

Internal
COO 70005
#3549
K

From: Dana Dean
To: OGMCOAL
Date: 6/23/2010 4:49 PM
Subject: Fwd: Winter Quarters Ventilation Facility
Attachments: Letter to Steve Schneider .PDF; SkylineSoundLevelReport_06-23-2010_.pdf; Letter from Wesley Sorensen.pdf

FYI - this may have some overlap with the things Gregg sent.

>>> Steve Schneider 6/23/2010 4:43 PM >>>

Daron H.,

Attached is the response from Skyline Mine as a result of the Informal Conference conducted on June 14, 2010. Please handle within your Coal Program permit processing as appropriate. Anderson & Karrenberg also received a copy today, and their response comments are due June 30, 2010.

Steve Schneider

>>> <parker.wells@dorsey.com> 6/23/2010 4:16 PM >>>

Gentlemen,

Attached to this email please find Canyon Fuel Company's filings pursuant to the scheduling order entered by Steve Schneider at the informal conference held Monday June 14, 2010, C/3070005, including (i) the Skyline Mine Sound Study Report dated June 23, 2010 prepared by Tetra Tech, and (ii) a Letter dated June 23, 2010 from Wesley Sorensen, General Manager of Skyline Mine to the Division of Oil, Gas and Mining

Regards,

Wells S. Parker

Associate

.....
DORSEY & WHITNEY LLP

136 South Main Street, Suite 1000

Salt Lake City, UT 84101-1655

P:801.933.7364 F: 801.880.8425

USA CANADA EUROPE ASIA www.DORSEY.COM (file://WWW.DORSEY.COM)

.....
CONFIDENTIAL COMMUNICATION

E-mails from this firm normally contain confidential and privileged material, and are for the sole use of the intended recipient.

Use or distribution by an unintended recipient is prohibited, and may be a violation of law. If you believe that you received

this e-mail in error, please do not read this e-mail or any attached items. Please delete the e-mail and all attachments,

including any copies thereof, and inform the sender that you have deleted the e-mail, all attachments and any copies thereof.

Thank you.

<<Letter to Steve Schneider .PDF>> <<SkylineSoundLevelReport_06-23-2010_.pdf>> <<Letter from Wesley Sorensen.pdf>>

June 23, 2010

VIA ELECTRONIC MAIL

Steve Schneider
Administrative Services and Policy
Coordinator
Division of Oil, Gas and Mining
1594 West North Temple, Suite 300
Salt Lake City, UT 84116

Steve Alder
Attorney General
Division of Oil, Gas and Mining
1594 West North Temple, Suite 300
Salt Lake City, UT 84116

Re: Winter Quarters Ventilation Facility

Gentlemen:

Pursuant to the scheduling order entered by Mr. Schneider at the informal conference, C/3070005, please find the enclosed materials:

1. Skyline Mine Sound Study Report dated June 23, 2010 prepared by Tetra Tech and,
2. Letter dated June 23, 2010 from Wesley Sorensen, General Manager of Skyline Mine to the Division of Oil, Gas and Mining.

The enclosed Sound Study Report and Letter confirm representations made at the informal conference that natural noise reduction, combined with the mine's proactive steps to mitigate noise impacts, are sufficient to address concerns raised by adjoining landowners with respect to impacts on wildlife and vegetation from the proposed ventilation facility. Skyline Mine submits that all other issues related to the alleged uses of the Liodakis Ranch LLC properties are outside of the jurisdiction of DOGM's permit review and are subject to the terms of an existing Amended Lease and Easement Agreement, dated May 1, 2005, between Ark Land Company and Liodakis Ranch LLC.



Please contact Wesley Sorensen or the undersigned with additional questions.

Very truly yours,

A handwritten signature in black ink, appearing to read 'William B. Prince', with a long horizontal flourish extending to the right.

William B. Prince

WBP/cm
Enclosures

cc. Wesley Sorensen
Carl Winters
Gregg Galecki
Doug Downing
BJ Sturgill
Rick Kaplan
Thomas Karrenberg



Skyline Mine Sound Study

Prepared for:

**Dorsey & Whitney LLP
And
Canyon Fuel Company, Skyline Mine**

Prepared by:

Tetra Tech

*136 East South Temple, Suite 910
Salt Lake City, UT 84111
(801) 364-1064
Fax (801) 364-2021*

June 23, 2010

TABLE OF CONTENTS

| | |
|--------------------------------------|----------|
| 1.0 INTRODUCTION..... | 1 |
| 2.0 METHODS | 1 |
| 2.1 Sound Monitoring Locations | 1 |
| 2.2 Sound Monitoring Methods | 1 |
| 3.0 RESULTS | 2 |
| 3.1 Existing Ventilation Fan | 3 |
| 3.2 Proposed Ventilation Fan | 5 |
| 4.0 SUMMARY | 6 |
| 4.1 Existing Ventilation Fan | 6 |
| 4.2 Proposed Ventilation Fan | 6 |

LIST OF GRAPHS

| | |
|--|---|
| Graph 1: Sound Levels Measured at Existing Skyline Mine and Average Background Sound Measured in Winter Quarters Canyon..... | 4 |
|--|---|

LIST OF TABLES

| | |
|-------------------------------------|---|
| Table 1: Sound Monitoring Data..... | 2 |
|-------------------------------------|---|

FIGURES

- Figure 1: Eccles Canyon Study Area
- Figure 2: Winter Quarters Canyon Study Area

1.0 INTRODUCTION

This report presents the methods and results of a one day sound monitoring survey conducted by Tetra Tech, Inc. (Tetra Tech) on June 08, 2010, as requested by Canyon Fuel Company's Skyline Mine. Monitoring was conducted on and adjacent to the Skyline Mine in association with the continued development of underground coal mining in Carbon County, Utah. The study area is located in both public (Manti La Sal National Forest) and private parcels around Eccles Canyon and Winter Quarters Canyon near the town of Scofield, UT. (**Figure 1** and **Figure 2**)

Sound level monitoring was implemented to obtain data on sound levels around an existing ventilation fan at the Skyline Mine, to collect baseline sound levels around a proposed ventilation fan location in Winter Quarters Canyon, and to supplement Tetra Tech's March 13, 2009 Wildlife Studies Summary. Data collected at each site may be used to establish baseline information on sound generated by the operational ventilation shaft fan and sounds generated by the immediate environment.

2.0 METHODS

2.1 Sound Monitoring Locations

All sound monitoring sites were located on and adjacent to the Skyline Coal Mine area and adjacent to Winter Quarters Canyon as determined through consultation with Canyon Fuel Company. Sound level measurements were collected at the operational ventilation fan, herein referred to as the source, and at intervals from the source and proposed fan location. Sound level measurements were also collected along US Highway 96 and within the town of Scofield. Sound level monitoring locations, existing fan location, and the proposed fan location are detailed in **Figure 1** and **Figure 2**.

Eccles Canyon, the location of the existing fan, was chosen for comparative analysis based upon its similarities to Winter Quarters Canyon. Eccles Canyon is located approximately 2.5 miles directly south of Winter Quarters Canyon and was selected based upon topographic, vegetational, and environmental similarities to Winter Quarters Canyon.

Details of the proposed fan have not been provided, however Canyon Fuel staff have indicated that the fan will be similar to the fan presently in use at Skyline Mine. For the purposes of this study, the proposed Winter Quarters fan is assumed to be similar in size, shape, and design as the existing fan facilities at Skyline Mine.

2.2 Sound Monitoring Methods

All sound monitoring was conducted using 2 Quest Technologies Model 2200 sound level meters. Sound levels were recorded as A-weighted decibels (dBA) with measurements collected during a two minute period. Maximum (MAX), minimum (MIN), and the equivalent continuous noise level (AVG) sound levels were recorded. Environmental conditions, vegetative cover, date, time, observer, and weather conditions were also recorded at the time of the recording for each sound monitoring location.

Sound level measurements were taken during daylight hours (7:00am – 5:00pm) and within manufacturer's temperature specifications. Measurements were taken during dry (no precipitation) and calm (wind less than five meters per second (m/s)) periods. Wind was

measured prior to each sound level measurement with a hand-held anemometer. The sound level meters were fitted with windscreens to reduce wind-generated sound and directed at the source approximately one meter (m) off the ground. The sound level meters were calibrated at a sound pressure of 114 dBA, before each day of survey. Terminal calibrations, using the 114 dBA standard, were conducted at the end of each day to ascertain the instruments continued accuracy through the survey period.

3.0 RESULTS

Sound level measurements taken within Eccles Canyon and Winter Quarters Canyon study areas are included in **Table 1**. Sounds recorded during the sound study ranged between 30.2 dBA and 108.7 dBA. Minimum, maximum, and average sound level measurements are detailed for each sound monitoring location.

Table 1: Sound Monitoring Data

| Location (Meters from Fan) | Fan Audible | Sound Level (dBA) | | |
|--|-------------|-------------------|-------|-------|
| | | AVG | MIN | MAX |
| Skyline Ventilation Fan Eccles Canyon | Y | 106.8 | 106.4 | 108.7 |
| 160 m (line of sight) | Y | 75.9 | 71.6 | 79.9 |
| Up Canyon | | | | |
| 372 m | Y | 57.4 | 55.0 | 59.4 |
| 947 m | Y | 41.2 | 37.9 | 57.5 |
| 1200 m | Y | 40.9 | 39.6 | 47.5 |
| 1740 m | Y | 39.9 | 34.7 | 51.9 |
| Down Canyon | | | | |
| 484 m | Y | 52.3 | 50.5 | 55.3 |
| 650 m | Y | 50.6 | 47.6 | 56.1 |
| 1000 m | Y | 48.6 | 45.5 | 55.8 |
| 1300 m | Y | 44.6 | 42.6 | 53.7 |
| 1560 m | Y | 42.4 | 39.1 | 53.9 |
| 1880 m | Y | 45.8 | 42.1 | 53.9 |
| 2210 m | Y | 45.1 | 43.6 | 50.4 |
| 2480 m | Y | 39.5 | 38.0 | 50.4 |
| 3050 m | N | 41.8 | 39.7 | 45.9 |
| 3930 m | N | 43.7 | 41.2 | 58.4 |
| | | | | |
| Winter Quarters Canyon & Scofield, UT | N | | | |
| 0 m (Proposed Fan Location) | N | 42.1 | 40.0 | 56.9 |
| Up Canyon | | | | |
| 321 m | N | 52.6 | 51.6 | 54.3 |
| 635 m | N | 49.1 | 47.5 | 54.2 |
| Down Canyon | | | | |
| 321 m | N | 39.7 | 35.3 | 49.1 |
| 624 m | N | 44.3 | 42.8 | 52.1 |
| 946 m | N | 47.9 | 46.5 | 54.2 |
| 1249 m | N | 48.5 | 46.0 | 55.5 |
| 1561 m | N | 43.7 | 42.4 | 51.6 |

| Location (Meters from Fan) | Fan Audible | Sound Level (dBA) | | |
|----------------------------|-------------|-------------------|------|------|
| | | AVG | MIN | MAX |
| 1873 m | N | 46.7 | 44.3 | 59.2 |
| 2185 m | N | 43.5 | 38.5 | 60.4 |
| 2497 m | N | 45.0 | 38.2 | 63.2 |
| 2809 m | N | 41.9 | 34.2 | 57.0 |
| 3270 m (US Hwy 96) | N | 36.8 | 30.2 | 50.7 |
| 3320 m (US Hwy 96) | N | 51.3 | 41.2 | 68.2 |
| 3370 m (Town of Scofield) | N | 41.5 | 33.9 | 51.2 |

Background outdoor sound levels, measured in the Winter Quarters Canyon study area were between 30.2 dBA and 68.2 dBA. Average sound levels for this study area were determined to be 47.2 dBA. These sound measurements were calculated using data from sampling locations where no operational fan or other Skyline Mine activities were audible. These values were collected within the study area, and will be recognized as a baseline for this evaluation.

3.1 Existing Ventilation Fan

The ventilation fan, presently in operation at the Skyline Mine, is situated in Eccles Canyon approximately 150 m below the surrounding ridge of Eccles Canyon. Eccles Canyon is vegetated on southern slopes by conifer trees and predominantly sage brush and aspen on the northern slopes. It is estimated that these vegetative communities comprise approximately of 80 percent ground cover. Conifer trees present in Eccles Canyon appear to have experienced stress or death from detrimental insects or disease. A flowing stream is present in the bottom of Eccles Canyon and several rock outcrops were noted. A two lane paved highway (UT-264) is located in the valley bottom along with a coal conveyor system that parallels the road from the Skyline Mine to the load-out located approximately 4,200 meters (2.5 miles) east of Skyline Mine.

Maximum sound levels between 106.4 dBA and 108.7 dBA were recorded at the source, and decreased as distance between the source and sound monitoring locations increased. Sound generated by the source was continuous and produced ranges up to ± 2 dBA between MAX and MIN recordings. Greater decibel ranges were noted (2.3-19.6 dBA) as distance increased between the source and monitoring point locations. These larger ranges can be attributed to affects of wind, line of sight, echoing, vegetative cover, and topography on the sound level measurements. The sound levels from the existing fan decreased with distance, however no definitive distance was found to be indicative of reaching ambient sound levels.

Sound level measurements were used to generate distance versus sound level curves and are detailed in **Graph 1**. All data collected along the sound level transects were graphed for the AVG (equivalent continuous sound) sound level in the following graph. Data displayed to the right and left of the source (0m) were collected up and down Eccles Canyon respectively.

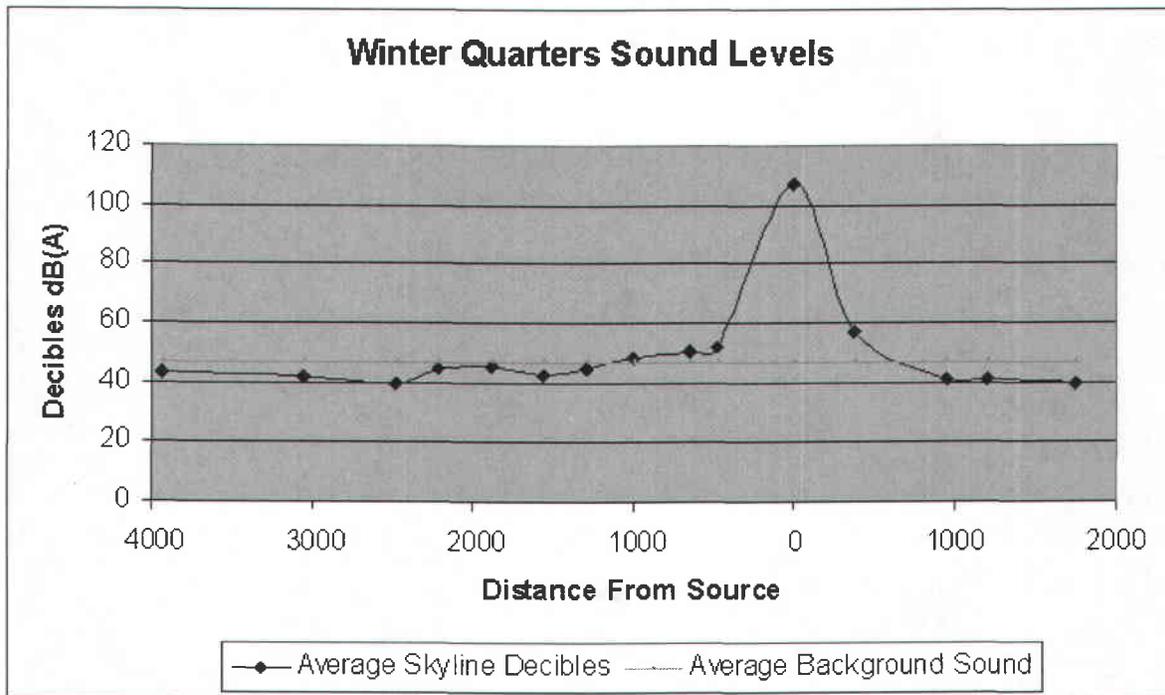
The greatest distance from which the fan was audible was determined to be 2480 m away from the source east in Eccles Canyon. Sound levels recorded at this location ranged between 28.4 dBA to 54.5 dBA. Though the fan was audible, the recorded sound levels were near average background sound levels (47.2 dBA) during the time of the survey.

Line of sight sound monitoring was conducted when staff identified the source with no visual interruption between the sound level meter and the source. The greatest distance in which a

line of sight measurement was conducted was 160 m. Sound level measurements at this distance were between 71.6 dBA and 79.9 dBA. These line of sight readings are 28 dBA to 34 dBA lower than source level readings (106.4 dBA to 108.7 dBA) at 160 m to the south of the source sounds.

Graph 1 shows average recorded source sound levels (106.8 dBA) dropping to values at or near average background sound levels (47.2 dBA) at a distance between 600 m and 1200 m away from the source. A linear rate of source sound reduction calculated from this analysis shows a reduction rate of 0.049 decibel/m (59.6 dBA/1200m). Given that vegetative cover, geomorphology, or topography was impeding the sound travel in and around the source, this reduction rate (0.049 dBA/m) should be considered as a conservative scenario for sound reduction within the study area.

Graph 1: Sound Levels Measured at Existing Skyline Mine and Average Background Sound Measured in Winter Quarters Canyon



Amplification of source sounds within Eccles Canyon may have resulted in higher sound level readings near the Skyline Mine and support facilities. Echoing effects, generated from the mine infrastructure (buildings, silos, roads and conveyor) within the canyon, may have produced sound level amplification and resulted in higher sound level readings. Data collected within and above the canyon suggests these effects are most apparent at monitoring locations located within sight of the Skyline Mine. These increases in average sound level measurements were identified in the 500m to 1000m distances down canyon (left of 0m in **Graph 1**) from the Skyline Mine.

Source sound level reduction was observed during this sound study, and was observed on several sound monitoring locations above (right of 0m in **Graph 1**) Skyline Mine. These reductions result from the presence of vegetative buffers and topographic features within the

study area. Vegetative buffers, consisting of both trees and shrubs, occur on both sides of Eccles Canyon and aid in the buffering and subsequent reduction of sound levels above and below the Skyline Mine. It is likely that the rapid reduction in sounds above the Skyline Mine is a result of a prevalence of conifer growth above the mine, resulting in greater sound buffering capacities.

Topographic features such as hills, mountains, or bends in a canyon also create reductions in source sounds by shielding or sound shadowing effects. Sound from the source is reduced by the elevational differences and relief between the source and sound recording locations. These effects were identified in sound readings above the source (right of 0m in **Graph 1**) where sound monitoring stations were not within sight of the Skyline Mine. Bends and topographic relief in Eccles Canyon between the source and sound monitoring locations down canyon also contribute to the overall reduction of source sounds. No determination on the overall sound reducing effects of these bends and relief could be determined given that no straight line sound monitoring stations were recorded at similar distances.

3.2 Proposed Ventilation Fan

This proposed ventilation fan site is located in a natural valley and is surrounded by ridges to the north and south, Winter Quarters Ridge, the Manti-La Sal National Forest to west, and the town of Scofield to the east (**Figure 1**). A flowing stream is present in the bottom of the canyon. Modern and historic campsites, foundations, walls, and equipment from human activities are located east of the proposed fan location.

The proposed ventilation fan location is situated 250 m below the surrounding ridge of Winter Quarters Canyon, and is vegetated on southern slopes by conifer and aspen trees with sagebrush and small rock out-crops on the northern slopes. It is estimated that these vegetative communities comprise approximately 80 percent ground cover. Similar to Eccles Canyon, some conifer trees present in the canyon appear to have experienced stress or death from detrimental insects or disease.

Winter Quarters Canyon is a relatively straight canyon and opens to agricultural and residential development approximately 2500 m (1.5 miles) east of the proposed fan location. While Winter Quarters Canyon is relatively straight, topographical relief prevents the proposed fan location from being seen from the mouth of the Canyon and Scofield.

Sound level measurements taken within Winter Quarters Canyon and locations near Scofield ranged between 30.2 dBA and 68.2 dBA. A value of 47.2 dBA was calculated as an average sound level for Winter Quarters Canyon and Scofield. Given that no mine associated sounds were noted within Winter Quarters Canyon and Scofield, these values were used as the ambient sound baseline for this sound study (**Table 1**).

Sound level measurements taken in the town of Scofield were noted to be higher than those observed in Winter Quarters Canyon. This increase in ambient sound levels were attributed to the sounds associated with residential activities and sounds produced from traffic on US Highway 96. Sounds from the existing Skyline Mine ventilation fan were not discernible in or around Scofield.

4.0 SUMMARY

These determinations of potential sound impacts have been based upon sound level data collected at the existing fan and data collected in Winter Quarters and Scofield. Assumptions for these determinations are based on the environmental and locational similarities between Winter Quarters and Eccles Canyon and that the proposed ventilation fan will be similar in size, shape, power, and orientation to the existing fan.

Since this study only addresses sound level measurements over a one day period in early summer 2010, it does not address temporal differences that may exist in the study area. These differences may need to be addressed should further sound studies be conducted. Factors such as time of day, wind patterns, and seasonal events may need to be included in future sound surveys within the area. No sound level modeling was developed in this study.

None of the data developed from this Sound Study is contradictory with the data presented in the Tetra Tech 2009 Winter Quarters Canyon Wildlife Studies Summary. Based upon data collected during this and previous inventories, Tetra Tech still anticipates minimal impacts to wildlife in the vicinity of the proposed fan.

4.1 Existing Ventilation Fan

The greatest distance from which the fan was audible was determined to be 2480 m away from the source east in Eccles Canyon. Sound levels recorded at this location ranged between 28.4 dBA to 54.5 dBA. Though the fan was audible, the recorded sound levels were near average background sound levels (47.2 dBA) during the time of the survey. Sounds generated by the source and measured at 2480 m distance were buffered by vegetation, topographic relief, and elevational differences between the source and sound recording location. It is anticipated that sounds generated from the proposed fan will be similar to those identified at the existing fan. Sounds generated from the existing fan could be perceived or measured differently depending on environmental conditions or time of year.

4.2 Proposed Ventilation Fan

The proposed fan location is presently situated in a valley and, assuming all engineering and technical components are substantially similar to the fan in Eccles Canyon, is expected to experience sound levels similar to sounds recorded at the existing fan.

Based upon readings collected in Eccles Canyon, it is anticipated that sounds from the proposed fan could likely be within 3-5 decibels of background levels within 500 m of the source. These measurements were obtained in locations where no direct line-of-sight existed between the sound measuring location and the fan. Locations, which are directly within line-of-sight of the proposed fan, and within 500 m, may experience greater sound levels. These locations would include areas above the proposed fan on the surrounding slopes of Winter Quarters Canyon. These assumptions do not take into consideration engineering differences such as the direction of the fan as placed in the canyon, sound dampening of duct work, and sound absorption materials used in the fan construction.

Though the proposed fan may be audible beyond 500 m, the fan sounds would be at or near average background sound levels (47.2 dBA) within approximately 1000 m. In addition, through the implementation of sound reduction technology at the fan site, we anticipate that the sound

levels from the proposed fan would likely decrease, reducing the distance that the fan sounds are above background sound levels to less than 1000 m.

Amplification of source sounds from the proposed fan are anticipated to be minimal. Given that there are no large facilities, roads, or conveyors present in Winter Quarters Canyon it is expected that amplification of source sound could be less than those sounds experienced near the existing fan in Eccles Canyon. While small areas of rock outcrops that could potentially produce echoing or amplification effects are present within Winter Quarters Canyon, it is unlikely that these natural features are large enough to produce significant changes in sounds within the canyon.

Source sound level reduction was observed during this study and is expected to occur in areas around the proposed fan. Vegetation around the proposed fan would aid in the reduction of sound impacts in the vicinity. Vegetated areas (conifers and aspen) south and west of the proposed fan location are expected to exhibit the greatest amount of sound buffering and subsequent sound reduction. Though sagebrush vegetative buffers on the north side of the canyon would create some sound buffering, it is anticipated that larger vegetation such as conifers and aspens on the south side would provide the greatest reduction in sounds.

Topographic features around the proposed ventilation fan would also likely reduce sound travel. The proposed fan is located in a vegetated valley below Winter Quarters Ridge and above the town of Scofield. Ridges, valleys, and bends in the canyons to the north, south, and west of the proposed fan are expected to contribute the greatest amount of sound level reduction by sound shadowing. However, due to the relatively straight formation of Winter Quarters Canyon, sounds traveling east toward Scofield, would have fewer obstructions than those identified in Eccles Canyon.

References:

Tetra Tech (2009) Winter Quarters Canyon Wildlife Studies Summary for 2006 through 2008.
Prepared for Canyon Fuel Company, Skyline Mine. Report Dated March 19, 2009. 4pp.

FIGURE 1
ECCLES CANYON STUDY AREA

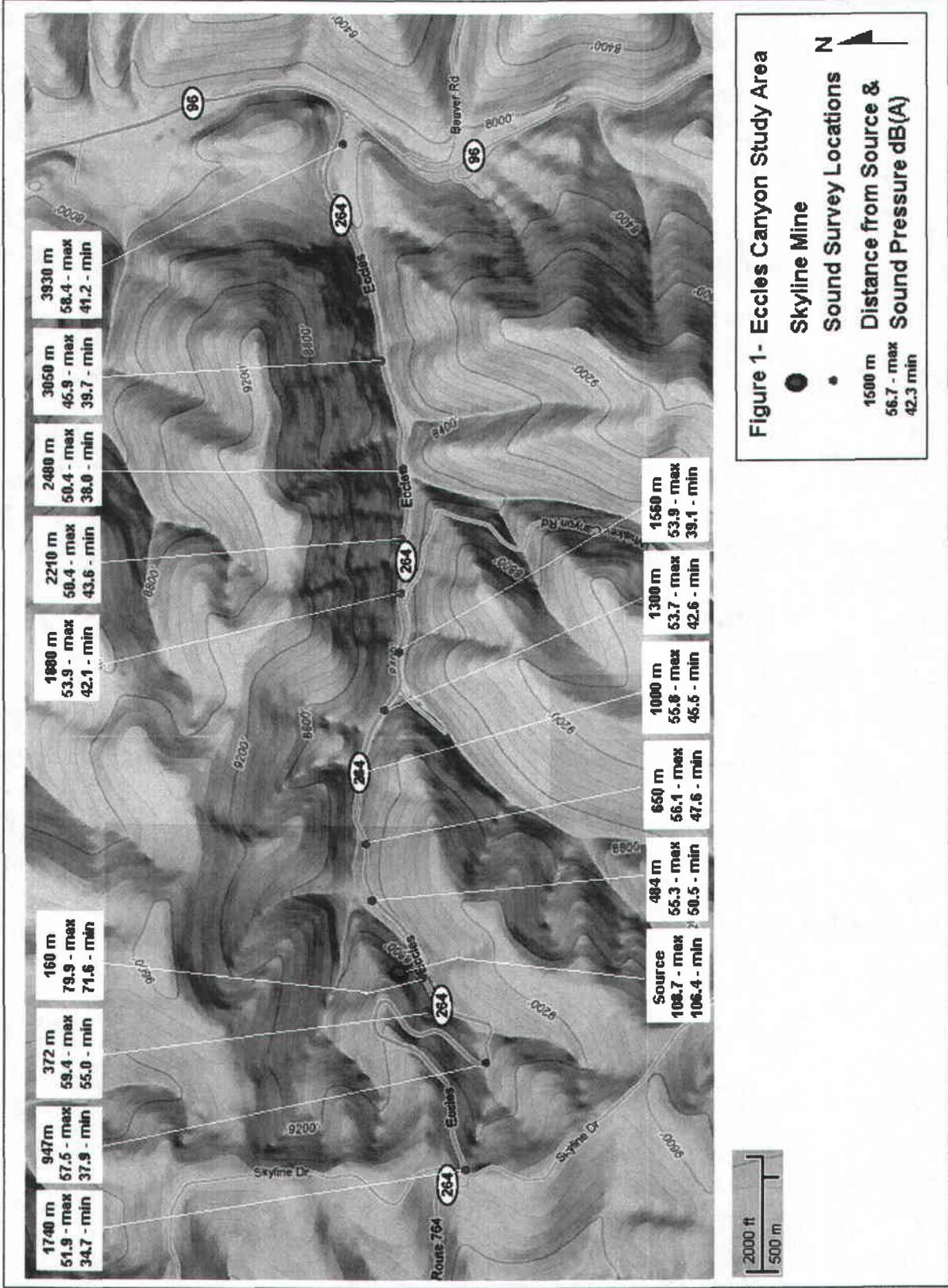


FIGURE 2
WINTER QUARTERS CANYON STUDY AREA

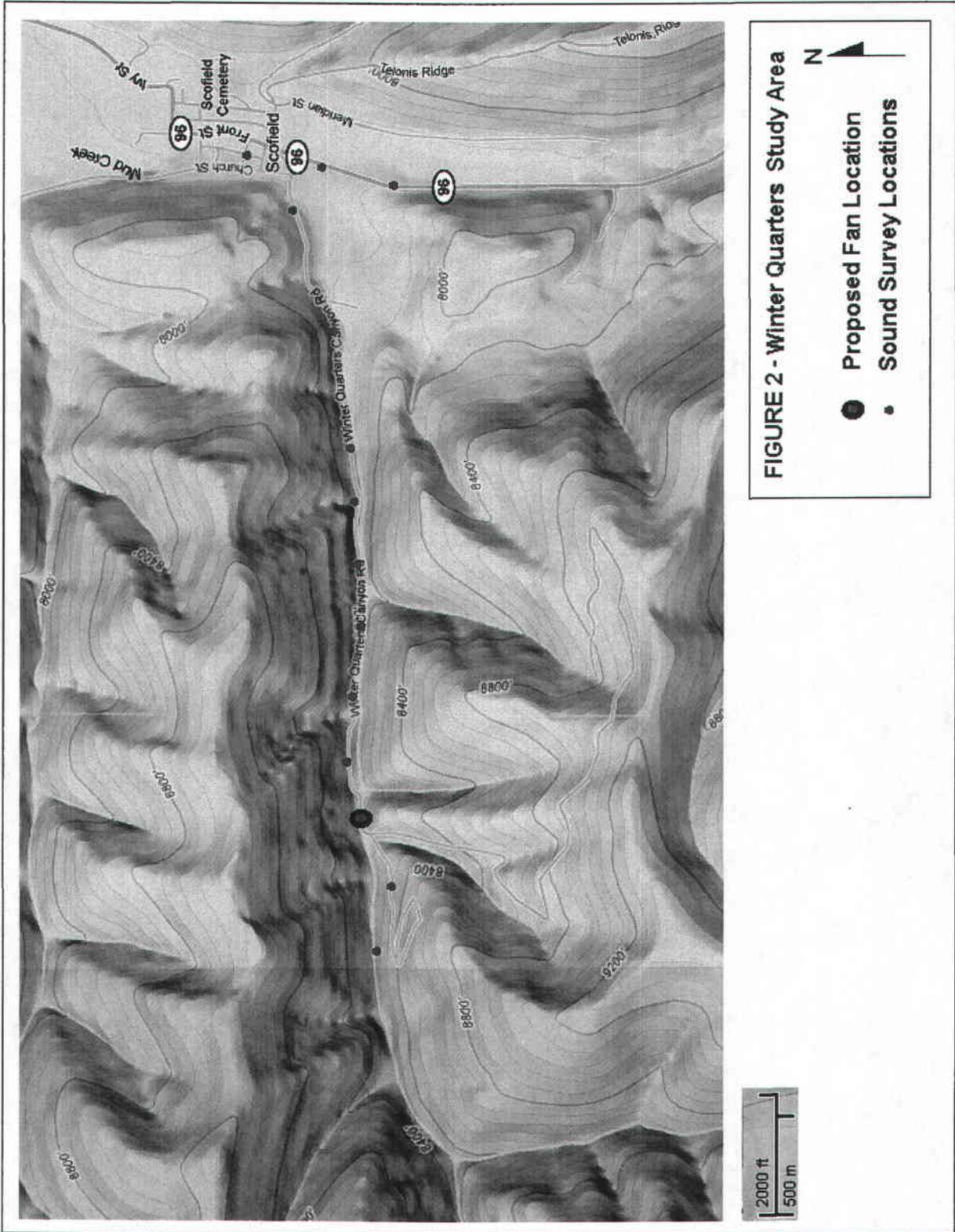


FIGURE 2 - Winter Quarters Study Area

- Proposed Fan Location
- Sound Survey Locations



Skyline Mine
Wesley K. Sorensen
General Manager
HC35, Box 380
Helper, Utah 84526
(435) 448-2619
Fax (435) 448-2632

June 23, 2010

Mr. Steve Schneider
Utah Coal Regulatory Program
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
P. O. Box 145801
Salt Lake City, Utah 84114-5801

Dear Mr. Schneider:

Skyline Mine committed to supply more information to Mr. Liodakis in the June 14, 2010 Informal Conference in which you served as Conference Officer. The information in the following paragraph should help to alleviate the adjacent land owners concern regarding noise reduction at the Winter Quarter Mine Fan.

Skyline Mine is planning to install an exhausting mine fan in Winter Quarters Canyon on the permitted pad area in T 13S R6E, Section 1. This fan will be of the axial design with an external motor and motor house and will likely be a 10 ft diameter class fan. The fan will be on a vertical shaft some 300 ft deep and will be equipped with the best commercially available technology for reducing noise. This technology will include sound damping of the duct work and associated motor house as well as sound absorption materials within the motor house. If reflective sound cancelation is appropriate to reduce the noise level of the fan it will also be used. The discharge evase` of the fan will most likely be in a vertical arrangement to minimize noise levels in the immediate area of the fan. It should be noted that noise levels die off according to the inverse square of the distance from the source. Existing mine fans in the area without best commercially available noise reduction technology have noise levels less than 60dBA 400 meters away from the fan. Normal conversation level is 60 dBA.

Our existing lease with Liodakis allows for this type of impact.

Sincerely,

A handwritten signature in black ink, appearing to read 'Wesley K. Sorensen', is written over a horizontal line.

Wesley K. Sorensen
General Manager