's ambient sound levels until 23:59 on Monday, April 22, 2024. The NMT was located approximately 580 feet southeast from the edge of disturbance at the drilling location and approximately 140 feet west from the nearest residential building unit boundary (Figure 1). The results of the 72-hour ambient sound levels from the T-Bone - Southeast ambient sound location are summarized on Table G below. A copy of the ENRG ambient sound report is also attached as Exhibit A following Figure 20.

TABLE G
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
SOUTHEAST METER
72-HOUR SOUND LEVEL SUMMARY - dBA & dBC

dBA		72 HR AVG (dBA)	36 HR	36 HR	24 HR (dBA) DAY 1	24 HR (dBA) DAY 2	24 HR (dBA) DAY 3
DAYS	DATE		DAYTIME AVG (dBA)	NIGHTTIME AVG (dBA)			
SAT - SUN - MON	4/20/24 - 4/22/24	61.9	63.6	59.1	61.9	60.8	62.8

dBC		72 HR AVG (dBC)	36 HR	36 HR	24 HR (dBC) DAY 1	24 HR (dBC) DAY 2	24 HR (dBC) DAY 3
DAYS	DATE		DAYTIME AVG (dBC)	NIGHTTIME AVG (dBC)			
SAT - SUN - MON	4/20/24 - 4/22/24	68.5	70.4	65.1	67.1	67.8	70.2

DRILLING AND COMPLETIONS SOUND ALLOWABLES

A - Scale Allowables – T-Bone - Southeast

As shown on Table G above, ENRG and Extraction have measured and reported a 72-hour ambient sound level of 61.9 dBA, a 36-hour daytime ambient sound level of 63.6 dBA, and a 36-hour nighttime ambient sound level of 59.1 dBA at the T-Bone - Southeast location. Based on the ECOMC 423.b.(2)A. regulation, the allowable for the T-Bone - Southeast location will be 65.0 dBA during the day and 60.0 dBA at night during drilling and completions operations as referenced in the regulation excerpt below and summarized on Table H below:

(2) Unless otherwise required by Rule 423, drilling or completion operations, including Flowback:

A. In Residential/Rural or Commercial/Agricultural, maximum permissible noise levels will be 60 db(A) in the hours between 7:00 p.m. to 7:00 a.m. and 65 db(A) in the hours between 7:00 a.m. to 7:00 p.m.;

The regulations go on to state the following:

(6) Unless otherwise required by Rule 423.b.(7), during the hours between 7:00 a.m. and the next 7:00 p.m. the maximum permissible noise levels listed in Table 423-1 may be increased 10 dB(A) for a period not to exceed 15 minutes in any 1-hour period. The increase is permissible only for a 1-hour period during any 12 hours.

Pursuant to 423.d.(2), allowables may be adjusted if the ambient sound level already exceeds the land use designation in Table 423-1 above.

(2) At new or substantially modified Oil and Gas Locations where ambient noise levels at noise points of compliance designated pursuant to Rule 423.a.(5) already exceed the noise thresholds identified in Table 423-1, then Operators will be considered in compliance with Rule 423, unless at any time their individual noise contribution, measured pursuant to Rule 423.c, increases noise above ambient levels by greater than 5 dBC and 5 dBA between 7:00 p.m. and 7:00 a.m. or 7 dBC and 7 dBA between 7:00 a.m. and 7:00 p.m. This Rule 423.d.(2) does not allow Operators to increase noise above the maximum cumulative noise thresholds specified in Table 423-2 after the Commencement of Production Operations.

TABLE H
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
SOUTHEAST METER
dba ALLOWABLES

DAYS	DATE	72 HR AVG (dba)	36 HR DAYTIME AVG (dba) 7:00 AM - 7:00 PM	ADJUSTED +7 DAYTIME (dba) ALLOWABLE (IF > 65.0 dbA)	36 HR NIGHTTIME AVG (dba) 7:00 PM - 7:00 AM	ADJUSTED +5 NIGHTTIME (dba) ALLOWABLE (IF > 60.0 dbA)
SAT - SUN - MON	4/20/24 - 4/22/24	61.9	63.6	65.0	59.1	60.0

Based on the 72-hour ambient sound level results measured at the T-Bone - Southeast location from April 20 – 22, 2024, the ECMC daytime allowable of 65.0 dBA was exceeded for six (6) hours of the study, and the nighttime allowable of 60.0 dBA nighttime was exceeded for ten (10) hours of the study and therefore the ambient was not 100% compliant. This is broken down and shown on the attached Exhibit A, after Figure 20.

C - Scale Allowables – T-Bone - Southeast

As part of the ECMC Rule 423.b. requirement regarding ambient sound studies, ENRG and Extraction have measured and reported a 72-hour ambient “C” scale sound level.

The ECMC 423.b.(2)B. regulation states the following in regard to “C” weighted data:

(2) Unless otherwise required by Rule 423, drilling or completion operations, including Flowback:

B. In all zones maximum permissible noise levels will be 65 db(C) in the hours between 7:00 p.m. to 7:00 a.m. and 65 db(C) in the hours between 7:00 a.m. to 7:00 p.m.

In situations where the dBC ambient sound levels already exceed the 423.b.(2)B. regulation above, the ECMC provides a solution for calculating a sound level allowable that takes in to account those ambient levels, as delineated in 423.d. CUMULATIVE NOISE (1) and (2) which are shown below:

(1) Noise measurements taken at noise points of compliance designated pursuant to Rule 423.a.(5) will take into account ambient noise, rather than solely the incremental increase of noise from the facility targeted for measurement.

(2) At new or substantially modified Oil and Gas Locations where ambient noise levels at noise points of compliance designated pursuant to Rule 423.a.(5) already exceed the noise thresholds identified in Table 423-1, then Operators will be considered in compliance with Rule 423, unless at any time their individual noise contribution, measured pursuant to Rule 423.c, increases noise above ambient levels by greater than 5 dBC and 5 dBA between 7:00 p.m. and 7:00 a.m. or 7 dBC and 7 dBA between 7:00 a.m. and 7:00 p.m. This Rule 423.d.(2) does not allow Operators to increase noise above the maximum cumulative noise thresholds specified in Table 423-2 after the Commencement of Production Operations.

As shown on Table G above and on Table I below, ENRG and Extraction have measured and reported a 72-hour ambient sound level of 68.5 dBC, a 36-hour daytime ambient sound level of 70.4 dBC, and a 36-hour nighttime ambient sound level of 65.1 dBC at the T-Bone - Southeast location. Because the 36-hour daytime was 70.4 dBC and exceeded the 65.0 dBC allowable, ENRG is proposing an adjustment to 77.4 dBC ($70.4 + 7 = 77.4$) for the daytime allowable at the T-Bone - Southeast ambient location as summarized on Table I below. Similarly, and because the 36-hour nighttime allowable of 65.0 dBC was exceeded at 65.1 dBC, ENRG is proposing an increase to the dBC nighttime allowable to 70.1 dBC ($65.1 + 5 = 70.1$) at the T-Bone - Southeast location as referenced in the regulation excerpt above and summarized on Table I below:

TABLE I
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
SOUTHEAST METER
dBC ALLOWABLES

DAYS	DATE	72 HR AVG (dBC)	36 HR DAYTIME AVG (dBC) 7:00 AM - 7:00 PM	ADJUSTED +7 DAYTIME (dBC) ALLOWABLE (IF > 65.0 dBC)	36 HR NIGHTTIME AVG (dBC) 7:00 PM - 7:00 AM	ADJUSTED +5 NIGHTTIME (dBC) ALLOWABLE (IF > 65.0 dBC)
SAT - SUN - MON	4/20/24 - 4/22/24	68.5	70.4	77.4	65.1	70.1

Based on the 72-hour ambient sound level results measured at the T-Bone - Southeast location from April 20 – 22, 2024, the ECMC daytime proposed adjusted allowable of 77.4 dBC was exceeded for zero (0) hours of the study, and similarly, the non-adjusted allowable of 70.1 dBC nighttime was also exceeded for zero (0) hours of the study. This is broken down and shown on the attached Exhibit A, after Figure 20.

PRODUCTION ALLOWABLES

In accordance with ECMC Table 423-1, allowables during production will be as follows:

Table 423-1 – Maximum Permissible Noise Levels LAND USE DESIGNATION	7:00 am to next 7:00 pm	7:00 pm to next 7:00 am
Residential/ Rural/State Parks & State Wildlife Areas	55 db(A)	50 db(A)
Commercial/Agricultural	60 db(A)	55 db(A)
Light Industrial	70 db(A)	65 db(A)
Industrial	80 db(A)	75 db(A)
All Zones	60 db(C)	60 db(C)

Because the T-Bone location is located in an Agricultural zone, the allowables pursuant to the Table above are 60.0 dBA during the day and 55.0 dBA at night. Allowables for both daytime and nighttime are 60.0 dBC.

Pursuant to 423.d.(2), allowables may be adjusted if the ambient sound level already exceeds the land use designation in Table 423-1 above.

(2) At new or substantially modified Oil and Gas Locations where ambient noise levels at noise points of compliance designated pursuant to Rule 423.a.(5) already exceed the noise thresholds identified in Table 423-1, then Operators will be considered in compliance with Rule 423, unless at any time their individual noise contribution, measured pursuant to Rule 423.c, increases noise above ambient levels by greater than 5 dBC and 5 dBA between 7:00 p.m. and 7:00 a.m. or 7 dBC and 7 dBA between 7:00 a.m. and 7:00 p.m. This Rule 423.d.(2) does not allow Operators to increase noise above the maximum cumulative noise thresholds specified in Table 423-2 after the Commencement of Production Operations.

Although the above regulation typically allows for ambient + 7 dBA during the day and + 5 dBA at night when ambient levels exceed the allowables in Table 423-1, there is a limit for which the decibel levels can be increased, described in 423.d.(3) and Table 423-2. Regulation 423.d.(3) states the following with regard to maximum cumulative sound levels after the commencement of production:

(3) After the Commencement of Production Operations, if ambient noise levels already exceed the maximum permissible noise thresholds identified in Table 423-1, under no circumstances will

new Oil and Gas Operations or a significant modification to an existing Oil and Gas Operations raise cumulative ambient noise above:

Table 423-2 – Maximum Cumulative Noise Levels LAND USE	7:00 am to next 7:00 pm	7:00 pm to next 7:00 am
Residential /Rural/State Parks/State Wildlife Areas	65 db(A)	60 db(A)
Commercial/Agricultural	70 db(A)	65 db(A)
Light Industrial	80 db(A)	75 db(A)
Industrial	90 db(A)	85 db(A)
All Zones	75 db(C)	70 db(C)

A - Scale Allowables - Production

During the ambient sound level survey at the T-Bone - Southeast location, the 36-hour daytime average was 63.6 dBA during the day, while the 36-hour nighttime average was 59.1 dBA. Because the daytime average of 63.6 dBA with an adjustment of + 7 dBA would increase the allowable to above the maximum cumulative allowable of 70.0 dBA described in Table 423-2. ($63.6 + 7 = 70.6$), the allowable during production will be capped at 70.0 dBA during the day. Because the nighttime ambient sound level was 59.1 dBA and exceeded the nighttime allowable, ENRG is proposing an adjustment to 64.1 dBA ($59.1 + 5 = 64.1$) for nighttime hours at the T-Bone - Southeast monitoring location. It is important to note that zero (0) hours exceeded the ECMC allowable of 70.0 dBA for daytime hours, and two (2) hours exceeded the ECMC allowable of 64.1 dBA for nighttime hours and therefore the ambient was not compliant 100% of the time. This is broken down and shown on the attached Exhibit A, after Figure 20.

C - Scale Allowables - Production

During the ambient sound level survey at the T-Bone - Southeast location, the 36-hour daytime average was 70.4 dBC during the day, while the 36-hour nighttime average was 65.1 dBC. Because the daytime average of 70.4 dBC with an adjustment of + 7 dBC would increase the allowable to above the maximum cumulative allowable described in Table 423-2. ($70.4 + 7 = 77.4$), the allowable during production will be capped at 75.0 dBC during the day. Similarly, and because the 36-hour nighttime average of 65.1 dBC with an adjustment of +5 would increase the allowable to above the maximum cumulative allowable of 70.0 dBC ($65.1 + 5 = 70.1$) the allowable will be capped at 70.0 dBC for nighttime hours at the T-Bone - Southeast location. It is important to note that one (1) hour exceeded the adjusted daytime allowable of 75.0 dBC, while zero (0) hours exceeded the nighttime allowable of 70.0 dBC and therefore the ambient was not compliant 100% of the time. This is broken down and shown on the attached Exhibit A, after Figure 20.

T-BONE – WEST AMBIENT SOUND LOCATION

72-Hour Ambient Sound Monitoring

ENRG's Noise Monitoring Terminal (NMT), which is equipped with a Type I Bruel & Kjaer (B&K) 2250 sound level meter, was calibrated, programmed for dBA and dBC frequencies and installed at the T-Bone - West ambient sound location by ENRG personnel before 0:00 on Saturday, April 20, 2024. Initial and final readings were verified with a calibration device to ensure accuracy during and after the test. The objective was to measure and document the site's ambient sound levels until 23:59 on Monday, April 22, 2024. The NMT was located approximately 790 feet west from the edge of disturbance at the drilling location and approximately 360 feet east from the nearest residential building unit boundary (Figure 1). The results of the 72-hour ambient sound levels from the T-Bone - West ambient sound location are summarized on Table J below. A copy of the ENRG ambient sound report is also attached as Exhibit A following Figure 20.

TABLE J
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
WEST METER
72-HOUR SOUND LEVEL SUMMARY - dBA & dBC

dBA		72 HR AVG (dBA)	36 HR	36 HR	24 HR (dBA) DAY 1	24 HR (dBA) DAY 2	24 HR (dBA) DAY 3
DAYS	DATE		DAYTIME AVG (dBA) 7:00 AM - 7:00 PM	NIGHTTIME AVG (dBA) 7:00 PM - 7:00 AM			
SAT - SUN - MON	4/20/24 - 4/22/24	41.8	43.2	39.9	39.3	42.0	43.3

dBC		72 HR AVG (dBC)	36 HR	36 HR	24 HR (dBC) DAY 1	24 HR (dBC) DAY 2	24 HR (dBC) DAY 3
DAYS	DATE		DAYTIME AVG (dBC) 7:00 AM - 7:00 PM	NIGHTTIME AVG (dBC) 7:00 PM - 7:00 AM			
SAT - SUN - MON	4/20/24 - 4/22/24	59.0	60.9	55.5	57.6	59.2	59.8

DRILLING AND COMPLETIONS SOUND ALLOWABLES

A - Scale Allowables – T-Bone - West

As shown on Table J above, ENRG and Extraction have measured and reported a 72-hour ambient sound level of 41.8 dBA, a 36-hour daytime ambient sound level of 43.2 dBA, and a 36-hour nighttime ambient sound level of 39.9 dBA at the T-Bone - West location. Based on the ECMC 423.b.(2)A. regulation, the allowable for the T-Bone - West location will be 65.0 dBA during the day and 60.0 dBA at night during drilling and completions operations as referenced in the regulation excerpt below and summarized on Table K below:

(2) Unless otherwise required by Rule 423, drilling or completion operations, including Flowback:

A. In Residential/Rural or Commercial/Agricultural, maximum permissible noise levels will be 60 db(A) in the hours between 7:00 p.m. to 7:00 a.m. and 65 db(A) in the hours between 7:00 a.m. to 7:00 p.m.;

The regulations go on to state the following:

(6) Unless otherwise required by Rule 423.b.(7), during the hours between 7:00 a.m. and the next 7:00 p.m. the maximum permissible noise levels listed in Table 423-1 may be increased 10 dB(A) for a period not to exceed 15 minutes in any 1-hour period. The increase is permissible only for a 1-hour period during any 12 hours.

Pursuant to 423.d.(2), allowables may be adjusted if the ambient sound level already exceeds the land use designation in Table 423-1 above.

(2) At new or substantially modified Oil and Gas Locations where ambient noise levels at noise points of compliance designated pursuant to Rule 423.a.(5) already exceed the noise thresholds identified in Table 423-1, then Operators will be considered in compliance with Rule 423, unless at any time their individual noise contribution, measured pursuant to Rule 423.c, increases noise above ambient levels by greater than 5 dBC and 5 dBA between 7:00 p.m. and 7:00 a.m. or 7 dBC and 7 dBA between 7:00 a.m. and 7:00 p.m. This Rule 423.d.(2) does not allow Operators to increase noise above the maximum cumulative noise thresholds specified in Table 423-2 after the Commencement of Production Operations.

**TABLE K
EXTRACTION OIL & GAS, INC.
T-BONE XOG PAD 5N66W PAD SITE
WEST METER
dBA ALLOWABLES**

DAYS	DATE	72 HR AVG (dBA)	36 HR DAYTIME AVG (dBA) 7:00 AM - 7:00 PM	ADJUSTED +5 DAYTIME (dBA) ALLOWABLE (IF > 65.0 dBA)	36 HR NIGHTTIME AVG (dBA) 7:00 PM - 7:00 AM	ADJUSTED +5 NIGHTTIME (dBA) ALLOWABLE (IF > 60.0 dBA)
SAT - SUN - MON	4/20/24 - 4/22/24	41.8	43.2	65.0	39.9	60.0

Based on the 72-hour ambient sound level results measured at the T-Bone - West location from April 20 – 22, 2024, the ECMC daytime allowable of 65.0 dBA was exceeded for zero (0) hours of the study, and the nighttime allowable of 60.0 dBA nighttime was exceeded for zero (0) hours of the study. This is broken down and shown on the attached Exhibit A, after Figure 20.

C - Scale Allowables – T-Bone - West

As part of the ECMC Rule 423.b. requirement regarding ambient sound studies, ENRG and Extraction have measured and reported a 72-hour ambient “C” scale sound level.

The ECMC 423.b.(2)B. regulation states the following in regard to “C” weighted data:

(2) Unless otherwise required by Rule 423, drilling or completion operations, including Flowback:

B. In all zones maximum permissible noise levels will be 65 db(C) in the hours between 7:00 p.m. to 7:00 a.m. and 65 db(C) in the hours between 7:00 a.m. to 7:00 p.m.

In situations where the dBC ambient sound levels already exceed the 423.b.(2)B. regulation above, the ECMC provides a solution for calculating a sound level allowable that takes in to account those ambient levels, as delineated in 423.d. CUMULATIVE NOISE (1) and (2) which are shown below:

(1) Noise measurements taken at noise points of compliance designated pursuant to Rule 423.a.(5) will take into account ambient noise, rather than solely the incremental increase of noise from the facility targeted for measurement.

(2) At new or substantially modified Oil and Gas Locations where ambient noise levels at noise points of compliance designated pursuant to Rule 423.a.(5) already exceed the noise thresholds identified in Table 423-1, then Operators will be considered in compliance with Rule 423, unless at any time their individual noise contribution, measured pursuant to Rule 423.c, increases noise above ambient levels by greater than 5 dBC and 5 dBA between 7:00 p.m. and 7:00 a.m. or 7 dBC and 7 dBA between 7:00 a.m. and 7:00 p.m. This Rule 423.d.(2) does not allow Operators to increase noise above the maximum cumulative noise thresholds specified in Table 423-2 after the Commencement of Production Operations.

As shown on Table J above and on Table L below, ENRG and Extraction have measured and reported a 72-hour ambient sound level of 59.0 dBC, a 36-hour daytime ambient sound level of 60.9 dBC, and a 36-hour nighttime ambient sound level of 55.5 dBC at the T-Bone - West location. Because the 36-hour daytime was 60.9 dBC and did not exceed the allowable of 65.0 dBA, ENRG is not proposing an adjustment to the allowable at this time. Similarly, and because the 36-hour nighttime allowable of 65.0 dBC was not exceeded at 55.5 dBC, ENRG is not proposing an increase to the dBC nighttime allowable at the T-Bone - West location as referenced in the regulation excerpt above and summarized on Table L below:

TABLE L
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
WEST METER
dBC ALLOWABLES

DAYS	DATE	72 HR AVG (dBC)	36 HR DAYTIME AVG (dBC) 7:00 AM - 7:00 PM	ADJUSTED +7 DAYTIME (dBC) ALLOWABLE (IF > 65.0 dBC)	36 HR NIGHTTIME AVG (dBC) 7:00 PM - 7:00 AM	ADJUSTED +5 NIGHTTIME (dBC) ALLOWABLE (IF > 65.0 dBC)
				65.0	55.5	65.0
SAT - SUN - MON	4/20/24 - 4/22/24	59.0	60.9	65.0	55.5	65.0

Based on the 72-hour ambient sound level results measured at the T-Bone - West location from April 20 – 22, 2024, the ECMC daytime allowable of 65.0 dBC was exceeded for two (2) hours of the study, while the allowable of 65.0 dBC nighttime was exceeded for zero (0) hours of the study and therefore

the ambient was not compliant 100% of the time. This is broken down and shown on the attached Exhibit A, after Figure 20.

PRODUCTION ALLOWABLES

In accordance with ECMC Table 423-1, allowables during production will be as follows:

Table 423-1 – Maximum Permissible Noise Levels LAND USE DESIGNATION	7:00 am to next 7:00 pm	7:00 pm to next 7:00 am
Residential/ Rural/State Parks & State Wildlife Areas	55 db(A)	50 db(A)
Commercial/Agricultural	60 db(A)	55 db(A)
Light Industrial	70 db(A)	65 db(A)
Industrial	80 db(A)	75 db(A)
All Zones	60 db(C)	60 db(C)

Because the T-Bone location is located in an Agricultural zone, the allowables pursuant to the Table above are 60.0 dBA during the day and 55.0 dBA at night. Allowables for both daytime and nighttime are 60.0 dBC.

Pursuant to 423.d.(2), allowables may be adjusted if the ambient sound level already exceeds the land use designation in Table 423-1 above.

(2) At new or substantially modified Oil and Gas Locations where ambient noise levels at noise points of compliance designated pursuant to Rule 423.a.(5) already exceed the noise thresholds identified in Table 423-1, then Operators will be considered in compliance with Rule 423, unless at any time their individual noise contribution, measured pursuant to Rule 423.c, increases noise above ambient levels by greater than 5 dBC and 5 dBA between 7:00 p.m. and 7:00 a.m. or 7 dBC and 7 dBA between 7:00 a.m. and 7:00 p.m. This Rule 423.d.(2) does not allow Operators to increase noise above the maximum cumulative noise thresholds specified in Table 423-2 after the Commencement of Production Operations.

Although the above regulation typically allows for ambient + 7 dBA during the day and + 5 dBA at night when ambient levels exceed the allowables in Table 423-1, there is a limit for which the decibel levels can be increased, described in 423.d.(3) and Table 423-2. Regulation 423.d.(3) states the following with regard to maximum cumulative sound levels after the commencement of production:

(3) After the Commencement of Production Operations, if ambient noise levels already exceed the maximum permissible noise thresholds identified in Table 423-1, under no circumstances will new Oil and Gas Operations or a significant modification to an existing Oil and Gas Operations raise cumulative ambient noise above:

Table 423-2 – Maximum Cumulative Noise Levels LAND USE	7:00 am to next 7:00 pm	7:00 pm to next 7:00 am
Residential /Rural/State Parks/State Wildlife Areas	65 db(A)	60 db(A)
Commercial/Agricultural	70 db(A)	65 db(A)
Light Industrial	80 db(A)	75 db(A)
Industrial	90 db(A)	85 db(A)
All Zones	75 db(C)	70 db(C)

A - Scale Allowables - Production

During the ambient sound level survey at the T-Bone - West location, the 36-hour daytime average was 43.2 dBA during the day, while the 36-hour nighttime average was 39.9 dBA. Because the daytime average of 43.2 dBA does not exceed the daytime allowable of 60.0 dBA for daytime hours, ENRG is not proposing an adjustment to the allowable at this time. Similarly, and because the nighttime ambient average of 39.9 dBA did not exceed the nighttime allowable of 55.0 dBA, ENRG is not proposing an increase to the allowable at this time. During the sound level survey at the T-Bone - West, zero (0) hours exceeded the ECMC allowable of 60.0 dBA for daytime hours, and zero (0) hours exceeded the ECMC allowable of 55.0 dBA for nighttime hours. This is broken down and shown on the attached Exhibit A, after Figure 20.

C - Scale Allowables - Production

During the ambient sound level survey at the T-Bone - West location, the 36-hour daytime average was 60.9 dBC during the day, while the 36-hour nighttime average was 55.5 dBC. Because the daytime average was 60.9 and exceeded the 60.0 dBC allowable, ENRG is proposing an adjustment to 67.9 dBC (60.9 + 7 = 67.9) for daytime hours at the T-Bone - West monitoring location. Contrarily, and because the 36-hour nighttime average was 55.5 dBC does not exceed the allowable of 60.0 dBC in Table 423-1, ENRG is not proposing an increase to the allowable at the T-Bone - West for nighttime hours. It is important to note that zero (0) hours exceeded the adjusted daytime allowable of 67.9 dBC, while one (1) hour exceeded the nighttime allowable of 60.0 dBC and therefore the ambient was not compliant 100% of the time. This is broken down and shown on the attached Exhibit A, after Figure 20.

T-BONE – SOUTHWEST AMBIENT SOUND LOCATION

72-Hour Ambient Sound Monitoring

ENRG's Noise Monitoring Terminal (NMT), which is equipped with a Type I Bruel & Kjaer (B&K) 2250 sound level meter, was calibrated, programmed for dBA and dBC frequencies and installed at the T-Bone - Southwest ambient sound location by ENRG personnel before 0:00 on Saturday, April 20, 2024. Initial and final readings were verified with a calibration device to ensure accuracy during and after the test. The objective was to measure and document the site's ambient sound levels until 23:59

on Monday, April 22, 2024. The NMT was located approximately 1,315 feet southwest from the edge of disturbance at the drilling location and approximately 450 feet north from the nearest residential building unit boundary (Figure 1). The results of the 72-hour ambient sound levels from the T-Bone - Southwest ambient sound location are summarized on Table M below. A copy of the ENRG ambient sound report is also attached as Exhibit A following Figure 20.

TABLE M
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
SOUTHWEST METER
72-HOUR SOUND LEVEL SUMMARY - dBA & dBC

dBA		72 HR AVG (dBA)	36 HR	36 HR	24 HR (dBA) DAY 1	24 HR (dBA) DAY 2	24 HR (dBA) DAY 3
DAYS	DATE		DAYTIME AVG (dBA)	NIGHTTIME AVG (dBA)			
SAT - SUN - MON	4/20/24 - 4/22/24	42.1	43.8	39.3	41.5	41.9	42.9

dBC		72 HR AVG (dBC)	36 HR	36 HR	24 HR (dBC) DAY 1	24 HR (dBC) DAY 2	24 HR (dBC) DAY 3
DAYS	DATE		DAYTIME AVG (dBC)	NIGHTTIME AVG (dBC)			
SAT - SUN - MON	4/20/24 - 4/22/24	60.8	63.1	55.2	60.7	58.6	62.2

DRILLING AND COMPLETIONS SOUND ALLOWABLES

A - Scale Allowables – T-Bone - Southwest

As shown on Table M above, ENRG and Extraction have measured and reported a 72-hour ambient sound level of 42.1 dBA, a 36-hour daytime ambient sound level of 43.8 dBA, and a 36-hour nighttime ambient sound level of 39.3 dBA at the T-Bone - Southwest location. Based on the ECMC 423.b.(2)A. regulation, the allowable for the T-Bone - Southwest location will be 65.0 dBA during the day and 60.0 dBA at night during drilling and completions operations as referenced in the regulation excerpt below and summarized on Table N below:

(2) Unless otherwise required by Rule 423, drilling or completion operations, including Flowback:

A. In Residential/Rural or Commercial/Agricultural, maximum permissible noise levels will be 60 db(A) in the hours between 7:00 p.m. to 7:00 a.m. and 65 db(A) in the hours between 7:00 a.m. to 7:00 p.m.;

The regulations go on to state the following:

(6) Unless otherwise required by Rule 423.b.(7), during the hours between 7:00 a.m. and the next 7:00 p.m. the maximum permissible noise levels listed in Table 423-1 may be increased 10 dB(A)

for a period not to exceed 15 minutes in any 1-hour period. The increase is permissible only for a 1-hour period during any 12 hours.

Pursuant to 423.d.(2), allowables may be adjusted if the ambient sound level already exceeds the land use designation in Table 423-1 above.

(2) At new or substantially modified Oil and Gas Locations where ambient noise levels at noise points of compliance designated pursuant to Rule 423.a.(5) already exceed the noise thresholds identified in Table 423-1, then Operators will be considered in compliance with Rule 423, unless at any time their individual noise contribution, measured pursuant to Rule 423.c, increases noise above ambient levels by greater than 5 dBC and 5 dBA between 7:00 p.m. and 7:00 a.m. or 7 dBC and 7 dBA between 7:00 a.m. and 7:00 p.m. This Rule 423.d.(2) does not allow Operators to increase noise above the maximum cumulative noise thresholds specified in Table 423-2 after the Commencement of Production Operations.

TABLE N
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
SOUTHWEST METER
dBA ALLOWABLES

DAYS	DATE	72 HR AVG (dBA)	36 HR DAYTIME AVG (dBA) 7:00 AM - 7:00 PM	ADJUSTED +7 DAYTIME (dBA) ALLOWABLE (IF > 65.0 dBA)	36 HR NIGHTTIME AVG (dBA) 7:00 PM - 7:00 AM	ADJUSTED +5 NIGHTTIME (dBA) ALLOWABLE (IF > 60.0 dBA)
SAT - SUN - MON	4/20/24 - 4/22/24	42.1	43.8	65.0	39.3	60.0

Based on the 72-hour ambient sound level results measured at the T-Bone - Southwest location from April 20 – 22, 2024, the ECMC daytime allowable of 65.0 dBA was exceeded for zero (0) hours of the study, and the nighttime allowable of 60.0 dBA nighttime was exceeded for zero (0) hours of the study. This is broken down and shown on the attached Exhibit A, after Figure 20.

C - Scale Allowables – T-Bone - Southwest

As part of the ECMC Rule 423.b. requirement regarding ambient sound studies, ENRG and Extraction have measured and reported a 72-hour ambient “C” scale sound level.

The ECMC 423.b.(2)B. regulation states the following in regard to “C” weighted data:

(2) Unless otherwise required by Rule 423, drilling or completion operations, including Flowback:

***B.** In all zones maximum permissible noise levels will be 65 db(C) in the hours between 7:00 p.m. to 7:00 a.m. and 65 db(C) in the hours between 7:00 a.m. to 7:00 p.m.*

In situations where the dBC ambient sound levels already exceed the 423.b.(2)B. regulation above, the ECMC provides a solution for calculating a sound level allowable that takes in to account those ambient levels, as delineated in 423.d. CUMULATIVE NOISE (1) and (2) which are shown below:

(1) Noise measurements taken at noise points of compliance designated pursuant to Rule 423.a.(5) will take into account ambient noise, rather than solely the incremental increase of noise from the facility targeted for measurement.

(2) At new or substantially modified Oil and Gas Locations where ambient noise levels at noise points of compliance designated pursuant to Rule 423.a.(5) already exceed the noise thresholds identified in Table 423-1, then Operators will be considered in compliance with Rule 423, unless at any time their individual noise contribution, measured pursuant to Rule 423.c, increases noise above ambient levels by greater than 5 dBC and 5 dBA between 7:00 p.m. and 7:00 a.m. or 7 dBC and 7 dBA between 7:00 a.m. and 7:00 p.m. This Rule 423.d.(2) does not allow Operators to increase noise above the maximum cumulative noise thresholds specified in Table 423-2 after the Commencement of Production Operations.

As shown on Table M above and on Table O below, ENRG and Extraction have measured and reported a 72-hour ambient sound level of 60.8 dBC, a 36-hour daytime ambient sound level of 63.1 dBC, and a 36-hour nighttime ambient sound level of 55.2 dBC at the T-Bone - Southwest location. Because the 36-hour daytime was 63.1 dBC and did not exceed the allowable of 65.0 dBA, ENRG is not proposing an adjustment to the allowable at this time. Similarly, and because the 36-hour nighttime allowable of 65.0 dBC was not exceeded at 55.2 dBC, ENRG is not proposing an increase to the dBC nighttime allowable at the T-Bone - Southwest location as referenced in the regulation excerpt above and summarized on Table O below:

TABLE O
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
SOUTHWEST METER
dBC ALLOWABLES

DAYS	DATE	72 HR AVG (dBC)	36 HR DAYTIME AVG (dBC) 7:00 AM - 7:00 PM	ADJUSTED +7 DAYTIME (dBC) ALLOWABLE (IF > 65.0 dBC)	36 HR NIGHTTIME AVG (dBC) 7:00 PM - 7:00 AM	ADJUSTED +5 NIGHTTIME (dBC) ALLOWABLE (IF > 65.0 dBC)
SAT - SUN - MON	4/20/24 - 4/22/24	60.8	63.1	65.0	55.2	65.0

Based on the 72-hour ambient sound level results measured at the T-Bone - Southwest location from April 20 – 22, 2024, the ECMC daytime allowable of 65.0 dBC was exceeded for four (4) hours of the study, while the allowable of 65.0 dBC nighttime was exceeded for zero (0) hours of the study and therefore the ambient was not compliant 100% of the time. This is broken down and shown on the attached Exhibit A, after Figure 20.

PRODUCTION ALLOWABLES

In accordance with ECMC Table 423-1, allowables during production will be as follows:

Table 423-1 – Maximum Permissible Noise Levels LAND USE DESIGNATION	7:00 am to next 7:00 pm	7:00 pm to next 7:00 am
Residential/ Rural/State Parks & State Wildlife Areas	55 db(A)	50 db(A)
Commercial/Agricultural	60 db(A)	55 db(A)
Light Industrial	70 db(A)	65 db(A)
Industrial	80 db(A)	75 db(A)
All Zones	60 db(C)	60 db(C)

Because the T-Bone location is located in an Agricultural zone, the allowables pursuant to the Table above are 60.0 dBA during the day and 55.0 dBA at night. Allowables for both daytime and nighttime are 60.0 dBC.

Pursuant to 423.d.(2), allowables may be adjusted if the ambient sound level already exceeds the land use designation in Table 423-1 above.

(2) At new or substantially modified Oil and Gas Locations where ambient noise levels at noise points of compliance designated pursuant to Rule 423.a.(5) already exceed the noise thresholds identified in Table 423-1, then Operators will be considered in compliance with Rule 423, unless at any time their individual noise contribution, measured pursuant to Rule 423.c, increases noise above ambient levels by greater than 5 dBC and 5 dBA between 7:00 p.m. and 7:00 a.m. or 7 dBC and 7 dBA between 7:00 a.m. and 7:00 p.m. This Rule 423.d.(2) does not allow Operators to increase noise above the maximum cumulative noise thresholds specified in Table 423-2 after the Commencement of Production Operations.

Although the above regulation typically allows for ambient + 7 dBA during the day and + 5 dBA at night when ambient levels exceed the allowables in Table 423-1, there is a limit for which the decibel levels can be increased, described in 423.d.(3) and Table 423-2. Regulation 423.d.(3) states the following with regard to maximum cumulative sound levels after the commencement of production:

(3) After the Commencement of Production Operations, if ambient noise levels already exceed the maximum permissible noise thresholds identified in Table 423-1, under no circumstances will new Oil and Gas Operations or a significant modification to an existing Oil and Gas Operations raise cumulative ambient noise above:

Table 423-2 – Maximum Cumulative Noise Levels LAND USE	7:00 am to next 7:00 pm	7:00 pm to next 7:00 am
Residential /Rural/State Parks/State Wildlife Areas	65 db(A)	60 db(A)
Commercial/Agricultural	70 db(A)	65 db(A)
Light Industrial	80 db(A)	75 db(A)
Industrial	90 db(A)	85 db(A)
All Zones	75 db(C)	70 db(C)

A - Scale Allowables - Production

During the ambient sound level survey at the T-Bone - Southwest location, the 36-hour daytime average was 43.8 dBA during the day, while the 36-hour nighttime average was 39.3 dBA. Because the daytime average of 43.8 dBA did not exceed the allowable of 60.0 dBA for production operations, ENRG is not proposing an adjustment at this time. Similarly, and because the nighttime average of 39.3 dBA did not exceed the allowable of 55.0 dBA for production operations, ENRG is not proposing an adjustment to the allowable at this time. Throughout the sound level survey, zero (0) hours exceeded the ECMC allowable of 60.0 dBA for daytime hours, and zero (0) hours exceeded the ECMC allowable of 55.0 dBA for nighttime hours. This is broken down and shown on the attached Exhibit A, after Figure 20.

C - Scale Allowables - Production

During the ambient sound level survey at the T-Bone - Southwest location, the 36-hour daytime average was 63.1 dBC during the day, while the 36-hour nighttime average was 55.2 dBC. Because the daytime average was 63.1 and exceeded the 60.0 dBC allowable, ENRG is proposing an adjustment to 70.1 dBC ($63.1 + 7 = 70.1$) for daytime hours at the T-Bone - Southwest monitoring location. Contrarily, and because the 36-hour nighttime average was 55.2 dBC does not exceed the allowable of 60.0 dBC in Table 423-1, ENRG is not proposing an increase to the allowable at the T-Bone - Southwest for nighttime hours. It is important to note that one (1) hour exceeded the daytime allowable of 70.1 dBC, while zero (0) hours exceeded the nighttime allowable of 60.0 dBC and therefore the ambient was not compliant 100% of the time. This is broken down and shown on the attached Exhibit A, after Figure 20.

SOUND MITIGATION OPTIONS

Sound mitigation requirements and Best Management Practices (BMPs) used to reduce the amount of sound emitted beyond the Extraction oil and gas operations lease boundary can be managed in numerous ways, both on behalf of the operator, as well as contractors performing work on-site. See Exhibit B (after Exhibit A) for a list of BMPs.

SOUND FROM DRILLING & COMPLETIONS OPERATIONS

Facility layout drawings for drilling, completions, and production can be found as an attachment to the OGDG submittal. Table 1.1 and Table 1.2 indicate typical sound levels generated during construction, oil and gas drilling, and completions operations.

ENGINE SOUND

Some engines can operate at a constant number of revolutions per minute (RPM), which reduces the often annoying, fluctuating sound caused by engines that speed up and slow down. Mufflers, like those used for automobile engines, can be used to minimize engine sound.

SOUND MODELING

By modeling with existing sound signatures emitted from equipment similar to that which will be utilized on a location, designs for sound wall placement can be recommended and tested for efficiency. ENRG utilized the EMS Bruel and Kjaer V2023 Predictor - LimA software with sound signatures from the Patterson Rig 346 drilling rig and the Liberty Quiet Fleet for the models provided. ENRG has modeled the dBA and dBC drilling, completions, flowback, and production phases of the T-Bone pad with-out mitigation as indicated on Figures 6, 7, 8, 9, 10, 11, 12, and 13.

- Figure 6 presents anticipated un-mitigated dBA drilling sound levels
- Figure 7 presents anticipated un-mitigated dBA completions sound levels
- Figure 8 presents anticipated un-mitigated dBA flowback sound levels
- Figure 9 presents anticipated un-mitigated dBA production sound levels
- Figure 10 presents anticipated un-mitigated dBC drilling sound levels
- Figure 11 presents anticipated un-mitigated dBC completions sound levels
- Figure 12 presents anticipated un-mitigated dBC flowback sound level
- Figure 13 presents anticipated un-mitigated dBC production sound levels

There are residential building units (RBU's) within 2,000 feet of the permanent equipment currently anticipated (i.e., wells, facilities) on the T-Bone location. Figure 14 indicates the proposed sound wall and the design which was used to complete the mitigation portion of the modeling. ENRG has modeled the dBA and dBC drilling, completions, and flowback phases of the T-Bone pad site with mitigation as indicated on Figures 14, 15, 16, 17, 18, 19, and 20.

- Figure 14 presents the proposed sound wall for the T-Bone location
- Figure 15 presents anticipated mitigated dBA drilling levels
- Figure 16 presents anticipated mitigated dBA completions sound levels
- Figure 17 presents anticipated mitigated dBA flowback sound level
- Figure 18 presents anticipated mitigated dBC drilling sound levels
- Figure 19 presents anticipated mitigated dBC completions sound levels
- Figure 20 presents anticipated mitigated dBC flowback sound levels

LOCAL GOVERNMENT REGULATIONS & REQUIREMENTS

The T-Bone pad site is located within the Town of Milliken, Colorado Agricultural Area. Extraction is submitting a NMP in accordance with ECMC regulations, which The Town of Milliken requires compliance with as a whole as follows:

- *5706.3.13 Safety regulations. All oil and gas locations shall comply with all Colorado Energy and Carbon Management Commission (ECMC) rules.*

BEST MANAGEMENT PRACTICES (BMPs)

➤ Idling Equipment – While idling engine/equipment, maintain at the lowest frequency possible, as well as, in a position/location that will prevent sound from carrying to nearby residents.

➤ Unnecessary Sounds – Unnecessary sounds such as honking the horn, revving vehicle engines, loud music, and unwarranted metal hammering/banging are all examples of sound that can create nuisance; failure to eliminate unnecessary sound from location will be subject to an internal compliance assessment if reported by a landowner.

➤ The construction phase is scheduled to last, at this time, approximately 6 weeks.

➤ Following the completion of construction, a sound barrier (minimum rating of STC-30) will be installed on all sides of the pad site. This sound barrier will be 32-foot tall and remain onsite through Completions operations.

➤ At the time of this NMP, Patterson 572 or similar is scheduled to be utilized for the drilling of the T-Bone location. The rig will be powered by utility power and will have been designed and equipped with sound mitigating equipment including devices to minimize squeaking from the draw works brakes. The drill phase with one rig is scheduled to last, at this time, approximately 18 weeks.

➤ A quiet frac fleet will be used during the completion phase. The completions phase is scheduled, at this time, to last for approximately 19 weeks.

➤ Flow-back is scheduled to last, at this time, approximately 3 weeks.

➤ Production is anticipated to last, at this time, approximately 30 years. The production facility will be electrified.

➤ At the commencement of production, if sound levels exceed the allowables set forth above, Extraction will mitigate production equipment, as necessary, to maintain compliance on the T-Bone location.

➤ Pursuant to ECMC regulation 423.c.(1), 423.c.(2)A., and 423.c.(9), ENRG will provide compliance monitoring in the event of a complaint. Results will be provided to the appropriate parties for review.

In the event that ECMC determines that operational sound exceeds the allowables set forth below, additional mitigations may be deployed in the interest of mitigating sound impacts within the nearby occupied areas.

➤ **North Location**

dBA - During the 72-hour sound study, the 36-hour daytime average was 46.2 dBA, while the 36-hour nighttime average was 44.7 dBA. **Drilling and Completions** -The allowable be 65.0 dBA during the day and 60.0 dBA during the night. **Production** - The allowable will be 60.0 dBA during the day and 55.0 dBA at night.

dB - During the 72-hour sound study, the 36-hour daytime average was 60.8 dB, while the 36-hour nighttime average was 56.2 dB. **Drilling and Completions** - The allowable be 65.0 dB during the day and 65.0 dB during the night. **Production** - The allowable will be 67.8 dB during the day and 60.0 dB at night.

➤ **Northeast Location**

dBA - During the 72-hour sound study, the 36-hour daytime average was 54.8 dBA, while the 36-hour nighttime average was 51.5 dBA. **Drilling and Completions** -The allowable be 65.0 dBA during the day and 60.0 dBA during the night. **Production** - The allowable will be 60.0 dBA during the day and 55.0 dBA at night.

dB - During the 72-hour sound study, the 36-hour daytime average was 65.4 dB, while the 36-hour nighttime average was 62.6 dB. **Drilling and Completions** - The allowable be 72.4 dB during the day and 65.0 dB during the night. **Production** - The allowable will be 72.4 dB during the day and 67.6 dB at night.

➤ **Southeast Location**

dBA - During the 72-hour sound study, the 36-hour daytime average was 63.6 dBA, while the 36-hour nighttime average was 59.1 dBA. **Drilling and Completions** -The allowable be 65.0 dBA during the day and 60.0 dBA during the night. **Production** - The allowable will be 70.0 dBA during the day and 64.1 dBA at night.

dB - During the 72-hour sound study, the 36-hour daytime average was 70.4 dB, while the 36-hour nighttime average was 65.1 dB. **Drilling and Completions** - The allowable be 77.4 dB during the day and 70.1 dB during the night. **Production** - The allowable will be 75.0 dB during the day and 70.0 dB at night.

➤ **West Location**

dBA - During the 72-hour sound study, the 36-hour daytime average was 43.2 dBA, while the 36-hour nighttime average was 39.9 dBA. **Drilling and Completions** -The allowable be 65.0 dBA during the day and 60.0 dBA during the night. **Production** - The allowable will be 60.0 dBA during the day and 55.0 dBA at night.

dB - During the 72-hour sound study, the 36-hour daytime average was 60.9 dB, while the 36-hour nighttime average was 55.5 dB. **Drilling and Completions** - The allowable be 65.0 dB during the day and 65.0 dB during the night. **Production** - The allowable will be 67.9 dB during the day and 60.0 dB at night.

➤ **Southwest Location**

dBA - During the 72-hour sound study, the 36-hour daytime average was 43.8 dBA, while the 36-hour nighttime average was 39.3 dBA. **Drilling and Completions** -The allowable be 65.0

dBA during the day and 60.0 dBA during the night. **Production** - The allowable will be 60.0 dBA during the day and 55.0 dBA at night.

dBC - During the 72-hour sound study, the 36-hour daytime average was 63.1 dBC, while the 36-hour nighttime average was 55.2 dBC. **Drilling and Completions** - The allowable be 65.0 dBC during the day and 65.0 dBC during the night. **Production** - The allowable will be 70.1 dBC during the day and 60.0 dBC at night.

SUMMARY & CONCLUSIONS

ENRG and Extraction conducted five (5) ambient sound level surveys in the vicinity of the proposed T-Bone. Adjustment or non-adjustment of ECMC allowables is derived by each individual study in each individual sound monitoring location. See Table P below for the 72-hour ambient dBA & dBC summary, as well as, dBA & dBC allowables for drilling, completions, and production. Also indicated on Table P is a summary of the hours in which the dBA and dBC hourly averages exceeded the ECMC allowables or ENRGs recommended adjusted allowables.

TABLE P
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
72-HOUR AMBIENT SOUND LEVEL SUMMARY
dBA & dBC AVERAGES, ALLOWABLES, & OVERAGES

dBA	72 HR AVG (dBA)	36 HR	36 HR	<u>DRILLING & COMPLETIONS</u> ALLOWABLE	<u>HOURS OVER ALLOWABLE</u> DURING AMBIENT	<u>PRODUCTION</u> ALLOWABLE	<u>HOURS OVER ALLOWABLE</u> DURING AMBIENT
		DAYTIME AVG (dBA)	NIGHTTIME AVG (dBA)				
LOCATION		7:00 AM - 7:00 PM	7:00 AM - 7:00 PM	(Daytime/Nighttime - dBA)	(Daytime/Nighttime - Hrs)	(Daytime/Nighttime - dBA)	(Daytime/Nighttime - Hrs)
NORTH	45.5	46.2	44.7	65.0 / 60.0	0 / 0	60.0 / 55.0	0 / 0
NORTHEAST	53.5	54.8	51.5	65.0 / 60.0	0 / 0	60.0 / 55.0	0 / 4
SOUTHEAST	61.9	63.6	59.1	65.0 / 60.0	6 / 10	70.0 / 64.1	0 / 2
WEST	41.8	43.2	39.9	65.0 / 60.0	0 / 0	60.0 / 55.0	0 / 0
SOUTHWEST	42.1	43.8	39.3	65.0 / 60.0	0 / 0	60.0 / 55.0	0 / 0

dBC	72 HR AVG (dBC)	36 HR	36 HR	<u>DRILLING & COMPLETIONS</u> ALLOWABLE	<u>HOURS OVER ALLOWABLE</u> DURING AMBIENT	<u>PRODUCTION</u> ALLOWABLE	<u>HOURS OVER ALLOWABLE</u> DURING AMBIENT
		DAYTIME AVG (dBC)	NIGHTTIME AVG (dBC)				
LOCATION		7:00 AM - 7:00 PM	7:00 AM - 7:00 PM	(Daytime/Nighttime - dBC)	(Daytime/Nighttime - Hrs)	(Daytime/Nighttime - dBC)	(Daytime/Nighttime - Hrs)
NORTH	59.1	60.8	56.2	65.0 / 65.0	1 / 0	67.8 / 60.0	0 / 1
NORTHEAST	64.2	65.4	62.6	72.4 / 65.0	0 / 6	72.4 / 67.6	0 / 0
SOUTHEAST	68.5	70.4	65.1	77.4 / 70.1	0 / 0	75.0 / 70.0	1 / 0
WEST	59.0	60.9	55.5	65.0 / 65.0	2 / 0	67.9 / 60.0	0 / 1
SOUTHWEST	60.8	63.1	55.2	65.0 / 65.0	4 / 0	70.1 / 60.0	1 / 0

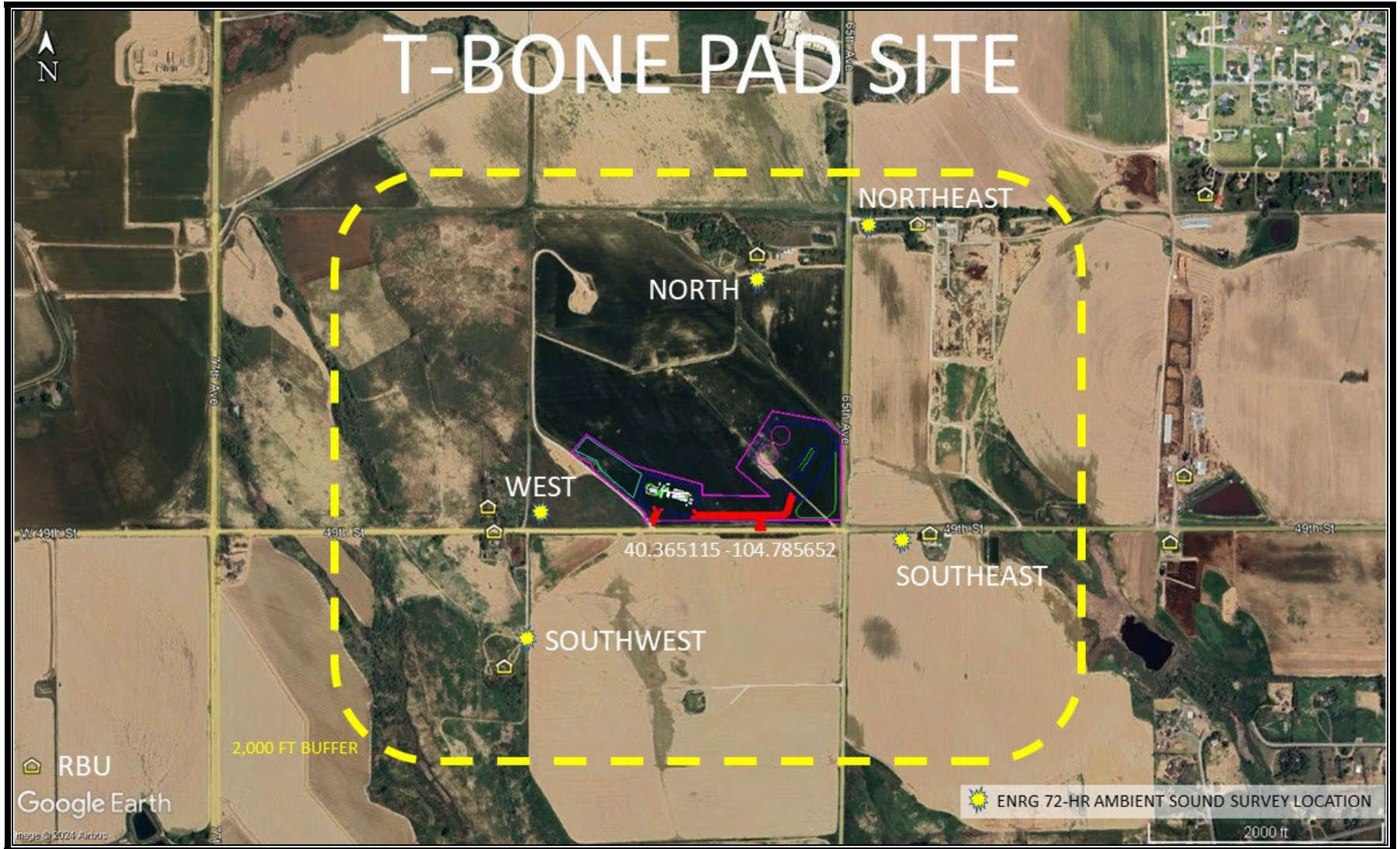
For any questions regarding this NMP please feel free to contact us.

Sincerely,

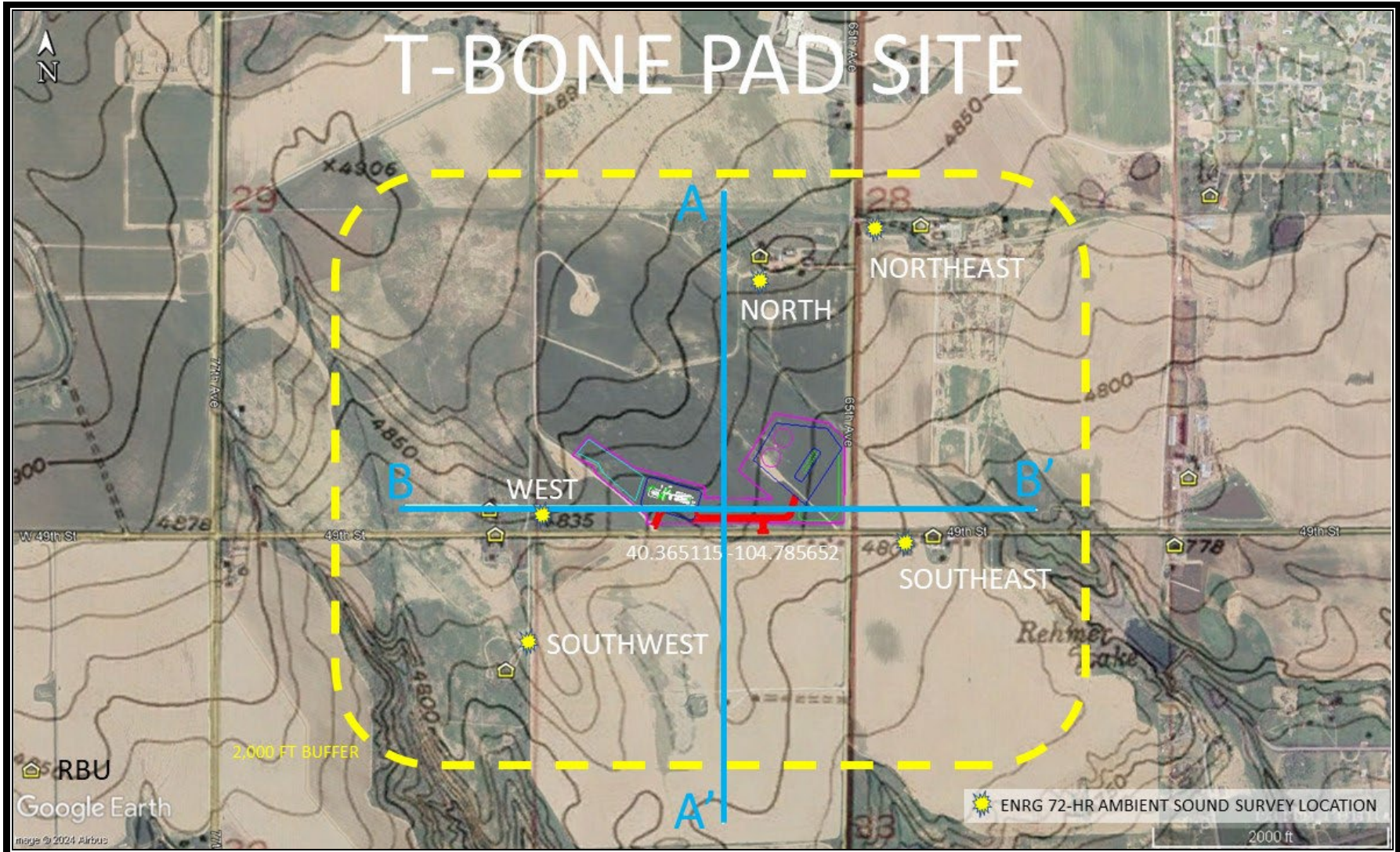


Chrystie Carter
 Operations Manager
 The Environmental & Natural Resources Group, Inc.

Attachments



**FIGURE 1. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
NOISE MITIGATION PLAN
T-BONE PAD SITE, 72-HOUR AMBIENT SOUND LOCATIONS, & RBU'S**



**FIGURE 2. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
NOISE MITIGATION PLAN
HYBRID TOPOGRAPHIC MAP**

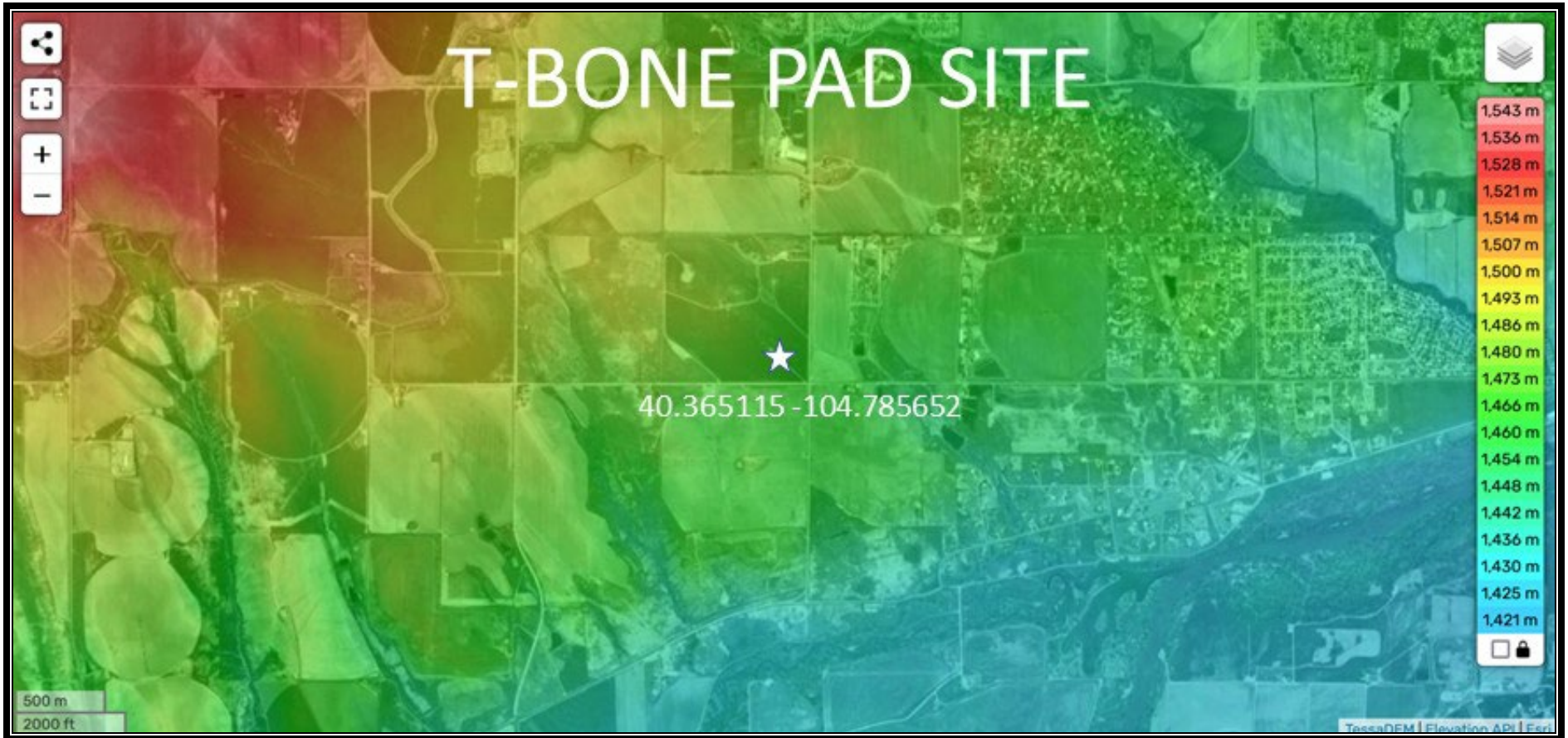
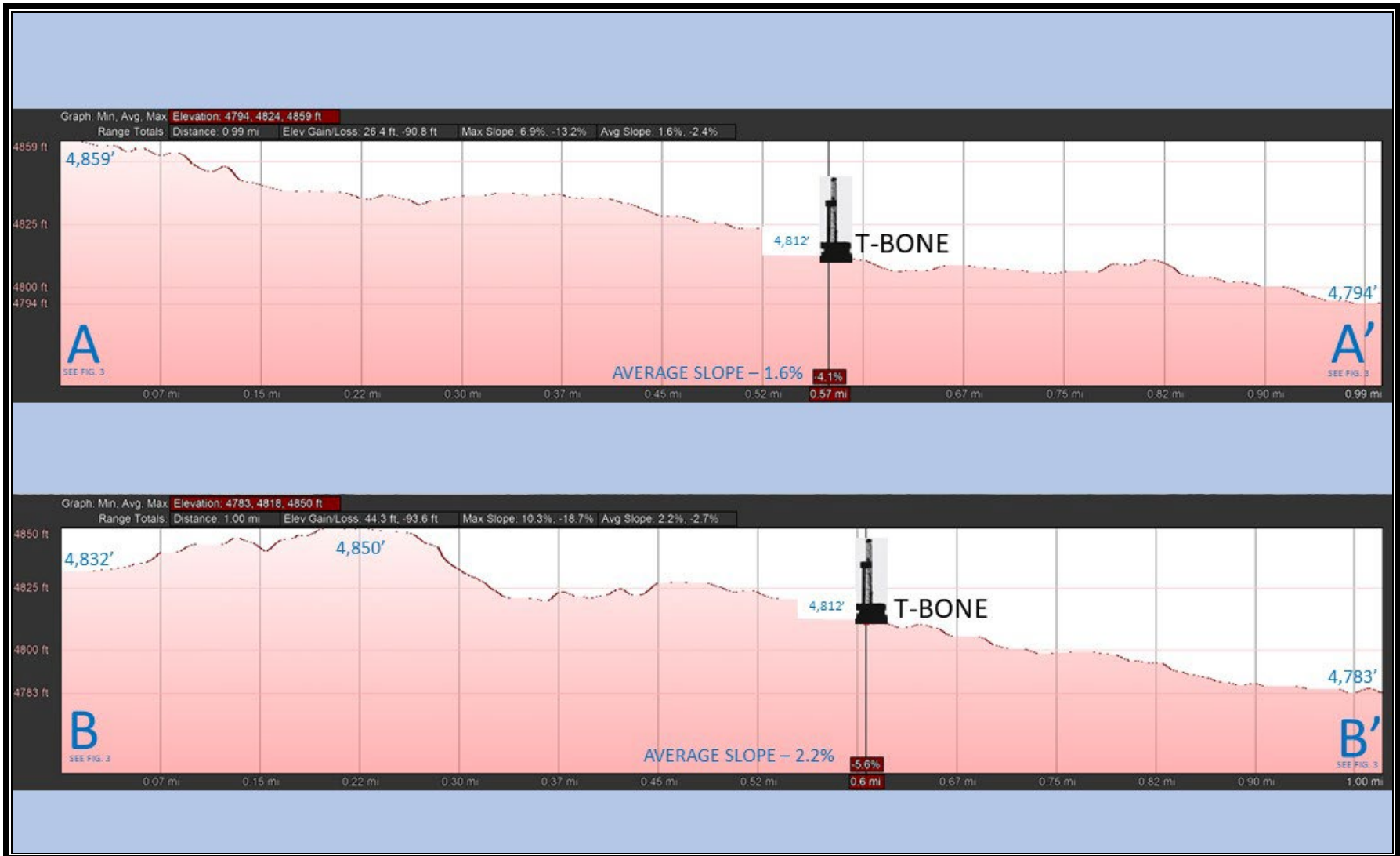


FIGURE 3. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
NOISE MITIGATION PLAN
COLOR CODED RELIEF MAP



**FIGURE 4. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
NOISE MITIGATION PLAN
CROSS – SECTIONAL ELEVATION PROFILE**



ENRG
Consultants

In 2009 ENRG released its innovative solar-powered Noise Monitoring Terminal. The NMT transmits live, real-time drill site noise data via the Internet, providing operators with 24/7 access, instant alerts and daily reports via their PCs or smart phones.

ENRG
Consultants

www.enrgconsultants.com

21323 I-76 Frontage Rd, Suite 401 Hudson, CO 80642

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FIGURE 5. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
NOISE MITIGATION PLAN
ENRG NOISE MONITORING TERMINAL



Category	Distance [m]	Average [dBA]	Range [dBA]	Data type	Reference
General works	<15	–	70–90	measurement	BoLM, 2016 [3]
Access road construction	15	89	–	estimation	NYSDEC FSGEIS, 2015 [28]
	76	75			
	152	69			
	305	63			
	457	59			
	610	57			
Site preparation	191	58–69	–	measurement	McCawley, 2013 [23]
Well pad preparation	15	84	–	estimation	NYSDEC FSGEIS, 2015 [28]
	76	70			
	152	64			
	305	58			
	458	55			
	610	52			
Truck traffic	<152	–	65–85	estimation	Garfield County, Colorado, 2011 [8]
	191		56–73	measurement	McCawley, 2013 [23]
Horizontal drilling	15	76	–	estimation	NYSDEC FSGEIS, 2015 [28]
	76	62			
	152	56			
	305	50			
	457	47			
	610	44			
Vertical drilling	191	54	–	measurement	McCawley, 2013 [23]
Drilling (unspecified)	100	57.4–62		estimation	Ambrose and Florian, 2014 [1]
	300	52.5		measurement	
	1055	36.9			
	2300	30.4			
	191	75–80			

From Hayes et al (2017)

**TABLE 1.1. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
NOISE MITIGATION PLAN
TYPICAL DRILLING AND COMPLETIONS SOUND LEVELS**



Category	Distance [m]	Average [dBA]	Range [dBA]	Data type	Reference
Drilling (unspecified)	30	-	75-87	measurement	behrens and Associates, Inc., 2006 [2]
	61		71-79		
	91		65-74		
	122		60-71		
	152		56-68		
	183		54-59		
	213		51-55		
	244		51-54		
Hydraulic fracturing	15	99-104	-	estimation	NYSDEC FSGEIS, 2015 [28]
	76	85-90			
	152	79-84			
	305	73-78			
	457	69-74			
	610	67-72			
	191	52	47-60	measurement	McCawley, 2013 [23]
Hydraulic fracturing/flowback	191	58	55-61	measurement	McCawley, 2013 [23]
Compressor station(s)	<305	63.15	35.3-94.8	measurement	MifAEH, 2014 [22]
	305-610	55.48	35.3-77.6		
	610-762	54.09	35.3-80.3		
	>1067	51.50	35.3-74.1	-	BoFM, 2006 [3]
	On-site	69-86			
	1609	58-75			
	2012	54			
	100	53,8			
140	50,9		estimation	Ambrose and Florian, 2014 [1]	
			measurement		

From Hayes et al (2017)

**TABLE 1.2. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
NOISE MITIGATION PLAN
TYPICAL DRILLING AND COMPLETIONS SOUND LEVELS**

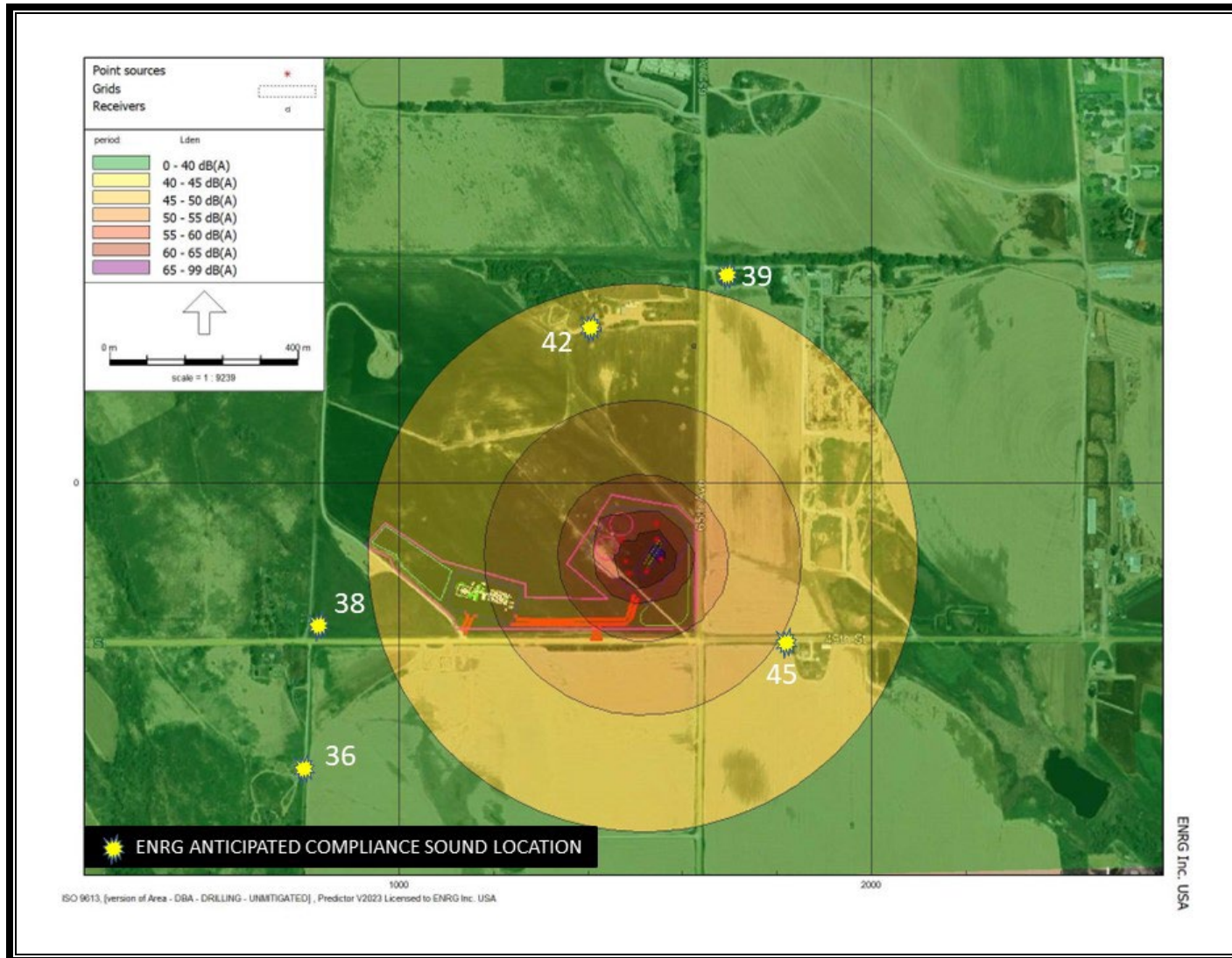


FIGURE 6. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
NOISE MITIGATION PLAN
dBA UN-MITIGATED DRILLING SOUND LEVELS

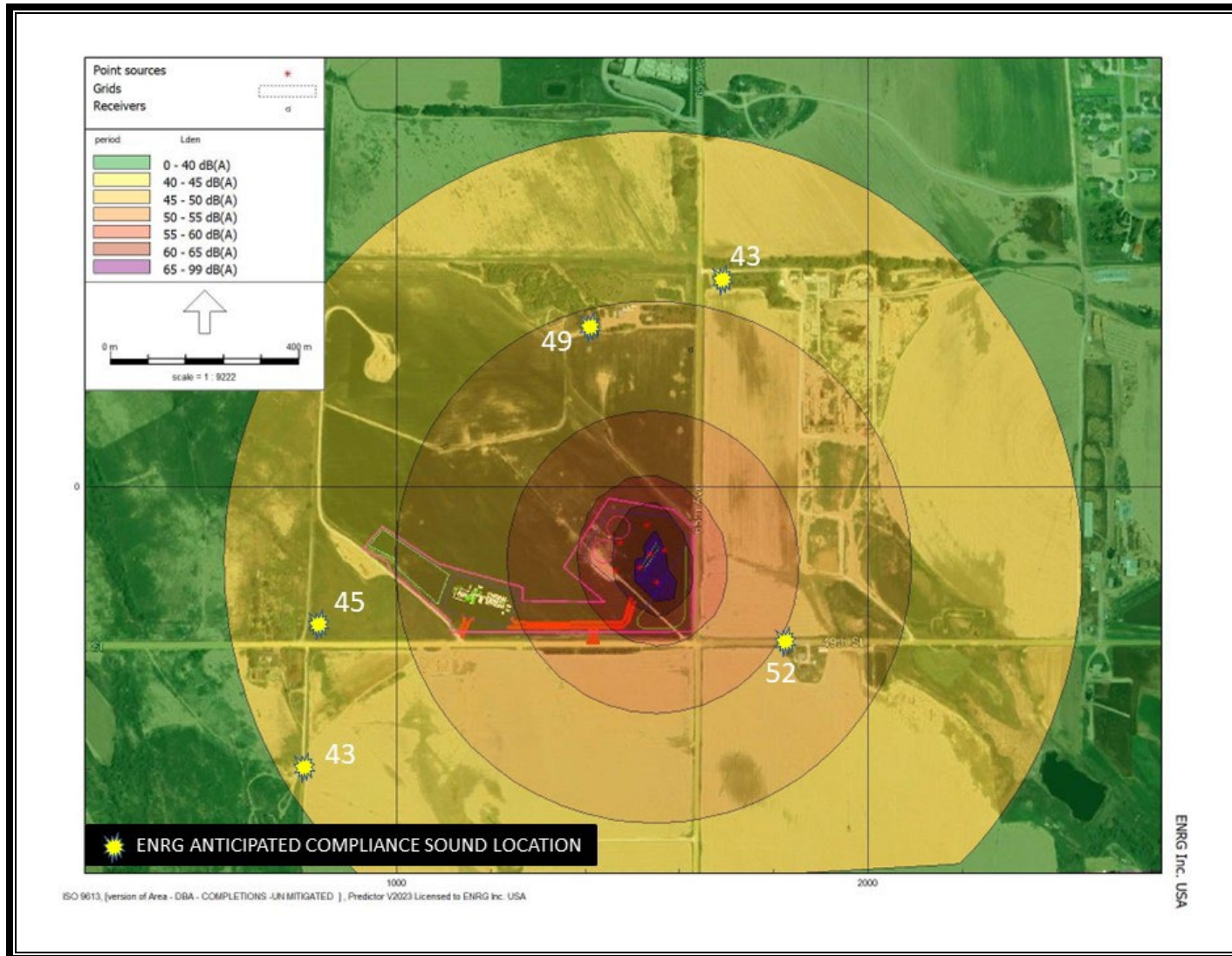


FIGURE 7. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
NOISE MITIGATION PLAN
dB(A) UN-MITIGATED COMPLETIONS SOUND LEVELS

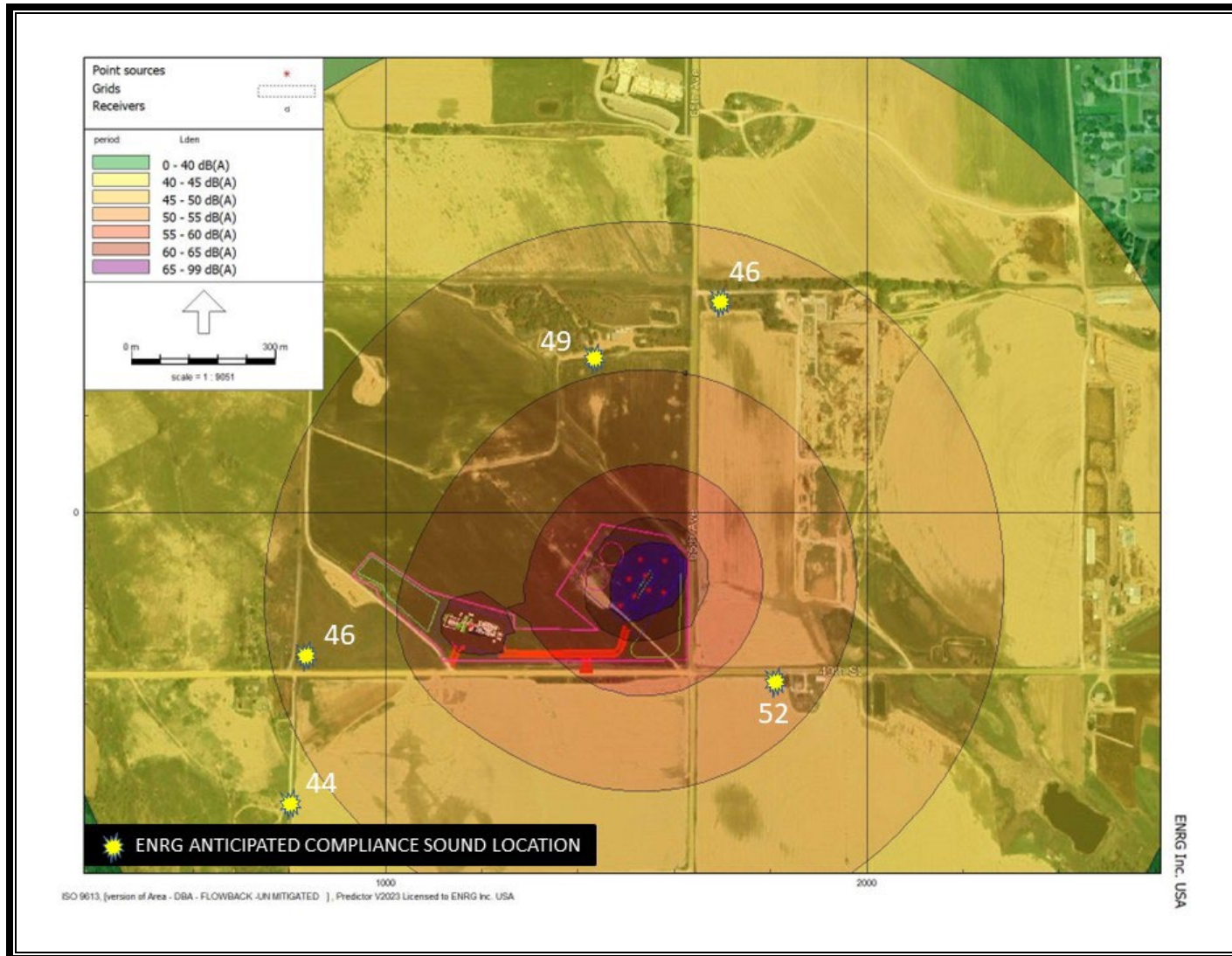


FIGURE 8. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
NOISE MITIGATION PLAN
dBA UN-MITIGATED FLOWBACK SOUND LEVELS



FIGURE 9. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
NOISE MITIGATION PLAN
dB(A) UN-MITIGATED PRODUCTION SOUND LEVELS

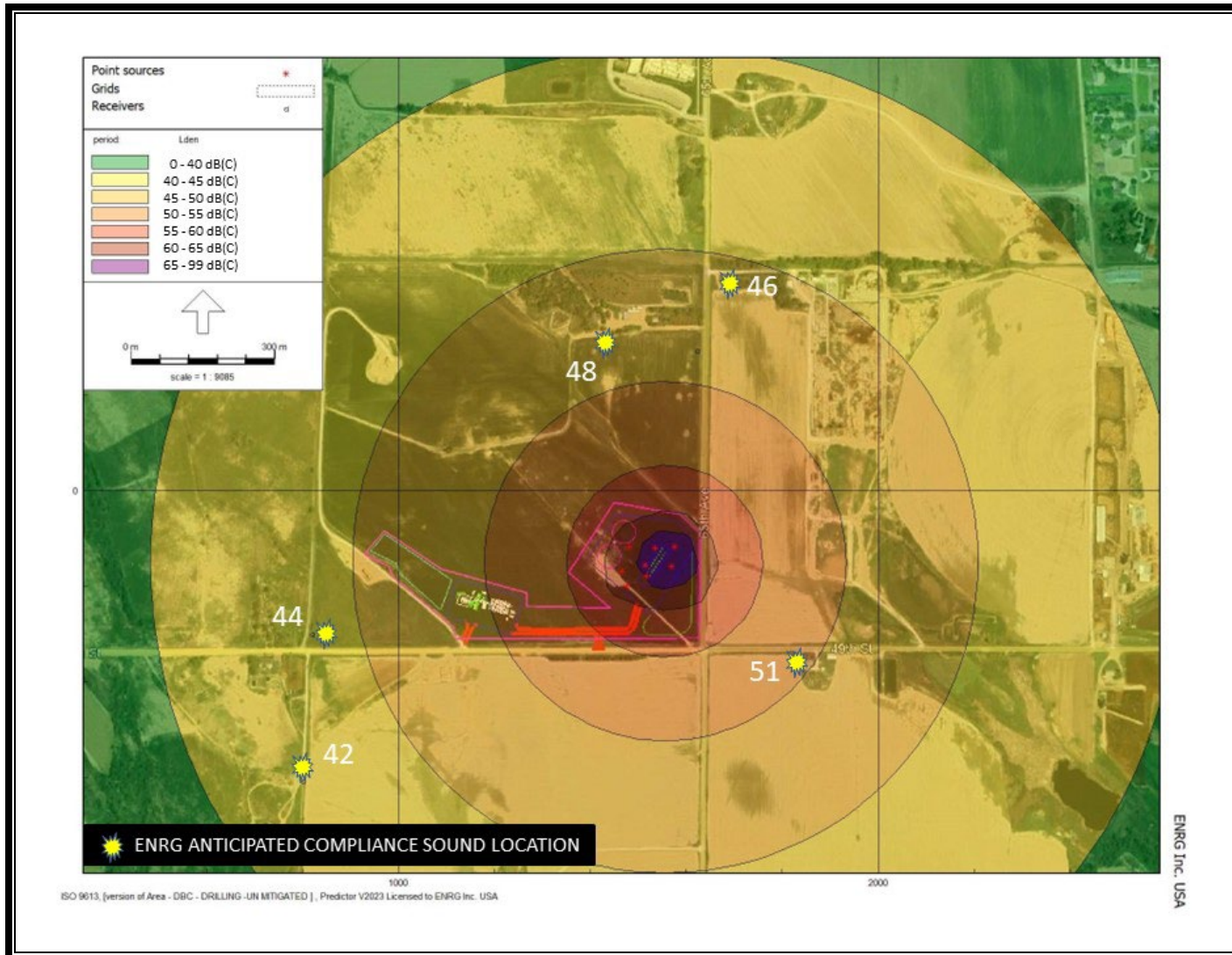


FIGURE 10. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
NOISE MITIGATION PLAN
dBC UN-MITIGATED DRILLING SOUND LEVELS

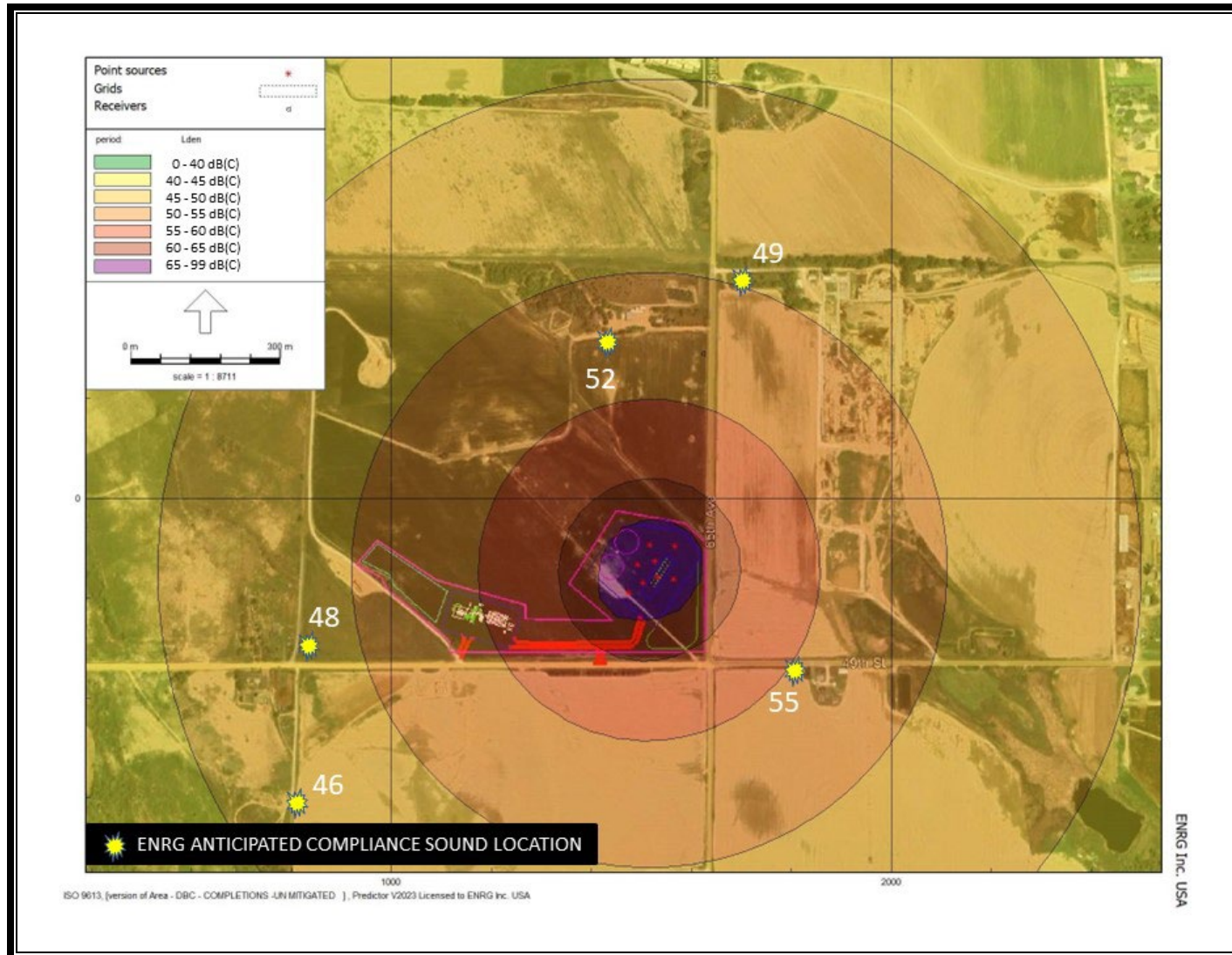


FIGURE 11. EXTRACTION OIL & GAS, INC. – TBONE PAD SITE
NOISE MITIGATION PLAN
dB(C) UN-MITIGATED COMPLETIONS SOUND LEVELS

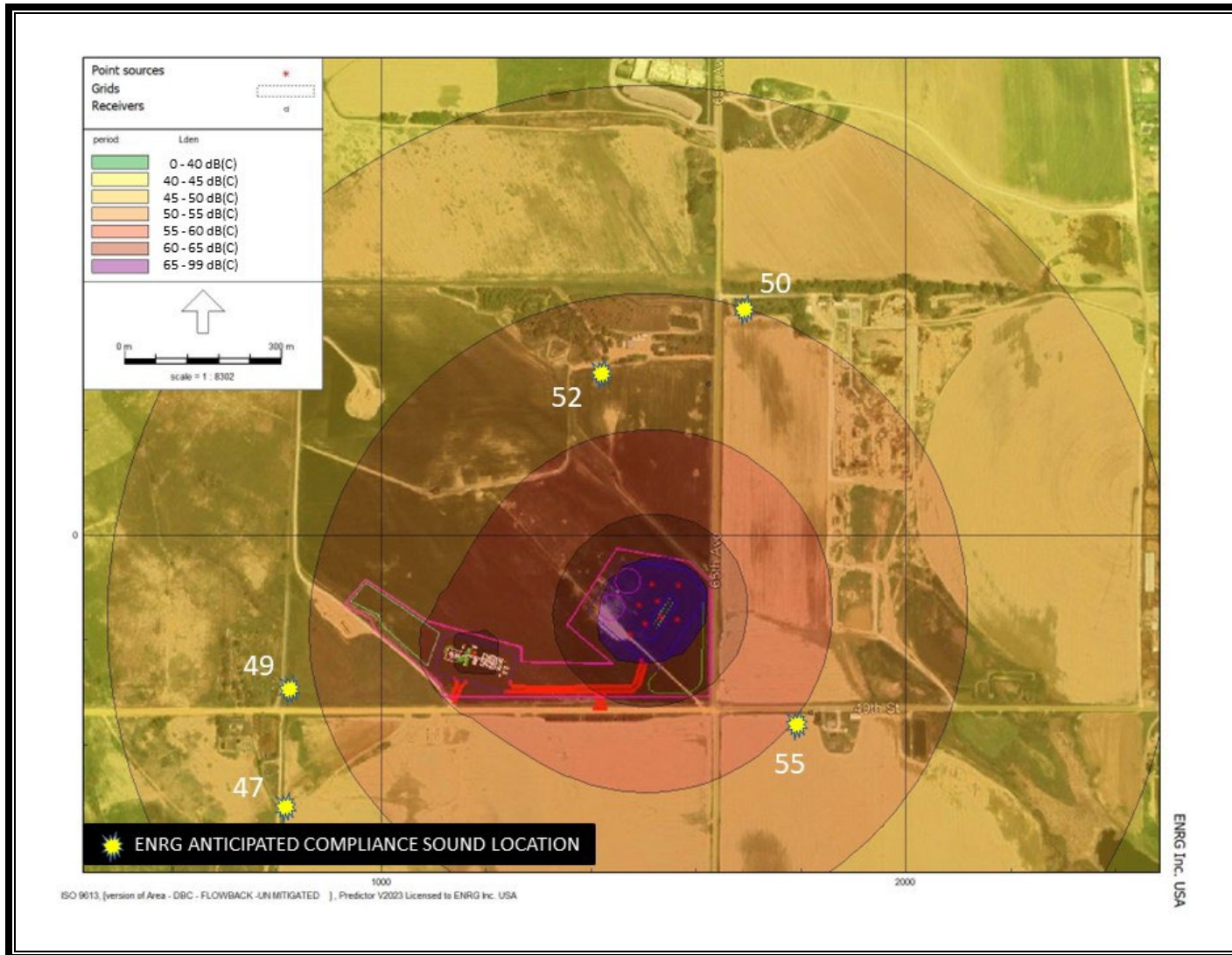
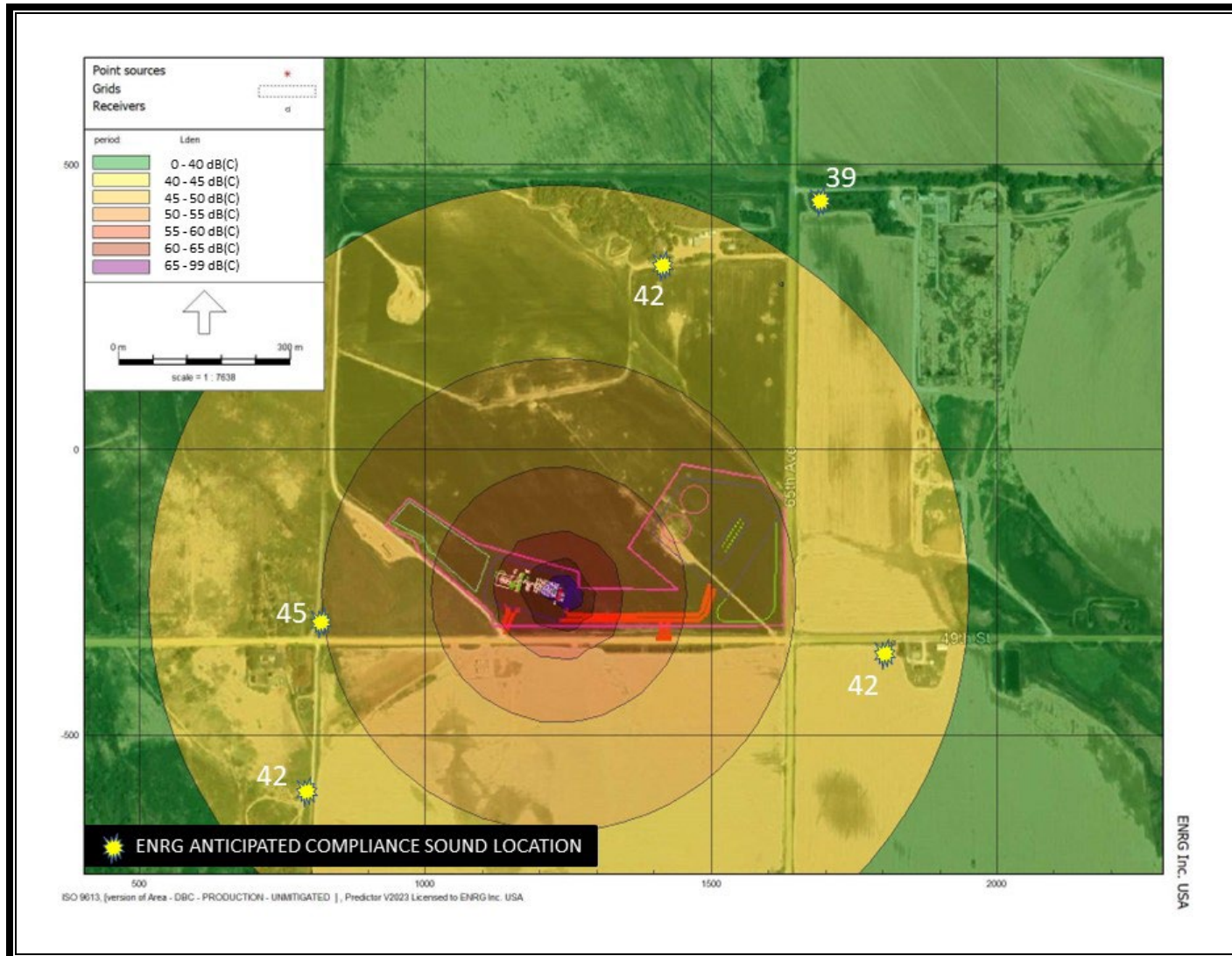


FIGURE 12. EXTRACTION OIL & GAS, INC. – TBONE PAD SITE
NOISE MITIGATION PLAN
dBC UN-MITIGATED FLOWBACK SOUND LEVELS



**FIGURE 13. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
NOISE MITIGATION PLAN
dB(C) UN-MITIGATED PRODUCTION SOUND LEVELS**

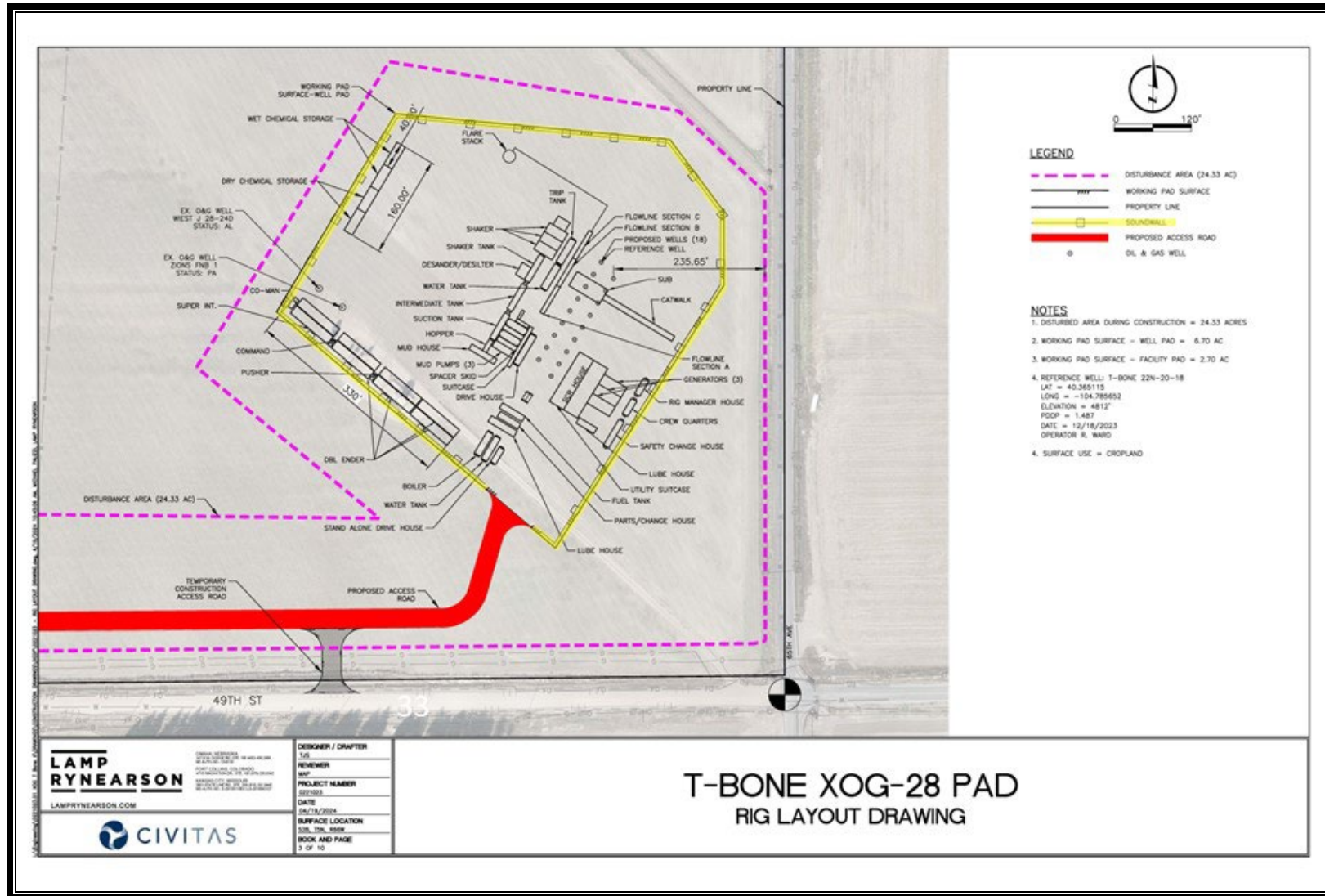
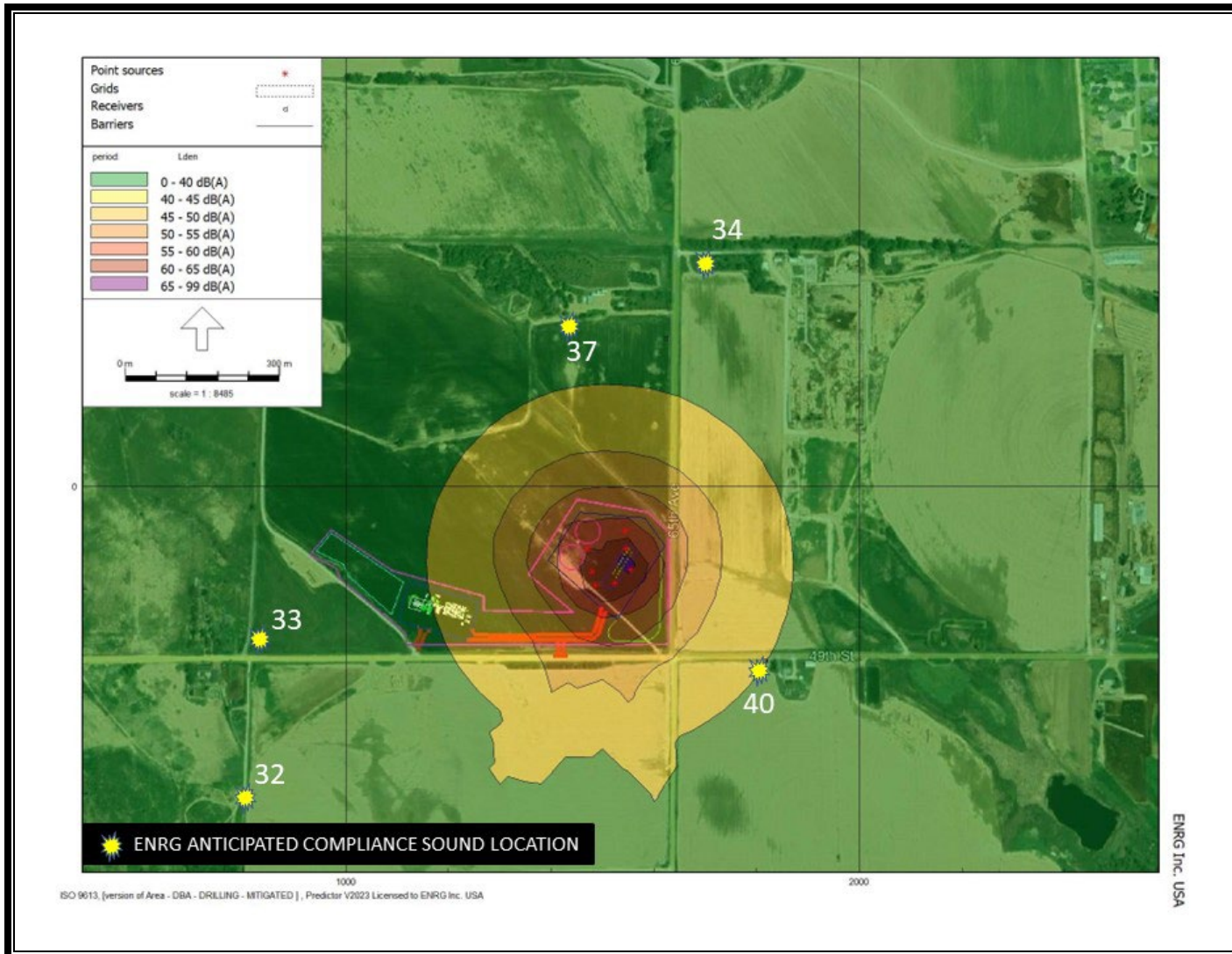
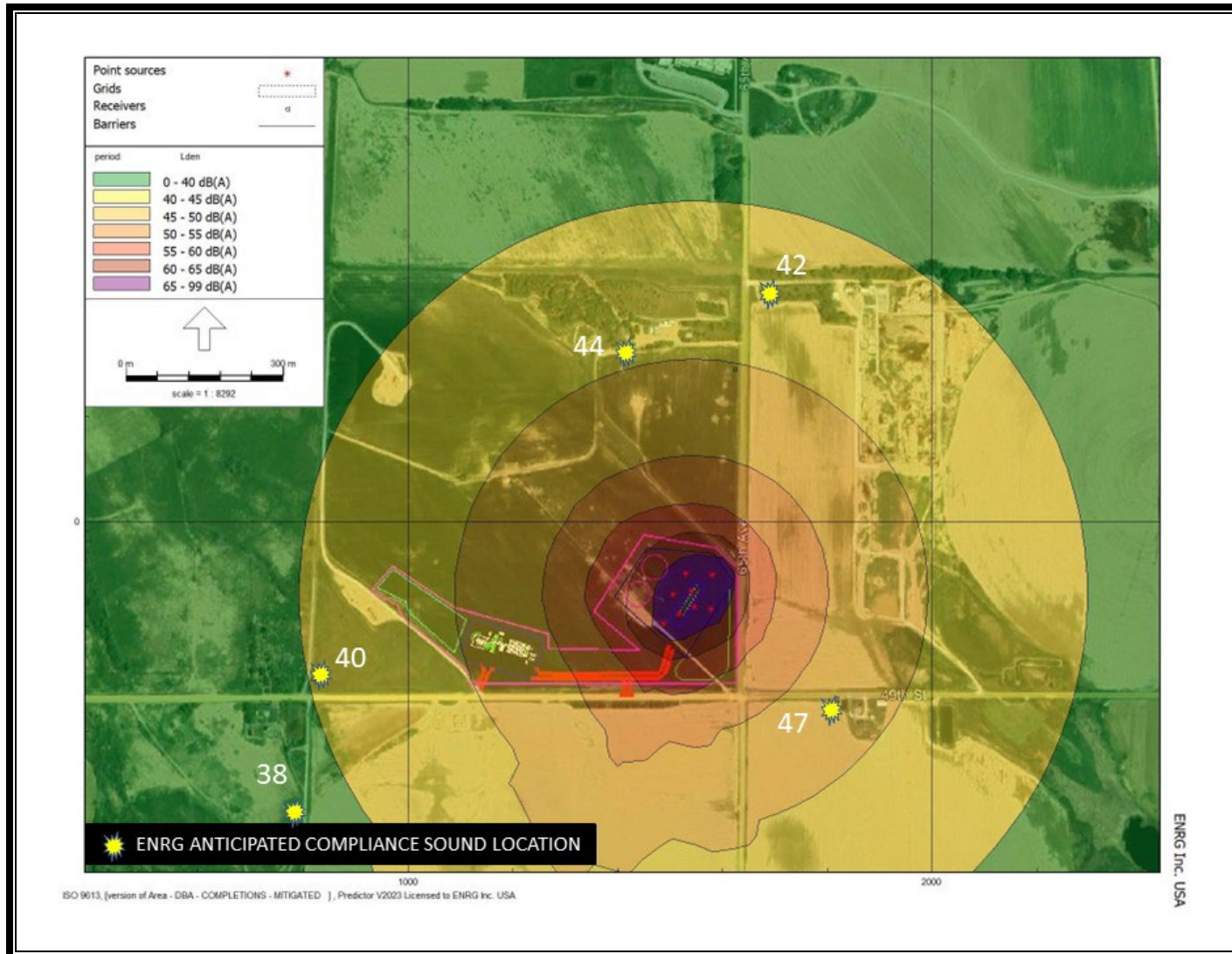


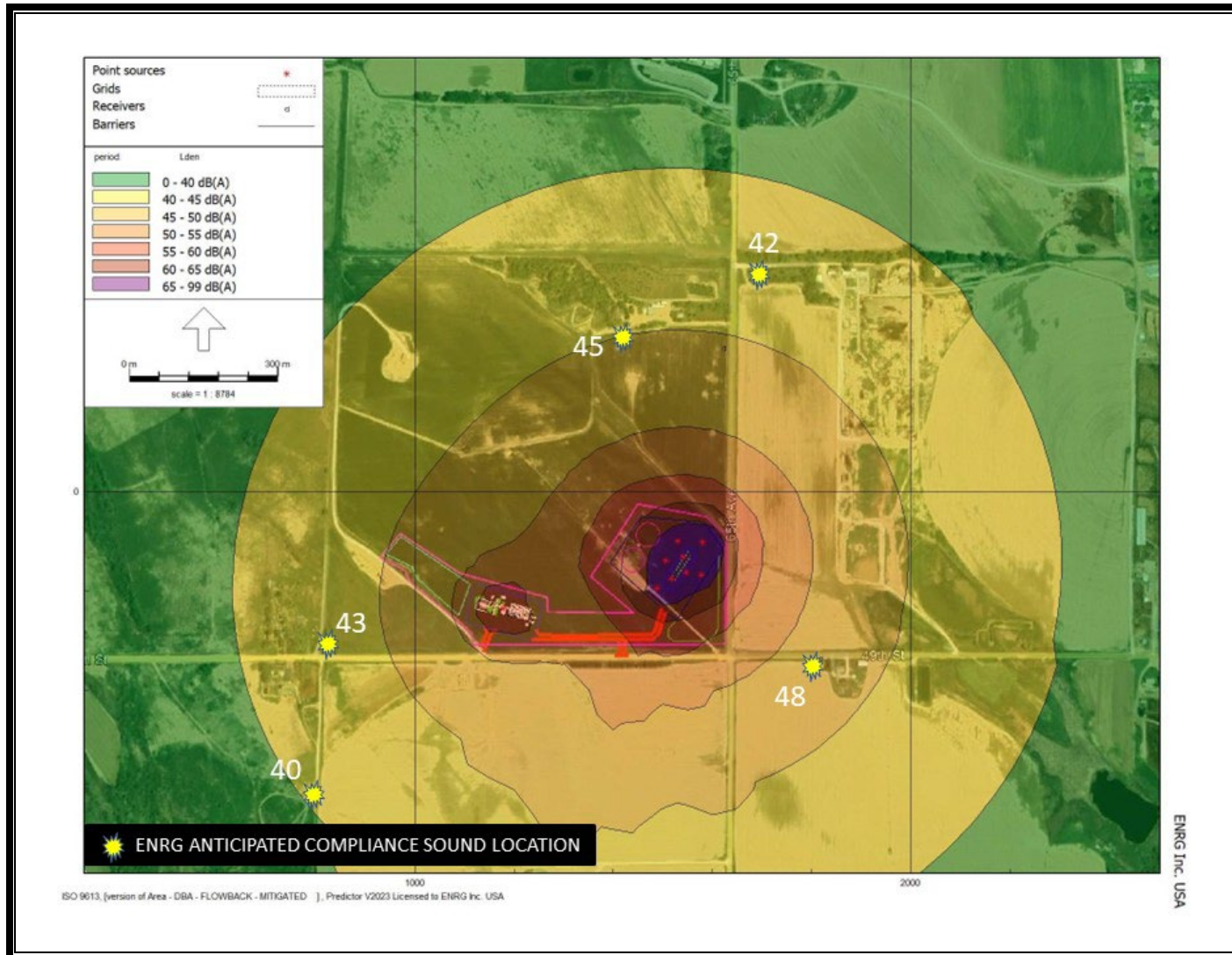
FIGURE 14. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
NOISE MITIGATION PLAN
ANTICIPATED SOUND WALL LOCATION



**FIGURE 15. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
NOISE MITIGATION PLAN
dBA MITIGATED DRILLING SOUND LEVELS**



**FIGURE 16. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
NOISE MITIGATION PLAN
dBA MITIGATED COMPLETIONS SOUND LEVELS**



**FIGURE 17. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
NOISE MITIGATION PLAN
dBA MITIGATED FLOWBACK SOUND LEVELS**

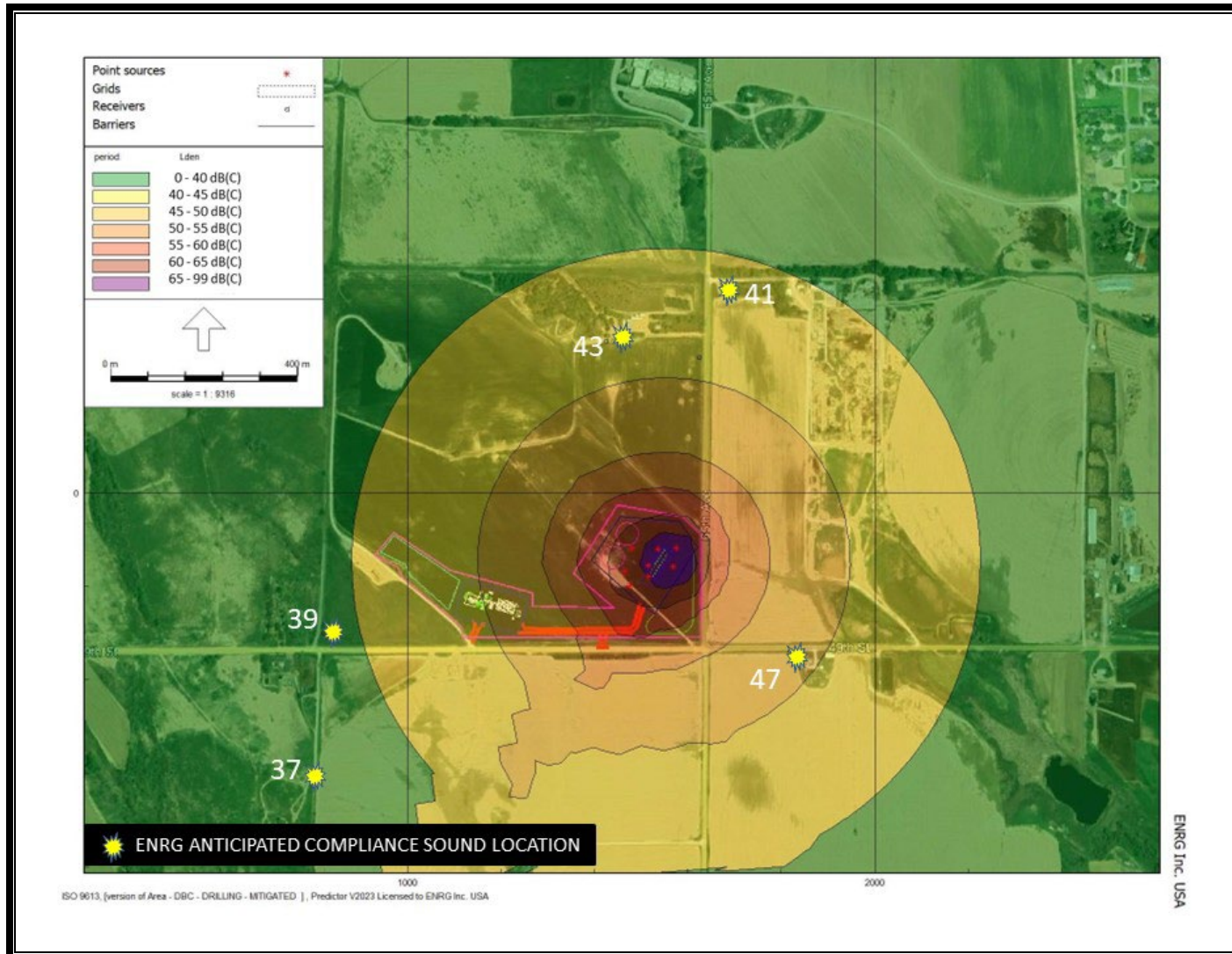


FIGURE 18. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
NOISE MITIGATION PLAN
dB(C) MITIGATED DRILLING SOUND LEVELS

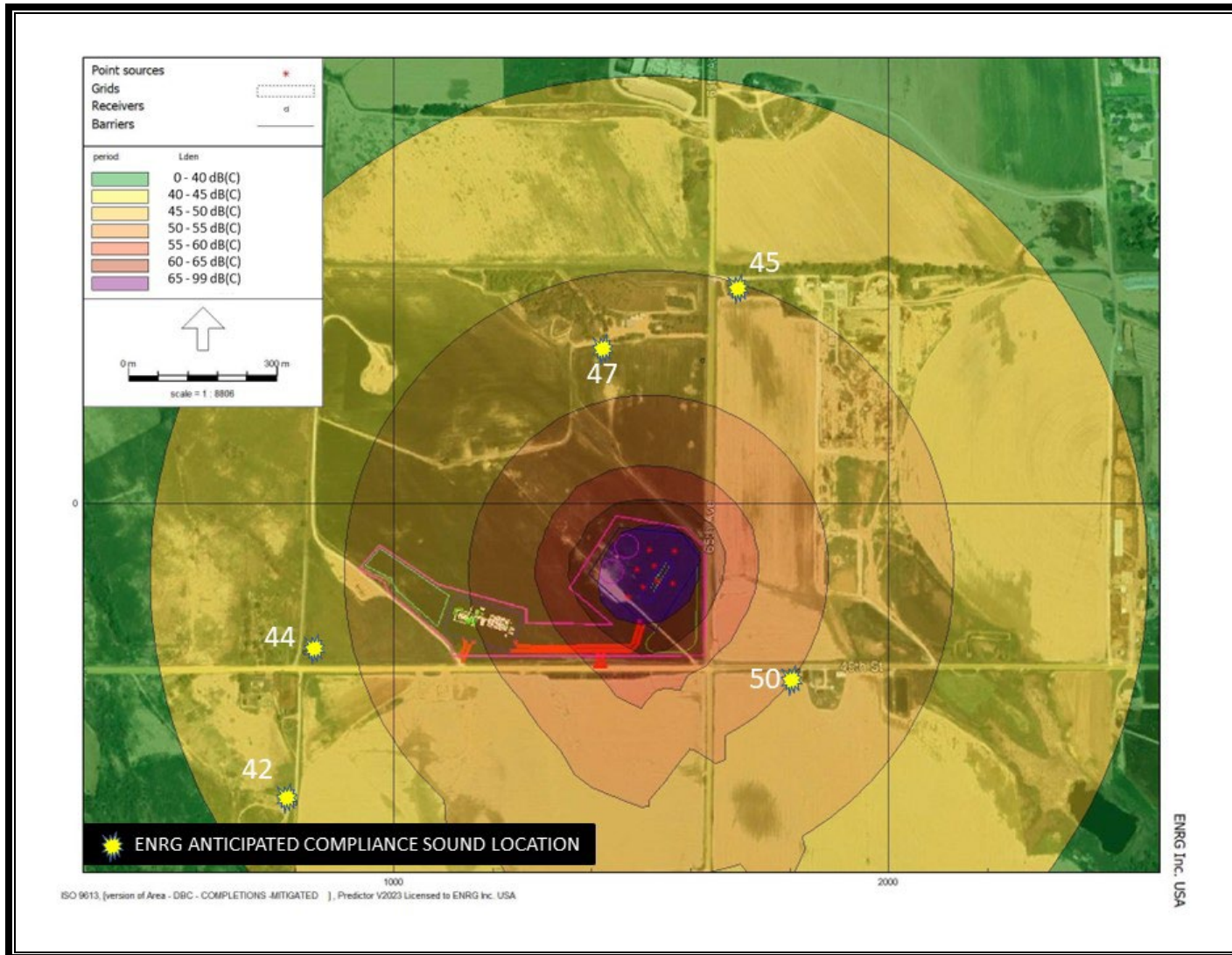


FIGURE 19. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
NOISE MITIGATION PLAN
dBC MITIGATED COMPLETIONS SOUND LEVELS

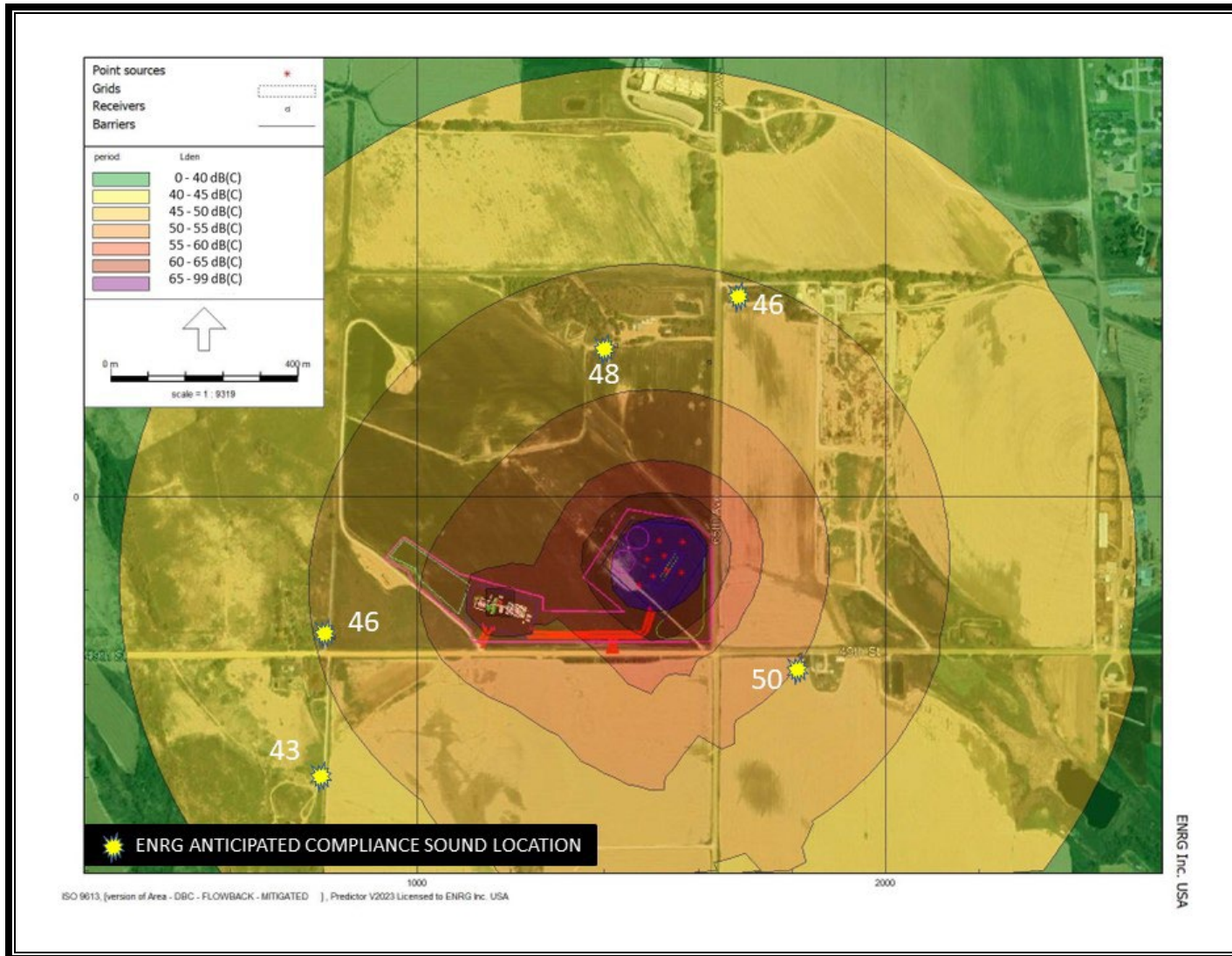


FIGURE 20. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
NOISE MITIGATION PLAN
dBC MITIGATED FLOWBACK SOUND LEVELS



CIVITAS

EXTRACTION OIL & GAS, INC.

EXHIBIT A

72-HOUR AMBIENT SOUND REPORTS:

T-BONE XOG-28 PAD SITE

TOWN OF MILLIKEN, COLORADO

Latitude 40.365115 Longitude -104.785652

PREPARED BY:



APRIL 30, 2024

EDITED TO INCLUDE ECMC CHANGES
AUGUST 10, 2024



CIVITAS

EXTRACTION OIL & GAS, INC.

72-HOUR AMBIENT SOUND LEVEL REPORTS:

T-BONE XOG-28 PAD SITE

T-BONE - NORTH METER

WELD COUNTY, COLORADO

40.365115 -104.785652

PREPARED BY:



APRIL 23, 2024

April 23, 2024

Extraction Oil & Gas, Inc.
Attn: Mr. Jeff Annable
Lead, Well & Location Permitting
555 17th Street #3500
Denver, Colorado 80202

**RE: EXTRACTON OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
72-HOUR AMBIENT SOUND LEVEL SURVEY
T-BONE – NORTH AMBIENT LOCATION**

Dear Mr. Annable:

Introduction

Per your request, the Environmental and Natural Resources Group Inc. (ENRG) performed a 72-hour ambient sound level survey for Extraction Oil & Gas, Inc. (Extraction) in the vicinity of the T-Bone XOG-28 (T-Bone) drilling location from April 20 – 22, 2024. Figure 1 shows the location where the ambient sound level survey was conducted, referred to as T-Bone - North.

Site Description

The T-Bone pad site is located at approximately Latitude 40.365115 Longitude -104.785652 (Figure 1). According to Google Earth maps and visual observation, the proposed pad site is located west of 65th Avenue and north of 49th Street in the Town of Milliken, Colorado (SW/4 Sec 28, T5N, R66W). The T-Bone pad site is located in the Agricultural Zoned Area. The surrounding properties are primarily utilized for farming/ranching, oil and gas or residential development. Land or properties within ¼ mile the T-Bone pad site consists of relatively undisturbed uplands. At the time of this ambient report, the well pad had not been constructed. The well site is surrounded by active agricultural fields.

72-Hour Ambient Sound Monitoring

ENRG's Noise Monitoring Terminal (NMT), which is equipped with a Type I Bruel & Kjaer (B&K) 2250 sound level meter, was calibrated, programmed for dBA and dBC frequencies and installed at the T-Bone - North ambient location by ENRG personnel before 0:00 on Saturday, April 20, 2024. Initial and final readings were verified with a calibration device to ensure accuracy during and after the test. The objective was to measure and document the site's ambient sound levels until 23:59 on Monday, April 22, 2024.

The NMT was located approximately 1,160 feet north from the edge of disturbance at the drilling location and approximately 75 feet south from the nearest residential building unit boundary (Figure 1).

The NMT was placed where no obstructions were allowed to block the meter from measuring and recording accurate ambient sound levels (Figure 2).

Summary

The results of the 72-hour ambient sound levels from the T-Bone - North ambient sound location are summarized below on Table A. The detailed results of the 72-hour ambient sound levels are attached as Table 1 and Figure 3. A summary of the 72-hour sound level averages is shown on Table 1. Figure 3 shows the graphical results of the minimum, maximum, and average of the 72-hour sound levels, as well as, the maximum hourly wind speeds, and allowable wind speeds.

TABLE A
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
NORTH METER
72-HOUR SOUND LEVEL SUMMARY - dBA & dBC

dBA		72 HR AVG (dBA)	36 HR	36 HR	24 HR (dBA) DAY 1	24 HR (dBA) DAY 2	24 HR (dBA) DAY 3
DAYS	DATE		DAYTIME AVG (dBA)	NIGHTTIME AVG (dBA)			
SAT - SUN - MON	4/20/24 - 4/22/24	45.5	46.2 7:00 AM - 7:00 PM	44.7 7:00 PM - 7:00 AM	44.7	45.3	46.4

dBC		72 HR AVG (dBC)	36 HR	36 HR	24 HR (dBC) DAY 1	24 HR (dBC) DAY 2	24 HR (dBC) DAY 3
DAYS	DATE		DAYTIME AVG (dBC)	NIGHTTIME AVG (dBC)			
SAT - SUN - MON	4/20/24 - 4/22/24	59.1	60.8 7:00 AM - 7:00 PM	56.2 7:00 PM - 7:00 AM	58.4	59.1	59.8

Please keep in mind that the study takes into account any potential location sound, as well as, any sound from sources surrounding the location including air traffic, highway traffic, and wildlife to name a few. As a reminder, Extraction was not performing any onsite construction, drilling or completion activities during the time of the study.

Please call or email us at the information below if you have any questions or comments.

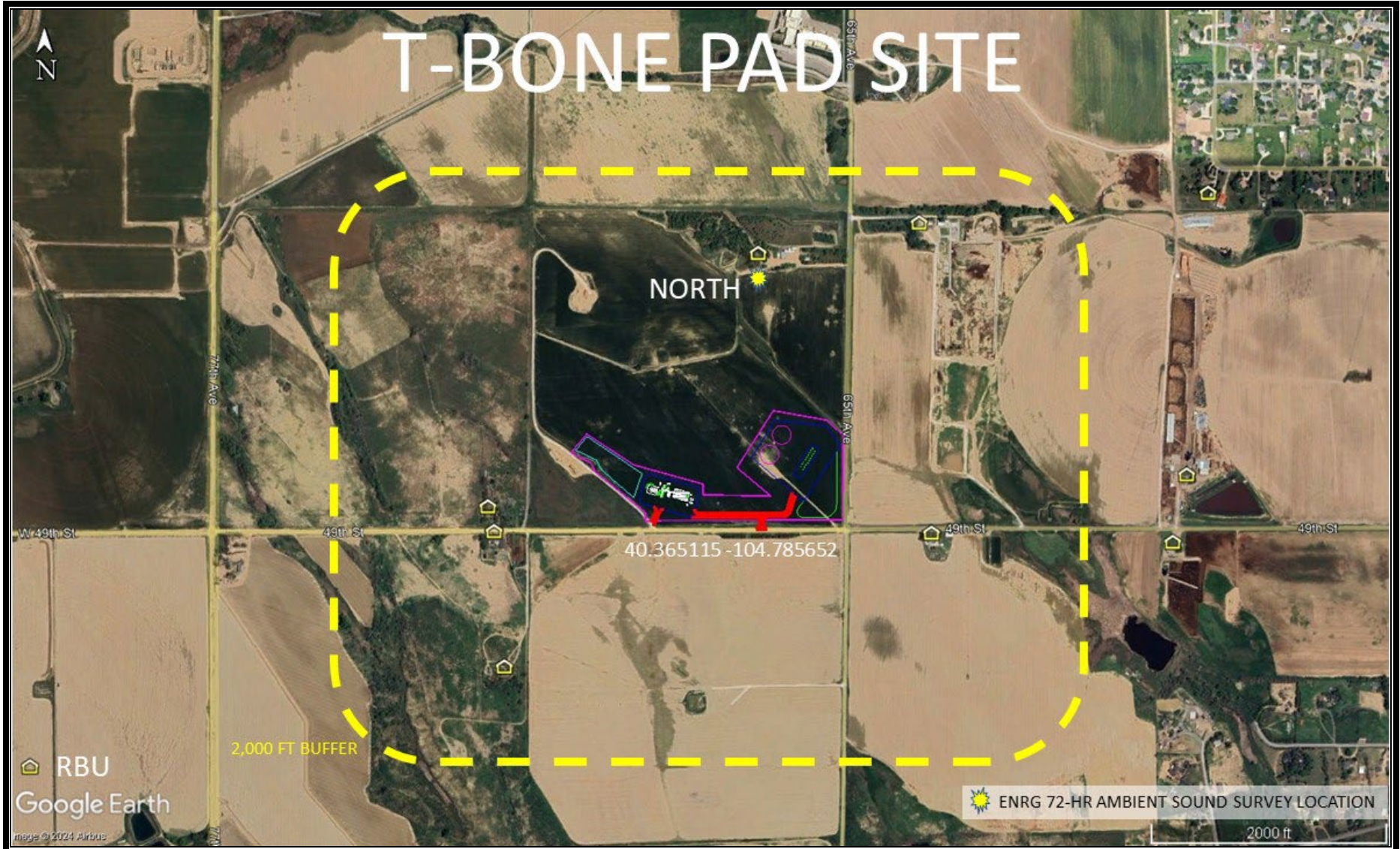
Sincerely,



Chrystie Carter
chrystie@enrgconsultants.com
214-435-6799 cell



Todd H. Boring
todd@enrgconsultants.com
214-674-3762 cell.



**FIGURE 1. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
NOISE MONITORING TERMINAL (NMT) LOCATION
T-BONE – NORTH METER**



**FIGURE 2. EXTRACTION OIL & GAS, INC – T-BONE PAD SITE
NOISE MONITORING TERMINAL (NMT) LOCATION
T-BONE – NORTH METER (View to the North)**

TABLE 1
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
T-BONE NORTH METER
72-HOUR AMBIENT SOUND LEVEL AVERAGES
APRIL 20, 2024

Time	Average dBA/Hr (Leq)	Minimum dBA/Hr (LAFmin)	Maximum dBA/Hr (LAFmax)	Average dBC/Hr (Leq)	
0:00-0:59	40.5	24.7	59.7	52.0	Nighttime Range
1:00-1:59	38.1	25.0	54.7	51.7	
2:00-2:59	39.1	27.4	54.8	53.3	
3:00-3:59	40.9	27.3	60.0	54.0	
4:00-4:59	42.3	27.3	59.4	57.2	
5:00-5:59	44.1	30.7	58.4	55.2	
6:00-6:59	45.5	32.2	64.4	55.9	Daytime Range
7:00-7:59	47.7	32.7	63.7	59.9	
8:00-8:59	49.6	36.5	78.3	60.9	
9:00-9:59	50.3	36.3	61.6	63.7	
10:00-10:59	50.2	36.0	69.5	61.6	
11:00-11:59	45.3	35.3	58.6	60.9	
12:00-12:59	43.5	36.7	62.9	59.4	
13:00-13:59	43.9	36.1	59.2	62.0	
14:00-14:59	44.7	35.1	73.7	61.3	
15:00-15:59	43.8	35.6	59.4	60.7	
16:00-16:59	43.1	34.5	63.7	57.3	
17:00-17:59	41.8	33.3	64.3	55.5	
18:00-18:59	39.6	30.2	61.5	54.1	Nighttime Range
19:00-19:59	42.4	28.8	68.8	54.3	
20:00-20:59	39.0	26.7	59.4	55.3	
21:00-21:59	40.5	26.2	62.2	54.4	
22:00-22:59	33.1	24.9	50.6	51.9	
23:00-23:59	35.0	25.9	53.7	53.0	

24-Hr LAeq	44.7
12-Hr Daytime LAeq	46.6
12-Hr Nighttime LAeq	41.2

24-Hr LCeq	58.4
12-Hr Daytime LCeq	60.5
12-Hr Nighttime LCeq	54.3

TABLE 1 - Pg. 1 OF 3

TABLE 1
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
T-BONE NORTH METER
72-HOUR AMBIENT SOUND LEVEL AVERAGES
APRIL 21, 2024

Time	Average dBA/Hr (Leq)	Minimum dBA/Hr (LAFmin)	Maximum dBA/Hr (LAFmax)	Average dBC/Hr (Leq)	
0:00-0:59	37.1	27.2	52.7	55.1	Nighttime Range
1:00-1:59	38.0	28.4	52.5	59.1	
2:00-2:59	40.9	27.0	67.3	56.9	
3:00-3:59	40.8	27.0	63.3	56.6	
4:00-4:59	43.3	27.8	61.7	55.3	
5:00-5:59	45.4	28.6	60.4	55.2	
6:00-6:59	45.1	29.2	63.4	55.8	Daytime Range
7:00-7:59	44.7	32.3	61.3	54.7	
8:00-8:59	45.1	31.6	65.8	56.4	
9:00-9:59	46.9	29.9	74.1	56.3	
10:00-10:59	44.1	32.8	58.4	56.9	
11:00-11:59	43.7	34.3	57.0	59.9	
12:00-12:59	41.7	32.3	56.0	58.3	
13:00-13:59	42.6	33.6	71.9	60.5	
14:00-14:59	46.3	33.2	66.8	60.7	
15:00-15:59	44.3	32.1	59.6	62.7	
16:00-16:59	47.4	34.4	68.2	64.9	
17:00-17:59	47.4	33.5	64.6	63.5	
18:00-18:59	49.0	33.6	70.6	59.9	Nighttime Range
19:00-19:59	48.6	29.2	66.5	56.5	
20:00-20:59	48.1	32.2	72.0	54.9	
21:00-21:59	46.9	30.7	63.3	57.2	
22:00-22:59	43.9	26.8	59.0	58.2	
23:00-23:59	43.3	25.2	58.5	56.8	

24-Hr LAeq	45.3
12-Hr Daytime LAeq	45.8
12-Hr Nighttime LAeq	44.7

24-Hr LCeq	59.1
12-Hr Daytime LCeq	60.6
12-Hr Nighttime LCeq	56.7

TABLE 1 - Pg. 2 OF 3

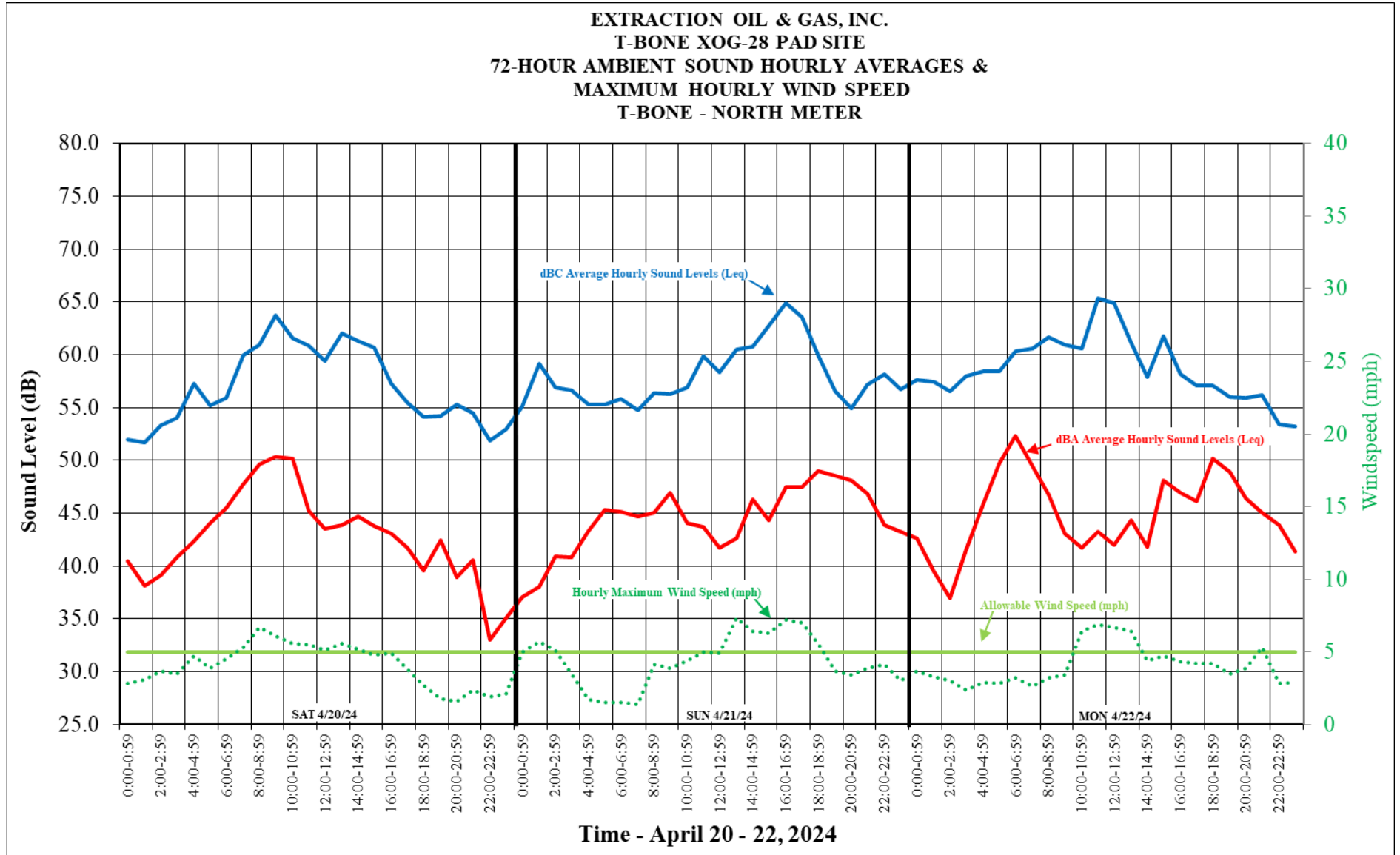
TABLE 1
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
T-BONE NORTH METER
72-HOUR AMBIENT SOUND LEVEL AVERAGES
APRIL 22, 2024

Time	Average dBA/Hr (Leq)	Minimum dBA/Hr (LAFmin)	Maximum dBA/Hr (LAFmax)	Average dBC/Hr (Leq)	
0:00-0:59	42.6	26.8	60.9	57.6	Nighttime Range
1:00-1:59	39.5	27.6	59.4	57.5	
2:00-2:59	36.9	28.5	55.5	56.5	
3:00-3:59	41.6	29.1	60.4	58.0	
4:00-4:59	45.8	33.9	60.9	58.4	
5:00-5:59	49.7	37.0	66.2	58.5	
6:00-6:59	52.3	40.8	66.8	60.3	Daytime Range
7:00-7:59	49.5	41.3	68.9	60.6	
8:00-8:59	46.8	40.8	63.0	61.6	
9:00-9:59	43.0	36.7	63.3	61.0	
10:00-10:59	41.8	33.0	59.6	60.6	
11:00-11:59	43.3	32.7	65.4	65.4	
12:00-12:59	42.0	32.5	62.5	64.9	
13:00-13:59	44.3	32.4	61.4	61.1	
14:00-14:59	41.8	31.2	60.9	57.9	
15:00-15:59	48.1	33.4	69.4	61.7	
16:00-16:59	46.9	33.6	75.5	58.1	
17:00-17:59	46.2	33.8	73.2	57.1	
18:00-18:59	50.2	36.7	62.4	57.1	Nighttime Range
19:00-19:59	48.9	28.1	63.3	56.0	
20:00-20:59	46.4	29.6	61.4	55.9	
21:00-21:59	45.1	28.3	61.6	56.2	
22:00-22:59	43.9	29.4	61.2	53.4	
23:00-23:59	41.4	29.5	55.4	53.2	

24-Hr LAeq	46.4
12-Hr Daytime LAeq	46.3
12-Hr Nighttime LAeq	46.5
72-Hour LAeq Average	45.5
36-Hour LAeq Daytime	46.2
36-Hour LAeq Nighttime	44.7

24-Hr LCeq	59.8
12-Hr Daytime LCeq	61.4
12-Hr Nighttime LCeq	57.2
72-Hour dBC Average (Leq)	59.1
36-Hour LCeq Daytime	60.8
36-Hour LCeq Nighttime	56.2

TABLE 1 - Pg. 3 OF 3



**FIGURE 3. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
72 - HOUR SOUND LEVEL SURVEY – NORTH METER
dBA & dBC AVERAGE SOUND LEVELS (Leq) WITH HOURLY MAXIMUM WINDSPEED**



CIVITAS

EXTRACTION OIL & GAS, INC.

72-HOUR AMBIENT SOUND LEVEL REPORTS:

T-BONE XOG-28 PAD SITE

T-BONE - NORTHEAST METER

WELD COUNTY, COLORADO

40.365115 -104.785652

PREPARED BY:



AUGUST 7, 2024

August 7, 2024

Extraction Oil & Gas, Inc.
Attn: Mr. Jeff Annable
Lead, Well & Location Permitting
555 17th Street #3500
Denver, Colorado 80202

**RE: EXTRACTON OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
72-HOUR AMBIENT SOUND LEVEL SURVEY
T-BONE – NORTHEAST AMBIENT LOCATION**

Dear Mr. Annable:

Introduction

Per your request, the Environmental and Natural Resources Group Inc. (ENRG) performed a 72-hour ambient sound level survey for Extraction Oil & Gas, Inc. (Extraction) in the vicinity of the T-Bone XOG-28 (T-Bone) drilling location from August 1 – 3, 2024. Figure 1 shows the location where the ambient sound level survey was conducted, referred to as T-Bone - Northeast.

Site Description

The T-Bone pad site is located at approximately Latitude 40.365115 Longitude -104.785652 (Figure 1). According to Google Earth maps and visual observation, the proposed pad site is located west of 65th Avenue and north of 49th Street in the Town of Milliken, Colorado (SW/4 Sec 28, T5N, R66W). The T-Bone pad site is located in the Agricultural Zoned Area. The surrounding properties are primarily utilized for farming/ranching, oil and gas or residential development. Land or properties within ¼ mile the T-Bone pad site consists of relatively undisturbed uplands. At the time of this ambient report, the well pad had not been constructed. The well site is surrounded by active agricultural fields.

72-Hour Ambient Sound Monitoring

ENRG's Noise Monitoring Terminal (NMT), which is equipped with a Type I Bruel & Kjaer (B&K) 2250 sound level meter, was calibrated, programmed for dBA and dBC frequencies and installed at the T-Bone - Northeast ambient location by ENRG personnel before 0:00 on Thursday, August 1, 2024. Initial and final readings were verified with a calibration device to ensure accuracy during and after the test. The objective was to measure and document the site's ambient sound levels until 23:59 on Saturday, August 3, 2024.

The NMT was located approximately 1,675 feet northeast from the edge of disturbance at the drilling location and approximately 410 feet west from the nearest residential building unit boundary (Figure 1).

The NMT was placed where no obstructions were allowed to block the meter from measuring and recording accurate ambient sound levels (Figure 2).

Summary

The results of the 72-hour ambient sound levels from the T-Bone - Northeast ambient sound location are summarized below on Table A. The detailed results of the 72-hour ambient sound levels are attached as Table 1 and Figure 3. A summary of the 72-hour sound level averages is shown on Table 1. Figure 3 shows the graphical results of the minimum, maximum, and average of the 72-hour sound levels, as well as, the maximum hourly wind speeds, and allowable wind speeds.

TABLE A
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
NORTHEAST METER
72-HOUR SOUND LEVEL SUMMARY - dBA & dBC

dBA		72 HR AVG (dBA)	36 HR	36 HR	24 HR (dBA) DAY 1	24 HR (dBA) DAY 2	24 HR (dBA) DAY 3
DAYS	DATE		DAYTIME AVG (dBA)	NIGHTTIME AVG (dBA)			
THUR - FRI - SAT	8/1/24 - 8/3/24	53.5	54.8 7:00 AM - 7:00 PM	51.5 7:00 PM - 7:00 AM	54.3	53.7	52.1

dBC		72 HR AVG (dBC)	36 HR	36 HR	24 HR (dBC) DAY 1	24 HR (dBC) DAY 2	24 HR (dBC) DAY 3
DAYS	DATE		DAYTIME AVG (dBC)	NIGHTTIME AVG (dBC)			
THUR - FRI - SAT	8/1/24 - 8/3/24	64.2	65.4 7:00 AM - 7:00 PM	62.6 7:00 PM - 7:00 AM	64.8	64.7	62.8

Please keep in mind that the study takes into account any potential location sound, as well as, any sound from sources surrounding the location including air traffic, highway traffic, and wildlife to name a few. As a reminder, Extraction was not performing any onsite construction, drilling or completion activities during the time of the study.

Please call or email us at the information below if you have any questions or comments.

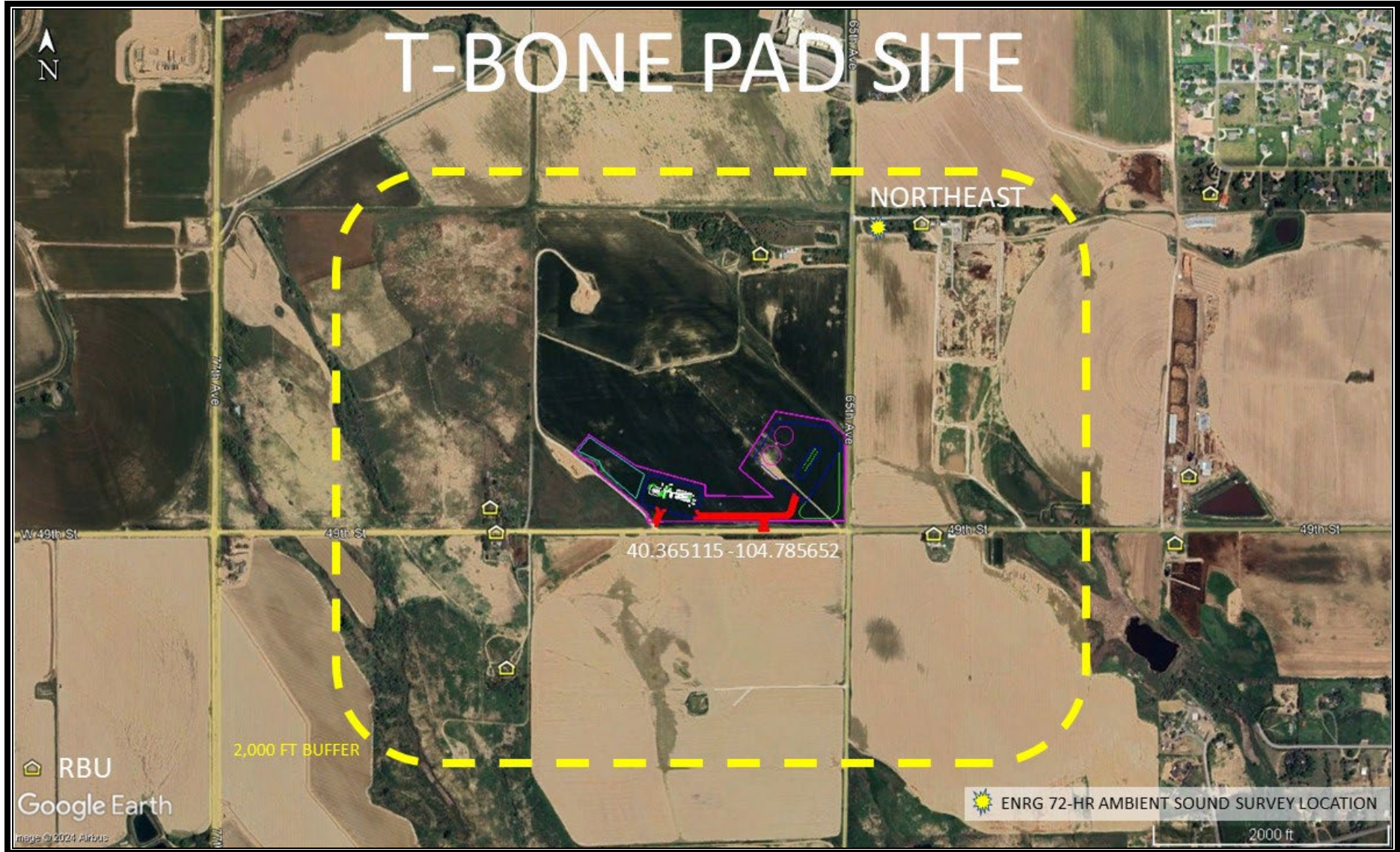
Sincerely,



Chrystie Carter
chrystie@enrgconsultants.com
214-435-6799 cell



Todd H. Boring
todd@enrgconsultants.com
214-674-3762 cell.



**FIGURE 1. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
NOISE MONITORING TERMINAL (NMT) LOCATION
T-BONE – NORTHEAST METER**



**FIGURE 2. EXTRACTION OIL & GAS, INC – T-BONE PAD SITE
NOISE MONITORING TERMINAL (NMT) LOCATION
T-BONE – NORTHEAST METER (View to the East)**

TABLE 1
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
T-BONE NORTHEAST METER
72-HOUR AMBIENT SOUND LEVEL AVERAGES
AUGUST 1, 2024

Time	Average dBA/Hr (Leq)	Minimum dBA/Hr (LAFmin)	Maximum dBA/Hr (LAFmax)	Average dBC/Hr (Leq)	
0:00-0:59	50.2	35.0	84.1	62.9	Nighttime Range
1:00-1:59	45.4	35.5	70.4	59.8	
2:00-2:59	44.7	34.8	63.7	56.5	
3:00-3:59	46.9	35.3	67.6	56.5	
4:00-4:59	50.4	36.4	67.9	60.4	
5:00-5:59	55.2	39.7	73.8	65.7	
6:00-6:59	57.2	42.5	73.6	67.6	
7:00-7:59	57.1	40.7	79.3	66.5	Daytime Range
8:00-8:59	56.6	38.7	84.0	65.9	
9:00-9:59	56.0	37.1	84.9	65.8	
10:00-10:59	54.2	36.6	74.9	65.2	
11:00-11:59	53.6	36.4	69.4	65.1	
12:00-12:59	54.5	35.8	75.6	65.7	
13:00-13:59	53.4	34.5	75.8	63.4	
14:00-14:59	53.8	32.9	70.5	64.4	
15:00-15:59	54.6	34.2	70.5	65.6	
16:00-16:59	56.6	35.7	78.7	67.2	
17:00-17:59	57.2	37.2	74.0	67.8	
18:00-18:59	56.2	33.9	70.1	65.4	
19:00-19:59	55.6	33.1	73.3	67.2	Nighttime Range
20:00-20:59	54.5	33.5	80.5	64.2	
21:00-21:59	50.4	36.8	65.4	61.6	
22:00-22:59	49.9	34.9	71.9	63.6	
23:00-23:59	48.7	32.0	70.3	60.9	

24-Hr LAeq	54.3
12-Hr Daytime LAeq	55.5
12-Hr Nighttime LAeq	52.4

24-Hr LCeq	64.8
12-Hr Daytime LCeq	65.8
12-Hr Nighttime LCeq	63.6

TABLE 1 - Pg. 1 OF 3

TABLE 1
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
T-BONE NORTHEAST METER
72-HOUR AMBIENT SOUND LEVEL AVERAGES
AUGUST 2, 2024

Time	Average dBA/Hr (Leq)	Minimum dBA/Hr (LAFmin)	Maximum dBA/Hr (LAFmax)	Average dBC/Hr (Leq)	
0:00-0:59	47.4	31.9	69.5	60.3	Nighttime Range
1:00-1:59	44.3	33.1	66.4	59.6	
2:00-2:59	46.6	34.1	69.5	59.7	
3:00-3:59	46.0	32.8	67.4	55.9	
4:00-4:59	49.8	34.3	67.8	60.4	
5:00-5:59	53.9	37.2	72.9	66.9	
6:00-6:59	55.7	41.4	72.2	67.2	Daytime Range
7:00-7:59	56.5	41.1	79.6	66.8	
8:00-8:59	55.4	37.0	74.7	66.1	
9:00-9:59	55.0	33.8	78.6	64.3	
10:00-10:59	55.0	32.9	79.4	66.3	
11:00-11:59	53.3	32.7	72.5	64.3	
12:00-12:59	54.2	32.7	77.5	64.4	
13:00-13:59	54.4	32.5	71.7	63.8	
14:00-14:59	54.8	31.2	72.8	65.5	
15:00-15:59	55.8	30.3	72.4	67.0	
16:00-16:59	55.8	32.7	72.4	66.9	
17:00-17:59	56.4	34.6	71.9	67.7	
18:00-18:59	56.0	39.2	72.1	66.6	Nighttime Range
19:00-19:59	53.6	40.8	68.6	65.9	
20:00-20:59	52.8	38.5	75.1	64.1	
21:00-21:59	50.3	36.6	65.9	60.8	
22:00-22:59	50.8	35.4	66.2	60.4	
23:00-23:59	48.8	34.2	65.8	58.3	

24-Hr LAeq	53.7
12-Hr Daytime LAeq	55.3
12-Hr Nighttime LAeq	51.2

24-Hr LCeq	64.7
12-Hr Daytime LCeq	66.0
12-Hr Nighttime LCeq	63.0

TABLE 1 - Pg. 2 OF 3

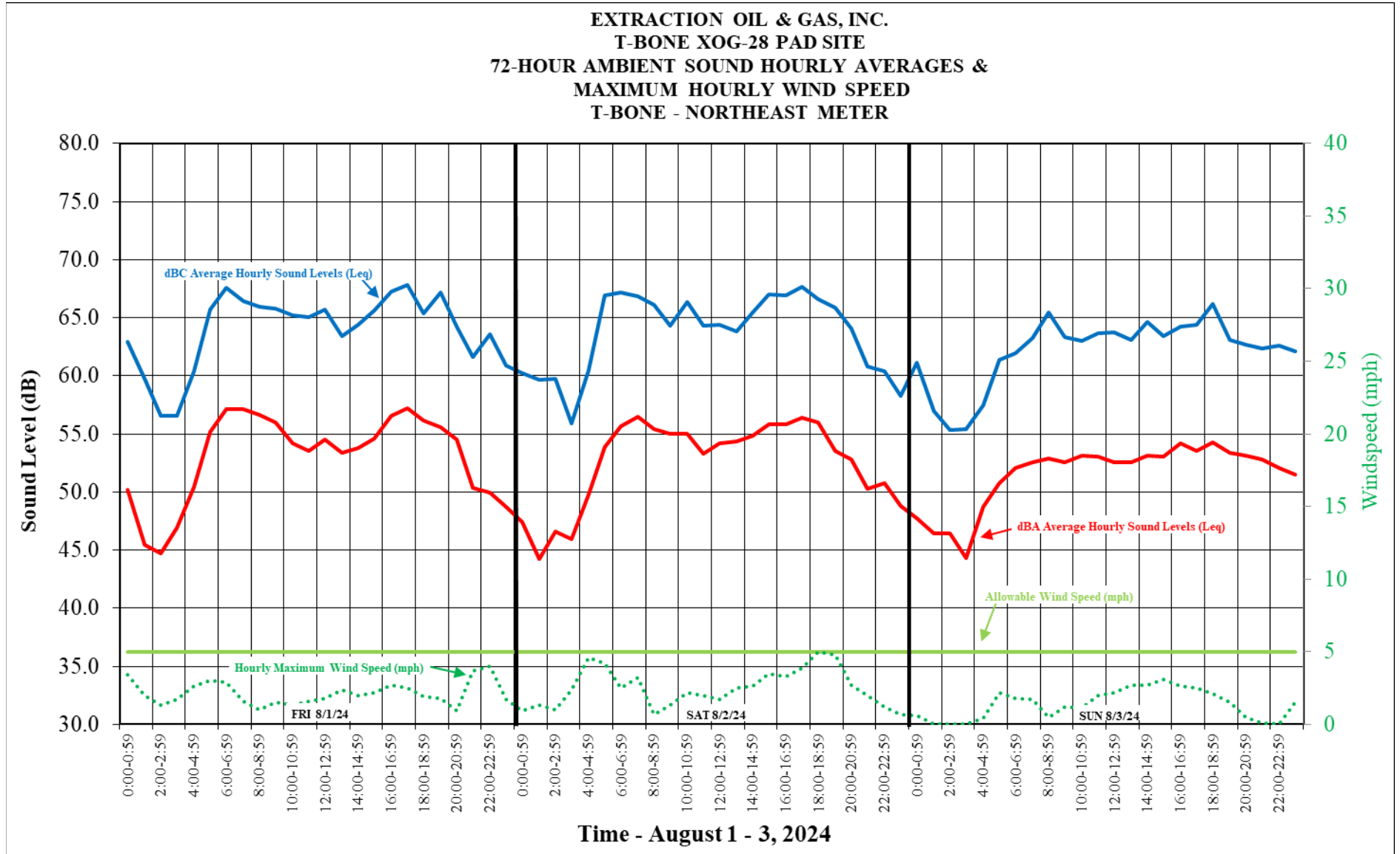
TABLE 1
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
T-BONE NORTHEAST METER
72-HOUR AMBIENT SOUND LEVEL AVERAGES
AUGUST 3, 2024

Time	Average dBA/Hr (Leq)	Minimum dBA/Hr (LAFmin)	Maximum dBA/Hr (LAFmax)	Average dBC/Hr (Leq)	
0:00-0:59	47.8	33.7	65.8	61.1	Nighttime Range
1:00-1:59	46.4	33.7	63.7	57.0	
2:00-2:59	46.4	33.9	64.2	55.4	
3:00-3:59	44.3	34.0	61.5	55.4	
4:00-4:59	48.7	34.4	73.2	57.5	
5:00-5:59	50.7	35.7	70.1	61.4	
6:00-6:59	52.1	35.6	70.2	61.9	Daytime Range
7:00-7:59	52.6	36.8	69.2	63.3	
8:00-8:59	52.9	36.4	69.9	65.4	
9:00-9:59	52.6	32.8	67.6	63.4	
10:00-10:59	53.2	30.4	71.9	63.0	
11:00-11:59	53.0	30.5	75.5	63.7	
12:00-12:59	52.6	30.0	67.5	63.7	
13:00-13:59	52.5	31.9	75.9	63.1	
14:00-14:59	53.1	31.8	70.9	64.7	
15:00-15:59	53.0	30.4	69.3	63.4	
16:00-16:59	54.2	33.9	82.4	64.2	
17:00-17:59	53.5	34.4	73.3	64.4	
18:00-18:59	54.3	34.4	76.5	66.2	Nighttime Range
19:00-19:59	53.3	35.2	72.2	63.1	
20:00-20:59	53.2	35.4	67.2	62.7	
21:00-21:59	52.8	35.4	67.5	62.3	
22:00-22:59	52.1	34.3	69.3	62.6	
23:00-23:59	51.5	32.7	71.8	62.1	

24-Hr LAeq	52.1
12-Hr Daytime LAeq	53.2
12-Hr Nighttime LAeq	50.8
72-Hour LAeq Average	53.5
36-Hour LAeq Daytime	54.8
36-Hour LAeq Nighttime	51.5

24-Hr LCeq	62.8
12-Hr Daytime LCeq	64.1
12-Hr Nighttime LCeq	61.0
72-Hour dBC Average (Leq)	64.2
36-Hour LCeq Daytime	65.4
36-Hour LCeq Nighttime	62.6

TABLE 1 - Pg. 3 OF 3



**FIGURE 3. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
72 - HOUR SOUND LEVEL SURVEY – NORTHEAST METER
dBA & dBC AVERAGE SOUND LEVELS (Leq) WITH HOURLY MAXIMUM WINDSPEED**



CIVITAS

EXTRACTION OIL & GAS, INC.

72-HOUR AMBIENT SOUND LEVEL REPORTS:

T-BONE XOG-28 PAD SITE

T-BONE - SOUTHEAST METER

WELD COUNTY, COLORADO

40.365115 -104.785652

PREPARED BY:



APRIL 23, 2024

April 23, 2024

Extraction Oil & Gas, Inc.
Attn: Mr. Jeff Annable
Lead, Well & Location Permitting
555 17th Street #3500
Denver, Colorado 80202

**RE: EXTRACTON OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
72-HOUR AMBIENT SOUND LEVEL SURVEY
T-BONE – SOUTHEAST AMBIENT LOCATION**

Dear Mr. Annable:

Introduction

Per your request, the Environmental and Natural Resources Group Inc. (ENRG) performed a 72-hour ambient sound level survey for Extraction Oil & Gas, Inc. (Extraction) in the vicinity of the T-Bone XOG-28 (T-Bone) drilling location from April 20 – 22, 2024. Figure 1 shows the location where the ambient sound level survey was conducted, referred to as T-Bone - Southeast.

Site Description

The T-Bone pad site is located at approximately Latitude 40.365115 Longitude -104.785652 (Figure 1). According to Google Earth maps and visual observation, the proposed pad site is located west of 65th Avenue and north of 49th Street in the Town of Milliken, Colorado (SW/4 Sec 28, T5N, R66W). The T-Bone pad site is located in the Agricultural Zoned Area. The surrounding properties are primarily utilized for farming/ranching, oil and gas or residential development. Land or properties within ¼ mile the T-Bone pad site consists of relatively undisturbed uplands. At the time of this ambient report, the well pad had not been constructed. The well site is surrounded by active agricultural fields.

72-Hour Ambient Sound Monitoring

ENRG's Noise Monitoring Terminal (NMT), which is equipped with a Type I Bruel & Kjaer (B&K) 2250 sound level meter, was calibrated, programmed for dBA and dBC frequencies and installed at the T-Bone - Northeast ambient location by ENRG personnel before 0:00 on Saturday, April 20, 2024. Initial and final readings were verified with a calibration device to ensure accuracy during and after the test. The objective was to measure and document the site's ambient sound levels until 23:59 on Monday, April 22, 2024.

The NMT was located approximately 580 feet southeast from the edge of disturbance at the drilling location and approximately 140 feet west from the nearest residential building unit boundary (Figure 1).

The NMT was placed where no obstructions were allowed to block the meter from measuring and recording accurate ambient sound levels (Figure 2).

Summary

The results of the 72-hour ambient sound levels from the T-Bone - Southeast ambient sound location are summarized below on Table A. The detailed results of the 72-hour ambient sound levels are attached as Table 1 and Figure 3. A summary of the 72-hour sound level averages is shown on Table 1. Figure 3 shows the graphical results of the minimum, maximum, and average of the 72-hour sound levels, as well as, the maximum hourly wind speeds, and allowable wind speeds.

TABLE A
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
SOUTHEAST METER
72-HOUR SOUND LEVEL SUMMARY - dBA & dBC

dBA		72 HR AVG (dBA)	36 HR	36 HR	24 HR (dBA) DAY 1	24 HR (dBA) DAY 2	24 HR (dBA) DAY 3
DAYS	DATE		DAYTIME AVG (dBA)	NIGHTTIME AVG (dBA)			
SAT - SUN - MON	4/20/24 - 4/22/24	61.9	63.6 7:00 AM - 7:00 PM	59.1 7:00 PM - 7:00 AM	61.9	60.8	62.8

dBC		72 HR AVG (dBC)	36 HR	36 HR	24 HR (dBC) DAY 1	24 HR (dBC) DAY 2	24 HR (dBC) DAY 3
DAYS	DATE		DAYTIME AVG (dBC)	NIGHTTIME AVG (dBC)			
SAT - SUN - MON	4/20/24 - 4/22/24	68.5	70.4 7:00 AM - 7:00 PM	65.1 7:00 PM - 7:00 AM	67.1	67.8	70.2

Please keep in mind that the study takes into account any potential location sound, as well as, any sound from sources surrounding the location including air traffic, highway traffic, and wildlife to name a few. As a reminder, Extraction was not performing any onsite construction, drilling or completion activities during the time of the study.

Please call or email us at the information below if you have any questions or comments.

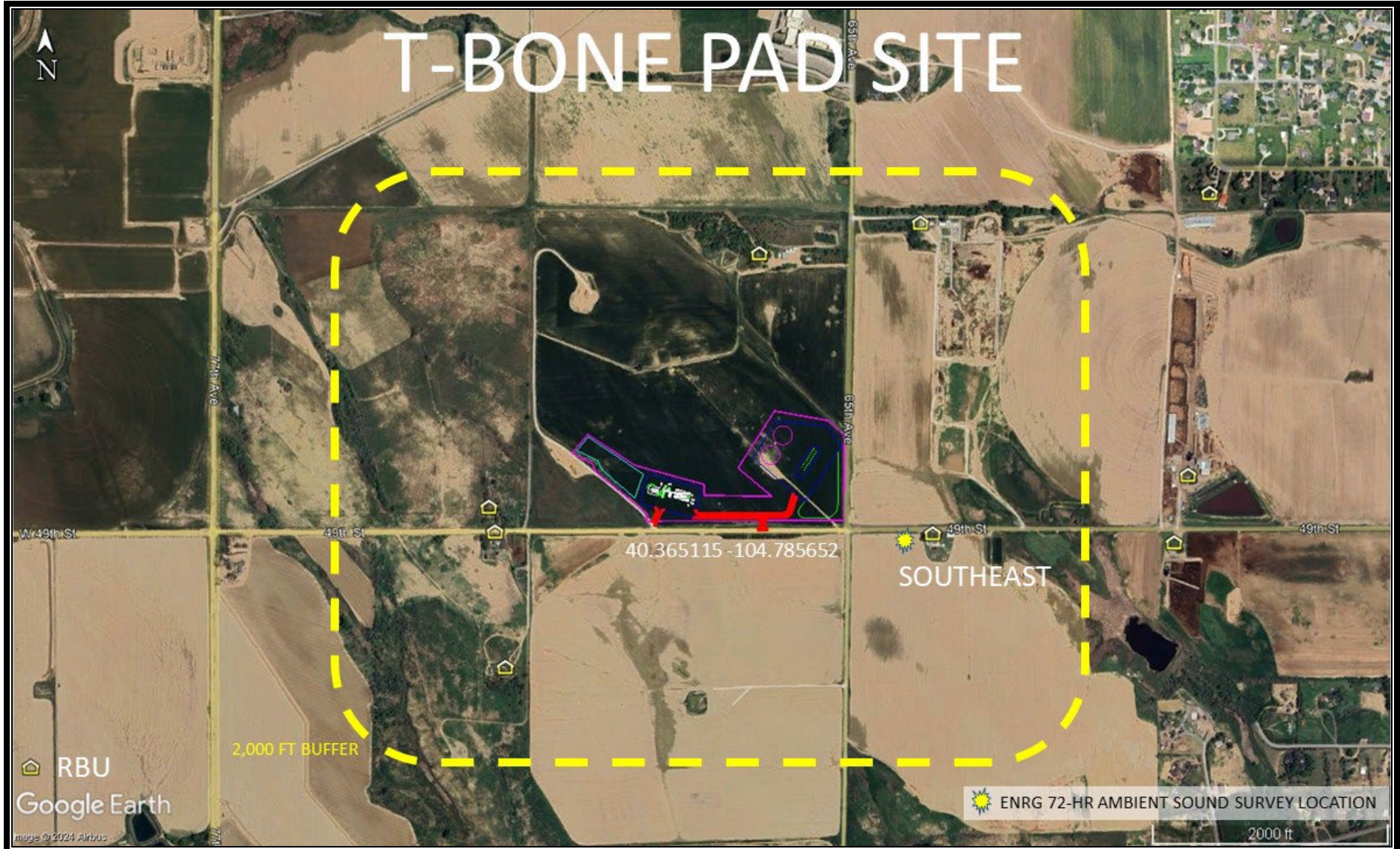
Sincerely,



Chrystie Carter
 chrystie@enrgconsultants.com
 214-435-6799 cell



Todd H. Boring
 todd@enrgconsultants.com
 214-674-3762 cell.



**FIGURE 1. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
NOISE MONITORING TERMINAL (NMT) LOCATION
T-BONE – SOUTHEAST METER**



**FIGURE 2. EXTRACTION OIL & GAS, INC – T-BONE PAD SITE
NOISE MONITORING TERMINAL (NMT) LOCATION
T-BONE – SOUTHEAST METER (View to the East)**

TABLE 1
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
T-BONE SOUTHEAST METER
72-HOUR AMBIENT SOUND LEVEL AVERAGES
APRIL 20, 2024

Time	Average dBA/Hr (Leq)	Minimum dBA/Hr (LAFmin)	Maximum dBA/Hr (LAFmax)	Average dBC/Hr (Leq)	
0:00-0:59	52.9	24.6	79.8	57.3	Nighttime Range
1:00-1:59	52.9	25.1	78.6	56.9	
2:00-2:59	54.9	25.3	79.8	58.0	
3:00-3:59	53.4	27.5	80.8	56.1	
4:00-4:59	58.0	28.8	82.1	63.6	
5:00-5:59	55.2	30.6	77.9	62.1	
6:00-6:59	60.7	31.7	84.6	63.9	Daytime Range
7:00-7:59	60.8	32.6	85.1	64.0	
8:00-8:59	62.4	34.4	86.7	65.0	
9:00-9:59	63.4	35.2	84.9	67.0	
10:00-10:59	63.7	35.6	89.4	68.2	
11:00-11:59	64.6	37.3	88.9	70.3	
12:00-12:59	64.3	39.4	82.8	71.1	
13:00-13:59	64.0	36.6	89.0	70.6	
14:00-14:59	64.4	36.9	84.7	69.8	
15:00-15:59	63.8	37.7	81.6	69.3	
16:00-16:59	64.4	37.3	86.3	70.3	
17:00-17:59	64.1	37.5	84.0	68.4	
18:00-18:59	63.1	32.0	90.4	67.9	Nighttime Range
19:00-19:59	64.1	32.6	94.6	69.0	
20:00-20:59	60.7	30.3	85.0	66.3	
21:00-21:59	59.8	29.5	83.3	63.8	
22:00-22:59	59.2	24.5	85.9	66.1	
23:00-23:59	55.7	27.3	77.4	59.0	

24-Hr LAeq	61.9
12-Hr Daytime LAeq	63.7
12-Hr Nighttime LAeq	58.7

24-Hr LCeq	67.1
12-Hr Daytime LCeq	68.9
12-Hr Nighttime LCeq	63.6

TABLE 1 - Pg. 1 OF 3

TABLE 1
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
T-BONE SOUTHEAST METER
72-HOUR AMBIENT SOUND LEVEL AVERAGES
APRIL 21, 2024

Time	Average dBA/Hr (Leq)	Minimum dBA/Hr (LAFmin)	Maximum dBA/Hr (LAFmax)	Average dBC/Hr (Leq)	
0:00-0:59	54.3	28.0	79.3	58.1	Nighttime Range
1:00-1:59	54.8	28.8	80.8	60.8	
2:00-2:59	64.9	27.3	102.8	67.9	
3:00-3:59	53.9	26.4	83.1	58.2	
4:00-4:59	54.6	27.6	78.5	57.9	
5:00-5:59	56.4	29.1	80.7	62.5	
6:00-6:59	58.8	31.3	84.7	68.1	Daytime Range
7:00-7:59	58.1	33.0	86.3	66.1	
8:00-8:59	57.2	32.3	82.6	61.3	
9:00-9:59	60.5	31.2	84.7	65.3	
10:00-10:59	61.6	31.5	88.3	67.9	
11:00-11:59	62.9	33.2	91.8	69.5	
12:00-12:59	62.1	33.1	85.5	68.2	
13:00-13:59	66.0	32.8	99.4	73.2	
14:00-14:59	62.2	33.1	92.4	69.2	
15:00-15:59	60.3	30.6	82.1	68.8	
16:00-16:59	61.5	33.0	87.1	70.4	
17:00-17:59	63.0	34.1	88.3	70.6	
18:00-18:59	62.7	33.5	86.6	70.8	Nighttime Range
19:00-19:59	61.0	29.7	82.4	67.6	
20:00-20:59	60.6	32.4	87.7	67.4	
21:00-21:59	59.0	29.0	89.8	68.5	
22:00-22:59	57.3	26.1	82.6	63.3	
23:00-23:59	57.7	25.0	86.1	66.3	

24-Hr LAeq	60.8
12-Hr Daytime LAeq	62.1
12-Hr Nighttime LAeq	59.1

24-Hr LCeq	67.8
12-Hr Daytime LCeq	69.3
12-Hr Nighttime LCeq	65.5

TABLE 1 - Pg. 2 OF 3

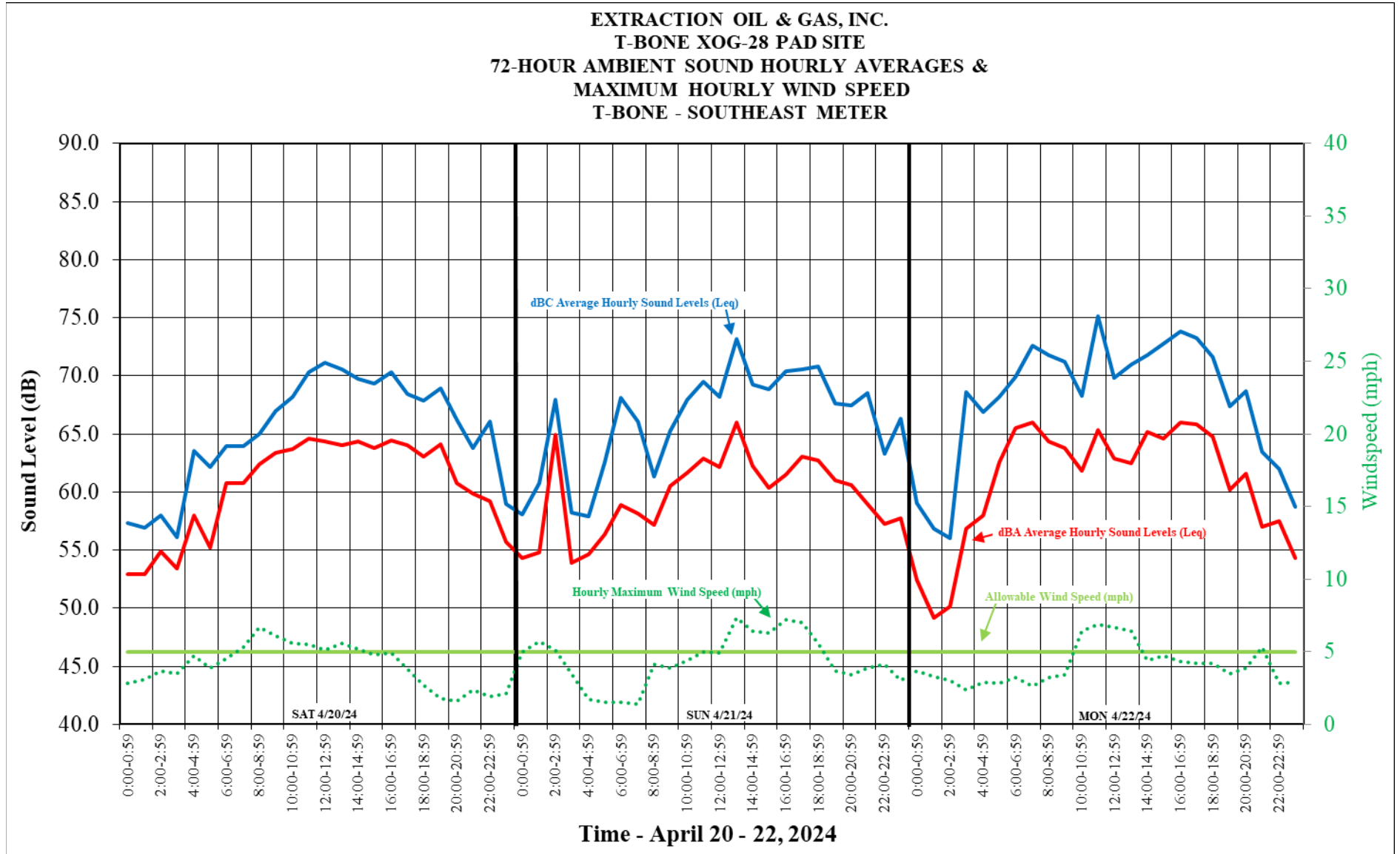
TABLE 1
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
T-BONE SOUTHEAST METER
72-HOUR AMBIENT SOUND LEVEL AVERAGES
APRIL 22, 2024

Time	Average dBA/Hr (Leq)	Minimum dBA/Hr (LAFmin)	Maximum dBA/Hr (LAFmax)	Average dBC/Hr (Leq)	
0:00-0:59	52.5	26.7	75.3	59.0	Nighttime Range
1:00-1:59	49.2	26.9	78.5	56.8	
2:00-2:59	50.2	27.6	75.5	56.0	
3:00-3:59	56.9	28.4	85.7	68.6	
4:00-4:59	58.0	33.6	81.6	66.9	
5:00-5:59	62.6	38.0	85.7	68.2	
6:00-6:59	65.5	44.1	83.0	69.9	Daytime Range
7:00-7:59	66.0	43.7	91.9	72.6	
8:00-8:59	64.4	41.3	87.9	71.8	
9:00-9:59	63.8	38.4	85.4	71.2	
10:00-10:59	61.8	35.2	84.4	68.3	
11:00-11:59	65.4	35.4	97.9	75.1	
12:00-12:59	62.9	32.8	85.4	69.8	
13:00-13:59	62.5	34.4	86.5	71.0	
14:00-14:59	65.2	31.5	101.9	71.8	
15:00-15:59	64.6	33.3	88.6	72.7	
16:00-16:59	65.9	31.9	90.0	73.9	
17:00-17:59	65.8	35.2	90.5	73.3	
18:00-18:59	64.8	33.8	87.1	71.7	Nighttime Range
19:00-19:59	60.2	31.6	82.3	67.4	
20:00-20:59	61.6	31.0	93.1	68.7	
21:00-21:59	57.0	28.2	82.8	63.4	
22:00-22:59	57.5	28.9	82.3	62.0	
23:00-23:59	54.3	28.8	79.1	58.7	

24-Hr LAeq	62.8
12-Hr Daytime LAeq	64.6
12-Hr Nighttime LAeq	59.5
72-Hour LAeq Average	61.9
36-Hour LAeq Daytime	63.6
36-Hour LAeq Nighttime	59.1

24-Hr LCeq	70.2
12-Hr Daytime LCeq	72.3
12-Hr Nighttime LCeq	66.0
72-Hour dBC Average (Leq)	68.5
36-Hour LCeq Daytime	70.4
36-Hour LCeq Nighttime	65.1

TABLE 1 - Pg. 3 OF 3



**FIGURE 3. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
72 - HOUR SOUND LEVEL SURVEY – SOUTHEAST METER
dBA & dBC AVERAGE SOUND LEVELS (Leq) WITH HOURLY MAXIMUM WINDSPEED**



CIVITAS

EXTRACTION OIL & GAS, INC.

72-HOUR AMBIENT SOUND LEVEL REPORTS:

T-BONE XOG-28 PAD SITE

T-BONE - WEST METER

WELD COUNTY, COLORADO

40.365115 -104.785652

PREPARED BY:



APRIL 23, 2024

April 23, 2024

Extraction Oil & Gas, Inc.
Attn: Mr. Jeff Annable
Lead, Well & Location Permitting
555 17th Street #3500
Denver, Colorado 80202

**RE: EXTRACTON OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
72-HOUR AMBIENT SOUND LEVEL SURVEY
T-BONE – WEST AMBIENT LOCATION**

Dear Mr. Annable:

Introduction

Per your request, the Environmental and Natural Resources Group Inc. (ENRG) performed a 72-hour ambient sound level survey for Extraction Oil & Gas, Inc. (Extraction) in the vicinity of the T-Bone XOG-28 (T-Bone) drilling location from April 20 – 22, 2024. Figure 1 shows the location where the ambient sound level survey was conducted, referred to as T-Bone - West.

Site Description

The T-Bone pad site is located at approximately Latitude 40.365115 Longitude -104.785652 (Figure 1). According to Google Earth maps and visual observation, the proposed pad site is located west of 65th Avenue and north of 49th Street in the Town of Milliken, Colorado (SW/4 Sec 28, T5N, R66W). The T-Bone pad site is located in the Agricultural Zoned Area. The surrounding properties are primarily utilized for farming/ranching, oil and gas or residential development. Land or properties within ¼ mile the T-Bone pad site consists of relatively undisturbed uplands. At the time of this ambient report, the well pad had not been constructed. The well site is surrounded by active agricultural fields.

72-Hour Ambient Sound Monitoring

ENRG's Noise Monitoring Terminal (NMT), which is equipped with a Type I Bruel & Kjaer (B&K) 2250 sound level meter, was calibrated, programmed for dBA and dBC frequencies and installed at the T-Bone - Northeast ambient location by ENRG personnel before 0:00 on Saturday, April 20, 2024. Initial and final readings were verified with a calibration device to ensure accuracy during and after the test. The objective was to measure and document the site's ambient sound levels until 23:59 on Monday, April 22, 2024.

The NMT was located approximately 790 feet west from the edge of disturbance at the drilling location and approximately 360 feet east from the nearest residential building unit boundary (Figure 1).

The NMT was placed where no obstructions were allowed to block the meter from measuring and recording accurate ambient sound levels (Figure 2).

Summary

The results of the 72-hour ambient sound levels from the T-Bone - West ambient sound location are summarized below on Table A. The detailed results of the 72-hour ambient sound levels are attached as Table 1 and Figure 3. A summary of the 72-hour sound level averages is shown on Table 1. Figure 3 shows the graphical results of the minimum, maximum, and average of the 72-hour sound levels, as well as, the maximum hourly wind speeds, and allowable wind speeds.

TABLE A
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
WEST METER
72-HOUR SOUND LEVEL SUMMARY - dBA & dBC

dBA		72 HR AVG (dBA)	36 HR	36 HR	24 HR (dBA) DAY 1	24 HR (dBA) DAY 2	24 HR (dBA) DAY 3
DAYS	DATE		DAYTIME AVG (dBA)	NIGHTTIME AVG (dBA)			
SAT - SUN - MON	4/20/24 - 4/22/24	41.8	43.2	39.9	39.3	42.0	43.3

dBC		72 HR AVG (dBC)	36 HR	36 HR	24 HR (dBC) DAY 1	24 HR (dBC) DAY 2	24 HR (dBC) DAY 3
DAYS	DATE		DAYTIME AVG (dBC)	NIGHTTIME AVG (dBC)			
SAT - SUN - MON	4/20/24 - 4/22/24	59.0	60.9	55.5	57.6	59.2	59.8

Please keep in mind that the study takes into account any potential location sound, as well as, any sound from sources surrounding the location including air traffic, highway traffic, and wildlife to name a few. As a reminder, Extraction was not performing any onsite construction, drilling or completion activities during the time of the study.

Please call or email us at the information below if you have any questions or comments.

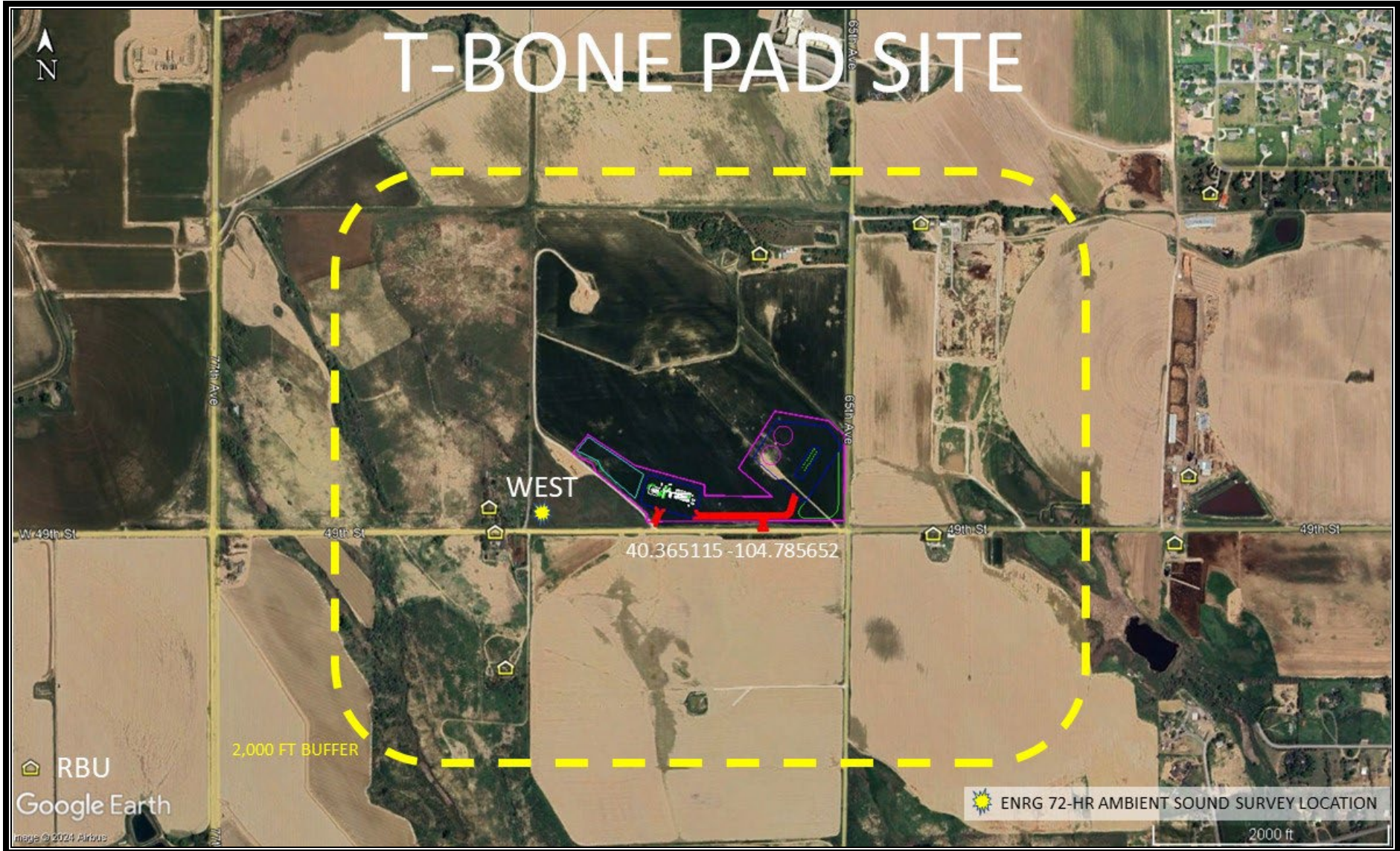
Sincerely,



Chrystie Carter
 chrystie@enrgconsultants.com
 214-435-6799 cell



Todd H. Boring
 todd@enrgconsultants.com
 214-674-3762 cell.



**FIGURE 1. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
NOISE MONITORING TERMINAL (NMT) LOCATION
T-BONE – WEST METER**



**FIGURE 2. EXTRACTION OIL & GAS, INC – T-BONE PAD SITE
NOISE MONITORING TERMINAL (NMT) LOCATION
T-BONE – WEST METER (View to the West)**

TABLE 1
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
T-BONE WEST METER
72-HOUR AMBIENT SOUND LEVEL AVERAGES
APRIL 20, 2024

Time	Average dBA/Hr (Leq)	Minimum dBA/Hr (LAFmin)	Maximum dBA/Hr (LAFmax)	Average dBC/Hr (Leq)	
0:00-0:59	31.4	24.5	46.8	50.6	Nighttime Range
1:00-1:59	30.0	25.0	44.0	51.0	
2:00-2:59	38.7	25.9	71.3	58.6	
3:00-3:59	34.4	26.7	60.2	52.2	
4:00-4:59	33.0	27.9	47.2	52.4	
5:00-5:59	35.9	29.1	52.3	53.5	
6:00-6:59	37.6	31.2	61.8	56.0	Daytime Range
7:00-7:59	39.9	31.9	62.6	57.4	
8:00-8:59	39.5	33.8	51.7	57.8	
9:00-9:59	40.5	33.3	68.2	57.2	
10:00-10:59	41.5	32.7	59.0	58.4	
11:00-11:59	41.4	34.9	64.6	59.5	
12:00-12:59	40.9	34.4	62.2	63.0	
13:00-13:59	41.6	33.3	64.5	62.1	
14:00-14:59	41.6	33.4	64.2	60.3	
15:00-15:59	41.0	33.9	57.1	60.0	
16:00-16:59	41.3	33.2	75.6	59.7	
17:00-17:59	40.6	31.3	65.0	55.2	
18:00-18:59	38.5	27.3	59.8	53.6	Nighttime Range
19:00-19:59	40.2	27.4	60.5	54.3	
20:00-20:59	39.9	25.5	61.8	55.3	
21:00-21:59	39.9	25.5	60.6	54.4	
22:00-22:59	35.3	24.6	60.2	54.1	
23:00-23:59	32.9	25.2	53.7	53.3	

24-Hr LAeq	39.3
12-Hr Daytime LAeq	40.8
12-Hr Nighttime LAeq	37.0

24-Hr LCeq	57.6
12-Hr Daytime LCeq	59.4
12-Hr Nighttime LCeq	54.4

TABLE 1 - Pg. 1 OF 3

TABLE 1
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
T-BONE WEST METER
72-HOUR AMBIENT SOUND LEVEL AVERAGES
APRIL 21, 2024

Time	Average dBA/Hr (Leq)	Minimum dBA/Hr (LAFmin)	Maximum dBA/Hr (LAFmax)	Average dBC/Hr (Leq)	
0:00-0:59	32.1	27.6	49.5	54.2	Nighttime Range
1:00-1:59	35.0	28.4	52.6	56.4	
2:00-2:59	36.0	27.8	52.9	55.5	
3:00-3:59	38.0	26.3	63.7	55.1	
4:00-4:59	35.4	27.1	54.1	52.2	
5:00-5:59	39.4	28.0	59.1	53.3	
6:00-6:59	41.0	33.1	58.2	53.5	Daytime Range
7:00-7:59	41.6	32.6	62.3	54.1	
8:00-8:59	41.6	33.0	68.0	57.3	
9:00-9:59	43.6	30.2	71.7	57.7	
10:00-10:59	41.1	31.1	66.7	60.1	
11:00-11:59	44.7	32.6	69.5	63.6	
12:00-12:59	39.2	32.3	59.6	60.3	
13:00-13:59	39.3	31.4	57.9	58.7	
14:00-14:59	45.4	31.1	69.0	62.4	
15:00-15:59	41.2	28.6	63.1	63.9	
16:00-16:59	48.6	30.6	74.0	65.7	
17:00-17:59	41.0	29.8	62.6	61.7	
18:00-18:59	42.6	29.7	64.4	59.3	Nighttime Range
19:00-19:59	43.6	30.8	67.3	56.7	
20:00-20:59	42.9	31.3	63.7	53.2	
21:00-21:59	43.7	30.4	69.4	55.2	
22:00-22:59	38.8	26.6	63.5	53.9	
23:00-23:59	38.7	25.4	67.0	51.9	

24-Hr LAeq	42.0
12-Hr Daytime LAeq	43.4
12-Hr Nighttime LAeq	40.0

24-Hr LCeq	59.2
12-Hr Daytime LCeq	61.5
12-Hr Nighttime LCeq	54.5

TABLE 1 - Pg. 2 OF 3

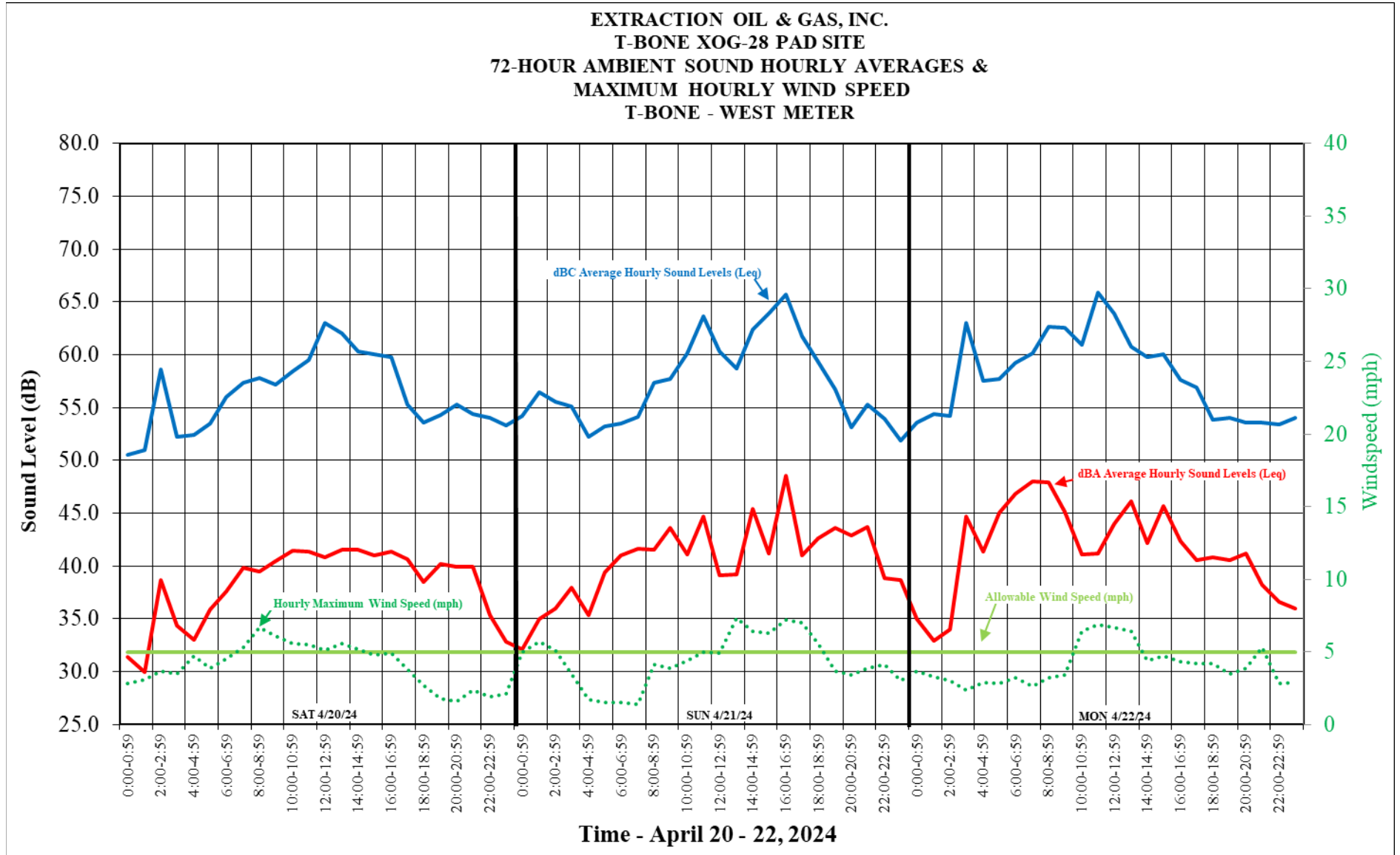
TABLE 1
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
T-BONE WEST METER
72-HOUR AMBIENT SOUND LEVEL AVERAGES
APRIL 22, 2024

Time	Average dBA/Hr (Leq)	Minimum dBA/Hr (LAFmin)	Maximum dBA/Hr (LAFmax)	Average dBC/Hr (Leq)	
0:00-0:59	35.0	27.6	52.3	53.6	Nighttime Range
1:00-1:59	32.9	27.4	47.6	54.4	
2:00-2:59	34.0	29.4	61.0	54.2	
3:00-3:59	44.7	28.9	73.0	63.0	
4:00-4:59	41.3	33.1	66.0	57.5	
5:00-5:59	45.1	36.0	62.3	57.8	
6:00-6:59	46.8	40.0	63.1	59.3	Daytime Range
7:00-7:59	48.0	41.2	67.1	60.2	
8:00-8:59	47.9	38.9	64.7	62.7	
9:00-9:59	45.2	35.6	65.0	62.6	
10:00-10:59	41.1	30.5	61.8	60.9	
11:00-11:59	41.2	32.0	58.1	65.9	
12:00-12:59	44.0	31.0	63.6	63.9	
13:00-13:59	46.2	30.6	64.6	60.8	
14:00-14:59	42.2	30.0	66.2	59.8	
15:00-15:59	45.7	28.8	68.2	60.1	
16:00-16:59	42.4	29.8	65.7	57.7	
17:00-17:59	40.6	30.1	61.5	56.9	
18:00-18:59	40.9	28.2	62.0	53.9	Nighttime Range
19:00-19:59	40.6	30.2	59.3	54.0	
20:00-20:59	41.2	29.6	61.5	53.6	
21:00-21:59	38.2	26.7	63.0	53.6	
22:00-22:59	36.6	27.2	62.4	53.4	
23:00-23:59	36.0	29.2	58.9	54.0	

24-Hr LAeq	43.3
12-Hr Daytime LAeq	44.6
12-Hr Nighttime LAeq	41.5
72-Hour LAeq Average	41.8
36-Hour LAeq Daytime	43.2
36-Hour LAeq Nighttime	39.9

24-Hr LCeq	59.8
12-Hr Daytime LCeq	61.4
12-Hr Nighttime LCeq	57.0
72-Hour dBC Average (Leq)	59.0
36-Hour LCeq Daytime	60.9
36-Hour LCeq Nighttime	55.5

TABLE 1 - Pg. 3 OF 3



**FIGURE 3. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
72 - HOUR SOUND LEVEL SURVEY – WEST METER
dBA & dBC AVERAGE SOUND LEVELS (Leq) WITH HOURLY MAXIMUM WINDSPEED**



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EXTRACTION OIL & GAS, INC.

72-HOUR AMBIENT SOUND LEVEL REPORTS:

T-BONE XOG-28 PAD SITE

T-BONE - SOUTHWEST METER

WELD COUNTY, COLORADO

40.365115 -104.785652

PREPARED BY:



APRIL 23, 2024

April 23, 2024

Extraction Oil & Gas, Inc.
Attn: Mr. Jeff Annable
Lead, Well & Location Permitting
555 17th Street #3500
Denver, Colorado 80202

**RE: EXTRACTON OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
72-HOUR AMBIENT SOUND LEVEL SURVEY
T-BONE – SOUTHWEST AMBIENT LOCATION**

Dear Mr. Annable:

Introduction

Per your request, the Environmental and Natural Resources Group Inc. (ENRG) performed a 72-hour ambient sound level survey for Extraction Oil & Gas, Inc. (Extraction) in the vicinity of the T-Bone XOG-28 (T-Bone) drilling location from April 20 – 22, 2024. Figure 1 shows the location where the ambient sound level survey was conducted, referred to as T-Bone - Southwest.

Site Description

The T-Bone pad site is located at approximately Latitude 40.365115 Longitude -104.785652 (Figure 1). According to Google Earth maps and visual observation, the proposed pad site is located west of 65th Avenue and north of 49th Street in the Town of Milliken, Colorado (SW/4 Sec 28, T5N, R66W). The T-Bone pad site is located in the Agricultural Zoned Area. The surrounding properties are primarily utilized for farming/ranching, oil and gas or residential development. Land or properties within ¼ mile the T-Bone pad site consists of relatively undisturbed uplands. At the time of this ambient report, the well pad had not been constructed. The well site is surrounded by active agricultural fields.

72-Hour Ambient Sound Monitoring

ENRG's Noise Monitoring Terminal (NMT), which is equipped with a Type I Bruel & Kjaer (B&K) 2250 sound level meter, was calibrated, programmed for dBA and dBC frequencies and installed at the T-Bone - Northeast ambient location by ENRG personnel before 0:00 on Saturday, April 20, 2024. Initial and final readings were verified with a calibration device to ensure accuracy during and after the test. The objective was to measure and document the site's ambient sound levels until 23:59 on Monday, April 22, 2024.

The NMT was located approximately 1,315 feet southwest from the edge of disturbance at the drilling location and approximately 450 feet north from the nearest residential building unit boundary (Figure 1).

The NMT was placed where no obstructions were allowed to block the meter from measuring and recording accurate ambient sound levels (Figure 2).

Summary

The results of the 72-hour ambient sound levels from the T-Bone - Southwest ambient sound location are summarized below on Table A. The detailed results of the 72-hour ambient sound levels are attached as Table 1 and Figure 3. A summary of the 72-hour sound level averages is shown on Table 1. Figure 3 shows the graphical results of the minimum, maximum, and average of the 72-hour sound levels, as well as, the maximum hourly wind speeds, and allowable wind speeds.

TABLE A
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
SOUTHWEST METER
72-HOUR SOUND LEVEL SUMMARY - dBA & dBC

dBA		72 HR AVG (dBA)	36 HR	36 HR	24 HR (dBA) DAY 1	24 HR (dBA) DAY 2	24 HR (dBA) DAY 3
DAYS	DATE		DAYTIME AVG (dBA)	NIGHTTIME AVG (dBA)			
SAT - SUN - MON	4/20/24 - 4/22/24	42.1	43.8 7:00 AM - 7:00 PM	39.3 7:00 PM - 7:00 AM	41.5	41.9	42.9

dBC		72 HR AVG (dBC)	36 HR	36 HR	24 HR (dBC) DAY 1	24 HR (dBC) DAY 2	24 HR (dBC) DAY 3
DAYS	DATE		DAYTIME AVG (dBC)	NIGHTTIME AVG (dBC)			
SAT - SUN - MON	4/20/24 - 4/22/24	60.8	63.1 7:00 AM - 7:00 PM	55.2 7:00 PM - 7:00 AM	60.7	58.6	62.2

Please keep in mind that the study takes into account any potential location sound, as well as, any sound from sources surrounding the location including air traffic, highway traffic, and wildlife to name a few. As a reminder, Extraction was not performing any onsite construction, drilling or completion activities during the time of the study.

Please call or email us at the information below if you have any questions or comments.

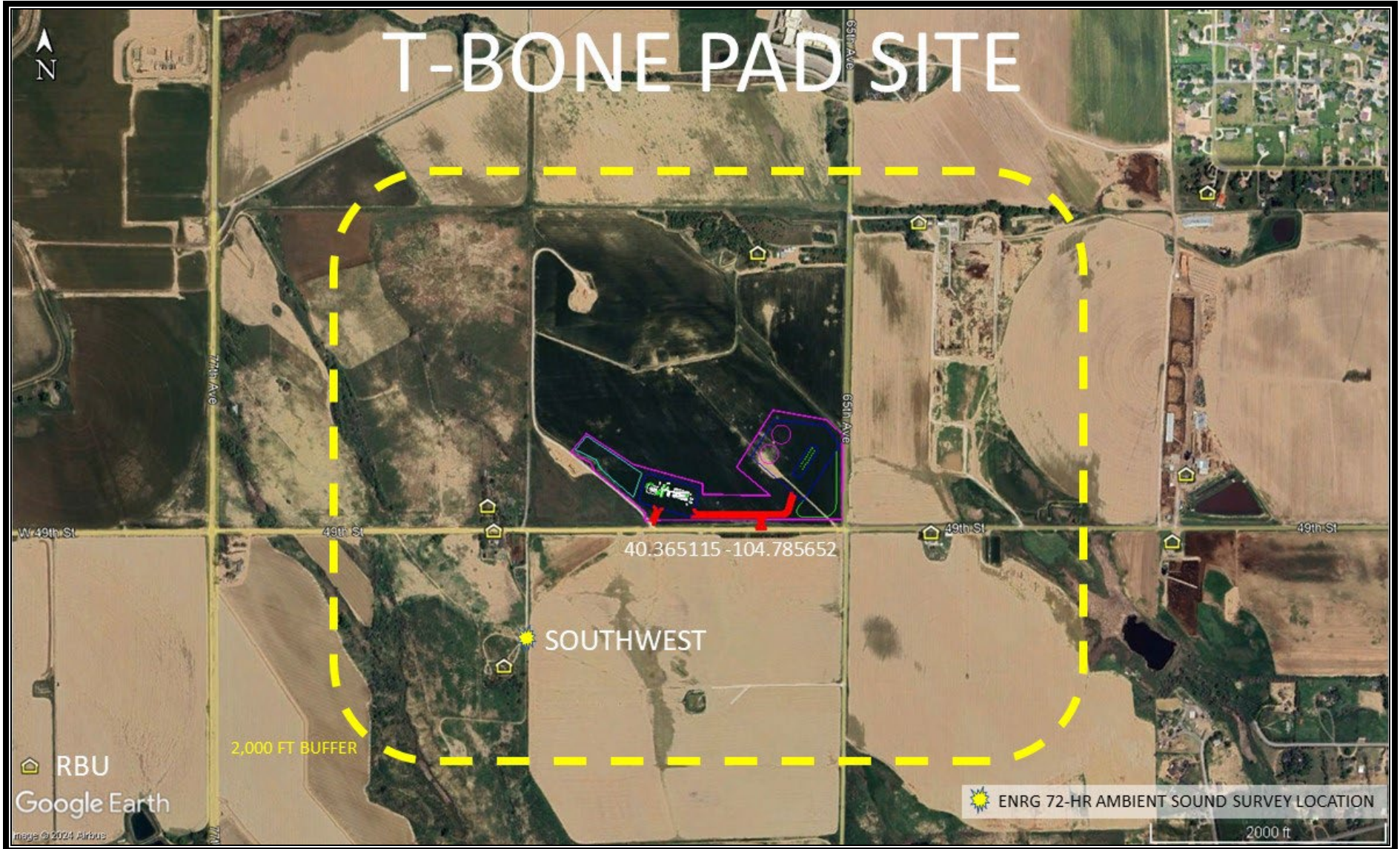
Sincerely,



Chrystie Carter
 chrystie@enrgconsultants.com
 214-435-6799 cell



Todd H. Boring
 todd@enrgconsultants.com
 214-674-3762 cell.



**FIGURE 1. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
NOISE MONITORING TERMINAL (NMT) LOCATION
T-BONE – SOUTHWEST METER**



**FIGURE 2. EXTRACTION OIL & GAS, INC – T-BONE PAD SITE
NOISE MONITORING TERMINAL (NMT) LOCATION
T-BONE – SOUTHWEST METER (View to the South)**

TABLE 1
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
T-BONE SOUTHWEST METER
72-HOUR AMBIENT SOUND LEVEL AVERAGES
APRIL 20, 2024

Time	Average dBA/Hr (Leq)	Minimum dBA/Hr (LAFmin)	Maximum dBA/Hr (LAFmax)	Average dBC/Hr (Leq)	
0:00-0:59	31.6	26.1	45.7	50.3	Nighttime Range
1:00-1:59	30.9	26.2	44.6	51.4	
2:00-2:59	35.1	26.3	56.7	53.1	
3:00-3:59	33.5	28.5	54.6	53.1	
4:00-4:59	34.8	29.8	46.5	54.8	
5:00-5:59	37.4	31.7	53.9	59.4	
6:00-6:59	39.7	33.6	68.1	62.3	Daytime Range
7:00-7:59	40.3	35.1	52.9	63.0	
8:00-8:59	40.9	35.3	53.1	61.9	
9:00-9:59	41.6	35.2	69.1	61.3	
10:00-10:59	41.9	34.5	56.2	63.8	
11:00-11:59	42.3	36.0	55.9	64.6	
12:00-12:59	45.6	37.0	76.5	65.0	
13:00-13:59	46.3	35.7	76.6	64.6	
14:00-14:59	43.8	34.9	65.9	64.5	
15:00-15:59	42.7	36.2	62.9	63.9	
16:00-16:59	42.4	35.4	63.5	61.8	
17:00-17:59	45.9	33.4	71.8	56.8	
18:00-18:59	43.1	30.4	73.6	53.4	Nighttime Range
19:00-19:59	42.1	29.2	67.5	53.6	
20:00-20:59	40.1	27.8	58.6	53.9	
21:00-21:59	40.0	27.8	58.8	52.9	
22:00-22:59	35.0	25.6	51.5	50.9	
23:00-23:59	34.0	27.0	55.0	52.3	

24-Hr LAeq	41.5
12-Hr Daytime LAeq	43.5
12-Hr Nighttime LAeq	37.5

24-Hr LCeq	60.7
12-Hr Daytime LCeq	63.0
12-Hr Nighttime LCeq	55.7

TABLE 1 - Pg. 1 OF 3

TABLE 1
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
T-BONE SOUTHWEST METER
72-HOUR AMBIENT SOUND LEVEL AVERAGES
APRIL 21, 2024

Time	Average dBA/Hr (Leq)	Minimum dBA/Hr (LAFmin)	Maximum dBA/Hr (LAFmax)	Average dBC/Hr (Leq)	
0:00-0:59	33.5	28.9	47.9	53.0	Nighttime Range
1:00-1:59	36.2	30.4	49.0	56.8	
2:00-2:59	36.7	29.1	57.9	54.2	
3:00-3:59	34.4	27.4	51.8	51.9	
4:00-4:59	35.2	28.3	52.8	51.2	
5:00-5:59	39.8	28.4	58.8	52.5	
6:00-6:59	41.3	32.3	60.5	55.7	Daytime Range
7:00-7:59	40.2	32.7	53.1	53.5	
8:00-8:59	38.4	30.3	64.8	56.0	
9:00-9:59	41.5	30.1	70.9	57.0	
10:00-10:59	36.3	30.5	54.9	57.6	
11:00-11:59	39.8	32.4	59.1	62.2	
12:00-12:59	45.8	32.2	81.0	59.5	
13:00-13:59	38.4	31.4	57.5	58.2	
14:00-14:59	45.1	31.4	72.2	60.6	
15:00-15:59	41.4	30.4	70.2	64.2	
16:00-16:59	48.3	31.0	73.9	65.4	
17:00-17:59	48.3	28.8	78.2	60.9	
18:00-18:59	39.9	29.6	58.4	58.6	Nighttime Range
19:00-19:59	42.9	31.0	67.9	57.3	
20:00-20:59	39.9	31.9	58.5	52.8	
21:00-21:59	41.5	31.0	60.8	55.3	
22:00-22:59	36.8	26.9	49.9	53.9	
23:00-23:59	35.9	26.1	53.9	50.9	

24-Hr LAeq	41.9
12-Hr Daytime LAeq	43.7
12-Hr Nighttime LAeq	38.9

24-Hr LCeq	58.6
12-Hr Daytime LCeq	60.7
12-Hr Nighttime LCeq	54.3

TABLE 1 - Pg. 2 OF 3

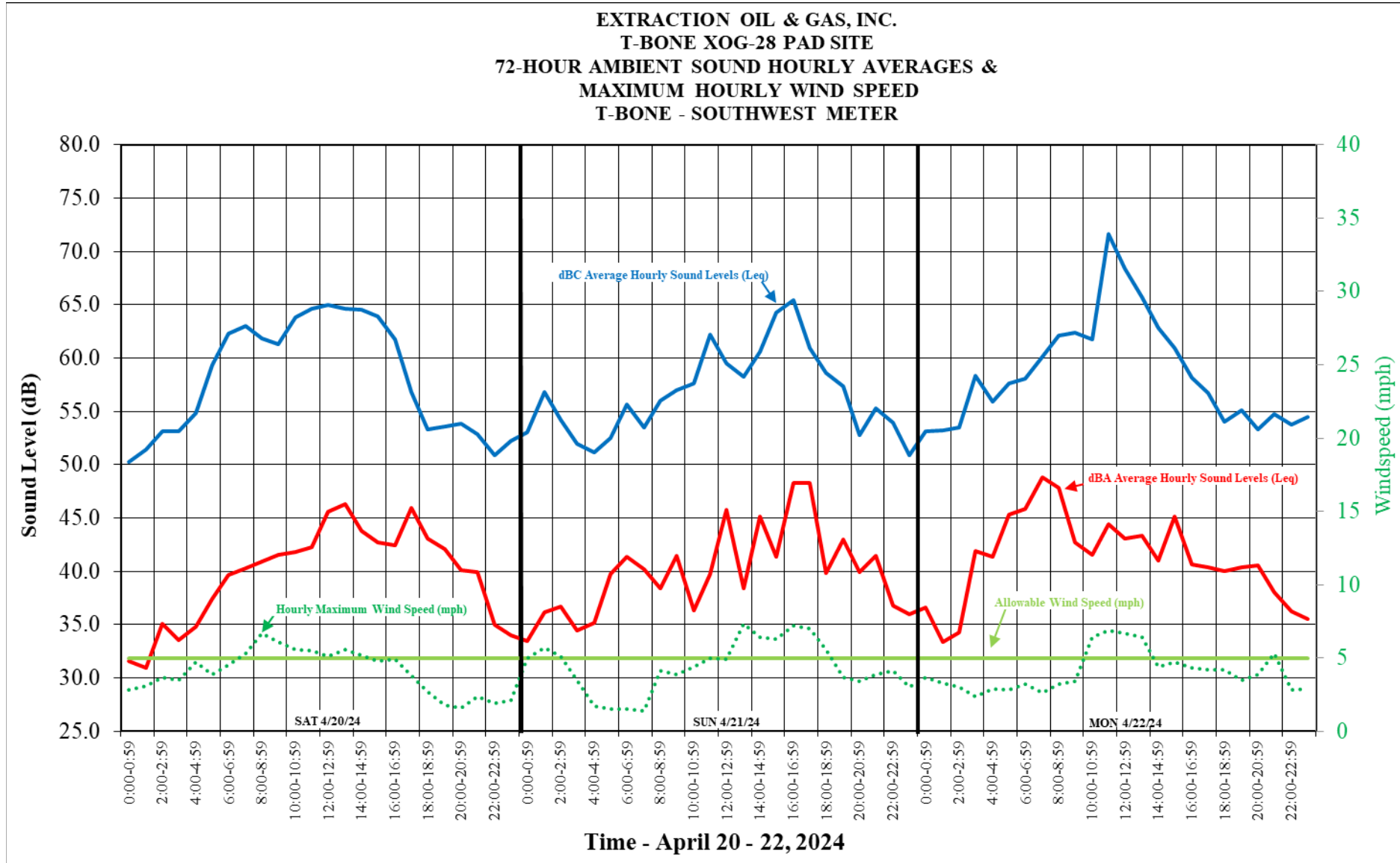
TABLE 1
EXTRACTION OIL & GAS, INC.
T-BONE XOG-28 PAD SITE
T-BONE SOUTHWEST METER
72-HOUR AMBIENT SOUND LEVEL AVERAGES
APRIL 22, 2024

Time	Average dBA/Hr (Leq)	Minimum dBA/Hr (LAFmin)	Maximum dBA/Hr (LAFmax)	Average dBC/Hr (Leq)	
0:00-0:59	36.6	28.5	55.6	53.1	Nighttime Range
1:00-1:59	33.4	28.4	56.3	53.3	
2:00-2:59	34.3	29.8	59.0	53.5	
3:00-3:59	42.0	28.4	61.1	58.4	
4:00-4:59	41.4	33.7	64.0	55.9	
5:00-5:59	45.3	36.8	60.6	57.6	
6:00-6:59	45.9	40.1	63.7	58.1	
7:00-7:59	48.8	40.8	64.7	60.1	Daytime Range
8:00-8:59	47.8	40.1	63.5	62.1	
9:00-9:59	42.7	37.3	62.1	62.4	
10:00-10:59	41.5	33.5	62.0	61.8	
11:00-11:59	44.4	35.1	58.7	71.6	
12:00-12:59	43.0	34.5	62.9	68.4	
13:00-13:59	43.4	32.8	63.3	65.7	
14:00-14:59	41.0	32.3	61.0	62.9	
15:00-15:59	45.2	32.3	69.1	60.9	
16:00-16:59	40.7	31.5	67.0	58.2	
17:00-17:59	40.4	30.0	67.1	56.7	
18:00-18:59	40.0	28.4	65.6	54.1	
19:00-19:59	40.4	29.9	55.8	55.1	Nighttime Range
20:00-20:59	40.5	30.7	61.8	53.3	
21:00-21:59	38.0	28.7	53.8	54.7	
22:00-22:59	36.3	27.4	49.8	53.7	
23:00-23:59	35.6	28.7	48.1	54.4	

24-Hr LAeq	42.9
12-Hr Daytime LAeq	44.2
12-Hr Nighttime LAeq	40.9
72-Hour LAeq Average	42.1
36-Hour LAeq Daytime	43.8
36-Hour LAeq Nighttime	39.3

24-Hr LCeq	62.2
12-Hr Daytime LCeq	64.7
12-Hr Nighttime LCeq	55.5
72-Hour dBC Average (Leq)	60.8
36-Hour LCeq Daytime	63.1
36-Hour LCeq Nighttime	55.2

TABLE 1 - Pg. 3 OF 3



**FIGURE 3. EXTRACTION OIL & GAS, INC. – T-BONE PAD SITE
72 - HOUR SOUND LEVEL SURVEY – SOUTHWEST METER
dBA & dBC AVERAGE SOUND LEVELS (Leq) WITH HOURLY MAXIMUM WINDSPEED**



EXHIBIT B

BEST MANAGEMENT PRACTICES:

T-BONE XOG-28 PAD SITE

TOWN OF MILLIKEN, COLORADO

Latitude 40.365115 Longitude -104.785652

PREPARED BY:



APRIL 30, 2024

EDITED TO INCLUDE ECMC CHANGES
AUGUST 10, 2024



CIVITAS

EXTRACTION OIL & GAS, INC.

Best Management Practices (BMPs)

- Idling Equipment – While idling engine/equipment, maintain at the lowest frequency possible, as well as, in a position/location that will prevent sound from carrying to nearby residents.
- Unnecessary Sounds – Unnecessary sounds such as honking the horn, revving vehicle engines, loud music, and unwarranted metal hammering/banging are all examples of sound that can create nuisance; failure to eliminate unnecessary sound from location will be subject to an internal compliance assessment if reported by a landowner.
- The construction phase is scheduled to last, at this time, approximately 6 weeks.
- Following the completion of construction, a sound barrier (minimum rating of STC-30) will be installed on all sides of the pad site. This sound barrier will be 32-feet tall and remain onsite through Completions operations.
- At the time of this NMP, Patterson 572 or similar is scheduled to be utilized for the drilling of the T-Bone location. The rig will be powered by utility power and will have been designed and equipped with sound mitigating equipment including devices to minimize squeaking from the draw works brakes. The drill phase with one rig is scheduled to last, at this time, approximately 18 weeks.
- A quiet frac fleet will be used during the completion phase. The completions phase is scheduled, at this time, to last for approximately 19 weeks.
- Flow-back is scheduled to last, at this time, approximately 3 weeks.
- Production is anticipated to last, at this time, approximately 30 years. The production facility will be electrified.
- At the commencement of production, if sound levels exceed the allowables set forth above, Extraction will mitigate production equipment, as necessary, to maintain compliance on the T-Bone location.

➤ Pursuant to ECMC regulation 423.c.(1), 423.c.(2)A., and 423.c.(9), ENRG will provide compliance monitoring in the event of a complaint. Results will be provided to the appropriate parties for review. In the event that ECMC determines that operational sound exceeds the allowables set forth below, additional mitigations may be deployed in the interest of mitigating sound impacts within the nearby occupied areas.

➤ **North Location**

dBA - During the 72-hour sound study, the 36-hour daytime average was 46.2 dBA, while the 36-hour nighttime average was 44.7 dBA. **Drilling and Completions** - The allowable be 65.0 dBA during the day and 60.0 dBA during the night. **Production** - The allowable will be 60.0 dBA during the day and 55.0 dBA at night.

dBC - During the 72-hour sound study, the 36-hour daytime average was 60.8 dB, while the 36-hour nighttime average was 56.2 dB. **Drilling and Completions** - The allowable be 65.0 dB during the day and 65.0 dB during the night. **Production** - The allowable will be 67.8 dB during the day and 60.0 dB at night.

➤ **Northeast Location**

dBA - During the 72-hour sound study, the 36-hour daytime average was 54.8 dBA, while the 36-hour nighttime average was 51.5 dBA. **Drilling and Completions** - The allowable be 65.0 dBA during the day and 60.0 dBA during the night. **Production** - The allowable will be 60.0 dBA during the day and 55.0 dBA at night.

dBC - During the 72-hour sound study, the 36-hour daytime average was 65.4 dB, while the 36-hour nighttime average was 62.6 dB. **Drilling and Completions** - The allowable be 72.4 dB during the day and 65.0 dB during the night. **Production** - The allowable will be 72.4 dB during the day and 67.6 dB at night.

➤ **Southeast Location**

dBA - During the 72-hour sound study, the 36-hour daytime average was 63.6 dBA, while the 36-hour nighttime average was 59.1 dBA. **Drilling and Completions** - The allowable be 65.0 dBA during the day and 60.0 dBA during the night. **Production** - The allowable will be 70.0 dBA during the day and 64.1 dBA at night.

dBC - During the 72-hour sound study, the 36-hour daytime average was 70.4 dB, while the 36-hour nighttime average was 65.1 dB. **Drilling and Completions** - The allowable be 77.4 dB during the day and 70.1 dB during the night. **Production** - The allowable will be 75.0 dB during the day and 70.0 dB at night.

➤ **West Location**

dBA - During the 72-hour sound study, the 36-hour daytime average was 43.2 dBA, while the 36-hour nighttime average was 39.9 dBA. **Drilling and Completions** - The allowable be 65.0 dBA during the day and 60.0 dBA during the night. **Production** - The allowable will be 60.0 dBA during the day and 55.0 dBA at night.

dBC - During the 72-hour sound study, the 36-hour daytime average was 60.9 dB, while the 36-hour nighttime average was 55.5 dB. **Drilling and Completions** - The allowable be 65.0 dB during the day and 65.0 dB during the night. **Production** - The allowable will be 67.9 dB during the day and 60.0 dB at night.



➤ **Southwest Location**

dba - During the 72-hour sound study, the 36-hour daytime average was 43.8 dBA, while the 36-hour nighttime average was 39.3 dBA. **Drilling and Completions** - The allowable be 65.0 dBA during the day and 60.0 dBA during the night. **Production** - The allowable will be 60.0 dBA during the day and 55.0 dBA at night.

dbc - During the 72-hour sound study, the 36-hour daytime average was 63.1 dBC, while the 36-hour nighttime average was 55.2 dBC. **Drilling and Completions** - The allowable be 65.0 dBC during the day and 65.0 dBC during the night. **Production** - The allowable will be 70.1 dBC during the day and 60.0 dBC at night.