

# URSA OPERATING COMPANY B&V PADSITE

## COMPLIANCE REPORT FRAC OPS NOISE MONITORING PARACHUTE, COLORADO

**dBC NOISE LEVEL UPDATE**  
MAY 17 & JUNE 6, 2017



June 8, 2017

Ursa Operating Company  
Attn: Dwayne Knudson  
Sr. Environmental Specialist  
792 Buckhorn Drive  
Rifle Colorado 81650  
dknudson@ursaresources.com

**RE: Ursa Operating Company – B&V Padsite  
Frac Ops Compliance Noise Level Report - dBC  
May 17 and June 7, 2017**

Dear Mr. Knudson:

Per your request, ENRG is submitting this dBC compliance noise level survey report for the Ursa Operating Company B&V location in Parachute, Colorado. This dBC compliance noise level report is from May 17 and June 6, 2017, and was prepared to conform to the COGCC regulations regarding noise in Ordinance #1R-99 Aesthetic and Noise Control Regulations. The Ursa B&V padsite is located at approximately Latitude 39.450289 Longitude - 108.047114. According to Google Earth maps and visual observation, the drill site is located east of Battlement Parkway and south Cardinal Way (Figure 1). At the time of the compliance noise level surveys, the well pad had been constructed with ongoing fracing operations onsite.

ENRG personnel mobilized to the B&V location on May 17 and June 7, 2017 to measure and document the site's frac ops noise levels in the residential area west of the padsite. To obtain dBC noise levels, ENRG utilized a Type I Bruel & Kjaer (B&K) 2250-L. The meter was calibrated, programmed for decibel (dBC) readings and installed at three (3) locations west of the site by ENRG personnel on Wednesday, May 17, 2017 and four (4) locations west of the site on Tuesday June 6, 2017. The frac ops compliance surveys from May 17 and June 6 were taken from the same spots, as normal practice for ENRG.

The objective of the compliance noise surveys was to measure and document the site's frac ops dBC noise levels on May 17 and June 6, 2017. Initial and final readings were verified with a calibration device to ensure accuracy during and after the test. Figure 1 shows the location where the dBC noise level surveys were conducted. The B&K noise level meter was placed where no obstructions could block the meter from measuring and recording accurate noise levels (Photographs 1 - 4).

Conclusions

Per the COGCC Aesthetic and Noise Control Regulations 802.d, the dBC noise level allowable is 65.0 dBC for daytime and nighttime oil and gas operations. Additionally, per the COGCC Ordinance, daytime is defined as the period between 7:00 AM and 7:00 PM, and nighttime is defined as the period between 7:00 PM and 7:00 AM.

The results of the compliance dBC noise level surveys are attached as Figure 1 and Table 1. Figure 1 shows the dBC average (L<sub>Ceq</sub>) of the noise levels. A summary of the dBC average (L<sub>Ceq</sub>) of the noise levels is shown on Table 1.

The L<sub>Ceq</sub> results from the compliance noise level surveys are summarized below:

MAY 17, 2017	JUNE 6, 2017
B&V #1 – 76.2 dBC	B&V #1 – 78.0 dBC
B&V #2 – 69.6 dBC	B&V #2 – 75.0 dBC
B&V #3 – 68.0 dBC	B&V #3 – 69.6 dBC
B&V #4 – N/A	B&V #4 – 71.7 dBC

Although a pre drilling ambient noise level was not required for “C” weighted data, it was the decision of ENRG and Ursa to provide such documentation. A 72-hour ambient noise level survey was performed by ENRG from November 24 - 26, 2016. The location of the ambient noise level survey is indicated on Figure 1. The results of the 72-hour ambient noise level are included in ENRG’s report dated February 16, 2017.

The purpose of the ambient noise level survey was to monitor and record dBA and dBC noise levels prior to the installation of any new equipment or onsite activities on the B&V location. The ambient noise level survey allows Ursa to provide documentation of such data for any future compliance monitoring as required by the COGCC for comparison purposes. The dBC results of the 72-hour ambient noise levels are summarized below:

- 72-hour ambient noise level – 65.1 dBC
- 36-hour daytime ambient noise level – 65.9 dBC
- 36-hour nighttime ambient noise level – 64.0 dBC

Based on the measurements obtained by ENRG during the 72-hour ambient noise level survey, approximately 30 hours (42% of the time) exceeded the 65.0 dBC allowable and therefore do not meet the COGCC’s Ordinance Sec 802.d 100% of the time. Furthermore, the 36-hour daytime average measured by ENRG was 65.9 dBC, which is 0.9 dBC above the allowable of 65.0 dBC. Additionally, the 36-hour nighttime average measured by ENRG was 64.0 dBC, which is only 1.0 dBC below the allowable of 65.0 dBC. It is ENRG’s experience and opinion that the allowable set forth in Sec 802.d, which gives an allowable of 65.0 dBC, often provides an unobtainable noise requirement. Further, due to the B&V ambient report being above the allowable set forth in the above referenced ordinance, it is a reasonable expectation that the addition of any equipment on this location would not be within the restrictions set forth by the COGCC 100% of the time.



**ENRG**

The Environmental & Natural Resources Group, Inc.

Please keep in mind that the compliance noise level surveys performed by ENRG on May 17 and June 6, 2017, take into account any potential location noise, as well as, any noise from sources surrounding the location including air traffic, highway traffic, and wildlife to name a few. As a reminder, Ursa was performing routine onsite fracing activities during the time of the compliance frac ops noise level survey.

Please call us direct at (970) 927-3246 if you have any questions or comments.

Sincerely,

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**Ursa**



## COMPLIANCE NOISE MONITORING (Leq) B&V PADSITE - FRAC OPS NOISE LEVELS

WEBSITE ACCESS - [www.enrgconsultants.com](http://www.enrgconsultants.com)  
USERNAME: confidential  
PASSWORD: confidential

MOBILIZED: 5/17/17 & 6/6/17

CITY: PARACHUTE

COUNTY/STATE: GARFIELD, COLORADO

GPS COORDINATES 39.450289, -108.047114

NOISE MONITORING METER  
BRUEL & KJAER 2250-L

CALIBRATED: 5/17/17 & 6/6/17 @ 94 dBA\*

COGCC ORDINANCE:  
ORDINANCE # 1R-99  
DECEMBER 2005

### COMPANY CONTACTS:

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### FIGURE 1 - COMPLIANCE FRAC NOISE MONITORING LOCATIONS

**PHOTOGRAPH 1 - COMPLIANCE FRAC NOISE MONITORING LOCATION - B&V #1**  
**PHOTOGRAPH 2 - COMPLIANCE FRAC NOISE MONITORING LOCATION - B&V #2**  
**PHOTOGRAPH 3 - COMPLIANCE FRAC NOISE MONITORING LOCATION - B&V #3**  
**PHOTOGRAPH 4 - COMPLIANCE FRAC NOISE MONITORING LOCATION - B&V #4**  
**TABLE 1 - dBC COMPLIANCE NOISE LEVEL AVERAGES (Leq)**

### ALLOWABLES

DAYTIME - 07:00 - 19:00  
NIGHTTIME - 19:00 - 07:00  
72-HR AMBIENT - 53.3 dBA/65.9 dBC\*\*  
AMBIENT - 53.5 dBA/65.9 dBC Daytime and 53.1 dBA/64.9 dBC Nighttime\*\*  
DAYTIME PERMITTED NOISE ALLOWABLE - 70.0 dBA\*\*\*  
NIGHTTIME PERMITTED NOISE ALLOWABLE - 65.0 dBA\*\*\*  
PERMITTED dBC NOISE ALLOWABLE - 65.0 dBC\*\*\*

\*Calibrator certificate of calibration available upon request

\*\* 72-Hr Ambient by ENRG from November 24-26, 2016

\*\*\* Provided by COGCC Ordinance



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**FIGURE 1. URSA OPERATING COMPANY – B&V PADSITE COMPLIANCE FRAC NOISE MONITORING LOCATIONS**



**PHOTOGRAPH 1. URSA OPERATING COMPANY – B&V PADSITE  
COMPLIANCE FRAC NOISE MONITORING LOCATION – B&V #1**



**PHOTOGRAPH 2. URSA OPERATING COMPANY – B&V PADSITE  
COMPLIANCE FRAC NOISE MONITORING LOCATION – B&V #2**



**PHOTOGRAPH 3. URSA OPERATING COMPANY – B&V PADSITE  
COMPLIANCE FRAC NOISE MONITORING LOCATION – B&V #3**



**PHOTOGRAPH 4. URSA OPERATING COMPANY – B&V PADSITE  
COMPLIANCE FRAC NOISE MONITORING LOCATION – B&V #4**

**TABLE 1**  
**URSA OPERATING COMPANY**  
**B&V PADSITE**  
**dBC COMPLIANCE NOISE LEVEL AVERAGES (Leq)**  
**FRAC OPS**

<b>Location</b>	<b>Date</b>	<b>Time</b>	<b>dBC</b>
B&V #1	5/17/17	11:11 - 11:26	76.2
B&V #2	5/17/17	11:31 - 11:46	69.6
B&V #3	5/17/17	11:51 - 12:06	68.0
B&V #4	5/17/17	NA	N/A
B&V #1	6/6/17	09:30 - 09:35	78.0
B&V #2	6/6/17	09:40 - 09:45	75.0
B&V #3	6/6/17	09:50 - 09:55	69.6
B&V #4	6/6/17	10:00 - 10:05	71.7