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Automated Report

Technical Report for

Diamond Operating Inc.

Ward Water Pit Closure

East Bank of Pit

Soil sample tests from
east bank of water pit

SGS Job Number: DA3087

Sampling Date: 02/26/18

Report to:

Diamond Operating Inc.
6666 Gunpark Drive Suite 200
Boulder, CO 80301
davep@flatironenergy.com

ATTN: Dave Peterson

Total number of pages in report: 24



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.


Scott Heideman
Laboratory Director

Client Service contact: Jen Jorschumb 303-425-6021

Certifications: CO (CO00049), ID (CO00049), NE (NE-OS-06-04), ND (R-027), NJ (CO007), OK (D9942)
UT (NELAP CO00049), LA (LA150028), TX (T104704511), WY (8TMS-L)

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Test results relate only to samples analyzed.

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Sample Summary

Diamond Operating Inc.

Job No: DA3087

Ward Water Pit Closure
Project No: East Bank of Pit

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
DA3087-1	02/26/18	10:00 SG	03/01/18	SO	Soil	NORTH SIDE OF EAST PIT BANK
DA3087-2	02/26/18	10:00 SG	03/01/18	SO	Soil	SOUTH SIDE OF EAST PIT BANK

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Client: Diamond Operating Inc.**Job No** DA3087**Site:** Ward Water Pit Closure**Report Date** 3/8/2018 3:51:21 PM

On 03/01/2018, 2 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at SGS North America Inc. (SGS) at a temperature of 4.2 °C. The samples were intact and properly preserved, unless noted below. An SGS Job Number of DA3087 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: SO	Batch ID: V5V2510
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- All samples were analyzed within the recommended method holding time.
- Sample(s) DA3071-IMS, DA3071-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

GC/LC Semi-volatiles By Method SW846-8015B

Matrix: SO	Batch ID: OP16061
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- All samples were extracted and analyzed within the recommended method holding time.
- Sample(s) DA3074-IMS, DA3074-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

General Chemistry By Method SM2540G-2011 M

Matrix: SO	Batch ID: GN42110
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- Sample(s) DA3087-2DUP were used as the QC samples for the Solids, Percent analysis.

SGS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting SGS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by SGS indicated via signature on the report cover.

Thursday, March 08, 2018

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Summary of Hits

Job Number: DA3087
Account: Diamond Operating Inc.
Project: Ward Water Pit Closure
Collected: 02/26/18



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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DA3087-1 NORTH SIDE OF EAST PIT BANK

Toluene		1.2 J	2.3	1.1	ug/kg	SW846 8260B
Ethylbenzene		0.99 J	2.3	0.56	ug/kg	SW846 8260B
Xylene (total)		14.2	2.5	1.1	ug/kg	SW846 8260B
TPH-DRO (C10-C28)		39.2	11	10	mg/kg	SW846-8015B

DA3087-2 SOUTH SIDE OF EAST PIT BANK

Xylene (total)		6.0	2.4	1.1	ug/kg	SW846 8260B
TPH-DRO (C10-C28)		81.6	11	10	mg/kg	SW846-8015B

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	NORTH SIDE OF EAST PIT BANK	Date Sampled:	02/26/18
Lab Sample ID:	DA3087-1	Date Received:	03/01/18
Matrix:	SO - Soil	Percent Solids:	88.2
Method:	SW846 8260B		
Project:	Ward Water Pit Closure		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V45945.D	1	03/07/18 21:04	MB	n/a	n/a	V5V2510
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.02 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.1	0.56	ug/kg	
108-88-3	Toluene	1.2	2.3	1.1	ug/kg	J
100-41-4	Ethylbenzene	0.99	2.3	0.56	ug/kg	J
1330-20-7	Xylene (total)	14.2	2.5	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%		70-130%
2037-26-5	Toluene-D8	99%		70-130%
460-00-4	4-Bromofluorobenzene	102%		65-142%
17060-07-0	1,2-Dichloroethane-D4	109%		70-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.1
4

Report of Analysis

Client Sample ID: NORTH SIDE OF EAST PIT BANK	Date Sampled: 02/26/18
Lab Sample ID: DA3087-1	Date Received: 03/01/18
Matrix: SO - Soil	Percent Solids: 88.2
Method: SW846-8015B SW846 3546	
Project: Ward Water Pit Closure	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI61043.D	1	03/05/18 22:37	RB	03/05/18	OP16061	GFI2619
Run #2							

	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	39.2	11	10	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	77%		41-134%		

ND = Not detected	MDL = Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

4.1
4

Report of Analysis

Client Sample ID:	SOUTH SIDE OF EAST PIT BANK		Date Sampled:	02/26/18
Lab Sample ID:	DA3087-2		Date Received:	03/01/18
Matrix:	SO - Soil		Percent Solids:	89.5
Method:	SW846 8260B			
Project:	Ward Water Pit Closure			

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V45946.D	1	03/07/18 21:28	MB	n/a	n/a	V5V2510
Run #2							

Run #	Initial Weight	Final Volume
Run #1	5.06 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.1	0.55	ug/kg	
108-88-3	Toluene	ND	2.2	1.1	ug/kg	
100-41-4	Ethylbenzene	ND	2.2	0.55	ug/kg	
1330-20-7	Xylene (total)	6.0	2.4	1.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%		70-130%
2037-26-5	Toluene-D8	97%		70-130%
460-00-4	4-Bromofluorobenzene	104%		65-142%
17060-07-0	1,2-Dichloroethane-D4	110%		70-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.2
4

Report of Analysis

Client Sample ID:	SOUTH SIDE OF EAST PIT BANK	Date Sampled:	02/26/18
Lab Sample ID:	DA3087-2	Date Received:	03/01/18
Matrix:	SO - Soil	Percent Solids:	89.5
Method:	SW846-8015B SW846 3546		
Project:	Ward Water Pit Closure		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI61045.D	1	03/05/18 23:17	RB	03/05/18	OP16061	GFI2619
Run #2							

Run #	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	81.6	11	10	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	79%		41-134%		

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

4.2
4

Misc. Forms

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Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



ACCUTEST

CHAIN OF CUSTODY

4036 Youngfield Street, Wheat Ridge, CO 80033
TEL: 303-423-6021 FAX: 303-423-6854
www.accutest.com

FED-EX Tracking #
Bottle Order Control #
SGS Account Quote #
SGS Account Lab # DA3087

Client / Reporting Information: Diamond Operating Inc.
Project Information: Ward water pit closure - east bank of pit
Requested Analysis (see TEST CODE sheet)
Matrix Codes: DW - Drinking Water, GW - Ground Water, etc.
Collection table with columns for Date, Time, Sampled by, Matrix, # of bottles, and various chemical tests.
Turnaround Time (Business days)
Data Deliverable Information
Comments / Special Instructions: Only one of the samples (East bank) are to be tested for TPH-DRO
Sample Custody must be documented below each time samples change possession, including courier delivery.

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