



2301 North Yellowwood Avenue  
Broken Arrow, Oklahoma 74012  
TEL: 918-957-1300  
FAX: 918-957-1313  
ee-associates.com

July 10, 2025

Ms. Hillary Young, P.E.  
Chief Engineer  
Land Protection Division  
Oklahoma Department of Environmental Quality  
P.O. Box 1677  
Oklahoma City, Oklahoma 73101-1677

RECEIVED

JUL 15 2025

LAND PROTECTION DIVISION  
DEPT. OF ENVIRON. QLTY

RE: Response to Technical Notice of Deficiency  
Permit Renewal Application  
Class I Non-Hazardous Industrial Waste Injection Well  
Real Alloy Recycling, LLC  
Creek County, Oklahoma  
UIC Permit No. IW-NH-3519019-R1

254988 CD\_\_\_ #c\_\_\_ c/o\_\_\_

Dear Ms. Young:

On behalf of Real Alloy Recycling, LLC (Real Alloy), E&E Engineering and Associates, LLC (E&E) respectfully submits this response to the Technical Notice of Deficiency (NOD) issued by the Oklahoma Department of Environmental Quality (DEQ) on June 12, 2025 regarding the Permit Renewal Application (Application) for the Real Alloy Class I non-hazardous waste injection well permit dated November 4, 2024.

This response letter includes each NOD comment listed in italic text followed by the corresponding response in regular text. The attachments included with this letter are intended to supplement or replace information contained in the Application.

**Comment 1:** *In accordance with 40 C.F.R. § 144.31 (e)(6), the applicant is required to list all other permits at the facility. The permit for the surface impoundment issued by the Water Quality Division has been renewed recently but is not listed in the Application. Please include the updated WQD permit in the listing in Section 10 of the Application.*

**Response:** Section 10 of the Application has been revised to list the permit issued by the Water Quality Division for the surface impoundment. Please replace the existing page in the Application with the revised page attached to this letter.

**Comment 2:** *In Section 5.5.1 of the revised Application, the description of injection fluid does not mention process wastewater from the plant; however, the administratively continued permit indicates non-hazardous wastewater from the facility is one of the waste types. Real Alloy's consulting engineer informed DEQ that the facility pumps cooling water from the plant to the surface impoundment where it is combined with the other waste types (i.e., ammonia and chloride contaminated storm water run-off, landfill leachate and landfill seepage) before being injected. Regarding this non-hazardous wastewater, please include it in*

*Section 5.5.1, provide a description of the process with volumes produced, and submit a water quality analysis of the wastewater to DEQ.*

**Response:** Section 5.5.1 of the Application has been revised to provide a description of the process with volumes produced. Please replace the existing page in the Application with the revised page attached to this letter. Recent water quality analysis of the non-hazardous wastewater and the overall injectate solution is also attached to this letter. Please add the analytical reports to Appendix F of the Application. Water quality analysis indicates that constituent concentrations detected in the non-hazardous wastewater are less than typical concentrations detected in the overall injectate.

For your review, one (1) original hard copy of all revised or supplementary pages are attached for incorporation into the Application. Additionally, one (1) electronic copy of the updated Application document is provided on a flash drive. The copy of the Application previously placed for public viewing at the Bartlett-Carnegie Sapulpa Public Library will also be updated to reflect revisions made by this response.

We appreciate your review of this submittal. If you should have any questions or require any further information, please do not hesitate to contact us 918-957-1300.

Respectfully,  
**E&E Engineering and Associates, LLC.**



Christopher J. Greenlee, P.G.  
Sr. Environmental Engineer/Geologist



Deren M. Ertugrul, P.E.  
Vice President

Attachments

cc: Mr. Chuck Sudwischer, Real Alloy (via email)  
Mr. Robert Wallace, Real Alloy (via email)

## **2024 PERMIT RENEWAL APPLICATION**

**REAL ALLOY RECYCLING, LLC  
CLASS I NON-HAZARDOUS INJECTION WELL  
SAPULPA, CREEK COUNTY, OKLAHOMA  
UIC PERMIT NO. IW-NH 3519019-R1**

**November 4, 2024  
Revised February 5, 2025  
Revised July 10, 2025  
E&E Project No. 104-037**

**Prepared for:  
Real Alloy Recycling, LLC  
Sapulpa, Oklahoma**

**Prepared by:  
E&E Engineering and Associates, LLC  
Oklahoma Certificate of Authorization No. 7889  
2301 North Yellowood Avenue | Broken Arrow, Oklahoma 74012  
Phone: 918-957-1300 | Fax: 918-957-1313**

### 5.5.1 DESCRIPTION OF INJECTION FLUID

The injection fluid consists of leachate and seepage generated from the on-site NHIW landfill, storm water run-off from the facility, and non-hazardous wastewater generated at the facility. The non-hazardous wastewater consists of cooling water which is generated when potable water is sprayed on ingot molds for the purpose of accelerating the cooling of the ingots after they have been filled with molten aluminum. It is estimated that the non-hazardous wastewater is generated at an average rate of 5,000 gallons per day.

The leachate, stormwater, and non-hazardous wastewater are conveyed by a single 24-inch HDPE pipe which begins at the southern end of the plant area and drains by gravity to the lined leachate collection pond. The injectate is conveyed from the leachate collection pond to the injection well for disposal.

The NHIW wastes associated with the landfill and overall facility were primarily characterized as having elevated chloride and ammonia concentrations. As expected, analysis of the injectate indicates the presence of the same parameters (chloride and ammonia). Recent chemical analysis reports of the non-hazardous wastewater and the injectate are included in **Appendix F**.

### 5.5.2 INJECTION FLUID VOLUME AND FLOW RATE

Based on recorded operational data from 2014 to 2023, the average and maximum daily injection rate, injection pressure, and volume of fluid injected over the preceding 10 years is presented in **Table 12** below. Based on this information, the average injection flow rate was 70.0 gpm while injecting a total of 63,338,186 gallons were injected over the previous 10-year period.

**Table 12: Daily and Maximum Injection Rates, Pressures and Volume**

Year	Annual Vol. Injected (gallons)	No. of Days Injected	Avg Daily Vol. When Injecting (gallons)	Avg. Inj. Press. (psi)	Avg. Flow Rate (gpm)
2014	3,355,980	43	78,046	385	76.9
2015	6,437,390	78	82,531	383	76.7
2016	5,429,580	69	78,690	361	76.5
2017	4,887,826	63	84,773	362	73.2
2018	4,455,945	59	75,525	361	70.3
2019	10,720,326	138	77,684	366	70.9
2020	7,029,748	81	86,787	378	71.8
2021	7,371,917	98	75,224	344	69.2
2022	7,226,146	101	71,546	264	58.6
2023	6,423,328	101	63,597	291	59.3
10-yr Avg.	6,333,819	83	78,865	349	70.0

The total storage capacity of the leachate collection pond is approximately 4.2 million gallons. Annual stormwater run-off contributions have previously been estimated to range from 5 to 10 million gallons in an average year to 10 to 20 million gallons in peak years. **Table 13** shows the amount of fluid injected into the well since operation started in January 1990.

## 10.0 ATTACHMENT I – EXISTING EPA PERMITS

Real Alloy maintains the following permits issued by DEQ:

- 1) Permit from DEQ Land Protection Division to operate a NHIW Landfill under Permit No: 3519017.
- 2) Permit from DEQ Air Quality Division to operate / construct a Minor Source Air Pollution Control Facility under Permit No: 94-115-O
- 3) Authorization from DEQ Water Quality Division to discharge industrial stormwater under the Oklahoma Pollutant Discharge Elimination System (OPDES) Multi-Sector General Permit OKR05 under Authorization No: OKR053538.
- 4) Permit from DEQ Water Quality Division to treat and dispose of wastewater in one (1) total retention surface impoundment (T01) under Permit No. WD00-007 (Facility ID No. I-19001500).

Green Country Testing, Inc.  
6825 E 38th Street  
Tulsa, OK 74145  
TEL: 918-828-9977 FAX: 918-828-7756  
Website: [www.greencountrytesting.com](http://www.greencountrytesting.com)



June 19, 2025

Deren Ertugrul  
E&E Engineering and Associates  
2301 N. Yellowwood Ave.  
Broken Arrow, OK 74012  
TEL: (918) 957-1300  
FAX:

RE: Real Alloy Sapulpa, OK UIC

Order No.: 2506269

Dear Deren Ertugrul:

Green Country Testing, Inc. received 1 sample(s) on 6/12/2025 for the analyses presented in the following report.

In accordance with your instructions, Green Country Testing conducted the analysis shown on the following pages on samples submitted by your company. The results relate only to the items tested. Unless otherwise noted, all analysis were conducted using EPA approved methodologies. Test reports meet all the NELAC requirements. All relevant sampling information is on the attached chain-of-custody form. The initials SUB as the analyst designate any testing sub-contracted by Green Country Testing.

Certifications/Accreditation: OK - 7604; 9953 - AR - ADEQ - KS - E-10232

A scope of Certified/Accredited parameters is available upon request. If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Brian Duzan  
Laboratory Director

Green Country Testing, Inc.  
6825 E 38th Street  
Tulsa, OK 74145  
TEL: 918-828-9977 FAX: 918-828-7756  
Website: www.greencountrytesting.com



# Analytical Report

(continuous)

WO#: 2506269

Date Reported: 6/19/2025

**CLIENT:** E&E Engineering and Associates

**Lab Order:** 2506269

**Project:** Real Alloy Sapulpa, OK UIC

**Lab ID:** 2506269-001

**Collection Date:** 6/12/2025 2:45:00 PM

**Client Sample ID:** Cooling Water

**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>ALERIS WELLS</b>						
<b>CHLORIDE IN WATER</b>				<b>4500CL-E, 2011</b>		Analyst: <b>BG</b>
Chloride	69.3	5.00		mg/L	1	6/16/2025 9:49:00 AM
<b>ALERIS WELLS</b>						
<b>AMMONIA AS N</b>				<b>4500 NH3 H-201</b>		Analyst: <b>BG</b>
NH3	0.220	0.100		mg/L	1	6/13/2025 11:54:00 AM
<b>ALERIS WELLS</b>						
<b>NITRATE AS N IN WATER</b>				<b>4500 NO3 F-201</b>		Analyst: <b>BG</b>
Nitrate as N	3.85	0.400		mg/L	1	6/13/2025 9:38:00 AM
<b>ALERIS WELLS</b>						
<b>SULFATE IN WATER</b>				<b>4500SO4-E,2011</b>		Analyst: <b>BG</b>
SO4	14.7	5.00		mg/L	1	6/16/2025 1:00:00 PM
<b>ALERIS WELLS</b>						
<b>METALS IN WATER BY ICP, TOTAL</b>				<b>SW6010B</b>	<b>SW3010A</b>	Analyst: <b>KR</b>
Aluminum	1.05	0.0500		mg/L	1	6/18/2025 8:03:24 PM
Cadmium	< 0.00100	0.00100		mg/L	1	6/18/2025 8:03:24 PM
Iron	0.649	0.0500		mg/L	1	6/18/2025 8:03:24 PM
Lead	< 0.00500	0.00500		mg/L	1	6/18/2025 8:03:24 PM
Magnesium	6.74	0.0500		mg/L	1	6/18/2025 8:03:24 PM
Nickel	< 0.0100	0.0100		mg/L	1	6/18/2025 8:03:24 PM
<b>ALERIS WELLS</b>						
<b>SPECIFIC CONDUCTANCE</b>				<b>E120.1, 1982</b>		Analyst: <b>WH</b>
Specific Conductivity	1,560	10.0		µmhos/cm@25C	10	6/19/2025 2:00:00 PM
<b>ALERIS WELLS</b>						
<b>PH</b>				<b>4500H+B,2011</b>		Analyst: <b>WH</b>
pH	8.17	0.100	H	pH Units	1	6/19/2025 3:00:00 PM
<b>SPECIFIC GRAVITY - N</b>						
				<b>ASTM-D1429</b>		Analyst: <b>AC</b>

**Qualifiers:** H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

M Manual Integration used to determine area response  
PL Permit Limit  
W Sample container temperature is out of limit as specified at testcode

Green Country Testing, Inc.  
6825 E 38th Street  
Tulsa, OK 74145  
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Website: www.greencountrytesting.com



## Analytical Report

(continuous)

WO#: 2506269

Date Reported: 6/19/2025

**CLIENT:** E&E Engineering and Associates

**Lab Order:** 2506269

**Project:** Real Alloy Sapulpa, OK UIC

### SPECIFIC GRAVITY - N

#### ASTM-D1429

Analyst: AC

Specific Gravity	0.9969	0.01000	g/cc @ 4°C	1	6/13/2025 1:56:00 PM
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### TOTAL SUSPENDED SOLIDS

#### A2540 D-2015

Analyst: EJA

Suspended Solids (Residue, Non-Filterable)	16	5	mg/L	1	6/18/2025 9:52:00 AM
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**Qualifiers:**

H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit

M	Manual Integration used to determine area response
PL	Permit Limit
W	Sample container temperature is out of limit as specified at testcode





# QC SUMMARY REPORT

WO#: **2506269**  
**19-Jun-25**

**Client:** E&E Engineering and Associates

**Project:** Real Alloy Sapulpa, OK UIC

**TestNo:** 4500CI-E, 2011

Sample ID: <b>MB-R74780</b>	SampType: <b>MBLK</b>	TestCode: <b>CHLOR</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>74780</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R74780</b>	TestNo: <b>4500CI-E, 201</b>		Analysis Date: <b>6/16/2025</b>	SeqNo: <b>849030</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 5.00	5.00									

Sample ID: <b>LCS-R74780</b>	SampType: <b>LCS</b>	TestCode: <b>CHLOR</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>74780</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R74780</b>	TestNo: <b>4500CI-E, 201</b>	Analysis Date: <b>6/16/2025</b>	SeqNo: <b>849031</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	103	5.00	100.0	0	103	80	120				

Sample ID: <b>2506236-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>CHLOR</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>74780</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R74780</b>	TestNo: <b>4500CI-E, 201</b>	Analysis Date: <b>6/16/2025</b>	SeqNo: <b>849033</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	337	5.00	120.0	242.3	78.6	29.3	160				

Sample ID: <b>2506236-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>CHLOR</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>74780</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R74780</b>	TestNo: <b>4500CI-E, 201</b>	Analysis Date: <b>6/16/2025</b>	SeqNo: <b>849034</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	338	5.00	120.0	242.3	79.9	29.3	160	336.6	0.473	7.87	

**Qualifiers:**

H	Holding times for preparation or analysis exceeded
PL	Permit Limit
W	Sample container temperature is out of limit as specified at testcode

M	Manual Integration used to determine area response
RL	Reporting Detection Limit

ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits



## QC SUMMARY REPORT

WO#: 2506269

19-Jun-25

Client: E&amp;E Engineering and Associates

Project: Real Alloy Sapulpa, OK UIC

TestNo: 4500H+B,2011

Sample ID: <b>LCS-R74858</b>	SampType: <b>LCS</b>	TestCode: <b>PH</b>	Units: <b>pH Units</b>	Prep Date:	RunNo: <b>74858</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R74858</b>	TestNo: <b>4500H+B,201</b>	Analysis Date: <b>6/19/2025</b>	SeqNo: <b>849943</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.02	0.100	7.000	0	100	80	120				

Sample ID: 2506212-001ADUP		SampType: DUP		TestCode: PH		Units: pH Units		Prep Date:			RunNo: 74858		
Client ID: BatchQC		Batch ID: R74858		TestNo: 4500H+B,201				Analysis Date: 6/19/2025			SeqNo: 849945		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH		7.63		0.100						7.630	0	1.03	H

Sample ID: <b>2506270-009ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>PH</b>	Units: <b>pH Units</b>	Prep Date:	RunNo: <b>74858</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R74858</b>	TestNo: <b>4500H+B,201</b>	Analysis Date: <b>6/19/2025</b>	SeqNo: <b>849956</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.35	0.100						7.350	0	1.03	H

**Qualifiers:** H Holding times for preparation or analysis exceeded  
 PL Permit Limit  
 W Sample container temperature is out of limit as specified at testcode

M Manual Integration used to determine area response  
 RL Reporting Detection Limit

ND Not Detected at the Reporting Limit  
 S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: **2506269**  
**19-Jun-25**

**Client:** E&E Engineering and Associates

**Project:** Real Alloy Sapulpa, OK UIC

**TestNo:** 4500SO4-E,2011

Sample ID: <b>MB-R74792</b>	SampType: <b>MBLK</b>	TestCode: <b>SO4</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>74792</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R74792</b>	TestNo: <b>4500SO4-E,2</b>		Analysis Date: <b>6/16/2025</b>	SeqNo: <b>849102</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
SO4	< 5.00	5.00									

Sample ID: <b>LCS-R74792</b>	SampType: <b>LCS</b>	TestCode: <b>SO4</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>74792</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R74792</b>	TestNo: <b>4500SO4-E,2</b>	Analysis Date: <b>6/16/2025</b>	SeqNo: <b>849103</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
SO4	93.8	5.00	100.0	0	93.8	80	120				

Sample ID: <b>2506236-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>SO4</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>74792</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R74792</b>	TestNo: <b>4500SO4-E,2</b>	Analysis Date: <b>6/16/2025</b>	SeqNo: <b>849106</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
SO4	183	5.00	120.0	80.85	85.0	32.3	153				

Sample ID: <b>2506236-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>SO4</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>74792</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R74792</b>	TestNo: <b>4500SO4-E,2</b>	Analysis Date: <b>6/16/2025</b>	SeqNo: <b>849107</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
SO4	184	5.00	120.0	80.85	85.9	32.3	153	182.9	0.570	6.56	

**Qualifiers:** H Holding times for preparation or analysis exceeded  
PL Permit Limit  
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M Manual Integration used to determine area response  
RL Reporting Detection Limit

ND Not Detected at the Reporting Limit  
S Spike Recovery outside accepted recovery limits



## QC SUMMARY REPORT

WO#: 2506269

19-Jun-25

Client: E&amp;E Engineering and Associates

Project: Real Alloy Sapulpa, OK UIC

TestNo: A2540 D-2015

Sample ID: <b>MB-R74824</b>	SampType: <b>MBLK</b>	TestCode: <b>TSS</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>74824</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R74824</b>	TestNo: <b>A2540 D-2015</b>		Analysis Date: <b>6/18/2025</b>	SeqNo: <b>849638</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Suspended Solids (Residue, Non-Filterable)

&lt; 5

5

Sample ID: <b>LCS-R74824</b>	SampType: <b>LCS</b>	TestCode: <b>TSS</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>74824</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R74824</b>	TestNo: <b>A2540 D-2015</b>		Analysis Date: <b>6/18/2025</b>	SeqNo: <b>849639</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Suspended Solids (Residue, Non-Filterable)

42

5

40

0

105

80

120

Sample ID: <b>2506256-001ADUP</b>		SampType: <b>DUP</b>		TestCode: <b>TSS</b>		Units: <b>mg/L</b>		Prep Date:		RunNo: <b>74824</b>			
Client ID: <b>BatchQC</b>		Batch ID: <b>R74824</b>		TestNo: <b>A2540 D-2015</b>				Analysis Date: <b>6/18/2025</b>		SeqNo: <b>849641</b>			
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Suspended Solids (Residue, Non-Filterable)

51

5

51

0

5

**Qualifiers:**

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ND Not Detected at the Reporting Limit

S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2506269  
19-Jun-25

**Client:** E&E Engineering and Associates

**Project:** Real Alloy Sapulpa, OK UIC

**TestNo:** A4500 NH3 H-2011

Sample ID: <b>MB-R74755</b>	SampType: <b>MBLK</b>	TestCode: <b>NH3</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>74755</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R74755</b>	TestNo: <b>A4500 NH3 H-</b>	Analysis Date: <b>6/13/2025</b>	SeqNo: <b>848780</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NH3 < 0.100 0.100

Sample ID: <b>LCS-R74755</b>	SampType: <b>LCS</b>	TestCode: <b>NH3</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>74755</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R74755</b>	TestNo: <b>A4500 NH3 H-</b>	Analysis Date: <b>6/13/2025</b>	SeqNo: <b>848781</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NH3 3.10 0.100 3.160 0 98.2 80 120

Sample ID: <b>2505544-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>NH3</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>74755</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R74755</b>	TestNo: <b>A4500 NH3 H-</b>	Analysis Date: <b>6/13/2025</b>	SeqNo: <b>848783</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NH3 10.2 0.100 10.00 7.063 31.6 73.3 121 S

Sample ID: <b>2505544-001BMSD</b>		SampType: <b>MSD</b>	TestCode: <b>NH3</b>		Units: <b>mg/L</b>	Prep Date:				RunNo: <b>74755</b>		
Client ID: <b>BatchQC</b>	Batch ID: <b>R74755</b>		TestNo: <b>A4500 NH3 H-</b>			Analysis Date: <b>6/13/2025</b>				SeqNo: <b>848784</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

NH3 10.3 0.100 10.00 7.063 31.9 73.3 121 10.23 0.303 8.47 S

**Qualifiers:**  
H Holding times for preparation or analysis exceeded  
PL Permit Limit  
W Sample container temperature is out of limit as specified at testcode

M Manual Integration used to determine area response  
RL Reporting Detection Limit

ND Not Detected at the Reporting Limit  
S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2506269  
19-Jun-25

**Client:** E&E Engineering and Associates

**Project:** Real Alloy Sapulpa, OK UIC

**TestNo:** A4500 NH3 H-2011

Sample ID: <b>MB-R74755</b>		SampType: <b>MBLK</b>	TestCode: <b>NH3</b>		Units: <b>mg/L</b>	Prep Date:				RunNo: <b>74755</b>		
Client ID: <b>PBW</b>		Batch ID: <b>R74755</b>	TestNo: <b>A4500 NH3 H-</b>			Analysis Date: <b>6/13/2025</b>				SeqNo: <b>848804</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

NH3 < 0.100 0.100

Sample ID: <b>LCS-R74755</b>		SampType: <b>LCS</b>		TestCode: <b>NH3</b>		Units: <b>mg/L</b>		Prep Date:			RunNo: <b>74755</b>		
Client ID: <b>LCSW</b>		Batch ID: <b>R74755</b>		TestNo: <b>A4500 NH3 H-</b>		Analysis Date: <b>6/13/2025</b>			SeqNo: <b>848805</b>				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NH3 3.13 0.100 3.160 0 99.1 80 120

Sample ID: <b>2506232-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>NH3</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>74755</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R74755</b>	TestNo: <b>A4500 NH3 H-</b>	Analysis Date: <b>6/13/2025</b>	SeqNo: <b>848807</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NH3 20.2 0.100 10.00 10.14 101 73.3 121

Sample ID: <b>2506232-001BMSD</b>		SampType: <b>MSD</b>		TestCode: <b>NH3</b>		Units: <b>mg/L</b>		Prep Date:			RunNo: <b>74755</b>		
Client ID: <b>BatchQC</b>		Batch ID: <b>R74755</b>		TestNo: <b>A4500 NH3 H-</b>		Analysis Date: <b>6/13/2025</b>			SeqNo: <b>848808</b>				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NH3 20.1 0.100 10.00 10.14 100 73.3 121 20.24 0.471 8.47

**Qualifiers:**  
H Holding times for preparation or analysis exceeded  
PL Permit Limit  
W Sample container temperature is out of limit as specified at testcode

M Manual Integration used to determine area response  
RL Reporting Detection Limit

ND Not Detected at the Reporting Limit  
S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2506269  
19-Jun-25

**Client:** E&E Engineering and Associates

**Project:** Real Alloy Sapulpa, OK UIC

**TestNo:** A4500 NH3 H-2011

Sample ID: <b>MB-R74755</b>	SampType: <b>MBLK</b>	TestCode: <b>NH3</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>74755</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R74755</b>	TestNo: <b>A4500 NH3 H-</b>		Analysis Date: <b>6/13/2025</b>	SeqNo: <b>848828</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
NH3	< 0.100	0.100									

Sample ID: <b>LCS-R74755</b>	SampType: <b>LCS</b>	TestCode: <b>NH3</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>74755</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R74755</b>	TestNo: <b>A4500 NH3 H-</b>	Analysis Date: <b>6/13/2025</b>	SeqNo: <b>848829</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
NH3	3.32	0.100	3.160	0	105	80	120				

**Qualifiers:**  
H Holding times for preparation or analysis exceeded  
PL Permit Limit  
W Sample container temperature is out of limit as specified at testcode

M Manual Integration used to determine area response  
RL Reporting Detection Limit

ND Not Detected at the Reporting Limit  
S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: **2506269**  
**19-Jun-25**

**Client:** E&E Engineering and Associates

**Project:** Real Alloy Sapulpa, OK UIC

**TestNo:** A4500 NO3 F-2011

Sample ID: <b>MB-R74739</b>	SampType: <b>MBLK</b>	TestCode: <b>NO3</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>74739</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R74739</b>	TestNo: <b>A4500 NO3 F-</b>	Analysis Date: <b>6/13/2025</b>	SeqNo: <b>848620</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate as N < 0.400 0.400

Sample ID: <b>LCS-R74739</b>	SampType: <b>LCS</b>	TestCode: <b>NO3</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>74739</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R74739</b>	TestNo: <b>A4500 NO3 F-</b>	Analysis Date: <b>6/13/2025</b>	SeqNo: <b>848621</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate as N 4.08 0.400 4.150 0 98.2 90 110

Sample ID: <b>2506269-001AMS</b>		SampType: <b>MS</b>	TestCode: <b>NO3</b>		Units: <b>mg/L</b>	Prep Date:				RunNo: <b>74739</b>		
Client ID: <b>Cooling Water</b>	Batch ID: <b>R74739</b>		TestNo: <b>A4500 NO3 F-</b>			Analysis Date: <b>6/13/2025</b>				SeqNo: <b>848623</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

Nitrate as N 10.9 0.400 8.000 3.850 88.1 65.4 154

Sample ID: <b>2506269-001AMSD</b>		SampType: <b>MSD</b>	TestCode: <b>NO3</b>		Units: <b>mg/L</b>	Prep Date:				RunNo: <b>74739</b>		
Client ID: <b>Cooling Water</b>	Batch ID: <b>R74739</b>		TestNo: <b>A4500 NO3 F-</b>			Analysis Date: <b>6/13/2025</b>				SeqNo: <b>848624</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

Nitrate as N 10.8 0.400 8.000 3.850 87.5 65.4 154 10.90 0.423 89.4

**Qualifiers:** H Holding times for preparation or analysis exceeded M Manual Integration used to determine area response ND Not Detected at the Reporting Limit  
PL Permit Limit RL Reporting Detection Limit S Spike Recovery outside accepted recovery limits  
W Sample container temperature is out of limit as specified at testcode





## QC SUMMARY REPORT

WO#: **2506269**  
**19-Jun-25**

**Client:** E&E Engineering and Associates

**Project:** Real Alloy Sapulpa, OK UIC

**TestNo:** ASTM-D1429

Sample ID: <b>2506272-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>SP_GR</b>	Units: <b>g/cc @ 4°C</b>	Prep Date:	RunNo: <b>74749</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R74749</b>	TestNo: <b>ASTM-D1429</b>	Analysis Date: <b>6/13/2025</b>	SeqNo: <b>848741</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Gravity	0.9970	0.01000						0.9970	0	0.723	

**Qualifiers:**

H Holding times for preparation or analysis exceeded

PL Permit Limit

W Sample container temperature is out of limit as specified at testcode

M Manual Integration used to determine area response

RL Reporting Detection Limit

ND Not Detected at the Reporting Limit

S Spike Recovery outside accepted recovery limits



## QC SUMMARY REPORT

WO#: **2506269**  
**19-Jun-25**

**Client:** E&E Engineering and Associates

**Project:** Real Alloy Sapulpa, OK UIC

**TestNo:** **E120.1, 1982**

Sample ID: <b>2506272-002ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>COND</b>	Units: <b>µmhos/cm@2</b>	Prep Date:	RunNo: <b>74857</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R74857</b>	TestNo: <b>E120.1, 1982</b>	Analysis Date: <b>6/19/2025</b>	SeqNo: <b>849934</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductivity	25,600	100						25,600	0	7.95	

**Qualifiers:**

H Holding times for preparation or analysis exceeded  
 PL Permit Limit  
 W Sample container temperature is out of limit as specified at testcode

M Manual Integration used to determine area response  
 RL Reporting Detection Limit

ND Not Detected at the Reporting Limit  
 S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2506269  
19-Jun-25

**Client:** E&E Engineering and Associates

**Project:** Real Alloy Sapulpa, OK UIC

**TestNo:** SW6010B

Sample ID: <b>MB-22714</b>	SampType: <b>MBLK</b>	TestCode: <b>MET Water 6</b>	Units: <b>mg/L</b>	Prep Date: <b>6/13/2025</b>	RunNo: <b>74853</b>						
Client ID: <b>PBW</b>	Batch ID: <b>22714</b>	TestNo: <b>SW6010B</b>	<b>SW3010A</b>	Analysis Date: <b>6/18/2025</b>	SeqNo: <b>849880</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	< 0.0500	0.0500									
Cadmium	< 0.00100	0.00100									
Iron	< 0.0500	0.0500									
Lead	< 0.00500	0.00500									
Magnesium	< 0.0500	0.0500									
Nickel	< 0.0100	0.0100									

Sample ID: <b>LCS-22714</b>	SampType: <b>LCS</b>	TestCode: <b>MET Water 6</b>	Units: <b>mg/L</b>	Prep Date: <b>6/13/2025</b>	RunNo: <b>74853</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>22714</b>	TestNo: <b>SW6010B</b>	<b>SW3010A</b>	Analysis Date: <b>6/18/2025</b>	SeqNo: <b>849881</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.01	0.0500	2.000	0	100	80	120				
Cadmium	1.97	0.00100	2.000	0	98.6	80	120				
Iron	2.06	0.0500	2.000	0	103	80	120				
Lead	2.03	0.00500	2.000	0	102	80	120				
Magnesium	2.04	0.0500	2.000	0	102	80	120				
Nickel	2.02	0.0100	2.000	0	101	80	120				

Sample ID: <b>2506250-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>MET Water 6</b> Units: <b>mg/L</b>			Prep Date: <b>6/13/2025</b>				RunNo: <b>74853</b>		
Client ID: <b>BatchQC</b>	Batch ID: <b>22714</b>	TestNo: <b>SW6010B</b>		<b>SW3010A</b>		Analysis Date: <b>6/18/2025</b>				SeqNo: <b>849883</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.44	0.0500	2.000	1.738	135	87.3	118				S

**Qualifiers:**  
H Holding times for preparation or analysis exceeded  
PL Permit Limit  
W Sample container temperature is out of limit as specified at testcode

M Manual Integration used to determine area response  
RL Reporting Detection Limit

ND Not Detected at the Reporting Limit  
S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

WO#: 2506269  
19-Jun-25

**Client:** E&E Engineering and Associates

**Project:** Real Alloy Sapulpa, OK UIC

**TestNo:** SW6010B

Sample ID: <b>2506250-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>MET Water 6</b>	Units: <b>mg/L</b>	Prep Date: <b>6/13/2025</b>	RunNo: <b>74853</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>22714</b>	TestNo: <b>SW6010B</b>	<b>SW3010A</b>	Analysis Date: <b>6/18/2025</b>	SeqNo: <b>849883</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	2.00	0.00100	2.000	0	100	91.5	111				
Iron	4.04	0.0500	2.000	1.869	108	84.6	115				
Lead	2.03	0.00500	2.000	0	102	90.2	109				
Magnesium	7.72	0.0500	2.000	5.614	105	63.4	139				
Nickel	2.03	0.0100	2.000	0	101	92.7	109				

Sample ID: <b>2506250-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>MET Water 6</b>	Units: <b>mg/L</b>	Prep Date: <b>6/13/2025</b>	RunNo: <b>74853</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>22714</b>	TestNo: <b>SW6010B</b>	<b>SW3010A</b>	Analysis Date: <b>6/18/2025</b>	SeqNo: <b>849884</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.44	0.0500	2.000	1.738	135	87.3	118	4.438	0.113	3.98	S
Cadmium	2.00	0.00100	2.000	0	100	91.5	111	2.003	0.200	3.71	
Iron	4.06	0.0500	2.000	1.869	110	84.6	115	4.036	0.593	5.37	
Lead	2.02	0.00500	2.000	0	101	90.2	109	2.034	0.542	4.72	
Magnesium	7.71	0.0500	2.000	5.614	105	63.4	139	7.723	0.143	3.58	
Nickel	2.03	0.0100	2.000	0	101	92.7	109	2.027	0.0493	3.53	

**Qualifiers:**  
H Holding times for preparation or analysis exceeded  
PL Permit Limit  
W Sample container temperature is out of limit as specified at testcode

M Manual Integration used to determine area response  
RL Reporting Detection Limit

ND Not Detected at the Reporting Limit  
S Spike Recovery outside accepted recovery limits



GREEN COUNTRY TESTING  
CHAIN OF CUSTODY  
ATTACHMENT  
1 OF 1 PAGES

Laboratory  
Number:


2506260

Page 1 of 1

### Turn Time

☒ **Standard**☐ 1 Day☐ 2 Day☐ Other

(Rush turn times will incur a surcharge and must be pre-approved by lab.)

<b>Company Name:</b> E&E Engineering and Associates <b>Contact Name:</b> Deren Ertugrul <b>Address:</b> 2301 N. Yellowwood Ave.  <b>City, State, Zip:</b> Broken Arrow, OK 74012 <b>Phone Number:</b> (918) 957-1300 <b>Ext:</b> _____ <b>Ext:</b> _____ <b>Fax Number:</b> (918) 957-1313 <b>Email Address:</b> deren@ee-associates.com		<b>PO Number:</b>  <b>Quote Number:</b>  <b>Required QC Level:</b>  <b>Bill Monthly</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Project Name/Number:</b> Real Alloy Sapulpa, OK UIC / 104-  <b>Sampler's Signature:</b>   <b>Shipping Method:</b> Hand-Delivered	Page 1 of 1  <b>Turn Time</b> <input checked="" type="checkbox"/> Standard <input type="checkbox"/> 1 Day <input type="checkbox"/> 2 Day <input type="checkbox"/> Other  (Rush turn times will incur a surcharge and must be pre-approved by lab.)
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[illegible]

	Received by	Date/Time	Received by	Date/Time	Field Notes:
1	<i>[Signature]</i>	6-12-25 16:20	<i>[Signature]</i>	6-12-25 16:20	Received on ice? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Temp: 5°C
2					
3					
4					

All samples submitted to Green Country Testing for analysis are accepted on a custodial basis only. Ownership of the material remains with the client submitting the samples.

**Green Country Testing reserves the right to return unused sample portions.**

**Green Country Testing**  
6825 East 38th Street • Tulsa, OK 74145  
(918) 828-9977 • Fax (918) 828-7756

Green Country Testing, Inc.  
6825 E 38th Street  
Tulsa, OK 74145  
TEL: 918-828-9977 FAX: 918-828-7756  
Website: [www.greencountrytesting.com](http://www.greencountrytesting.com)



March 28, 2025

Deren Ertugrul

2301 N. Yellowwood Ave.  
Broken Arrow, OK 74012  
TEL: (918) 957-1300  
FAX:

RE: Deepwell/Injectate Real Alloy Sapulpa, OK

Order No.: 2503315

Dear Deren Ertugrul:

Green Country Testing, Inc. received 2 sample(s) on 3/20/2025 for the analyses presented in the following report.

In accordance with your instructions, Green Country Testing conducted the analysis shown on the following pages on samples submitted by your company. The results relate only to the items tested. Unless otherwise noted, all analysis were conducted using EPA approved methodologies. Test reports meet all the NELAC requirements. All relevant sampling information is on the attached chain-of-custody form. The initials SUB as the analyst designate any testing sub-contracted by Green Country Testing.

Certifications/Accreditation: OK - 7604; 9953 - AR - ADEQ - KS - E-10232

A scope of Certified/Accredited parameters is available upon request. If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Brian Duzan  
Laboratory Director

Green Country Testing, Inc.  
6825 E 38th Street  
Tulsa, OK 74145  
TEL: 918-828-9977 FAX: 918-828-7756  
Website: www.greencountrytesting.com



## Analytical Report

(continuous)

WO#: 2503315

Date Reported: 3/28/2025

**CLIENT:** **Lab Order:** 2503315

**Project:** Deepwell/Injectate Real Alloy Sapulpa, OK

**Lab ID:** 2503315-002 **Collection Date:** 3/20/2025 10:52:00 AM

**Client Sample ID:** Injectate / Retention Pond **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>CHLORIDE IN WATER</b>				<b>4500CL-E, 2011</b>		Analyst: <b>BG</b>
Chloride	15,000	500		mg/L	100	3/25/2025 1:28:00 PM
<b>AMMONIA AS N</b>				<b>4500 NH3 H-201</b>		Analyst: <b>BG</b>
NH3	17.2	0.100		mg/L	1	3/27/2025 11:21:00 AM
<b>NITRATE AS N IN WATER</b>				<b>4500 NO3 F-201</b>		Analyst: <b>BG</b>
Nitrate as N	12.5	0.400		mg/L	1	3/20/2025 2:55:00 PM
<b>SULFATE IN WATER</b>				<b>4500SO4-E,2011</b>		Analyst: <b>BG</b>
SO4	254	5.00		mg/L	1	3/25/2025 2:15:00 PM
<b>METALS IN WATER BY ICP, TOTAL</b>				<b>SW6010B SW3010A</b>		Analyst: <b>KR</b>
Iron	0.372	0.0500		mg/L	1	3/28/2025 2:38:51 AM
Magnesium	34.0	0.500		mg/L	1	3/28/2025 2:38:51 AM
Nickel	< 0.0100	0.0100		mg/L	1	3/28/2025 2:38:51 AM
<b>METALS IN WATER BY ICP, TOTAL</b>				<b>SW6010B SW3010A</b>		Analyst: <b>KR</b>
Cadmium	0.00215	0.00100		mg/L	1	3/28/2025 2:38:51 AM
Lead	< 0.00500	0.00500		mg/L	1	3/28/2025 2:38:51 AM
<b>SPECIFIC CONDUCTANCE</b>				<b>E120.1, 1982</b>		Analyst: <b>WH</b>
Specific Conductivity	51,600	100		µmhos/cm2 at 25C	100	3/25/2025 2:00:00 PM
<b>PH</b>				<b>4500H+B,2011</b>		Analyst: <b>WH</b>
pH	7.85	0.100	H	pH Units	1	3/25/2025 4:00:00 PM

<b>Qualifiers:</b>	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	ND	Not Detected at the Reporting Limit	PL	Permit Limit
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		

Green Country Testing, Inc.  
6825 E 38th Street  
Tulsa, OK 74145  
TEL: 918-828-9977 FAX: 918-828-7756  
Website: www.greencountrytesting.com



## Analytical Report

(continuous)

WO#: 2503315

Date Reported: 3/28/2025

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**CLIENT:****Lab Order:** 2503315**Project:** Deepwell/Injectate Real Alloy Sapulpa, OK

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**SPECIFIC GRAVITY - N****ASTM-D1429**Analyst: **AC**

Specific Gravity	1.021	0.01000	g/cc @ 4°C	1	3/24/2025 8:02:00 AM
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**TOTAL SUSPENDED SOLIDS****A2540 D-2015**Analyst: **EJA**

Suspended Solids (Residue, Non-Filterable)	113	5	mg/L	1	3/24/2025 4:01:00 PM
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**Qualifiers:**

H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits
W	Sample container temperature is out of limit as specified at testcode

M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit





# QC SUMMARY REPORT

WO#: 2503315  
28-Mar-25

**Client:**  
**Project:** Deepwell/Injectate Real Alloy Sapulpa, OK **TestNo:** 4500CI-E, 2011

Sample ID: <b>MB-R73466</b>		SampType: <b>MBLK</b>	TestCode: <b>CHLOR</b>		Units: <b>mg/L</b>	Prep Date:			RunNo: <b>73466</b>		
Client ID: <b>PBW</b>		Batch ID: <b>R73466</b>	TestNo: <b>4500CI-E, 201</b>			Analysis Date: <b>3/25/2025</b>			SeqNo: <b>833178</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 5.00	5.00									

Sample ID: <b>LCS-R73466</b>		SampType: <b>LCS</b>		TestCode: <b>CHLOR</b>		Units: <b>mg/L</b>		Prep Date:		RunNo: <b>73466</b>			
Client ID: <b>LCSW</b>		Batch ID: <b>R73466</b>		TestNo: <b>4500CI-E, 201</b>				Analysis Date: <b>3/25/2025</b>		SeqNo: <b>833179</b>			
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		101		5.00	100.0	0	101	80	120				

Sample ID: <b>2503275-001AMS</b>		SampType: <b>MS</b>		TestCode: <b>CHLOR</b>		Units: <b>mg/L</b>		Prep Date:		RunNo: <b>73466</b>			
Client ID: <b>BatchQC</b>		Batch ID: <b>R73466</b>		TestNo: <b>4500CI-E, 201</b>				Analysis Date: <b>3/25/2025</b>		SeqNo: <b>833181</b>			
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		4x		500	120.0	4,094	-234	29.3	160				S

Sample ID: <b>2503275-001AMSD</b>		SampType: <b>MSD</b>		TestCode: <b>CHLOR</b>		Units: <b>mg/L</b>		Prep Date:		RunNo: <b>73466</b>	
Client ID: <b>BatchQC</b>		Batch ID: <b>R73466</b>		TestNo: <b>4500CI-E, 201</b>		Analysis Date: <b>3/25/2025</b>		SeqNo: <b>833182</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4x	500	120.0	4,094	-103	29.3	160	3,813	4.05	7.87	S

**Qualifiers:**

H Holding times for preparation or analysis exceeded  
PL Permit Limit  
S Spike Recovery outside accepted recovery limits  
M Manual Integration used to determine area response  
R RPD outside accepted recovery limits  
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit



# QC SUMMARY REPORT

WO#: 2503315  
28-Mar-25

## Client:

**Project:** Deepwell/Injectate Real Alloy Sapulpa, OK

**TestNo:** 4500H+B,2011

Sample ID: <b>LCS-R73475</b>		SampType: <b>LCS</b>	TestCode: <b>PH</b>		Units: <b>pH Units</b>		Prep Date:			RunNo: <b>73475</b>		
Client ID: <b>LCSW</b>		Batch ID: <b>R73475</b>	TestNo: <b>4500H+B,201</b>			Analysis Date: <b>3/25/2025</b>			SeqNo: <b>833245</b>			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

pH	7.02	0.100	7.000	0	100	80	120				
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Sample ID: <b>2503315-002ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>PH</b>	Units: <b>pH Units</b>	Prep Date:	RunNo: <b>73475</b>						
Client ID: <b>Injectate / Retention</b>	Batch ID: <b>R73475</b>	TestNo: <b>4500H+B,201</b>	Analysis Date: <b>3/25/2025</b>	SeqNo: <b>833252</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

pH	7.85	0.100						7.850	0	1.03	H
----	------	-------	--	--	--	--	--	-------	---	------	---

## Qualifiers:

H Holding times for preparation or analysis exceeded  
PL Permit Limit  
S Spike Recovery outside accepted recovery limits

M Manual Integration used to determine area response  
R RPD outside accepted recovery limits  
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit



# QC SUMMARY REPORT

WO#: 2503315  
28-Mar-25

## Client:

Project: Deepwell/Injectate Real Alloy Sapulpa, OK

TestNo: 4500SO4-E,2011

Sample ID: <b>MB-R73469</b>	SampType: <b>MBLK</b>	TestCode: <b>SO4</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>73469</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R73469</b>	TestNo: <b>4500SO4-E,2</b>	Analysis Date: <b>3/25/2025</b>	SeqNo: <b>833201</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
SO4	< 5.00	5.00									

Sample ID: <b>LCS-R73469</b>	SampType: <b>LCS</b>	TestCode: <b>SO4</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>73469</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R73469</b>	TestNo: <b>4500SO4-E,2</b>	Analysis Date: <b>3/25/2025</b>	SeqNo: <b>833202</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
SO4	101	5.00	100.0	0	101	80	120				

Sample ID: <b>2503275-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>SO4</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>73469</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R73469</b>	TestNo: <b>4500SO4-E,2</b>	Analysis Date: <b>3/25/2025</b>	SeqNo: <b>833212</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
SO4	288	5.00	120.0	176.9	92.4	32.3	153				

Sample ID: <b>2503275-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>SO4</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>73469</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R73469</b>	TestNo: <b>4500SO4-E,2</b>	Analysis Date: <b>3/25/2025</b>	SeqNo: <b>833213</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
SO4	284	5.00	120.0	176.9	88.9	32.3	153	287.8	1.49	6.56	

**Qualifiers:**

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
PL	Permit Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as specified at testcode

ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit



## QC SUMMARY REPORT

WO#: 2503315

28-Mar-25

## Client:

Project: Deepwell/Injectate Real Alloy Sapulpa, OK

TestNo: A2540 D-2015

Sample ID: <b>MB-R73454</b>	SampType: <b>MBLK</b>	TestCode: <b>TSS</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>73459</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R73459</b>	TestNo: <b>A2540 D-2015</b>		Analysis Date: <b>3/24/2025</b>	SeqNo: <b>833085</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Suspended Solids (Residue, Non-Filterable)

&lt; 5

5

Sample ID: <b>LCS-R73454</b>		SampType: <b>LCS</b>	TestCode: <b>TSS</b>		Units: <b>mg/L</b>		Prep Date:			RunNo: <b>73459</b>		
Client ID: <b>LCSW</b>	Batch ID: <b>R73459</b>		TestNo: <b>A2540 D-2015</b>			Analysis Date: <b>3/24/2025</b>			SeqNo: <b>833086</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

Suspended Solids (Residue, Non-Filterable)

39

5

40

0

98

80

120

Sample ID: <b>2503336-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>TSS</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>73459</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R73459</b>	TestNo: <b>A2540 D-2015</b>		Analysis Date: <b>3/24/2025</b>	SeqNo: <b>833094</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Suspended Solids (Residue, Non-Filterable)

15

5

19

24

5

R

## Qualifiers:

H Holding times for preparation or analysis exceeded  
 PL Permit Limit  
 S Spike Recovery outside accepted recovery limits

M Manual Integration used to determine area response  
 R RPD outside accepted recovery limits  
 W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit



# QC SUMMARY REPORT

WO#: **2503315**  
**28-Mar-25**

## Client:

**Project:** Deepwell/Injectate Real Alloy Sapulpa, OK

**TestNo:** A4500 NH3 H-2011

Sample ID: <b>MB-R73505</b>	SampType: <b>MBLK</b>	TestCode: <b>NH3</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>73505</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R73505</b>	TestNo: <b>A4500 NH3 H-</b>	Analysis Date: <b>3/27/2025</b>	SeqNo: <b>833683</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NH3 < 0.100 0.100

Sample ID: <b>LCS-R73505</b>	SampType: <b>LCS</b>	TestCode: <b>NH3</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>73505</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R73505</b>	TestNo: <b>A4500 NH3 H-</b>	Analysis Date: <b>3/27/2025</b>	SeqNo: <b>833684</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NH3 3.31 0.100 3.160 0 105 80 120

Sample ID: <b>2503315-001CMS</b>	SampType: <b>MS</b>	TestCode: <b>NH3</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>73505</b>						
Client ID: <b>Deepwell</b>	Batch ID: <b>R73505</b>	TestNo: <b>A4500 NH3 H-</b>	Analysis Date: <b>3/27/2025</b>	SeqNo: <b>833686</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NH3 9.03 0.100 10.00 0.4320 86.0 73.3 121

Sample ID: <b>2503315-001CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>NH3</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>73505</b>						
Client ID: <b>Deepwell</b>	Batch ID: <b>R73505</b>	TestNo: <b>A4500 NH3 H-</b>	Analysis Date: <b>3/27/2025</b>	SeqNo: <b>833687</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NH3 8.99 0.100 10.00 0.4320 85.6 73.3 121 9.032 0.488 8.47

**Qualifiers:** H Holding times for preparation or analysis exceeded  
PL Permit Limit  
S Spike Recovery outside accepted recovery limits

M Manual Integration used to determine area response  
R RPD outside accepted recovery limits  
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit



# QC SUMMARY REPORT

WO#: 2503315  
28-Mar-25

## Client:

**Project:** Deepwell/Injectate Real Alloy Sapulpa, OK

**TestNo:** A4500 NH3 H-2011

Sample ID: <b>MB-R73505</b>	SampType: <b>MBLK</b>	TestCode: <b>NH3</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>73505</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R73505</b>	TestNo: <b>A4500 NH3 H-</b>		Analysis Date: <b>3/27/2025</b>	SeqNo: <b>833707</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
NH3	< 0.100	0.100									

Sample ID: <b>LCS-R73505</b>	SampType: <b>LCS</b>	TestCode: <b>NH3</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>73505</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R73505</b>	TestNo: <b>A4500 NH3 H-</b>	Analysis Date: <b>3/27/2025</b>	SeqNo: <b>833708</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
NH3	3.29	0.100	3.160	0	104	80	120				

Sample ID: <b>2503380-007BMS</b>	SampType: <b>MS</b>	TestCode: <b>NH3</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>73505</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R73505</b>	TestNo: <b>A4500 NH3 H-</b>	Analysis Date: <b>3/27/2025</b>	SeqNo: <b>833710</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
NH3	9.43	0.100	10.00	0	94.3	73.3	121				

Sample ID: <b>2503380-007BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>NH3</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>73505</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R73505</b>	TestNo: <b>A4500 NH3 H-</b>	Analysis Date: <b>3/27/2025</b>	SeqNo: <b>833711</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
NH3	9.63	0.100	10.00	0	96.3	73.3	121	9.430	2.13	8.47	

## Qualifiers:

H Holding times for preparation or analysis exceeded  
PL Permit Limit  
S Spike Recovery outside accepted recovery limits

M Manual Integration used to determine area response  
R RPD outside accepted recovery limits  
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit



# QC SUMMARY REPORT

WO#: 2503315  
28-Mar-25

## Client:

Project: Deepwell/Injectate Real Alloy Sapulpa, OK

TestNo: A4500 NO3 F-2011

Sample ID: <b>MB-R73418</b>	SampType: <b>MBLK</b>	TestCode: <b>NO3</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>73418</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R73418</b>	TestNo: <b>A4500 NO3 F-</b>		Analysis Date: <b>3/20/2025</b>	SeqNo: <b>832638</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	< 0.400	0.400									

Sample ID: <b>LCS-R73418</b>	SampType: <b>LCS</b>	TestCode: <b>NO3</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>73418</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R73418</b>	TestNo: <b>A4500 NO3 F-</b>	Analysis Date: <b>3/20/2025</b>	SeqNo: <b>832639</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	4.00	0.400	4.150	0	96.3	90	110				

Sample ID: <b>2503299-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>NO3</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>73418</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R73418</b>	TestNo: <b>A4500 NO3 F-</b>	Analysis Date: <b>3/20/2025</b>	SeqNo: <b>832643</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	8.67	0.400	8.000	0.6180	101	65.4	154				

Sample ID: <b>2503299-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>NO3</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>73418</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>R73418</b>	TestNo: <b>A4500 NO3 F-</b>	Analysis Date: <b>3/20/2025</b>	SeqNo: <b>832644</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	8.64	0.400	8.000	0.6180	100	65.4	154	8.673	0.404	89.4	

**Qualifiers:**

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
PL	Permit Limit	R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit



## QC SUMMARY REPORT

WO#: **2503315**  
**28-Mar-25**

**Client:**

**Project:** Deepwell/Injectate Real Alloy Sapulpa, OK

**TestNo:** ASTM-D1429

Sample ID: <b>2503315-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>SP_GR</b>	Units: <b>g/cc @ 4°C</b>	Prep Date:	RunNo: <b>73442</b>						
Client ID: <b>Deepwell</b>	Batch ID: <b>R73442</b>	TestNo: <b>ASTM-D1429</b>	Analysis Date: <b>3/24/2025</b>	SeqNo: <b>832873</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Gravity	1.001	0.01000						1.001	0	0.723	

**Qualifiers:**

H Holding times for preparation or analysis exceeded  
 PL Permit Limit  
 S Spike Recovery outside accepted recovery limits

M Manual Integration used to determine area response  
 R RPD outside accepted recovery limits  
 W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit





## QC SUMMARY REPORT

WO#: **2503315**  
**28-Mar-25**

**Client:**

**Project:** Deepwell/Injectate Real Alloy Sapulpa, OK

**TestNo:** E120.1, 1982

Sample ID: <b>LCS-R73470</b>	SampType: <b>LCS</b>	TestCode: <b>COND</b>	Units: <b>µmhos/cm2 at</b>	Prep Date:	RunNo: <b>73470</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R73470</b>	TestNo: <b>E120.1, 1982</b>	Analysis Date: <b>3/25/2025</b>	SeqNo: <b>833222</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductivity	100	1.00	100.0	0	101	80	120				

Sample ID: <b>2503275-001ADUP</b>		SampType: <b>DUP</b>		TestCode: <b>COND</b>		Units: <b>µmhos/cm2 at</b>		Prep Date:		RunNo: <b>73470</b>			
Client ID: <b>BatchQC</b>		Batch ID: <b>R73470</b>		TestNo: <b>E120.1, 1982</b>				Analysis Date: <b>3/25/2025</b>		SeqNo: <b>833224</b>			
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductivity		16.500		100						16.500	0	7.95	

**Qualifiers:**

H Holding times for preparation or analysis exceeded  
PL Permit Limit  
S Spike Recovery outside accepted recovery limits

M Manual Integration used to determine area response  
R RPD outside accepted recovery limits  
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit



# QC SUMMARY REPORT

WO#: 2503315  
28-Mar-25

## Client:

**Project:** Deepwell/Injectate Real Alloy Sapulpa, OK

**TestNo:** SW6010B

Sample ID: <b>MB-22311</b>	SampType: <b>MBLK</b>	TestCode: <b>MET Water 6</b>	Units: <b>mg/L</b>	Prep Date: <b>3/24/2025</b>	RunNo: <b>73524</b>						
Client ID: <b>PBW</b>	Batch ID: <b>22311</b>	TestNo: <b>SW6010B</b>	<b>SW3010A</b>	Analysis Date: <b>3/27/2025</b>	SeqNo: <b>833941</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	< 0.00100	0.00100									
Iron	< 0.0500	0.0500									
Lead	< 0.00500	0.00500									
Magnesium	< 0.0500	0.0500									
Nickel	< 0.0100	0.0100									

Sample ID: <b>LCS-22311</b>	SampType: <b>LCS</b>	TestCode: <b>MET Water 6</b>	Units: <b>mg/L</b>	Prep Date: <b>3/24/2025</b>	RunNo: <b>73524</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>22311</b>	TestNo: <b>SW6010B</b>	<b>SW3010A</b>	Analysis Date: <b>3/27/2025</b>	SeqNo: <b>833942</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	1.95	0.00100	2.000	0	97.5	80	120				
Iron	2.15	0.0500	2.000	0	108	80	120				
Lead	2.03	0.00500	2.000	0	102	80	120				
Magnesium	2.07	0.0500	2.000	0	104	80	120				
Nickel	1.98	0.0100	2.000	0	99.0	80	120				

Sample ID: <b>2503305-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>MET Water 6</b>		Units: <b>mg/L</b>	Prep Date: <b>3/24/2025</b>			RunNo: <b>73524</b>			
Client ID: <b>BatchQC</b>	Batch ID: <b>22311</b>	TestNo: <b>SW6010B</b>		<b>SW3010A</b>	Analysis Date: <b>3/27/2025</b>			SeqNo: <b>833944</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	1.96	0.00100	2.000	0	98.2	91.5	111				
Iron	2.24	0.0500	2.000	0.05801	109	84.6	115				
Lead	2.00	0.00500	2.000	0	99.9	90.2	109				

## Qualifiers:

H Holding times for preparation or analysis exceeded  
PL Permit Limit  
S Spike Recovery outside accepted recovery limits

M Manual Integration used to determine area response  
R RPD outside accepted recovery limits  
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit



## QC SUMMARY REPORT

WO#: 2503315

28-Mar-25

## Client:

Project: Deepwell/Injectate Real Alloy Sapulpa, OK

TestNo: SW6010B

Sample ID: 2503305-001BMS	SampType: MS	TestCode: MET Water 6	Units: mg/L	Prep Date: 3/24/2025	RunNo: 73524						
Client ID: BatchQC	Batch ID: 22311	TestNo: SW6010B	SW3010A	Analysis Date: 3/27/2025	SeqNo: 833944						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	28.5	0.0500	2.000	26.50	99.5	63.4	139				
Nickel	1.94	0.0100	2.000	0	97.2	92.7	109				

Sample ID: 2503305-001BMSD	SampType: MSD	TestCode: MET Water 6		Units: mg/L	Prep Date: 3/24/2025				RunNo: 73524		
Client ID: BatchQC	Batch ID: 22311	TestNo: SW6010B		SW3010A	Analysis Date: 3/27/2025				SeqNo: 833945		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	1.97	0.00100	2.000	0	98.3	91.5	111	1.965	0.0509	3.71	
Iron	2.27	0.0500	2.000	0.05801	111	84.6	115	2.245	1.20	5.37	
Lead	1.99	0.00500	2.000	0	99.6	90.2	109	1.997	0.301	4.72	
Magnesium	28.5	0.0500	2.000	26.50	98.5	63.4	139	28.49	0.0702	3.58	
Nickel	1.93	0.0100	2.000	0	96.4	92.7	109	1.944	0.878	3.53	

Sample ID: <b>MB-22325</b>	SampType: <b>MBLK</b>	TestCode: <b>MET Water 6</b> Units: <b>mg/L</b>			Prep Date: <b>3/26/2025</b>				RunNo: <b>73525</b>		
Client ID: <b>PBW</b>	Batch ID: <b>22325</b>	TestNo: <b>SW6010B</b>		<b>SW3010A</b>		Analysis Date: <b>3/27/2025</b>				SeqNo: <b>833977</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	< 0.00100	0.00100									
Iron	< 0.0500	0.0500									
Lead	< 0.00500	0.00500									
Magnesium	< 0.0500	0.0500									
Nickel	< 0.0100	0.0100									

## Qualifiers:

H Holding times for preparation or analysis exceeded  
 PL Permit Limit  
 S Spike Recovery outside accepted recovery limits

M Manual Integration used to determine area response  
 R RPD outside accepted recovery limits  
 W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit



# QC SUMMARY REPORT

WO#: 2503315  
28-Mar-25

## Client:

Project: Deepwell/Injectate Real Alloy Sapulpa, OK

TestNo: SW6010B

Sample ID: <b>LCS-22325</b>	SampType: <b>LCS</b>	TestCode: <b>MET Water 6</b>	Units: <b>mg/L</b>	Prep Date: <b>3/26/2025</b>	RunNo: <b>73525</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>22325</b>	TestNo: <b>SW6010B</b>	<b>SW3010A</b>	Analysis Date: <b>3/27/2025</b>	SeqNo: <b>833978</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	1.97	0.00100	2.000	0	98.3	80	120				
Iron	2.14	0.0500	2.000	0	107	80	120				
Lead	2.05	0.00500	2.000	0	103	80	120				
Magnesium	2.11	0.0500	2.000	0	105	80	120				
Nickel	1.96	0.0100	2.000	0	98.0	80	120				

Sample ID: <b>2503360-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>MET Water 6</b>	Units: <b>mg/L</b>	Prep Date: <b>3/26/2025</b>	RunNo: <b>73525</b>						
Client ID: <b>BatchQC</b>	Batch ID: <b>22325</b>	TestNo: <b>SW6010B</b>	<b>SW3010A</b>	Analysis Date: <b>3/27/2025</b>	SeqNo: <b>833980</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	1.95	0.00100	2.000	0	97.7	91.5	111				
Iron	3.76	0.0500	2.000	1.687	104	84.6	115				
Lead	1.97	0.00500	2.000	0	98.6	90.2	109				
Magnesium	20.7	0.0500	2.000	18.47	111	63.4	139				
Nickel	1.91	0.0100	2.000	0	95.3	92.7	109				

Sample ID: <b>2503360-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>MET Water 6</b>		Units: <b>mg/L</b>	Prep Date: <b>3/26/2025</b>				RunNo: <b>73525</b>		
Client ID: <b>BatchQC</b>	Batch ID: <b>22325</b>	TestNo: <b>SW6010B</b>		<b>SW3010A</b>	Analysis Date: <b>3/27/2025</b>				SeqNo: <b>833981</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	1.97	0.00100	2.000	0	98.6	91.5	111	1.954	0.866	3.71	
Iron	3.83	0.0500	2.000	1.687	107	84.6	115	3.764	1.66	5.37	
Lead	1.99	0.00500	2.000	0	99.4	90.2	109	1.972	0.758	4.72	

## Qualifiers:

H Holding times for preparation or analysis exceeded  
PL Permit Limit  
S Spike Recovery outside accepted recovery limits  
M Manual Integration used to determine area response  
R RPD outside accepted recovery limits  
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit



# QC SUMMARY REPORT

WO#: 2503315  
28-Mar-25

**Client:**

**Project:** Deepwell/Injectate Real Alloy Sapulpa, OK

**TestNo:** SW6010B

Sample ID: <b>2503360-001BMSD</b>		SampType: <b>MSD</b>		TestCode: <b>MET Water 6</b>		Units: <b>mg/L</b>		Prep Date: <b>3/26/2025</b>		RunNo: <b>73525</b>	
Client ID: <b>BatchQC</b>		Batch ID: <b>22325</b>		TestNo: <b>SW6010B</b>		<b>SW3010A</b>		Analysis Date: <b>3/27/2025</b>		SeqNo: <b>833981</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	20.8	0.0500	2.000	18.47	119	63.4	139	20.69	0.722	3.58	
Nickel	1.92	0.0100	2.000	0	95.9	92.7	109	1.906	0.628	3.53	

**Qualifiers:**

H Holding times for preparation or analysis exceeded  
PL Permit Limit  
S Spike Recovery outside accepted recovery limits

M Manual Integration used to determine area response  
R RPD outside accepted recovery limits  
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

