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October 23, 2014

Jon Black
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Major New Source Review Section
Utah Division of Air Quality
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UTAH DEPARTMENT OF
ENVIRONMENTAL QUALITY
OCT 27 2014
DIVISION OF AIR QUALITY

RE: 3rd QT 2014 Report - Coal Hollow Mine
Project ID: N14047-0003

Dear Mr. Black,

Please find enclosed the Summary of PM_{10} Data Collected at the Coal Hollow Mine, Utah during the Third Quarter, 2014 prepare by Alton Coal Development, LLC.

Please do not hesitate to contact me if you have any questions. I can be reached at (435) 867-5331 or (435) 691-1551.

Sincerely,

B. Kirk Nicholes
Environmental Specialist
Alton Coal Development, LLC

Alton Coal Development, LLC.

Summary of PM_{10} Data
Collected at Coal Hollow Mine, Utah
During the Third Quarter, 2014

Submitted to:
Utah Division of Environmental Quality
Division of Air Quality
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Alton Coal Development
Coal Hollow
Project

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1.0 INTRODUCTION

This report summarizes measurements of Particulate Matter less than 10 microns nominal aerodynamic diameter (PM_{10}) collected and processed by Alton Coal Development, LLC, (ACD) from the three monitoring stations located at the Coal Hollow Mine Facility in Alton, Utah. Monitoring for PM_{10} is a condition of the mines operating permit.

PM_{10} monitoring at the site consists of three BGI PQ200 PM_{10} monitors run by solar power. Figure 2 of this report shows the approximate locations of the monitoring locations. The BGI PQ200 monitors are EPA Reference Method monitors and are operated on the National Particulate 1-in-6 Monitoring Schedule. The data summarized herein covers the data collected during the third quarter of 2014.

2.0 SITE LOCATION

The Coal Hollow Mine is located in Kane County, Utah, approximately three miles southeast of the town of Alton, Utah. Figure I on the following page gives an overview of the site location. Specifically the Coal Hollow Mine is located in Sections 19, 20, 29, and 30 of Township 39S, Range 5W; with an approximate facility location of:

Northing: 41401699 meters

Easting: 371534 meters

Universal Transverse Mercator (UTM) Datum NAD27, Zone 12

The two monitoring locations as depicted in Figure 2, are located in positions to collect both background and maximum PM10 concentrations. The background monitor has a manufactures serial #962, therefore this monitor will be referred as monitor 962A. The compliance monitor has a manufactures serial #963, therefore this monitor will be referred as monitor 963B. The co-located monitor has a manufactures serial #964, therefore this monitor will be referred as monitor 964C. The compliance monitor and the co-located monitor coordinates are 37° 24' 5.04" North Latitude, 112° 27' 20.91" West Longitude, WGS84 Datum. The background monitor coordinates are 37° 24' 21.96" North Latitude, 112° 25' 59.97" West Longitude, WGS84 Datum.

Figure 1 - Site Location Map

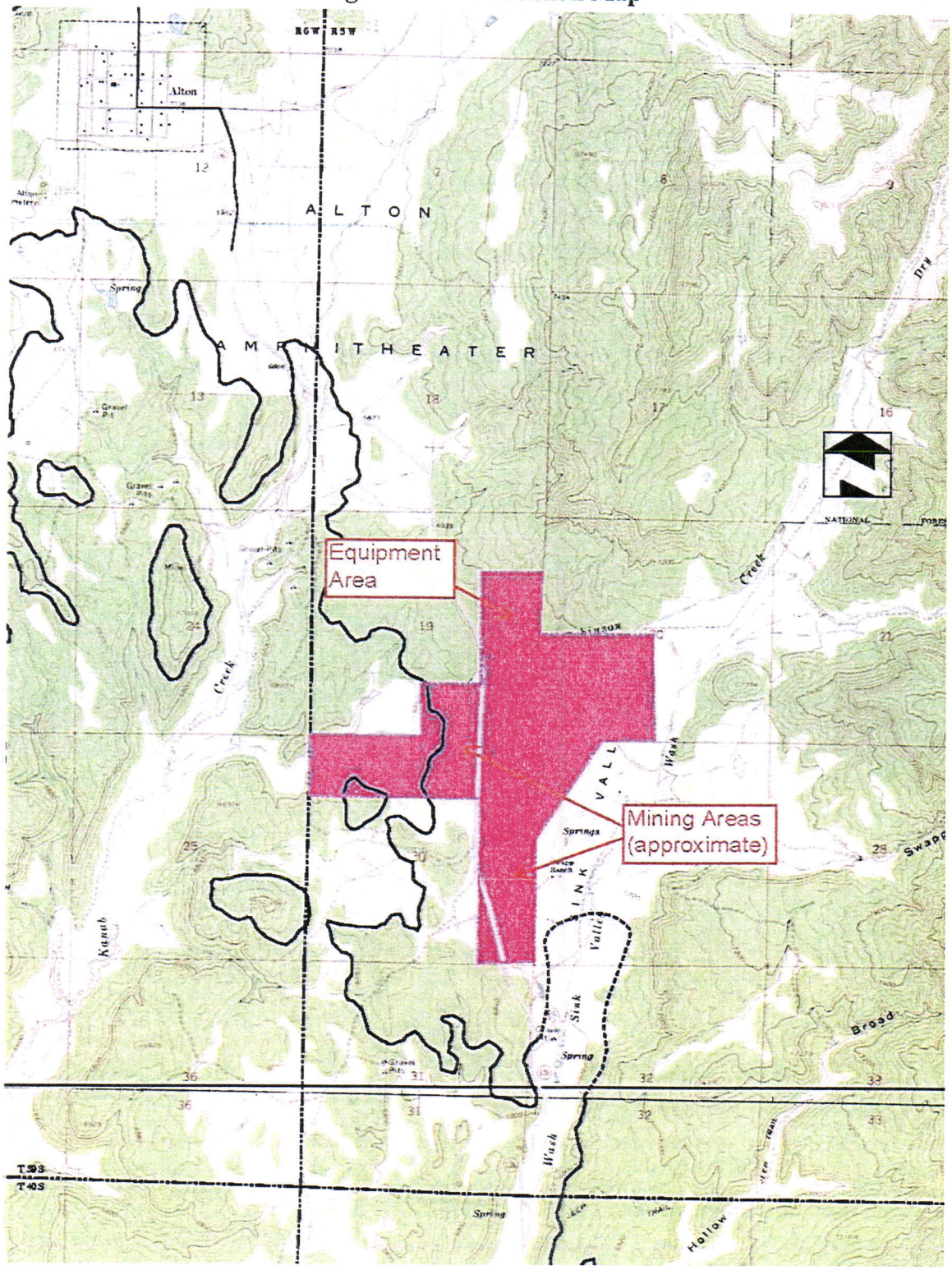
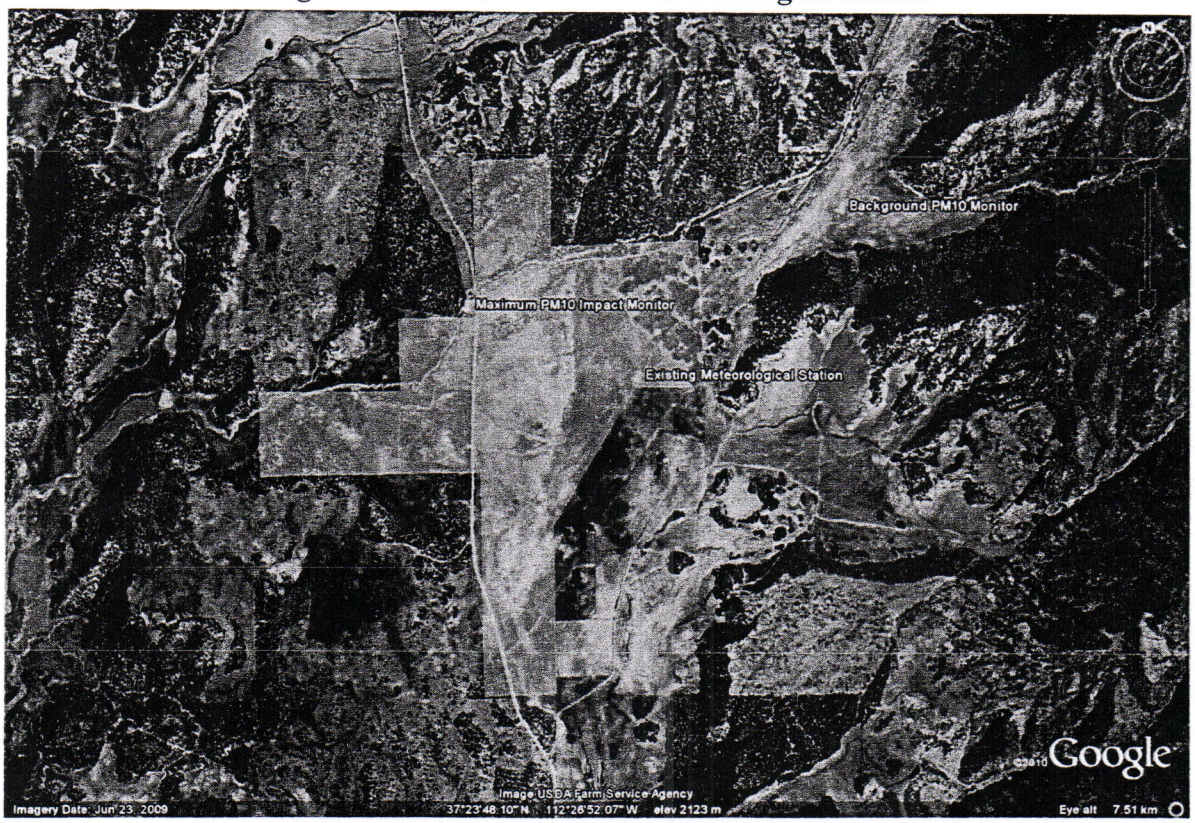


Figure 2 - Satellite View of Monitoring Locations



3.0 AIR QUALITY DATA SUMMARIES

A listing of the measured PM_{10} concentrations for the quarter are presented in Appendix B (individual data sheets are provided on the enclosed disk in the PDF version of Appendix B) and Field Data Sheets generated during the collection of each sample are presented in Appendix D. Measurements were collected during a 24-hour periods and represent the average PM_{10} concentration during the midnight to midnight data collection cycle. As required by the operating permit, duplicate measurements were made with Sampler #963B (designated as a compliance monitor) and Sampler #964C (designated as a co-located sampler) to the extent possible. The quarterly mean PM_{10} concentration and the comparison of measured concentrations to standards are based on measurements from the primary Sampler #963B. If a measurement from Sampler #963B was missing or invalid, the measurement from the secondary Sampler #964C would be used.

The highest 24-hour mean PM_{10} concentrations measured during the quarter from the two monitoring locations are summarized in Table I, Table II, and Table III. The three highest concentrations, # of valid samples, and the arithmetic mean concentrations from each of the sites are listed. All measured PM_{10} concentrations were below the 24-hour National Ambient Air Quality Standard (NAAQS) of 150 $\mu g/m^3$.

Table I - Summary of Measured PM_{10} Concentrations ($\mu g/m^3$)
Background Monitor - 962A

RANK	DATE	PM_{10} CONCENTRATION
Highest	7/4/2014	23.9
2nd Highest	7/10/2014	12.8
Monthly Mean	7/1/14-7/31/14	13.8
Monthly Mean	8/1/14-8/30/14	7.1
Monthly Mean	9/1/14-9/30/14	8.3
Quarterly Mean	7/1/14-9/30/14 (14 valid samples)	9.4

Table II - Summary of Measured PM_{10} Concentrations ($\mu g/m^3$)
Compliance Monitor - 963B

RANK	DATE	PM_{10} CONCENTRATION
Highest	7/22/2014	135.8
2nd Highest	8/9/2014	38.8
Monthly Mean	7/1/14-7/31/14	49.9
Monthly Mean	8/1/14-8/30/14	19.4
Monthly Mean	9/1/14-9/30/14	20.5
Quarterly Mean	7/1/14-9/30/14 (13 valid samples)	29.1

Table III - Summary of Measured PM_{10} Concentrations ($\mu g/m^3$)
Compliance Monitor – 964C

RANK	DATE	PM_{10} CONCENTRATION
Highest	7/4/2014	60.5
2nd Highest	9/2/2014	58.6
Monthly Mean	7/1/14-7/31/14	32.0
Monthly Mean	8/1/14-8/30/14	21.6
Monthly Mean	9/1/14-9/30/14	25.1
Quarterly Mean	7/1/14-9/30/14 (11 valid samples)	27.0

Table IV – Mean Quarterly and Monthly Wind Speed

	3rd Quarter 2014	July	August	September
Mean Wind Speed (m/s)	2.57	2.63	2.58	2.50

4.0 DATA RECOVERY AND QUALITY ASSURANCE

4.1 Data Recovery

Monitor 962A

Monitor 962A collected 14 of the 15 samples during the quarter. The percent recovery for this quarter is 93%. For the sample date of July 28th the monitor was programed for the wrong stop date and continued to run until halted by the operator.

Monitor 963B

Monitor 963B collected 13 of the 15 samples during the quarter. The percent recovery for this quarter is 87%. For the sample date of July 4th the monitor filter chamber was closed improperly and the sample was voided. For the sample date of Sept. 8th the monitor was not programed, therefore it did not run.

Monitor 964C

Monitor 964C collected 11 of the 15 samples during the quarter. The percent recovery for this quarter is 73%. For the sample date of July 22nd the monitor ran for 22 hours and shut down. For the sample date of Aug. 3rd the monitor ran twice. For the sample date of Aug. 9th the monitor did not run. For the sample date of Aug. 21st the monitor overran the stop time and was halted by the operator.

The PM_{10} data recoveries for the three monitoring stations are presented below:

Table V - Summary of Data Recovery

SAMPLER	POSSIBLE SAMPLES	VALID SAMPLES	PERCENT DATA RECOVERY
962A	15	14	93%
963B	15	13	87%
964C	15	11	73%

4.2 Quality Assurance

Quality assurance procedures utilized to verify the integrity of the measured PM_{10} data included the following:

1. Review of PM_{10} precision measurements based upon duplicate, collocated measurements.

2. Independent quarterly audits of the PM_{10} samplers.

3. Monthly zero and single point flow rate checks of the PM_{10} samplers.

4.2.1 Precision of PM_{10} Measurements

The precision of the PM_{10} measurements was determined from the duplicate samples collected from the collocated BGI PQ200 Monitors 963B and 964C. As recommended in *40 CFR, Part 58*, Appendix A, Section 5.3.1, PM_{10} precision checks are reported for instances when the concentrations for duplicate samples both exceed 3 $\mu g/m^3$. Duplicate samples that did not meet this condition were omitted for the purposes of the precision checks. Appendix

C, of this report summarizes precision calculations between the compliance monitor and the co-located monitor. Monthly flow rate verification data is also summarized in Appendix C.

Precision calculations were developed based on 9 valid pairs of co-located monitoring data during the quarter. Single point precision based on *40 CFR, Part 58*, Appendix A Equation 10 ranged from -55.1% to 16.9%. The aggregate coefficient of variability (CV) calculated in accordance with *40 CFR, Part 58*, Appendix A Equation 11 is 21.5%. This value is not within the 10% goal for aggregate CV. Four of the fourteen values exceeded the 10%.

4.2.2 Audit Results

The accuracy of the PM_{10} sampler flows was verified by a performance audit conducted by Air Resource Specialist on May 6, 2014. A copy of the audit report is presented in Appendix E and is summarized in Table VI. The audit results indicate that the three samplers were operating properly.

Table VI - Audit Summary

SAMPLER	AUDIT % DIFFERENCE	LIMIT*	DESIGN % DIFFERENCE	LIMIT*
962A	5.1	±4%	-4.7	± 5%
963B	-0.2	±4%	0.5	± 5%
964C	1.3	±4%	-1.1	± 5%
*Values between ± 7% and ± 10% require recalibration but no data are invalidated.				

4.2.3 Zero and Single Point Flow Rate Checks

Zero and single-point flow rate verifications are performed by a site technician on a monthly basis. The data was then input into a statistical calculator to calculate percent difference and bias between each of the monitors and the monthly single point flow rate measured by a NIST traceable calibration orifice. The calculator used is called the "Data Assessment Statistical Calculator" DASC Tool. DASC was developed for the data user community and can be found in the Precision and Accuracy Reporting System within the Quality Assurance section of EPA's Ambient Monitoring Technology Information System. This data is presented in Appendix C of this report.