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Annual Report

This Annual Report shows information the Division has for your mine. Submit the completed document and any additional information identified in the Appendices to the Division by the date specified by the cover letter. During a complete inspection an inspector will check and verify the information.

GENERAL INFORMATION

Company Name	Bronco Utah Operations LLC	Mine Name	Emery Deep Mine
Permit Number	C/015/0015	Permit expiration Date	1/07/2021
Operator Name	Bronco Utah Operations LLC	Phone Number	435-650-73
Mailing Address	Highway 10 South Box 527	Email	jpappas@broncoutah.com
City	Emery		
State	Utah	Zip Code	84522

		DOGM File Location or Annual Report Location
Excess Spoil Piles	☐ Required ☒ Not Required	
Refuse Piles	☒ Required ☐ Not Required	See Appendix A-2, Quarterly Coal Refuse Inspections
Impoundments	☒ Required ☐ Not Required	See Appendix A-1, Annual Impoundment inspections
Other:		

OPERATOR COMMENTS

Underground mining operations have been idle with no production since 12/17/10.

Appendix A-1 (Annual Impoundment Inspections), Appendix A-2 (Quarterly Coal Refuse inspections), Appendix B-2 (Annual Subsidence Survey), Appendix B-2a (Monthly Subsidence Reports), ,Appendix B-4 (Emery Town Well Report), Appendix B-5 (Emery reclamation vegetation Qualitative report) Appendix D-1 (2010 Annual Report and final MSHA Mine Maps)

REVIEWER COMMENTS ☐ Met Requirements ☐ Did Not meet Requirements

COMMITMENTS AND CONDITIONS

The Permittee is responsible for ensuring annual technical commitments in the Mining and Reclamation Plan and conditions accepted with the permit are completed throughout the year. The Division has identified these commitments below and has provided space for you to report what you have done during the past year for each commitment. If additional written response is required, it should be filed as an attachment to this report.

Title: CULTURAL RESOURCE PROTECTION
Objective: To monitor the five eligible cultural resource sites that could be damaged as a result of subsidence in the zero zero north area. Sites include: 42Em3964, 42Em3965, 42Em3969, and 42Em3974.
Frequency: Annually after undermining until the Division determines subsidence is no longer an impact.
Status: ongoing, Undermining has not occurred to date.
Reports: Annual
Citation: MRP, Confidential Binder, Chapter X, Part A, Page 1

Operator Comments

No mining occurred under these sites. Underground mining operations have been idle with no production since 12/17/10.

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

Title: INVESTIGATIVE STUDY INTO RECLAMATION PRACTICE
Objective: To develop an enhanced reclamation plan, based on an evaluation of soil chemistry and vegetation establishment on previous reclaimed sites. (results located in Chapter 11, Appendix 1). This is a four-phase project.
Phase I involves reporting on the investigation of past reclamation sites and practices at the mine.
Phase II requires to lower the profile of pond 6 stockpiles, reseed and keep wildlife off piles; reclaim ponds 4 & 5, and pond 1 subsoil pile; adjust final reclamation plans to incorporate beneficial treatments observed such as discing in 1 T/ac straw mulch; modify the seed mix to include only salt tolerant species and allow for a higher percentage of shrubs and forbs; adjust the reference areas to eliminate duplication.
Phase III requires that the applied techniques be evaluated qualitatively annually and quantitatively between the 4th and 6th year. These evaluations will be correlated to precipitation data.
Phase IV requires the permittee to revise the MRP to include the best technology for final revegetation.
Frequency: Ongoing
Status: Phase I has been met. Phase II has been met (2014).
Reports: Qualitative report annually, and quantitative report 4th and 6th year.
Citation: MRP, Chapter III, page 4a, and Chapter III, appendix 1

Operator Comments

Field meetings and historical review were held in April 2014. Three sites were chosen for re-grading and re-vegetation based on soil quality (see CH III pg 4a-4c).

Future vegetative monitoring results will be reported out through the annual report.

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

Title: WASTE STOCKPILE MATERIAL
Objective: To identify chemical characteristics of material as it is placed on the Temporary Coal mine Waste Stockpile. Sample and analyze waste for acid toxic parameters in accordance with R645-301-731.300.
Frequency: One sample/600 cu yds of coal mine waste brought to the temporary stockpile.
Status: Ongoing
Reports: Provide analysis in annual report.
Citation: MRP, Chapter II, page 10.

Operator Comments

No additional mine waste has been added in 2015.Underground mining operations have been idle with no production since 12/17/10.

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

Title: SUBSIDENCE MONITORING- MONTHLY INSPECTIONS
Objective: Inspect the area outlined on Plate V-5 as full extraction areas when pillar splitting begins.
Frequency: Monthly until there is no record of additional subsidence.
Status: Ongoing
Reports: Track in annual report to ensure compliance. Resubmittal of monthly reports is not necessary if the operator has already submitted them. Division engineer will review reports annually to ensure compliance.
Citation: MRP, Chapter V, Binder 1 of 3, Page 36

Operator Comments

Underground mining operations have been idle with no production since 12/17/10. Annual subsidence surveys were performed in 2015 (refer to Appendix B-2, Annual Subsidence Survey).Monthly subsidence reports of the 00 North subsidence area that was previously mitigated are underway and per DOGM email dated 10/12/13 copies of the monthly subsidence report are being emailed to DOGM and are compiled in the annual report at Appendix B-2a (Monthly Subsidence Reports).

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

Title: SUBSIDENCE MONITORING- POINTS OVER PARTIAL PILLAR SECTIONS
Objective: monitor points over partial pillar sections that have been resurveyed once and where no significant movement (<0.5') was found will be surveyed within one year. If this subsequent survey shows no significant movement from the original survey, the point will be surveyed again at one year intervals. Points over advancing sections need not be resurveyed unless there has been evidence that subsidence has taken place (caving).
Frequency: As needed
Status: Ongoing
Reports: Track in annual report to ensure compliance. Resubmittal of monthly reports is not necessary if the operator has already submitted them. Division engineer will review reports annually to ensure compliance.
Citation: MRP, Chapter V, binder 1 of 3, page 36.

Operator Comments

Refer to appendix B-2, 2015 Annual Subsidence Survey

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

Title: SUBSIDENCE MONITORING- NEW POINTS
Objective: Resurvey new monitoring points established over advancing sections such as mains and submains within one year after mining has been completed beneath the station. Include dates that points were established to track if the points have been resurveyed within a year after mining has been completed.
Frequency: As needed.
Status: Ongoing.
Reports: Track in annual report to ensure compliance. Resubmittal of monthly reports is not necessary if the operator has already submitted them. Division engineer will review reports annually to ensure compliance.
Citation: MRP, Chapter V, binder 1 of 3, page 36.

Operator Comments

N/A, Underground mining operations have been idle with no production since 12/17/10..

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

Title: SUBSIDENCE MONITORING- REPORT
Objective: Subsidence monitoring report containing: 1.) Mine maps showing where pillars have been pulled and the month and year that such pillars were removed or partially removed. 2.) Maps showing the location of survey monitoring stations and tension cracks and/or compression features visible on the surface. 2a.) Photographs of the subsidence monitoring points above the full extraction areas outlined on Plate V-5 to record pre and post subsidence. 3.) The differential level and horizontal survey summary and 4.) a narrative.
Frequency: As needed, report submitted to the Division annually.
Status: Ongoing
Reports: Provide report in annual report.
Citation: MRP, Chapter V, binder 1 of 3, page 37.

Operator Comments

Underground mining operations have been idle with no production since 12/17/10. Annual subsidence surveys were performed in 2015 (refer to Appendix B-2, Annual Subsidence Survey).Monthly subsidence reports of the 00 North subsidence area that was previously mitigated are underway and per DOGM email dated 10/12/13 copies of the monthly subsidence report are being emailed to DOGM and are compiled in the annual report at Appendix B-2a, Monthly Subsidence Report.

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

Title: SUBSIDENCE MONITORING- PREMINING ELEVATIONS AND GRADIENTS
Objective: Establish pre-mining elevations and gradients of any irrigation ditches and pond embankments within the angle of draw. The permittee will monitor these areas by visual inspection and post-subsidence ground survey to establish the effects of subsidence.
Frequency: As needed.
Status: Ongoing
Reports: Track in annual report to ensure compliance. Resubmittal of monthly reports is not necessary if the operator has already submitted them. Division engineer will review reports annually to ensure compliance.
Citation: MRP, Chapter V, binder 1 of 3, page 37.

Operator Comments

N/A, Underground mining operations have been idle with no production since 12/17/10..

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

Title: SUBSIDENCE MONITORING- MITIGATION REPORT
Objective: Provide, to the Division on an as-needed basis, a subsidence mitigation report that describes the surface mitigation projects and their status broken down by surface land owners.
Frequency: quarterly
Status: Ongoing
Reports: Track in annual report to ensure compliance. Resubmittal of monthly reports is not necessary if the operator has already submitted them. Division engineer will review reports annually to ensure compliance.
Citation: MRP, Chapter V, binder 1 of 3, page 37.

Operator Comments

Underground mining operations have been idle with no production since 12/17/10. Annual subsidence surveys were performed in 2015 (refer to Appendix B-2, Annual Subsidence Report).Monthly subsidence reports of the 00 North subsidence area that was previously mitigated are underway and per DOGM email dated 10/12/13 copies of the monthly subsidence report are being emailed to DOGM and are compiled in the annual report at Appendix B-2a, Monthly Subsidence Report.Monthly flow measurements of the dam breach panel

14th West (Bryant -14th West) are being taken and data presented in Appendix B-3, Bryant 14th West Flow

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

Title: SUBSIDENCE MONITORING- UPDATE PRE-SUBSIDENCE SURVEY
Objective: Update the existing pre-subsidence survey and plates six months before full extraction and provide copies to the surface land owner, the Division and the water conservancy district.
Frequency: As needed, six months prior to full extraction.
Status: Ongoing
Reports: Track in annual report to ensure compliance. Resubmittal of monthly reports is not necessary if the operator has already submitted them. Division engineer will review reports annually to ensure compliance.
Citation: MRP, Chapter V, binder 1 of 3, page 37.

Operator Comments

N/A for 2015, no new monitoring points established. Underground mining operations have been idle with no production since 12/17/10..

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

Title: SUBSIDENCE MONITORING- RESURVEY NEW MONITORING POINTS
Objective: Resurvey new monitoring points established over partial pillar sections within six months after final mining has taken place beneath them. Provide dates that points were established to track if the points have been resurveyed within six months after final mining.
Frequency: as needed
Status: Ongoing
Reports: Track in annual report to ensure compliance. Resubmittal of monthly reports is not necessary if the operator has already submitted them. Division engineer will review reports annually to ensure compliance.
Citation: MRP, Chapter V, binder 1 of 3, page 36.

Operator Comments

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

Title: EMERY TOWN WELL MONITORING
Objective: Consol will evaluate data collected from the Emery town wells, using hydrographs and other appropriate means, and submit a report of findings to DOGM with the Annual Report.
Frequency: Annually
Status: Ongoing
Reports: Annual Report
Citation: Chapter VI, page VI-56.

Operator Comments

Refer to Appendix B-4 for the Emery Town Well Update report dated 1/15/2015.

Reviewer Comments ☐ Did Not Meet Requirements ☐ Met Requirements

Title: MONITOR FIVE ELIGIBLE SITES IN THE ZERO ZERO NORTH AREA FOR IMPACTS FROM MINING
Objective: To monitor eligible cultural resource sites that could be damaged as a result of subsidence. Sites include: 42Em3964, 42Em3965, 42Em3966, 42Em3969, 42Em3974.
Frequency: Annually after undermining until the Division determines subsidence is no longer an impact.
Status: Ongoing. Undermining was expected to occur in 2010.
Reports: Annual Report
Citation: MRP, Confindential, Chap. X, Part A. page1.

Operator Comments

These sites have not been undermined at this time

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

Title: WATER MONITORING
Objective: Consol will provide an annual water monitoring summary to be submitted by March 31st.
Frequency: Annually
Status: Ongoing
Reports: Annual Report
Citation: Chapter VI, page VI-28.

Operator Comments

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

FUTURE COMMITMENTS AND CONDITIONS

The following commitments are not required for the current annual report year, but will be required by the permittee in the future as indicated by the "status" field. These commitments are included for information only, and do not currently require action. If you feel that the commitment is no longer relevant or needs to be revised, please contact the Division.

Title: SOIL SAMPLING AT 4TH EAST PORTAL
Objective: Verify soil characteristics prior to final reclamation grading through sampling and analysis for pH, SAR, and EC with particular attention to those areas that were treated with dust suppressant.
Frequency: At final reclamation.
Status: At final reclamation.
Reports: report findings to Division.
Citation: MRP, Chapter III part C.1, page 11 and Appendix X, part C-3, page 24.

Title: SOIL SAMPLING OF POND NO. 4 AND POND NO. 9
Objective: To determine if evaporative salts have accumulated to a toxic level.
Frequency: at final reclamation
Status: at final reclamation.
Reports: report to the Division.
Citation: MRP, Chapter III, part C-1, page 12.

Title: SOIL TESTING OF RECLAIMED SITE BEFORE SEEDING
Objective: To verify the suitability of the growth media.
Frequency: At reclamation.
Status: At reclamation, before seeding.
Reports: report to Division.
Citation: MRP, Chapter VIII, part C-4, page 21, paragraph 1.

Title: PERMANENT WASTE DISPOSAL SITE SUBSTITUTE TOPSOIL AND SUBSOIL COVER
Objective: To determine how to segregate best available material within the disturbed area for use as substitute topsoil from less desirable material to be used as cover over the coal mine waste permanent disposal site.
Frequency: Prior to construction of permanent disposal site, Consol will resample the gravel pit site for topsoil substitute quality and quantity, and cover material quality. The site will be sampled on one sample per acre grid, with analysis on one foot
Status: Future Commitment
Reports: report to Division.
Citation: MRP, Chap VII, App. VII-2, pg. 2

Title: IDENTIFY CHEMICAL CHARACTERISTICS OF COAL MINE WASTE PRIOR TO FINAL BURIAL OR TREATMENT

Objective: In accordance with R645-301-731.300, determine chemical characteristics of coal mine waste in existing temporary coal mine waste stockpile. Commitment to core temporary pile in at least 5 locations and analyze waste in 5 ft. intervals for pH, EC, SAR, Acid Base Accounting, Se, B, and texture.

Frequency: One year prior to moving the waste

Status: Future Commitment

Reports: report to Division.

Citation: MRP, Chap III, pg. 13

OPERATOR COMMENTS (OPTIONAL)

REVIEWER COMMENTS

REPORTING OF OTHER TECHNICAL DATA

Please list other technical data or information that was not included in the form above, but is required under the approved plan, which must be periodically submitted to the Division.

Please list attachments:

Reviewer Comments

MAPS

Copies of mine maps, current and up-to-date, are to be provided to the Division as an attachment to this report in accordance with the requirements of R645-301-525.240. The map copies shall be made in accordance with 30 CFR 75.1200 as required by MSHA. Mine maps are not considered confidential.

Map Name	Map Number	Included		Confidential	
		Yes	No	Yes	No
Annual subsidence map		☐	☒	☐	☒
Mine Map		☒	☐	☐	☒
		☐	☐	☐	☐
		☐	☐	☐	☐
		☐	☐	☐	☐

Reviewer Comments ☐ Met Requirements ☐ Did Not Meet Requirements

Appendix A-1

Annual Impoundment Inspections

EarthFax Engineering Group, LLC
7324 South Union Park Avenue, Suite 100, Midvale, Utah 84047 • 801.561.1555 • FAX 801.561.1861

EarthFax

August 13, 2015

Kerry Goodballet, P.E.
Director - Permitting Coal Operations
CONSOL Energy, Inc.
1000 CONSOL Energy Drive
Canonsburg, PA 15317-6506

Subject: Emery Mine sedimentation pond annual inspection results

Dear Kerry:

On August 4, 2015 I inspected the sedimentation ponds at the Emery Mine for the purpose of the 2014 annual inspection. The results of those inspections and a concurrent survey are attached.

It is my opinion that the ponds adequately serve their intended purpose and may continue to be used for that purpose. However, I did observe the following conditions that should be attended to:

- Pond 3: Sediment has accumulated in this pond to an elevation that is approximately 0.2 foot below the required cleanout elevation. This sediment has plugged the bottom inlet to the outflow riser. I recommend that sediment be removed from this pond before the end of 2015.
- Pond 6: The HDPE discharge pipe downstream from the Parshall flume on this pond has separated slightly at a location just prior to the point where the culvert drops over the channel bank toward Quichupah Creek. Although no water was discharging from this separation at this time of my inspection, I recommend that this culvert be observed at least monthly. If the separation distance increases, I recommend that the culvert be repaired.
- Pond 9: Sediment has accumulated in this pond to an elevation that is about 0.3 foot below the required cleanout elevation. I recommend that this sediment and the additional material that has been placed in the pond be removed from the pond prior to the end of 2015.

Please contact me if you have any questions.

Sincerely,

Richard B. White, P.E.
President

REGISTERED PROFESSIONAL ENGINEER
No. 168246
RICHARD B. WHITE
13 Aug 2015
STATE OF UTAH

Enclosure (inspection sheets and pond drawings)

*To enter text, click in the box and type your response. If a box already contains an entry select the entry and type the replacement. You can use the **tab** key to move from one field to the next. To select a check box, click in the box or type an x.*

GENERAL INFORMATION

Report Date	4 Sep 2014
Permit Number	ACT 015/015
Mine Name	Emery Mine
Company Name	Consolidated Coal Company

IMPOUNDMENT IDENTIFICATION

Impoundment Name	Pond 9
Impoundment Number	UPDES Outfall 009
UPDES Permit Number	UT0022616
MSHA ID Number	NA

IMPOUNDMENT INSPECTION

Inspection Date	3 Sep 2014
Inspected by	R.B. White
Reason for Inspection	Annual

(Annual, quarterly or other periodic inspections, critical installation , or completion of construction.)

1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.

None

Questions a and b are required for an impoundment, which functions as a Sedimentation pond.

a. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.

Design sediment storage volume = 0.32 AF
Design sediment storage elevation = 6052.5 ft
60% sediment cleanout volume = 0.18 AF
60% sediment cleanout elevation = 6051.7 ft

Average sediment elevation at the time of the inspection = 6051.4 ft (based on August 2015 survey)

b. Principle and emergency spillway elevations.

Spillway elevation = 6054.6 ft

2. Field Information

Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/ instrumentation information, inlet/ outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/ repairs, monitoring information, vegetation on outslopes of embankments, etc.

No signs of erosion were noted at the pond outlet or the spillway. No signs of instability were observed. The pond contained 1 to 2 inches of water at the time of the inspection. Sediment and piled material should be cleared from the pond before the end of the year.

3. Field Evaluation.

Describe any changes in the geometry of the impounding structure, average and maximum depths and elevation of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period

No stability concerns were noted.

QUALIFICATION STATEMENT:

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved designs and meets or exceeds the minimum design requirements under all applicable federal, state and local regulations; and that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous condition of the structure affecting stability.

Signature: Richard Bowler Date: 13 Aug 2015

CERTIFIED REPORT

IMPOUNDMENT EVALUATION

If you answer NO to these questions, please explain under comments

		YES	NO
1.	Is impoundment designed and constructed in accordance with the approved plan?	☒	☐
2.	Is impoundment free of instability, structural weakness, or any other hazardous conditions?	☒	☐
3.	Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	☒	☐

COMMENTS/ OTHER INFORMATION

The pond appears to be functioning as designed and is adequate for continued use.

CERTIFICATION STATEMENT:

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved designs and meets or exceeds the minimum design requirements under all applicable federal, state and local regulations; and that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

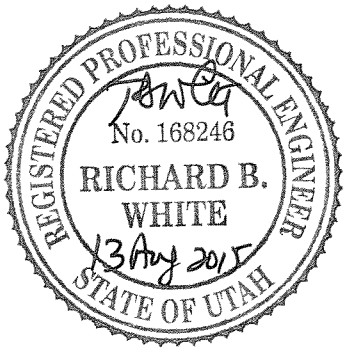
By: Richard B. White, P.E. - President, EarthFax Engineering Group, LLC

Full Name and Title

Signature: Richard B White Date 13 Aug 2015

P.E. Number & State 168246, UT

[P.E. Cert. Stamp]



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*To enter text, click in the box and type your response. If a box already contains an entry select the entry and type the replacement. You can use the **tab** key to move from one field to the next. To select a check box, click in the box or type an x.*

GENERAL INFORMATION

Report Date	13 Aug 2015
Permit Number	ACT 015/015
Mine Name	Emery Mine
Company Name	Consolidated Coal Company

IMPOUNDMENT IDENTIFICATION

Impoundment Name	Pond 8
Impoundment Number	UPDES Outfall 006
UPDES Permit Number	UT0022616
MSHA ID Number	NA

IMPOUNDMENT INSPECTION

Inspection Date	4 Aug 2015
Inspected by	R.B. White
Reason for Inspection	Annual

(Annual, quarterly or other periodic inspections, critical installation , or completion of construction.)

1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.

The level of flow in Quitchupah Creek, adjacent to the pond, is occasionaly high enough to nearly flow over the south embankment of Pond 8 and into the pond. Nonetheless, the embankment rebmains stable with no significant erosion of the outslope adjacent to the creek. No signs of instability were observed elsewhere within the pond.

Questions a and b are required for an impoundment, which functions as a Sedimentation pond.

a. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.

Design sediment storage volume = 2.00 AF
Design sediment storage elevation = 5910.0 ft
60% sediment cleanout volume = 1.35 AF
60% sediment cleanout elevation = 5909.0 ft
Average current sediment storage elevation = 5908.4 ft (based on August 2015 survey)

b. Principle and emergency spillway elevations.

This impoundment is designed as a total containment pond without a spillway. The pond can contain the total design sediment volume plus the runoff from the 100-yr, 6-hr storm and still have a freeboard of 3.4 feet.

2. Field Information

Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/ instrumentation information, inlet/ outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/ repairs, monitoring information, vegetation on outslopes of embankments, etc.

The pond inlets appear to be adequate. The pond contined no water at the time of the inspection. No substantial amount of sediment has accumulated in the pond.

3. Field Evaluation.

Describe any changes in the geometry of the impounding structure, average and maximum depths and elevation of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period

The pond appears to be operating as designed.

QUALIFICATION STATEMENT:

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved designs and meets or exceeds the minimum design requirements under all applicable federal, state and local regulations; and that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous condition of the structure affecting stability.

Signature: Richard Bowler Date: 13 Aug 2015

CERTIFIED REPORT

IMPOUNDMENT EVALUATION

If you answer NO to these questions, please explain under comments

		YES	NO
1.	Is impoundment designed and constructed in accordance with the approved plan?	☒	☐
2.	Is impoundment free of instability, structural weakness, or any other hazardous conditions?	☒	☐
3.	Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	☒	☐

COMMENTS/ OTHER INFORMATION

The pond appears to be functioning as designed and is adequate for continued use.

CERTIFICATION STATEMENT:

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved designs and meets or exceeds the minimum design requirements under all applicable federal, state and local regulations; and that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

By: Richard B. White, P.E. - President, EarthFax Engineering Group, LLC

Full Name and Title

Signature: Richard B White Date 13 Aug 2015

P.E. Number & State 168246, UT

[P.E. Cert. Stamp]

*To enter text, click in the box and type your response. If a box already contains an entry select the entry and type the replacement. You can use the **tab** key to move from one field to the next. To select a check box, click in the box or type an x.*

GENERAL INFORMATION

Report Date	13 Aug 2015
Permit Number	ACT 015/015
Mine Name	Emery Mine
Company Name	Consolidated Coal Company

IMPOUNDMENT IDENTIFICATION

Impoundment Name	Pond 6
Impoundment Number	UPDES Outfall 003
UPDES Permit Number	UT0022616
MSHA ID Number	NA

IMPOUNDMENT INSPECTION

Inspection Date	4 Aug 2015
Inspected by	R.B. White
Reason for Inspection	Annual

(Annual, quarterly or other periodic inspections, critical installation , or completion of construction.)

1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.

It appears that the pond is operating as designed. The culvert downstream from the Parshall flume has separated slightly at a location just prior to the pont where the culvert extends down the slope to Quitchupah Creek. No water was leaking from the culvert at the time of the inspection. This separation should be monitored periodically and repaired if it widens.

Questions a and b are required for an impoundment, which functions as a Sedimentation pond.

a. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.

Design sediment storage volume = 7.5 AF
60% sediment cleanout volume = 4.5 AF
Sediment cleanout elevation = 6012.5 ft

Average elevation of sediment in pond bottom = 6009.6 (based on August 2015 survey)

b. Principle and emergency spillway elevations.

Spillway elevation = 6015.0 ft

2. Field Information

Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/ instrumentation information, inlet/ outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/ repairs, monitoring information, vegetation on outslopes of embankments, etc.

At the time of the inspection, the flow depth in the 6-inch Parshall flume at the pond outlet was 0.93 ft, representing a discharge of 1.84 cfs.

3. Field Evaluation.

Describe any changes in the geometry of the impounding structure, average and maximum depths and elevation of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period

The pond appears to be operating as designed. The separation in the outflow culvert should be monitored periodically and repaired if it widens.

QUALIFICATION STATEMENT:

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved designs and meets or exceeds the minimum design requirements under all applicable federal, state and local regulations; and that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous condition of the structure affecting stability.

Signature: Richard Bowles Date: 13 Aug 2015

CERTIFIED REPORT

IMPOUNDMENT EVALUATION

If you answer NO to these questions, please explain under comments

		YES	NO
1.	Is impoundment designed and constructed in accordance with the approved plan?	☒	☐
2.	Is impoundment free of instability, structural weakness, or any other hazardous conditions?	☒	☐
3.	Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	☒	☐

COMMENTS/ OTHER INFORMATION

Consol operates this pond to settle sediment from mine discharge water.

CERTIFICATION STATEMENT:

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved designs and meets or exceeds the minimum design requirements under all applicable federal, state and local regulations; and that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

By: Richard B. White, P.E. - President, EarthFax Engineering Group, LLC

Full Name and Title

Signature: Richard B White Date 13 Aug 2015

P.E. Number & State 168246, UT

[P.E. Cert. Stamp]

*To enter text, click in the box and type your response. If a box already contains an entry select the entry and type the replacement. You can use the **tab** key to move from one field to the next. To select a check box, click in the box or type an x.*

GENERAL INFORMATION

Report Date	13 Aug 2015
Permit Number	ACT 015/015
Mine Name	Emery Mine
Company Name	Consolidated Coal Company

IMPOUNDMENT IDENTIFICATION

Impoundment Name	Pond 5
Impoundment Number	UPDES Outfall 007
UPDES Permit Number	UT0022616
MSHA ID Number	NA

IMPOUNDMENT INSPECTION

Inspection Date	4 Aug 2015
Inspected by	R.B. White
Reason for Inspection	Annual

(Annual, quarterly or other periodic inspections, critical installation , or completion of construction.)

1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.

The HDPE inlet culverts have been cut where they protrude from the interior pond slope to avoid future degradation of the material. A corrugated HDPE liner has been placed on this slope at the middle inlet to direct the flow of water into the pond. Riprap has been placed at the outlet from this liner to minimize erosion of the pond bottom at the inlet. Some of this riprap has been moved by the force of the water. All sediment eroded at the discharge point will accumulate within the pond.

Questions a and b are required for an impoundment, which functions as a Sedimentation pond.

a. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.

Design sediment storage volume = 1.13 AF
Design sediment storage elevation = 5944.6 ft
60% sediment cleanout volume = 0.68 AF
60% sediment cleanout elevation = 5943.8 ft

Average current sediment storage elevation = 5943.2 ft (based on August 2015 survey)

b. Principle and emergency spillway elevations.

Spillway elevation = 5949.2 ft

2. Field Information

Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/ instrumentation information, inlet/ outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/ repairs, monitoring information, vegetation on outslopes of embankments, etc.

This pond has four 24-inch diameter inlet culverts (one CMP and three HDPE). The pond contained 12 to 15 inches of water at the time of the inspection. The open-channel outlet spillway shows no sign of discharge or erosion. The pond embankment shows no signs of instability.

3. **Field Evaluation.**

Describe any changes in the geometry of the impounding structure, average and maximum depths and elevation of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period

No stability or operational concerns were noted during the inspection.

QUALIFICATION STATEMENT:

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved designs and meets or exceeds the minimum design requirements under all applicable federal, state and local regulations; and that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous condition of the structure affecting stability.

Signature: Richard B Nolet Date: 13 Aug 2015

CERTIFIED REPORT

IMPOUNDMENT EVALUATION

If you answer NO to these questions, please explain under comments

		YES	NO
1.	Is impoundment designed and constructed in accordance with the approved plan?	☒	☐
2.	Is impoundment free of instability, structural weakness, or any other hazardous conditions?	☒	☐
3.	Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	☒	☐

COMMENTS/ OTHER INFORMATION

The pond appears to be functioning as designed.

CERTIFICATION STATEMENT:

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved designs and meets or exceeds the minimum design requirements under all applicable federal, state and local regulations; and that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

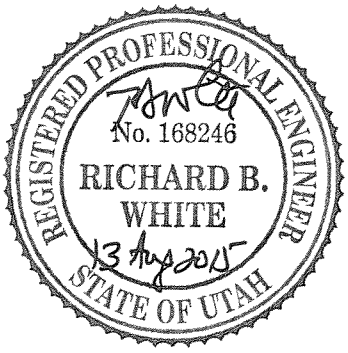
By: Richard B. White, P.E. - President, EarthFax Engineering Group, LLC

Full Name and Title

Signature: Richard B White Date 13 Aug 2015

P.E. Number & State 168246, UT

[P.E. Cert. Stamp]



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GENERAL INFORMATION

Report Date	13 Aug 2015
Permit Number	ACT 015/015
Mine Name	Emery Mine
Company Name	Consolidated Coal Company

IMPOUNDMENT IDENTIFICATION

Impoundment Name	Pond 3
Impoundment Number	UPDES Outfall 005
UPDES Permit Number	UT0022616
MSHA ID Number	NA

IMPOUNDMENT INSPECTION

Inspection Date	4 Aug 2015
Inspected by	R.B. White
Reason for Inspection	Annual

(Annual, quarterly or other periodic inspections, critical installation , or completion of construction.)

1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.

None

Questions a and b are required for an impoundment, which functions as a Sedimentation pond.

a. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.

Design sediment storage volume = 1.14 AF
Design sediment storage elevation = 5906.5 ft
60% sediment cleanout volume = 0.68 AF
60% sediment cleanout elevation = 5905.0 ft

Average current sediment storage elevation = 5904.8 ft (based on August 2015 survey)

b. Principle and emergency spillway elevations.

Spillway elevation = 5907.8 ft

2. Field Information

Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/ instrumentation information, inlet/ outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/ repairs, monitoring information, vegetation on outslopes of embankments, etc.

The pond contained no water at the time of the inspection. The overflow consists of a 42-inch diameter riser with two 6-inch diameter side inlets (one with its invert located 15.5 inches below the top of the riser and the other with its invert 58 inches below the top of the riser). The riser outlet invert is located 69 inches below the top of the riser. There were no signs of recent water on the inside of the riser, indicating that the pond has not recently filled to this elevation. No signs of instability were observed, including on the steep, natural outslope on the north embankment. Sediment has accumulated in the pond and is near the cleanout elevation. Furthermore, the lowest inlet to the riser is plugged with sediment. Sediment should be cleaned from the pond before the end of the year.

3. Field Evaluation.

Describe any changes in the geometry of the impounding structure, average and maximum depths and elevation of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period

The pond appears to be functioning as designed. Sediment has accumulated to a sufficient depth that the poind should be cleaned before the end of the year. The lowest inlet to the pon riser should also be cleared of accumulated sediment.

QUALIFICATION STATEMENT:

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved designs and meets or exceeds the minimum design requirements under all applicable federal, state and local regulations; and that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous condition of the structure affecting stability.

Signature: Richard T Bowles Date: 13 Aug 2015

CERTIFIED REPORT

IMPOUNDMENT EVALUATION

If you answer NO to these questions, please explain under comments

		YES	NO
1.	Is impoundment designed and constructed in accordance with the approved plan?	☒	☐
2.	Is impoundment free of instability, structural weakness, or any other hazardous conditions?	☒	☐
3.	Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	☒	☐

COMMENTS/ OTHER INFORMATION

The pond appears to be functioning as designed and is adequate for continued use. Accumulated sediment should be cleaned from the pond before the end of the year.

CERTIFICATION STATEMENT:

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved designs and meets or exceeds the minimum design requirements under all applicable federal, state and local regulations; and that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

By: Richard B. White, P.E. - President, EarthFax Engineering Group, LLC

Full Name and Title

Signature: Richard B White Date 13 Aug 2015

P.E. Number & State 168246, UT

[P.E. Cert. Stamp]

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*To enter text, click in the box and type your response. If a box already contains an entry select the entry and type the replacement. You can use the **tab** key to move from one field to the next. To select a check box, click in the box or type an x.*

GENERAL INFORMATION

Report Date	13 Aug 2015
Permit Number	ACT 015/015
Mine Name	Emery Mine
Company Name	Consolidated Coal Company

IMPOUNDMENT IDENTIFICATION

Impoundment Name	Pond 2
Impoundment Number	UPDES Outfall 002
UPDES Permit Number	UT0022616
MSHA ID Number	NA

IMPOUNDMENT INSPECTION

Inspection Date	4 Aug 2015
Inspected by	R.B. White
Reason for Inspection	Annual

(Annual, quarterly or other periodic inspections, critical installation , or completion of construction.)

1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.

None

Questions a and b are required for an impoundment, which functions as a Sedimentation pond.

a. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.

Design sediment storage volume = 0.83 AF
Design sediment storage elevation = 5905.3 ft
60% sediment cleanout volume = 0.50 AF
60% sediment cleanout elevation = 5903.0 ft

Average current sediment storage elevation = 5901.0 ft (based on August 2015 survey)

b. Principle and emergency spillway elevations.

Spillway elevation = 5908.5 ft

2. Field Information

Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/ instrumentation information, inlet/ outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/ repairs, monitoring information, vegetation on outslopes of embankments, etc.

Water flows into this pond via a 12-inch diameter PVC pipe, which discharges onto riprap down the inside embankment. No water was in the pond at the time of the inspection. Large boulders have been placed downstream from the pond outlet. No signs of erosion were observed during the inspection. The dewatering culvert has been fitted with a skimmer. The pond appears to be in good, functional shape.

3. Field Evaluation.

Describe any changes in the geometry of the impounding structure, average and maximum depths and elevation of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period

No problems were observed.

QUALIFICATION STATEMENT:

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved designs and meets or exceeds the minimum design requirements under all applicable federal, state and local regulations; and that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous condition of the structure affecting stability.

Signature: Richard B Wolfe Date: 13 Aug 2015

CERTIFIED REPORT

IMPOUNDMENT EVALUATION

If you answer NO to these questions, please explain under comments

		YES	NO
1.	Is impoundment designed and constructed in accordance with the approved plan?	☒	☐
2.	Is impoundment free of instability, structural weakness, or any other hazardous conditions?	☒	☐
3.	Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	☒	☐

COMMENTS/ OTHER INFORMATION

The pond appears to be functioning as designed and is adequate for continued use. The pond was resurveyed on August 4, 2015 by Cody Ware.

CERTIFICATION STATEMENT:

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved designs and meets or exceeds the minimum design requirements under all applicable federal, state and local regulations; and that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

By: Richard B. White, P.E. - President, EarthFax Engineering Group, LLC

Full Name and Title

Signature: Richard B White Date 13 Aug 2015

P.E. Number & State 168246, UT

[P.E. Cert. Stamp]

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GENERAL INFORMATION

Report Date	13 Aug 2015
Permit Number	ACT 015/015
Mine Name	Emery Mine
Company Name	Consolidated Coal Company

IMPOUNDMENT IDENTIFICATION

Impoundment Name	Pond 1
Impoundment Number	UPDES Outfall 001
UPDES Permit Number	UT0022616
MSHA ID Number	NA

IMPOUNDMENT INSPECTION

Inspection Date	4 Aug 2015
Inspected by	R.B. White
Reason for Inspection	Annual

(Annual, quarterly or other periodic inspections, critical installation , or completion of construction.)

1. Describe any appearance of any instability, structural weakness, or any other hazardous condition.

None

Questions a and b are required for an impoundment, which functions as a Sedimentation pond.

a. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes, and estimated average elevation of existing sediment.

Design sediment storage volume = 10.3 AF
60% sediment cleanout volume = 6.2 AF
Sediment cleanout elevation = 5935.7 ft

Average elevation of sediment in pond bottom = 5932.6 ft (based on Aug 2015 survey)

b. Principle and emergency spillway elevations.

Spillway elevation = 5939.5 ft
With stop logs in place, the spillway elevation can be raised a minimum of an additional 12 inches.

2. Field Information

Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/ instrumentation information, inlet/ outlet conditions, or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/ repairs, monitoring information, vegetation on outslopes of embankments, etc.

This pond serves as a location for the discharge of mine water, but has not been used for that purpose since taken temporarily out of service in 2011. The pond was empty at the time of the August 2015 inspection. The embankments remain in good condition and the pond remains capable of serving its intended purpose if re-activated.

3. Field Evaluation.

Describe any changes in the geometry of the impounding structure, average and maximum depths and elevation of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded, and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period

The pond is capable of properly serving its intended function. Plenty of sediment capacity remains in the pond. The pond is adequate for continued use.

QUALIFICATION STATEMENT:

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved designs and meets or exceeds the minimum design requirements under all applicable federal, state and local regulations; and that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous condition of the structure affecting stability.

Signature: Richard Bowler Date: 13 Aug 2015

CERTIFIED REPORT

IMPOUNDMENT EVALUATION

If you answer NO to these questions, please explain under comments

		YES	NO
1.	Is impoundment designed and constructed in accordance with the approved plan?	☒	☐
2.	Is impoundment free of instability, structural weakness, or any other hazardous conditions?	☒	☐
3.	Has the impoundment met all applicable performance standards and effluent limitations from the previous date of inspection?	☒	☐

COMMENTS/ OTHER INFORMATION

Consol has operated this pond in the past for the settlement of sediment contained in water that is discharged from the underground mine. Discharges to the pond ceased in 2011. The pond was resurveyed on August 4, 2015 by Cody Ware.

CERTIFICATION STATEMENT:

I hereby certify that; I am experienced in the construction of impoundments; I am qualified and authorized in the State of Utah to inspect and certify the condition and appearance of impoundments in accordance with the certified and approved designs for this structure; that the impoundment has been maintained in accordance with approved designs and meets or exceeds the minimum design requirements under all applicable federal, state and local regulations; and that inspections and inspection reports are made by myself or under my direction and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability in accordance with the Utah R645 Coal Mining Rules.

By: Richard B. White, P.E. - President, EarthFax Engineering Group, LLC

Full Name and Title

Signature: Richard B White Date 13 Aug 2015

P.E. Number & State 168246, UT

[P.E. Cert. Stamp]

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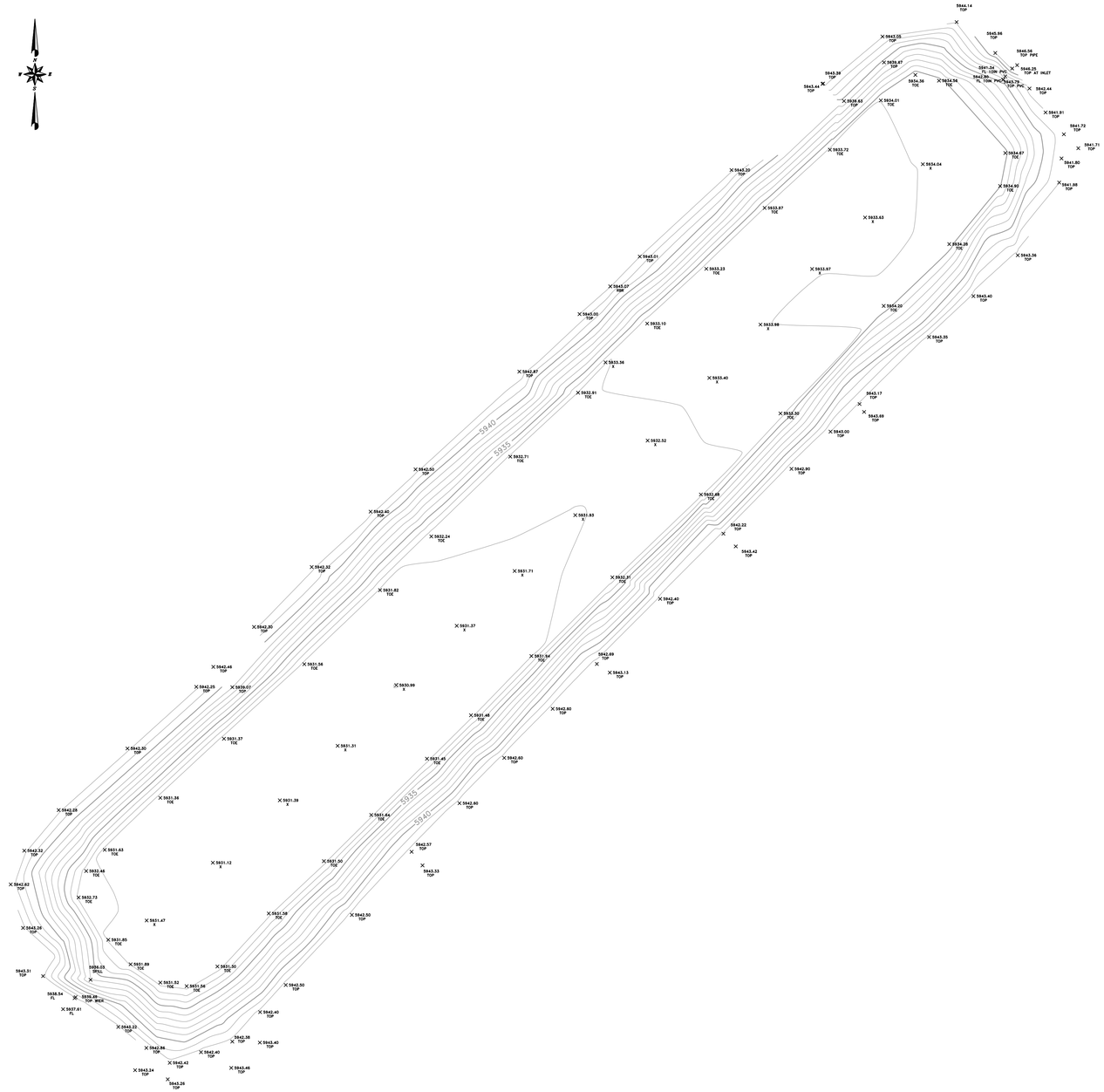
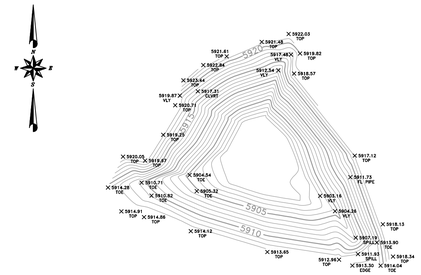
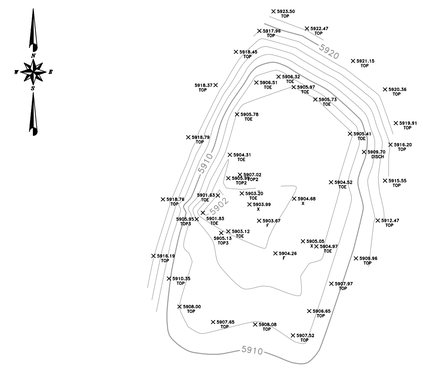


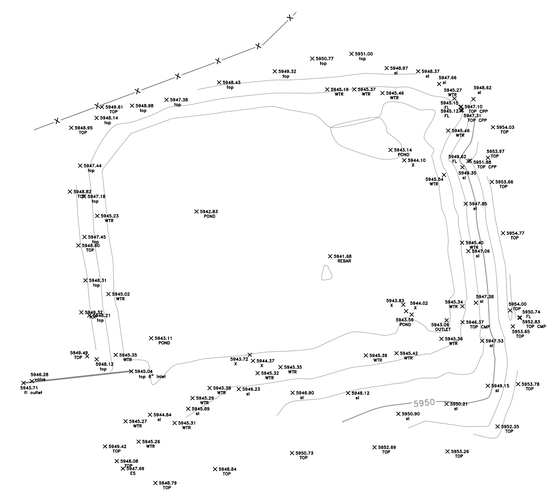
POND 1
SCALE: 1"=40'



POND 2
SCALE: 1"=40'



POND 3
SCALE: 1"=40'

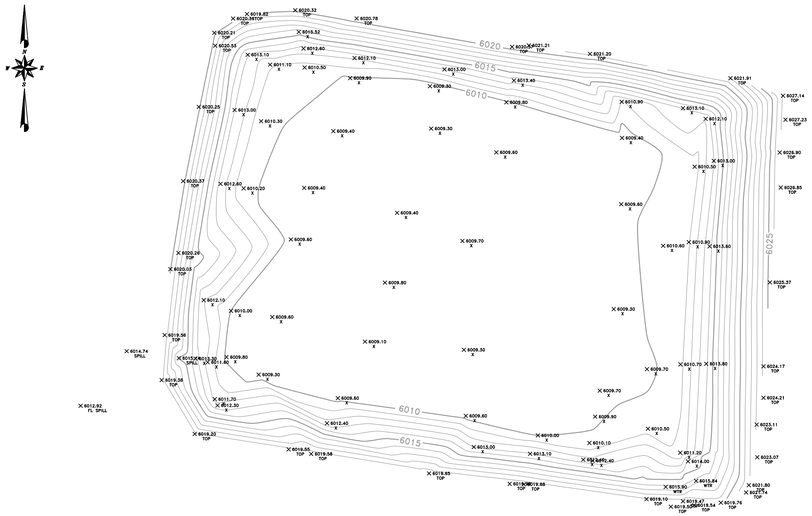


POND 5
SCALE: 1"=40'

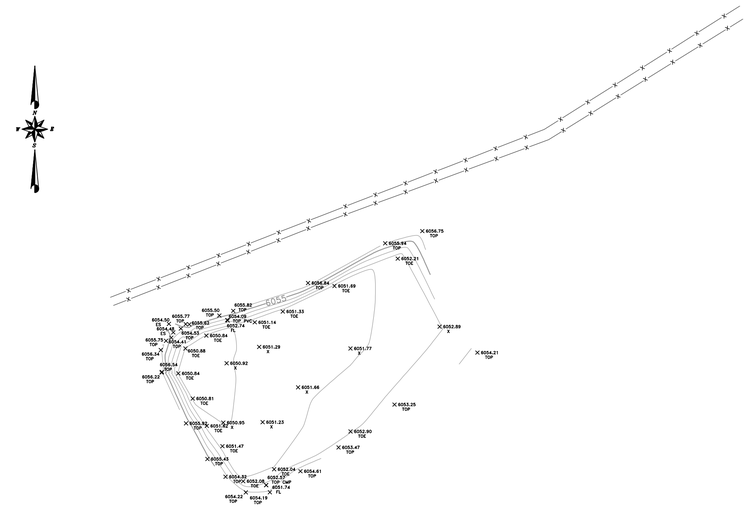
EarthFax	BASE MAP: COORDINATE SYSTEM: STATE PLANE COORDINATES. NAD 83 (CONUS) ZONE-4302-UTAH, CENTRAL - US FEET VERTICAL DATUM - NAVD 88-US FEET	EXTERNAL REFERENCE:	REVISIONS	NO.	DATE	BY	DESCRIPTION	NO.	DATE	BY	DESCRIPTION	0' 40' SCALE: 1" = 40'	DRAWN BY: SWF
													APPROVED BY: RBW

CHECKED BY: RBW	ORIGINAL DATE: RE-DRAWN DATE:	EMERY MINE EMERY COUNTY, UTAH	**CONSOLIDATION COAL COMPANY** P.O. BOX 566 SESSER, IL 62884-0566
DWG DATA: G:\UC982\015 PLATEX1-1.DWG		PERMIT NO. ACT015/015	

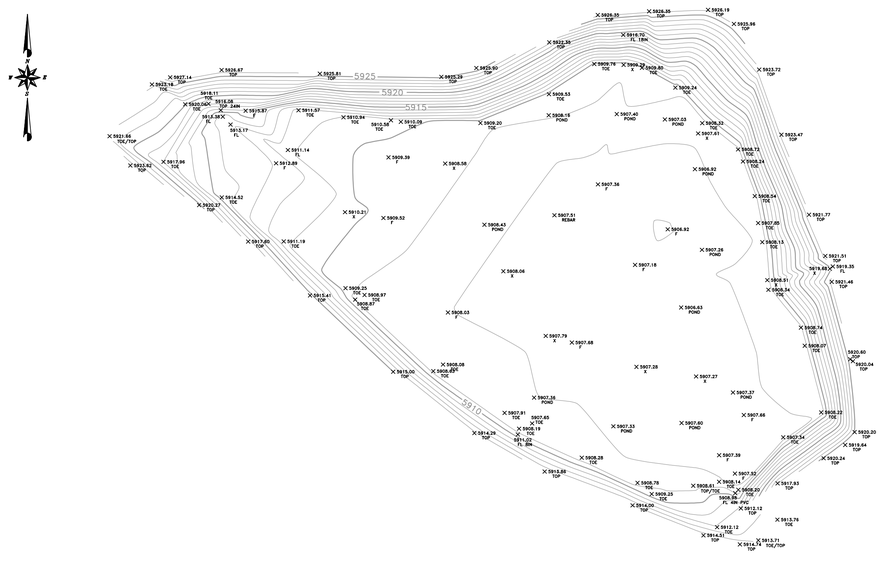
PLATE 1
EMERY MINE SEDIMENTATION POND
AUGUST 2015 SURVEY



POND 6
SCALE: 1"=40'



POND 9
SCALE: 1"=40'



POND 8
SCALE: 1"=40'

EarthFax	BASE MAP:	EXTERNAL REFERENCE:	REVISIONS	NO.	DATE	BY	DESCRIPTION	NO.	DATE	BY	DESCRIPTION	0' 40' SCALE: 1" = 40'	DRAWN BY: SWF	CHECKED BY: RBW
	COORDINATE SYSTEM: STATE PLANE COORDINATES. NAD 83 (CONS) ZONE-4302-UTAH, CENTRAL - US FEET VERTICAL DATUM - NAVD 88-US FEET			1									APPROVED BY: RBW	DWG DATA: G:\UC982\015 PLATEX1-1.DWG

ORIGINAL DATE:
RE-DRAWN DATE:

EMERY MINE
EMERY COUNTY, UTAH

PERMIT NO.
ACT015/015

CONSOLIDATION COAL COMPANY
P.O. BOX 566
SESSER, IL 62884-0566

PLATE 2
EMERY MINE SEDIMENTATION POND
AUGUST 2015 SURVEY

Appendix A-2

Quarterly Coal Refuse Inspections

INSPECTION FORM

COAL REFUSE PILES AND COAL WASTE IMPOUNDMENTS

Name Quinn Healy Title PE

Date 11/14/2015 Date last inspected 7/20/2015

Site Name Emery Temp. Coal Stockpile Mine Name Emery

Refuse Facility ID # 1211-UT-09-00079-01

Refuse piles---Part A only
Impoundments---Part A and Part B

Part A

1.	Foundation preparation (vegetation, topsoil removal?)	X Yes	___ No
2.	Lift Thickness (inches)		
3.	Compaction (4 to 6 complete passes)	X Yes	___ No
4.	Burning* (specify extent and location)	___ Yes	X No
5.	Angle of Slope (degrees)	3:1	
6.	Seepage* (specify location, color, & appr. volume	___ Yes	X No
7.	Cracks or scarps* (location, size)	___ Yes	X No
	Major erosion problems* (location and extent)	___ Yes	X No
	Water impounding against toe*	___ Yes	X No

Part B

10.	Embankment freeboard (feet)		
11.	____Increase____Decrease in water level (feet)	___ Yes	___ No
12.	Sumps or sinkholes in slurry surface	___ Yes	___ No
13.	Clogging* (pipes, ditches, spillway)	___ Yes	___ No
14.	Trash racks clear and in place	___ Yes	___ No

* Adverse conditions noted in these items should be described (extent, location, volume, etc.) in the space provided. Major adverse changes could cause instability.

Inspection Category

Comments

I inspected the refuse pile on 11/14/2015

The slopes are compacted and stable. The site drainage impoundment ditches are intact. There are no visible instabilities or other hazardous conditions.

LICENSED PROFESSIONAL ENGINEER
No. 275564
J. QUINN HEALY
11/14/15
STATE OF UTAH

FORM 1

INSPECTION FORM

COAL REFUSE PILES AND COAL WASTE IMPOUNDMENTS

Name Quinn Healy Title PE

Date 7/20/2015 Date last inspected 4/18/2015

Site Name Emery Temp. Coal Stockpile Mine Name Emery

Refuse Facility ID # 1211-UT-09-00079-01

Refuse piles---Part A only
Impoundments---Part A and Part B

Part A

1.	Foundation preparation (vegetation, topsoil removal?)	X Yes	___ No
2.	Lift Thickness (inches)		
3.	Compaction (4 to 6 complete passes)	X Yes	___ No
4.	Burning* (specify extent and location)	___ Yes	X No
5.	Angle of Slope (degrees)	3:1	
6.	Seepage* (specify location, color, & appr. volume	___ Yes	X No
7.	Cracks or scarps* (location, size)	___ Yes	X No
8.	Major erosion problems* (location and extent)	___ Yes	X No
9.	Water impounding against toe*	___ Yes	X No

Part B

10.	Embankment freeboard (feet)		
11.	___ Increase ___ Decrease in water level (feet)	___ Yes	___ No
12.	Sumps or sinkholes in slurry surface	___ Yes	___ No
13.	Clogging* (pipes, ditches, spillway)	___ Yes	___ No
14.	Trash racks clear and in place	___ Yes	___ No

* Adverse conditions noted in these items should be described (extent, location, volume, etc.) in the space provided. Major adverse changes could cause instability.

Inspection Category	Comments
	I inspected the refuse pile on 7/20/2015
	The slopes are compacted and stable. The site drainage impoundment ditches are intact. There are no visible instabilities or other hazardous conditions.

LICENSED PROFESSIONAL ENGINEER
No. 275564
J. QUINN HEALY
7/20/15
STATE OF UTAH

FORM 1

INSPECTION FORM

COAL REFUSE PILES AND COAL WASTE IMPOUNDMENTS

Name Quinn Healy Title PE

Date 4/18/2015 Date last inspected 1/19/2015

Site Name Emery Temp. Coal Stockpile Mine Name Emery

Refuse Facility ID # 1211-UT-09-00079-01

Refuse piles---Part A only
Impoundments---Part A and Part B

Part A

1.	Foundation preparation (vegetation, topsoil removal?)	X Yes	___ No
2.	Lift Thickness (inches)		
3.	Compaction (4 to 6 complete passes)	X Yes	___ No
4.	Burning* (specify extent and location)	___ Yes	X No
5.	Angle of Slope (degrees)	3:1	
6.	Seepage* (specify location, color, & appr. volume	___ Yes	X No
7.	Cracks or scarps* (location, size)	___ Yes	X No
8.	Major erosion problems* (location and extent)	___ Yes	X No
9.	Water impounding against toe*	___ Yes	X No

Part B

10.	Embankment freeboard (feet)		
11.	____Increase____Decrease in water level (feet)	___ Yes	___ No
12.	Sumps or sinkholes in slurry surface	___ Yes	___ No
13.	Clogging* (pipes, ditches, spillway)	___ Yes	___ No
14.	Trash racks clear and in place	___ Yes	___ No

* Adverse conditions noted in these items should be described (extent, location, volume, etc.) in the space provided. Major adverse changes could cause instability.

Inspection Category	Comments
	I inspected the refuse pile on 4/18/2015
	The slopes are compacted and stable. The site drainage impoundment ditches are intact. There are no visible instabilities or other hazardous conditions.

LICENSED PROFESSIONAL ENGINEER
No. 275564
J. QUINN HEALY
4/18/15
STATE OF UTAH

FORM 1

INSPECTION FORM

COAL REFUSE PILES AND COAL WASTE IMPOUNDMENTS

Name Quinn Healy Title PE

Date 1/19/2015 Date last inspected 10/25/2014

Site Name Emery Temp. Coal Stockpile Mine Name Emery

Refuse Facility ID # 1211-UT-09-00079-01

Refuse piles---Part A only
Impoundments---Part A and Part B

Part A

1.	Foundation preparation (vegetation, topsoil removal?)	X Yes	___ No
2.	Lift Thickness (inches)		
3.	Compaction (4 to 6 complete passes)	X Yes	___ No
4.	Burning* (specify extent and location)	___ Yes	X No
5.	Angle of Slope (degrees)	3:1	
6.	Seepage* (specify location, color, & appr. volume	___ Yes	X No
7.	Cracks or scarps* (location, size)	___ Yes	X No
8.	Major erosion problems* (location and extent)	___ Yes	X No
9.	Water impounding against toe*	___ Yes	X No

Part B

10.	Embankment freeboard (feet)		
11.	____Increase____Decrease in water level (feet)	___ Yes	___ No
12.	Sumps or sinkholes in slurry surface	___ Yes	___ No
13.	Clogging* (pipes, ditches, spillway)	___ Yes	___ No
14.	Trash racks clear and in place	___ Yes	___ No

* Adverse conditions noted in these items should be described (extent, location, volume, etc.) in the space provided. Major adverse changes could cause instability.

Inspection Category

LICENSED PROFESSIONAL ENGINEER
No. 275564
J. QUINN HEALY
1/19/15
STATE OF UTAH

Comments

I inspected the refuse pile on 1/19/2015

The slopes are compacted and stable. The site drainage impoundment ditches are intact. There are no visible instabilities or other hazardous conditions.

FORM 1

Appendix B-2

Annual Subsidence Survey

Consolidation Coal Co.
December 2015 - Annual Subsidence Survey

NAD 1983, Utah Central, US Survey feet
NAVD 1988

MEASURED POINTS

POINT NAME	NORTHING	EASTING	PREVIOUS ELEVATION	Nov. 2007 ELEVATION	Nov. 2008 ELEVATION	Nov. 2009 ELEVATION	Dec. 2010 ELEVATION	Dec. 2011 ELEVATION	Dec. 2012 ELEVATION	Nov. 2013 ELEVATION	Nov. 2013 ELEVATION	Dec. 2015 ELEVATION
			ADJUSTED									
			OCT. 06 ELEV.									
H-1	6758256.55	1713035.05	6082.81	6082.74	6082.88	6082.87	6082.94	6082.89	6082.87	6082.88	6082.87	6082.86
36	6756805.63	1713716.02	6041.05	6040.79	6041.00	6040.89	6040.95	6040.91	6040.92	6040.92	6040.93	6040.92
SMH	6755882.85	1712049.12	6057.67	6057.32	6057.61	6057.52	6057.59	6057.56	6057.54	6057.52	6057.52	6057.54
90-1	6755171.22	1712000.26	6037.91	6037.45	6037.70	6037.63	6037.66	6037.69	6037.69	6037.67	6037.69	6037.68
90-2	6755593.14	1712304.86	6053.83	6053.39	6053.64	6053.58	6053.63	6053.55	6053.56	6053.55	6053.56	6053.56
35	6761558.54	1711229.20	6106.36	6106.67	6106.80		6106.92	6106.76	6106.77	6106.78	6106.76	6106.75
83-1	6759093.54	1713116.69	6065.51	6065.46	6065.64	6065.58	6065.62	6065.60	6065.59	6065.59	6065.61	6065.58
86-1	6757857.39	1706660.25	6003.40	6003.59	6003.84	6003.86	6003.93	6003.79	6003.77	6003.77	6003.79	6003.80
86-2	6758652.96	1705551.95	6040.48	6040.76	6040.91	6040.93	6040.97	6040.76	6040.73	6040.72	6040.74	6040.74
86-4	6760837.61	1702889.91	6078.44	6079.20	6079.40	6079.40	6079.42	6079.23	6079.24	6079.25	6079.21	6079.20
86-5	6760155.85	1704278.88	6163.45	6163.97	6164.22	6164.21	6164.25	6164.10	6164.05	6164.07	6164.04	6164.08
86-13	6759176.02	1704251.23	6036.06	6036.50	6036.65	6036.63	6036.68	6036.44	6036.41	6036.41	6036.42	6036.40
88-2	6759134.95	1703887.62	6016.57	6017.01	6017.17	6017.18	6017.20	6016.95	6016.97	6016.95	6016.96	6016.96
88-3	6758692.06	1704300.65	6014.34	6014.83	DESTROYED	DESTROYED	DESTROYED	DESTROYED	DESTROYED	DESTROYED	DESTROYED	DESTROYED
88-4	6758006.11	1704828.28	5988.26	5988.56	5988.71	5988.73	5988.72	5988.51	5988.51	5988.52	5987.50	5988.53
88-5	6757972.48	1705259.42	5994.61	5994.92	DESTROYED	DESTROYED	DESTROYED	DESTROYED	DESTROYED	DESTROYED	DESTROYED	DESTROYED
88-6	6757177.64	1705879.38	5975.05	5975.24	5975.39	5975.42	5975.56	5975.48	5975.47	5975.48	5975.50	5975.47
89-2	6762836.20	1705604.61	6200.08	6200.84	6200.98	6200.95	6201.03	6200.81	6200.76	6200.74	6200.74	6200.72
89-3	6761091.78	1704846.48	6170.31	6170.90	6171.13	6171.11	6171.10	6171.16	6171.17	6171.18	6171.16	6171.18
89-4	6762473.44	1706321.62	6184.86	6185.60	6185.69	6185.77	6185.81	6185.59	6185.52	6185.52	6185.54	6185.53
90-03	6756435.50	1712926.84	6037.17	6036.93	6037.13	6037.04	6037.04	6037.12	6037.10	6037.10	6037.08	6037.09
90-04	6757182.04	1713517.48	6031.02	6030.74	6030.89	6030.76	6030.89	6030.91	6030.89	6030.88	6030.87	6030.89
90-4	6756652.76	1713321.91	6043.29	6043.02	6043.27	6043.16	6043.17	6043.20	6043.18	6043.19	6043.20	6043.21
90-5	6757394.42	1713688.58	6036.66	6036.41	6036.56	6036.50	6036.55	6036.58	6036.55	6036.57	6036.54	6036.56
90-6	6758779.41	1714726.46	6050.72	6050.62	6050.82	6050.78	6050.84	6050.88	6050.89	6050.91	6050.88	6050.87
SM-C	6758743.87	1714106.30	6051.44	6051.38	6051.64	6051.53	6051.57	6051.54	6051.57	6051.61	6051.59	6051.62
91-01	6756669.94	1712000.00	6052.23	6052.01	6052.25	6052.67	6052.20	6052.22	6052.19	6052.20	6052.21	6052.18
91-02	6757585.42	1713036.14	6051.46	6051.28	6051.41	6051.38	6051.44	6051.41	6051.42	6051.40	6051.41	6051.42
91-03	6758030.88	1713361.38	6055.63	6055.45	6055.56	6055.61	6055.62	6055.63	6055.63	6055.65	6055.62	6055.64
91-04	6758791.86	1713935.17	6051.81	6051.72	6051.91	6051.82	6051.79	6051.81	6051.80	6051.79	6051.78	6051.80
87-1	6757159.14	1706351.37	5990.51	5990.59	5990.78	5990.81	5990.90	5990.70	5990.70	5990.71	5990.69	5990.70
97-1	6759589.84	1709488.21	6117.57	6117.83	6117.94	6117.97	6117.97	6117.95	6117.96	6117.98	6117.95	6117.96
97-2	6758894.76	1709132.54	6116.53	6116.66	6116.84	6116.87	6116.87	6116.87	6116.88	6116.88	6116.86	6116.88
E	6759462.66	1712234.87	6082.64	6082.75	6082.89	6082.95	6082.97	6082.94	6082.90	6082.91	6082.91	6082.90
E1/4 28	6758451.40	1713666.32	6054.53	6054.45	6054.56	6054.52	6054.52	6054.53	6054.52	6054.56	6054.55	6054.55
H-6	6758064.50	1711094.12	6095.91	6095.93	6096.06	6096.02	6096.04	6096.01	6096.01	6096.02	6096.03	6096.04
W	6756275.89	1705674.96	5958.82	5958.80	5958.94	DESTROYED	DESTROYED	DESTROYED	DESTROYED	DESTROYED	DESTROYED	DESTROYED
L	6754880.54	1705574.55	5950.19	5950.06	5950.29	5950.28	5950.21	5950.28	5950.24	5950.23	5950.23	5950.25
N	6755536.21	1706165.54	5950.23	5950.16	5950.36	5950.39	5950.33	5950.36	5950.39	5950.41	5950.38	5950.40
SMK-2	6758755.59	1710054.13	6102.92	6102.95	6103.12	6103.13	6103.13	6103.12	6103.13	6103.14	6103.12	6103.12
SMK-3	6758965.95	1711660.45	6082.15	6082.18	6082.28	6082.27	6082.34	6082.32	6082.35	6082.36	6082.34	6082.33
			11-2006 ELEVATION									
6-01	6761645.96	1710904.27	6110.04	6110.09	6110.27	6110.27	6110.33	6110.12	6110.13	6110.13	6110.11	6110.13
6-02	6761002.37	1710059.15	6116.61	6116.60	6116.79	6116.88	6116.81	6116.57	6116.57	6116.58	6116.59	6116.57
6-03	6760565.27	1709554.45	6117.32	6117.33	6117.55	6117.69	6117.57	6117.56	6117.52	6117.54	6117.52	6117.55
6-04	6758380.42	1707028.80	6023.68	6023.77	6019.63	6019.51	6019.52	6019.35	6019.31	6019.34	6019.28	6019.30
6-05	6758719.90	1706656.21	6030.59	6030.68	6027.85	6027.67	6027.58	6027.46	6027.41	6027.37	6027.35	6027.38
6-06	6759875.49	1705933.25	6143.18	6142.91	6142.85	6142.71	6142.70	6142.56	6142.58	6142.56	6142.57	6142.55
6-07	6760863.83	1706266.65	6170.20	6169.65	DESTROYED	DESTROYED	DESTROYED	DESTROYED	DESTROYED	DESTROYED	DESTROYED	DESTROYED
6-08	6759343.46	1706993.37	6065.73	6065.23	6064.69	6064.36	6064.22	6063.99	6063.96	6064.00	6064.01	6064.00
6-09	6760017.86	1706164.92	6141.75	6139.26	6139.27	6139.11	6139.04	6138.90	6138.88	6138.92	6138.87	6138.89
6-10	6760383.96	1705795.14	6150.80	6148.22	6148.25	6148.13	6148.12	6147.98	6147.97	6147.97	6147.95	6147.96
6-11	6759493.36	1715652.26	6056.86	6056.87	6057.03	6057.01	6057.04	6057.05	6057.05	6057.04	6057.03	6057.05
6-12	6760098.03	1714699.42	6076.19	6076.15	6076.39	6076.35	6076.40	6076.37	6076.38	6076.38	6076.39	6076.37
6-13	6760891.31	1713698.10	6090.16	6090.17	6090.36	6090.35	6090.33	6090.36	6090.35	6090.32	6090.35	6090.32
6-14	6761793.53	1712734.97	6097.29	6097.30	6097.48	6097.43	6097.38	6097.40	6097.39	6097.38	6097.39	6097.38
6-15	6762265.78	1712329.15	6107.03	6107.08	6107.19	DESTROYED	DESTROYED	DESTROYED	DESTROYED	DESTROYED	DESTROYED	DESTROYED
6-16	6759657.74	1716089.80	6059.39	6059.44	6059.57	6059.56	6059.59	6059.61	6059.62	6059.66	6059.63	6059.64
6-17	6761139.50	1717065.30	6071.56	6071.66	6069.61	6069.11	6068.97	6068.99	6068.97	6068.94	6068.96	6068.96
6-18	6761947.48	1717858.85	6081.27	6081.34	6081.87	6081.54	6081.46	6081.49	6081.48	6081.48	6081.47	6081.49
6-19	6762448.91	1718246.74	6085.90	6085.96	6086.59	6086.17	6086.11	6086.05	6086.01	6086.02	6086.00	6086.03
6-20	6762741.05	1718538.73	6090.48	6090.52	6091.33	6090.73	6090.64	6090.57	6090.56	6090.60	6090.58	6090.59
6-21	6760438.20	1716180.06	6070.28	6070.30	6070.97	6070.38	6070.50	6070.53	6070.53	6070.52	6070.52	6070.55
6-22	6761333.56	1714916.16	6090.69	6090.68	6090.93	6090.92	6090.85	6090.92	6090.90	6090.89	6090.91	6090.88
6-23	6762101.13	1714019.00	6111.33	6111.31	6111.58	6111.52	6111.45	6111.50	6111.49	6111.49	6111.49	6111.47
6-24	6761067.04	1716301.20	6080.76	6080.80	6081.42	6079.91	6078.15	6078.22	6078.23	6078.24	6078.25	6078.21
6-25	6762329.01	1714637.51	6106.02	6106.01	6106.23	6106.28	6106.13	6106.32	6106.30	6106.30	6106.33	6106.32
6-27	6764041.79	1715533.49	6114.65	6114.65	6114.79	6114.81	6114.83	6114.85	6114.87	6114.86	6114.84	6114.88
6-29	6762703.00	1712897.66	6141.81	6141.85	6142.02	6142.00	6141.99	6141.97	6141.96	6141.99	6141.95	6141.96
6-30	6763349.98	1713654.71	6131.17	6131.20	6131.41	6131.32	6131.29	6131.31	6131.27	6131.24	6131.25	6131.28
6-34	6760357.41	1706945.65	6148.20	6148.07	6148.20	6147.88	6147.83	6147.69	6147.67	6147.66	6147.68	6147.67
86-11	6760330.48	1707019.83	6153.72	6153.62	6153.73	6153.39	6153.37	6153.20	6153.18	6153.21	6153.23	6153.20
86-8	6762484.75	1713660.38	6125.27	6125.27	6125.43	6125.43	6125.43	6125.46	6125.45	6125.47	6125.47	6125.46
R BOLT	6759584.85	1705565.44	6151.78	6151.79	6151.25	6151.17	6151.12	6150.97	6150.98	6151.00	6150.97	6150.98
			9-14-07 ELEVATION									
07-01	6759689.65	1717605.56	6077.19	6077.17	6077.36	6077.32	6077.42	6077.45	6077.45	6077.48	6077.46	6077.49
07-02	6761395.09	1718892.63	6080.35	6080.35	6080.54	6080.60	6080.58	6080.60	6080.59	6080.58	6080.61	6080.60
07-03	6759677.37	1716935.01	6059.25	6059.28	6059.49	6059.43	6059.48	6059.53	6059.55	6059.60	6059.58	6059.56
07-04	6760461.70	1717523.64	6067.06	6067.06	6067.20	6067.12	6067.22	6067.20	6067.19	6067.20	6067.20	6067.21
07-05	6761257.03	1718095.27	6075.77	6075.80	6075.76	6075.70	6075.75	6075.73	6075.75	6075.77	6075.74	6075.75
07-06	6760573.27	1718252.26	6078.10	6078.13	6078.32	6078.32	6078.32	6078.35	6078.34	6078.34	6078.31	6078.36
07-07	6759021.04	1716449.85	6065.37	6065.43	6065.58	6065.63	6065.68	6065.69	6065.66	6065.67	6065.69	6065.69
07-08	6762043.96	1718677.76	6082.46	6082.48	6083.35	6082.68	6082.64	6082.60	6082.62	6082.60	6082.61	6082.58
			8-21-09 ELEVATION									
09-01	6761952.49	1716938.13	6080.76			6080.40	6080.09	6080.07	6080.05	6080.08	6080.07	6080.05
09-03	6761294.34	1709303.71	6125.44				6125.41	6125.21	6125.20	6125.19	6125.19	6125.22
09-04	6762109.15	1710461.68	6119.61				6119.62	6119.40	6119.39	6119.42	6119.40	6119.43
09-05	6763111.43	1710025.90	6135.53				6134.91	6134.32	6134.32	6134.34	6134.33	6134.31
09-06	6763680.48	1709550.41	6147.18				6146.97	6146.81	6146.81	6146.82	6146.81	6146.80
09-09	6762038.07	1707708.75	6167.88				6167.89	6167.66	6167.65	6167.64	6167.66	6167.65
09-10	6762015.46	1708703.97	6141.18				6141.18	6140.96	6140.97	6140.96	6140.94	6140.97
11W-02	6761123.43	1707793.81	6151.79				6151.73	6151.47	6151.49	6151.49	6151.48	6151.46
11W-09	6760858.27	1708526.84	6137.60				6137.52	6137.48	6137.50	6137.52	6137.52	6137.55
86-7	6761413.82	1713876.28	6103.92				6103.90	6103.90	6103.90	6103.89	6103.91	6103.88
86-10	6760465.35	1715272.28	6077.71				6077.64	6077.57	6077.56	6077.58	6077.56	6077.55

Appendix B-2a

Monthly Subsidence

Reports

EMERY MINE
SUBSIDENCE INSPECTION REPORT
JANUARY 2015

On January 28, 2015, Russel Jensen of Consol Energy walked the area of the six known subsidence depressions over 00 North and photographed all staked areas. He observed one newly formed sink hole on the perimeter of Depression #2 measuring approximately 2' x 2' x 2.5'. It appeared that this new sink hole formed when saturated soil sank into a previously bridged crack. The hole was filled and re-graded on January 29, 2015. All other areas, including the outside perimeter of all depressions, showed no sign of cracking or subsidence damage. Copies of photographs taken during the inspection (including photographs of the recently-discovered sink hole) are provided in Attachment A.

ATTACHMENT A

Photographs of 00 North Subsidence Depressions
January 28, 2015

Depression #1 - January 28, 2015

Depression #2 - January 28, 2015

Small sink hole discovered at Depression #2 on January 28, 2015. Backfilled and regraded on January 29, 2015. The following photographs were taken on January 28, 2015, prior to regrading.

Depression #3 - January 28, 2015

Depression #4 - January 28, 2015

Depression #5 - January 28, 2015

Depression #6 - January 28, 2015

EMERY MINE
SUBSIDENCE INSPECTION REPORT
FEBRUARY 2015

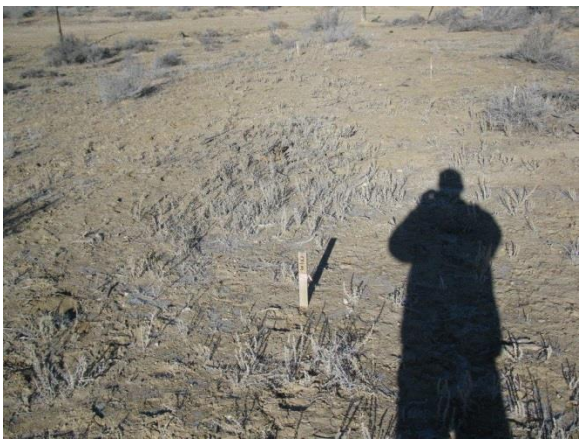
On February 24, 2015, Russel Jensen of Consol Energy walked the area of the six known subsidence depressions over 00 North and photographed all staked areas. He observed no new cracks, depressions, or damage from subsidence. He also walked the surrounding area and observed no new depressions, cracks, damage, or other evidence of new subsidence. Copies of the photographs are provided in Attachment A.

ATTACHMENT A

Photographs of 00 North Subsidence Depressions
February 24, 2015

Depression #1 - February 24, 2015

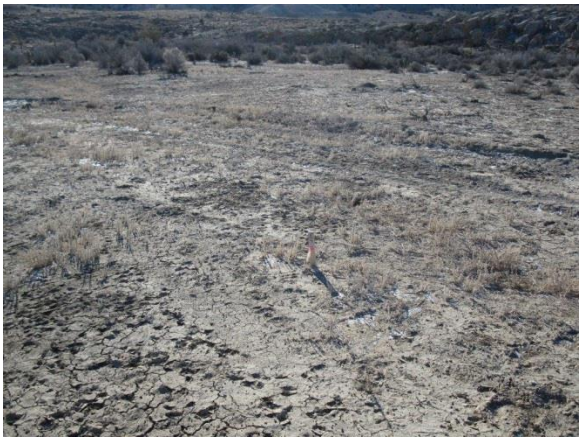
Depression #2 - February 24, 2015



Depression #3 - February 24, 2015

Depression #4 - February 24, 2015

Depression #5 - February 24, 2015



Depression #6 - February 24, 2015

EMERY MINE
SUBSIDENCE INSPECTION REPORT
MARCH 2015

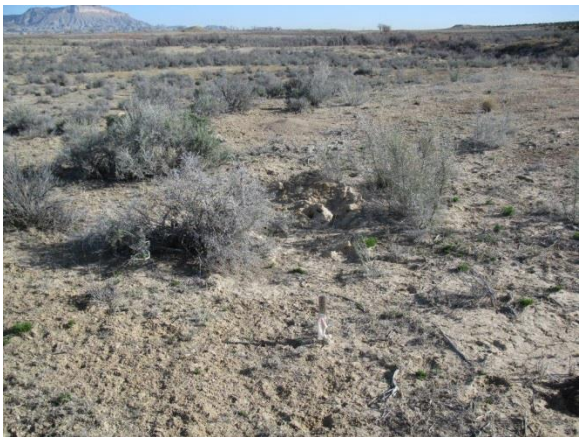
On March 30, 2015, Russel Jensen of Consol Energy walked and photographed the area of the six known subsidence depressions over 00 North. He observed no new cracks, depressions, or evidence of additional subsidence. He also walked the surrounding area and observed no new depressions, cracks, damage, or other evidence of new subsidence. Mr. Jensen also photographed the area where recent subsidence was of the repaired in January 2015. Copies of the photographs are provided in Attachment A.

ATTACHMENT A

Photographs of 00 North Subsidence Depressions
March 30, 2015

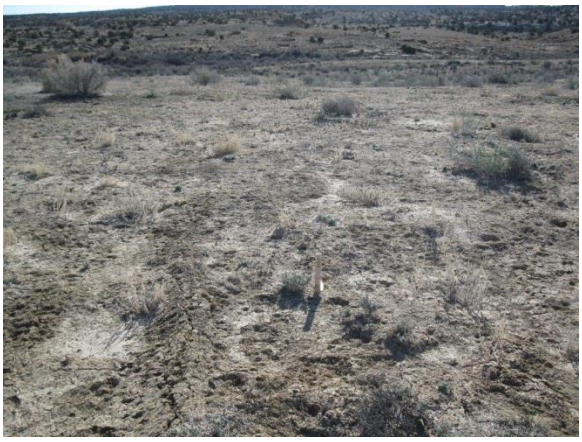
Depression #1 - March 30, 2015

Depression #2 - March 30, 2015

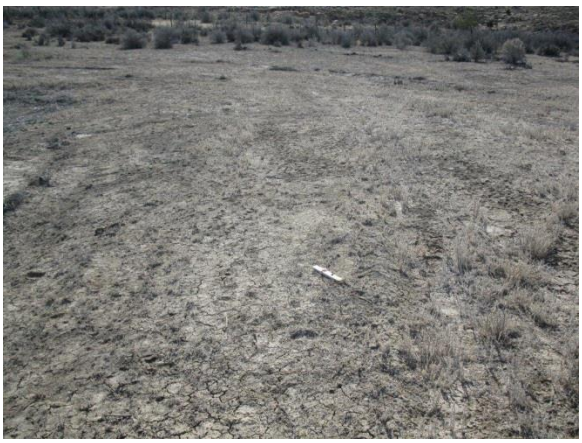


Depression #3 - March 30, 2015

Depression #4 - March 30, 2015



Depression #5 - March 30, 2015



Depression #6 - March 30, 2015

Area repaired in January 2015:
Photos dated March 30, 2015

EMERY MINE
SUBSIDENCE INSPECTION REPORT
APRIL 2015

On April 28, 2015, Russel Jensen of Consol Energy walked and photographed the area of the six known subsidence depressions over 00 North. He observed no new cracks, depressions, or evidence of additional subsidence. He also walked the surrounding area and observed no new depressions, cracks, damage, or other evidence of new subsidence. Mr. Jensen also photographed the area where recent subsidence was of the repaired in January 2015. Copies of the photographs are provided in Attachment A.

ATTACHMENT A

Photographs of 00 North Subsidence Depressions
April 28, 2015

Depression #1 - April 28, 2015

Depression #2 - April 28, 2015

Depression #3 - April 28, 2015

Depression #4 - April 28,

Depression #5 - April 28, 2015

Depression #6 - April 28, 2015

Area repaired in January 2015:
Photos dated April 28, 2015

EMERY MINE
SUBSIDENCE INSPECTION REPORT
APRIL 2015

On May 21, 2015, Russel Jensen of Consol Energy walked and photographed the area of the six known subsidence depressions over 00 North. He observed no new cracks, depressions, or evidence of additional subsidence. He also walked the surrounding area and observed no new depressions, cracks, damage, or other evidence of new subsidence. Mr. Jensen also photographed the area where recent subsidence was repaired in January 2015. Copies of all photographs taken during this inspection are provided in Attachment A.

ATTACHMENT A

Photographs of 00 North Subsidence Depressions
May 21, 2015

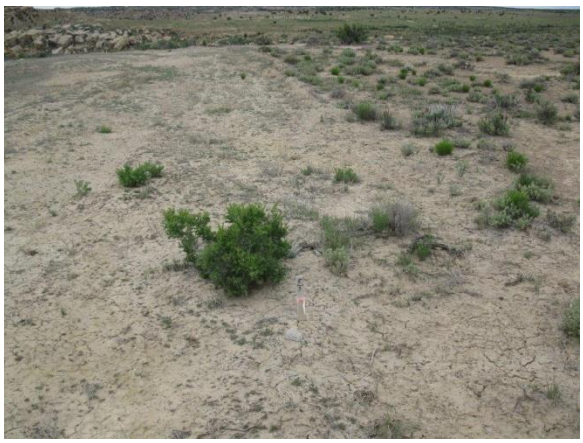
Depression #1 – May 21, 2015

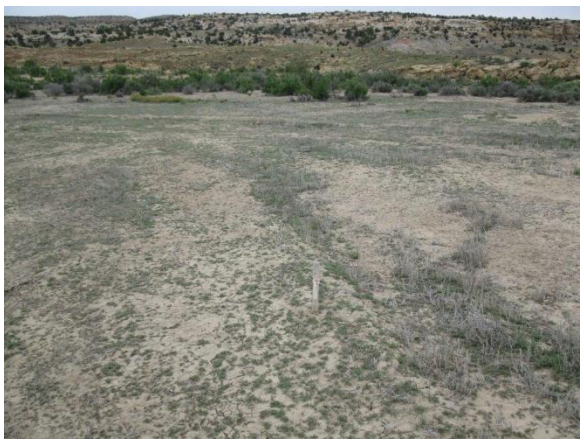
Depression #2 – May 21, 2015

Depression #3 – May 21, 2015

Depression #4 May 21, 2015

Depression #5 – May 21, 2015





Depression #6 – May 21, 2015

Area repaired in January 2015:
Photos dated May 21, 2015

EMERY MINE
SUBSIDENCE INSPECTION REPORT
JUNE 2015

On June 23, 2015, Russel Jensen of Consol Energy walked and photographed the area of the six known subsidence depressions over 00 North. He observed no new cracks, depressions, or evidence of additional subsidence. He also walked the surrounding area and observed no new depressions, cracks, damage, or other evidence of new subsidence. Mr. Jensen also photographed the area where recent subsidence was repaired in January 2015. Copies of all photographs taken during this inspection are provided in Attachment A.

ATTACHMENT A

Photographs of 00 North Subsidence Depressions
June 23, 2015

Depression #1 – June 23,

Depression #2 – June 23, 2015

Depression #3 – June 23,

Depression #4 June 23, 2015

Depression #5 – June 23, 2015

Depression #6 – June 23, 2015

Area repaired in January 2015:
Photos dated June 23, 2015

EMERY MINE
SUBSIDENCE INSPECTION REPORT
JULY 2015

On July 29, 2015, Russel Jensen of Consol Energy walked and photographed the area of the six known subsidence depressions over 00 North. He observed no new cracks, depressions, or evidence of additional subsidence. He also walked the surrounding area and observed no new depressions, cracks, damage, or other evidence of new subsidence. Mr. Jensen also photographed the area where recent subsidence was repaired in January 2015. Copies of all photographs taken during this inspection are provided in Attachment A.

ATTACHMENT A

Photographs of 00 North Subsidence Depressions
July 29, 2015

Depression #1 – July 29, 2015

Depression #2 – July 29, 2015

Depression #3 – July 29, 2015

Depression #4 - July 29, 2015

Depression #5 – July 29, 2015

Depression #6 – July 29, 2015

Area repaired in January 2015:
Photos dated July 29, 2015

EMERY MINE
SUBSIDENCE INSPECTION REPORT
AUGUST 2015

On August 28, 2015, Russel Jensen of Consol Energy walked and photographed the area of the six known subsidence depressions over 00 North. He observed no new cracks, depressions, or evidence of additional subsidence. He also walked the surrounding area and observed no new depressions, cracks, damage, or other evidence of new subsidence. Mr. Jensen also photographed the area where recent subsidence was repaired in January 2015. Copies of all photographs taken during this inspection are provided in Attachment A.

ATTACHMENT A

Photographs of 00 North Subsidence Depressions
August 28, 2015

Depression #1 – August 28, 2015

Depression #2 – August 28, 2015

Depression #3 – August 28, 2015

Depression #4 - August 28, 2015

Depression #5 – August 28, 2015

Depression #6 – August 28, 2015

Area repaired in January 2015:
Photos dated August 28, 2015

EMERY MINE
SUBSIDENCE INSPECTION REPORT
SEPTEMBER 2015

On September 25, 2015, Russel Jensen of Consol Energy walked and photographed the area of the six known subsidence depressions over 00 North. He also walked the surrounding area and observed no new depressions, cracks, damage, or other evidence of new subsidence. Mr. Jensen also observed and photographed the area where subsidence was repaired in January 2015. He observed no new cracks, depressions, or evidence of additional subsidence in any of the areas. Copies of all photographs taken during this inspection are provided in Attachment A.

ATTACHMENT A

Photographs of 00 North Subsidence Depressions
September 25, 2015

Depression #1 – September 25, 2015

Depression #2 – September 25, 2015

Depression #3 – September 25, 2015

Depression #4 - September 25, 2015

Depression #5 – September 25, 2015

Depression #6 – September 25, 2015

Area repaired in January 2015:
Photos dated September 25, 2015

EMERY MINE
SUBSIDENCE INSPECTION REPORT
OCTOBER 2015

On October 29, 2015, Russel Jensen of Consol Energy inspected and photographed the area of the six known subsidence depressions over the 00 North section. He also walked the surrounding area and observed no new depressions, cracks, damage, or other evidence of new subsidence. Mr. Jensen also observed and photographed the area where subsidence was repaired in January 2015. He observed no new cracks, depressions, or evidence of additional subsidence in any of the areas. Copies of all photographs taken during this inspection are provided in Attachment A.

ATTACHMENT A

Photographs of 00 North Subsidence Depressions
October 29, 2015

Depression #1 – October 29, 2015

Depression #2 – October 29, 2015

Depression #3 – October 29, 2015

Depression #4 - October 29, 2015

Depression #5 – October 29, 2015

Depression #6 – October 29, 2015

Area repaired in January 2015:
Photos dated October 29, 2015

EMERY MINE
SUBSIDENCE INSPECTION REPORT
NOVEMBER 2015

On November 27, 2015, Russel Jensen of Consol Energy inspected and photographed the area of the six known subsidence depressions over the 00 North section. He also walked the surrounding area and observed no new depressions, cracks, damage, or other evidence of new subsidence. Mr. Jensen also observed and photographed the area where subsidence was repaired in January 2015. He observed no new cracks, depressions, or evidence of additional subsidence in any of the areas. Copies of all photographs taken during this inspection are provided in Attachment A.

ATTACHMENT A

Photographs of 00 North Subsidence Depressions
November 27, 2015

Depression #1 – November 27, 2015

Depression #2 – November 27, 2015

Depression #3 – November 27, 2015

Depression #4 - November 27, 2015

Depression #5 – November 27, 2015

Depression #6 – November 27, 2015

Area repaired in January 2015:
Photos dated November 27, 2015

EMERY MINE
SUBSIDENCE INSPECTION REPORT
DECEMBER 2015

On December 30, 2015, Russel Jensen of Consol Energy inspected and photographed the area of the six known subsidence depressions over the 00 North section. He also walked the surrounding area and observed no new depressions, cracks, damage, or other evidence of new subsidence. Mr. Jensen also observed and photographed the area where subsidence was repaired in January 2015. He observed no new cracks, depressions, or evidence of additional subsidence in any of the areas. Copies of all photographs taken during this inspection are provided in Attachment A.

ATTACHMENT A

Photographs of 00 North Subsidence Depressions
December 30, 2015

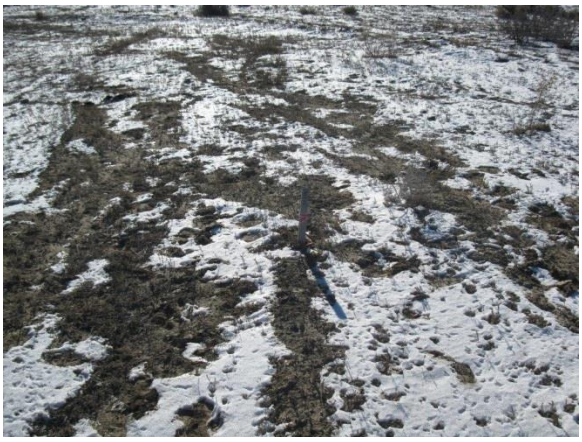
Depression #1 – December 30, 2015

Depression #2 – December 30, 2015

Depression #3 – December 30, 2015

Depression #4 - December 30, 2015

Depression #5 – December 30, 2015



Depression #6 – December 30, 2015

Area repaired in January 2015:
Photos dated December 30, 2015

Appendix B-4

Emery Town Well Report

EarthFax Engineering Group, LLC
7324 South Union Park Avenue, Suite 100, Midvale, Utah 84047 • 801.561.1555 • FAX 801.561.1861

EarthFax

April 21, 2016

Kit Pappas
Environmental Coordinator
Bronco Utah Operations, LLC
Emery Mine
Emery, UT 84522

Subject: Emery Town well data update

Dear Kit:

Attached is a summary of the data collected from the Emery Town wells from November 2007 through December 2015. Explanatory notes are provided at the bottom of the spreadsheet and in the comments section on the right-hand side of the spreadsheet to assist in data interpretation.

As indicated, the air line used to collect water level data in 2007 was discovered to be faulty when the pump was pulled from that well in 2010. Thus, I do not consider the 2007 water-level datum to be valid. Furthermore, a new probe was purchased in the first quarter of 2013 and has been used to collect water-level data since that time. Given the consistency of the water levels in 2011 and 2012 as well as those in 2013 and 2014 together with a lack of significant outside influences, it is my opinion that the differences between the earlier and latter water-level data are due to the change in probes rather than an actual change in water levels.

The field specific conductance measurement in June 2014 was substantially higher than has been historically reported. However, the total dissolved solids concentration of that sample was consistent with historic data. Thus, it is my opinion that the field specific conductance datum from June 2014 is not valid.

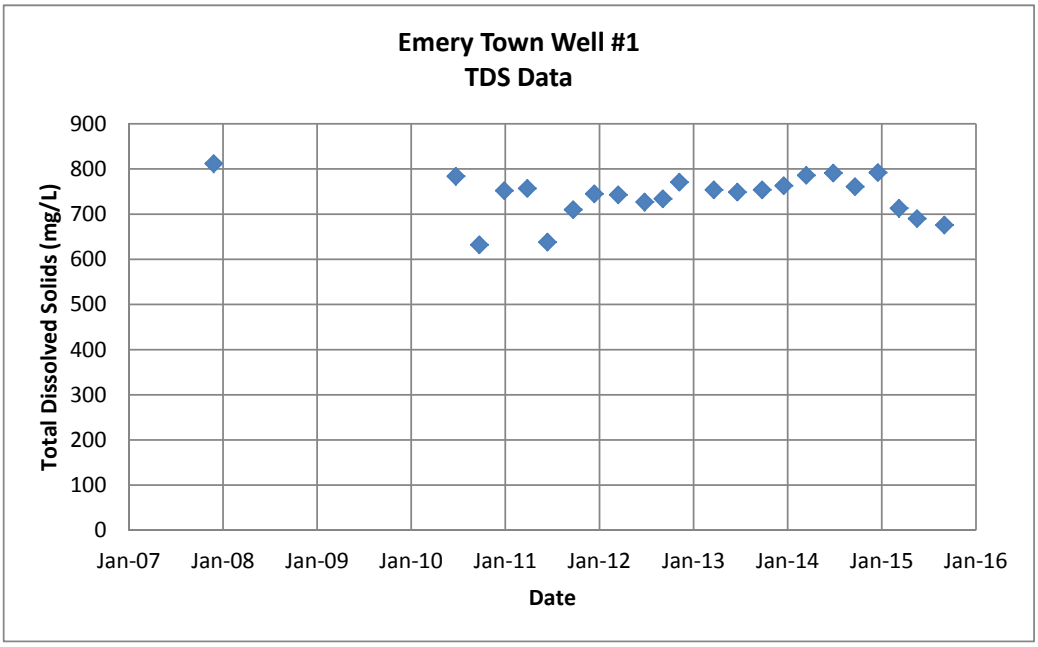
Accounting for the above factors and additional information presented in the Mining and Reclamation Plan, it is my opinion that mining activity at the Emery Mine has not adversely affected water levels or water quality at the Emery Town wells.

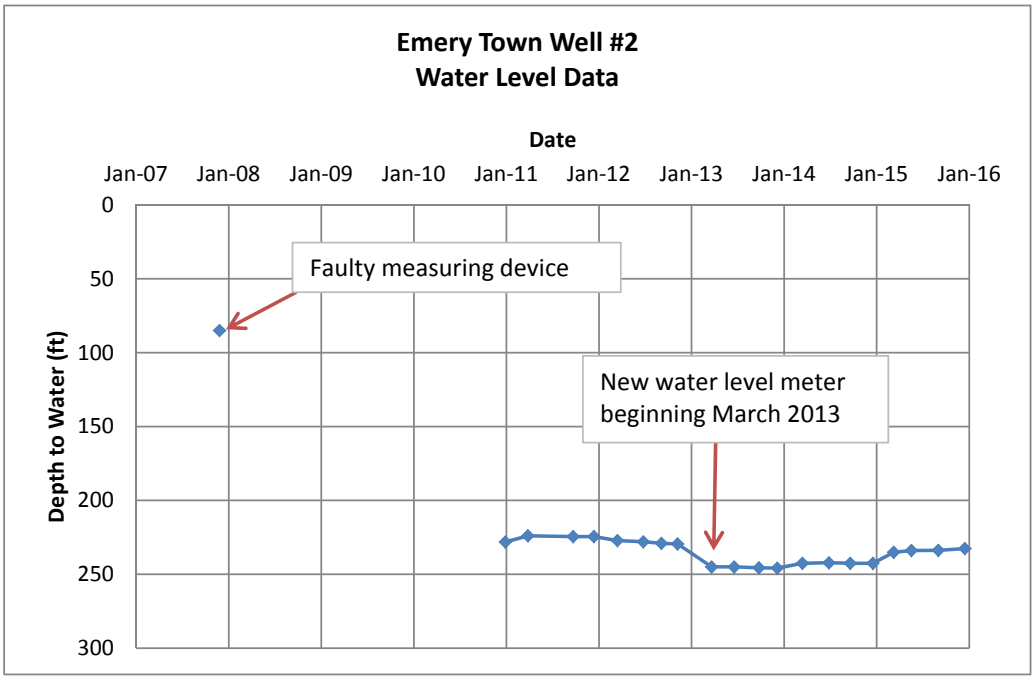
Please let me know if you have any questions regarding this matter.

Sincerely,

Richard B. White, P.E.
President

Enclosure





EMERY TOWN WELL DATA

Emery Town well data
Consolidation Coal Company - Emery Mine

SITE TYPE	SITE NAME	DATE	Wat. Temp Deg. C	F-pH pH units	F-D.O. mg/l	Cond(FLD) umhos/cm	Depth ft	L-pH pH un	TSS mg/l	O/G mg/l	NH3 mg/l	D-As mg/l	D-B mg/l	D-Cd mg/l	D-Ca mg/l	D-Cu mg/l	D-Fe mg/l	D-Pb mg/l	D-Mg mg/l	D-Mn mg/l	D-K mg/l	D-Se mg/l	D-Na mg/l	D-Zn mg/l	Bicarb mg/l	Acidity mg/l	Carb mg/l	Cl mg/l
Well	Emery Town Well #1	11/28/2007	18.2	8.0		1225			38	<2	0.4	<0.010		<0.001	33.13		<0.03	<0.01	20.82	0.016	3.93	<0.02	190.79		229		<5	20
Well	Emery Town Well #1	3/1/2008	2.3	8.2		1189																						
Well	Emery Town Well #1	6/1/2008																										
Well	Emery Town Well #1	9/1/2008																										
Well	Emery Town Well #1	11/1/2008																										
Well	Emery Town Well #1	6/1/2009																										
Well	Emery Town Well #1	7/1/2009																										
Well	Emery Town Well #1	6/24/2010	24.2	7.1		1198									32.72		<0.03		19.94	0.016	3.93		205.66		237		<5	17
Well	Emery Town Well #1	9/23/2010	16.0	7.7		936									8.13		<0.03		11.53	0.006	3.16		192.45		142		54	16
Well	Emery Town Well #1	12/29/2010	19.7	8.34		1317									31.93		<0.03		18.34	0.023	3.75		199.97		230		<5	17
Well	Emery Town Well #1	3/28/2011	15.8	8.4		1300									29.46		0.03		18.59	0.016	3.65		193.04		237		<5	15
Well	Emery Town Well #1	6/14/2011	20.2	9.5		1045									7.76		<0.03		16.62	0.014	4.27		189.75		142		56	16
Well	Emery Town Well #1	9/22/2011	19.3	8.2		1200									29.16		<0.03		17.58	0.009	3.61		188.03		231		<5	14
Well	Emery Town Well #1	12/13/2011	19.9	7.1		1174									30.77		<0.03		18.73	0.009	3.67		196.87		232		<5	16
Well	Emery Town Well #1	3/15/2012	18.6	7.1		1210									30.63		<0.03		18.51	0.016	3.76		199.85		232		9	16
Well	Emery Town Well #1	6/25/2012	24.8	7.3		1252									27.22		<0.03		17.36	0.012	3.52		191.32		230		<5	15
Well	Emery Town Well #1	9/4/2012	23.0	7.1		1241									31.19		<0.03		18.37	0.011	4.05		207.52		225		<5	17
Well	Emery Town Well #1	11/7/2012	21.4	7.0		1430									31.20		0.06		18.16	0.010	4.61		202.20		226		<5	17
Well	Emery Town Well #1	3/21/2013	21.3	7.1		1180									31.78		<0.03		19.39	0.011	3.80		199.84		227		<5	17
Well	Emery Town Well #1	6/20/2013	24.2	7.0		1360									32.53		<0.03		19.51	0.009	3.97		202.46		228		<5	18
Well	Emery Town Well #1	9/24/2013	19.6	7.0		1320									31.22		<0.03		18.55	0.011	3.77		193.35		231		<5	18
Well	Emery Town Well #1	12/17/2013	15.2	7.0		1292									31.19		<0.03		18.22	0.009	3.93		204.12		234		<5	18
Well	Emery Town Well #1	3/14/2014	19.9	7.2		1302									32.22		<0.03		19.33	0.007	3.72		196.86		218		<5.	19
Well	Emery Town Well #1	6/27/2014	22.6	7.1		2210									30.26		<0.03		18.94	0.007	3.87		198.32		225		<5.	96
Well	Emery Town Well #1	9/19/2014	24.3	7.1		1241									31.25		<0.03		18.06	0.008	3.83		195.35		223		<5.	19
Well	Emery Town Well #1	12/17/2014	23.3	7.1		1270									29.05		<0.03		17.69	0.013	3.51		165.50		233		<5.	18
Well	Emery Town Well #1	3/9/2015	22.9	7.1		1215									9.08		<0.03		16.57	0.012	3.9		195.64		173		31	18
Well	Emery Town Well #1	5/18/2015	16.8	6.9		1137									10.97		<0.03		18.46	0.018	3.81		198.83		172		38	18
Well	Emery Town Well #1	9/1/2015	18.1	7		1195									7.09		<0.03		16.57	0.011	4.06		222.47		166		27	16

Well	Emery Town Well #2	11/28/2007					85																					
Well	Emery Town Well #2	Mar-08																										
Well	Emery Town Well #2	Jun-08																										
Well	Emery Town Well #2	Sep-08																										
Well	Emery Town Well #2	Nov-08																										
Well	Emery Town Well #2	Jun-09																										
Well	Emery Town Well #2	Jul-09																										
Well	Emery Town Well #2	6/24/2010																										
Well	Emery Town Well #2	9/23/2010																										
Well	Emery Town Well #2	12/29/2010					228.2																					
Well	Emery Town Well #2	3/28/2011					223.9																					
Well	Emery Town Well #2	9/22/2011					224.5																					
Well	Emery Town Well #2	12/13/2011					224.5																					
Well	Emery Town Well #2	3/15/2012					227.2																					
Well	Emery Town Well #2	6/25/2012					228.0																					
Well	Emery Town Well #2	9/4/2012					229.0																					
Well	Emery Town Well #2	11/7/2012					229.5																					
Well	Emery Town Well #2	3/21/2013					245.0																					
Well	Emery Town Well #2	6/18/2013					245.0																					
Well	Emery Town Well #2	9/24/2013					245.6																					
Well	Emery Town Well #2	12/5/2013					245.8																					
Well	Emery Town Well #2	3/14/2014					242.6																					
Well	Emery Town Well #2	6/27/2014					242.2																					
Well	Emery Town Well #2	9/19/2014					242.6																					
Well	Emery Town Well #2	12/17/2014					242.6																					
Well	Emery Town Well #2	3/9/2015					235.1																					
Well	Emery Town Well #2	5/18/2015					233.9																					
Well	Emery Town Well #2	9/1/2015					233.8																					
Well	Emery Town Well #2	12/15/2015					232.6																					

Emery Town well data
Consolidation Coal Company - Emery Mine

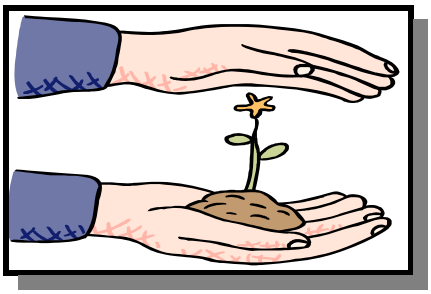
SITE TYPE	SITE NAME	DATE	Hydroxide mg/l	NO3 mg/l	NO2 mg/l	O-PO4 mg/l	SO4 mg/l	T-P mg/l	T-Alk mg/l	T-Hardns mg/l	L-Sp. Cond umhos/cm	TDS mg/l	COMMENTS
Well	Emery Town Well #1	11/28/2007		<0.05		<0.05	357		229	168		812	
Well	Emery Town Well #1	3/1/2008											
Well	Emery Town Well #1	6/1/2008											Discharge pipe under water in canal
Well	Emery Town Well #1	9/1/2008											Discharge pipe under water in canal
Well	Emery Town Well #1	11/1/2008											Discharge pipe under ice in canal
Well	Emery Town Well #1	6/1/2009											Discharge pipe under water in canal
Well	Emery Town Well #1	7/1/2009											Discharge pipe under water in canal
Well	Emery Town Well #1	6/24/2010					329		237	164		784	
Well	Emery Town Well #1	9/23/2010					270		195	68		632	
Well	Emery Town Well #1	12/29/2010					360		230	155		752	
Well	Emery Town Well #1	3/28/2011					328		237	150		757	
Well	Emery Town Well #1	6/14/2011					279		198	88		638	
Well	Emery Town Well #1	9/22/2011					321		231	145		710	
Well	Emery Town Well #1	12/13/2011					325		232	154		745	
Well	Emery Town Well #1	3/15/2012					323		241	153		743	
Well	Emery Town Well #1	6/25/2012					316		230	139		727	
Well	Emery Town Well #1	9/4/2012					341		225	154		734	
Well	Emery Town Well #1	11/7/2012					322		226	153		771	
Well	Emery Town Well #1	3/21/2013					329		227	159		754	
Well	Emery Town Well #1	6/20/2013					338		228	162		749	
Well	Emery Town Well #1	9/24/2013					345		231	154		754	
Well	Emery Town Well #1	12/17/2013					346		234	153		763	
Well	Emery Town Well #1	3/14/2014					354		218	160		786	
Well	Emery Town Well #1	6/27/2014					338		225	154		791	Spurious conductivity and chloride data
Well	Emery Town Well #1	9/19/2014					355		223	152		761	
Well	Emery Town Well #1	12/17/2014					345		233	161		792	
Well	Emery Town Well #1	3/9/2015					313		204	91		713	
Well	Emery Town Well #1	5/18/2015					297		210	103		690	
Well	Emery Town Well #1	9/1/2015					298		193	86		676	
Well	Emery Town Well #2	11/28/2007											Spurious data due to plugged air line.
Well	Emery Town Well #2	Mar-08											No data
Well	Emery Town Well #2	Jun-08											No data
Well	Emery Town Well #2	Sep-08											No data
Well	Emery Town Well #2	Nov-08											No data
Well	Emery Town Well #2	Jun-09											No data
Well	Emery Town Well #2	Jul-09											No data
Well	Emery Town Well #2	6/24/2010											No data
Well	Emery Town Well #2	9/23/2010											No data
Well	Emery Town Well #2	12/29/2010											
Well	Emery Town Well #2	3/28/2011											
Well	Emery Town Well #2	9/22/2011											
Well	Emery Town Well #2	12/13/2011											
Well	Emery Town Well #2	3/15/2012											
Well	Emery Town Well #2	6/25/2012											
Well	Emery Town Well #2	9/4/2012											
Well	Emery Town Well #2	11/7/2012											
Well	Emery Town Well #2	3/21/2013											New water-level probe used.
Well	Emery Town Well #2	6/18/2013											
Well	Emery Town Well #2	9/24/2013											
Well	Emery Town Well #2	12/5/2013											
Well	Emery Town Well #2	3/14/2014											
Well	Emery Town Well #2	6/27/2014											
Well	Emery Town Well #2	9/19/2014											
Well	Emery Town Well #2	12/17/2014											
Well	Emery Town Well #2	3/9/2015											
Well	Emery Town Well #2	5/18/2015											
Well	Emery Town Well #2	9/1/2015											
Well	Emery Town Well #2	12/15/2015											

Appendix B-5

Emery Reclamation Study Annual Qualitative report

REVEGETATION PLOT MONITORING
AT THE EMERY MINE SITE
2015

EMERY COUNTY, UTAH



Prepared by

MT. NEBO SCIENTIFIC, INC.
330 East 400 South, Suite 6
Springville, Utah 84663
(801) 489-6937

by

Patrick D. Collins, Ph.D.

for

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
4848 Park 370 Blvd., Suite F
Hazelwood, MO 63042

March 2016

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Subsoil Area 7
Topsoil Area 9
Reverse Osmosis Pond Area 11

Introduction

History & Study Objectives

Emery Mine is located in south-central Utah. It has a history of coal mining operations including reclamation work that attempted to restore some those surface areas disturbed by the mining activities. Early observations suggested that revegetation was unsuccessful in some of these areas. Consequently in 2003, a decision was made by the mining company in collaboration with State of Utah, Division of Oil, Gas & Mining (DOGM) to conduct a reclamation monitoring study on those areas that have been reclaimed and re-seeded. The primary objectives of the study were to assess the current condition of those areas and determine whether or not success has been, or could ultimately be achieved once final revegetation of the mine site is conducted. This study, called *Reclamation Monitoring Study at the Emery Mine,* was conducted by Mt. Nebo Scientific, Inc. in 2003.

In 2011, the results of this above-mentioned study were revisited and additional meetings and collaborations were conducted with DOGM, the mining company and its consultants. Results of these efforts suggested that with the data and information from the 2003 study, additional revegetation test plots should be constructed in other disturbed areas in an attempt to come up with more precise revegetation techniques that could be used to drive the reclamation plan at the Emery Mine site. Consequently, several sites were chosen to be constructed for a revegetation research study beginning in 2014. The research sites included: 1) an area where a berm was removed, 2) a backfilled ditch where the berm material was placed, 3) a topsoil pile, 4) subsoil pile (both piles were regraded to lessen the slopes and fenced to preclude livestock impacts) and 5) an old reverse osmosis pond that was reclaimed and re-graded. All areas had hay incorporated into the soils and were seeded with a revised seed mixture. This report provides qualitative vegetation data that was recorded at these sites in 2015.

Methods

A commitment was made to conduct a qualitative study on the reclaimed test plots at the Emery Mine. To provide more time for the plants to become established, this study was done late in the growing season of 2015 (September 26th). Even though the commitment was for a *qualitative* study rather than a *quantitative* one, density counts were made of the total area at each site. The counts were made for the desirable or seeded plant species only and excluded "weedy" exotics. The density counts can be used for year-to-year comparisons for each area as a whole, or using the approximate size of each plot could enable calculations for the number of individuals per acre.

Total living cover was estimated (not measured) for each site; this included all plant species, weedy and desirable. Also recorded in each area were field notes and other information including sample dates, investigator(s), GPS coordinates, slopes, exposures, animal impacts, plant species observed and color photographs.

Results

Results for sampling each reclaimed test area at the Emery mine in 2015 are shown on the data sheets below.

CLIENT: **Civil & Environmental Consultants, Inc**
QUALITATIVE DATA SHEET
YEAR: 2015

SITE NAME: Area of Berm Removal

AREA: **Emery Mine Site**

LOCATION: GPS Name: CONSP1
UTM
NAD 27
E. 0476517
N. 4301708

DATE: 26 September 2015

INVESTIGATOR(S): P. D. Collins

SLOPE: ~ 0

EXPOSURE: ~ 0

ANIMAL USE/DISTURBANCE: No signs of animal use or disturbance

COVER (estimated not measured): Vegetation 20%; Straw Mulch 30%; Bareground 49%; Rock 1%.

PLANT SPECIES OBSERVED, TOTAL DENSITY COUNTS AND RELATIVE ABUNDANCE:

SHRUBS		**FORBS**		**GRASSES**	
Atriplex confertifolia	1	*Bassia hyssopifolia*	D	*Elymus smithii*	1
Atriplex gardneri var. cuneata	1	*Halogeton glomeratus*	C	*Hilaria jamesii*	2
Atriplex canescens	20	*Iva axillaris*	C	*Stipa hymenoides*	3
Chrysothamnus nauseosus	1	*Lappula occidentalis*	C		
Gutierrezia sarothrae	1	*Salsola tragus*	U		
Sarcobatus vermiculatus	1				
TOTALS	25				6

Weed Designations: C = Common; U = Uncommon; D = Dominant

NOTES:
1. This area was a berm that was backfilled to the adjacent ditch then seeded.
2. Total area (berm and fill) was estimated by DOGM inspection (2/25/15) to be 0.06 acres.
3. The total living cover was dominated by "weedy" species.
4. The grass species were difficult to identify conclusively because they were mostly small seedlings.
5. See photographs on the following page.

Photographs of the Removed Berm Area

CLIENT: **Civil & Environmental Consultants, Inc**
QUALITATIVE DATA SHEET
YEAR: 2015

SITE NAME: Backfilled Ditch Area

AREA: **Emery Mine Site**

LOCATION: GPS Name: CONSP1
UTM
NAD 27
E. 0476517
N. 4301708

DATE: 26 September 2015

INVESTIGATOR(S): P. D. Collins

SLOPE: ~ 0

EXPOSURE: ~ 0

ANIMAL USE/DISTURBANCE: No signs of animal use or disturbance

COVER (estimated not measured): Vegetation 65%; Straw Mulch 10%; Bareground 24%; Rock 1%.

PLANT SPECIES OBSERVED, TOTAL DENSITY COUNTS AND RELATIVE ABUNDANCE:

SHRUBS		**FORBS**		**GRASSES**	
Atriplex gardneri var. cuneata	1	*Bassia hyssopifolia*	D	*Elymus smithii*	2
Atriplex canescens	33	*Halogeton glomeratus*	C		
Chrysothamnus nauseosus	1	*Iva axillaris*	C		
Suaeda nigra	5				
TOTALS	40				2

Weed Designations: C = Common; U = Uncommon; D = Dominant

NOTES:
1. This area was backfilled from the adjacent berm, then seeded.
2. Total area (berm and fill) was estimated by DOGM inspection (2/25/15) to 0.06 acres
3. The total living cover was dominated by "weedy" species.
4. The grass species were difficult to identify conclusively because they were mostly small seedlings.
5. See photographs on the following page.

Photographs of the Backfilled Ditch Area

CLIENT: **Civil & Environmental Consultants, Inc**
QUALITATIVE DATA SHEET
YEAR: 2015

SITE NAME: Subsoil Area

AREA: **Emery Mine Site**

LOCATION: GPS Name: CONTP6
UTM
NAD 27
E. 0475735
N. 4302965

DATE: 26 September 2015

INVESTIGATOR(S): P. D. Collins

SLOPE: ~ 0

EXPOSURE: ~ 0

ANIMAL USE/DISTURBANCE: No signs of animal use or disturbance

COVER (estimated not measured): Vegetation 45%; Straw Mulch/Litter 5%; Bareground 10%; Rock 40%.

PLANT SPECIES OBSERVED, TOTAL DENSITY COUNTS AND RELATIVE ABUNDANCE:

SHRUBS		**FORBS**		**GRASSES**	
Atriplex confertifolia	1	*Halogeton glomeratus*	D	*Elymus smithii*	10
Atriplex canescens	57	*Iva axillaris*	U	*Elymus junceum*	6
Krascheninnikovia lanata	61	*Salsola tragus*	U	*Hordeum jubatum*	2
Sarcobatus vermiculatus	3	*Helianthus annuus*	6		
		Medicago sativa	1		
TOTALS	122		7		18

Weed Designations: C = Common; U = Uncommon; D = Dominant

NOTES:

1. The subsoil and topsoil areas were combined "resulting in 2 piles of good quality", then seeded. Total area (Subsoil/Topsoil) was estimated by DOGM inspection (2/25/15) to be 0.99 acres..
2. The subsoil area appeared to be about twice the size of the topsoil area.
3. The total living cover was dominated by "weedy" species.
4. The grass species were difficult to identify conclusively because they were mostly small seedlings.
5. See photographs on the following page.

Photographs of the Subsoil Area

CLIENT: **Civil & Environmental Consultants, Inc**
QUALITATIVE DATA SHEET
YEAR: 2015

SITE NAME: Topsoil Area

AREA: **Emery Mine Site**

LOCATION: GPS Name: CONTP6
UTM
NAD 27
E. 0475735
N. 4302965

DATE: 26 September 2015

INVESTIGATOR(S): P. D. Collins

SLOPE: ~ 0

EXPOSURE: ~ 0

ANIMAL USE/DISTURBANCE: No signs of animal use or disturbance

COVER (estimated not measured): Vegetation 20%; Straw Mulch/Litter 20%; Bareground 50%; Rock 10%.

PLANT SPECIES OBSERVED, TOTAL DENSITY COUNTS AND RELATIVE ABUNDANCE:

SHRUBS		**FORBS**		**GRASSES**	
Atriplex canescens	55	*Halogeton glomeratus*	D	*Elymus smithii*	8
Krascheninnikovia lanata	20	*Salsola tragus*	U	*Hordeum jubatum*	1
TOTALS	75				9

Weed Designations: C = Common; U = Uncommon; D = Dominant

NOTES:

1. The subsoil and topsoil areas were combined "resulting in 2 piles of good quality", then seeded. Total area (Subsoil/Topsoil) was estimated by DOGM inspection (2/25/15) to be 0.99 acres.
2. The Subsoil area appeared to be about twice the size of the topsoil area.
3. The total living cover was dominated by "weedy" species.
4. The grass species were difficult to identify conclusively because they were mostly small seedlings.
5. See photographs on the following page.

Photographs of the Topsoil Area

CLIENT: **Civil & Environmental Consultants, Inc**
QUALITATIVE DATA SHEET
YEAR: 2015

SITE NAME: Reverse Osmosis Pond Area

AREA: **Emery Mine Site**

LOCATION: GPS Name: CONP45
UTM
NAD 27
E. 0477377
N. 4301439

DATE: 26 September 2015

INVESTIGATOR(S): P. D. Collins

SLOPE: 1°

EXPOSURE: S

ANIMAL USE/DISTURBANCE: No signs of animal use or disturbance

COVER (estimated not measured): Vegetation 55%; Straw Mulch/Litter 10%; Bareground 25%; Rock 10%.

PLANT SPECIES OBSERVED, TOTAL DENSITY COUNTS AND RELATIVE ABUNDANCE:

SHRUBS		**FORBS**		**GRASSES**
Atriplex canescens	10	*Halogeton glomeratus*	D	
Sarcobatus vermiculatus	9	*Salsola tragus*	U	
Tamarix chinensis	1			
TOTALS	20			0

Weed Designations: C = Common; U = Uncommon; D = Dominant

NOTES:

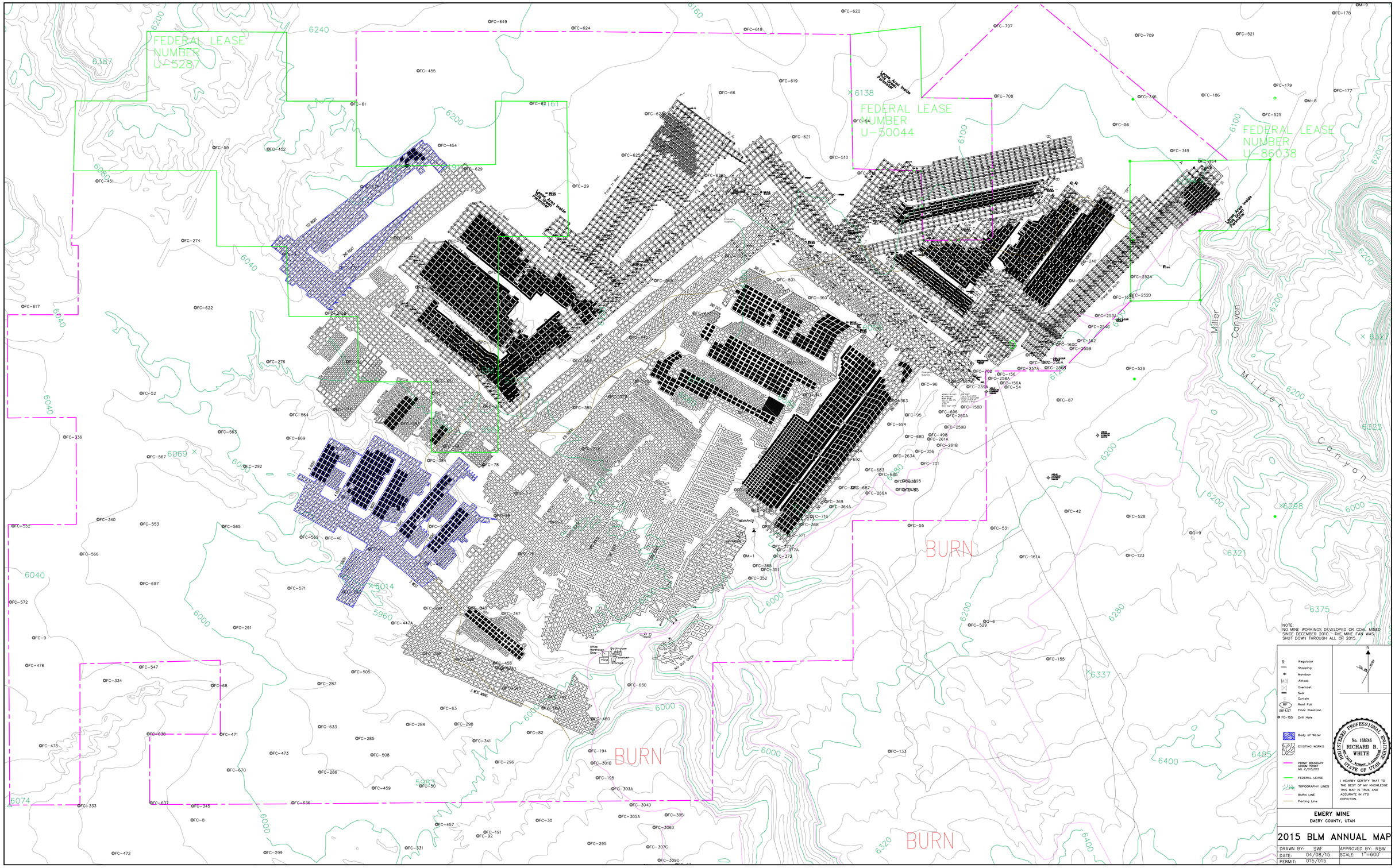
1. To count the planted species for this site I ran 5 ft wide belt transects.
2. This site was estimated by DOGM inspection (2/25/15) to be 0.74 acres.
3. The total living cover was dominated by "weedy" species (halogeton) .
4. See photographs on the following page.

Photographs of the Topsoil Area

Appendix D-1

2010 Annual Report

and MSHA Maps


FEDERAL LEASE NUMBER U-5287
FEDERAL LEASE NUMBER U-50044
FEDERAL LEASE NUMBER U-86038
BURN
BURN
BURN
Miller Canyon
Miller Canyon
NOTE:
NO MINE WORKINGS DEVELOPED OR COAL MINED SINCE DECEMBER 2010. THE MINE FAN WAS SHUT DOWN THROUGH ALL OF 2015.
Regulator
Stopping
Mandoor
Airlock
Overcast
Seal
Curtain
Roof Fall
Floor Elevation
Drill Hole
Body of Water
EXISTING WORKS
PERMIT BOUNDARY (DOGM PERMIT NO. C/015/015
FEDERAL LEASE
TOPOGRAPHY LINES
BURN LINE
Parting Line
REGISTERED PROFESSIONAL ENGINEER
No. 168246
RICHARD B. WHITE
STATE OF UTAH
I HEARBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THIS MAP IS TRUE AND ACCURATE IN IT'S DEPICTION.
EMERY MINE
EMERY COUNTY, UTAH
2015 BLM ANNUAL MAP
DRAWN BY: SWF
APPROVED BY: RBW
DATE: 04/08/15
SCALE: 1"=600'
PERMIT: 015/015