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Automated Report

Technical Report for

Colorado Interstate Gas

Flank Storage Flowline Strike

SGS Accutest Job Number: D98000

Sampling Date: 09/11/17

Report to:

Kinder Morgan Inc
2 North Nevada Avenue
Colorado Springs, CO 80903
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destiny_white@kindermorgan.com
ATTN: Scott Pope

Total number of pages in report: 52

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)

Sections: 1 2 3 4 5 6 7 8 9 10

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Sample Summary

Colorado Interstate Gas

Job No: D98000

Flank Storage Flowline Strike

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
D98000-1	09/11/17	11:38	JCM	09/15/17	SO	Solid	FLANK FLOWLINE BTM COMP 01
D98000-1A	09/11/17	11:38	JCM	09/15/17	SO	Solid	FLANK FLOWLINE BTM COMP 01
D98000-2	09/11/17	11:40	JCM	09/15/17	SO	Solid	FLANK FLOWLINE WALLS COMP 01
D98000-2A	09/11/17	11:40	JCM	09/15/17	SO	Solid	FLANK FLOWLINE WALLS COMP 01
D98000-3	09/11/17	11:45	JCM	09/15/17	SO	Solid	FLANK PW IMPACTED SOIL COMP 01
D98000-3A	09/11/17	11:45	JCM	09/15/17	SO	Solid	FLANK PW IMPACTED SOIL COMP 01

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

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Colorado Interstate Gas	**Job No**	D98000
Site:	Flank Storage Flowline Strike	**Report Date**	9/22/2017 4:27:38 PM

On 09/15/2017, 3 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at SGS Accutest Mountain States (SAMS) at a temperature of 3.4 °C. The samples were intact and properly preserved, unless noted below. An SAMS Job Number of D98000 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.

Volatiles by GCMS By Method SW846 8260B

Matrix: SO **Batch ID:** V5V2412

- All samples were analyzed within the recommended method holding time.
- Sample(s) D97961-1MS, D97961-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Volatiles by GC By Method SW846 8015B

Matrix: SO **Batch ID:** GGA1918

- All samples were analyzed within the recommended method holding time.
- Sample(s) D97961-3MS, D97961-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Extractables by GC By Method SW846-8015B

Matrix: SO **Batch ID:** OP15498

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D98000-1MS, D98000-1MSD were used as the QC samples indicated.

Metals By Method SW846 6010C

Matrix: AQ **Batch ID:** MP23053

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D98038-2AMS, D98038-2AMSD, D98038-2ASDL were used as the QC samples for the metals analysis.
- The matrix spike (MS) recovery(s) of Sodium are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- The serial dilution RPD(s) for Magnesium are outside control limits for sample MP23053-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Wet Chemistry By Method SM2540G-2011 M

Matrix: SO **Batch ID:** GN40203

- Sample(s) D98000-3DUP were used as the QC samples for the Solids, Percent analysis.

Wet Chemistry By Method SW846 9045D

Matrix:	SO	Batch ID:	GN40256

- The following samples were run outside of holding time for method SW846 9045D: D98000-1A, D98000-2A, D98000-3A Analysis performed past recommended hold time.

Wet Chemistry By Method USDA HANDBOOK 60

Matrix:	SO	Batch ID:	MP23053

- D98000-1A, -2A and -3A for Sodium Adsorption Ratio: Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+(Mg meq/L)/2]

SAMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting SAMS'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.

SAMS 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 SAMS indicated via signature on the report cover.

Summary of Hits

Job Number: D98000
Account: Colorado Interstate Gas
Project: Flank Storage Flowline Strike
Collected: 09/11/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
D98000-1	**FLANK FLOWLINE BTM COMP 01**					
No hits reported in this sample.						
D98000-1A	**FLANK FLOWLINE BTM COMP 01**					
Calcium		73.8	2.0		mg/l	SW846 6010C
Magnesium		9.72	1.0		mg/l	SW846 6010C
Sodium		30.5	2.0		mg/l	SW846 6010C
Specific Conductivity		657	1.0		umhos/cm	SM 2510B-2011 MOD
Sodium Adsorption Ratio [a]		0.885			ratio	USDA HANDBOOK 60
pH [b]		8.49			su	SW846 9045D
D98000-2	**FLANK FLOWLINE WALLS COMP 01**					
No hits reported in this sample.						
D98000-2A	**FLANK FLOWLINE WALLS COMP 01**					
Calcium		55.3	2.0		mg/l	SW846 6010C
Magnesium		6.94	1.0		mg/l	SW846 6010C
Sodium		8.78	2.0		mg/l	SW846 6010C
Specific Conductivity		355	1.0		umhos/cm	SM 2510B-2011 MOD
Sodium Adsorption Ratio [a]		0.296			ratio	USDA HANDBOOK 60
pH [b]		8.68			su	SW846 9045D
D98000-3	**FLANK PW IMPACTED SOIL COMP 01**					
No hits reported in this sample.						
D98000-3A	**FLANK PW IMPACTED SOIL COMP 01**					
Calcium		49.1	2.0		mg/l	SW846 6010C
Magnesium		6.31	1.0		mg/l	SW846 6010C
Sodium		6.52	2.0		mg/l	SW846 6010C
Specific Conductivity		303	1.0		umhos/cm	SM 2510B-2011 MOD
Sodium Adsorption Ratio [a]		0.233			ratio	USDA HANDBOOK 60
pH [b]		8.58			su	SW846 9045D

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]
(b) Analysis performed past recommended hold time.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	FLANK FLOWLINE BTM COMP 01		
Lab Sample ID:	D98000-1	**Date Sampled:**	09/11/17
Matrix:	SO - Solid	**Date Received:**	09/15/17
Method:	SW846 8260B	**Percent Solids:**	98.8
Project:	Flank Storage Flowline Strike		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V43557.D	1	09/20/17 15:01	MB	n/a	n/a	V5V2412
Run #2							

	Initial Weight	Final Volume
Run #1	5.08 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/kg	
108-88-3	Toluene	ND	2.0	1.0	ug/kg	
100-41-4	Ethylbenzene	ND	2.0	0.50	ug/kg	
1330-20-7	Xylene (total)	ND	2.2	1.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		70-130%
2037-26-5	Toluene-D8	91%		70-130%
460-00-4	4-Bromofluorobenzene	97%		65-142%
17060-07-0	1,2-Dichloroethane-D4	110%		70-130%

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

Report of Analysis

Client Sample ID:	FLANK FLOWLINE BTM COMP 01		
Lab Sample ID:	D98000-1	**Date Sampled:**	09/11/17
Matrix:	SO - Solid	**Date Received:**	09/15/17
Method:	SW846 8015B	**Percent Solids:**	98.8
Project:	Flank Storage Flowline Strike		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA39738.D	1	09/15/17 18:00	MB	n/a	n/a	GGA1918
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.1 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	10	5.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	107%		60-140%

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

Report of Analysis

Client Sample ID: FLANK FLOWLINE BTM COMP 01
Lab Sample ID: D98000-1
Matrix: SO - Solid
Method: SW846-8015B SW846 3546
Project: Flank Storage Flowline Strike

Date Sampled: 09/11/17
Date Received: 09/15/17
Percent Solids: 98.8

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI57690.D	1	09/18/17 13:54	RB	09/18/17	OP15498	GFI2420
Run #2							

	Initial Weight	Final Volume
Run #1	20.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	10	9.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	89%		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

Report of Analysis

Client Sample ID:	FLANK FLOWLINE BTM COMP 01		
Lab Sample ID:	D98000-1A	**Date Sampled:**	09/11/17
Matrix:	SO - Solid	**Date Received:**	09/15/17
		Percent Solids:	98.8
Project:	Flank Storage Flowline Strike		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	73.8	2.0	mg/l	1	09/20/17	09/20/17	SB	SW846 6010C [1]	SW846 3010A/M [2]
Magnesium	9.72	1.0	mg/l	1	09/20/17	09/20/17	SB	SW846 6010C [1]	SW846 3010A/M [2]
Sodium	30.5	2.0	mg/l	1	09/20/17	09/20/17	SB	SW846 6010C [1]	SW846 3010A/M [2]

(1) Instrument QC Batch: MA9043
(2) Prep QC Batch: MP23053

RL = Reporting Limit

Report of Analysis

Client Sample ID:	FLANK FLOWLINE BTM COMP 01		
Lab Sample ID:	D98000-1A	**Date Sampled:**	09/11/17
Matrix:	SO - Solid	**Date Received:**	09/15/17
		Percent Solids:	98.8
Project:	Flank Storage Flowline Strike		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity	657	1.0	umhos/cm	1	09/20/17	JD	SM 2510B-2011 MOD
Sodium Adsorption Ratio [a]	0.885		ratio	1	09/20/17 13:36	SB	USDA HANDBOOK 60
pH [b]	8.49		su	1	09/20/17 09:30	SK	SW846 9045D

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]
(b) Analysis performed past recommended hold time.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	FLANK FLOWLINE WALLS COMP 01		
Lab Sample ID:	D98000-2	**Date Sampled:**	09/11/17
Matrix:	SO - Solid	**Date Received:**	09/15/17
Method:	SW846 8260B	**Percent Solids:**	98.7
Project:	Flank Storage Flowline Strike		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V43558.D	1	09/20/17 15:26	MB	n/a	n/a	V5V2412
Run #2							

	Initial Weight	Final Volume
Run #1	5.05 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/kg	
108-88-3	Toluene	ND	2.0	1.0	ug/kg	
100-41-4	Ethylbenzene	ND	2.0	0.50	ug/kg	
1330-20-7	Xylene (total)	ND	2.2	1.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		70-130%
2037-26-5	Toluene-D8	90%		70-130%
460-00-4	4-Bromofluorobenzene	93%		65-142%
17060-07-0	1,2-Dichloroethane-D4	107%		70-130%

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

Report of Analysis

Client Sample ID:	FLANK FLOWLINE WALLS COMP 01		
Lab Sample ID:	D98000-2	**Date Sampled:**	09/11/17
Matrix:	SO - Solid	**Date Received:**	09/15/17
Method:	SW846 8015B	**Percent Solids:**	98.7
Project:	Flank Storage Flowline Strike		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA39739.D	1	09/15/17 18:35	MB	n/a	n/a	GGA1918
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.1 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	10	5.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	106%		60-140%

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

Report of Analysis

Client Sample ID:	FLANK FLOWLINE WALLS COMP 01		
Lab Sample ID:	D98000-2	**Date Sampled:**	09/11/17
Matrix:	SO - Solid	**Date Received:**	09/15/17
Method:	SW846-8015B SW846 3546	**Percent Solids:**	98.7
Project:	Flank Storage Flowline Strike		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI57683.D	1	09/18/17 11:13	RB	09/18/17	OP15498	GFI2421
Run #2							

	Initial Weight	Final Volume
Run #1	20.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	10	9.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	95%		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

Report of Analysis

Client Sample ID:	FLANK FLOWLINE WALLS COMP 01		
Lab Sample ID:	D98000-2A	**Date Sampled:**	09/11/17
Matrix:	SO - Solid	**Date Received:**	09/15/17
		Percent Solids:	98.7
Project:	Flank Storage Flowline Strike		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	55.3	2.0	mg/l	1	09/20/17	09/20/17	SB	SW846 6010C [1]	SW846 3010A/M [2]
Magnesium	6.94	1.0	mg/l	1	09/20/17	09/20/17	SB	SW846 6010C [1]	SW846 3010A/M [2]
Sodium	8.78	2.0	mg/l	1	09/20/17	09/20/17	SB	SW846 6010C [1]	SW846 3010A/M [2]

(1) Instrument QC Batch: MA9043
(2) Prep QC Batch: MP23053

RL = Reporting Limit

Report of Analysis

Client Sample ID:	FLANK FLOWLINE WALLS COMP 01		
Lab Sample ID:	D98000-2A	**Date Sampled:**	09/11/17
Matrix:	SO - Solid	**Date Received:**	09/15/17
		Percent Solids:	98.7
Project:	Flank Storage Flowline Strike		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity	355	1.0	umhos/cm	1	09/20/17	JD	SM 2510B-2011 MOD
Sodium Adsorption Ratio [a]	0.296		ratio	1	09/20/17 13:54	SB	USDA HANDBOOK 60
pH [b]	8.68		su	1	09/20/17 09:30	SK	SW846 9045D

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]
(b) Analysis performed past recommended hold time.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	FLANK PW IMPACTED SOIL COMP 01		
Lab Sample ID:	D98000-3	**Date Sampled:**	09/11/17
Matrix:	SO - Solid	**Date Received:**	09/15/17
Method:	SW846 8260B	**Percent Solids:**	98.7
Project:	Flank Storage Flowline Strike		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V43559.D	1	09/20/17 15:50	MB	n/a	n/a	V5V2412
Run #2							

	Initial Weight	Final Volume
Run #1	5.04 g	5.0 ml
Run #2		

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/kg	
108-88-3	Toluene	ND	2.0	1.0	ug/kg	
100-41-4	Ethylbenzene	ND	2.0	0.50	ug/kg	
1330-20-7	Xylene (total)	ND	2.2	1.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		70-130%
2037-26-5	Toluene-D8	93%		70-130%
460-00-4	4-Bromofluorobenzene	92%		65-142%
17060-07-0	1,2-Dichloroethane-D4	109%		70-130%

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

Report of Analysis

Client Sample ID:	FLANK PW IMPACTED SOIL COMP 01		
Lab Sample ID:	D98000-3	**Date Sampled:**	09/11/17
Matrix:	SO - Solid	**Date Received:**	09/15/17
Method:	SW846 8015B	**Percent Solids:**	98.7
Project:	Flank Storage Flowline Strike		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA39740.D	1	09/15/17 19:10	MB	n/a	n/a	GGA1918
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.0 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	10	5.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	107%		60-140%

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

Report of Analysis

Client Sample ID:	FLANK PW IMPACTED SOIL COMP 01		
Lab Sample ID:	D98000-3	**Date Sampled:**	09/11/17
Matrix:	SO - Solid	**Date Received:**	09/15/17
Method:	SW846-8015B SW846 3546	**Percent Solids:**	98.7
Project:	Flank Storage Flowline Strike		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI57685.D	1	09/18/17 11:53	RB	09/18/17	OP15498	GFI2421
Run #2							

	Initial Weight	Final Volume
Run #1	20.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	10	9.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	96%		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

Report of Analysis

Client Sample ID:	FLANK PW IMPACTED SOIL COMP 01		
Lab Sample ID:	D98000-3A	**Date Sampled:**	09/11/17
Matrix:	SO - Solid	**Date Received:**	09/15/17
		Percent Solids:	98.7
Project:	Flank Storage Flowline Strike		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	49.1	2.0	mg/l	1	09/20/17	09/20/17	SB	SW846 6010C [1]	SW846 3010A/M [2]
Magnesium	6.31	1.0	mg/l	1	09/20/17	09/20/17	SB	SW846 6010C [1]	SW846 3010A/M [2]
Sodium	6.52	2.0	mg/l	1	09/20/17	09/20/17	SB	SW846 6010C [1]	SW846 3010A/M [2]

(1) Instrument QC Batch: MA9043
(2) Prep QC Batch: MP23053

RL = Reporting Limit

Report of Analysis

Client Sample ID:	FLANK PW IMPACTED SOIL COMP 01		
Lab Sample ID:	D98000-3A	**Date Sampled:**	09/11/17
Matrix:	SO - Solid	**Date Received:**	09/15/17
		Percent Solids:	98.7
Project:	Flank Storage Flowline Strike		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity	303	1.0	umhos/cm	1	09/20/17	JD	SM 2510B-2011 MOD
Sodium Adsorption Ratio [a]	0.233		ratio	1	09/20/17 13:59	SB	USDA HANDBOOK 60
pH [b]	8.58		su	1	09/20/17 09:30	SK	SW846 9045D

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]
(b) Analysis performed past recommended hold time.

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

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ACCUTEST Laboratories

Accutest Mountain States, 4036 Youngfield Street, Wheat Ridge CO 80033

FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job # D98000

Client / Reporting Information

Company Name: Colorado Interstate Gas Company LLC
Street Address: 2 N Nevada Ave
City / State / Zip: Colorado Springs, CO 90903
Project Contact / E-mail: Scott Pope (scott_pope@kindermorgan.com)
Phone # / Fax #: 719-520-4433
Sampler(s) Name(s) / Phone #: scott_pope@kindermorgan.com

Project Information

Project Name: Flank Storage Flowline Strike
Street:
City / State: Midway CO
Project #:
Client Purchase Order #:
Project Manager: Destiny White

Billing Information (if different from Report to)

Company Name: Same as Client
Street Address:
City / State / Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	BTEX	TPH DRO / GRO	SAR, EC, pH	LAB USE ONLY
	Flank Flowline BTM Comp 01		9-11-17	11:38A	JCM	SOL	3									X	X	X	01
	Flank Flowline Walls Comp 01		9-11-17	11:40A	JCM	SOL	3									X	X	X	02
	Flank PW Impacted Soil Comp 01		9-11-17	11:45A	JCM	SOL	3									X	X	X	03
																			MS
																			D

Turnaround Time (Business days)

- [ ] Std. 15 Business Days
- [ ] Std. 10 Business Days (by Contract only)
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [X] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

Copy:
Jimmy_Williams@kindermorgan.com
Destiny_White@kindermorgan.com
Rush Flowline BTM and Walls 2 day BTEX and TPH only. 5day SAR, EC and pH
Impacted soil rush 5 day

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 JAMES CLINT AYERS	9-11-17 11:30A	1	2		2
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished by:	Date Time:	Received By:	Custody Seal #	Intact / Not Intact	Preserved where applicable	On Ice	Cooler Temp.
5		5	UPF	Intact			3.4

5.1 5

D98000: Chain of Custody
Page 1 of 2

SGS Accutest Sample Receipt Summary

Job Number: D98000 **Client:** EVRAZ **Project:** FLANK STORAGE FLOWLINE STRIKE

Date / Time Received: 9/15/2017 10:20:00 AM **Delivery Method:** **Airbill #'s:** ups

Cooler Temps (Initial/Adjusted): #1: (3.4/3.4);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun;		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Comments

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

D98000: Chain of Custody
Page 2 of 2

MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D98000
Account: CIGCOCS Colorado Interstate Gas
Project: Flank Storage Flowline Strike

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V2412-MB	5V43548.D	1	09/20/17	MB	n/a	n/a	V5V2412

The QC reported here applies to the following samples: **Method:** SW846 8260B

D98000-1, D98000-2, D98000-3

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	50	25	ug/kg	
100-41-4	Ethylbenzene	ND	100	25	ug/kg	
108-88-3	Toluene	ND	100	50	ug/kg	
1330-20-7	Xylene (total)	ND	110	50	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	87%	70-130%
2037-26-5	Toluene-D8	98%	70-130%
460-00-4	4-Bromofluorobenzene	94%	65-142%
17060-07-0	1,2-Dichloroethane-D4	101%	70-130%

Method Blank Summary

Job Number: D98000
Account: CIGCOCS Colorado Interstate Gas
Project: Flank Storage Flowline Strike

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V2412-MB	5V43549.D	1	09/20/17	MB	n/a	n/a	V5V2412

The QC reported here applies to the following samples: **Method:** SW846 8260B

D98000-1, D98000-2, D98000-3

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/kg	
100-41-4	Ethylbenzene	ND	2.0	0.50	ug/kg	
108-88-3	Toluene	ND	2.0	1.0	ug/kg	
1330-20-7	Xylene (total)	ND	2.2	1.0	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	96%	70-130%
2037-26-5	Toluene-D8	95%	70-130%
460-00-4	4-Bromofluorobenzene	94%	65-142%
17060-07-0	1,2-Dichloroethane-D4	103%	70-130%

Blank Spike Summary

Job Number: D98000
Account: CIGCOCS Colorado Interstate Gas
Project: Flank Storage Flowline Strike

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V2412-BS	5V43546.D	1	09/20/17	MB	n/a	n/a	V5V2412

The QC reported here applies to the following samples: **Method:** SW846 8260B

D98000-1, D98000-2, D98000-3

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	43.3	87	70-130
100-41-4	Ethylbenzene	50	46.0	92	70-130
108-88-3	Toluene	50	43.5	87	70-130
1330-20-7	Xylene (total)	150	139	93	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	70-130%
2037-26-5	Toluene-D8	102%	70-130%
460-00-4	4-Bromofluorobenzene	103%	65-142%
17060-07-0	1,2-Dichloroethane-D4	108%	70-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D98000
Account: CIGCOCS Colorado Interstate Gas
Project: Flank Storage Flowline Strike

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D97961-1MS	5V43551.D	1	09/20/17	MB	n/a	n/a	V5V2412
D97961-1MSD	5V43552.D	1	09/20/17	MB	n/a	n/a	V5V2412
D97961-1	5V43550.D	1	09/20/17	MB	n/a	n/a	V5V2412

The QC reported here applies to the following samples: **Method:** SW846 8260B

D98000-1, D98000-2, D98000-3

CAS No.	Compound	D97961-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		66.8	51.5	77	67.4	47.8	71	7	43-135/30
100-41-4	Ethylbenzene	ND		66.8	53.5	80	67.4	49.4	73	8	30-144/30
108-88-3	Toluene	ND		66.8	50.9	76	67.4	47.5	70	7	27-144/30
1330-20-7	Xylene (total)	ND		200	160	80	202	148	73	8	13-154/30

CAS No.	Surrogate Recoveries	MS	MSD	D97961-1	Limits
1868-53-7	Dibromofluoromethane	99%	100%	98%	70-130%
2037-26-5	Toluene-D8	102%	101%	95%	70-130%
460-00-4	4-Bromofluorobenzene	104%	107%	90%	65-142%
17060-07-0	1,2-Dichloroethane-D4	97%	109%	104%	70-130%

* = Outside of Control Limits.

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D98000
Account: CIGCOCS Colorado Interstate Gas
Project: Flank Storage Flowline Strike

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA1918-MB	GA39730.D	1	09/15/17	MB	n/a	n/a	GGA1918

The QC reported here applies to the following samples: **Method:** SW846 8015B

D98000-1, D98000-2, D98000-3

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	10	5.0	mg/kg	

CAS No.	Surrogate Recoveries		Limits
120-82-1	1,2,4-Trichlorobenzene	106%	60-140%

Blank Spike Summary

Job Number: D98000
Account: CIGCOCS Colorado Interstate Gas
Project: Flank Storage Flowline Strike

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA1918-BS	GA39729.D	1	09/15/17	MB	n/a	n/a	GGA1918

The QC reported here applies to the following samples: **Method:** SW846 8015B

D98000-1, D98000-2, D98000-3

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	110	124	113	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	117%	60-140%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D98000
Account: CIGCOCS Colorado Interstate Gas
Project: Flank Storage Flowline Strike

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D97961-3MS	GA39732.D	1	09/15/17	MB	n/a	n/a	GGA1918
D97961-3MSD	GA39733.D	1	09/15/17	MB	n/a	n/a	GGA1918
D97961-3	GA39731.D	1	09/15/17	MB	n/a	n/a	GGA1918

The QC reported here applies to the following samples: **Method:** SW846 8015B

D98000-1, D98000-2, D98000-3

CAS No.	Compound	D97961-3 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		133	146	110	133	146	110	0	70-131/30

CAS No.	Surrogate Recoveries	MS	MSD	D97961-3	Limits
120-82-1	1,2,4-Trichlorobenzene	117%	115%	105%	60-140%

* = Outside of Control Limits.

GC/LC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D98000
Account: CIGCOCS Colorado Interstate Gas
Project: Flank Storage Flowline Strike

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP15498-MB	FI57682.D	1	09/18/17	RB	09/18/17	OP15498	GFI2420

The QC reported here applies to the following samples: **Method:** SW846-8015B

D98000-1, D98000-2, D98000-3

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	10	9.0	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	93%	41-134%

Blank Spike Summary

Job Number: D98000
Account: CIGCOCS Colorado Interstate Gas
Project: Flank Storage Flowline Strike

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP15498-BS	FI57684.D	1	09/18/17	RB	09/18/17	OP15498	GFI2420

The QC reported here applies to the following samples: **Method:** SW846-8015B

D98000-1, D98000-2, D98000-3

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	250	155	62	35-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	85%	41-134%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D98000
Account: CIGCOCS Colorado Interstate Gas
Project: Flank Storage Flowline Strike

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP15498-MS	FI57686.D	1	09/18/17	RB	09/18/17	OP15498	GFI2420
OP15498-MSD	FI57688.D	1	09/18/17	RB	09/18/17	OP15498	GFI2420
D98000-1	FI57690.D	1	09/18/17	RB	09/18/17	OP15498	GFI2420

The QC reported here applies to the following samples: **Method:** SW846-8015B

D98000-1, D98000-2, D98000-3

CAS No.	Compound	D98000-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	ND		253	170	67	253	171	68	1	10-171/30

CAS No.	Surrogate Recoveries	MS	MSD	D98000-1	Limits
84-15-1	o-Terphenyl	91%	87%	89%	41-134%

* = Outside of Control Limits.

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D98000
Account: CIGCOCS - Colorado Interstate Gas
Project: Flank Storage Flowline Strike

QC Batch ID: MP23053
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/20/17

Metal	RL	IDL	MDL	MB raw	final
Aluminum	500	230	65		
Antimony	150	70	44		
Arsenic	130	110	60		
Barium	50	1.5	6.5		
Beryllium	50	5	8		
Boron	250	17	18		
Cadmium	50	9.5	9.5		
Calcium	2000	33	50	122	<2000
Chromium	50	5.5	5.5		
Cobalt	25	14	6		
Copper	50	23	19		
Iron	350	45	35		
Lead	250	67	25		
Lithium	25	3	3.5		
Magnesium	1000	250	200	9.5	<1000
Manganese	25	2.5	4.5		
Molybdenum	50	43	18		
Nickel	150	31	14		
Phosphorus	500	460	170		
Potassium	5000	420	360		
Selenium	250	150	55		
Silicon	250	210	42		
Silver	150	3	3.1		
Sodium	2000	63	70	611	<2000
Strontium	25	.5	1.5		
Thallium	50	85	40		
Tin	250	210	60		
Titanium	50	2.5	14		
Uranium	250	20	22		
Vanadium	50	4.5	3		
Zinc	150	45	18		

Associated samples MP23053: D98000-1A, D98000-2A, D98000-3A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D98000
Account: CIGCOCS - Colorado Interstate Gas
Project: Flank Storage Flowline Strike

QC Batch ID: MP23053
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/20/17

Metal	RL	IDL	MDL	MB raw	final

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D98000
Account: CIGCOCS - Colorado Interstate Gas
Project: Flank Storage Flowline Strike

QC Batch ID: MP23053
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/20/17

Metal	D98038-2A Original	MS	Spikelot ICPALL2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium	440000	589000	125000	119.2	75-125
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Lithium					
Magnesium	271	118000	125000	94.2	75-125
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium	3950000	4510000	125000	448.0(a)	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP23053: D98000-1A, D98000-2A, D98000-3A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D98000
Account: CIGCOCS - Colorado Interstate Gas
Project: Flank Storage Flowline Strike

QC Batch ID: MP23053
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/20/17

Metal	D98038-2A Original MS	Spikelot ICPALL2	% Rec	QC Limits

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D98000
Account: CIGCOCS - Colorado Interstate Gas
Project: Flank Storage Flowline Strike

QC Batch ID: MP23053
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/20/17

Metal	D98038-2A Original	MSD	Spikelot ICPALL2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium	440000	543000	125000	82.4	8.1	20
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Lithium						
Magnesium	271	117000	125000	93.4	0.9	20
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium	3950000	4070000	125000	96.0	10.3	20
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP23053: D98000-1A, D98000-2A, D98000-3A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D98000
Account: CIGCOCS - Colorado Interstate Gas
Project: Flank Storage Flowline Strike

QC Batch ID: MP23053
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/20/17

Metal	D98038-2A Original MSD	Spikelot ICPALL2 % Rec	MSD RPD	QC Limit

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D98000
Account: CIGCOCS - Colorado Interstate Gas
Project: Flank Storage Flowline Strike

QC Batch ID: MP23053
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/20/17

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	123000	125000	98.4	80-120
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	118000	125000	94.4	80-120
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	129000	125000	103.2	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP23053: D98000-1A, D98000-2A, D98000-3A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D98000
Account: CIGCOCS - Colorado Interstate Gas
Project: Flank Storage Flowline Strike

QC Batch ID: MP23053
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/20/17

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: D98000
Account: CIGCOCS - Colorado Interstate Gas
Project: Flank Storage Flowline Strike

QC Batch ID: MP23053
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/20/17

Metal	D98038-2A Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	87900	86900	1.2	0-10
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	54.1	0.00	100.0(a)	0-10
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	789000	794000	0.6	0-10
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP23053: D98000-1A, D98000-2A, D98000-3A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SERIAL DILUTION RESULTS SUMMARY

Login Number: D98000
Account: CIGCOCS - Colorado Interstate Gas
Project: Flank Storage Flowline Strike

QC Batch ID: MP23053
Matrix Type: AQUEOUS

Methods: SW846 6010C, USDA HANDBOOK 60
Units: ug/l

Prep Date: 09/20/17

	D98038-2A		QC
Metal	Original SDL 1:5	%DIF	Limits

(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D98000
Account: CIGCOCS - Colorado Interstate Gas
Project: Flank Storage Flowline Strike

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Specific Conductivity	GP21205/GN40247			umhos/cm	9976	9860	98.8	90-110%
pH	GN40256			su	8.00	7.96	99.5	99.1-100.9%

Associated Samples:
Batch GN40256: D98000-1A, D98000-2A, D98000-3A
Batch GP21205: D98000-1A, D98000-2A, D98000-3A
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D98000
Account: CIGCOCS - Colorado Interstate Gas
Project: Flank Storage Flowline Strike

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Solids, Percent	GN40203	D98000-3	%	98.7	98.7	0.0	0-10%

Associated Samples:
Batch GN40203: D98000-1, D98000-2, D98000-3
(*) Outside of QC limits