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Automated Report

Technical Report for

Kerr-McGee Oil & Gas Onshore LP

GWA_Lizzy_8_36HZ

FID:753511 Reg:615 Freq.:IN

SGS Job Number: DA59567

Sampling Date: 10/24/23



Report to:

Fulcrum Energy Operating
112 High Street
Buffalo, WY 82834
tanya.cude@absarokasolutions.com; AnadarkoDataMngt@ghd.com;
joel.mason@absarokasolutions.com; jordan.fleming@absarokasolutions.com
ATTN: Tanya Cude

Total number of pages in report: 56



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 unless noted in the narrative, comments or footnotes.

Eric Hoffman

Client Service contact: Parna Payandeh 303-425-6021

Certifications: CO (CO00049), ND (R-027), UT (NELAP CO00049), LA (LA150028), TX (T104704511), WY (8TMS-L) HI (CO00049), NJ (CO011), NV (CO00049), AK (CO00049), CA (3076), and NC (08701)

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Test results relate only to samples analyzed.

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Sample Summary

Kerr-McGee Oil & Gas Onshore LP

Job No: DA59567

GWA_Lizzy_8_36HZ

Project No: FID:753511 Reg:615 Freq.:IN

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
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This report contains results reported as ND = Not detected. The following applies:
Organics ND = Not detected above the MDL

DA59567-1	10/24/23	13:44 MH	10/25/23	AQ	Ground Water	BW_TRIPLE_292490 SESE_36_1N_68W
DA59567-1A	10/24/23	13:44 MH	10/25/23	AQ	Ground Water	BW_TRIPLE_292490 SESE_36_1N_68W
DA59567-1B	10/24/23	13:44 MH	10/25/23	AQ	Ground Water	BW_TRIPLE_292490 SESE_36_1N_68W
DA59567-1F	10/24/23	13:44 MH	10/25/23	AQ	Groundwater Filtered	BW_TRIPLE_292490 SESE_36_1N_68W

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Kerr-McGee Oil & Gas Onshore LP

Job No: DA59567

Site: GWA_Lizzy_8_36HZ

Report Date 11/10/2023 7:03:26 A

On 10/25/2023, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at SGS North America Inc. (SGS) at a temperature of 4.5 °C. The samples were intact and properly preserved, unless noted below. An SGS Job Number of DA59567 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: AQ	Batch ID: V5V3836
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- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

GC Volatiles By Method RSK175 MOD

Matrix: AQ	Batch ID: GFK309
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- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- DA59567-1A: The pH of the sample was >2 at time of analysis.

GC Volatiles By Method SW846 8015D

Matrix: AQ	Batch ID: GGA2796
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- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

GC/LC Semi-volatiles By Method SW846 8015C

Matrix: AQ	Batch ID: L:OP23872
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- The data for SW846 8015C meets quality control requirements.
- DA59567-1: Analysis performed at SGS Scott, LA.

Metals Analysis By Method EPA 200.8

Matrix: AQ **Batch ID:** MP38372

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) DA59542-1FAMS, DA59542-1FAMSD were used as the QC samples for the metals analysis.
- The matrix spike (MS) recovery(s) of Calcium, Sodium, Strontium are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

Matrix: AQ **Batch ID:** MP38406

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) DA59728-1FMS, DA59728-1FMSD were used as the QC samples for the metals analysis.

Metals Analysis By Method EPA 245.1

Matrix: AQ **Batch ID:** MP38377

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) DA59575-1MS, DA59575-1MSD were used as the QC samples for the metals analysis.
- The blank spike (BS) recovery(s) of Mercury are outside control limits.
- MP38377-B1 for Mercury: Outside control limits biased high. Reported samples are ND.

General Chemistry By Method EPA 300.0

Matrix: AQ **Batch ID:** GP35368

- All samples were prepared within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) DA59576-4MS, DA59576-4MSD were used as the QC samples for the Bromide, Chloride, Fluoride, Nitrogen, Nitrate, Nitrogen, Nitrite, Sulfate, Bromide analysis.
- DA59567-1 for Nitrogen, Nitrite: Elevated detection limit due to matrix interference.

Matrix: AQ **Batch ID:** R61994

- The data for EPA 300.0 meets quality control requirements.
- DA59567-1 for Nitrogen, Nitrate + Nitrite: Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

General Chemistry By Method EPA 365.1

Matrix: AQ **Batch ID:** GP35402

- All samples were prepared within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) DA59564-1DUP, DA59564-1MS, DA59564-1MSD were used as the QC samples for the Phosphorus, Total analysis.

General Chemistry By Method HACH IRB-BART

Matrix: AQ **Batch ID:** MB1707

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) DA59619-1BDUP were used as the QC samples for the Iron-Related Bacteria analysis.

General Chemistry By Method HACH SLYM-BART

Matrix: AQ **Batch ID:** MB1705

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) DA59619-1BDUP were used as the QC samples for the Slime Forming Bacteria analysis.

General Chemistry By Method HACH SRB-BART

Matrix: AQ **Batch ID:** MB1706

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) DA59619-1BDUP were used as the QC samples for the Sulfate Reducing Bacteria analysis.

General Chemistry By Method SM 2320B-2011

Matrix: AQ **Batch ID:** GN61715

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) DA59545-1DUP, DA59545-1MS, DA59545-1MSD were used as the QC samples for the Alkalinity, Total as CaCO₃ analysis.

Matrix: AQ **Batch ID:** GN61716

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) DA59567-1DUP, DA59567-1MS, DA59567-1MSD were used as the QC samples for the Alkalinity, Bicarbonate as CaCO₃ analysis.

Matrix: AQ **Batch ID:** GN61717

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) DA59567-1DUP were used as the QC samples for the Alkalinity, Carbonate analysis.

General Chemistry By Method SM 2510B-2011

Matrix: AQ **Batch ID:** GP35371

- Sample(s) DA59567-1DUP were used as the QC samples for the Specific Conductivity analysis.

General Chemistry By Method SM 2540C-2011

Matrix: AQ **Batch ID:** GN61697

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) DA59621-2DUP were used as the QC samples for the Solids, Total Dissolved analysis.

General Chemistry By Method SM 4500 S2 H-2011

Matrix: AQ **Batch ID:** GN61731

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) DA59620-1DUP were used as the QC samples for the Hydrogen Sulfide analysis.

General Chemistry By Method SM 5310B-2011/9060A

Matrix: AQ **Batch ID:** GP35397

- All samples were prepared within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) DA59567-1FDUP, DA59567-1FMS, DA59567-1FMDS were used as the QC samples for the Dissolved Organic Carbon analysis.

General Chemistry By Method SM1030E-2011

Matrix: AQ **Batch ID:** GN61747

- The data for SM1030E-2011 meets quality control requirements.

General Chemistry By Method SM4500HB+-2011/9040C

Matrix: AQ **Batch ID:** GN61700

- The data for SM4500HB+-2011/9040C meets quality control requirements.
- The following samples were run outside of holding time for method SM4500HB+-2011/9040C: DA59567-1 Analysis performed past recommended hold time.

Field Data By Method FIELD

Matrix: AQ **Batch ID:** R62011

- The data for FIELD meets quality control requirements.

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.

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: SGS Wheat Ridge, CO

Job No: DA59567

Site: ANADACOD: GWA_Lizzy_8_36HZ

Report Date 10/31/2023 10:11:51 A

On 10/27/2023, 1 sample was received at SGS North America Inc. (SGS) at a temperature of 3.8 °C. The sample was intact and properly preserved, unless noted below. An SGS Job Number of DA59567 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.

GC/LC Semi-volatiles By Method SW846 8015C

Matrix: AQ

Batch ID: OP23872

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

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.

Summary of Hits

Job Number: DA59567
 Account: Kerr-McGee Oil & Gas Onshore LP
 Project: GWA_Lizzy_8_36HZ
 Collected: 10/24/23



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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DA59567-1 BW_TRIPLE_292490 SESE_36_1N_68W

TPH-DRO (C10-C28) ^a	0.0203 J	0.097	0.016	mg/l	SW846 8015C
Arsenic	0.00034	0.00020		mg/l	EPA 200.8
Copper	0.0082	0.0020		mg/l	EPA 200.8
Uranium	0.0833	0.00020		mg/l	EPA 200.8
Fluoride	2.2	0.50		mg/l	EPA 300.0
Chloride	324	13		mg/l	EPA 300.0
Bromide	0.87	0.25		mg/l	EPA 300.0
Nitrogen, Nitrate	3.9	0.25		mg/l	EPA 300.0
Sulfate	1320	25		mg/l	EPA 300.0
Nitrogen, Nitrate + Nitrite ^b	3.9	0.35		mg/l	EPA 300.0
Alkalinity, Bicarbonate as CaCO3	365	5.0		mg/l	SM 2320B-2011
Alkalinity, Total as CaCO3	365	5.0		mg/l	SM 2320B-2011
Cation Anion Balance	6.0			%	SM1030E-2011
Solids, Total Dissolved	2320	10		mg/l	SM 2540C-2011
Specific Conductivity	3600	1.0		umhos/cm	SM 2510B-2011
pH ^c	7.47			su	SM4500HB+ -2011/9040C
Redox Potential Vs H2	55.3			mv	FIELD
Temperature (Field)	12.61			Deg. C	FIELD
Oxygen, Dissolved (Field)	5.71			mg/l	FIELD
Specific Conductivity (Field)	3632.4	0.50		umhos/cm	FIELD
pH (Field)	7.11			su	FIELD
Turbidity	0.02			NTU	FIELD

DA59567-1A BW_TRIPLE_292490 SESE_36_1N_68W

Methane ^d	0.00079 J	0.00080	0.00070	mg/l	RSK175 MOD
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DA59567-1B BW_TRIPLE_292490 SESE_36_1N_68W

Iron-Related Bacteria	9000	25		CFU/ml	HACH IRB-BART
Slime Forming Bacteria	13000	500		CFU/ml	HACH SLYM-BART
Sulfate Reducing Bacteria	< 200	200		CFU/ml	HACH SRB-BART

DA59567-1F BW_TRIPLE_292490 SESE_36_1N_68W

Barium	0.0138	0.0020		mg/l	EPA 200.8
Boron	0.772	0.040		mg/l	EPA 200.8
Calcium	197	2.0		mg/l	EPA 200.8
Magnesium	122	0.50		mg/l	EPA 200.8
Manganese	0.0024	0.0010		mg/l	EPA 200.8
Potassium	2.89	0.20		mg/l	EPA 200.8
Selenium	0.0209	0.00040		mg/l	EPA 200.8
Sodium	446	10		mg/l	EPA 200.8

Summary of Hits

Job Number: DA59567
Account: Kerr-McGee Oil & Gas Onshore LP
Project: GWA_Lizzy_8_36HZ
Collected: 10/24/23



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Strontium		4.65	0.20		mg/l	EPA 200.8
Dissolved Organic Carbon		4.1	1.0		mg/l	SM 5310B-2011/9060A

- (a) Analysis performed at SGS Scott, LA.
- (b) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)
- (c) Analysis performed past recommended hold time.
- (d) The pH of the sample was > 2 at time of analysis.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: BW_TRIPLE_292490 SESE_36_1N_68W	Date Sampled: 10/24/23
Lab Sample ID: DA59567-1	Date Received: 10/25/23
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: GWA_Lizzy_8_36HZ	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V77990.D	1	10/30/23 22:45	MB	n/a	n/a	V5V3836
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0010	0.00060	mg/l	
108-88-3	Toluene	ND	0.0010	0.00050	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00060	mg/l	
1330-20-7	Xylene (total)	ND	0.0010	0.0010	mg/l	
	m,p-Xylene	ND	0.0010	0.00096	mg/l	
95-47-6	o-Xylene	ND	0.0010	0.00060	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		70-130%
17060-07-0	1,2-Dichloroethane-D4	102%		70-130%
2037-26-5	Toluene-D8	97%		70-130%
460-00-4	4-Bromofluorobenzene	95%		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: BW_TRIPLE_292490 SESE_36_1N_68W	Date Sampled: 10/24/23
Lab Sample ID: DA59567-1	Date Received: 10/25/23
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8015D	
Project: GWA_Lizzy_8_36HZ	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA62916.D	1	10/28/23 06:28	MB	n/a	n/a	GGA2796
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.050	0.040	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	91%		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

4.1
4

Report of Analysis

Client Sample ID: BW_TRIPLE_292490 SESE_36_1N_68W Lab Sample ID: DA59567-1 Matrix: AQ - Ground Water Method: SW846 8015C SW846 3510C Project: GWA_Lizzy_8_36HZ	Date Sampled: 10/24/23 Date Received: 10/25/23 Percent Solids: n/a
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Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	X0025098.D	1	10/30/23 19:02	ALA	10/30/23 10:00	L:OP23872	L:GLB2588
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1030 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	0.0203	0.097	0.016	mg/l	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	83%		51-122%		

(a) Analysis performed at SGS Scott, LA.

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: BW_TRIPLE_292490 SESE_36_1N_68W	Date Sampled: 10/24/23
Lab Sample ID: DA59567-1	Date Received: 10/25/23
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: GWA_Lizzy_8_36HZ	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	0.00034	0.00020	mg/l	1	10/27/23	10/30/23 DU	EPA 200.8 ¹	EPA 200.8 ⁴
Chromium	< 0.0020	0.0020	mg/l	1	10/27/23	10/30/23 DU	EPA 200.8 ¹	EPA 200.8 ⁴
Copper	0.0082	0.0020	mg/l	1	11/06/23	11/07/23 CDL	EPA 200.8 ³	EPA 200.8 ⁶
Lead	< 0.00050	0.00050	mg/l	1	10/27/23	10/30/23 DU	EPA 200.8 ¹	EPA 200.8 ⁴
Mercury	< 0.00010	0.00010	mg/l	1	10/28/23	10/30/23 MC	EPA 245.1 ²	EPA 245.1 ⁵
Uranium	0.0833	0.00020	mg/l	1	10/27/23	10/30/23 DU	EPA 200.8 ¹	EPA 200.8 ⁴

- (1) Instrument QC Batch: MA17305
- (2) Instrument QC Batch: MA17327
- (3) Instrument QC Batch: MA17330
- (4) Prep QC Batch: MP38372
- (5) Prep QC Batch: MP38377
- (6) Prep QC Batch: MP38406

RL = Reporting Limit

4.1
4

Report of Analysis

Client Sample ID: BW_TRIPLE_292490 SESE_36_1N_68W	Date Sampled: 10/24/23
Lab Sample ID: DA59567-1	Date Received: 10/25/23
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: GWA_Lizzy_8_36HZ	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
300.0							
Fluoride	2.2	0.50	mg/l	5	10/25/23 14:27	CS	EPA 300.0
Chloride	324	13	mg/l	25	10/25/23 14:36	CS	EPA 300.0
Nitrogen, Nitrite ^a	< 0.10	0.10	mg/l	25	10/25/23 14:36	CS	EPA 300.0
Bromide	0.87	0.25	mg/l	5	10/25/23 14:27	CS	EPA 300.0
Nitrogen, Nitrate	3.9	0.25	mg/l	25	10/25/23 14:36	CS	EPA 300.0
Sulfate	1320	25	mg/l	50	10/25/23 17:42	CS	EPA 300.0
300.0 NO2 + NO3O							
Nitrogen, Nitrate + Nitrite ^b	3.9	0.35	mg/l	1	10/25/23 14:36	CS	EPA 300.0
Alkalinity, Bicarbonate as CaC	365	5.0	mg/l	1	10/30/23 09:00	TH	SM 2320B-2011
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	10/30/23 09:00	TH	SM 2320B-2011
Alkalinity, Total as CaCO3	365	5.0	mg/l	1	10/30/23 09:00	TH	SM 2320B-2011
Cation Anion Balance	6.0		%	1	11/01/23	MB	SM1030E-2011
Hydrogen Sulfide	< 0.50	0.50	mg/l	1	10/31/23	KH	SM 4500 S2 H-2011
Phosphorus, Total	< 0.010	0.010	mg/l	1	10/31/23 14:14	MB	EPA 365.1
Solids, Total Dissolved	2320	10	mg/l	1	10/27/23 07:00	JW	SM 2540C-2011
Specific Conductivity	3600	1.0	umhos/cm	1	10/26/23 12:00	JW	SM 2510B-2011
pH ^c	7.47		su	1	10/26/23 12:00	JW	SM4500HB+ -2011/9040C

Field Parameters

Oxygen, Dissolved (Field)	5.71		mg/l	1	10/24/23 13:44	SUB	FIELD
Redox Potential Vs H2	55.3		mv	1	10/24/23 13:44	SUB	FIELD
Specific Conductivity (Field)	3632.4	0.50	umhos/cm	1	10/24/23 13:44	SUB	FIELD
Temperature (Field)	12.61		Deg. C	1	10/24/23 13:44	SUB	FIELD
Turbidity	0.02		NTU	1	10/24/23 13:44	SUB	FIELD
pH (Field)	7.11		su	1	10/24/23 13:44	SUB	FIELD

- (a) Elevated detection limit due to matrix interference.
- (b) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)
- (c) Analysis performed past recommended hold time.

RL = Reporting Limit

4.1
4

Report of Analysis

Client Sample ID: BW_TRIPLE_292490 SESE_36_1N_68W	Date Sampled: 10/24/23
Lab Sample ID: DA59567-1A	Date Received: 10/25/23
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: RSK175 MOD	
Project: GWA_Lizzy_8_36HZ	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	FK4269.D	1	10/31/23 16:03	MB	n/a	n/a	GFK309
Run #2							

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	39.0 ml	4.0 ml	500 ul	19.4 Deg. C
Run #2				

Methane, Ethane and Propane

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	0.00079	0.00080	0.00070	mg/l	J
74-84-0	Ethane	ND	0.0016	0.0010	mg/l	
74-98-6	Propane	ND	0.0022	0.0017	mg/l	

(a) The pH of the sample was > 2 at time of analysis.

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: BW_TRIPLE_292490 SESE_36_1N_68W	Date Sampled: 10/24/23
Lab Sample ID: DA59567-1B	Date Received: 10/25/23
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: GWA_Lizzy_8_36HZ	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Iron-Related Bacteria	9000	25	CFU/ml	1	10/31/23 08:00	CS	HACH IRB-BART
Slime Forming Bacteria	13000	500	CFU/ml	1	10/31/23 08:00	CS	HACH SLYM-BART
Sulfate Reducing Bacteria	< 200	200	CFU/ml	1	10/31/23 08:00	CS	HACH SRB-BART

RL = Reporting Limit

Report of Analysis

Client Sample ID: BW_TRIPLE_292490 SESE_36_1N_68W	Date Sampled: 10/24/23
Lab Sample ID: DA59567-1F	Date Received: 10/25/23
Matrix: AQ - Groundwater Filtered	Percent Solids: n/a
Project: GWA_Lizzy_8_36HZ	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Barium	0.0138	0.0020	mg/l	1	10/27/23	10/30/23	DU EPA 200.8 ¹	EPA 200.8 ³
Boron	0.772	0.040	mg/l	1	10/27/23	10/30/23	DU EPA 200.8 ¹	EPA 200.8 ³
Calcium	197	2.0	mg/l	5	10/27/23	10/31/23	DU EPA 200.8 ²	EPA 200.8 ³
Iron	< 0.020	0.020	mg/l	1	10/27/23	10/30/23	DU EPA 200.8 ¹	EPA 200.8 ³
Magnesium	122	0.50	mg/l	5	10/27/23	10/31/23	DU EPA 200.8 ²	EPA 200.8 ³
Manganese	0.0024	0.0010	mg/l	1	10/27/23	10/31/23	DU EPA 200.8 ²	EPA 200.8 ³
Potassium	2.89	0.20	mg/l	1	10/27/23	10/30/23	DU EPA 200.8 ¹	EPA 200.8 ³
Selenium	0.0209	0.00040	mg/l	1	10/27/23	10/30/23	DU EPA 200.8 ¹	EPA 200.8 ³
Sodium	446	10	mg/l	20	10/27/23	10/31/23	DU EPA 200.8 ²	EPA 200.8 ³
Strontium	4.65	0.20	mg/l	10	10/27/23	10/31/23	DU EPA 200.8 ²	EPA 200.8 ³

(1) Instrument QC Batch: MA17305

(2) Instrument QC Batch: MA17308

(3) Prep QC Batch: MP38372

RL = Reporting Limit

4.4
4

Report of Analysis

Client Sample ID: BW_TRIPLE_292490 SESE_36_1N_68W	Date Sampled: 10/24/23
Lab Sample ID: DA59567-1F	Date Received: 10/25/23
Matrix: AQ - Groundwater Filtered	Percent Solids: n/a
Project: GWA_Lizzy_8_36HZ	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Dissolved Organic Carbon	4.1	1.0	mg/l	1	10/30/23 18:30	CS	SM 5310B-2011/9060A

RL = Reporting Limit

4.4
4

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



CHAIN OF CUSTODY

4036 Youngfield Street, Wheat Ridge, CO 80033
TEL: 303-425-6021 FAX: 303-425-6854
www.acctest.com

Bottle Order Control #
FED-EX Tracking #
SGS Quote #
SGS Job # DA59567

Client / Reporting Information
Project Information
Requested Analysis (see TEST CODE sheet)
Matrix Codes
Collection
Data Deliverable Information
Comments / Special Instructions
Sample Custody must be documented below each time samples change possession, including courier delivery.

5.1
5

DA59567: Chain of Custody

Page 1 of 2



SGS Sample Receipt Summary

Job Number: da59567

Client: ABSAROKA

Project: GWA

Date / Time Received: 10/25/2023 12:00:00 PM

Delivery Method: co

Airbill #'s: _____

Cooler Temps (Raw Measured) °C: Cooler 1: (4.5);

Cooler Temps (Corrected) °C: Cooler 1: (4.5);

Cooler Information

Y or N

- 1. Custody Seals Present:
- 2. Custody Seals Intact:
- 3. Temp criteria achieved:
- 4. Cooler temp verification: IR Gun
- 5. Cooler media: Ice (Bag)

Trip Blank Information

Y or N N/A

- 1. Trip Blank present / cooler:
- 2. Trip Blank listed on COC:

W or S N/A

- 3. Type of TB Received:

Sample Information

Y or N N/A

- 1. Sample labels present on bottles:
- 2. Samples presented properly:
- 3. Sufficient volume/containers recv'd for analysis:
- 4. Condition of sample: Intact
- 5. Sample recv'd within HT:
- 6. Dates/Times/IDs on COC match sample label:
- 7. VOCs have headspace:
- 8. Bottles received for unspecified tests:
- 9. Compositing instructions clear:
- 10. Voa Soil Kits/Jars received past 48hrs?:
- 11. % Solids Jar Received?:
- 12. Residual Chlorine Present?:

Misc Information

Number of Encores: 25 Gram 5 Gram

Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3: _____

pH 10-12: _____ Other: (Specify) _____

Residual Chlorine Test Strip Lot # _____

Comments

SM001

Rev. Date 05/04/17

Technician: JEREMYD

Date: 10/25/2023 12:24:51 PM

Reviewer: _____

Date: _____

DA59567: Chain of Custody

Page 2 of 2

5.1
5

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: DA59567
 Account: ANADACOD Kerr-McGee Oil & Gas Onshore LP
 Project: GWA_Lizzy_8_36HZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V3836-MB	5V77973A.D	1	10/30/23	MB	n/a	n/a	V5V3836

The QC reported here applies to the following samples:

Method: SW846 8260B

DA59567-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.60	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.60	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
	m,p-Xylene	ND	1.0	0.96	ug/l	
95-47-6	o-Xylene	ND	1.0	0.60	ug/l	
1330-20-7	Xylene (total)	ND	1.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	100% 70-130%
17060-07-0	1,2-Dichloroethane-D4	98% 70-130%
2037-26-5	Toluene-D8	97% 70-130%
460-00-4	4-Bromofluorobenzene	97% 70-130%

6.1.1
6

Blank Spike/Blank Spike Duplicate Summary

Job Number: DA59567
 Account: ANADACOD Kerr-McGee Oil & Gas Onshore LP
 Project: GWA_Lizzy_8_36HZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V3836-BS	5V77970A.D	1	10/30/23	MB	n/a	n/a	V5V3836
V5V3836-BSD	5V77971A.D	1	10/30/23	MB	n/a	n/a	V5V3836

The QC reported here applies to the following samples:

Method: SW846 8260B

DA59567-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	50	49.0	98	48.3	97	1	70-130/30
100-41-4	Ethylbenzene	50	49.8	100	49.3	99	1	70-130/30
108-88-3	Toluene	50	48.7	97	48.4	97	1	70-130/30
	m,p-Xylene	100	103	103	101	101	2	70-130/30
95-47-6	o-Xylene	50	50.1	100	49.1	98	2	70-130/30
1330-20-7	Xylene (total)	150	153	102	150	100	2	70-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	101%	100%	70-130%
17060-07-0	1,2-Dichloroethane-D4	97%	96%	70-130%
2037-26-5	Toluene-D8	97%	96%	70-130%
460-00-4	4-Bromofluorobenzene	97%	98%	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: DA59567
Account: ANADACOD Kerr-McGee Oil & Gas Onshore LP
Project: GWA_Lizzy_8_36HZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA2796-MB	GA62893.D	1	10/27/23	MB	n/a	n/a	GGA2796

The QC reported here applies to the following samples:

Method: SW846 8015D

DA59567-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.050	0.040	mg/l	

CAS No.	Surrogate Recoveries	Limits
120-82-1	1,2,4-Trichlorobenzene	92% 60-140%

7.1.1
7

Method Blank Summary

Job Number: DA59567
Account: ANADACOD Kerr-McGee Oil & Gas Onshore LP
Project: GWA_Lizzy_8_36HZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GFK309-MB	FK4257.D	1	10/31/23	MB	n/a	n/a	GFK309

The QC reported here applies to the following samples:

Method: RSK175 MOD

DA59567-1A

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.00080	0.00070	mg/l	
74-84-0	Ethane	ND	0.0016	0.0010	mg/l	
74-98-6	Propane	ND	0.0022	0.0017	mg/l	

7.1.2

7

Blank Spike/Blank Spike Duplicate Summary

Job Number: DA59567
 Account: ANADACOD Kerr-McGee Oil & Gas Onshore LP
 Project: GWA_Lizzy_8_36HZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA2796-BS	GA62890.D	1	10/27/23	MB	n/a	n/a	GGA2796
GGA2796-BSD	GA62891.D	1	10/27/23	MB	n/a	n/a	GGA2796

The QC reported here applies to the following samples:

Method: SW846 8015D

DA59567-1

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	2.2	1.92	87	1.90	86	1	64-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
120-82-1	1,2,4-Trichlorobenzene	100%	102%	60-140%

* = Outside of Control Limits.

7.2.1
7

Blank Spike/Blank Spike Duplicate Summary

Job Number: DA59567
 Account: ANADACOD Kerr-McGee Oil & Gas Onshore LP
 Project: GWA_Lizzy_8_36HZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GFK309-BS	FK4258.D	10	10/31/23	MB	n/a	n/a	GFK309
GFK309-BSD	FK4259.D	10	10/31/23	MB	n/a	n/a	GFK309

The QC reported here applies to the following samples:

Method: RSK175 MOD

DA59567-1A

CAS No.	Compound	Spike	BSP	BSP	BSD	BSD	RPD	Limits
		mg/l	mg/l	%	mg/l	%		Rec/RPD
74-82-8	Methane	0.512	0.616	120	0.611	119	1	70-135/30
74-84-0	Ethane	0.923	1.22	132	1.21	131	1	70-147/30
74-98-6	Propane	1.38	1.74	126	1.73	126	1	70-140/30

7.2.2
7

* = 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: DA59567
Account: ANADACOD - Kerr-McGee Oil & Gas Onshore LP
Project: GWA_Lizzy_8_36HZ

QC Batch ID: MP38372
Matrix Type: AQUEOUS

Methods: EPA 200.8
Units: ug/l

Prep Date: 10/27/23

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	.52	13		
Antimony	0.40	.01	.3		
Arsenic	0.20	.05	.05	0.024	<0.20
Barium	2.0	.096	.25	0.10	<2.0
Beryllium	0.20	.077	.1		
Boron	40	18	20	0.70	<40
Cadmium	0.10	.03	.04		
Calcium	400	25	100	19.2	<400
Chromium	2.0	.087	.25	-0.13	<2.0
Cobalt	0.20	.04	.05		
Copper	2.0	.05	.81		
Iron	20	1.6	10	9.3	<20
Lead	0.50	.094	.13	0.014	<0.50
Magnesium	100	10	25	7.9	<100
Manganese	1.0	.079	.51	0.13	<1.0
Molybdenum	1.0	.037	.27		
Nickel	2.0	.098	.35		
Phosphorus	60	7.6	25		
Potassium	200	2	50	-6.6	<200
Selenium	0.40	.05	.1	0.036	<0.40
Silver	0.10	.0081	.025		
Sodium	500	10	130	19.8	<500
Strontium	20	.1	5	0.036	<20
Thallium	0.20	.032	.05		
Tin	10	.22	2.5		
Titanium	2.0	.05	.37		
Uranium	0.20	.015	.05	0.000069	<0.20
Vanadium	1.0	.14	.2		
Zinc	10	.05	2.1		

Associated samples MP38372: DA59567-1, DA59567-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.1.1
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA59567
 Account: ANADACOD - Kerr-McGee Oil & Gas Onshore LP
 Project: GWA_Lizzy_8_36HZ

QC Batch ID: MP38372
 Matrix Type: AQUEOUS

Methods: EPA 200.8
 Units: ug/l

Prep Date: 10/27/23

Metal	DA59542-1FA Original MS		SpikeLot ICPMS5	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	0.19	210	200	104.9	70-130
Barium	142	548	400	101.5	70-130
Beryllium					
Boron	29.7	462	400	108.1	70-130
Cadmium					
Calcium	92200	109000	5000	336.0(a)	70-130
Chromium	0.0	88.5	100	88.5	70-130
Cobalt					
Copper					
Iron	14.5	1040	1000	102.6	70-130
Lead	0.39	211	200	105.3	70-130
Magnesium	17600	22200	5000	92.0	70-130
Manganese	2.4	196	200	96.8	70-130
Molybdenum					
Nickel					
Phosphorus					
Potassium	4770	9780	5000	100.2	70-130
Selenium	1.0	202	200	100.5	70-130
Silver	anr				
Sodium	79800	92700	5000	258.0(a)	70-130
Strontium	660	796	100	136.0(a)	70-130
Thallium					
Tin					
Titanium					
Uranium	10.0	218	200	104.0	70-130
Vanadium					
Zinc	anr				

Associated samples MP38372: DA59567-1, DA59567-1F

Results < IDL are shown as zero for calculation purposes

(*) Outside of 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: DA59567
 Account: ANADACOD - Kerr-McGee Oil & Gas Onshore LP
 Project: GWA_Lizzy_8_36HZ

QC Batch ID: MP38372
 Matrix Type: AQUEOUS

Methods: EPA 200.8
 Units: ug/l

Prep Date: 10/27/23

Metal	DA59542-1FA Original MSD		SpikeLot ICPMS5	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	0.19	205	200	102.4	2.4	20
Barium	142	556	400	103.5	1.4	20
Beryllium						
Boron	29.7	461	400	107.8	0.2	20
Cadmium						
Calcium	92200	106000	5000	276.0(a)	8.9	20
Chromium	0.0	89.1	100	89.1	0.7	20
Cobalt						
Copper						
Iron	14.5	1020	1000	100.6	1.9	20
Lead	0.39	200	200	99.8	5.4	20
Magnesium	17600	22400	5000	96.0	0.9	20
Manganese	2.4	197	200	97.3	3.5	20
Molybdenum						
Nickel						
Phosphorus						
Potassium	4770	9560	5000	95.8	2.3	20
Selenium	1.0	201	200	100.0	0.5	20
Silver	anr					
Sodium	79800	89600	5000	196.0(a)	5.4	20
Strontium	660	790	100	130.0	0.8	20
Thallium						
Tin						
Titanium						
Uranium	10.0	219	200	104.5	0.5	20
Vanadium						
Zinc	anr					

Associated samples MP38372: DA59567-1, DA59567-1F

Results < IDL are shown as zero for calculation purposes

(*) Outside of 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.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: DA59567
 Account: ANADACOD - Kerr-McGee Oil & Gas Onshore LP
 Project: GWA_Lizzy_8_36HZ

QC Batch ID: MP38372
 Matrix Type: AQUEOUS

Methods: EPA 200.8
 Units: ug/l

Prep Date: 10/27/23

Metal	BSP Result	Spikelot ICPMS5	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	208	200	104.0	85-115
Barium	415	400	103.8	85-115
Beryllium				
Boron	440	400	110.0	85-115
Cadmium				
Calcium	5150	5000	103.0	85-115
Chromium	95.9	100	95.9	85-115
Cobalt				
Copper				
Iron	1070	1000	107.0	85-115
Lead	206	200	103.0	85-115
Magnesium	5240	5000	104.8	85-115
Manganese	201	200	100.5	85-115
Molybdenum				
Nickel				
Phosphorus				
Potassium	5080	5000	101.6	85-115
Selenium	209	200	104.5	85-115
Silver	anr			
Sodium	5170	5000	103.4	85-115
Strontium	104	100	104.0	85-115
Thallium				
Tin				
Titanium				
Uranium	199	200	99.5	85-115
Vanadium				
Zinc	anr			

Associated samples MP38372: DA59567-1, DA59567-1F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

8.1.3
8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: DA59567
Account: ANADACOD - Kerr-McGee Oil & Gas Onshore LP
Project: GWA_Lizzy_8_36HZ

QC Batch ID: MP38377
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 10/28/23

Metal	RL	IDL	MDL	MB	
				raw	final
Mercury	0.10	.015	.05	0.0049	<0.10

Associated samples MP38377: DA59567-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA59567
 Account: ANADACOD - Kerr-McGee Oil & Gas Onshore LP
 Project: GWA_Lizzy_8_36HZ

QC Batch ID: MP38377
 Matrix Type: AQUEOUS

Methods: EPA 245.1
 Units: ug/l

Prep Date: 10/28/23

Metal	DA59575-1 Original MS	Spikelot HGWSR1	% Rec	QC Limits
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Mercury	0.0	1.1	1	110.0	70-130
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Associated samples MP38377: DA59567-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA59567
 Account: ANADACOD - Kerr-McGee Oil & Gas Onshore LP
 Project: GWA_Lizzy_8_36HZ

QC Batch ID: MP38377
 Matrix Type: AQUEOUS

Methods: EPA 245.1
 Units: ug/l

Prep Date: 10/28/23

Metal	DA59575-1 Original MSD	Spikelot HGWSR1	% Rec	MSD RPD	QC Limit
Mercury	0.0	1.1	1	110.0	0.0 20

Associated samples MP38377: DA59567-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

8.2.2
8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: DA59567
 Account: ANADACOD - Kerr-McGee Oil & Gas Onshore LP
 Project: GWA_Lizzy_8_36HZ

QC Batch ID: MP38377
 Matrix Type: AQUEOUS

Methods: EPA 245.1
 Units: ug/l

Prep Date: 10/28/23

Metal	BSP Result	Spikelot HGWSR1	% Rec	QC Limits
-------	---------------	--------------------	-------	--------------

Mercury 1.2 1 120.0*(a 85-115

Associated samples MP38377: DA59567-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested
 (a) Outside control limits biased high. Reported samples are ND.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: DA59567
Account: ANADACOD - Kerr-McGee Oil & Gas Onshore LP
Project: GWA_Lizzy_8_36HZ

QC Batch ID: MP38406
Matrix Type: AQUEOUS

Methods: EPA 200.8
Units: ug/l

Prep Date: 11/06/23

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	.52	13		
Antimony	0.40	.01	.3		
Arsenic	0.20	.05	.05		
Barium	2.0	.096	.25		
Beryllium	0.20	.077	.1		
Boron	40	18	20		
Cadmium	0.10	.03	.04		
Calcium	400	25	100		
Chromium	2.0	.087	.25		
Cobalt	0.20	.04	.05		
Copper	2.0	.05	.81	0.0093	<2.0
Iron	20	1.6	10		
Lead	0.50	.094	.13		
Magnesium	100	10	25		
Manganese	1.0	.079	.51		
Molybdenum	1.0	.037	.27		
Nickel	2.0	.098	.35		
Phosphorus	60	7.6	25		
Potassium	200	2	50		
Selenium	0.40	.05	.1		
Silver	0.10	.0081	.025		
Sodium	500	10	130		
Strontium	20	.1	5		
Thallium	0.20	.032	.05		
Tin	10	.22	2.5		
Titanium	2.0	.05	.37		
Uranium	0.20	.015	.05		
Vanadium	1.0	.14	.2		
Zinc	10	.05	2.1		

Associated samples MP38406: DA59567-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.3.1
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA59567
 Account: ANADACOD - Kerr-McGee Oil & Gas Onshore LP
 Project: GWA_Lizzy_8_36HZ

QC Batch ID: MP38406
 Matrix Type: AQUEOUS

Methods: EPA 200.8
 Units: ug/l

Prep Date: 11/06/23

Metal	DA59728-1F		SpikeLot		QC
	Original MS		ICPMS5	% Rec	Limits
Aluminum	anr				
Antimony	anr				
Arsenic	anr				
Barium	anr				
Beryllium	anr				
Boron	anr				
Cadmium	anr				
Calcium	anr				
Chromium	anr				
Cobalt					
Copper	2.3	94.8	100	92.5	70-130
Iron	anr				
Lead	anr				
Magnesium	anr				
Manganese	anr				
Molybdenum	anr				
Nickel	anr				
Phosphorus					
Potassium	anr				
Selenium	anr				
Silver	anr				
Sodium	anr				
Strontium	anr				
Thallium	anr				
Tin					
Titanium					
Uranium	anr				
Vanadium					
Zinc	anr				

Associated samples MP38406: DA59567-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

8.3.2
 8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: DA59567
 Account: ANADACOD - Kerr-McGee Oil & Gas Onshore LP
 Project: GWA_Lizzy_8_36HZ

QC Batch ID: MP38406
 Matrix Type: AQUEOUS

Methods: EPA 200.8
 Units: ug/l

Prep Date: 11/06/23

Metal	DA59728-1F Original MSD	SpikeLot ICPMS5 % Rec		MSD RPD	QC Limit
Aluminum	anr				
Antimony	anr				
Arsenic	anr				
Barium	anr				
Beryllium	anr				
Boron	anr				
Cadmium	anr				
Calcium	anr				
Chromium	anr				
Cobalt					
Copper	2.3	95.2	100	92.9	2.4 20
Iron	anr				
Lead	anr				
Magnesium	anr				
Manganese	anr				
Molybdenum	anr				
Nickel	anr				
Phosphorus					
Potassium	anr				
Selenium	anr				
Silver	anr				
Sodium	anr				
Strontium	anr				
Thallium	anr				
Tin					
Titanium					
Uranium	anr				
Vanadium					
Zinc	anr				

Associated samples MP38406: DA59567-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

8.3.2
8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: DA59567
 Account: ANADACOD - Kerr-McGee Oil & Gas Onshore LP
 Project: GWA_Lizzy_8_36HZ

QC Batch ID: MP38406
 Matrix Type: AQUEOUS

Methods: EPA 200.8
 Units: ug/l

Prep Date: 11/06/23

Metal	BSP Result	Spikelot ICPMS5	% Rec	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Boron	anr			
Cadmium	anr			
Calcium	anr			
Chromium	anr			
Cobalt				
Copper	96.7	100	96.7	85-115
Iron	anr			
Lead	anr			
Magnesium	anr			
Manganese	anr			
Molybdenum	anr			
Nickel	anr			
Phosphorus				
Potassium	anr			
Selenium	anr			
Silver	anr			
Sodium	anr			
Strontium	anr			
Thallium	anr			
Tin				
Titanium				
Uranium	anr			
Vanadium				
Zinc	anr			

Associated samples MP38406: DA59567-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

8.3.3
8

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: DA59567
Account: ANADACOD - Kerr-McGee Oil & Gas Onshore LP
Project: GWA_Lizzy_8_36HZ

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Bicarbonate as CaC	GN61716	5.0	0.0	mg/l	1.0	100	100.0	90-110%
Alkalinity, Carbonate	GN61717	5.0	0.0	mg/l	1.0	100	100.0	90-110%
Alkalinity, Total as CaCO3	GN61715	5.0	0.0	mg/l	1.0	100	100.0	90-110%
Bromide	GP35368/GN61685	0.050	0.0	mg/l	0.5	0.500	100.0	90-110%
Chloride	GP35368/GN61685	0.50	0.0	mg/l	5	4.80	96.0	90-110%
Dissolved Organic Carbon	GP35397/GN61725	1.0	0.0	mg/l	6.5	6.35	97.7	90-110%
Fluoride	GP35368/GN61685	0.10	0.0	mg/l	1	0.943	94.3	90-110%
Hydrogen Sulfide	GN61731	0.50	0.0	mg/l	xxxxxx	2.0	103.9	60-120%
Iron-Related Bacteria	MB1707	25	0	CFU/ml				
Nitrogen, Nitrate	GP35368/GN61685	0.010	0.0	mg/l	0.1	0.0993	99.3	90-110%
Nitrogen, Nitrite	GP35368/GN61685	0.0040	0.0	mg/l	0.05	0.0477	95.4	90-110%
Phosphate, Ortho	GP35368/GN61685	0.050	0.0	mg/l	0.5	0.474	94.8	90-110%
Phosphorus, Total	GP35402/GN61733	0.010	0.0	mg/l	0.2	0.195	97.5	90-110%
Slime Forming Bacteria	MB1705	500	0	CFU/ml				
Solids, Total Dissolved	GN61697	10	0.0	mg/l	250	250	100.0	90-110%
Specific Conductivity	GP35371/GN61690			umhos/cm	10000	1070	107.4	90-110%
Sulfate	GP35368/GN61685	0.50	0.0	mg/l	5	4.91	98.2	90-110%
Sulfate Reducing Bacteria	MB1706	200	0	CFU/ml				

Associated Samples:

Batch MB1705: DA59567-1B
Batch MB1706: DA59567-1B
Batch MB1707: DA59567-1B
Batch GN61697: DA59567-1
Batch GN61715: DA59567-1
Batch GN61716: DA59567-1
Batch GN61717: DA59567-1
Batch GN61731: DA59567-1
Batch GP35368: DA59567-1
Batch GP35371: DA59567-1
Batch GP35397: DA59567-1F
Batch GP35402: DA59567-1
(*) Outside of QC limits

9.1
9

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: DA59567
Account: ANADACOD - Kerr-McGee Oil & Gas Onshore LP
Project: GWA_Lizzy_8_36HZ

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Bicarbonate as CaC	GN61716	DA59567-1	mg/l	365	363	0.7	0-20%
Alkalinity, Carbonate	GN61717	DA59567-1	mg/l	0.0	363	0.7	0-20%
Alkalinity, Total as CaCO3	GN61715	DA59545-1	mg/l	770	363	0.7	0-20%
Dissolved Organic Carbon	GP35397/GN61725	DA59567-1F	mg/l	4.1	4.2	2.4	0-25%
Hydrogen Sulfide	GN61731	DA59620-1	mg/l	0.40	9.8	0.0	0-20%
Iron-Related Bacteria	MB1707	DA59619-1B	CFU/ml	<25	<25	0.0	0-%
Phosphorus, Total	GP35402/GN61733	DA59564-1	mg/l	0.12	0.13	8.0	0-20%
Slime Forming Bacteria	MB1705	DA59619-1B	CFU/ml	<500	<500	0.0	0-%
Solids, Total Dissolved	GN61697	DA59621-2	mg/l	53.0	53.0	0.0	0-5.44%
Specific Conductivity	GP35371/GN61690	DA59567-1	umhos/cm	3600	3610	0.3	0-20%
Sulfate Reducing Bacteria	MB1706	DA59619-1B	CFU/ml	<200	<200	0.0	0-%

Associated Samples:

Batch MB1705: DA59567-1B
Batch MB1706: DA59567-1B
Batch MB1707: DA59567-1B
Batch GN61697: DA59567-1
Batch GN61715: DA59567-1
Batch GN61716: DA59567-1
Batch GN61717: DA59567-1
Batch GN61731: DA59567-1
Batch GP35371: DA59567-1
Batch GP35397: DA59567-1F
Batch GP35402: DA59567-1
(*) Outside of QC limits

9.2
9

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: DA59567
Account: ANADACOD - Kerr-McGee Oil & Gas Onshore LP
Project: GWA_Lizzy_8_36HZ

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Alkalinity, Bicarbonate as CaC	GN61716	DA59567-1	mg/l	365	1.0	463	97.5	80-120%
Alkalinity, Total as CaCO3	GN61715	DA59545-1	mg/l	770	1.0	463	97.5	80-120%
Bromide	GP35368/GN61685	DA59576-4	mg/l	0.63 U	12.5	12.9	103.2	80-120%
Chloride	GP35368/GN61685	DA59576-4	mg/l	97.7	125	225	101.8	80-120%
Dissolved Organic Carbon	GP35397/GN61725	DA59567-1F	mg/l	4.1	10	13.4	93.0	80-120%
Fluoride	GP35368/GN61685	DA59576-4	mg/l	1.3 U	25	25.3	101.2	80-120%
Nitrogen, Nitrate	GP35368/GN61685	DA59576-4	mg/l	3.1	2.5	5.6	100.0	80-120%
Nitrogen, Nitrite	GP35368/GN61685	DA59576-4	mg/l	0.41	1.25	1.7	103.2	80-120%
Phosphate, Ortho	GP35368/GN61685	DA59576-4	mg/l	0.88 U	12.5	12.7	101.6	80-120%
Phosphorus, Total	GP35402/GN61733	DA59564-1	mg/l	0.12	0.2	0.32	100.0	90-110%
Sulfate	GP35368/GN61685	DA59576-4	mg/l	120	125	245	100.0	80-120%

Associated Samples:

Batch GN61715: DA59567-1
Batch GN61716: DA59567-1
Batch GN61717: DA59567-1
Batch GP35368: DA59567-1
Batch GP35397: DA59567-1F
Batch GP35402: DA59567-1

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: DA59567
Account: ANADACOD - Kerr-McGee Oil & Gas Onshore LP
Project: GWA_Lizzy_8_36HZ

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Alkalinity, Bicarbonate as CaC	GN61716	DA59567-1	mg/l	365	1.0	469	1.3	
Alkalinity, Total as CaCO3	GN61715	DA59545-1	mg/l	770	1.0	469	1.3	20%
Bromide	GP35368/GN61685	DA59576-4	mg/l	0.63 U	12.5	13.1	1.5	20%
Chloride	GP35368/GN61685	DA59576-4	mg/l	97.7	125	226	0.4	20%
Dissolved Organic Carbon	GP35397/GN61725	DA59567-1F	mg/l	4.1	10	13.4	0.0	25%
Fluoride	GP35368/GN61685	DA59576-4	mg/l	1.3 U	25	25.5	0.8	20%
Nitrogen, Nitrate	GP35368/GN61685	DA59576-4	mg/l	3.1	2.5	5.6	0.0	20%
Nitrogen, Nitrite	GP35368/GN61685	DA59576-4	mg/l	0.41	1.25	1.7	0.0	20%
Phosphate, Ortho	GP35368/GN61685	DA59576-4	mg/l	0.88 U	12.5	12.9	1.6	20%
Phosphorus, Total	GP35402/GN61733	DA59564-1	mg/l	0.12	0.2	0.32	0.0	20%
Sulfate	GP35368/GN61685	DA59576-4	mg/l	120	125	247	0.8	20%

Associated Samples:

Batch GN61715: DA59567-1
Batch GN61716: DA59567-1
Batch GN61717: DA59567-1
Batch GP35368: DA59567-1
Batch GP35397: DA59567-1F
Batch GP35402: DA59567-1

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

9.4
9

Misc. Forms

Custody Documents and Other Forms

(SGS Scott, LA)

Includes the following where applicable:

- Chain of Custody

ORIGIN ID:DENA (303) 425-6021
ATT: TERRI MCNULTY
SSS - WHEAT RIDGE
4036 YOUNGFIELD STREET
WHEAT RIDGE, CO 80039
UNITED STATES US

SHIP DATE: 26OCT23
ACTWGT: 55.00 LB MAN
CAD: 0859493/CAFE3751

BILL SENDER

TO **SAMPLE RECEIVING
ACCUTEST LOUISIANA
500 AMBASSADOR CAFFERY DRIVE**

SCOTT LA 70583

INVT: PO: REF: DEPT:



FedEx
Express
E

TRK# 6466 4894 9829
0201

**FRI - 27 OCT 10:30A
PRIORITY OVERNIGHT**

XH LFTA

**70583
LA-US LFT**

Part #156146-434 MTW EXP 04/23



10.1
10

SGS Sample Receipt Summary

Job Number: da59567

Client: SGS-CO

Project: GWA_LIZZY

Date / Time Received: 10/27/2023 9:25:00 AM

Delivery Method: FEDEX

Airbill #'s: 6466 4894 9829

Cooler Temps (Raw Measured) °C: Cooler 1: (3.8);

Cooler Temps (Corrected) °C: Cooler 1: (3.8);

Cooler Security

Y or N

Y or N

- | | | | | | |
|---------------------------|-------------------------------------|--------------------------|------------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. COC Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Smp'l Dates/Time OK | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Cooler Temperature

Y or N

- | | | |
|------------------------------|-------------------------------------|--------------------------|
| 1. Temp criteria achieved: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Cooler temp verification: | <u>IR002</u> | |
| 3. Cooler media: | <u>Ice (direct contact)</u> | |
| 4. No. Coolers: | <u>1</u> | |

Quality Control Preservation

Y or N

N/A

- | | | | |
|---------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| 1. Trip Blank present / cooler: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Trip Blank listed on COC: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Samples preserved properly: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. VOCs headspace free: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Sample Integrity - Documentation

Y or N

- | | | |
|--|-------------------------------------|--------------------------|
| 1. Sample labels present on bottles: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Container labeling complete: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Sample container label / COC agree: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Sample Integrity - Condition

Y or N

- | | | |
|----------------------------------|-------------------------------------|--------------------------|
| 1. Sample recvd within HT: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. All containers accounted for: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Condition of sample: | <u>Intact</u> | |

Sample Integrity - Instructions

Y or N

N/A

- | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 2. Bottles received for unspecified tests | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3. Sufficient volume recvd for analysis: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. Compositing instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Filtering instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Test Strip Lot #s: pH 1-12: _____ pH 12+: _____ Other: (Specify) _____

Comments

SM089-03
Rev. Date 12/7/17

DA59567: Chain of Custody

Page 3 of 3

10.1 10

GC/LC Semi-volatiles

QC Data Summaries

(SGS Scott, LA)

Includes the following where applicable:

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



Method Blank Summary

Job Number: DA59567
Account: ALMS SGS Wheat Ridge, CO
Project: ANADACOD: GWA_Lizzy_8_36HZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23872-MB	X0025090.D	1	10/30/23	JT	10/30/23	OP23872	GLB2588

The QC reported here applies to the following samples:

Method: SW846 8015C

DA59567-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	0.0182	0.10	0.017	mg/l	J

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	79% 51-122%

11.1.1
11

Blank Spike/Blank Spike Duplicate Summary

Job Number: DA59567
 Account: ALMS SGS Wheat Ridge, CO
 Project: ANADACOD: GWA_Lizzy_8_36HZ

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP23872-BS	X0025091.D	1	10/30/23	JT	10/30/23	OP23872	GLB2588
OP23872-BSD	X0025092.D	1	10/30/23	JT	10/30/23	OP23872	GLB2588

The QC reported here applies to the following samples:

Method: SW846 8015C

DA59567-1

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	3	3.01	100	2.90	97	4	49-103/24

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
84-15-1	o-Terphenyl	100%	96%	51-122%

11.2.1
11

* = Outside of Control Limits.