

CONSOL Mining Company LLC.  
1000 CONSOL Energy Drive  
Canonsburg, PA 15317  
(724) 485-4267

May 12, 2015

C/015/0015  
Received 5/18/2015  
Task ID #4896

Daron Haddock  
Utah Division of Oil, Gas and Mining  
Coal Program  
1594 West North Temple, Suite 1210  
Box 145801  
Salt Lake City, Utah 84114-5801

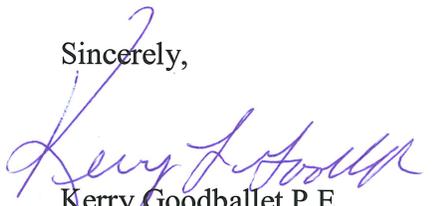
Re: Emery Deep Mine Permit C/015/015  
Revegetation soil sample data and report Task ID 4865

Dear Mr. Haddock:

Per your departments May 3, 2015 deficiency letter, please consider this a revision to add the 2014 soil sample data and report to Chapter III Appendix III-1. Enclosed please find two (2) copies of the above referenced revision, including an executed C1 form, C2 form and revised pages. A cd-rom has been included with the submittal in pdf format.

If you have any questions concerning this request, please contact me at (724) 485-4267.

Sincerely,

  
Kerry Goodballet P.E.  
Director of Permitting – Coal

Enclosure

# APPLICATION FOR COAL PERMIT PROCESSING

Permit Change  New Permit  Renewal  Exploration  Bond Release  Transfer

**Permittee:** CONSOL Mining Company LLC

**Mine:** Emery Mine

**Permit Number:** 015/015

**Title:** Revegetation regrading and soil samples

**Description,** Include reason for application and timing required to implement:

add soil sample data and report from regraded areas

task id 4865

05/15

**Instructions:** If you answer yes to any of the first eight (gray) questions, this application may require Public Notice publication.

- Yes  No 1. Change in the size of the Permit Area? Acres: \_\_\_\_\_ Disturbed Area: \_\_\_\_\_  increase  decrease.
- Yes  No 2. Is the application submitted as a result of a Division Order? DO# \_\_\_\_\_
- Yes  No 3. Does the application include operations outside a previously identified Cumulative Hydrologic Impact Area?
- Yes  No 4. Does the application include operations in hydrologic basins other than as currently approved?
- Yes  No 5. Does the application result from cancellation, reduction or increase of insurance or reclamation bond?
- Yes  No 6. Does the application require or include public notice publication?
- Yes  No 7. Does the application require or include ownership, control, right-of-entry, or compliance information?
- Yes  No 8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling?
- Yes  No 9. Is the application submitted as a result of a Violation? NOV # \_\_\_\_\_
- Yes  No 10. Is the application submitted as a result of other laws or regulations or policies?  
*Explain:* \_\_\_\_\_
- Yes  No 11. Does the application affect the surface landowner or change the post mining land use?
- Yes  No 12. Does the application require or include underground design or mine sequence and timing? (Modification of R2P2)
- Yes  No 13. Does the application require or include collection and reporting of any baseline information?
- Yes  No 14. Could the application have any effect on wildlife or vegetation outside the current disturbed area?
- Yes  No 15. Does the application require or include soil removal, storage or placement?
- Yes  No 16. Does the application require or include vegetation monitoring, removal or revegetation activities?
- Yes  No 17. Does the application require or include construction, modification, or removal of surface facilities?
- Yes  No 18. Does the application require or include water monitoring, sediment or drainage control measures?
- Yes  No 19. Does the application require or include certified designs, maps or calculation?
- Yes  No 20. Does the application require or include subsidence control or monitoring?
- Yes  No 21. Have reclamation costs for bonding been provided?
- Yes  No 22. Does the application involve a perennial stream, a stream buffer zone or discharges to a stream?
- Yes  No 23. Does the application affect permits issued by other agencies or permits issued to other entities?

**Please attach four (4) review copies of the application. If the mine is on or adjacent to Forest Service land please submit five (5) copies, thank you.** (These numbers include a copy for the Price Field Office)

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

Kerry Good Ballet  
Print Name

Kerry Good Ballet, Dir Coal Permitting  
Sign Name, Position, Date

Subscribed and sworn to before me this 12 day of MAY, 2015

Jane M Young  
Notary Public

COMMONWEALTH OF PENNSYLVANIA  
Notarial Seal  
Jane M. Young, Notary Public  
Cecil Twp., Washington County  
My Commission Expires June 20, 2017  
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

My commission Expires: \_\_\_\_\_, 20\_\_\_\_ }  
Attest: State of PENNSYLVANIA } ss:  
County of WASHINGTON

**For Office Use Only:**

**Assigned Tracking Number:**

**Received by Oil, Gas & Mining**





**Stantec Consulting Services Inc.**  
8160 South Highland Drive Suite A4, Sandy UT 84093-7402

March 19, 2015

**Attention: Russel Jensen**  
Consol Mining Company, LLC, Emery Mine  
PO Box 527  
Emery, Utah

Dear Russel,

**Reference: Soil Sampling**

Please find the attached information, which documents the soil sampling work that Stantec did at various locations around the Emery Mine on February 25, 2015. This information includes:

- a location map with 3 accompanying detail sheets;
- the lab analyses;
- the chain-of-custody form; and
- field notes.

As requested by the Division of Oil, Gas and Mining, the lab report was reissued to include the component cations used in the SAR calculation. These components are listed beneath the footnotes section on each page of the results. I have double-checked the calculations and they are correct as first reported.

Please let us know if you need further assistance on this task.

Regards,

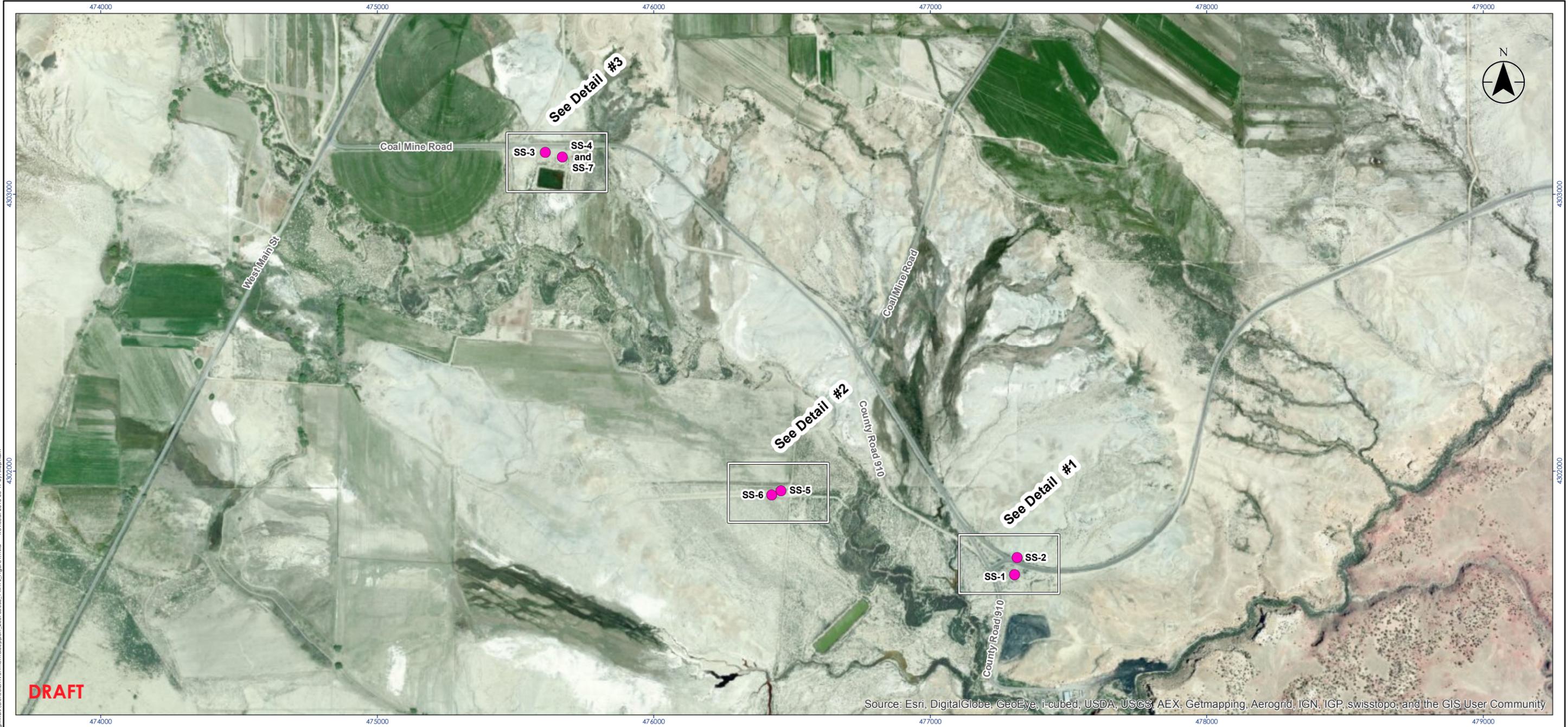
**STANTEC CONSULTING SERVICES INC.**

A handwritten signature in purple ink, appearing to read "Karla Knoop".

Karla Knoop  
Environmental Scientist  
Phone: (801) 943-4144 x 1145  
Fax: (801) 942-1852  
karla.knoop@stantec.com

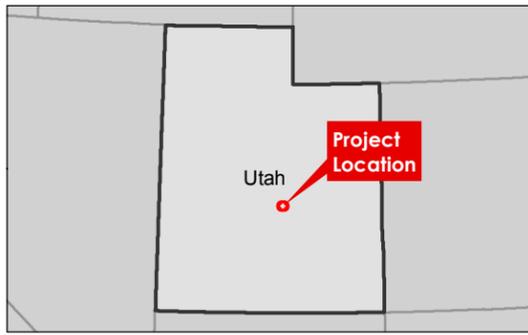
Attachment: Attachment

Design with community in mind



DRAFT

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



● Soil Sampling Locations

\* At each location, two samples were collected: one a composite from 0-6" deep and one a composite from 6-12" deep.



1:14,118 (At original document size of 11x17)



Project Location: Emery County, Utah  
 Prepared by ST on 2015-03-18  
 Technical Review by JRS on 2015-03-18  
 Independent Review by KK on 2015-03-18

Client/Project: Consol Mining Company LLC  
 Emery Mine  
 February 25, 2015 Soil Sampling

Figure No. 1

Title: Soil Sampling Locations

**Notes**  
 1. Coordinate System: NAD 1983 UTM Zone 12N  
 2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.  
 3. Orthoimagery © First Base Solutions, 20xx.

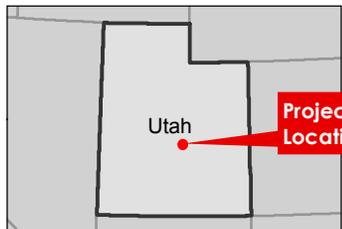
Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

X:\UT\Clients\ConsolMiningCompany\ConsolEnvironmentalSupport\20150305\Working\MapDocs\Working\MapDocs\ConsolEnvironmentalSupport\_20150305\_11x17\Figure1.mxd Revised: 2015-03-19 By: stapham





Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



● Soil Sampling Locations



**Notes**

1. Coordinate System: NAD 1983 UTM Zone 12N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.
3. Orthomagery © First Base Solutions, 20xx.



Project Location 203703005  
 Emery County Prepared by SJ on 2015-03-19  
 Technical Review by JRS on 2015-03-19  
 Independent Review by KS on 2015-03-19

Client/Project  
 Consol Mining Company LLC  
 Emery Mine  
 February 25, 2015 Soil Sampling

Figure No.

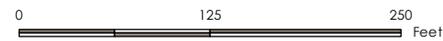
**3**

Title

**Detail #2**



● Soil Sampling Locations



1:1,500 (At original document size of 8.5x11)

**Notes**

1. Coordinate System: NAD 1983 UTM Zone 12N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.
3. Orthomagey © First Base Solutions, 20xx.



Project Location 203703005  
 Emery County Prepared by SJ on 2015-03-19  
 Technical Review by JRS on 2015-03-19  
 Independent Review by KS on 2015-03-19

Client/Project  
 Consol Mining Company LLC  
 Emery Mine  
 February 25, 2015 Soil Sampling

Figure No.

4

Title

Detail #3



12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
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Est. 1970

Jamey Sage III  
Stantec- Sandy, UT  
8160 S. Highland Dr, Suite A4  
Sandy, UT 84093-7402

## Report Summary

Tuesday March 17, 2015

Report Number: L750756

Samples Received: 02/27/15

Client Project: 203703005

Description: Consol Soil Sampling

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

  
Jared Willis , ESC Representative

### Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,  
FL - E87487, GA - 923, IN - C-IN-01, KY - 90010, KYUST - 0016,  
NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002,  
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,  
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,  
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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REPORT OF ANALYSIS

Jamey Sage III  
 Stantec- Sandy, UT  
 8160 S. Highland Dr, Suite A4  
 Sandy, UT 84093-7402

March 17, 2015

Date Received : February 27, 2015  
 Description : Consol Soil Sampling  
 Sample ID : SS-1-12  
 Collected By : J, Sage  
 Collection Date : 02/25/15 12:35

ESC Sample # : L750756-01  
 Site ID :  
 Project # : 203703005

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
pH	9.6	0.10	su	9045D	02/28/15	1
Sodium Adsorption Ratio	11.			Calc.	03/03/15	1
Specific Conductance	3900		umhos/cm	9050AMod	03/04/15	1

BDL - Below Detection Limit  
 Det. Limit - Practical Quantitation Limit(PQL)  
 Note:

The reported analytical results relate only to the sample submitted.  
 This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 03/04/15 15:54 Revised: 03/17/15 15:23  
 L750756-01 (SAR METALS) - Calcium 514 mg/L; Magnesium 126 mg/L, Sodium 1046 mg/L  
 L750756-01 (PH) - 9.6@21.1c



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 Sandy, UT 84093-7402

March 17, 2015

Date Received : February 27, 2015  
 Description : Consol Soil Sampling  
 Sample ID : SS-1-6  
 Collected By : J, Sage  
 Collection Date : 02/25/15 12:40

ESC Sample # : L750756-02  
 Site ID :  
 Project # : 203703005

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
pH	9.2	0.10	su	9045D	02/28/15	1
Sodium Adsorption Ratio	17.			Calc.	03/03/15	1
Specific Conductance	4500		umhos/cm	9050AMod	03/04/15	1

BDL - Below Detection Limit  
 Det. Limit - Practical Quantitation Limit(PQL)  
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Reported: 03/04/15 15:54 Revised: 03/17/15 15:23  
 L750756-02 (PH) - 9.2@20.2c  
 L750756-02 (SAR METALS) - Calcium 464 mg/L, Magnesium 187 mg/L, Sodium 1746 mg/L



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 Sandy, UT 84093-7402

March 17, 2015

Date Received : February 27, 2015  
 Description : Consol Soil Sampling  
 Sample ID : SS-2-12  
 Collected By : J, Sage  
 Collection Date : 02/25/15 13:00

ESC Sample # : L750756-03  
 Site ID :  
 Project # : 203703005

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
pH	9.5	0.10	su	9045D	02/28/15	1
Sodium Adsorption Ratio	9.0			Calc.	03/03/15	1
Specific Conductance	4200		umhos/cm	9050AMod	03/04/15	1

BDL - Below Detection Limit  
 Det. Limit - Practical Quantitation Limit(PQL)  
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Reported: 03/04/15 15:54 Revised: 03/17/15 15:23  
 L750756-03 (SAR METALS) - Calcium 446 mg/L, Magnesium 118 mg/L, Sodium 823 mg/L  
 L750756-03 (PH) - 9.5@19.6c



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 Sandy, UT 84093-7402

March 17, 2015

Date Received : February 27, 2015  
 Description : Consol Soil Sampling  
 Sample ID : SS-2-6  
 Collected By : J, Sage  
 Collection Date : 02/25/15 13:05

ESC Sample # : L750756-04  
 Site ID :  
 Project # : 203703005

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
pH	8.9	0.10	su	9045D	02/28/15	1
Sodium Adsorption Ratio	10.			Calc.	03/03/15	1
Specific Conductance	2900		umhos/cm	9050AMod	03/04/15	1

BDL - Below Detection Limit  
 Det. Limit - Practical Quantitation Limit(PQL)  
 Note:  
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Reported: 03/04/15 15:54 Revised: 03/17/15 15:23  
 L750756-04 (PH) - 8.9@19.5c  
 L750756-04 (SAR METALS) - Calcium 457 mg/L, Magnesium 125 mg/L, Sodium 970 mg/L



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March 17, 2015

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Date Received : February 27, 2015  
 Description : Consol Soil Sampling  
 Sample ID : SS-3-12  
 Collected By : J, Sage  
 Collection Date : 02/25/15 13:55

ESC Sample # : L750756-05  
 Site ID :  
 Project # : 203703005

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
pH	7.4	0.10	su	9045D	03/01/15	1
Sodium Adsorption Ratio	12.			Calc.	03/03/15	1
Specific Conductance	3500		umhos/cm	9050AMod	03/04/15	1

BDL - Below Detection Limit  
 Det. Limit - Practical Quantitation Limit(PQL)  
 Note:

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Reported: 03/04/15 15:54 Revised: 03/17/15 15:23  
 L750756-05 (SAR METALS) - Calcium 472 mg/L, Magnesium 355 mg/L, Sodium 1436 mg/L  
 L750756-05 (PH) - 7.4@22.8c



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March 17, 2015

Date Received : February 27, 2015  
 Description : Consol Soil Sampling  
 Sample ID : SS-3-6  
 Collected By : J, Sage  
 Collection Date : 02/25/15 14:00

ESC Sample # : L750756-06  
 Site ID :  
 Project # : 203703005

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
pH	7.8	0.10	su	9045D	03/01/15	1
Sodium Adsorption Ratio	11.			Calc.	03/03/15	1
Specific Conductance	3700		umhos/cm	9050AMod	03/04/15	1

BDL - Below Detection Limit  
 Det. Limit - Practical Quantitation Limit(PQL)  
 Note:  
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Reported: 03/04/15 15:54 Revised: 03/17/15 15:23  
 L750756-06 (PH) - 7.8@22.3c  
 L750756-06 (SAR METALS) - Calcium 475 mg/L, Magnesium 199 mg/L, Sodium 1104 mg/L



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March 17, 2015

Date Received : February 27, 2015  
 Description : Consol Soil Sampling  
 Sample ID : SS-4-12  
 Collected By : J, Sage  
 Collection Date : 02/25/15 13:35

ESC Sample # : L750756-07  
 Site ID :  
 Project # : 203703005

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
pH	7.9	0.10	su	9045D	03/01/15	1
Sodium Adsorption Ratio	11.			Calc.	03/03/15	1
Specific Conductance	2500		umhos/cm	9050AMod	03/04/15	1

BDL - Below Detection Limit  
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Reported: 03/04/15 15:54 Revised: 03/17/15 15:23  
 L750756-07 (PH) - 7.9@21.9c  
 L750756-07 (SAR METALS) - Calcium 524 mg/L, Magnesium 154 mg/L, Sodium 1082 mg/L



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March 17, 2015

Date Received : February 27, 2015  
 Description : Consol Soil Sampling  
 Sample ID : SS-4-6  
 Collected By : J, Sage  
 Collection Date : 02/25/15 13:40

ESC Sample # : L750756-08  
 Site ID :  
 Project # : 203703005

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
pH	7.9	0.10	su	9045D	03/01/15	1
Sodium Adsorption Ratio	8.0			Calc.	03/03/15	1
Specific Conductance	2300		umhos/cm	9050AMod	03/04/15	1

BDL - Below Detection Limit  
 Det. Limit - Practical Quantitation Limit(PQL)  
 Note:

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Reported: 03/04/15 15:54 Revised: 03/17/15 15:23  
 L750756-08 (SAR METALS) - Calcium 577 mg/L, Magnesium 147 mg/L, Sodium 836 mg/L  
 L750756-08 (PH) - 7.9@21.9c



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 Sandy, UT 84093-7402

March 17, 2015

Date Received : February 27, 2015  
 Description : Consol Soil Sampling  
 Sample ID : SS-5-12  
 Collected By : J, Sage  
 Collection Date : 02/25/15 14:35

ESC Sample # : L750756-09  
 Site ID :  
 Project # : 203703005

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
pH	8.1	0.10	su	9045D	03/01/15	1
Sodium Adsorption Ratio	29.			Calc.	03/03/15	1
Specific Conductance	8400		umhos/cm	9050AMod	03/04/15	1

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 Det. Limit - Practical Quantitation Limit(PQL)  
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Reported: 03/04/15 15:54 Revised: 03/17/15 15:23  
 L750756-09 (PH) - 8.1@21.7c  
 L750756-09 (SAR METALS) - Calcium 241 mg/L, Magnesium 452 mg/L, Sodium 3266 mg/L



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March 17, 2015

Date Received : February 27, 2015  
 Description : Consol Soil Sampling  
 Sample ID : SS-5-6  
 Collected By : J, Sage  
 Collection Date : 02/25/15 14:40

ESC Sample # : L750756-10  
 Site ID :  
 Project # : 203703005

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
pH	8.3	0.10	su	9045D	03/01/15	1
Sodium Adsorption Ratio	31.			Calc.	03/03/15	1
Specific Conductance	8200		umhos/cm	9050AMod	03/04/15	1

BDL - Below Detection Limit  
 Det. Limit - Practical Quantitation Limit(PQL)  
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Reported: 03/04/15 15:54 Revised: 03/17/15 15:23  
 L750756-10 (SAR METALS) - Calcium 420 mg/L, Magnesium 994 mg/L, Sodium 5111 mg/L  
 L750756-10 (PH) - 8.3@21.7c



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March 17, 2015

Date Received : February 27, 2015  
 Description : Consol Soil Sampling  
 Sample ID : SS-6-12  
 Collected By : J, Sage  
 Collection Date : 02/25/15 14:25

ESC Sample # : L750756-11  
 Site ID :  
 Project # : 203703005

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
pH	8.4	0.10	su	9045D	03/01/15	1
Sodium Adsorption Ratio	30.			Calc.	03/03/15	1
Specific Conductance	8600		umhos/cm	9050AMod	03/04/15	1

BDL - Below Detection Limit  
 Det. Limit - Practical Quantitation Limit(PQL)  
 Note:

The reported analytical results relate only to the sample submitted.  
 This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 03/04/15 15:54 Revised: 03/17/15 15:23  
 L750756-11 (PH) - 8.4@22.0c  
 L750756-11 (SAR METALS) - Calcium 467 mg/L, Magnesium 1042 mg/L, Sodium 5126 mg/L



12065 Lebanon Rd.  
 Mt. Juliet, TN 37122  
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 1-800-767-5859  
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Jamey Sage III  
 Stantec- Sandy, UT  
 8160 S. Highland Dr, Suite A4  
 Sandy, UT 84093-7402

March 17, 2015

Date Received : February 27, 2015  
 Description : Consol Soil Sampling

ESC Sample # : L750756-12

Sample ID : SS-6-6

Site ID :

Collected By : J, Sage  
 Collection Date : 02/25/15 14:30

Project # : 203703005

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
pH	8.3	0.10	su	9045D	03/01/15	1
Sodium Adsorption Ratio	30.			Calc.	03/03/15	1
Specific Conductance	7600		umhos/cm	9050AMod	03/04/15	1

BDL - Below Detection Limit  
 Det. Limit - Practical Quantitation Limit(PQL)  
 Note:

The reported analytical results relate only to the sample submitted.  
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Reported: 03/04/15 15:54 Revised: 03/17/15 15:23  
 L750756-12 (SAR METALS) - Calcium 441 mg/L, agnesium 602 mg/L, Sodium 4119 mg/L  
 L750756-12 (PH) - 8.3@21.7c



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REPORT OF ANALYSIS

Jamey Sage III  
 Stantec- Sandy, UT  
 8160 S. Highland Dr, Suite A4  
 Sandy, UT 84093-7402

March 17, 2015

Date Received : February 27, 2015  
 Description : Consol Soil Sampling  
 Sample ID : SS-7-12  
 Collected By : J, Sage  
 Collection Date : 02/25/15 12:10

ESC Sample # : L750756-13  
 Site ID :  
 Project # : 203703005

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
pH	8.3	0.10	su	9045D	03/01/15	1
Sodium Adsorption Ratio	10.			Calc.	03/03/15	1
Specific Conductance	3200		umhos/cm	9050AMod	03/04/15	1

BDL - Below Detection Limit  
 Det. Limit - Practical Quantitation Limit(PQL)  
 Note:

The reported analytical results relate only to the sample submitted.  
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Reported: 03/04/15 15:54 Revised: 03/17/15 15:23  
 L750756-13 (PH) - 8.3@21.6c  
 L750756-13 (SAR METALS) - Calcium 485 mg/L, Magnesium 138 mg/L, Sodium 985 mg/L



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Stantec- Sandy, UT  
 Jamey Sage III  
 8160 S. Highland Dr, Suite A4

Sandy, UT 84093-7402

Quality Assurance Report  
 Level II

L750756

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March 17, 2015

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Specific Conductance	1.82	umhos/cm			WG773299	03/04/15 14:03

Analyte	Units	Duplicate			Limit	Ref Samp	Batch
		Result	Duplicate	RPD			
pH	su	6.20	6.20	0.0	1	L750532-01	WG772872
pH	su	8.90	8.90	0.224	1	L750756-04	WG772872
pH	su	7.30	7.40	0.950	1	L750756-05	WG772998
pH	su	7.90	7.90	0.127	1	L750846-09	WG772998
Specific Conductance	umhos/cm	3900	3900	0.514	20	L750756-01	WG773299
Specific Conductance	umhos/cm	7600	7600	0.132	20	L750756-12	WG773299

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
pH	su	5.9	5.86	99.3	98.3-101.7	WG772872
pH	su	5.9	5.93	101.	98.3-101.7	WG772998
Specific Conductance	umhos/cm	759	776.	102.	85-115	WG773299

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
pH	su	5.86	5.86	99.0	98.3-101.7	0.0	20	WG772872
pH	su	5.94	5.93	101.	98.3-101.7	0.168	20	WG772998
Specific Conductance	umhos/	776.	776.	102.	85-115	0.0	20	WG773299

Batch number /Run number / Sample number cross reference

WG772872: R3022430: L750756-01 02 03 04  
 WG772998: R3022434: L750756-05 06 07 08 09 10 11 12 13  
 WG772877: R3022748: L750756-01 02 03 04 05 06 07 08 09 10 11 12 13  
 WG773299: R3022929: L750756-01 02 03 04 05 06 07 08 09 10 11 12 13

\* \* Calculations are performed prior to rounding of reported values.  
 \* Performance of this Analyte is outside of established criteria.  
 For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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March 17, 2015

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Company Name/Address:  
**STANTEC**  
 8160 SO HIGHLAND DRIVE  
 SANDY, UTAH 84093  
 USA

Billing Information:  
 SAME AS

Analysis / Container / Preservative



YOUR LAB OF CHOICE  
 12065 Lebanon Rd  
 Mount Juliet, TN 37122  
 Phone: 615-758-5858  
 Phone: 800-767-5859  
 Fax: 615-758-5859



Report to:  
**R. JENSEN & J. SAGE**

Email To:  
 russel.jensen@consolenergy.com  
 jamey.sage@stantec.com

Project: **CONSOL**  
 Description: **SOIL SAMPLING**

City/State: **EMERY, UTAH**  
 Collected:

Phone: **801 943 4144**  
 Fax: **801 942 1852**

Client Project #  
**203708005**

Lab Project #

Collected by (print):  
**J. SAGE**

Site/Facility ID #  
 —

P.O. #  
 —

Collected by (signature):

Rush? (Lab MUST Be Notified)  
 \_\_\_ Same Day .....200%  
 \_\_\_ Next Day .....100%  
 \_\_\_ Two Day .....50%  
 \_\_\_ Three Day .....25%

Date Results Needed  
 Email? \_\_\_ No  Yes  
 FAX? \_\_\_ No \_\_\_ Yes

Immediately  
 Packed on Ice N \_\_\_ Y

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative			Rem./Contaminant	Sample # (lab only)
							7H	EC	SAR		
SS-1-12	COMP	SS	6-12	2/25/15	1235	2	X	X	X		-01
SS-1-6		SS	0-6		1240	2					02
SS-2-12		SS	6-12		1300	2					03
SS-2-6		SS	0-6		1305	2					04
SS-3-12		SS	6-12		1355	2					05
SS-3-6		SS	0-6		1400	2					06
SS-4-12		SS	6-12		1335	2					07
SS-4-6		SS	0-6		1340	2					08
SS-5-12		SS	6-12		1435	2					09
SS-5-6		SS	0-6		1440	2					10

\* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: **6200 8549 4902**

pH \_\_\_\_\_ Temp \_\_\_\_\_  
 Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by: (Signature)  
  
 Relinquished by: (Signature)  
  
 Relinquished by: (Signature)

Date: **2/26/15** Time: **1426**  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received by: (Signature)  
  
 Received by: (Signature)  
  
 Received for lab by: (Signature)

Samples returned via:  UPS  
 FedEx  Courier  \_\_\_\_\_  
 Temp: **3.2** °C Bottles Received: **26/02**  
 Date: **2/27/15** Time: **0900**

Hold # \_\_\_\_\_  
 Condition: **51** (lab use only)  
 COC Seal Intact: \_\_\_ Y \_\_\_ N \_\_\_ NA  
 pH Checked: \_\_\_\_\_ NCF: \_\_\_\_\_



CON SOL SOIL SAMPLES 2/25/15

SS-1-12 [1235]

BROWN WITH CORNERS NO PEBBLES  
SLIGHT MOIST

SS-1-6 [1240]

SAME →

SS-2-12 [1300]

DARK GREY SAME  
WHITE STRINGS EVAPORITE DEPOSITS

SS-2-6 [1305]

DARK BROWN TO GREY SANDY  
SOIL WITH MWD STARS AND  
WHITE STRINGS EVAPORITE DEPOSITS

SS-4-12 [335]

LIGHT TAN VERY DRY FLOWERY  
MWD PEBBLES

SS-4-6 1340

SAME →

SS-7-12 <sup>VS</sup> (DWP) <sup>VS</sup> 1210

CON SOL SOIL SAMPLES 2/25/15

SS-3-12 [1355]

LIGHT TO MED BROWN SILTY TO  
CLAY, MOST PEBBLE CORNERS

SS-3-6 [1400]

SAME →

SS-6-12 [1425]

LIGHT BROWN MOIST  
SILTY CLAY WITH SAND.

SS-6-6 [1430]

SAME →

SS-5-12 [1435]

LIGHT BROWN TO TAN  
LIGHT SILTY CLAY DRY

SS-5-6 [1440]

CLAY AS SS-6-12

CONSOIL SOIL SAMPLES 2/12/15

EACH SITE WAS RANDOMLY SELECTED BY THROWING A WHEEL CHOKE OVER OUR SHOULDER, WHEREVER IT Landed ~~THE~~ A SAMPLE WAS COLLECTED.

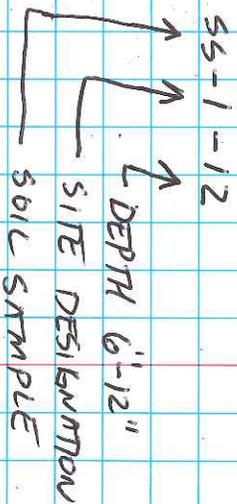
AT EACH SITE A PIT WAS DUG TO EXPOSE A 1-FOOT DEEP WHL. THE 6-12" SAMPLE WAS COLLECTED FIRST. THE SAMPLE WAS A COMPOSITE OF 6"-12" THEN THE 0-6" SAMPLE WAS COLLECTED. THE SAMPLE WAS A DEPOSIT OF 0"-6".

THE DUPLICATE SAMPLE WAS COLLECTED @ 55-4-12 AND IS CALLED 55-7-12 WITH A TIME OF 1210.

~~A~~ A SHOVEL WAS USED EXCAVATE THE HOLE AT EACH SITE. A NEW TAPALON ROUNE AND NEW NITRILE GLOVES WERE USED AT EACH SITE. A THE MEASURE WAS USED TO DESIGNATE DEPTH.

CONSOIL SOIL SAMPLES 2/25/15

SOIL SAMPLING NAMING



55-1 = REGRADED OSMOSIS POND #4

55-2 = UNDISTURBED OSMOSIS POND #4

55-3 = REGRADED SUBSOIL PILE NEAR #6 POND

55-4 = REGRADED TOPSOIL PILE NEAR #6 POND

55-5 = REGRADED SUBSOIL BEHIND NEAR #1 POND

55-6 = REGRADED SUBSOIL BEHIND NEAR #1 POND

55-7 = DUPLICATE.