C/025/005 Incoming

K

Alton Coal Development, LLC
463 North 100 West, Suite 1
Cedar City, Utah 84720
Phone (435) 867-5331 • Fax (435) 867-1192

Date: June 30, 2011

Daron R. Haddock
Coal Program Manager
Oil, Gas & Mining
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114-5801

Subject: Submittal of As-built Report; Alton Coal Development LLC, Coal Hollow Mine, C/025/0005

Dear Mr. Haddock,

Alton Coal Development, LLC is providing the enclosed As-built report. Leslie & Associates, Inc. was the project engineer during the period of construction and provided the required engineering certifications for construction of ponds, roads and other facilities.

Please let me know if you have any questions or concerns.

Sincerely

B. Kirk Nicholes
Resident Agent

File in:
☐ Confidential
☐ Shelf
☒ Expandable
Date Folder 070511 C/0250005

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LESLIE & ASSOCIATES, INC.

Civil Engineering
Surveying

LESLIE & ASSOCIATES, INC.
ENGINEERS

444 South Main Street
Cedar City, Utah 84720

Phone: 435/586-9474
Fax: 435/586-8399

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Alton Coal / Kane Mining
Coal Hollow Project
Engineer's Completion Report
For Mine Drainage Structures & Facilities
Including: Drainage Berms, Drainage Ditches
Siltation Ponds, Culverts, Roadways
Office & Parking Pad, Coal Stockpile Pads
Washbay & Fuel Containment Pad

Job #: 0594-01-01

March 2011

LICENSED PROFESSIONAL ENGINEER
No. 348930
KERRY
ROBERT
BENSON
STATE OF UTAH

3-29-2011

Prepared By:

Leslie & Associates, Inc.
444 South Main – Suite A4
Cedar City, UT 84720
(435) 586-9474

Prepared For:

Alton Coal Development, LLC
463 North 1000 West
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1. Introduction
2. Construction Requirements
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Appendix
A Photographic Log of Construction
B Engineer's Construction Diary
C Soil Compaction Test Results
D Record Drawings

1. Introduction

Leslie & Associates, Inc. on behalf of Alton Coal Development, LLC has prepared this Final Construction Completion Report for the Coal Hollow Project. This report summarizes the construction activities and includes record drawings for the following:

a. Facilites Area Gravel Areas
b. Office Pad
c. Office Parking Pad
d. Fuel Containment/Wash Bay Pad
e. Raw Coal & Finish Coal Stockpile Pads
f. Facilities Area Drainage Berms
g. Water System
h. Robinson Creek Temporary Diversion
i. Primary Mine Haul Road Culverts
j. Facilities Roadway
k. Facilities Roadway – Coal Truck Road
l. Diversion Ditch #2
m. Diversion Ditch #3
n. Sediment Impoundment Pond #1
o. Sediment Impoundment Pond #1B
p. Sediment Impoundment Pond #2
q. Sediment Impoundment Pond #3

The project is located approximately 3 miles southeast of Alton, Utah on private property within Sections 19, 20, 29 & 30, Township 38 South, Range 5 West, Salt Lake Base & Meridian.

Construction was initiated during the first week of December 2010.

2. Construction Requirements

Disturbance limits were marked on the ground with lath and ribbon by the mine surveyor. All construction activities were carefully controlled so as to not exceed the marked disturbance boundaries.

Water trucks were used when necessary for dust control, but frequent precipitation in the form of rain and snow made dust control unnecessary during much of the construction period.

Prior to construction, vegetation and topsoil were stripped and hauled to stockpile areas.

The project was continuously observed by members of the Leslie & Associates, Inc. engineering and surveying team to verify that all construction was in substantial compliance with the construction drawings.

Periodic soil compaction tests were conducted by Applied Geotechnical Engineering Consultants, Inc. Soils testing results are included in the appendix.

3. Construction Procedures

A. Culverts

Culverts smaller than 96-inch diameter were installed per the design drawings using compacted native bedding material. The 96-inch diameter culvert was installed using compacted granular bedding material imported from a pit on the mine site.

The 36-inch diameter culvert and the 96-inch diameter culvert in the main haul road were armored at the inlet and outlet with nominal 12-inch diameter rip-rap as shown on the record drawing.

B. Drainage Berms

Drainage Berms were constructed per the design drawings using compacted native soils.

C. Sediment Impoundment Ponds

Sediment Impoundment Pond #1 was constructed per the design drawings with compacted native soils.

Sediment Impoundment Pond #1B was slightly reoriented as shown on the record drawings and otherwise constructed per the design drawings with compacted native soils.

Sediment Impoundment Pond #2 was constructed with compacted native soils as shown on the design drawings.

Sediment Impoundment Pond #3 was constructed in conformance with the design drawings.

D. Facilities Roadways

Facilities Roadways were constructed per the design drawings with subgrade consisting of compacted native material and aggregate base and wear surface constructed of imported crushed aggregates.

Design grades were modified slightly, where necessary as shown on the record drawings.

E. Raw Coal and Finish Coal Stockpile Pads

Coal Stockpile areas were constructed using compacted native subgrade and imported crushed aggregate surfacing as shown on the record drawings.

F. Office Pad / Office Parking Pad

The Office Pad was constructed using compacted native subgrade material as shown on the record drawings. The Office Parking Pad was constructed using compacted native fill material with imported aggregate surfacing as shown on the record drawing.

G. Drainage Ditches

Several small sections of the alignment and grades for Drainage Ditch #3 were altered slightly to better fit the existing topography these slight revisions are shown on the record drawing.

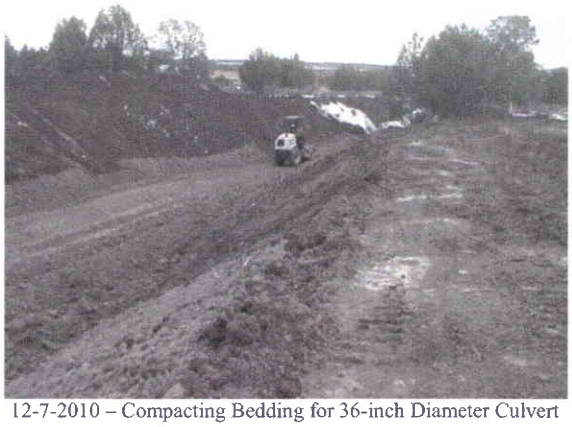
Sections of the alignment of Drainage Ditch #2 were altered in the field to utilize an existing drainage and to better fit the existing topography these slight revisions are shown on the record drawing.

H. Robinson Creek Diversion

The Robinson Creek Diversion Channel bottom elevations were lowered 3.5-foot to better match the flow line in the existing channel at the diversion point and to maintain the minimum required channel depth. The original design grades were maintained as shown on the record drawings.

APPENDIX A
PHOTOGRAPHIC LOG OF CONSTRUCTION

Appendix A
Photographic Log of Construction



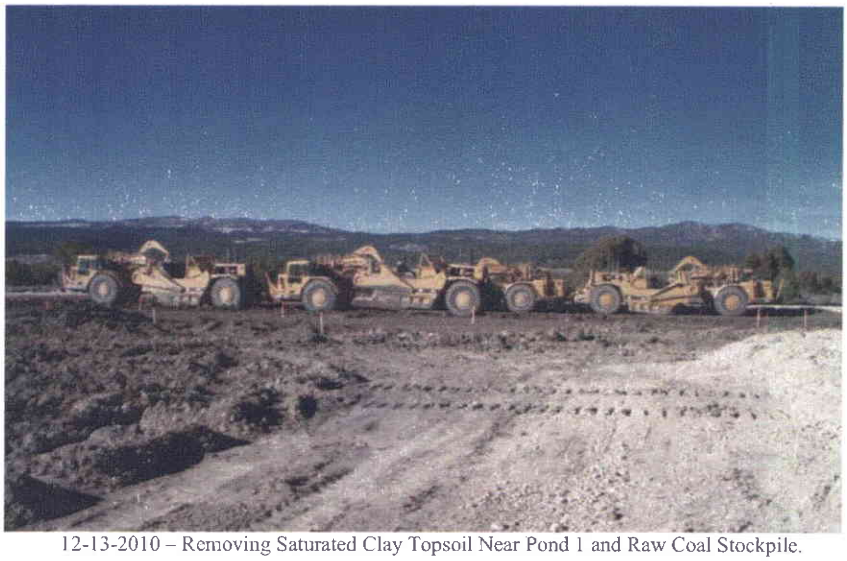
12-7-2010 – Compacting Bedding for 36-inch Diameter Culvert

12-7-2010 – Grubbing Channel for 36-inch Diameter Culvert

12-7-2010 – Grading For 36-inch Diameter Culvert

Appendix A
Photographic Log of Construction

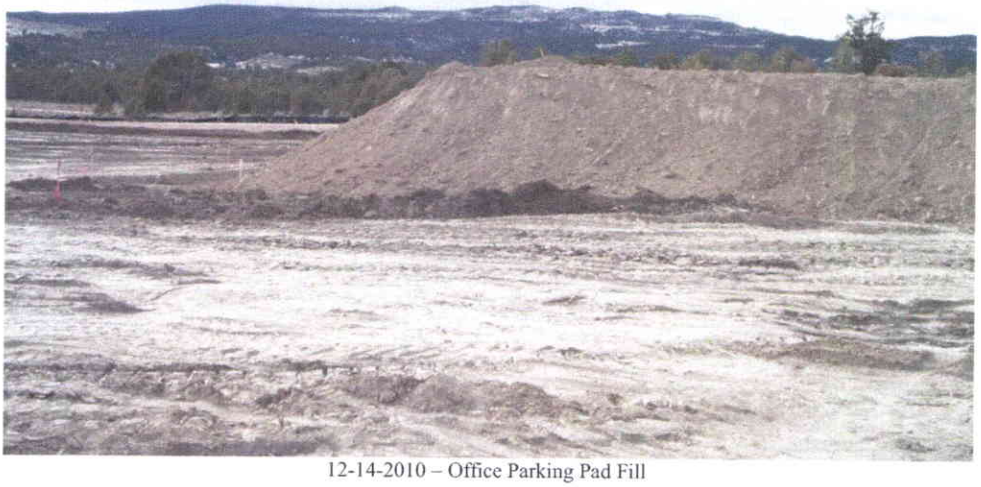
12-7-2010 – Placing Gravel For Facilities Roadways and Coal Stockpile Pads.



12-13-2010 – Removing Saturated Clay Topsoil Near Pond 1 and Raw Coal Stockpile.

12-14-2010 – Raw Coal & Finished Coal Stockpile Topsoil Removed

Appendix A
Photographic Log of Construction



12-14-2010 – Office Parking Pad Fill

12-14-2010 – Office Parking Pad Fill

Appendix A
Photographic Log of Construction

12-14-2010 – Removing Clay Topsoil From Raw Coal Stockpile Pad Area

12-16-2010 – Fill Placement Office Parking Area

Appendix A
Photographic Log of Construction

12-16-2010 – Excavation of Robinson Creek Diversion Channel

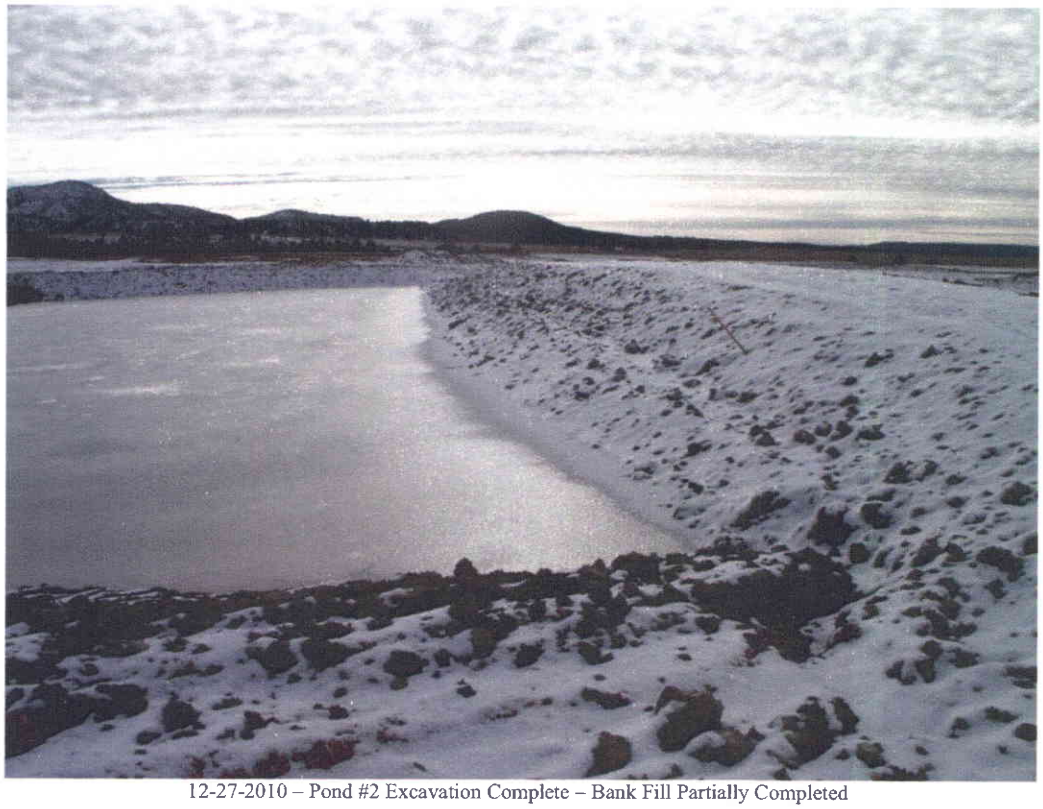
12-16-2010 – Clearing for Diversion Ditch #3

Appendix A
Photographic Log of Construction

12-27-2010 – Repairing and Bedding Section of 36-inch Culvert Damaged By Floodwater

12-27-2010 – Excavation of Pond #1

Appendix A
Photographic Log of Construction



12-27-2010 – Pond #2 Excavation Complete – Bank Fill Partially Completed

12-27-2010 – Stockpiling Bedding Material for 96-inch Culvert

Appendix A
Photographic Log of Construction

12-28-2010 – Placing and Compacting Bank Fill – Pond #1

12-28-2010 – Excavation – Pond #1B

12-29-2010 – 36-inch Culvert – Rip Rap Armour

12-29-2010 – Placing and Compacting Bank Fill – Pond #1B

12-30-2010 – 36-inch Culvert Placing and Compacting Bedding

12-30-2010 – 36-inch Culvert Compacting Bedding

12-31-2010 – Pond 1B – Placement of Dike Fill

12-31-2010 – Pond 2 – Placement of Dike Fill

12-31-2010 – Placing and Compacting Roadway Fill – 36-inch Culvert

1-3-2011 – Placing and Compacting Bank Fill – Pond #1

Appendix A
Photographic Log of Construction

1-3-2011 – Hauling Bedding Material – 96-inch Diameter Culvert

1-3-2011 – Excavation – 96-inch Diameter Culvert

1-3-2011 – Excavation – Pond 1B

1-3-2011 – Placing Compacted Fill – Pond 1 East Berm

1-3-2011 – Grading South Berm – Pond #1

1-3-2011 – 96-inch Culvert Topsoil Removal

1-3-2011 – 96-inch Culvert – Stockpiling Bedding Material

1-3-2011 – Pond #2 – Placing Compacted Fill

1-4-2011 – 96-inch Culvert Installation

1-4-2011 – Pond #3 – Snow Removal

Appendix A
Photographic Log of Construction

1-4-2011 – 96-inch Culvert Rip-Rap at Outlet

1-5-2011 – 96-inch Culvert – Installation

Appendix A
Photographic Log of Construction

1-5-2011 – Pond #1 - Grading

1-5-2011 – Pond #2 – Compaction Testing

1-5-2011 – Pond #3 – Soil Compaction Testing in Dam Fill

1-5-2011 – 96-inch Culvert – Bedding Soil Compaction Testing

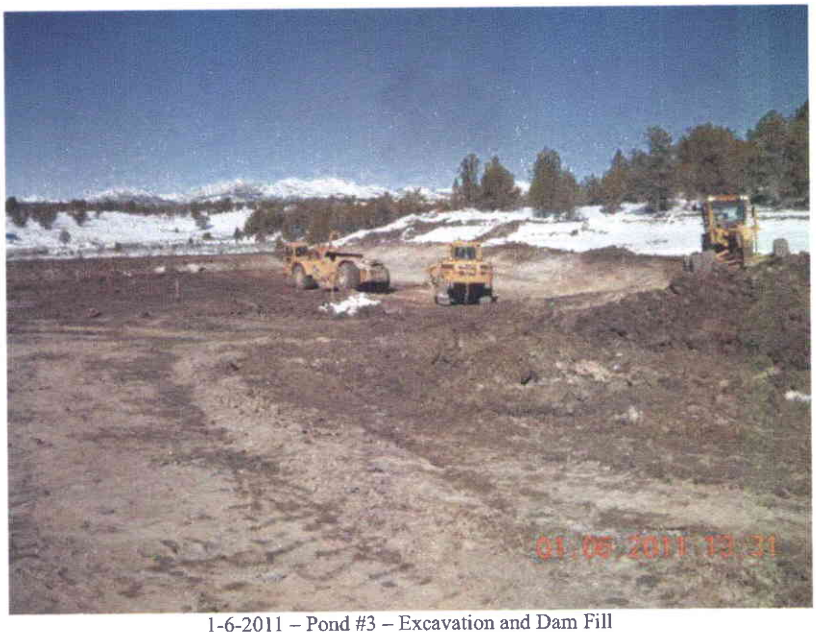
Appendix A
Photographic Log of Construction

1-5-2011 – Bank Grading – Pond #2

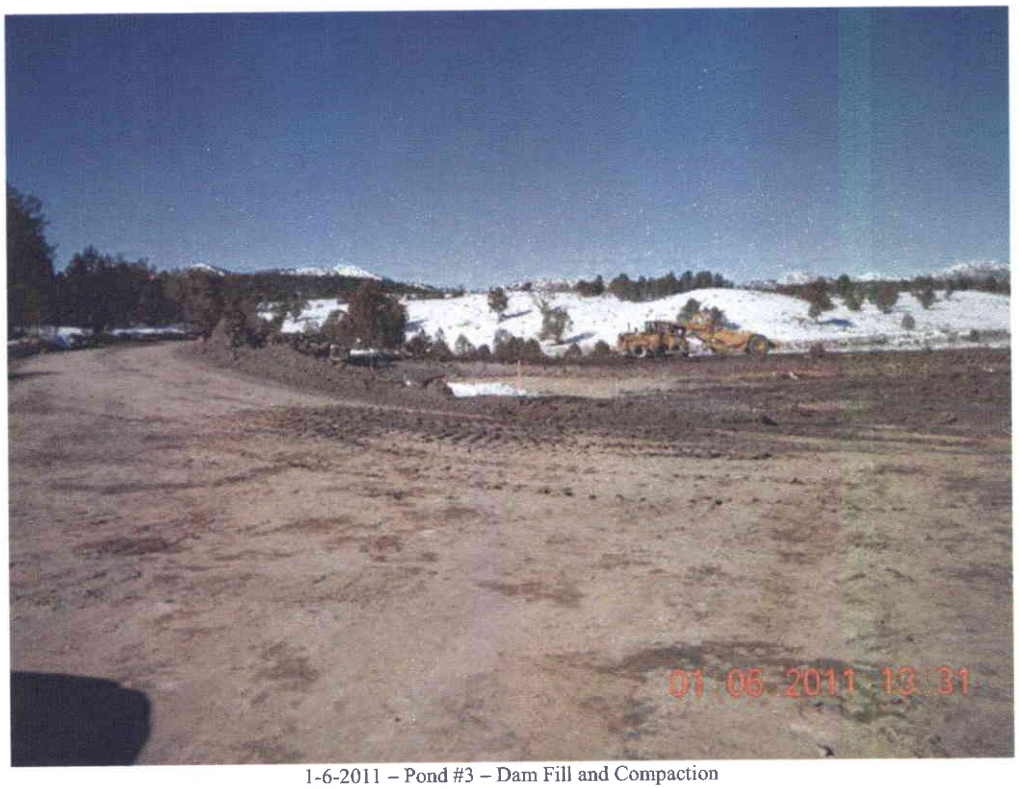
1-5-2011 – Bank Fill & Compaction – Pond #2

1-6-2011 – Pond #1 - Finish Grading

Appendix A
Photographic Log of Construction

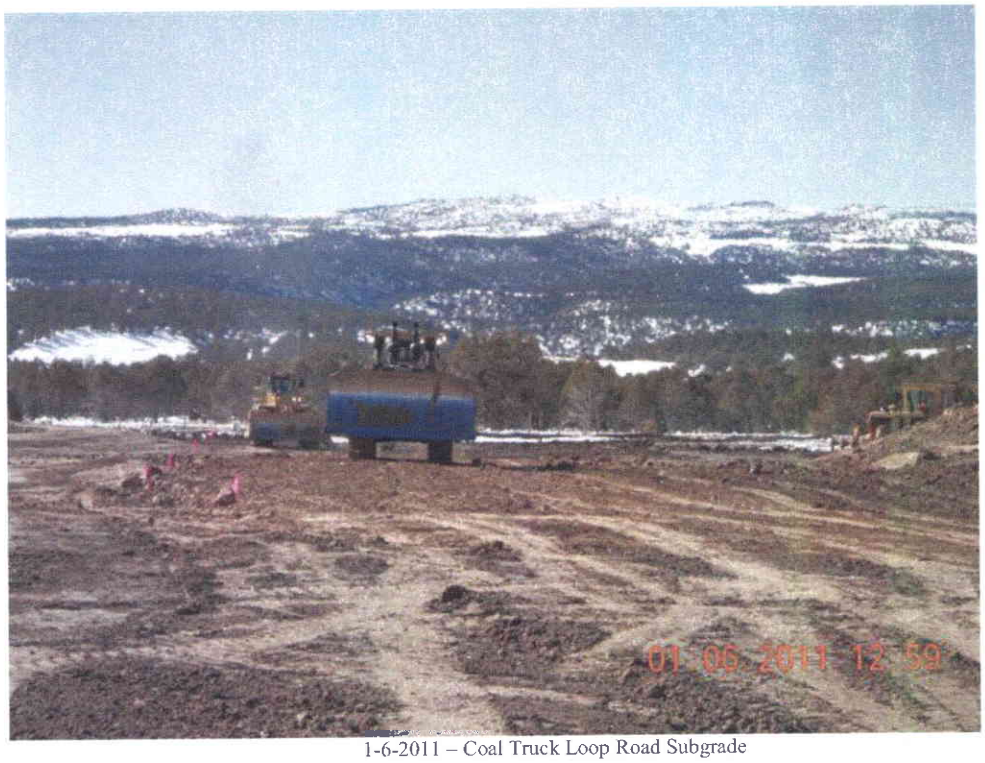


1-6-2011 – Pond #3 – Excavation and Dam Fill



1-6-2011 – Pond #3 – Dam Fill and Compaction

1-6-2011 – 96-Inch Culvert Installation and Bedding Compaction

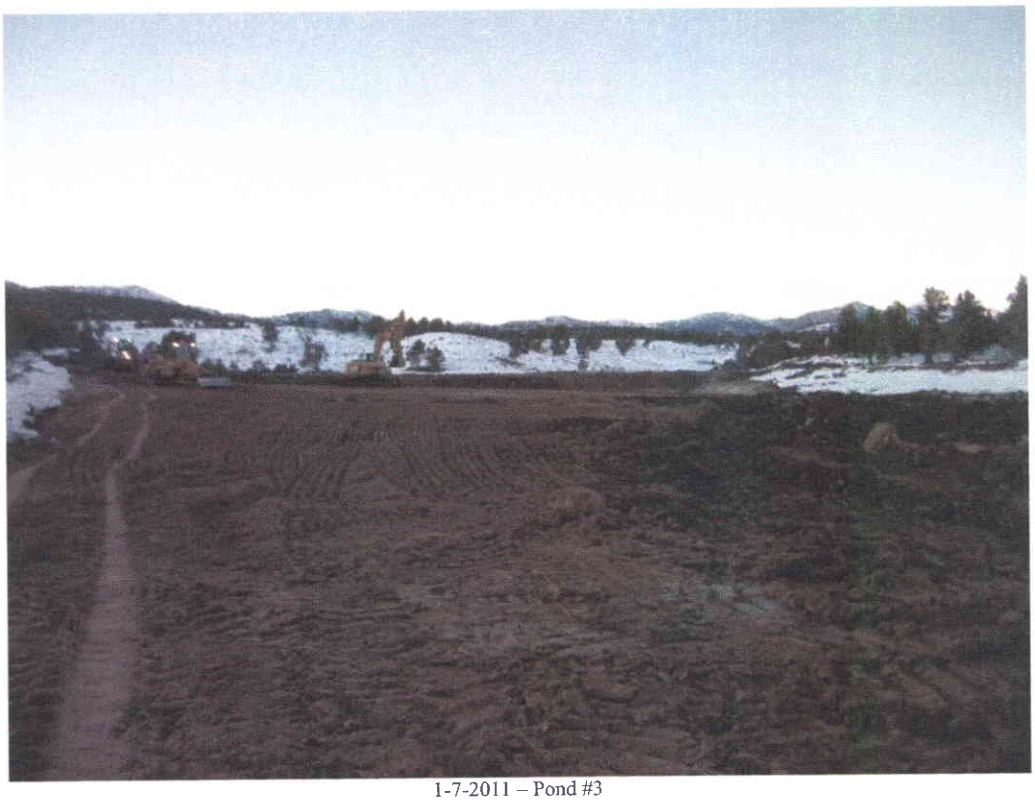


1-6-2011 – Coal Truck Loop Road Subgrade

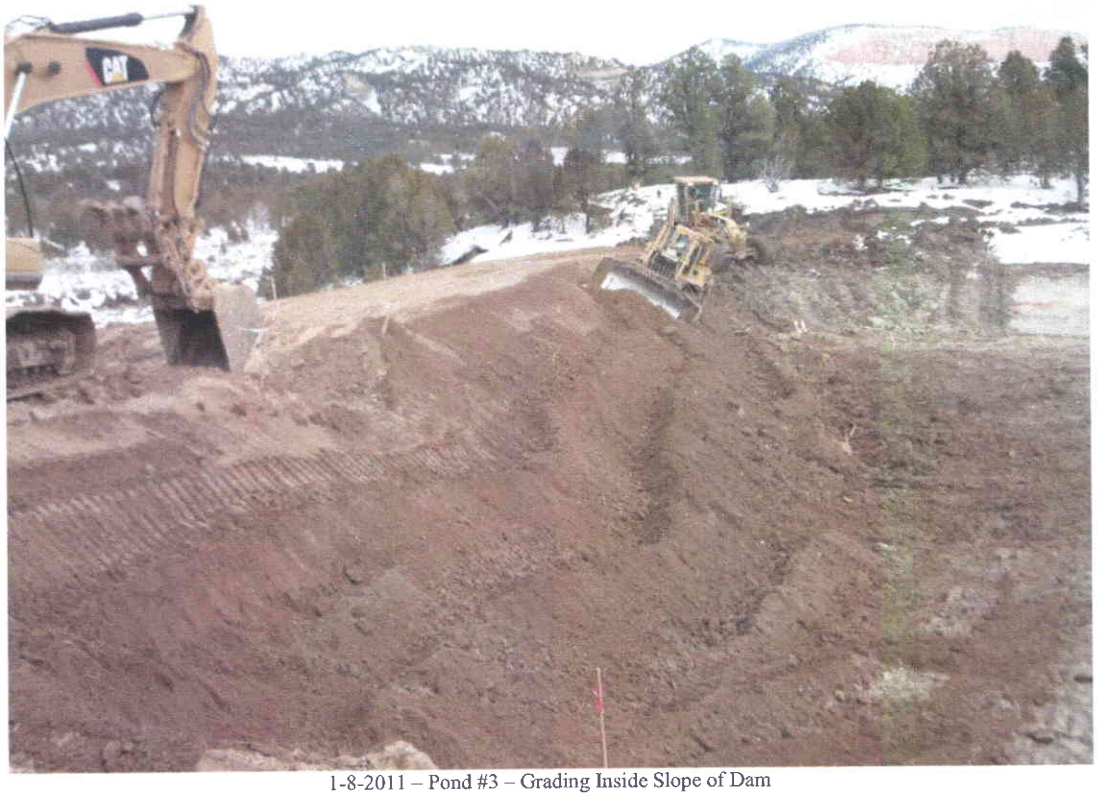
1-7-2011 – Robinson Creek Diversion – Grading Channel Side Slopes

1-7-2011 – 96-inch Culvert Inlet Rip-Rap

Appendix A
Photographic Log of Construction



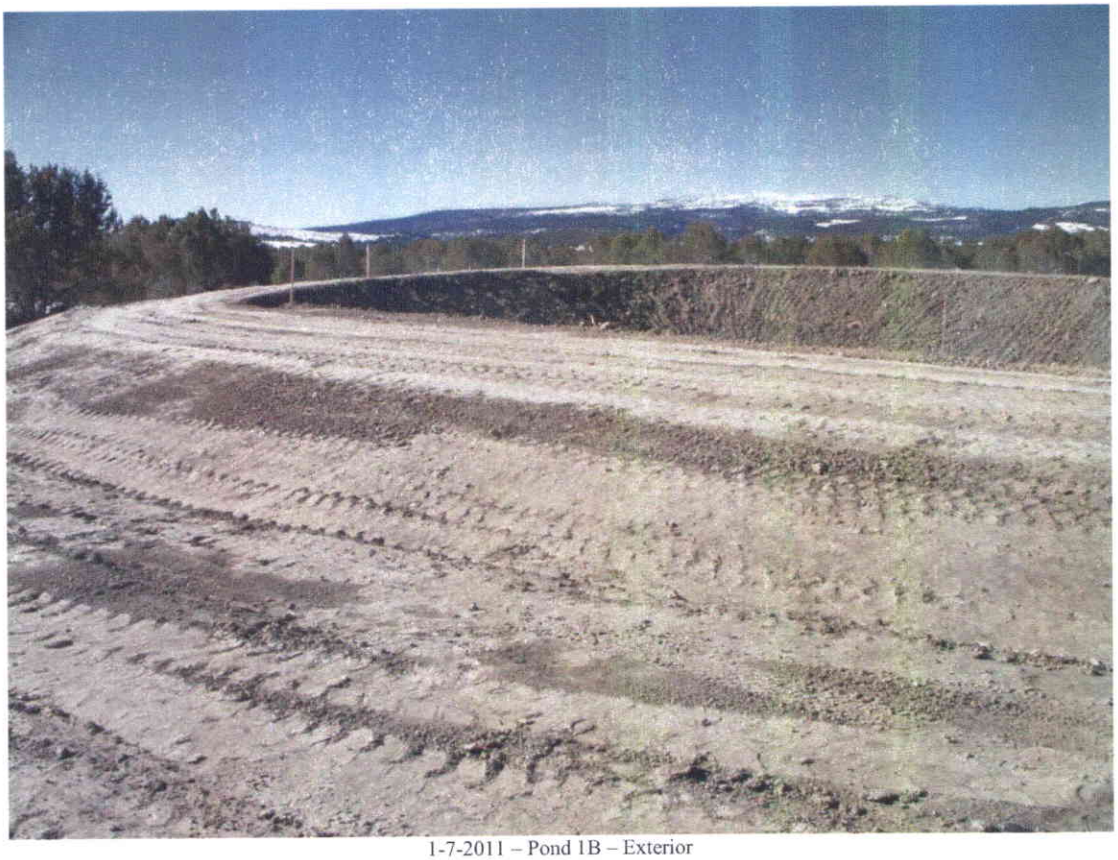
1-7-2011 – Pond #3



1-8-2011 – Pond #3 – Grading Inside Slope of Dam

1-8-2011 – 96-inch Culvert – Placing & Compacting Haul Road Subgrade Fill

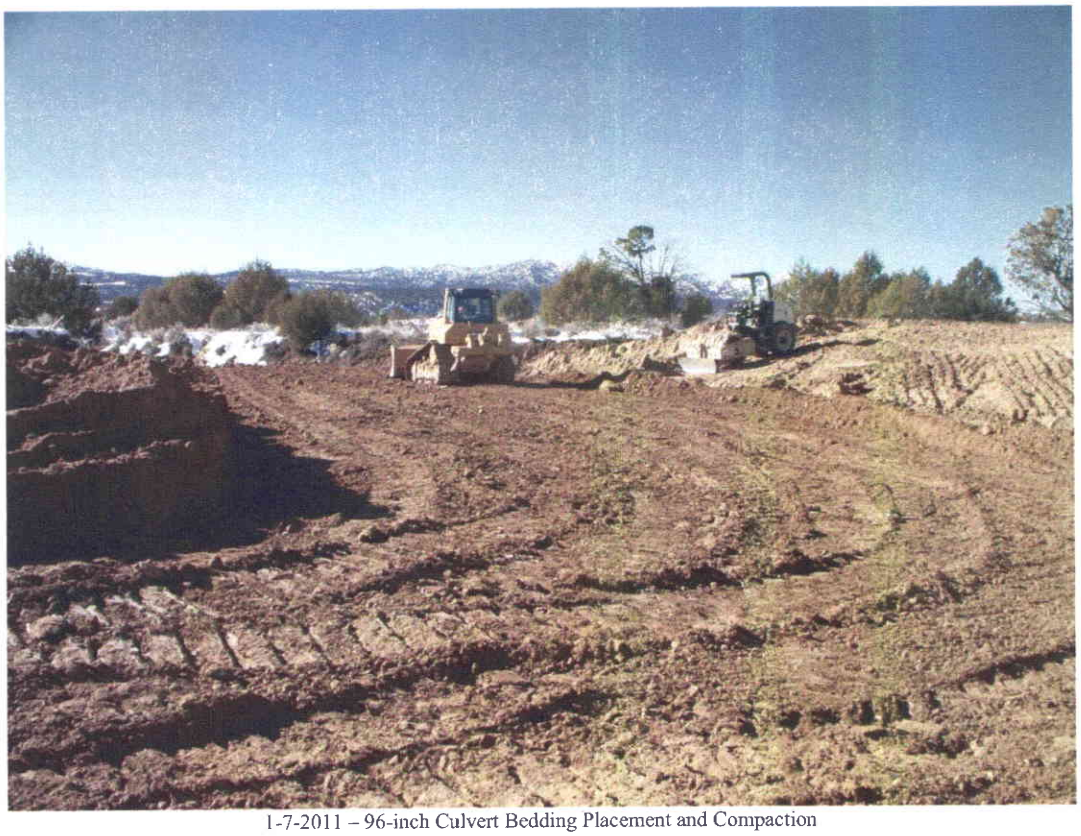
1-7-2011 – Pond 1B – Interior



1-7-2011 – Pond 1B – Exterior

1-7-2011 – Pond 1 – Interior

1-7-2011 – Pond 2 – Finish Grading



1-7-2011 – 96-inch Culvert Bedding Placement and Compaction

1-7-2011 – 96-inch Culvert –Partially Completed Rip-Rap at Inlet

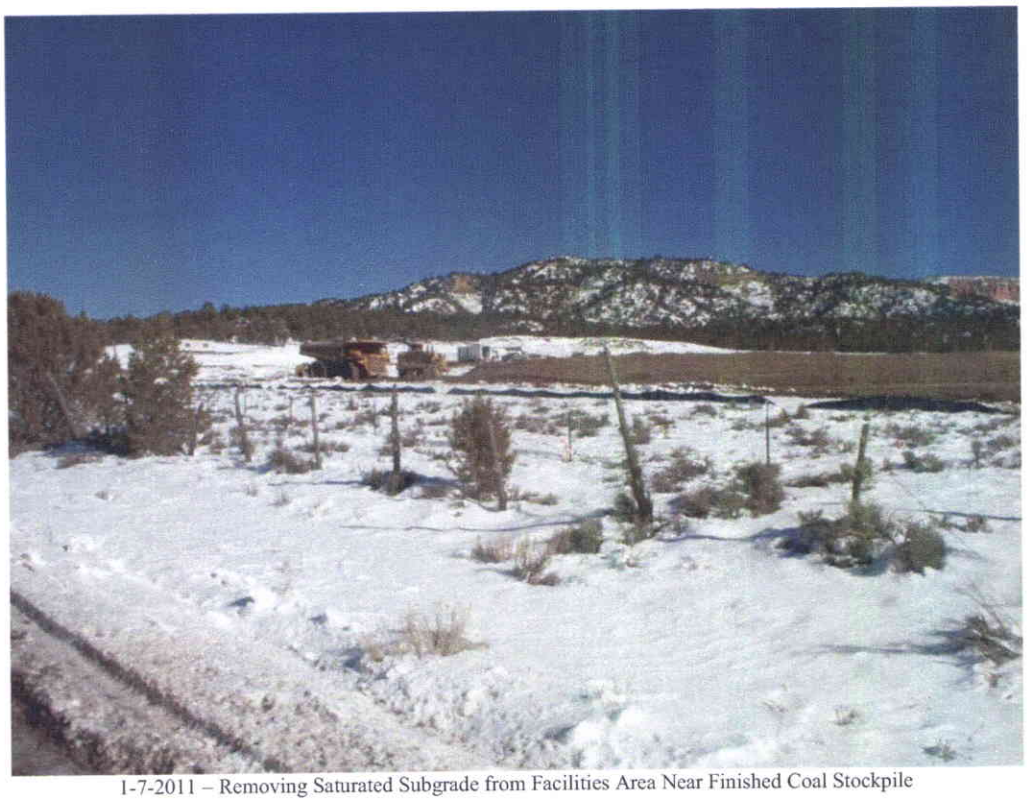
1-7-2011 – Stockpiled Rock For Culvert Rip-Rap

1-7-2011 – Grading Dam Fill – Pond #3

1-7-2011 – Compacting Bank Fill - Pond #3

1-7-2011 – Placing Unsaturated Subgrade Material for Facilities Area Near Finished Coal Stockpile

1-7-2011 – Clearing Snow & Frost from Raw Coal Stockpile Area



1-7-2011 – Removing Saturated Subgrade from Facilities Area Near Finished Coal Stockpile

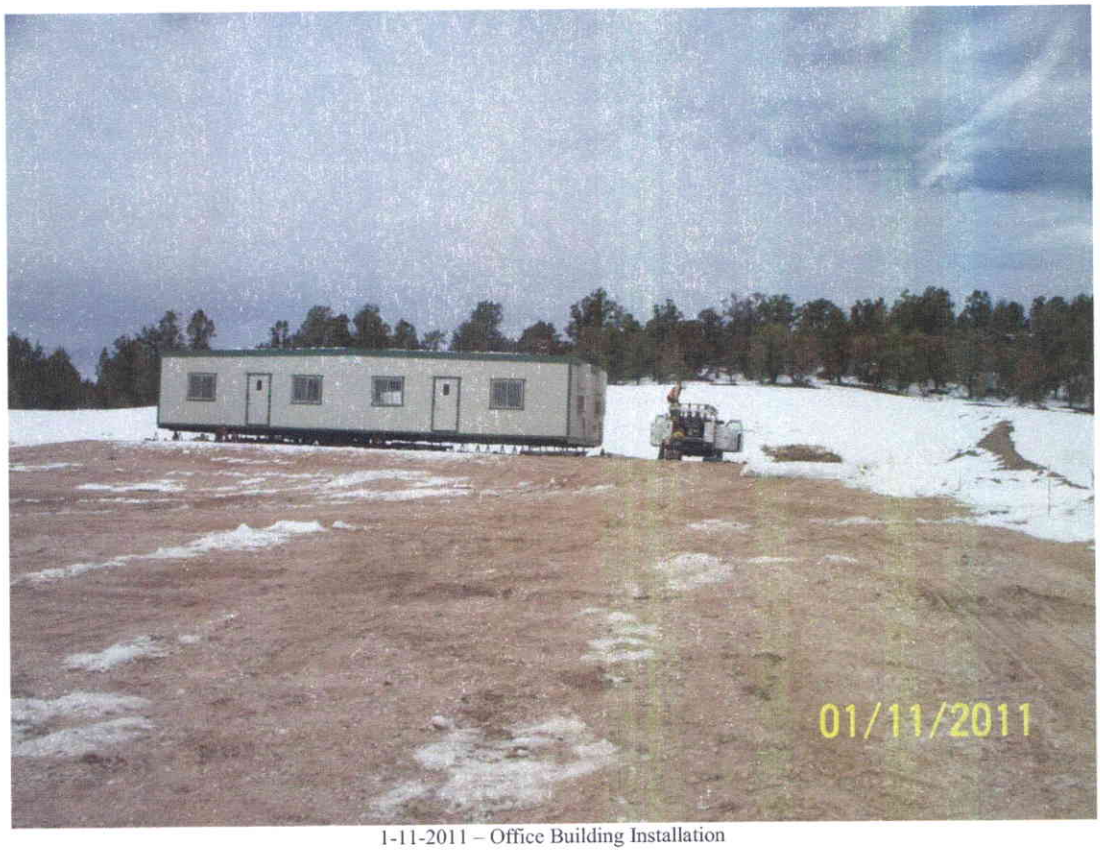
1-11-2011 – Excavation Ditch #3

1-11-2011 – Completed Pond #3 – Looking Toward Dam and Spillway

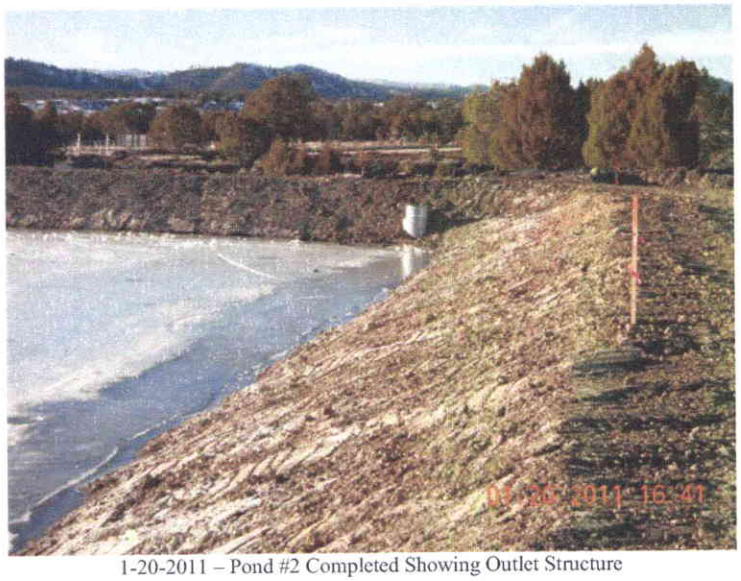
1-11-2011 – Completed Pond #3 – Looking Upstream From Dam

1-11-2011 – Construction of Drainage Berm East of Pond 1B

1-11-2011 – Facilities Roadway – Placing Subgrade



1-11-2011 – Office Building Installation



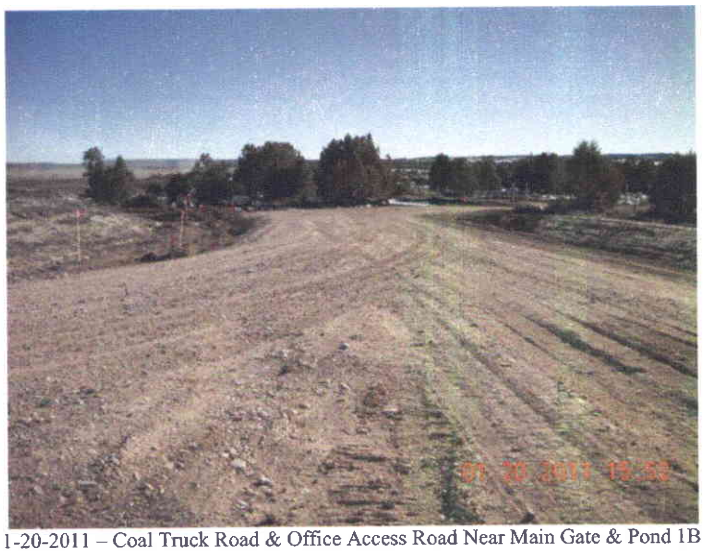
1-20-2011 – Pond #2 Completed Showing Outlet Structure

Appendix A
Photographic Log of Construction

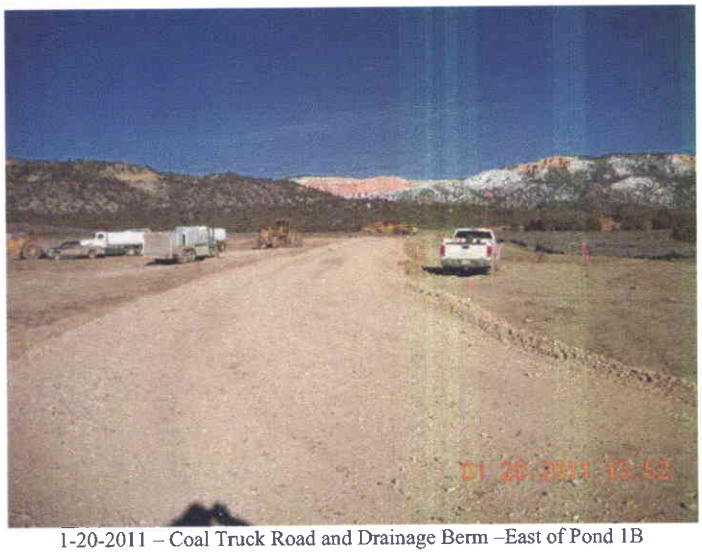
1-20-2011 – Ditch #2 – East of Haul Road

1-20-2011 – Ditch #2 – West of Haul Road

1-20-2011 – Placing Subgrade For Raw Coal Stockpile Pad

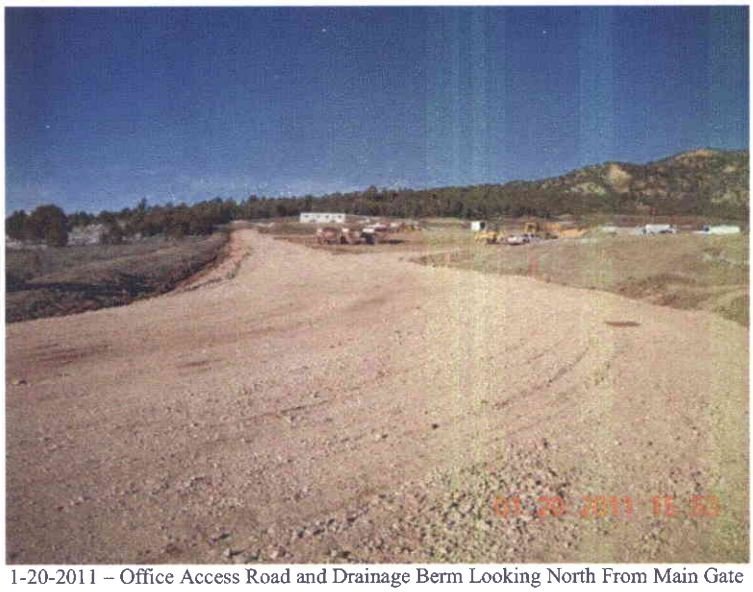


1-20-2011 – Coal Truck Road & Office Access Road Near Main Gate & Pond 1B



1-20-2011 – Coal Truck Road and Drainage Berm –East of Pond 1B

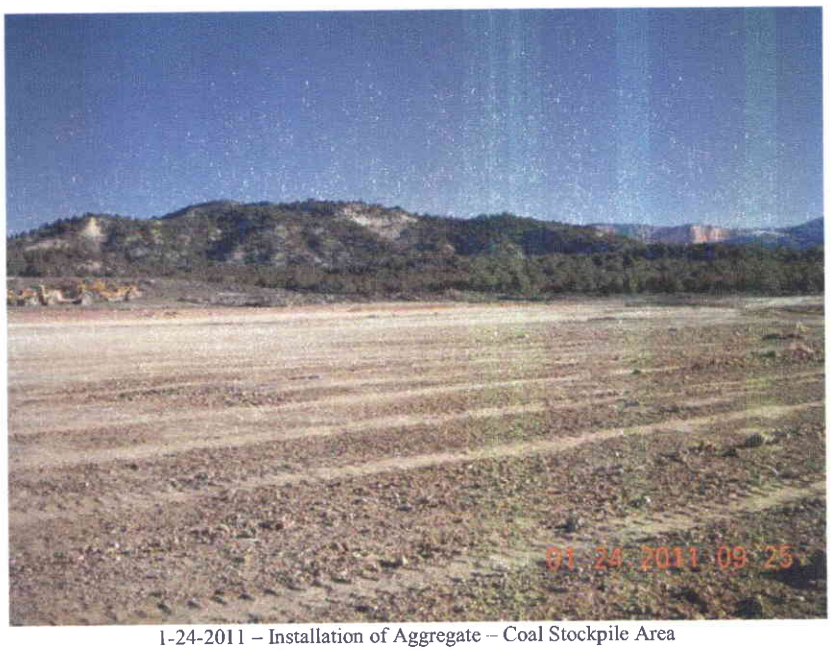
Appendix A
Photographic Log of Construction



1-20-2011 – Office Access Road and Drainage Berm Looking North From Main Gate

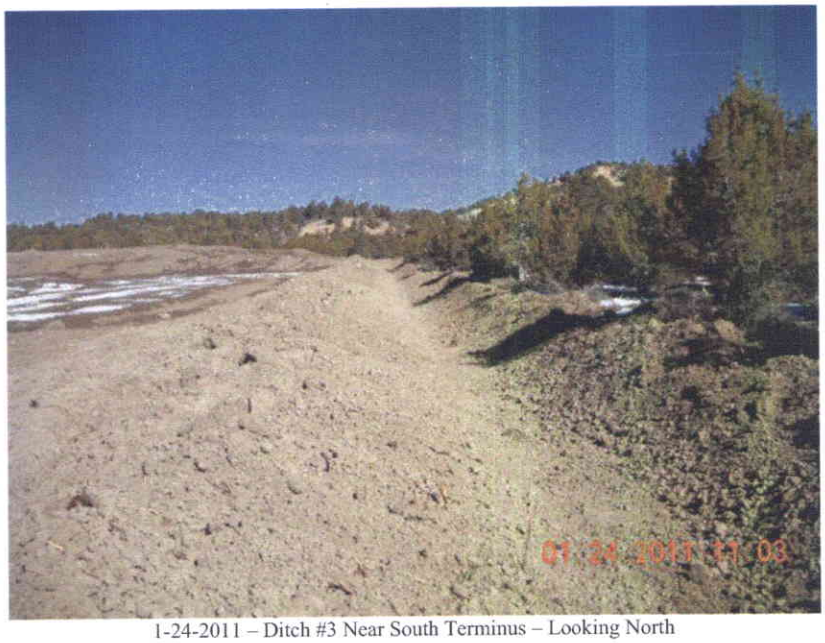
1-24-2011 – 18-inch Culvert Mine Truck Road Compaction Testing

1-24-2011 – Pond 1B – Inlet Pipe Installation



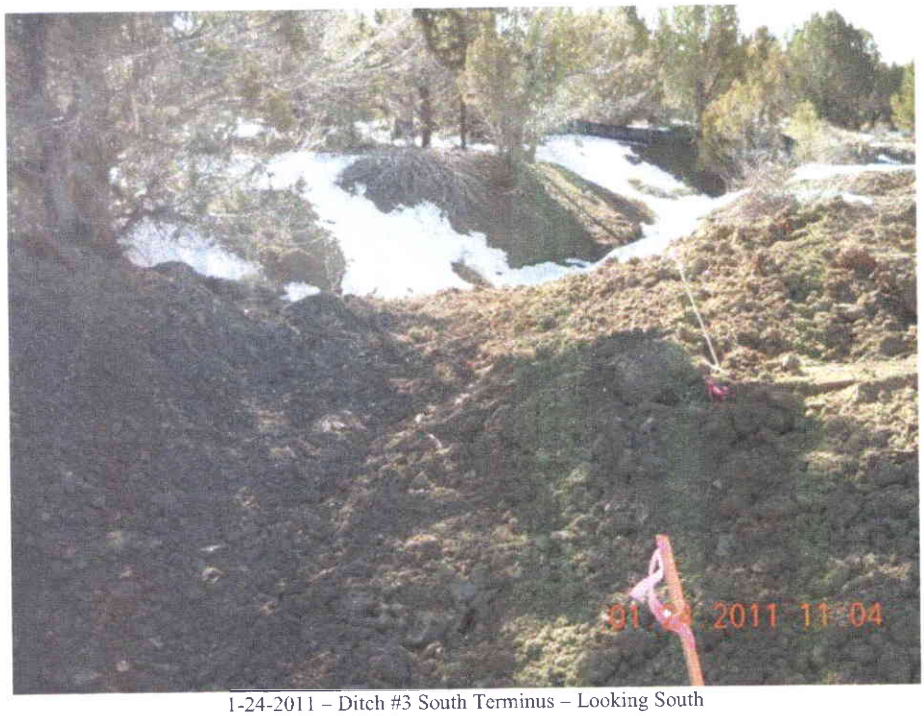
1-24-2011 – Installation of Aggregate – Coal Stockpile Area

1-24-2011 – Installation of Aggregate – Coal Stockpile Area

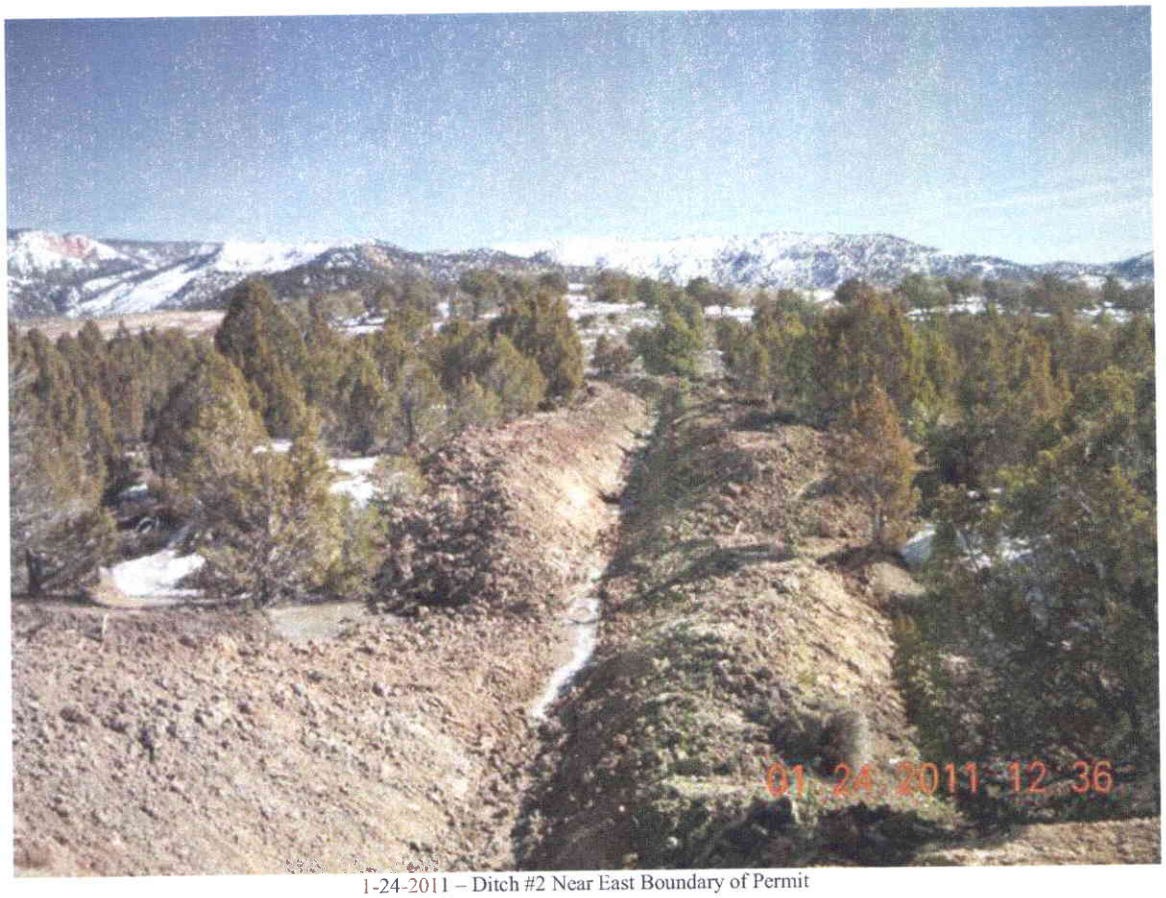


1-24-2011 – Ditch #3 Near South Terminus – Looking North

Appendix A
Photographic Log of Construction



1-24-2011 – Ditch #3 South Terminus – Looking South



1-24-2011 – Ditch #2 Near East Boundary of Permit

1-26-2011 – Topsoil Removed From Waterline Alignment

1-26-2011 – Robinson Creek Temporary Diversion

1-26-2011 – Robinson Creek Temporary Diversion Placing Rip Rap At Terminus

1-26-2011 – Robinson Creek Temporary Diversion Finish Grading at Terminus

Appendix A
Photographic Log of Construction

1-26-2011 – Spoils Stockpile Area North of Pit #1 – Brush and Topsoil Removed

1-26-2011 – Pit #1 & Spoils Stockpile Area

APPENDIX B
ENGINEER'S CONSTRUCTION DIARY

WEDNESDAY

DECEMBER 8, 2010

HIGH TEMP 39° - LIGHT WIND, MUDDY

TWO SURVEY CREWS - STAKED DITCH # 3 CENTERLINE, STAKED ROBINSON CREEK DIVERSION, STAKED POND 1B INSIDE CORNERS, FIELD ADJUSTED ENDS OF 36" ϕ CULVERT TO FIT EXISTING DRAINAGE. BETTER

KANE MINING ROUGH EXCAVATED ROBINSON CREEK DIVERSION WITH 657 SCRAPERS & D10 CRAWLER.

KANE MINING EXCAVATED ROUGH CUT FOR 3' ϕ CULVERT WITH D10 CRAWLER TO ALLOW BETTER CULVERT ALIGNMENT.

PRECISION PLACED COMPACTED FILL IN BOTTOM OF 3' ϕ CULVERT CUT

MEL CLARK CONT'D PLACING COMPACTED FILL FOR PARKING AREA PAD AND EXCAVATING OFFICE PAD. MEL CLARK PLACING AGGREGATE FOR OFFICE ACCESS ROAD 60%(±) COMPLETE.

MEL CLARK EXCAVATED POND 1B AT APPROXIMATE LOCATION AS DIRECTED BY KANE MINING. TREVOR & CHRIS WILL CONFIRM IF LOCATION IS TO BE PERMANENT.

TREVOR WALCH INDICATED THAT THE PROJECT WAS SHUTTING DOWN UNTIL FURTHER NOTICE.

THURSDAY

DECEMBER 9, 2010

TREVOR WALCH NOTIFIED US THAT THE PROJECT IS SHUT DOWN UNTIL FURTHER NOTICE

FRIDAY DEC. 10, 2010

PROJECT SHUT DOWN - NO CONTRACTORS WORKING

MSHA TRAINING FOR KERRY & JAY

NO MINING OPERATIONS

SATURDAY DEC. 11, 2010

PROJECT SHUTDOWN

NO MINING OPERATIONS

NO CONTRACTORS WORKING

SUNDAY DEC 12, 2010

MONDAY DEC. 13, 2010

HIGH TEMP. 50° F (±) WIND 0-8 MPH, MUDDY CLEAR

CHRIS ASKED THAT WE RE-SLOPE STAKE ROBINSON CREEK DIVERSION. EXISTING DESIGN NEARLY DAYLIGHTS AT APPROX. STA. 9+00-11+00. THIS MAY BE BECAUSE TOPSOIL IN AREA HAS BEEN STRIPPED & ELEVATION MAY HAVE BEEN SIGNIFICANTLY LOWER.

FOUND THAT LOWERING CHANNEL 3.5' MOVED THE TOP OF CUT ON NORTH SIDE OF CHANNEL TO BOUNDARY FENCE RE-STAKED CHANNEL TO APPROX. STA. 10+00 3.5' LOWER.

NO CONTRACTORS ON SITE.

KANE MINING USING 657 SCRAPERS TO STRIP TOPSOIL FROM FACILITIES AREA & HAULING TO STOCK PILE.

TREVOR - NO LONGER WITH KANE MINING

STAKED CUT FOR POND #1

TUESDAY, DEC. 14, 2010

HIGH TEMP 50° F (±), CLEAR, WINDY 10-15 MPH, MUDDY

SET NEW SURVEY CONTROL POINT

CONTINUED SLOPE STAKING ROBINSON CREEK DIVERSION

NO CONTRACTORS WORKING ON SITE

KANE MINING STRIPING TOPSOIL FROM FACILITIES AREA WITH SCRAPERS.

AGEC SOIL TECHNICIAN, JARED TANNER CONDUCTED SOIL COMPACTION TESTS AT THE FOLLOWING LOCATIONS:

1- FINISHED COAL PAD AGGREGATE

2- PARKING PAD FILL @ APPROX. 6' DEPTH

3- OFFICE ACCESS ROAD AGGREGATE

4- 3'Φ CULVERT NATIVE FILL.

DAVE WITH KANE MINING RECOMMENDED SHALLOW KEY CUT UNDER EARTHEN DAM FOR POND #3 TO IMPROVE SAFETY OF DAM. LARRY JOHNSON, TALON RESOURCES & I AGREE. KANE MINING WILL EXCAVATE THE KEY WITH DOZER. KEY NOT SHOWN ON PLANS BUT WILL CREATE MORE STABLE STRUCTURE

WEDNESDAY DEC. 15, 2010

HIGH TEMP 37° F (±), WIND 5-15 MPH GUSTY

NO CONTRACTORS WORKING ON SITE

KANE MINING CONTINUED TO STRIP TOPSOIL FROM FACILITIES AREA & HAUL TO STOCKPILE WITH SCRAPERS.

COMPLETED SLOPE STAKES WITH OFFSETS FOR ROBINSON CREEK DIVERSION.

STOKED EARTHEN DAM FOR POND #3.

THURSDAY DEC. 16, 2010

CLOUDY, SNOWY, OVERCAST, WINDY, COLD HIGH TEMP 30°F

COORDINATION MEETING WITH KANE MINING

PRECISION PIPELINE, MEL CLARK CONTRACTING.

MEETING CONDUCTED BY LARRY JOHNSON,

TALON RESOURCES. KANE MINING OWNER,

TOM PRESENT.

MEL CLARK RESUMED CONSTRUCTING

PARKING PAD, OFFICE PAD, FINISHED COAL

STOCKPILE, & BEGAN EXCAVATING SIDE SLOPES FOR
ROBINSON CREEK DIVERSION

LARRY JOHNSON, TALON IDENTIFIED ALIGNMENT

MODIFICATION ON DITCH #3 TO SUBSTANTIALLY

REDUCE EARTHWORK CUTS.

STAKED & MEL CLARK CONSTRUCTION

CLEARED WITH DOZER.

NO GRAVEL TRUCKS OPERATING

KANE MINING CONTINUING TO STRIP

TOPSOIL FROM FACILITIES AREA &

HAUL TO STOCKPILE.

KANE MINING USED PC 2000 EXCAVATOR

TO CUT FOR 8' ϕ CULVERT BEDDING.

BEGAN STAKING POND #3 CUT

HYDROLOGIST FROM UTAH DIVISION OF OIL

GAS & MINING VISITED SITE VERBAL
ASCENT TO MODIFYING DITCH 3 ALIGNMENT

ARCHAEOLOGIST ON SITE

FRIDAY DEC 17, 2010

KERRY NOT AT SITE

JAY ADAMS & TYRELL WOOD

COMPLETED STAKING POND #3 CUT

STAKED POND #2 FINISH EARTHWORK

BENCHMARK @ POND #2

PRECISION PIPELINE INSTALLING 3'ϕ CMP

CHECKED ELEVATION OF LOW POINT IN

OPERATIONS AREA AGAINST POND #3

MEL CLARK CONSTRUCTION BEGAN

EARTHWORK COMPACTED FILL FOR POND #2.

PARKING PAD,

KANE MINING -

STRIPING TOPSOIL IN FACILITIES AREA

ADDITIONAL EXCAVATION AT ROBINSON

CREEK DIVERSION

HAULING GRANULAR CULVERT BEDDING

FROM "RED DOG" HILL @ OPERATIONS

AREA NEAR POND #3.

MONDAY DEC 20, 2010

HIGH TEMP 37° F (±)

SNOW, RAIN, FOG.

NOTIFIED THAT FACILITIES WORK

SUSPENDED UNTIL WEATHER CLEARS

MONDAY DEC. 27, 2010

CLEAR COLD

HIGH TEMP 32°F WIND 0-15 MPH

JAY/GARY AT SITE

ALTON COAL EXCAVATING POND 1 WITH

PC 2000 EXCAVATOR

MEL CLARK NOT WORKING

PRECISION PIPELINE REMOVED SATURATED

BEDDING DAMAGED BY FLOODING &

REMOVED 40' OF MIS-ALIGNED CULVERT TO

REINSTALL & PROPERLY ALIGN & BED.

FIELD RELOCATED POND 1B TO ALLOW

EXCAVATION AND AVOID RELEASING TRAPPED

WATER INTO EXCAVATION.

TUESDAY DEC 28, 2010

OVERCAST, LIGHT SNOW, FOG

HIGH TEMP 30°F WIND 0-22 MPH GUST

MEL CLARK EXCAVATING POND 1B

PLACING & COMPACTING ON-SITE FILL

FURNISHED BY KANE MINING FROM POND 1

& POND 1B

PRECISION PIPELINE REMOVINED SATURATED

BEDDING. AT 36"Ø CMP CULVERT

RESET 40' OF PIPE

REPLACING BEDDING & COMPACTING.

MATERIAL SUPPLIED BY KANE MINING.

KERRY / JAY AT SITE

WEDNESDAY DEC. 29, 2010

OVERCAST LIGHT SNOW

HIGH TEMP 27°F WINDY 3-33 MPH GUSTS

KERRY - OFFICE

JAY/MATT STAKED TERMINUS OF ROBINSON CREEK DIVERSION. TOOK PROFILE SHOTS ON DITCH #3.

KANE MINING. HAULED DIRTY ON-SITE FILL FOR BANK FILL ON POND 1 & POND 1B.

MEL CLARK PLACED & COMPACTED BANK FILL FOR POND #1 & POND #1B.

PRECISION PIPE COMPLETED INSTALLATION OF REPAIR SECTION OF 30" ϕ CULVERT & INSTALLED ADDITIONAL 12' SECTION EACH END.

PLACED & COMPACTED ON-SITE BEDDING.

PLACED ROCK RIP-RAP ARMOUR AT INLET OF 3' ϕ CULVERT.

THURSDAY DEC 30, 2010

LT SNOW COLD WINDY

HIGH TEMP 14°F WIND SPEED 5-37 MPH GUSTS

KANE MINING PLACING COMPACTED FILL ABOVE

36" ϕ CMP CULVERT.

USING D10 TRACTOR TO PLACE ON-SITE CLAY FILL

& CAT 825G COMPACTOR

JAY & LARRY STAKED TOE OF FILL FOR 8' ϕ

HAUL

CMP CULVERT WITH ROAD CENTERLINE

MOVED 10' TO WEST.

FRIDAY JANUARY 7, 2011

CLEAR, MILD, MUDDY, WIND 0-6 MPH

HIGH TEMP 75° F (±)

PRECISION PIPELINE -

PLACING FINAL COMPACTED FILL FOR 8' Ø

CULVERT. APPROACHING 4' DEPTH OF

COMPACTED BEDDING FILL OVER TOP OF

CULVERT BEDDING MATERIAL FURNISHED BY KANE MINING.

PLACING RIP RAP AT INLET & OUTLET

MEL CLARK

PLACING COMPACTED FILL IN POND #3

DAM STRUCTURE. DAM FILL MATERIAL

FURNISHED BY KANE MINING.

MOVING MATERIAL WITH SMALL SCRAPER

GRADING WITH D5 CRAWLER AND

COMPACTING WITH SHEEPSFOOT COMPACTOR.

GRADING DOWNSTREAM 3:1 FACE OF DAM

WITH EXCAVATOR DAM FILL AT APPROX.

6' BELOW FINISHED GRADE.

GRADING EXTERIOR SLOPE OF POND #2

BANK WITH EXCAVATOR.

MONDAY JAN 17, 2011

CLEAR, WARM, MUDDY

MEL CLARK

HAULING GRAVEL ON COAL TRUCK LOOP ROAD &

ENTRANCE GATE AREA.

GRAVEL VERY WET

PRECISION PIPELINE

REMOVING TOPSOIL FROM WATERLINE

ALIGNMENT

WEDNESDAY JAN. 26, 2011

JOE LESLIE - LESLIE & ASSOCIATES MADE SITE VISIT
REVIEWED PROJECT PROGRESS WITH LARRY JOHNSON
INSPECTED FACILITIES IMPROVEMENTS INCLUDING
PONDS, DRAINAGE DITCHES & BERMS.

1- BERM SOUTH SIDE OF ENTRANCE NEARLY COMPLETE

2- TURN-OUT AT ENTRANCE GATE TO BE EXTENDED 100'
ON "LM

3- ROBINSON CREEK DIVERSION TO BE COMPLETED
TODAY.

4- HAULROAD YARDS (1 & 2) COMPACTED PER DESIGN

5- ALIGNMENT AT PIT ENTRANCE. FIELD ADJUSTED.

6- DITCH #3 COMPLETED. FIELD ADJUSTED SEGMENTS
TO BETTER FIT EXISTING GRADE.

7. TANKS FOR DUST SUPPRESSION WATER ARE TO
BE LOCATED NORTH OF 96" CULVERT.

8- WILL PLACE SAFETY BERM AT ELEVATED
SLOPES AT PARKING AREA

9- AGEC TO TAKE FINAL COMPACTION TESTS
TOMORROW.

10- FUEL CONTAINMENT STRUCTURE TO BE CONSTRUCTED
NOW - WASH BAY TO BE COMPLETED LATER.

11- JOE KUMPER WILL GIVE US SURVEY DATA FOR
RECORD DRAWINGS AS NEEDED.

12- C.H. SPRINGER TO PROCEED WITH WELL EQUIPMENT FURNISH & INSTALL

13. L&A NEEDS TO DETERMINE GENERATOR REQUIREMENTS FOR WELL AND GIVE TO LPA&A.

14- LARRY UNDERSTANDS SOME CONNECTION ISSUES

FEBRUARY 9, 2011

KERRY BENSON - MINE SITE VISIT
OBSERVED PLACEMENT OF CONCRETE SLAB
FOR FUEL CONTAINMENT STRUCTURE
10 A.M. 20° F (±) GUSTY WINDS APPROX. 10 MPH

GARFIELD READY MIX SUPPLIED CONCRETE &
PUMP.
LASER CONSTRUCTION CONSTRUCTED FORMWORK PLACED
REBAR & PLACED CONCRETE.
LASER CONSTRUCTION INDICATED THAT THEY
WILL DOUBLE BLANKET THE
CONCRETE THROUGHOUT THE CRITICAL
CURE PERIOD AND WILL SAWCUT THE
SLAB CONTRACTION JOINTS WITHIN 24
HOURS.

APPENDIX C
SOIL COMPACTION TEST RESULTS

PARKING LOT SUBGRADE

Applied Geotechnical Engineering Consultants, Inc.

Client: Alton Coal Development, LLC **Project Number:** 2101184

Project Name: Coal Hollow Facilities and Structures Loadout **Attention:** Chris McCourt

SUMMARY OF FIELD DENSITY TESTING DATA

Compaction test results reflect the compaction of the tested fill strata for testing date.
Tests performed in accordance with ASTM and/or AASHTO standards.

PARKING LOT SUBGRADE

TEST NO.	TEST DATE	DRY DENSITY	PERCENT MOISTURE	MAXIMUM DENSITY	OPTIMUM MOISTURE	PERCENT COMPACTION	PERCENT REQUIRED
1	12/14/2010	97.6	17.2	102.5	19.5	95	90
	Location: Parking lot, 30' east 20' north of southwest corner					**Elevation:** Finished Subgrade	
2	12/14/2010	98.4	17.8	102.5	19.5	96	90
	Location: Parking lot, 15' east 15' south of northwest corner					**Elevation:** Finished Subgrade	
3	12/14/2010	97.7	18.1	102.5	19.5	95	90
	Location: Parking lot, 40' west 20' south of southeast corner					**Elevation:** Finished Subgrade	
4	12/14/2010	98.2	18.5	102.5	19.5	96	90
	Location: Parking lot, 20' west 20' north of northeast corner					**Elevation:** Finished Subgrade	
5	1/11/2011	96.0	23.9	111.0	15.5	86	85
	Location: Parking lot, 100' south 60' west of northeast corner of haul truck crossing					**Elevation:** Finished Subgrade	
6	1/11/2011	94.7	23.5	111.0	15.5	85	85
	Location: Parking lot, 40' south 40' west of northeast corner of haul truck crossing					**Elevation:** Finished Subgrade	
7	1/11/2011	95.4	20.4	111.0	15.5	86	85
	Location: Parking lot, 140' south 12' west of northwest corner of haul truck crossing					**Elevation:** 2' Below Finished Subgrade	
8	1/11/2011	99.5	22.6	111.0	15.5	90	85
	Location: Parking lot, 50' north 18' east of southwest corner of haul truck crossing					**Elevation:** Finished Subgrade	

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ROADWAY
BASE COURSE

Applied Geotechnical Engineering Consultants, Inc.

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Project Name: Coal Hollow Facilities and Structures Loadout **Attention:** Chris McCourt

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ROADWAY BASE COURSE

TEST NO.	TEST DATE	DRY DENSITY	PERCENT MOISTURE	MAXIMUM DENSITY	OPTIMUM MOISTURE	PERCENT COMPACTION	PERCENT REQUIRED
1	12/14/2010	134.2	5.8	139.5	5.5	96	90
	Location: Office Access Road, 40' north of entrance at centerline					**Elevation:** Finished Base Course	
2	12/14/2010	135.5	6.2	139.5	5.5	97	90
	Location: Office Access Road, 200' north of entrance, 3' west of centerline					**Elevation:** Finished Base Course	
3	12/14/2010	136.0	5.3	139.5	5.5	97	90
	Location: Office Access Road, 30' south of north end, 2' east of centerline					**Elevation:** Finished Base Course	

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96 INCH CULVERT
STATION 4 + 54.66

Applied Geotechnical Engineering Consultants, Inc.

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SUMMARY OF FIELD DENSITY TESTING DATA

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96 INCH CULVERT STATION 4+54.66

TEST NO.	TEST DATE	DRY DENSITY	PERCENT MOISTURE	MAXIMUM DENSITY	OPTIMUM MOISTURE	PERCENT COMPACTION	PERCENT REQUIRED
1	1/4/2011	115.3	10.7	120.0	11.0	96	90
	Location: Station 4+54.66, 25' east of west end, southern haunch **Elevation:** 12' Below Finished Subgrade						
2	1/4/2011	116.6	11.3	120.0	11.0	97	90
	Location: Station 4+54.66, 30' east of west end, southern haunch **Elevation:** 12' Below Finished Subgrade						
3	1/4/2011	112.9	10.7	120.0	11.0	94	90
	Location: Station 4+54.66, 40' east of west end, northern haunch **Elevation:** 10' Below Finished Subgrade						
4	1/4/2011	114.4	9.9	120.0	11.0	95	90
	Location: Station 4+54.66, 110' east of west end, northern haunch **Elevation:** 10' Below Finished Subgrade						
5	1/4/2011	113.8	10.4	120.0	11.0	95	90
	Location: Station 4+54.66, 50' east of west end, northern haunch **Elevation:** 10' Below Finished Subgrade						
6	1/4/2011	111.7	10.9	120.0	11.0	93	90
	Location: Station 4+54.66, 110' east of west end, northern haunch **Elevation:** 10' Below Finished Subgrade						
7	1/4/2011	114.1	10.7	120.0	11.0	95	90
	Location: Station 4+54.66, 25' east of west end, northern haunch **Elevation:** 8' Below Finished Subgrade						
8	1/4/2011	110.0	10.2	120.0	11.0	92	90
	Location: Station 4+54.66, 100' east of west end, northern haunch **Elevation:** 8' Below Finished Subgrade						
9	1/4/2011	112.6	9.7	120.0	11.0	94	90
	Location: Station 4+54.66, 65' east of west, northern haunch **Elevation:** 8' Below Finished Subgrade						
10	1/4/2011	111.5	9.5	120.0	11.0	93	90
	Location: Station 4+54.66, 40' east of west end, northern haunch **Elevation:** 6' Below Finished Subgrade						
11	1/4/2011	110.2	9.1	120.0	11.0	92	90
	Location: Station 4+54.66, 70' east of west end, northern haunch **Elevation:** 6' Below Finished Subgrade						
12	1/6/2011	110.5	12.3	120.0	11.0	92	90
	Location: Station 4+54.66, 30' east of west end, 2' south of culvert **Elevation:** 6' Below Finished Subgrade						

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96 INCH CULVERT STATION 4+54.66

TEST NO.	TEST DATE	DRY DENSITY	PERCENT MOISTURE	MAXIMUM DENSITY	OPTIMUM MOISTURE	PERCENT COMPACTION	PERCENT REQUIRED
13	1/6/2011	112.4	12.8	120.0	11.0	94	90
	Location: Station 4+54.66, 70' east of west end, 4' south of culvert					**Elevation:** 6' Below Finished Subgrade	
14	1/7/2011	111.7	11.7	120.0	11.0	93	90
	Location: Station 4+54.66, 40' west of east end of north hanuch					**Elevation:** 12' Below Finished Subgrade	
15	1/7/2011	114.8	12.4	120.0	11.0	96	90
	Location: Station 4+54.66, 60' west of east end of north haunch					**Elevation:** 10' Below Finished Subgrade	
16	1/7/2011	114.2	11.9	120.0	11.0	95	90
	Location: Station 4+54.66, 50' west of east end of south haunch					**Elevation:** 8' Below Finished Subgrade	
17	1/7/2011	112.4	13.1	120.0	11.0	94	90
	Location: Station 4+54.66, 45' west of east end 4' south of culvert					**Elevation:** 6' Below Finished Subgrade	
18	1/7/2011	105.5	11.8	120.0	11.0	88	90
	Location: Station 4+54.66, 75' west of east end 3' north of culvert					**Elevation:** 6' Below Finished Subgrade	
18 *	1/7/2011	110.4	11.3	120.0	11.0	92	90
	Location: Retest of test taken Station 4+54.66, 75' west of east end 3' north of culvert					**Elevation:** 6' Below Finished Subgrade	
19	1/10/2011	111.7	12.1	120.0	11.0	93	90
	Location: Station 4+54.66, 30' west of east end, 3' south of culvert					**Elevation:** Finished Subgrade	
20	1/10/2011	114.2	11.4	120.0	11.0	95	90
	Location: Station 4+54.66, 90' west of east end, 5' north of culvert					**Elevation:** Finished Subgrade	
21	1/10/2011	111.2	11.9	120.0	11.0	93	90
	Location: Station 4+54.66, 40' east of west end, 2' north of culvert					**Elevation:** Finished Subgrade	

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COAL PAD

Applied Geotechnical Engineering Consultants, Inc.

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Project Name: Coal Hollow Facilities and Structures Loadout **Attention:** Chris McCourt

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COAL PAD

TEST NO.	TEST DATE	DRY DENSITY	PERCENT MOISTURE	MAXIMUM DENSITY	OPTIMUM MOISTURE	PERCENT COMPACTION	PERCENT REQUIRED
1	12/14/2010	133.1	4.7	139.5	5.5	95	90
	Location: 30' south 20' west of northeast corner				**Elevation:** Finished Base Course		
2	12/14/2010	128.1	4.3	139.5	5.5	92	90
	Location: 40' north 15' east of southwest corner				**Elevation:** Finished Base Course		
3	1/17/2011	89.4	21.1	102.5	19.5	87	90
	Location: 30' south 35' east of northwest corner of pad				**Elevation:** Finished Subgrade		
3 *	1/17/2011	98.1	19.7	102.5	19.5	96	90
	Location: Retest of test taken 30' south 35' east of northwest corner of pad				**Elevation:** Finished Subgrade		
4	1/17/2011	91.6	20.7	102.5	19.5	89	90
	Location: 20' north 40' east of southwest corner of pad				**Elevation:** Finished Subgrade		
4 *	1/17/2011	97.6	20.0	102.5	19.5	95	90
	Location: Retest of test taken 20' north 40' east of southwest corner of pad				**Elevation:** Finished Subgrade		
5	1/17/2011	90.4	22.3	102.5	19.5	88	90
	Location: 25' north 30' west of southeast corner of pad				**Elevation:** Finished Subgrade		
5 *	1/17/2011	96.5	20.4	102.5	19.5	94	90
	Location: Retest of test taken 25' north 30' west of southeast corner of pad				**Elevation:** Finished Subgrade		
6	1/17/2011	87.2	23.1	102.5	19.5	85	90
	Location: 30' south 40' west of northeast corner of pad				**Elevation:** Finished Subgrade		
6 *	1/17/2011	94.1	21.1	102.5	19.5	92	90
	Location: Retest of test taken at 30' south 40' west of northeast corner of pad				**Elevation:** Finished Subgrade		
7	1/24/2011	132.9	7.4	139.5	5.5	95	90
	Location: 40' south 60' east of northwest corner				**Elevation:** 0.5' Finished Subgrade		
8	1/24/2011	133.8	6.8	139.5	5.5	96	90
	Location: 60' south 110' east of northwest corner				**Elevation:** 0.5' Finished Subgrade		

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COAL PAD

TEST NO.	TEST DATE	DRY DENSITY	PERCENT MOISTURE	MAXIMUM DENSITY	OPTIMUM MOISTURE	PERCENT COMPACTION	PERCENT REQUIRED
9	1/24/2011	135.0	5.9	139.5	5.5	97	90
	Location: 35' south 65' west of northeast corner					**Elevation:** Finished Subgrade	
10	1/24/2011	133.5	6.3	139.5	5.5	96	90
	Location: 70' south 120' west of northeast corner					**Elevation:** Finished Subgrade	
11	1/26/2011	130.0	4.6	139.5	5.5	93	90
	Location: 30' south 50' east of northwest corner of coal pad					**Elevation:** Finished Subgrade	
12	1/26/2011	129.5	4.8	139.5	5.5	93	90
	Location: 15' south 130' east of northwest corner of coal pad					**Elevation:** Finished Subgrade	
13	1/26/2011	133.5	4.3	139.5	5.5	96	90
	Location: 40' south 200' east of northwest corner of coal pad					**Elevation:** Finished Subgrade	
14	1/26/2011	127.1	4.7	139.5	5.5	91	90
	Location: 80' south 180' east of northwest corner of coal pad					**Elevation:** Finished Subgrade	
15	1/26/2011	127.5	4.7	139.5	5.5	91	90
	Location: 70' south 100' east of northwest corner of coal pad					**Elevation:** Finished Subgrade	
16	1/26/2011	130.2	4.1	139.5	5.5	93	90
	Location: 100' south 25' east of northwest corner of coal pad					**Elevation:** Finished Subgrade	

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POND 1 DIKE BACKFILL

Applied Geotechnical Engineering Consultants, Inc.

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Project Name: Coal Hollow Facilities and Structures Loadout **Attention:** Chris McCourt

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Tests performed in accordance with ASTM and/or AASHTO standards.

POND 1 DIKE BACKFILL

TEST NO.	TEST DATE	DRY DENSITY	PERCENT MOISTURE	MAXIMUM DENSITY	OPTIMUM MOISTURE	PERCENT COMPACTION	PERCENT REQUIRED
1	1/4/2011	88.2	25.1	111.0	15.5	79	85
	Location: 20' east of southwest corner of dike, pond 1					**Elevation:** Finished Subgrade	
1 *	1/4/2011	98.7	17.1	111.0	15.5	89	85
	Location: Retest of test taken 20' east of southwest corner of dike, pond 1					**Elevation:** Finished Subgrade	
2	1/4/2011	82.9	21.7	111.0	15.5	75	85
	Location: 30' north of southwest corner of dike in pond 1					**Elevation:** Finished Subgrade	
2 *	1/4/2011	99.8	16.8	111.0	15.5	90	85
	Location: Retest of test taken 30' north of southwest corner of dike, pond 1					**Elevation:** Finished Subgrade	
3	1/4/2011	85.4	22.8	111.0	15.5	77	85
	Location: 50' east of northwest corner of dike, pond 1					**Elevation:** Finished Subgrade	
3 *	1/4/2011	101.3	15.9	111.0	15.5	91	85
	Location: Retest of test taken 50' east of northwest corner of dike, pond 1					**Elevation:** Finished Subgrade	
4	1/4/2011	90.2	23.9	111.0	15.5	81	85
	Location: 20' south of northeast of corner of dike, pond 1					**Elevation:** Finished Subgrade	
4 *	1/4/2011	96.8	16.9	111.0	15.5	87	85
	Location: Retest of test taken 20' south of northeast corner of dike, pond 1					**Elevation:** Finished Subgrade	
5	1/4/2011	96.5	17.4	102.5	19.5	94	85
	Location: 20' north of southwest corner of dike, pond 1					**Elevation:** 7' Below Finished Subgrade	

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36 INCH CULVERT
STATION 2 + 94.45

Applied Geotechnical Engineering Consultants, Inc.

Client: Alton Coal Development, LLC **Project Number:** 2101184

Project Name: Coal Hollow Facilities and Structures Loadout **Attention:** Chris McCourt

SUMMARY OF FIELD DENSITY TESTING DATA

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36 INCH CULVERT STATION 2+94.45

TEST NO.	TEST DATE	DRY DENSITY	PERCENT MOISTURE	MAXIMUM DENSITY	OPTIMUM MOISTURE	PERCENT COMPACTION	PERCENT REQUIRED
1	12/14/2010	98.6	18.2	102.5	19.5	96	90
	Location: 20' east of west end				**Elevation:** Finished Subgrade		
2	12/14/2010	98.3	17.8	102.5	19.5	96	90
	Location: 20' west of east end				**Elevation:** Finished Subgrade		
3	1/4/2011	115.3	10.7	120.0	11.0	96	90
	Location: 15' west of east end				**Elevation:** Finished Subgrade		
4	1/4/2011	114.4	9.9	120.0	11.0	95	90
	Location: 15' east of west end				**Elevation:** Finished Subgrade		

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POND 1B DIKE BACKFILL

TEST NO.	TEST DATE	DRY DENSITY	PERCENT MOISTURE	MAXIMUM DENSITY	OPTIMUM MOISTURE	PERCENT COMPACTION	PERCENT REQUIRED
1	1/4/2011	101.1	16.9	111.0	15.5	91	85
	Location: 10' south of northeast corner of dike, pond 1B				**Elevation:** Finished Subgrade		
2	1/4/2011	97.3	17.5	111.0	15.5	88	85
	Location: 10' east of northwest corner of dike, pond 1B				**Elevation:** Finished Subgrade		
3	1/4/2011	99.2	16.4	111.0	15.5	89	85
	Location: 10' north of southwest corner of dike, pond 1B				**Elevation:** Finished Subgrade		
4	1/4/2011	96.5	17.2	111.0	15.5	87	85
	Location: 10' west of southeast corner of dike, pond 1B				**Elevation:** Finished Subgrade		
5	1/11/2011	80.7	26.8	111.0	15.5	73	85
	Location: 50' west of east end of Pond 1B (client is aware of failing tests. No retesting requested)				**Elevation:** Finished Subgrade		
6	1/11/2011	85.7	25.5	111.0	15.5	77	85
	Location: 145' west of east end of Pond 1B (client is aware of failing tests. No retesting requested.)				**Elevation:** Finished Subgrade		

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Project Name: Coal Hollow Facilities and Structures Loadout **Attention:** Chris McCourt

SUMMARY OF FIELD DENSITY TESTING DATA

Compaction test results reflect the compaction of the tested fill strata for testing date.
Tests performed in accordance with ASTM and/or AASHTO standards.

POND 2 DIKE BACKFILL

TEST NO.	TEST DATE	DRY DENSITY	PERCENT MOISTURE	MAXIMUM DENSITY	OPTIMUM MOISTURE	PERCENT COMPACTION	PERCENT REQUIRED
1	1/4/2011	92.0	20.5	102.5	19.5	90	85
	Location: 40' north of southwest corner of dike, pond 2				**Elevation:** Finished Subgrade		
2	1/4/2011	93.7	21.6	102.5	19.5	91	85
	Location: 25' west of southeast corner of dike, pond 2				**Elevation:** Finished Subgrade		
3	1/4/2011	89.9	20.9	102.5	19.5	88	85
	Location: 50' south of northeast corner of dike, pond 2				**Elevation:** Finished Subgrade		
4	1/4/2011	88.6	19.9	102.5	19.5	86	85
	Location: 30' east of northwest corner of dike, pond 2				**Elevation:** Finished Subgrade		

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POND 3 DIKE BACKFILL

Applied Geotechnical Engineering Consultants, Inc.

Client: Alton Coal Development, LLC **Project Number:** 2101184

Project Name: Coal Hollow Facilities and Structures Loadout **Attention:** Chris McCourt

SUMMARY OF FIELD DENSITY TESTING DATA

Compaction test results reflect the compaction of the tested fill strata for testing date.
Tests performed in accordance with ASTM and/or AASHTO standards.

POND 3 DIKE BACKFILL

TEST NO.	TEST DATE	DRY DENSITY	PERCENT MOISTURE	MAXIMUM DENSITY	OPTIMUM MOISTURE	PERCENT COMPACTION	PERCENT REQUIRED
1	1/4/2011	96.2	16.7	111.0	15.5	87	85
	Location: 30' north of southwest corner of dike, pond 3				**Elevation:** 14' Below Finished Subgrade		
2	1/4/2011	97.6	19.1	111.0	15.5	88	85
	Location: 30' south of northwest corner of dike, pond 3				**Elevation:** 14' Below Finished Subgrade		
3	1/6/2011	102.2	15.2	111.0	15.5	92	85
	Location: 30' west of northeast corner of dike, pond 3				**Elevation:** 7' Below Finished Subgrade		
4	1/6/2011	99.6	16.4	111.0	15.5	90	85
	Location: 40' east of northwest corner of dike, pond 3				**Elevation:** 7' Below Finished Subgrade		
5	1/7/2011	95.8	19.3	111.0	15.5	86	85
	Location: 50' west of northeast corner of dike, pond 3				**Elevation:** 5' Below Finished Subgrade		
6	1/7/2011	95.3	18.7	111.0	15.5	86	85
	Location: 60' east of northwest corner of dike, pond 3				**Elevation:** 5' Below Finished Subgrade		
7	1/7/2011	98.1	17.9	111.0	15.5	88	85
	Location: 35' west of southeast corner of dike, pond 3				**Elevation:** 4' Below Finished Subgrade		
8	1/7/2011	96.6	18.2	111.0	15.5	87	85
	Location: 40' east of southwest corner of dike, pond 3				**Elevation:** 4' Below Finished Subgrade		
9	1/10/2011	105.7	13.2	120.0	11.0	88	85
	Location: 30' east of southwest corner of dike, pond 3				**Elevation:** Finished Subgrade		
10	1/10/2011	104.9	12.7	120.0	11.0	87	85
	Location: 40' west of southeast corner of dike, pond 3				**Elevation:** Finished Subgrade		
11	1/10/2011	110.3	12.3	120.0	11.0	92	85
	Location: 50' east of northwest corner of dike, pond 3				**Elevation:** Finished Subgrade		
12	1/10/2011	112.6	11.8	120.0	11.0	94	85
	Location: 40' west of northeast corner of dike, pond 3				**Elevation:** Finished Subgrade		

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WASH BASIN PAD

Applied Geotechnical Engineering Consultants, Inc.

Client: Alton Coal Development, LLC **Project Number:** 2101184

Project Name: Coal Hollow Facilities and Structures Loadout **Attention:** Chris McCourt

SUMMARY OF FIELD DENSITY TESTING DATA

Compaction test results reflect the compaction of the tested fill strata for testing date.
Tests performed in accordance with ASTM and/or AASHTO standards.

WASH BASIN PAD

TEST NO.	TEST DATE	DRY DENSITY	PERCENT MOISTURE	MAXIMUM DENSITY	OPTIMUM MOISTURE	PERCENT COMPACTION	PERCENT REQUIRED
1	1/26/2011	126.7	4.8	139.5	5.5	91	90
	Location: Wash basin pad, 30' north 40' east of southwest corner of wash basin pad					**Elevation:** 1' Below Finished Subgrade	
2	1/26/2011	129.9	5.3	139.5	5.5	93	90
	Location: Wash basin pad, 10' north 80' east of southwest corner of wash basin pad					**Elevation:** 1' Below Finished Subgrade	

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FACILITIES ROADWAY SUBGRADE

Applied Geotechnical Engineering Consultants, Inc.

Client: Alton Coal Development, LLC **Project Number:** 2101184

Project Name: Coal Hollow Facilities and Structures Loadout **Attention:** Chris McCourt

SUMMARY OF FIELD DENSITY TESTING DATA

Compaction test results reflect the compaction of the tested fill strata for testing date.
Tests performed in accordance with ASTM and/or AASHTO standards.

FACILITIES ROADWAY SUBGRADE

TEST NO.	TEST DATE	DRY DENSITY	PERCENT MOISTURE	MAXIMUM DENSITY	OPTIMUM MOISTURE	PERCENT COMPACTION	PERCENT REQUIRED
1	1/14/2011	110.0	13.4	120.0	11.0	92	90
	Location: Station 13+00, 2' left of centerline					**Elevation:** Finished Subgrade	
2	1/14/2011	113.2	12.3	120.0	11.0	94	90
	Location: Station 15+00, 3' right of centerline					**Elevation:** Finished Subgrade	
3	1/14/2011	114.2	11.9	120.0	11.0	95	90
	Location: Station 17+00, centerline					**Elevation:** Finished Subgrade	
4	1/14/2011	110.8	13.4	120.0	11.0	92	90
	Location: Station 19+00, 3' left of centerline					**Elevation:** Finished Subgrade	
5	1/14/2011	109.6	12.9	120.0	11.0	91	90
	Location: Station 21+00, 3' left of centerline					**Elevation:** Finished Subgrade	
6	1/14/2011	105.7	16.2	120.0	11.0	88	90
	Location: Station 22+00, 3' right of centerline					**Elevation:** Finished Subgrade	
6 *	1/14/2011	110.5	13.8	120.0	11.0	92	90
	Location: Retest of test taken at facilities road, Station 22+00, 3' right of centerline					**Elevation:** Finished Subgrade	
7	1/14/2011	113.0	12.7	120.0	11.0	94	90
	Location: Station 11+00, centerline					**Elevation:** Finished Subgrade	
8	1/24/2011	110.5	12.1	120.0	11.0	92	90
	Location: Station 18+00, 10' east of centerline, north haunch					**Elevation:** 2' Below Finished Subgrade	
9	1/24/2011	109.2	10.7	120.0	11.0	91	90
	Location: Station 18+00, 12' east of centerline, south haunch					**Elevation:** 2' Below Finished Subgrade	
10	1/24/2011	110.3	11.4	120.0	11.0	92	90
	Location: Station 18+00, 7' west of centerline, north haunch					**Elevation:** 2' Below Finished Subgrade	
11	1/24/2011	112.1	11.9	120.0	11.0	93	90
	Location: Station 18+00, 10' west of centerline, south haunch					**Elevation:** 2' Below Finished Subgrade	

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FACILITIES ROADWAY SUBGRADE

TEST NO.	TEST DATE	DRY DENSITY	PERCENT MOISTURE	MAXIMUM DENSITY	OPTIMUM MOISTURE	PERCENT COMPACTION	PERCENT REQUIRED
12	1/24/2011	110.7	9.6	120.0	11.0	92	90
	Location: Station 11+00, 10' north of centerline				**Elevation:** 1' Below Finished Subgrade		
13	1/24/2011	108.3	9.9	120.0	11.0	90	90
	Location: Station 11+00, 10' south of centerline				**Elevation:** 1' Below Finished Subgrade		
14	1/24/2011	108.9	12.3	120.0	11.0	91	90
	Location: Station 16+00, right fork, 2' east of centerline				**Elevation:** 1' Below Finished Subgrade		
15	1/24/2011	107.9	11.9	120.0	11.0	90	90
	Location: Station 16+00, right fork, 7' west of centerline				**Elevation:** 1' Below Finished Subgrade		
16	1/25/2011	110.5	12.7	120.0	11.0	92	90
	Location: Station 16+50, 7' left of centerline				**Elevation:** Pipe Zone		
17	1/25/2011	111.9	11.9	120.0	11.0	93	90
	Location: Station 16+50, 4' right of centerline				**Elevation:** Pipe Zone		
18	1/25/2011	127.1	4.8	120.0	11.0	106	90
	Location: Station 16+50, centerline				**Elevation:** Finished Subgrade		
19	1/25/2011	131.3	5.0	120.0	11.0	109	90
	Location: Station 16+50, 7' right of centerline				**Elevation:** Finished Subgrade		
20	1/25/2011	128.7	4.8	120.0	11.0	107	90
	Location: Station 9+00, 6' right of centerline				**Elevation:** Finished Subgrade		
21	1/25/2011	127.5	4.7	120.0	11.0	106	90
	Location: Station 9+00, 6' left of centerline				**Elevation:** Finished Subgrade		

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FACILITIES ROADWAY BASE COURSE

Applied Geotechnical Engineering Consultants, Inc.

Client: Alton Coal Development, LLC **Project Number:** 2101184

Project Name: Coal Hollow Facilities and Structures Loadout **Attention:** Chris McCourt

SUMMARY OF FIELD DENSITY TESTING DATA

Compaction test results reflect the compaction of the tested fill strata for testing date.
Tests performed in accordance with ASTM and/or AASHTO standards.

FACILITIES ROADWAY BASE COURSE

TEST NO.	TEST DATE	DRY DENSITY	PERCENT MOISTURE	MAXIMUM DENSITY	OPTIMUM MOISTURE	PERCENT COMPACTION	PERCENT REQUIRED
1	1/21/2011	128.6	5.6	134.0	7.5	96	90
	Location: Station 12+50, 6' right of centerline				**Elevation:** Finished Base Course		
2	1/21/2011	129.5	5.5	134.0	7.5	97	90
	Location: Station 14+10, 4' left of centerline				**Elevation:** Finished Base Course		
3	1/21/2011	128.3	7.7	134.0	7.5	96	90
	Location: Station 16+15, 8' right of centerline				**Elevation:** Finished Base Course		
4	1/21/2011	130.3	6.0	134.0	7.5	97	90
	Location: Station 18+10, 2' left of centerline				**Elevation:** Finished Base Course		
5	1/21/2011	127.3	6.4	134.0	7.5	95	90
	Location: Station 20+25, 5' left of centerline				**Elevation:** Finished Base Course		
6	1/21/2011	129.0	7.1	134.0	7.5	96	90
	Location: Station 22+40, 6' right of centerline				**Elevation:** Finished Base Course		
7	1/21/2011	128.1	6.1	134.0	7.5	96	90
	Location: Station 24+55, 3' left of centerline				**Elevation:** Finished Base Course		
8	1/21/2011	131.7	6.5	134.0	7.5	98	90
	Location: Station 26+60, 4' right of centerline				**Elevation:** Finished Base Course		
9	1/24/2011	131.3	6.1	139.5	5.5	94	90
	Location: Station 18+00, 7' west of centerline,				**Elevation:** Finished Base Course		
10	1/24/2011	132.8	5.8	139.5	5.5	95	90
	Location: Station 18+00, 10' east of centerline				**Elevation:** Finished Base Course		
11	1/24/2011	125.9	6.8	139.5	5.5	90	90
	Location: Station 11+00				**Elevation:** Finished Base Course		
12	1/24/2011	125.6	6.2	139.5	5.5	90	90
	Location: Station 11+00				**Elevation:** Finished Base Course		

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Applied Geotechnical Engineering Consultants, Inc.

FACILITIES ROADWAY BASE COURSE

TEST NO.	TEST DATE	DRY DENSITY	PERCENT MOISTURE	MAXIMUM DENSITY	OPTIMUM MOISTURE	PERCENT COMPACTION	PERCENT REQUIRED
13	1/24/2011	125.8	7.8	139.5	5.5	90	90
	Location: Station 16+00, left fork, 5' east of centerline					**Elevation:** 1' Below Finished Base Course	
14	1/24/2011	128.5	7.4	139.5	5.5	92	90
	Location: Station 16+00, left fork, 5' west of centerline					**Elevation:** 1' Below Finished Base Course	
15	1/25/2011	130.2	4.1	139.5	5.5	93	90
	Location: Station 16+00, left fork, 6' left of centerline					**Elevation:** Finished Base Course	
16	1/25/2011	132.7	4.5	139.5	5.5	95	90
	Location: Station 16+00, right fork, 2' right of centerline					**Elevation:** Finished Base Course	
17	1/26/2011	134.4	5.6	139.5	5.5	96	90
	Location: Station 9+00, centerline					**Elevation:** Finished Base Course	
18	1/26/2011	127.4	6.3	139.5	5.5	91	90
	Location: Station 9+30, 6' right of centerline					**Elevation:** Finished Base Course	
19	1/26/2011	126.1	4.8	139.5	5.5	90	90
	Location: Station 9+40, 8' left of centerline					**Elevation:** Finished Base Course	

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HAUL ROAD CULVERT
STATION 10 + 70

Applied Geotechnical Engineering Consultants, Inc.

Client: Alton Coal Development, LLC **Project Number:** 2101184

Project Name: Coal Hollow Facilities and Structures Loadout **Attention:** Chris McCourt

SUMMARY OF FIELD DENSITY TESTING DATA

Compaction test results reflect the compaction of the tested fill strata for testing date.
Tests performed in accordance with ASTM and/or AASHTO standards.

HAUL ROAD CULVERT STATION 10+70

TEST NO.	TEST DATE	DRY DENSITY	PERCENT MOISTURE	MAXIMUM DENSITY	OPTIMUM MOISTURE	PERCENT COMPACTION	PERCENT REQUIRED
1	1/14/2011	110.2	12.7	120.0	11.0	92	90
	Location: 7' left of centerline				Elevation: 6' Below Finished Subgrade		
2	1/14/2011	110.5	12.1	120.0	11.0	92	90
	Location: Centerline, south haunch				Elevation: 8' Below Finished Subgrade		
3	1/14/2011	108.8	13.3	120.0	11.0	91	90
	Location: 4' right of centerline				Elevation: 6' Below Finished Subgrade		
4	1/14/2011	108.5	12.9	120.0	11.0	90	90
	Location: 8' right of centerline, north haunch				Elevation: 8' Below Finished Subgrade		
5	1/14/2011	109.6	12.8	120.0	11.0	91	90
	Location: 4' left of centerline				Elevation: 4' Below Finished Subgrade		
6	1/14/2011	112.1	12.1	120.0	11.0	93	90
	Location: 8' right of centerline				Elevation: 6' Below Finished Subgrade		
7	1/14/2011	110.8	11.3	120.0	11.0	92	90
	Location: 10' right of centerline				Elevation: 4' Below Finished Subgrade		
8	1/14/2011	111.4	12.1	120.0	11.0	93	90
	Location: 12' left of centerline				Elevation: 2' Below Finished Subgrade		
9	1/14/2011	112.7	11.8	120.0	11.0	94	90
	Location: 8' right of centerline				Elevation: 2' Below Finished Subgrade		
10	1/14/2011	113.0	12.1	120.0	11.0	94	90
	Location: 7' left of centerline				Elevation: Finished Subgrade		
11	1/14/2011	114.5	11.3	120.0	11.0	95	90
	Location: 2' right of centerline				Elevation: Finished Subgrade		

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24 INCH CULVERT
STATION 5 + 25.52

Applied Geotechnical Engineering Consultants, Inc.

Client: Alton Coal Development, LLC **Project Number:** 2101184

Project Name: Coal Hollow Facilities and Structures Loadout **Attention:** Chris McCourt

SUMMARY OF FIELD DENSITY TESTING DATA

Compaction test results reflect the compaction of the tested fill strata for testing date.
Tests performed in accordance with ASTM and/or AASHTO standards.

24 INCH CULVERT STATION 5+25.52

TEST NO.	TEST DATE	DRY DENSITY	PERCENT MOISTURE	MAXIMUM DENSITY	OPTIMUM MOISTURE	PERCENT COMPACTION	PERCENT REQUIRED
1	1/17/2011	110.0	13.1	120.0	11.0	92	90
	Location: 15' south of centerline of west haunch				**Elevation:** 4' Below Finished Subgrade		
2	1/17/2011	110.8	14.1	120.0	11.0	92	90
	Location: 20' south of centerline of east haunch				**Elevation:** 4' Below Finished Subgrade		
3	1/17/2011	111.7	13.7	120.0	11.0	93	90
	Location: Centerline of west haunch				**Elevation:** 4' Below Finished Subgrade		
4	1/17/2011	110.2	12.2	120.0	11.0	92	90
	Location: 2' north of centerline of east haunch				**Elevation:** 4' Below Finished Subgrade		
5	1/17/2011	109.7	11.8	120.0	11.0	91	90
	Location: 20' north of centerline of west haunch				**Elevation:** 4' Below Finished Subgrade		
6	1/17/2011	109.0	11.2	120.0	11.0	91	90
	Location: 25' north of centerline of east haunch				**Elevation:** 4' Below Finished Subgrade		
7	1/17/2011	112.1	10.7	120.0	11.0	93	90
	Location: 15' north of centerline				**Elevation:** Finished Subgrade		
8	1/17/2011	111.1	11.4	120.0	11.0	93	90
	Location: Centerline				**Elevation:** Finished Subgrade		
9	1/17/2011	112.9	10.8	120.0	11.0	94	90
	Location: 15' south of centerline				**Elevation:** Finished Subgrade		

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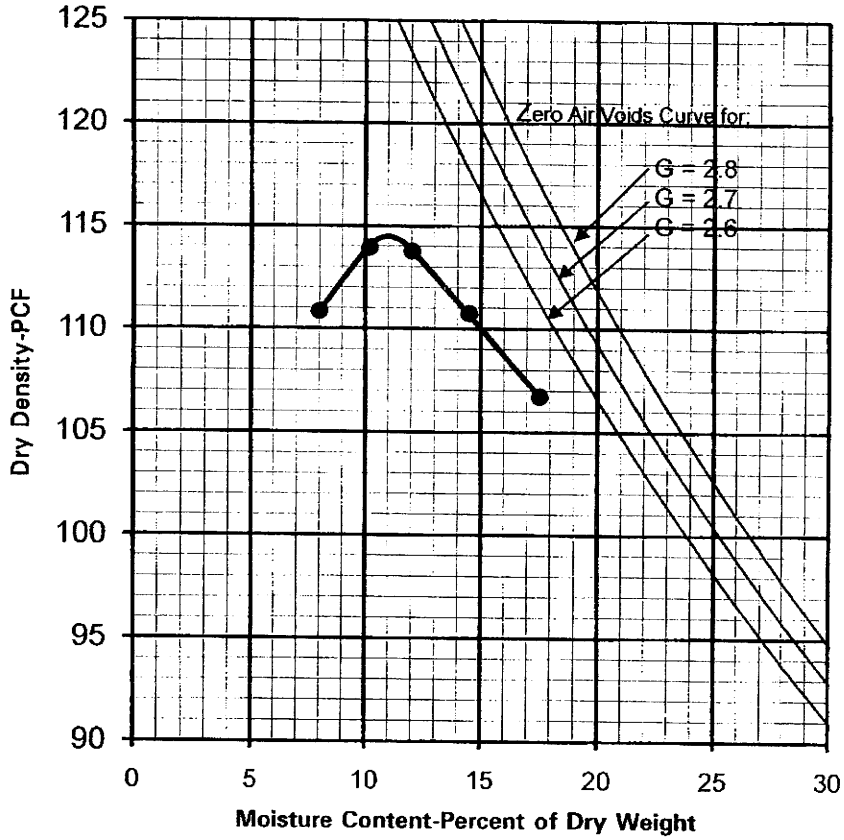
LABORATORY TEST RESULTS

Applied Geotechnical Engineering Consultants, Inc.

Project: Coal Hollow Facilities and Structure Loadout



Sample No.	101220A
Maximum Dry Density:	114.5
Optimum Moisture:	11.0
Atterberg Limits	
Liquid Limit:	31%
Plasticity Index:	18%
Gradation	
Gravel:	11%
Sand:	24%
Silt & Clay:	65%

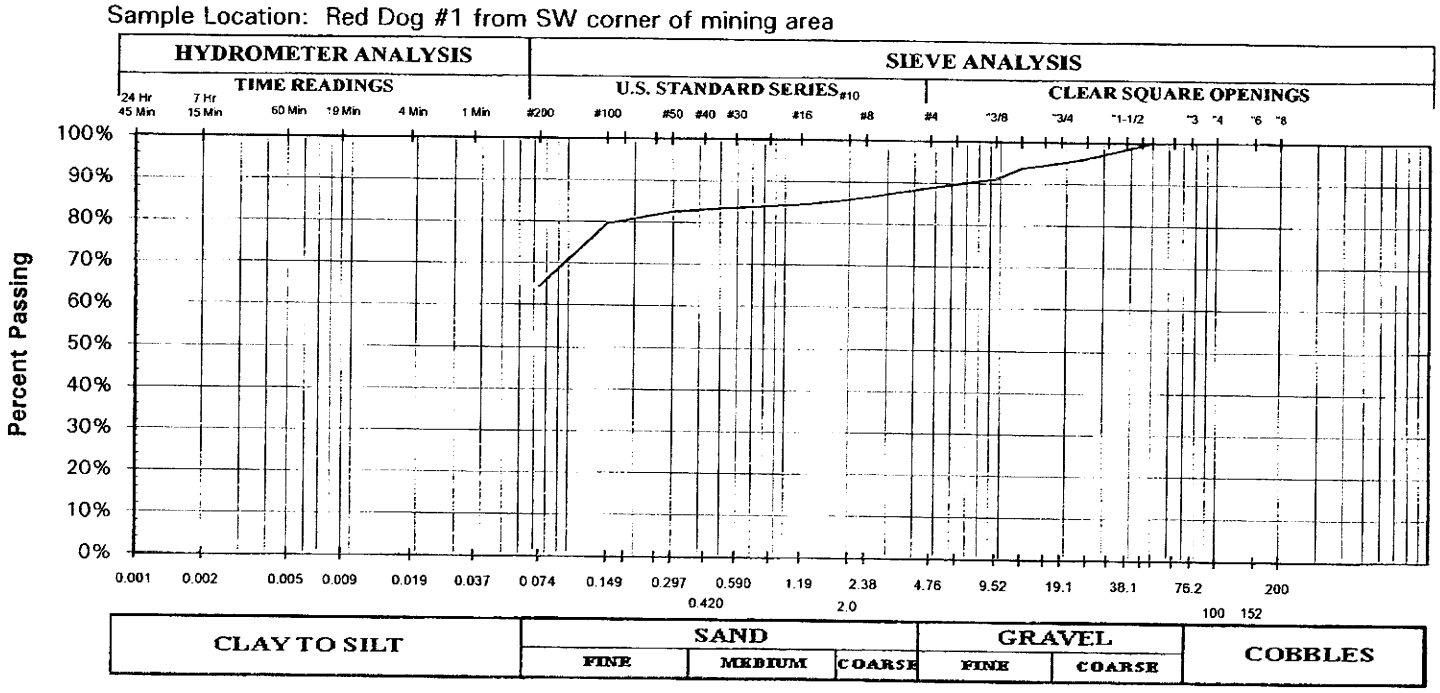
Moisture - Density Relationship Test Procedure: ASTM D-1557 B

Reviewed By: TT

Sample Description: sandy lean clay (CL)

AASHTO Classification: A-6

Sample Location: Red Dog #1 from SW corner of mining area



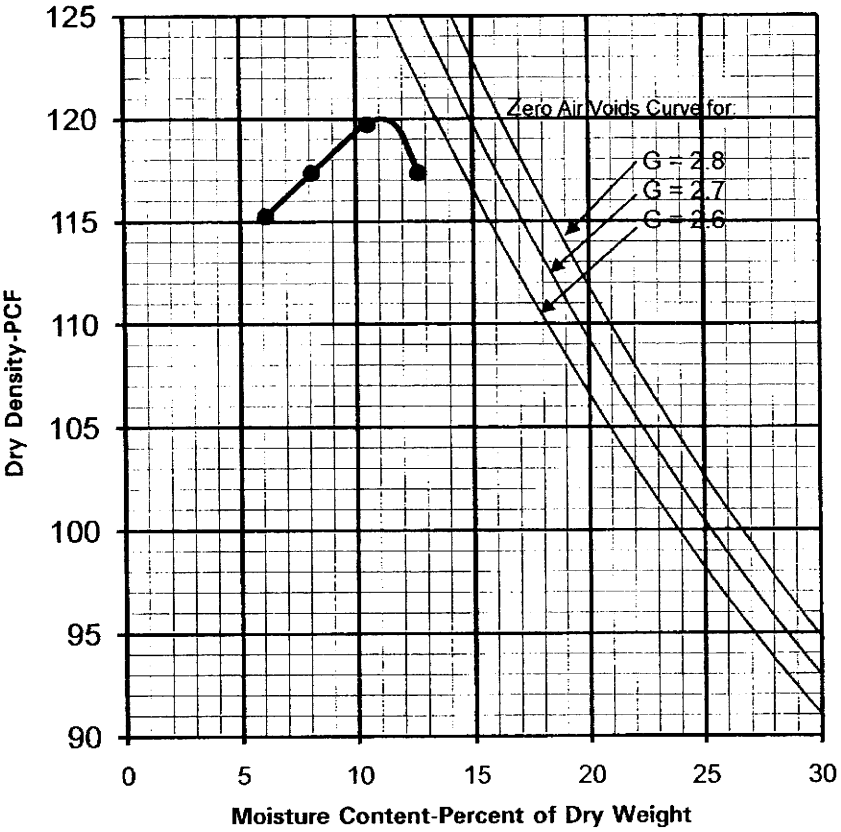
GRADATION AND MOISTURE-DENSITY RELATIONSHIP RESULTS

Project No.: 2101184

Figure:

Applied Geotechnical Engineering Consultants, Inc.

Project: Coal Hollow Facilities and Structures Loadout



Sample No.	101220B
Maximum Dry Density:	120.0
Optimum Moisture:	11.0

Atterberg Limits

Liquid Limit:	
Plasticity Index:	Non-Plastic

Gradation

Gravel:	3%
Sand:	71%
Silt & Clay:	26%

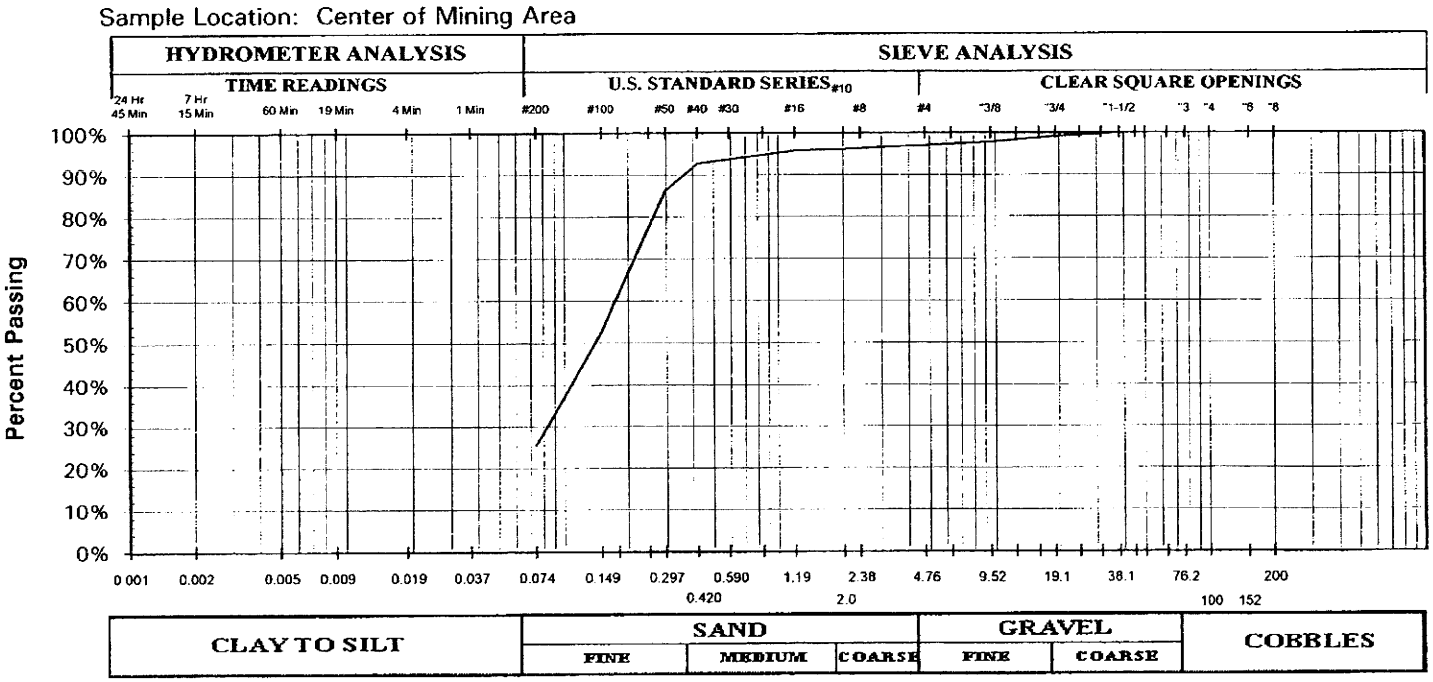
Moisture - Density Relationship Test Procedure: ASTM D-1557 B

Reviewed By: TT

Sample Description: silty sand (SM)

AASHTO Classification: A-2-4

Sample Location: Center of Mining Area



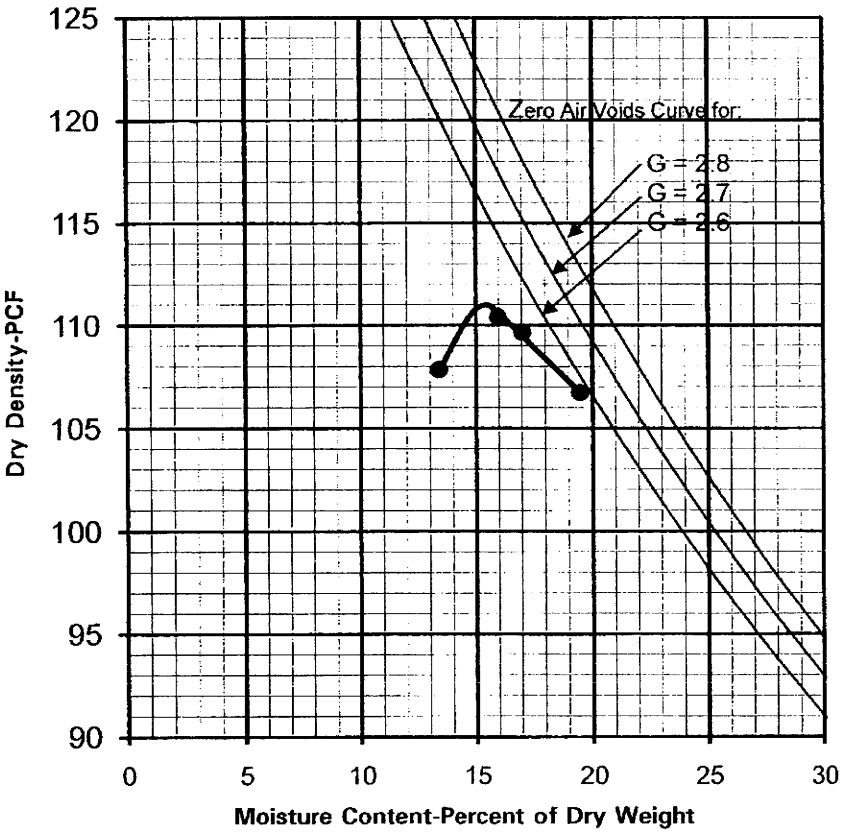
GRADATION AND MOISTURE-DENSITY RELATIONSHIP RESULTS

Project No.: 2101184

Figure:

Applied Geotechnical Engineering Consultants, Inc.

Project: Coal Hollow Facilities and Structures Loadout



Sample No.	110104C
Maximum Dry Density:	111.0
Optimum Moisture:	15.5
Atterberg Limits	
Liquid Limit:	59%
Plasticity Index:	41%
Gradation	
Gravel:	0%
Sand:	15%
Silt & Clay:	85%

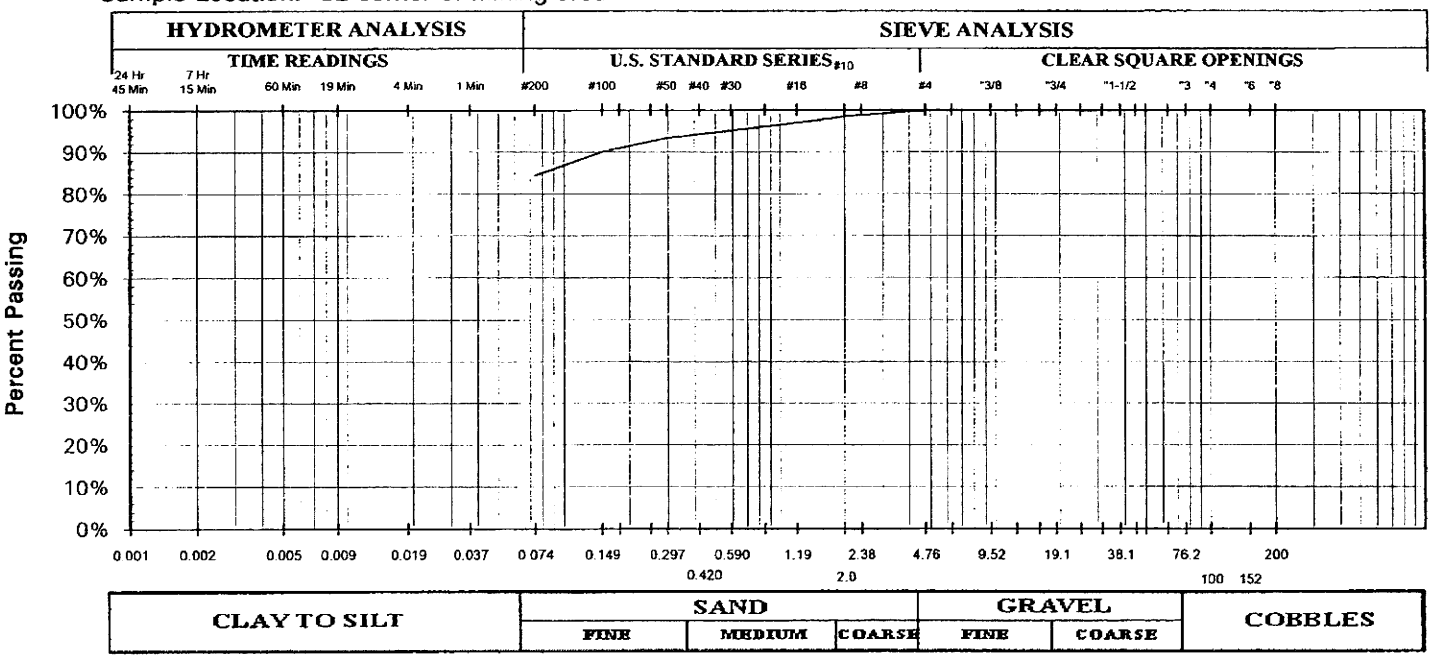
Moisture - Density Relationship Test Procedure: ASTM D-1557 B

Reviewed By: TT

Sample Description: fat clay (CH)

AASHTO Classification: A-7-6

Sample Location: SE corner of mining area



GRADATION AND MOISTURE-DENSITY RELATIONSHIP RESULTS

Project No.: 2101184

Figure:

Applied Geotechnical Engineering Consultants, Inc.

SIEVE ANALYSIS TEST REPORT
Quality Control

Sample Date 12/14/10
Project Number: 2101184
Project Name : Coal Hollow Facilities and Structures Loadout
Client:

Lab Number : A-121410
Sampled by: JT
Tested by: MW

Sample Location: Tony Martin Crusher Pile
Supplier: Tony Martin
Aggregate Size: 4" minus

Total Dry Mass Of Sample, g 48577.8

Test performed according to ASTM D75-87, C702-93, C136-93, D-5644 and C7117-90 or D1140-92.

Sieve Size	Percent Passing	Specification Range
4"	100	
3"	100	
2"	95	
1.5"	90	
1"	85	
3/4"	76	
1/2"	59	
3/8"	49	
#4	38	
#40	20	
#200	9.2	

Sample Remarks:

Reviewed by: TT

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APPENDIX D
RECORD DRAWINGS