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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: DA59567X**

**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: 14**



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: DA59567X**

**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
DA59567-1X	10/24/23	13:44 MH	10/25/23	AQ	Ground Water	BW_TRIPLE_292490 SESE_36_1N_68W

**Subcontract Lab Data**

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**Report of Analysis**

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# ANALYTICAL SUMMARY REPORT

November 29, 2023

SGS North America  
4036 Youngfield St  
Wheat Ridge, CO 80033-3862

Work Order: C23100998      Quote ID: C16032

Project Name: DA59567X /GWA Lizzy 8 36HZ

Energy Laboratories, Inc. Casper WY received the following 1 sample for SGS North America on 10/27/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C23100998-001	DA59567X-1X; BW_Triple_292490 SESE_36_1N_68W	10/24/23 13:44	10/27/23	Aqueous	Radium 226 + Radium 228, Total Radium 226, Total Radium 228, Total

The analyses presented in this report were performed by Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager .

Report Approved By:



**CLIENT:** SGS North America  
**Project:** DA59567X /GWA Lizzy 8 36HZ  
**Work Order:** C23100998

**Revised Date:** 11/29/23

**Report Date:** 11/28/23

## CASE NARRATIVE

Revised 11/29/2023

The Sample ID has been changed to BW\_TRIPLE\_292490 SESE\_36\_1N\_68W per the emailed request from Parna Eskandaripayandeh on 11/28/2023. No analytical data was affected.

This revised report replaces any previously issued reports in its entirety.



### LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** SGS North America  
**Project:** DA59567X /GWA Lizzy 8 36HZ  
**Lab ID:** C23100998-001  
**Client Sample ID:** DA59567X-1X; BW\_Triple\_292490 SESE\_36\_1N\_68W

**Revised Date:** 11/29/23  
**Report Date:** 11/28/23  
**Collection Date:** 10/24/23 13:44  
**Date Received:** 10/27/23  
**Matrix:** Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>RADIONUCLIDES, TOTAL</b>							
Radium 226	0.05	pCi/L	U		E903.0		11/21/23 16:15 / kdk
Radium 226 precision (±)	0.1	pCi/L			E903.0		11/21/23 16:15 / kdk
Radium 226 MDC	0.2	pCi/L			E903.0		11/21/23 16:15 / kdk
Radium 228	0.7	pCi/L	U		RA-05		11/16/23 13:04 / trs
Radium 228 precision (±)	0.7	pCi/L			RA-05		11/16/23 13:04 / trs
Radium 228 MDC	1.2	pCi/L			RA-05		11/16/23 13:04 / trs
Radium 226 + Radium 228	0.7	pCi/L	U		A7500-RA		11/22/23 13:43 / dmf
Radium 226 + Radium 228 precision (±)	0.8	pCi/L			A7500-RA		11/22/23 13:43 / dmf
Radium 226 + Radium 228 MDC	1.2	pCi/L			A7500-RA		11/22/23 13:43 / dmf

**Report Definitions:**

RL - Analyte Reporting Limit	MCL - Maximum Contaminant Level
QCL - Quality Control Limit	ND - Not detected at the Reporting Limit (RL)
U - Not detected at Minimum Detectable Concentration (MDC)	

2



# QA/QC Summary Report

Prepared by Casper, WY Branch

Client: SGS North America

Work Order: C23100998

Report Date: 11/22/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: E903.0</b>								Batch: RA226-11118R		
<b>Lab ID: LCS-RA226-11118</b>	3	Laboratory Control Sample								
Radium 226		9.5	pCi/L		95	70	130			11/21/23 10:03
Radium 226 precision (±)		1.9	pCi/L							
Radium 226 MDC		0.20	pCi/L							
<b>Lab ID: MB-RA226-11118</b>	3	Method Blank								
Radium 226		0.09	pCi/L							11/21/23 10:03 U
Radium 226 precision (±)		0.1	pCi/L							
Radium 226 MDC		0.2	pCi/L							
<b>Lab ID: C23100979-001DDUP</b>	3	Sample Duplicate								
Radium 226		13	pCi/L					6.4	30	11/21/23 10:03
Radium 226 precision (±)		2.4	pCi/L							
Radium 226 MDC		0.25	pCi/L							
- The RER result is 0.24.										

### Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

2



# QA/QC Summary Report

Prepared by Casper, WY Branch

Client: SGS North America

Work Order: C23100998

Report Date: 11/22/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: RA-05</b>								Batch: RA228-7251R		
<b>Lab ID: LCS-228-RA226-11118</b>	3	Laboratory Control Sample								
Radium 228		5.6	pCi/L	85		70	130			11/16/23 11:30
Radium 228 precision (±)		1.3	pCi/L							
Radium 228 MDC		0.99	pCi/L							
<b>Lab ID: MB-RA226-11118</b>	3	Method Blank								
Radium 228		-0.09	pCi/L							U
Radium 228 precision (±)		0.6	pCi/L							
Radium 228 MDC		1	pCi/L							
<b>Lab ID: C23100979-001DDUP</b>	3	Sample Duplicate								
Radium 228		1.1	pCi/L					3.8	30	11/16/23 11:30
Radium 228 precision (±)		0.63	pCi/L							
Radium 228 MDC		0.92	pCi/L							
- The RER result is 0.04.										

**Qualifiers:**

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

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# Work Order Receipt Checklist

SGS North America

C23100998

Login completed by: Manford E. Hurley

Date Received: 10/27/2023

Reviewed by: cjohnson

Received by: drs

Reviewed Date: 10/30/2023

Carrier name: FedEx

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on all shipping container(s)/cooler(s)? Yes  No  Not Present
- Custody seals intact on all sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time?  
(Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) Yes  No
- Temp Blank received in all shipping container(s)/cooler(s)? Yes  No  Not Applicable
- Container/Temp Blank temperature: 2.8°C On Ice
- Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4"). Yes  No  No VOA vials submitted
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

## Contact and Corrective Action Comments:

None

**CHAIN OF CUSTODY**  
 SGS North America Inc. - Wheat Ridge  
 4036 Youngfield Street, Wheat Ridge, CO 80033  
 TEL: 303-425-6021 FAX: 303-425-6854  
 www.sgs.com/ehsusa



Client / Reporting Information Company Name: <b>SGS North America Inc.</b> Street Address: <b>4036 Youngfield Street</b> City: <b>Wheat Ridge, CO</b> State: <b>80033</b> Project Contact: <b>Parina Askandaripeyvandeh</b> E-mail: <b>askandaripeyvandeh@sgs.com</b> Phone #: <b>303-425-6021</b> Fax #: _____ Sampler(s) Name(s): <b>MH</b> Phone: _____		Project Information Project Name: <b>GWA_Lizzy_8_36HZ</b> Billing Information (if different from Report to): Company Name: _____ Street Address: _____ City: _____ State: _____ Zip: _____ Attention: _____		Project Information Project Name: _____ Billing Information (if different from Report to): Company Name: _____ Street Address: _____ City: _____ State: _____ Zip: _____ Attention: _____		Requested Analysis (see TEST CODE sheet) RA-226 RA-228 X		Matrix Codes DW - Drinking Water GW - Ground Water WW - Wastewater SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WIP - Wipe EP - Field Blank LAB - Lab Blank RB - Routine Blank TB - Trip Blank LAB USE ONLY 22100998	
Client / Reporting Information Project Name: _____ Street: _____ City: _____ State: _____ Zip: _____ Project #: _____ Client Purchase Order #: _____ Project Manager: _____ Phone: _____		Project Information Project Name: _____ Billing Information (if different from Report to): Company Name: _____ Street Address: _____ City: _____ State: _____ Zip: _____ Attention: _____		Requested Analysis (see TEST CODE sheet) RA-226 RA-228 X		Matrix Codes DW - Drinking Water GW - Ground Water WW - Wastewater SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WIP - Wipe EP - Field Blank LAB - Lab Blank RB - Routine Blank TB - Trip Blank LAB USE ONLY 22100998			
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## Misc. Forms

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### Custody Documents and Other Forms

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**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.

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DA59567X: Chain of Custody

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## 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  
 Test Strip Lot #s: pH 0-3: \_\_\_\_\_  
 Residual Chlorine Test Strip Lot #: \_\_\_\_\_

Number of Lab Filtered Metals: \_\_\_\_\_  
 pH 10-12: \_\_\_\_\_ Other: (Specify) \_\_\_\_\_

Comments

SM001

Rev. Date 05/04/17

Technician: JEREMYD

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

Reviewer: \_\_\_\_\_

Date: \_\_\_\_\_

**DA59567X: Chain of Custody**

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