Energy Fuels Resources (USA) Inc.
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Lakewood, CO, US, 80228
303 974 2140
www.energyfuels.com

January 27, 2023

Arizona Department of Environmental Quality
Groundwater Protection Value Steam
Mail Code 5415B-3
1110 W. Washington St.
Phoenix, AZ 85007

Re: Pinyon Plain Mine, Individual Aquifer Protection Permit No. P-100333, Annual Report for 2022

Dear Sir or Madam:

Enclosed please find Energy Fuels Resources (USA) Inc.'s ("EFRI's") 2022 Annual Report for the Pinyon Plain Mine (the "Mine") in accordance with Section 2.7.4.1 of the Mine's Individual Aquifer Protection Permit No. P-100333 (the "APP"). This report also satisfies any reporting requirements for 2022 under the Type 3.04 General Aquifer Protection Permit (Inventory No. P-100333) for the Non-Stormwater Impoundment.

Pumping Operational Summary

The attached Table 1 includes the daily volume of water pumped from underground mining areas for 2022. This includes the meter results for water pumped from the lined shaft sump and the water capture rings. As noted in Table 1, from August 22 to August 25, 2022, installation of a new pump system caused lower pumping totals and, on August 31, 2022, meter readings were reset as a result of the new pumping system being recalibrated. No other events that caused meter outages or anomalous readings were recorded in 2022.

Sump Water Quality Analytical Results

The attached Table 2 includes a summary of the analytical results for the quarterly sump water quality samples. These samples are collected from the outfall point where mine water discharges from the underground sump into the non-storm water impoundment.

Groundwater Elevations

The attached Table 3 includes a summary of groundwater elevations for the three wells completed in the perched Coconino groundwater. These depth to water measurements were collected during quarterly ambient groundwater monitoring.

Groundwater Quality Summary

Table 4 includes a placeholder for the groundwater quality summary. On October 26, 2022, the ADEQ approved a Minor Amendment of the APP to establish an alert level ("AL") and aquifer quality limit ("AQL") for arsenic and an AQL for uranium for Point of Compliance ("POC") Monitoring Well #4 (i.e., the Redwall-Muav water supply/monitoring well). At this time, EFRI is still in the process of collecting the minimum of ten rounds of ambient groundwater monitoring for POC Monitoring Wells #1 through #3 pursuant to Section 2.5.3.2 of the APP and for the remaining parameters for POC Monitoring Well #4 in accordance with Table 8 of the APP. In addition, the first round of compliance monitoring for arsenic and uranium for POC Monitoring Well #4 will not be conducted until the first quarter of 2023. Therefore, Table 4 has been deliberately left blank until compliance monitoring data becomes available.

Water Budget Throughout Mine Operations

As shown in Table 1, the average flow rate of water pumped from the lined shaft sump and water capture rings during 2022 was approximately 8.3 and 7.8 gpm, respectively, with a combined rate of approximately 16.1 gpm. Water from the lined shaft sump is either pumped directly to the non-stormwater impoundment or to one of two water storage tanks. Water from the capture rings is pumped directly to a water storage tank. All water pumped into the impoundment was effectively managed through natural and enhanced evaporation and freeboard levels were maintained throughout the year. Water from the capture rings was either treated using the water treatment system prior to use for dust control on site, hauled off-site for beneficial use by ranchers, or managed through direct evaporation.

Development Rock Stockpile Construction Update

As of December 31, 2022, the Development Rock Stockpile ("DRS") has been constructed.

Intermediate Ore Stockpile Construction Update

As of December 31, 2022, the Intermediate Ore Stockpile has not yet been constructed.

Please feel free to contact me at 303-389-4132 or Jordan App at 303-389-4131 if you have any questions or concerns.

Sincerely,

ENERGY FUELS RESOURCES (USA) INC.
Scott A. Bakken
Vice President, Regulatory Affairs

Att Table 1: Pumping Operational Summary
Table 2: Sump Water Quality Analytical Results
Table 3: Groundwater Elevations
Table 4: Groundwater Quality Summary
Attachment 1: Sump Analytical Data

cc: Kathy Weinel, John Uhrie, Race Fisher, P. Redford, Matt Germansen, Jordan App (EFRI)
Vimal Chauhan (ADEQ)

SIGNATURE AND CERTIFICATION

This document was prepared by Energy Fuels Resources (USA) Inc. based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

1/27/23

Signature of Responsible Official
Scott A. Bakken
Vice President, Regulatory Affairs

Date

TABLES

TABLE 1

Pinyon Plain Mine Daily Volume of Water Pumped from Underground Mining Areas during 2022

Date	Sump Meter Reading	Gallons Pumped (GA/D)	Ring Meter Reading	Gallons Pumped (GA/D)	Total Gallons Pumped (GA/D)	Date	Sump Meter Reading	Gallons Pumped (GA/D)	Ring Meter Reading	Gallons Pumped (GA/D)	Total Gallons Pumped (GA/D)	Date	Sump Meter Reading	Gallons Pumped (GA/D)	Ring Meter Reading	Gallons Pumped (GA/D)	Total Gallons Pumped (GA/D)
First Quarter 2022																	
January 2022						**February 2022**						**March 2022**					
1/1/2022	3,038,096	12,113	2,305,624	10,683	22,796	2/1/2022	3,394,821	11,333	2,659,949	11,608	22,941	3/1/2022	3,713,562	7,065	2,981,535	11,290	18,355
1/2/2022	3,049,095	10,999	2,317,241	11,617	22,616	2/2/2022	3,406,208	11,387	2,671,616	11,667	23,054	3/2/2022	3,730,339	16,777	2,992,812	11,277	28,054
1/3/2022	3,060,072	10,977	2,328,852	11,611	22,588	2/3/2022	3,417,665	11,457	2,683,172	11,556	23,013	3/3/2022	3,742,172	11,833	3,004,083	11,271	23,104
1/4/2022	3,071,089	11,017	2,340,443	11,591	22,608	2/4/2022	3,428,875	11,210	2,694,784	11,612	22,822	3/4/2022	3,754,056	11,884	3,015,236	11,153	23,037
1/5/2022	3,082,307	11,218	2,352,089	11,646	22,864	2/5/2022	3,440,087	11,212	2,706,064	11,280	22,492	3/5/2022	3,766,042	11,986	3,026,734	11,498	23,484
1/6/2022	3,094,982	12,675	2,362,764	10,675	23,350	2/6/2022	3,451,419	11,332	2,717,548	11,484	22,816	3/6/2022	3,777,992	11,950	3,038,191	11,457	23,407
1/7/2022	3,108,514	13,532	2,372,199	9,435	22,967	2/7/2022	3,462,733	11,314	2,728,965	11,417	22,731	3/7/2022	3,789,803	11,811	3,049,626	11,435	23,246
1/8/2022	3,119,716	11,202	2,382,527	10,328	21,530	2/8/2022	3,474,171	11,438	2,740,460	11,495	22,933	3/8/2022	3,801,528	11,725	3,061,050	11,424	23,149
1/9/2022	3,134,367	14,651	2,393,276	10,749	25,400	2/9/2022	3,486,048	11,877	2,751,905	11,445	23,322	3/9/2022	3,813,320	11,792	3,072,548	11,498	23,290
1/10/2022	3,145,362	10,995	2,404,789	11,513	22,508	2/10/2022	3,497,913	11,865	2,763,366	11,461	23,326	3/10/2022	3,825,215	11,895	3,084,007	11,459	23,354
1/11/2022	3,156,427	11,065	2,416,392	11,603	22,668	2/11/2022	3,509,789	11,876	2,774,847	11,481	23,357	3/11/2022	3,837,044	11,829	3,095,497	11,490	23,319
1/12/2022	3,167,486	11,059	2,428,007	11,615	22,674	2/12/2022	3,521,544	11,755	2,786,355	11,508	23,263	3/12/2022	3,848,836	11,792	3,106,831	11,334	23,126
1/13/2022	3,178,567	11,081	2,439,430	11,423	22,504	2/13/2022	3,532,716	11,172	2,797,756	11,401	22,573	3/13/2022	3,860,641	11,805	3,118,164	11,333	23,138
1/14/2022	3,189,698	11,131	2,451,103	11,673	22,804	2/14/2022	3,544,117	11,401	2,809,203	11,447	22,848	3/14/2022	3,872,547	11,906	3,129,518	11,354	23,260
1/15/2022	3,200,939	11,241	2,462,772	11,669	22,910	2/15/2022	3,555,477	11,360	2,820,714	11,511	22,871	3/15/2022	3,884,356	11,809	3,140,880	11,362	23,171
1/16/2022	3,212,066	11,127	2,474,401	11,629	22,756	2/16/2022	3,566,980	11,503	2,832,366	11,652	23,155	3/16/2022	3,896,139	11,783	3,152,167	11,287	23,070
1/17/2022	3,223,317	11,251	2,485,986	11,585	22,836	2/17/2022	3,578,420	11,440	2,843,919	11,553	22,993	3/17/2022	3,908,006	11,867	3,163,516	11,349	23,216
1/18/2022	3,234,578	11,261	2,497,693	11,707	22,968	2/18/2022	3,589,667	11,247	2,855,327	11,408	22,655	3/18/2022	3,919,791	11,785	3,174,869	11,353	23,138
1/19/2022	3,245,972	11,394	2,509,437	11,744	23,138	2/19/2022	3,600,910	11,243	2,866,831	11,504	22,747	3/19/2022	3,931,664	11,873	3,186,185	11,316	23,189
1/20/2022	3,257,203	11,231	2,521,133	11,696	22,927	2/20/2022	3,612,315	11,405	2,878,203	11,372	22,777	3/20/2022	3,943,493	11,829	3,197,456	11,271	23,100
1/21/2022	3,269,097	11,894	2,532,577	11,444	23,338	2/21/2022	3,624,293	11,978	2,889,783	11,580	23,558	3/21/2022	3,955,424	11,931	3,208,973	11,517	23,448
1/22/2022	3,280,884	11,787	2,544,348	11,771	23,558	2/22/2022	3,636,293	12,000	2,901,334	11,551	23,551	3/22/2022	3,967,189	11,765	3,220,350	11,377	23,142
1/23/2022	3,292,816	11,932	2,555,931	11,583	23,515	2/23/2022	3,648,002	11,709	2,913,049	11,715	23,424	3/23/2022	3,978,931	11,742	3,231,595	11,245	22,987
1/24/2022	3,304,659	11,843	2,567,468	11,537	23,380	2/24/2022	3,659,722	11,720	2,924,669	11,620	23,340	3/24/2022	3,990,668	11,737	3,242,765	11,170	22,907
1/25/2022	3,315,973	11,314	2,579,115	11,647	22,961	2/25/2022	3,671,370	11,648	2,936,231	11,562	23,210	3/25/2022	4,003,564	12,896	3,254,145	11,380	24,276
1/26/2022	3,327,351	11,378	2,590,749	11,634	23,012	2/26/2022	3,683,037	11,667	2,947,740	11,509	23,176	3/26/2022	4,014,935	11,371	3,265,385	11,240	22,611
1/27/2022	3,338,616	11,265	2,602,392	11,643	22,908	2/27/2022	3,694,789	11,752	2,959,047	11,307	23,059	3/27/2022	4,026,877	11,942	3,276,573	11,188	23,130
1/28/2022	3,349,901	11,285	2,613,845	11,453	22,738	2/28/2022	3,706,497	11,708	2,970,245	11,198	22,906	3/28/2022	4,038,760	11,883	3,287,917	11,344	23,227
1/29/2022	3,360,984	11,083	2,625,381	11,536	22,619							3/29/2022	4,050,647	11,887	3,299,355	11,438	23,325
1/30/2022	3,372,230	11,246	2,636,847	11,466	22,712							3/30/2022	4,062,545	11,898	3,310,742	11,387	23,285
1/31/2022	3,383,488	11,258	2,648,341	11,494	22,752							3/31/2022	4,074,443	11,898	3,322,087	11,345	23,243
Total Gallons Pumped for Jan.		**357,505**		**353,400**	**710,905**	**Total Gallons Pumped for Feb.**		**323,009**		**321,904**	**644,913**	**Total Gallons Pumped for March**		**367,946**		**351,842**	**719,788**
Daily gallons pumped		11,532		11,400	22,932	Daily gallons pumped		11,536		11,497	23,033	Daily gallons pumped		11,869		11,350	23,219
Hourly gallons pumped		481		475	956	Hourly gallons pumped		481		479	960	Hourly gallons pumped		495		473	967
GPM for January		8.01		7.92	15.93	GPM for February		8.01		7.98	15.99	GPM for March		8.24		7.88	16.12
												Total for the Quarter					**2,075,606**

Table 1

Pinyon Plain Mine Daily Volume of Water Pumped from Underground Mining Areas during 2022

Date	Sump Meter Reading	Gallons Pumped (GA/D)	Ring Meter Reading	Gallons Pumped (GA/D)	Total Gallons Pumped (GA/D)	Date	Sump Meter Reading	Gallons Pumped (GA/D)	Ring Meter Reading	Gallons Pumped (GA/D)	Total Gallons Pumped (GA/D)	Date	Sump Meter Reading	Gallons Pumped (GA/D)	Ring Meter Reading	Gallons Pumped (GA/D)	Total Gallons Pumped (GA/D)
Second Quarter 2022																	
April 2022						**May 2022**						**June 2022**					
4/1/2022	4,086,386	11,943	3,333,418	11,331	23,274	5/1/2022	4,427,875	12,112	3,690,818	11,632	23,744	6/1/2022	4,783,803	14,110	4,041,056	10,721	24,831
4/2/2022	4,098,371	11,985	3,344,770	11,352	23,337	5/2/2022	4,439,789	11,914	3,702,387	11,569	23,483	6/2/2022	4,793,745	9,942	4,052,614	11,558	21,500
4/3/2022	4,110,368	11,997	3,356,045	11,275	23,272	5/3/2022	4,452,016	12,227	3,714,048	11,661	23,888	6/3/2022	4,804,453	10,708	4,064,013	11,399	22,107
4/4/2022	4,122,382	12,014	3,367,346	11,301	23,315	5/4/2022	4,467,970	15,954	3,725,753	11,705	27,659	6/4/2022	4,815,819	11,366	4,075,446	11,433	22,799
4/5/2022	4,134,358	11,976	3,378,586	11,240	23,216	5/5/2022	4,479,463	11,493	3,737,303	11,550	23,043	6/5/2022	4,827,487	11,668	4,086,703	11,257	22,925
4/6/2022	4,144,617	10,259	3,390,278	11,692	21,951	5/6/2022	4,490,544	11,081	3,748,909	11,606	22,687	6/6/2022	4,838,865	11,378	4,098,167	11,464	22,842
4/7/2022	4,155,498	10,881	3,402,268	11,990	22,871	5/7/2022	4,501,676	11,132	3,760,437	11,528	22,660	6/7/2022	4,850,327	11,462	4,109,656	11,489	22,951
4/8/2022	4,166,331	10,833	3,414,170	11,902	22,735	5/8/2022	4,512,259	10,583	3,772,117	11,680	22,263	6/8/2022	4,861,571	11,244	4,121,014	11,358	22,602
4/9/2022	4,174,425	8,094	3,426,041	11,871	19,965	5/9/2022	4,524,222	11,963	3,783,727	11,610	23,573	6/9/2022	4,873,054	11,483	4,132,566	11,552	23,035
4/10/2022	4,184,842	10,417	3,438,255	12,214	22,631	5/10/2022	4,530,290	6,068	3,791,909	8,182	14,250	6/10/2022	4,883,963	10,909	4,143,855	11,289	22,198
4/11/2022	4,197,182	12,340	3,450,346	12,091	24,431	5/11/2022	4,542,737	12,447	3,803,503	11,594	24,041	6/11/2022	4,894,245	10,282	4,154,847	10,992	21,274
4/12/2022	4,209,473	12,291	3,462,544	12,198	24,489	5/12/2022	4,551,404	8,667	3,814,940	11,437	20,104	6/12/2022	4,905,633	11,388	4,164,651	9,804	21,192
4/13/2022	4,220,412	10,939	3,474,668	12,124	23,063	5/13/2022	4,567,583	16,179	3,826,421	11,481	27,660	6/13/2022	4,919,320	13,687	4,175,316	10,665	24,352
4/14/2022	4,231,027	10,615	3,486,747	12,079	22,694	5/14/2022	4,578,533	10,950	3,837,861	11,440	22,390	6/14/2022	4,932,008	12,688	4,186,756	11,440	24,128
4/15/2022	4,243,909	12,882	3,498,670	11,923	24,805	5/15/2022	4,588,121	9,588	3,849,400	11,539	21,127	6/15/2022	4,941,662	9,654	4,198,190	11,434	21,088
4/16/2022	4,254,663	10,754	3,510,773	12,103	22,857	5/16/2022	4,600,155	12,034	3,860,824	11,424	23,458	6/16/2022	4,954,044	12,382	4,209,637	11,447	23,829
4/17/2022	4,265,451	10,788	3,522,642	11,869	22,657	5/17/2022	4,612,375	12,220	3,871,452	10,628	22,848	6/17/2022	4,964,109	10,065	4,221,101	11,464	21,529
4/18/2022	4,276,511	11,060	3,534,377	11,735	22,795	5/18/2022	4,623,262	10,887	3,882,899	11,447	22,334	6/18/2022	4,976,985	12,876	4,232,321	11,220	24,096
4/19/2022	4,289,641	13,130	3,546,477	12,100	25,230	5/19/2022	4,635,029	11,767	3,894,436	11,537	23,304	6/19/2022	4,987,503	10,518	4,243,749	11,428	21,946
4/20/2022	4,300,140	10,499	3,558,229	11,752	22,251	5/20/2022	4,647,225	12,196	3,905,920	11,484	23,680	6/20/2022	4,998,915	11,412	4,255,231	11,482	22,894
4/21/2022	4,311,263	11,123	3,570,289	12,060	23,183	5/21/2022	4,659,078	11,853	3,917,529	11,609	23,462	6/21/2022	5,010,727	11,812	4,266,646	11,415	23,227
4/22/2022	4,323,296	12,033	3,581,965	11,676	23,709	5/22/2022	4,670,538	11,460	3,929,014	11,485	22,945	6/22/2022	5,020,981	10,254	4,277,971	11,325	21,579
4/23/2022	4,335,698	12,402	3,593,806	11,841	24,243	5/23/2022	4,682,031	11,493	3,940,160	11,146	22,639	6/23/2022	5,032,039	11,058	4,289,439	11,468	22,526
4/24/2022	4,346,606	10,908	3,605,490	11,684	22,592	5/24/2022	4,693,316	11,285	3,951,550	11,390	22,675	6/24/2022	5,044,417	12,378	4,300,806	11,367	23,745
4/25/2022	4,357,157	10,551	3,617,171	11,681	22,232	5/25/2022	4,704,523	11,207	3,963,085	11,535	22,742	6/25/2022	5,055,284	10,867	4,312,294	11,488	22,355
4/26/2022	4,364,927	7,770	3,632,340	15,169	22,939	5/26/2022	4,713,287	8,764	3,974,144	11,059	19,823	6/26/2022	5,065,798	10,514	4,323,661	11,367	21,881
4/27/2022	4,383,782	18,855	3,644,039	11,699	30,554	5/27/2022	4,725,297	12,010	3,985,571	11,427	23,437	6/27/2022	5,076,176	10,378	4,335,080	11,419	21,797
4/28/2022	4,393,250	9,468	3,655,776	11,737	21,205	5/28/2022	4,731,325	6,028	3,996,889	11,318	17,346	6/28/2022	5,088,729	12,553	4,345,298	10,218	22,771
4/29/2022	4,404,192	10,942	3,667,430	11,654	22,596	5/29/2022	4,747,467	16,142	4,007,958	11,069	27,211	6/29/2022	5,100,710	11,981	4,355,740	10,442	22,423
4/30/2022	4,415,763	11,571	3,679,186	11,756	23,327	5/30/2022	4,761,373	13,906	4,018,846	10,888	24,794	6/30/2022	5,111,908	11,198	4,366,575	10,835	22,033
						5/31/2022	4,769,693	8,320	4,030,335	11,489	19,809						
Total Gallons Pumped for April		**341,320**		**357,099**	**698,419**	**Total Gallons Pumped for May**		**353,930**		**351,149**	**705,079**	**Total Gallons Pumped for June**		**342,215**		**336,240**	**678,455**
Daily gallons pumped		11,377		11,903	23,281	Daily gallons pumped		11,417		11,327	22,744	Daily gallons pumped		11,407		11,208	22,615
Hourly gallons pumped		474		496	970	Hourly gallons pumped		476		472	948	Hourly gallons pumped		475		467	942
GPM for April		7.90		8.27	16.17	GPM for May		7.93		7.87	15.79	GPM for June		7.92		7.78	15.70
												Total for the Quarter					**2,081,953**

Table 1
Pinyon Plain Mine Daily Volume of Water Pumped from Underground Mining Areas During 2022

Date	Sump Meter Reading	Gallons Pumped (GA/D)	Ring Meter Reading	Gallons Pumped (GA/D)	Total Gallons Pumped (GA/D)	Date	Sump Meter Reading	Gallons Pumped (GA/D)	Ring Meter Reading	Gallons Pumped (GA/D)	Total Gallons Pumped (GA/D)	Date	Sump Meter Reading	Gallons Pumped (GA/D)	Ring Meter Reading	Gallons Pumped (GA/D)	Total Gallons Pumped (GA/D)
Third Quarter 2022																	
July 2022						**August 2022**						**September 2022**					
7/1/2022	5,124,052	12,144	4,378,057	11,482	23,626	8/1/2022	5,474,106	11,706	4,724,208	11,425	23,131	9/1/2022	23,889	12,099	19,680	8,875	20,974
7/2/2022	5,136,780	12,728	4,388,866	10,809	23,537	8/2/2022	5,484,043	9,937	4,736,007	11,799	21,736	9/2/2022	42,909	19,020	31,307	11,627	30,647
7/3/2022	5,148,715	11,935	4,398,853	9,987	21,922	8/3/2022	5,495,238	11,195	4,747,700	11,693	22,888	9/3/2022	53,953	11,044	42,965	11,658	22,702
7/4/2022	5,160,866	12,151	4,409,411	10,558	22,709	8/4/2022	5,506,367	11,129	4,759,440	11,740	22,869	9/4/2022	65,554	11,601	54,396	11,431	23,032
7/5/2022	5,173,213	12,347	4,420,807	11,396	23,743	8/5/2022	5,523,908	17,541	4,771,137	11,697	29,238	9/5/2022	84,039	18,485	64,812	10,416	28,901
7/6/2022	5,184,128	10,915	4,431,441	10,634	21,549	8/6/2022	5,540,364	16,456	4,783,022	11,885	28,341	9/6/2022	95,564	11,525	75,778	10,966	22,491
7/7/2022	5,196,041	11,913	4,442,018	10,577	22,490	8/7/2022	5,552,017	11,653	4,793,972	10,950	22,603	9/7/2022	106,796	11,232	87,445	11,667	22,899
7/8/2022	5,208,814	12,773	4,453,272	11,254	24,027	8/8/2022	5,563,942	11,925	4,805,832	11,860	23,785	9/8/2022	117,359	10,563	98,951	11,506	22,069
7/9/2022	5,219,781	10,967	4,464,625	11,353	22,320	8/9/2022	5,575,452	11,510	4,817,592	11,760	23,270	9/9/2022	128,155	10,796	110,531	11,580	22,376
7/10/2022	5,230,612	10,831	4,475,806	11,181	22,012	8/10/2022	5,591,384	15,932	4,829,097	11,505	27,437	9/10/2022	138,873	10,718	122,130	11,599	22,317
7/11/2022	5,241,547	10,935	4,487,050	11,244	22,179	8/11/2022	5,598,449	7,065	4,840,789	11,692	18,757	9/11/2022	149,846	10,973	133,780	11,650	22,623
7/12/2022	5,253,529	11,982	4,498,447	11,397	23,379	8/12/2022	5,616,560	18,111	4,852,445	11,656	29,767	9/12/2022	162,527	12,681	145,194	11,414	24,095
7/13/2022	5,265,686	12,157	4,509,900	11,453	23,610	8/13/2022	5,622,946	6,386	4,864,166	11,721	18,107	9/13/2022	175,176	12,649	156,815	11,621	24,270
7/14/2022	5,276,557	10,871	4,521,161	11,261	22,132	8/14/2022	5,632,473	9,527	4,875,898	11,732	21,259	9/14/2022	187,911	12,735	168,507	11,692	24,427
7/15/2022	5,287,346	10,789	4,532,625	11,464	22,253	8/15/2022	5,645,669	13,196	4,886,663	10,765	23,961	9/15/2022	202,528	14,617	180,175	11,668	26,285
7/16/2022	5,298,070	10,724	4,543,913	11,288	22,012	8/16/2022	5,659,879	14,210	4,898,566	11,903	26,113	9/16/2022	222,347	19,819	191,902	11,727	31,546
7/17/2022	5,310,526	12,456	4,555,321	11,408	23,864	8/17/2022	5,672,286	12,407	4,910,571	12,005	24,412	9/17/2022	239,687	17,340	203,490	11,588	28,928
7/18/2022	5,321,285	10,759	4,566,779	11,458	22,217	8/18/2022	5,698,642	26,356	4,922,531	11,960	38,316	9/18/2022	249,396	9,709	215,162	11,672	21,381
7/19/2022	5,332,654	11,369	4,577,998	11,219	22,588	8/19/2022	5,712,380	13,738	4,934,048	11,517	25,255	9/19/2022	262,290	12,894	226,519	11,357	24,251
7/20/2022	5,343,514	10,860	4,589,353	11,355	22,215	8/20/2022	5,726,716	14,336	4,945,465	11,417	25,753	9/20/2022	274,768	12,478	238,212	11,693	24,171
7/21/2022	5,361,968	18,454	4,605,381	16,028	34,482	8/21/2022	5,742,115	15,399	4,955,460	9,995	25,394	9/21/2022	285,652	10,884	249,814	11,602	22,486
7/22/2022	5,368,020	6,052	4,610,690	5,309	11,361	8/22/2022	5,748,475	6,360	4,959,063	3,603	9,963	9/22/2022	295,225	9,573	261,505	11,691	21,264
7/23/2022	5,378,771	10,751	4,621,888	11,198	21,949	8/23/2022	5,748,689	214	4,959,065	2	216	9/23/2022	301,999	6,774	273,211	11,706	18,480
7/24/2022	5,390,611	11,840	4,633,179	11,291	23,131	8/24/2022	5,763,339	14,650	4,966,290	7,225	21,875	9/24/2022	314,051	12,052	284,696	11,485	23,537
7/25/2022	5,399,986	9,375	4,644,556	11,377	20,752	8/25/2022	5,785,034	21,695	4,978,195	11,905	33,600	9/25/2022	326,986	12,935	296,319	11,623	24,558
7/26/2022	5,411,564	11,578	4,655,891	11,335	22,913	8/26/2022	5,803,808	18,774	4,989,904	11,709	30,483	9/26/2022	339,901	12,915	307,968	11,649	24,564
7/27/2022	5,420,874	9,310	4,667,107	11,216	20,526	8/27/2022	5,812,673	8,865	5,001,859	11,955	20,820	9/27/2022	352,687	12,786	319,467	11,499	24,285
7/28/2022	5,429,792	8,918	4,678,582	11,475	20,393	8/28/2022	5,824,302	11,629	5,013,637	11,778	23,407	9/28/2022	369,835	17,148	331,166	11,699	28,847
7/29/2022	5,441,697	11,905	4,689,887	11,305	23,210	8/29/2022	5,835,908	11,606	5,025,443	11,806	23,412	9/29/2022	384,510	14,675	342,605	11,439	26,114
7/30/2022	5,453,300	11,603	4,701,417	11,530	23,133	8/30/2022	5,856,171	20,263	5,040,593	15,150	35,413	9/30/2022	404,378	19,868	353,595	10,990	30,858
7/31/2022	5,462,400	9,100	4,712,783	11,366	20,466	8/31/2022	11,790	11,790	10,805	10,805	22,595						
Total Gallons Pumped for July		**350,492**		**346,208**	**696,700**	**Total Gallons Pumped for Aug.**		**405,561**		**338,615**	**744,176**	**Total Gallons Pumped for Sept.**		**392,588**		**342,790**	**735,378**
Daily gallons pumped		11,306		11,168	22,474	Daily gallons pumped		13,083		10,923	24,006	Daily gallons pumped		13,086		11,426	24,513
Hourly gallons pumped		471		465	936	Hourly gallons pumped		545		455	1,000	Hourly gallons pumped		545		476	1,021
GPM for July		7.85		7.76	15.61	GPM for August		9.09		7.59	16.67	GPM for September		9.09		7.93	17.02
												Total for the Quarter					**2,176,254**

8/22/2022 - 8/25/2022: Changing pumping system in the shaft ring and shaft sump. Totals may be temporarily higher or lower while pump stations are setup and flow meters are recalibrated.

8/31/2022: Meter Readings reset as a result of new pumping system being recalibrated.

Table 1
Pinyon Plain Mine Daily Volume of Water Pumped from Underground Mining Areas During 2022

Date	Sump Meter Reading	Gallons Pumped (GA/D)	Ring Meter Reading	Gallons Pumped (GA/D)	Total Gallons Pumped	Date	Sump Meter Reading	Gallons Pumped (GA/D)	Ring Meter Reading	Gallons Pumped (GA/D)	Total Gallons Pumped	Date	Sump Meter Reading	Gallons Pumped (GA/D)	Ring Meter Reading	Gallons Pumped (GA/D)	Total Gallons Pumped (GA/D)
Fourth Quarter 2022																	
October 2022						**November 2022**						**December 2022**					
10/1/2022	419,338	14,960	364,717	11,122	26,082	11/1/2022	818,738	11,138	696,616	10,883	22,021	12/1/2022	1,179,456	16,463	1,020,747	10,988	27,451
10/2/2022	432,004	12,666	376,304	11,587	24,253	11/2/2022	831,116	12,378	707,558	10,942	23,320	12/2/2022	1,193,132	13,676	1,031,622	10,875	24,551
10/3/2022	443,012	11,008	387,890	11,586	22,594	11/3/2022	842,257	11,141	718,611	11,053	22,194	12/3/2022	1,205,245	12,113	1,042,585	10,963	23,076
10/4/2022	456,088	13,076	398,819	10,929	24,005	11/4/2022	853,596	11,339	729,683	11,072	22,411	12/4/2022	1,216,725	11,480	1,053,321	10,736	22,216
10/5/2022	467,609	11,521	409,742	10,923	22,444	11/5/2022	865,289	11,693	740,559	10,876	22,569	12/5/2022	1,227,343	10,618	1,064,219	10,898	21,516
10/6/2022	478,565	10,956	420,615	10,873	21,829	11/6/2022	875,001	9,712	751,568	11,009	20,721	12/6/2022	1,238,224	10,881	1,075,159	10,940	21,821
10/7/2022	489,285	10,720	431,553	10,938	21,658	11/7/2022	887,315	12,314	762,612	11,044	23,358	12/7/2022	1,249,257	11,033	1,085,870	10,711	21,744
10/8/2022	499,094	9,809	442,309	10,756	20,565	11/8/2022	898,799	11,484	773,563	10,951	22,435	12/8/2022	1,259,967	10,710	1,096,744	10,874	21,584
10/9/2022	511,036	11,942	453,299	10,990	22,932	11/9/2022	910,366	11,567	784,572	11,009	22,576	12/9/2022	1,270,624	10,657	1,107,533	10,789	21,446
10/10/2022	524,775	13,739	464,143	10,844	24,583	11/10/2022	921,482	11,116	796,845	12,273	23,389	12/10/2022	1,283,414	12,790	1,118,322	10,789	23,579
10/11/2022	539,508	14,733	475,095	10,952	25,685	11/11/2022	931,036	9,554	807,084	10,239	19,793	12/11/2022	1,296,331	12,917	1,129,020	10,698	23,615
10/12/2022	554,393	14,885	487,307	12,212	27,097	11/12/2022	942,825	11,789	818,268	11,184	22,973	12/12/2022	1,309,415	13,084	1,139,895	10,875	23,959
10/13/2022	563,946	9,553	496,872	9,565	19,118	11/13/2022	952,384	9,559	829,775	11,507	21,066	12/13/2022	1,322,759	13,344	1,150,855	10,960	24,304
10/14/2022	576,353	12,407	507,742	10,870	23,277	11/14/2022	963,575	11,191	840,057	10,282	21,473	12/14/2022	1,335,906	13,147	1,161,714	10,859	24,006
10/15/2022	588,265	11,912	518,065	10,323	22,235	11/15/2022	974,690	11,115	851,742	11,685	22,800	12/15/2022	1,351,197	15,291	1,172,443	10,729	26,020
10/16/2022	600,938	12,673	525,055	6,990	19,663	11/16/2022	986,050	11,360	862,658	10,916	22,276	12/16/2022	1,363,565	12,368	1,182,068	9,625	21,993
10/17/2022	615,050	14,112	533,214	8,159	22,271	11/17/2022	999,284	13,234	873,854	11,196	24,430	12/17/2022	1,379,977	16,412	1,187,599	5,531	21,943
10/18/2022	630,357	15,307	543,857	10,643	25,950	11/18/2022	1,011,248	11,964	883,549	9,695	21,659	12/18/2022	1,391,264	11,287	1,198,497	10,898	22,185
10/19/2022	645,338	14,981	554,779	10,922	25,903	11/19/2022	1,023,325	12,077	895,025	11,476	23,553	12/19/2022	1,399,991	8,727	1,209,376	10,879	19,606
10/20/2022	660,894	15,556	565,666	10,887	26,443	11/20/2022	1,036,848	13,523	905,896	10,871	24,394	12/20/2022	1,414,180	14,189	1,220,127	10,751	24,940
10/21/2022	674,823	13,929	576,424	10,758	24,687	11/21/2022	1,049,025	12,177	916,854	10,958	23,135	12/21/2022	1,424,212	10,032	1,230,895	10,768	20,800
10/22/2022	687,832	13,009	587,378	10,954	23,963	11/22/2022	1,064,000	14,975	922,881	6,027	21,002	12/22/2022	1,435,621	11,409	1,241,916	11,021	22,430
10/23/2022	701,031	13,199	598,466	11,088	24,287	11/23/2022	1,076,856	12,856	933,673	10,792	23,648	12/23/2022	1,447,500	11,879	1,252,731	10,815	22,694
10/24/2022	713,857	12,826	609,417	10,951	23,777	11/24/2022	1,089,804	12,948	944,406	10,733	23,681	12/24/2022	1,459,486	11,986	1,263,544	10,813	22,799
10/25/2022	726,626	12,769	620,349	10,932	23,701	11/25/2022	1,102,740	12,936	955,204	10,798	23,734	12/25/2022	1,471,080	11,594	1,274,382	10,838	22,432
10/26/2022	739,423	12,797	631,150	10,801	23,598	11/26/2022	1,115,754	13,014	966,074	10,870	23,884	12/26/2022	1,482,748	11,668	1,285,034	10,652	22,320
10/27/2022	755,784	16,361	642,232	11,082	27,443	11/27/2022	1,128,777	13,023	976,959	10,885	23,908	12/27/2022	1,495,584	12,836	1,295,922	10,888	23,724
10/28/2022	774,478	18,694	653,101	10,869	29,563	11/28/2022	1,141,825	13,048	987,748	10,789	23,837	12/28/2022	1,508,369	12,785	1,306,840	10,918	23,703
10/29/2022	785,891	11,413	663,997	10,896	22,309	11/29/2022	1,155,229	13,404	998,921	11,173	24,577	12/29/2022	1,521,426	13,057	1,317,814	10,974	24,031
10/30/2022	796,700	10,809	674,856	10,859	21,668	11/30/2022	1,162,993	7,764	1,009,759	10,838	18,602	12/30/2022	1,534,083	12,657	1,328,640	10,826	23,483
10/31/2022	807,600	10,900	685,733	10,877	21,777							12/31/2022	1,546,896	12,813	1,339,552	10,912	23,725
Total Gallons Pumped for Oct.		**403,222**		**332,138**	**735,360**	**Total Gallons Pumped for Nov**		**355,393**		**324,026**	**679,419**	**Total Gallons Pumped for Dec.**		**383,903**		**329,793**	**713,696**
Daily gallons pumped		13,007		10,714	23,721	Daily gallons pumped		11,846		10,801	22,647	Daily gallons pumped		12,384		10,638	23,022
Hourly gallons pumped		542		446	988	Hourly gallons pumped		494		450	944	Hourly gallons pumped		516		443	959
GPM for October		9.03		7.44	16.47	GPM for November		8.23		7.50	15.73	GPM for December		8.60		7.39	15.99
												Total for the Quarter					**2,128,475**
												Total for the Year					**8,462,288**

Table 2

Pinyon Plain Mine Non-Stormwater Impoundment Sample Summary

Analytes	Units	Q1 2022	Q2 2022	Q3 2022	Q4 2022
Metals					
Antimony (Total)	mg/L	0.00628	0.00347	0.00670	0.00549
Arsenic (Total)	mg/L	0.192	0.137	0.149	0.169
Barium (Total)	mg/L	0.022	0.0251	0.0238	0.0517
Beryllium (Total)	mg/L	<0.00008	<0.00008	<0.00033	<0.000330
Cadmium (Total)	mg/L	0.000438	0.000806	0.000662	0.000783
Chromium (Total)	mg/L	<0.04	<0.02	<0.0014	0.00225
Copper (Total)	mg/L	<0.02	0.023	0.0396	0.117
Iron (Total)	mg/L	0.97	1.22	2.06	4.52
Lead (Total)	mg/L	0.00147	0.00261	0.00508	0.0395
Manganese (Total)	mg/L	<0.02	0.030	0.0473	0.108
Mercury (Total)	mg/L	<0.0002	<0.0002	<0.0001	<0.0001
Nickel (Total)	mg/L	0.448	0.518	0.417	0.478
Selenium (Total)	mg/L	0.00122	0.00099	<0.00735	<0.00735
Thallium (Total)	mg/L	0.00165	0.00381	<0.00431	<0.00431
Uranium (Dissolved)	mg/L	NA	NA	NA	NA
Uranium (Total)	mg/L	0.180	0.121	0.131	0.119
Vanadium (Total)	mg/L	<0.02	<0.10	<0.00499	<0.00499
Zinc (Total)	mg/L	0.477	0.712	0.462	0.540
Radionuclides					
Gross Alpha (Dissolved)	pCi/L	250 (± 11.7)	216 (± 14.8)	210 (± 10.6)	180 (± 9.35)
Adjusted Gross Alpha (Total)	pCi/L	80.4	91	60.6	72.8
Radium 226 (Dissolved)	pCi/L	14.6 (± 1.63)	NA	NA	NA
Radium 226 (Total)	pCi/L	NA	13.7 (± 1.41)	12.7 (± 1.19)	6.95 (± 1.52)
Radium 228 (Dissolved)	pCi/L	2.28 (± 0.356)	NA	NA	NA
Radium 228 (Total)	pCi/L	NA	0.702 (± 0.231)	0.0849 (± 0.226)	0.880 (± 0.366)
Uranium 234 (Dissolved)	pCi/L	114 (± 4.28)	NA	NA	NA
Uranium 234 (Total)	pCi/L	NA	80.4 (± 3.65)	101 (± 3.35)	73.1 (± 2.44)
Uranium 235 (Dissolved)	pCi/L	7.00 (±1.06)	NA	NA	NA
Uranium 235 (Total)	pCi/L	NA	4.96 (± 0.922)	6.51 (± 0.853)	3.03 (± 0.533)
Uranium 238 (Dissolved)	pCi/L	56.1 (±2.99)	NA	NA	NA
Uranium 238 (Total)	pCi/L	NA	38.6 (± 2.53)	48.4 (±2.31)	34.0 (± 1.65)
Major Ions					
Alkalinity (Total)	mg/L	187	166	NA**	NA**
Calcium	mg/L	105.0	111.0	107.0	124
Fluoride	mg/L	0.23	0.24	0.212	0.341
Magnesium	mg/L	61.1	61.3	60.3	65.3
Potassium	mg/L	6.12	6.48	5.92	7.62
Sodium	mg/L	27.3	25.0	30.3	28.2
Sulfate	mg/L	312	364	419	395
Physical Properties					
Conductivity	umhos/cm	1010	1070	897.5	7.49
pH (field)	S.U.	7.88	7.67	7.86	869.9
TDS	mg/L	720	749	733	787

< - Indicates that the analyte was not dectected above the reporting limit.
( ) - Indicates the error term for the radiological result.

J - Analyte concentration detected at a value between the MDL and PQL. The associated value is an estimated quantity.
NA - Not Analyzed
** New lab reported as Carbonate Alkalinity

*Pursuant to negotiations with ADEQ regarding the individual APP, EFRI agreed to begin implementing the new sampling requirements for the sump prior to the final approval and issuance of the individual APP Permit. These samples were analyzed as total recoverable pursuant to that agreement.

Table 3

Pinyon Plain Quarterly Groundwater Elevations

	MW-01		MW-02		MW-03	
Quarter	DTW (from Surface)	GW Elevation	DTW (from Surface)	GW Elevation	DTW (from Surface)	GW Elevation
Q1 2022	994.8	5514.741	988.35	5525.044	958.4	5543.63
Q2 2022	984.8	5524.741	996.5	5516.894	957.8	5544.23
Q3 2022	994.7	5514.841	989	5524.394	955.5	5546.53
Q4 2022	1002	5507.541	990.2	5523.194	955.2	5546.83

Pinyon Plain Monitor Well Elevation (ft.)

MW-01	MW-02	MW-03
6509.541	6513.394	6502.03

Table 4

Pinyon Plain Mine Groundwater Quality Sample Summary

This section has been deliberately left blank. At this time, EFRI is still obtaining ten rounds of ambient groundwater testing pursuant to Section 2.5.3.2. of the APP.

ATTACHMENT 1

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

March 28, 2022

Report to:
Kathy Weinel
Energy Fuels Resources (USA) Inc.
225 Union Blvd. ,Suite 600
Lakewood, CO 80228

Bill to:
Accounts Payable
Energy Fuels Resources (USA) Inc.
225 Union Blvd. ,Suite 600
Lakewood, CO 80228

Project ID:
ACZ Project ID: L71799

Kathy Weinel:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on March 04, 2022. This project has been assigned to ACZ's project number, L71799. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L71799. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after April 27, 2022. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Max Janicek has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Energy Fuels Resources (USA) Inc.
Project ID:
Sample ID: SUMP-02282022

ACZ Sample ID: ***L71799-01***
Date Sampled: *02/28/22 11:10*
Date Received: *03/04/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Recoverable Digestion	M200.2 ICP				*				03/16/22 19:21	aeh
Total Recoverable Digestion	M200.2 ICP-MS								03/10/22 10:00	mfm

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total recoverable	M200.8 ICP-MS	1	0.00628			mg/L	0.0004	0.002	03/11/22 16:24	mfm
Arsenic, total recoverable	M200.8 ICP-MS	1	0.192			mg/L	0.0002	0.001	03/11/22 16:24	mfm
Barium, total recoverable	M200.7 ICP	2	0.0224	B		mg/L	0.014	0.07	03/21/22 13:37	jlw
Beryllium, total recoverable	M200.8 ICP-MS	1	<0.00008	U		mg/L	0.00008	0.00025	03/11/22 16:24	mfm
Cadmium, total recoverable	M200.8 ICP-MS	1	0.000438			mg/L	0.00005	0.00025	03/11/22 16:24	mfm
Calcium, total recoverable	M200.7 ICP	2	105			mg/L	0.2	1	03/21/22 13:37	jlw
Chromium, total recoverable	M200.7 ICP	2	<0.04	U		mg/L	0.04	0.1	03/21/22 13:37	jlw
Copper, total recoverable	M200.7 ICP	2	<0.02	U		mg/L	0.02	0.1	03/21/22 13:37	jlw
Iron, total recoverable	M200.7 ICP	2	0.967			mg/L	0.12	0.3	03/22/22 4:37	jlw
Lead, total recoverable	M200.8 ICP-MS	1	0.00147			mg/L	0.0001	0.0005	03/11/22 16:24	mfm
Magnesium, total recoverable	M200.7 ICP	2	61.1			mg/L	0.4	2	03/21/22 13:37	jlw
Manganese, total recoverable	M200.7 ICP	2	<0.02	U		mg/L	0.02	0.1	03/22/22 4:37	jlw
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	03/11/22 14:27	mlh
Nickel, total recoverable	M200.7 ICP	2	0.448			mg/L	0.016	0.08	03/21/22 13:37	jlw
Potassium, total recoverable	M200.7 ICP	2	6.12			mg/L	0.4	2	03/21/22 13:37	jlw
Selenium, total recoverable	M200.8 ICP-MS	1	0.00122			mg/L	0.0001	0.00025	03/11/22 16:24	mfm
Sodium, total recoverable	M200.7 ICP	2	27.3			mg/L	0.4	2	03/21/22 13:37	jlw
Thallium, total recoverable	M200.8 ICP-MS	1	0.00165			mg/L	0.0001	0.0005	03/11/22 16:24	mfm
Uranium, total recoverable	M200.8 ICP-MS	1	0.180			mg/L	0.0001	0.0005	03/11/22 16:24	mfm
Vanadium, total recoverable	M200.7 ICP	2	<0.02	U		mg/L	0.02	0.05	03/21/22 13:37	jlw
Zinc, total recoverable	M200.7 ICP	2	0.477			mg/L	0.04	0.1	03/21/22 13:37	jlw

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Inorganic Analytical Results

Energy Fuels Resources (USA) Inc.
Project ID:
Sample ID: SUMP-02282022

ACZ Sample ID: ***L71799-01***
Date Sampled: *02/28/22 11:10*
Date Received: *03/04/22*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	182			mg/L	2	20	03/09/22 0:00	jck
Carbonate as CaCO3		1	5.0	B		mg/L	2	20	03/09/22 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	03/09/22 0:00	jck
Total Alkalinity		1	187			mg/L	2	20	03/09/22 0:00	jck
Conductivity @25C	SM2510B	1	1010			umhos/cm	1	10	03/09/22 2:39	jck
Fluoride	SM4500F-C	1	0.23	B		mg/L	0.15	0.35	03/21/22 17:01	emk
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.281		*	mg/L	0.02	0.1	03/27/22 0:36	pjb
pH (lab)	SM4500H+ B									
pH		1	8.3	H		units	0.1	0.1	03/09/22 0:00	jck
pH measured at		1	21.7			C	0.1	0.1	03/09/22 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	1	720			mg/L	20	40	03/04/22 18:48	jck
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	25	312		*	mg/L	25	125	03/24/22 9:30	mjj1

Arizona license number: AZ0102

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:
https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf

EFRC ACZ Project ID: ***L71799***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537908													
WG537908PBW1	PBW	03/08/22 20:06				18.2	mg/L		-20	20			
WG537908LCSW3	LCSW	03/08/22 20:23	WC220223-1	820.0001		782.8	mg/L	95	90	110			
WG537908LCSW6	LCSW	03/08/22 22:49	WC220223-1	820.0001		815.6	mg/L	99	90	110			
WG537908PBW2	PBW	03/08/22 22:56				4.3	mg/L		-20	20			
WG537908LCSW9	LCSW	03/09/22 2:13	WC220223-1	820.0001		829.8	mg/L	101	90	110			
WG537908PBW3	PBW	03/09/22 2:20				4.6	mg/L		-20	20			
L71802-01DUP	DUP	03/09/22 4:03			114	127.7	mg/L				11	20	
WG537908LCSW12	LCSW	03/09/22 5:56	WC220223-1	820.0001		836.1	mg/L	102	90	110			
WG537908PBW4	PBW	03/09/22 6:03				3.9	mg/L		-20	20			
WG537908LCSW15	LCSW	03/09/22 9:27	WC220223-1	820.0001		844.8	mg/L	103	90	110			

Antimony, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG538164													
WG538164ICV	ICV	03/11/22 15:45	MS220125-1	.0201		.01982	mg/L	99	90	110			
WG538164ICB	ICB	03/11/22 15:46				.00056	mg/L		-0.0012	0.0012			
WG538022LRB	LRB	03/11/22 15:48				U	mg/L		-0.00088	0.00088			
WG538022LFB	LFB	03/11/22 15:50	MS220228-9	.01		.01144	mg/L	114	85	115			
L71816-01LFM	LFM	03/11/22 16:33	MS220228-9	.01	U	.01187	mg/L	119	70	130			
L71816-01LFMD	LFMD	03/11/22 16:35	MS220228-9	.01	U	.01177	mg/L	118	70	130	1	20	

Arsenic, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG538164													
WG538164ICV	ICV	03/11/22 15:45	MS220125-1	.05		.05036	mg/L	101	90	110			
WG538164ICB	ICB	03/11/22 15:46				U	mg/L		-0.0006	0.0006			
WG538022LRB	LRB	03/11/22 15:48				U	mg/L		-0.00044	0.00044			
WG538022LFB	LFB	03/11/22 15:50	MS220228-9	.05005		.0497	mg/L	99	85	115			
L71816-01LFM	LFM	03/11/22 16:33	MS220228-9	.05005	.00051	.05193	mg/L	103	70	130			
L71816-01LFMD	LFMD	03/11/22 16:35	MS220228-9	.05005	.00051	.05176	mg/L	102	70	130	0	20	

Barium, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG538609													
WG538609ICV	ICV	03/21/22 12:05	II220311-1	2		1.997	mg/L	100	95	105			
WG538609ICB	ICB	03/21/22 12:11				U	mg/L		-0.021	0.021			
WG538372LRB	LRB	03/21/22 12:23				U	mg/L		-0.0154	0.0154			
WG538372LFB	LFB	03/21/22 12:26	II220314-2	.5		.4916	mg/L	98	85	115			
L71799-01LFM	LFM	03/21/22 13:40	II2XWATER	1.003	.0224	1.0046	mg/L	98	70	130			
L71799-01LFMD	LFMD	03/21/22 13:43	II2XWATER	1.003	.0224	1.003	mg/L	98	70	130	0	20	

EFRC ACZ Project ID: ***L71799***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Beryllium, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG538164													
WG538164ICV	ICV	03/11/22 15:45	MS220125-1	.05		.050341	mg/L	101	90	110			
WG538164ICB	ICB	03/11/22 15:46				U	mg/L		-0.00024	0.00024			
WG538022LRB	LRB	03/11/22 15:48				U	mg/L		-0.000176	0.000176			
WG538022LFB	LFB	03/11/22 15:50	MS220228-9	.05005		.048565	mg/L	97	85	115			
L71816-01LFM	LFM	03/11/22 16:33	MS220228-9	.05005	U	.050581	mg/L	101	70	130			
L71816-01LFMD	LFMD	03/11/22 16:35	MS220228-9	.05005	U	.049172	mg/L	98	70	130	3	20	

Cadmium, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG538164													
WG538164ICV	ICV	03/11/22 15:45	MS220125-1	.05		.050256	mg/L	101	90	110			
WG538164ICB	ICB	03/11/22 15:46				U	mg/L		-0.00015	0.00015			
WG538022LRB	LRB	03/11/22 15:48				U	mg/L		-0.00011	0.00011			
WG538022LFB	LFB	03/11/22 15:50	MS220228-9	.05005		.049185	mg/L	98	85	115			
L71816-01LFM	LFM	03/11/22 16:33	MS220228-9	.05005	U	.048159	mg/L	96	70	130			
L71816-01LFMD	LFMD	03/11/22 16:35	MS220228-9	.05005	U	.047857	mg/L	96	70	130	1	20	

Calcium, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG538609													
WG538609ICV	ICV	03/21/22 12:05	II220311-1	100		99.85	mg/L	100	95	105			
WG538609ICB	ICB	03/21/22 12:11				U	mg/L		-0.3	0.3			
WG538372LRB	LRB	03/21/22 12:23				U	mg/L		-0.22	0.22			
WG538372LFB	LFB	03/21/22 12:26	II220314-2	67.99026		63.36	mg/L	93	85	115			
L71799-01LFM	LFM	03/21/22 13:40	II2XWATER	136.0667	105	229.8	mg/L	92	70	130			
L71799-01LFMD	LFMD	03/21/22 13:43	II2XWATER	136.0667	105	231.6	mg/L	93	70	130	1	20	

Chromium, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG538609													
WG538609ICV	ICV	03/21/22 12:05	II220311-1	2		1.96	mg/L	98	95	105			
WG538609ICB	ICB	03/21/22 12:11				U	mg/L		-0.06	0.06			
WG538372LRB	LRB	03/21/22 12:23				U	mg/L		-0.044	0.044			
WG538372LFB	LFB	03/21/22 12:26	II220314-2	.5005		.504	mg/L	101	85	115			
L71799-01LFM	LFM	03/21/22 13:40	II2XWATER	.996	U	.99	mg/L	99	70	130			
L71799-01LFMD	LFMD	03/21/22 13:43	II2XWATER	.996	U	.992	mg/L	100	70	130	0	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537908													
WG537908LCSW2	LCSW	03/08/22 20:12	PCN65017	1408		1379	umhos/cm	98	90	110			
WG537908LCSW5	LCSW	03/08/22 22:37	PCN65017	1408		1377	umhos/cm	98	90	110			
WG537908LCSW8	LCSW	03/09/22 2:00	PCN65017	1408		1365	umhos/cm	97	90	110			
L71802-01DUP	DUP	03/09/22 4:03			307	308	umhos/cm				0	20	
WG537908LCSW11	LCSW	03/09/22 5:43	PCN65017	1408		1361	umhos/cm	97	90	110			
WG537908LCSW14	LCSW	03/09/22 9:14	PCN65017	1408		1350	umhos/cm	96	90	110			

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Copper, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG538609													
WG538609ICV	ICV	03/21/22 12:05	II220311-1	2		2.018	mg/L	101	95	105			
WG538609ICB	ICB	03/21/22 12:11				U	mg/L		-0.03	0.03			
WG538372LRB	LRB	03/21/22 12:23				U	mg/L		-0.022	0.022			
WG538372LFB	LFB	03/21/22 12:26	II220314-2	.5		.488	mg/L	98	85	115			
L71799-01LFM	LFM	03/21/22 13:40	II2XWATER	1	U	.985	mg/L	99	70	130			
L71799-01LFMD	LFMD	03/21/22 13:43	II2XWATER	1	U	.981	mg/L	98	70	130	0	20	

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG538615													
WG538615ICV	ICV	03/21/22 11:12	WC220314-1	2.008		1.98	mg/L	99	90	110			
WG538615ICB	ICB	03/21/22 11:20				U	mg/L		-0.3	0.3			
WG538654													
WG538654ICV	ICV	03/21/22 15:43	WC220314-1	2.008		2.01	mg/L	100	90	110			
WG538654ICB	ICB	03/21/22 15:51				U	mg/L		-0.3	0.3			
WG538654LFB1	LFB	03/21/22 16:03	WC220104-2	5.02		5.32	mg/L	106	90	110			
L71750-06AS	AS	03/21/22 16:29	WC220104-2	5.02	.31	5.48	mg/L	103	90	110			
L71750-06ASD	ASD	03/21/22 16:37	WC220104-2	5.02	.31	5.58	mg/L	105	90	110	2	20	
WG538654LFB2	LFB	03/21/22 19:45	WC220104-2	5.02		5.25	mg/L	105	90	110			

Iron, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG538659													
WG538659ICV	ICV	03/22/22 3:41	II220311-1	2		1.938	mg/L	97	95	105			
WG538659ICB	ICB	03/22/22 3:47				U	mg/L		-0.18	0.18			
WG538372LRB	LRB	03/22/22 4:00				U	mg/L		-0.132	0.132			
WG538372LFB	LFB	03/22/22 4:03	II220314-2	1.0001		.957	mg/L	96	85	115			
L71799-01LFM	LFM	03/22/22 4:40	II2XWATER	2.0022	.967	2.97	mg/L	100	70	130			
L71799-01LFMD	LFMD	03/22/22 4:43	II2XWATER	2.0022	.967	2.982	mg/L	101	70	130	0	20	

Lead, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG538164													
WG538164ICV	ICV	03/11/22 15:45	MS220125-1	.05		.05054	mg/L	101	90	110			
WG538164ICB	ICB	03/11/22 15:46				U	mg/L		-0.0003	0.0003			
WG538022LRB	LRB	03/11/22 15:48				U	mg/L		-0.00022	0.00022			
WG538022LFB	LFB	03/11/22 15:50	MS220228-9	.0501		.04937	mg/L	99	85	115			
L71816-01LFM	LFM	03/11/22 16:33	MS220228-9	.0501	.00013	.05061	mg/L	101	70	130			
L71816-01LFMD	LFMD	03/11/22 16:35	MS220228-9	.0501	.00013	.0502	mg/L	100	70	130	1	20	

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NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Magnesium, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG538609													
WG538609ICV	ICV	03/21/22 12:05	II220311-1	100		95.68	mg/L	96	95	105			
WG538609ICB	ICB	03/21/22 12:11				U	mg/L		-0.6	0.6			
WG538372LRB	LRB	03/21/22 12:23				U	mg/L		-0.44	0.44			
WG538372LFB	LFB	03/21/22 12:26	II220314-2	49.99828		47.94	mg/L	96	85	115			
L71799-01LFM	LFM	03/21/22 13:40	II2XWATER	100.1149	61.1	155.34	mg/L	94	70	130			
L71799-01LFMD	LFMD	03/21/22 13:43	II2XWATER	100.1149	61.1	156.04	mg/L	95	70	130	0	20	

Manganese, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG538659													
WG538659ICV	ICV	03/22/22 3:41	II220311-1	2		1.941	mg/L	97	95	105			
WG538659ICB	ICB	03/22/22 3:47				U	mg/L		-0.03	0.03			
WG538372LRB	LRB	03/22/22 4:00				U	mg/L		-0.022	0.022			
WG538372LFB	LFB	03/22/22 4:03	II220314-2	.499		.486	mg/L	97	85	115			
L71799-01LFM	LFM	03/22/22 4:40	II2XWATER	1	U	1.001	mg/L	100	70	130			
L71799-01LFMD	LFMD	03/22/22 4:43	II2XWATER	1	U	1.003	mg/L	100	70	130	0	20	

Mercury, total M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG538090													
WG538090ICV	ICV	03/11/22 12:33	HG220301-3	.00501		.00503	mg/L	100	90	110			
WG538090ICB	ICB	03/11/22 12:34				U	mg/L		-0.0006	0.0006			
WG538093													
WG538093LRB	LRB	03/11/22 14:17				U	mg/L		-0.00044	0.00044			
WG538093LFB	LFB	03/11/22 14:18	HG220301-6	.002002		.00197	mg/L	98	85	115			
L71799-01LFM	LFM	03/11/22 14:28	HG220301-6	.002002	U	.00197	mg/L	98	85	115			
L71799-01LFMD	LFMD	03/11/22 14:29	HG220301-6	.002002	U	.00193	mg/L	96	85	115	2	20	

Nickel, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG538609													
WG538609ICV	ICV	03/21/22 12:05	II220311-1	2		1.9678	mg/L	98	95	105			
WG538609ICB	ICB	03/21/22 12:11				U	mg/L		-0.024	0.024			
WG538372LRB	LRB	03/21/22 12:23				U	mg/L		-0.0176	0.0176			
WG538372LFB	LFB	03/21/22 12:26	II220314-2	.5005		.4989	mg/L	100	85	115			
L71799-01LFM	LFM	03/21/22 13:40	II2XWATER	.999	.448	1.4226	mg/L	98	70	130			
L71799-01LFMD	LFMD	03/21/22 13:43	II2XWATER	.999	.448	1.4166	mg/L	97	70	130	0	20	

EFRC ACZ Project ID: ***L71799***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG539062													
WG539062ICV	ICV	03/26/22 19:51	WI220301-7	2.4161		2.302	mg/L	95	90	110			
WG539062ICB	ICB	03/26/22 19:52				U	mg/L		-0.02	0.02			
WG539067													
WG539067LFB1	LFB	03/27/22 0:35	WI211001-5	2		2.052	mg/L	103	90	110			
L71799-01AS	AS	03/27/22 0:37	WI211001-5	2	.281	2.415	mg/L	107	90	110			
L71800-01DUP	DUP	03/27/22 0:40			U	U	mg/L				0	20	RA
WG539067LFB2	LFB	03/27/22 1:15	WI211001-5	2		2.07	mg/L	104	90	110			

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537908													
WG537908LCSW1	LCSW	03/08/22 20:10	PCN64057	6		6.1	units	102	5.9	6.1			
WG537908LCSW4	LCSW	03/08/22 22:35	PCN64057	6		6.1	units	102	5.9	6.1			
WG537908LCSW7	LCSW	03/09/22 1:59	PCN64057	6		6.1	units	102	5.9	6.1			
L71802-01DUP	DUP	03/09/22 4:03			8.3	8.3	units				0	20	
WG537908LCSW10	LCSW	03/09/22 5:42	PCN64057	6		6.1	units	102	5.9	6.1			
WG537908LCSW13	LCSW	03/09/22 9:12	PCN64057	6		6.1	units	102	5.9	6.1			

Potassium, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG538609													
WG538609ICV	ICV	03/21/22 12:05	II220311-1	20		19.67	mg/L	98	95	105			
WG538609ICB	ICB	03/21/22 12:11				U	mg/L		-0.6	0.6			
WG538372LRB	LRB	03/21/22 12:23				U	mg/L		-0.44	0.44			
WG538372LFB	LFB	03/21/22 12:26	II220314-2	99.95169		97.99	mg/L	98	85	115			
L71799-01LFM	LFM	03/21/22 13:40	II2XWATER	200.0188	6.12	201.8	mg/L	98	70	130			
L71799-01LFMD	LFMD	03/21/22 13:43	II2XWATER	200.0188	6.12	202.2	mg/L	98	70	130	0	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537752													
WG537752PBW	PBW	03/04/22 18:25				U	mg/L		-20	20			
WG537752LCSW	LCSW	03/04/22 18:27	PCN64711	1000		986	mg/L	99	80	120			
L71801-02DUP	DUP	03/04/22 18:56			518	518	mg/L				0	10	

Selenium, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG538164													
WG538164ICV	ICV	03/11/22 15:45	MS220125-1	.05		.04937	mg/L	99	90	110			
WG538164ICB	ICB	03/11/22 15:46				U	mg/L		-0.0003	0.0003			
WG538022LRB	LRB	03/11/22 15:48				U	mg/L		-0.00022	0.00022			
WG538022LFB	LFB	03/11/22 15:50	MS220228-9	.05		.04863	mg/L	97	85	115			
L71816-01LFM	LFM	03/11/22 16:33	MS220228-9	.05	.00029	.04747	mg/L	94	70	130			
L71816-01LFMD	LFMD	03/11/22 16:35	MS220228-9	.05	.00029	.04722	mg/L	94	70	130	1	20	

EFRC ACZ Project ID: ***L71799***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Sodium, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG538609													
WG538609ICV	ICV	03/21/22 12:05	II220311-1	100		99.33	mg/L	99	95	105			
WG538609ICB	ICB	03/21/22 12:11				U	mg/L		-0.6	0.6			
WG538372LRB	LRB	03/21/22 12:23				U	mg/L		-0.44	0.44			
WG538372LFB	LFB	03/21/22 12:26	II220314-2	100.0039		98.42	mg/L	98	85	115			
L71799-01LFM	LFM	03/21/22 13:40	II2XWATER	200.0124	27.3	223.4	mg/L	98	70	130			
L71799-01LFMD	LFMD	03/21/22 13:43	II2XWATER	200.0124	27.3	224	mg/L	98	70	130	0	20	

Sulfate D516-02/-07/-11 - TURBIDIMETRIC

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG538879													
WG538879ICB	ICB	03/24/22 8:36				U	mg/L		-3	3			
WG538879ICV	ICV	03/24/22 8:36	WI220316-7	20.46		20.3	mg/L	99	90	110			
WG538879LFB	LFB	03/24/22 9:01	WI211230-5	9.95		10	mg/L	101	90	110			
L71772-02AS	AS	03/24/22 9:20	SO4TURB25X	50	3750	3738.1	mg/L	-24	90	110			M3
L71771-02DUP	DUP	03/24/22 9:30			1570	1549.4	mg/L				1	20	

Thallium, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG538164													
WG538164ICV	ICV	03/11/22 15:45	MS220125-1	.05		.0514	mg/L	103	90	110			
WG538164ICB	ICB	03/11/22 15:46				U	mg/L		-0.0003	0.0003			
WG538022LRB	LRB	03/11/22 15:48				U	mg/L		-0.00022	0.00022			
WG538022LFB	LFB	03/11/22 15:50	MS220228-9	.05		.04848	mg/L	97	85	115			
L71816-01LFM	LFM	03/11/22 16:33	MS220228-9	.05	U	.04968	mg/L	99	70	130			
L71816-01LFMD	LFMD	03/11/22 16:35	MS220228-9	.05	U	.04861	mg/L	97	70	130	2	20	

Uranium, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG538164													
WG538164ICV	ICV	03/11/22 15:45	MS220125-1	.05		.05075	mg/L	102	90	110			
WG538164ICB	ICB	03/11/22 15:46				U	mg/L		-0.0003	0.0003			
WG538022LRB	LRB	03/11/22 15:48				U	mg/L		-0.00022	0.00022			
WG538022LFB	LFB	03/11/22 15:50	MS220228-9	.05		.04871	mg/L	97	85	115			
L71816-01LFM	LFM	03/11/22 16:33	MS220228-9	.05	U	.053	mg/L	106	70	130			
L71816-01LFMD	LFMD	03/11/22 16:35	MS220228-9	.05	U	.0528	mg/L	106	70	130	0	20	

Vanadium, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG538609													
WG538609ICV	ICV	03/21/22 12:05	II220311-1	2		1.975	mg/L	99	95	105			
WG538609ICB	ICB	03/21/22 12:11				U	mg/L		-0.015	0.015			
WG538372LRB	LRB	03/21/22 12:23				U	mg/L		-0.022	0.022			
WG538372LFB	LFB	03/21/22 12:26	II220314-2	.5005		.5045	mg/L	101	85	115			
L71799-01LFM	LFM	03/21/22 13:40	II2XWATER	.997	U	.9936	mg/L	100	70	130			
L71799-01LFMD	LFMD	03/21/22 13:43	II2XWATER	.997	U	.989	mg/L	99	70	130	0	20	

EFRC ACZ Project ID: ***L71799***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Zinc, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG538609													
WG538609ICV	ICV	03/21/22 12:05	II220311-1	2		1.89	mg/L	95	95	105			
WG538609ICB	ICB	03/21/22 12:11				U	mg/L		-0.06	0.06			
WG538372LRB	LRB	03/21/22 12:23				U	mg/L		-0.044	0.044			
WG538372LFB	LFB	03/21/22 12:26	II220314-2	.50045		.5	mg/L	100	85	115			
L71799-01LFM	LFM	03/21/22 13:40	II2XWATER	.9884	.477	1.426	mg/L	96	70	130			
L71799-01LFMD	LFMD	03/21/22 13:43	II2XWATER	.9884	.477	1.437	mg/L	97	70	130	1	20	

Inorganic Extended Qualifier Report

Energy Fuels Resources (USA) Inc.

ACZ Project ID: ***L71799***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L71799-01	WG539067	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG538879	Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG538372	Total Recoverable Digestion	M200.2 ICP	DJ	Sample dilution required due to insufficient sample.

Certification Qualifiers

Energy Fuels Resources (USA) Inc.

ACZ Project ID: ***L71799***

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Energy Fuels Resources (USA) Inc.

ACZ Project ID: L71799
Date Received: 03/04/2022 09:20
Received By:
Date Printed: 3/7/2022

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?		X	
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

NA indicates Not Applicable

Chain of Custody Related Remarks

The 'Relinquished By' field on the COC was not completed. The project manager is contacting the client.

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
3455	2.2	<=6.0	15	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Energy Fuels Resources (USA) Inc.

ACZ Project ID:	L71799
Date Received:	03/04/2022 09:20
Received By:	
Date Printed:	3/7/2022

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L71799

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Kathy Weinel
Company: Energy Fuels
E-mail: kweinel@energyfuels.com
Address: 225 Union Blvd. Suite 600
Lakewood, Co 80228
Telephone: 303-389-4134

Copy of Report to:

Name:
Company:
E-mail:
Telephone:

Invoice to:

Name: Kathy Weinel
Company: Energy Fuels
E-mail: kweinel@energyfuels.com
Address: 225 Union Blvd, Suite 600
Lakewood, Co 80228
Telephone: 303-389-4134

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Matt Germansen **Sampler's Site Information** State AZ Zip code_____ Time Zone_____

***Sampler's Signature:** *I attest to the authenticity and validity of this sample. I understand that intentionally mislabeling the time/date/location or tampering with the sample in anyway, is considered fraud and punishable by State Law.*

PROJECT INFORMATION

Quote #: PP-Sump-IND APP
PO#:
Reporting state for compliance testing:
Check box if samples include NRC licensed material?

ANALYSES REQUESTED (attach list or use quote number)

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	See Quote
Sump-02282022	3/28/22: 1110	WW	4	See Quote

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

See Quote, Normal TaT, No Rad.

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
			3/28/22 3:40

L71799 Chain of Custod

ANALYTICAL REPORT

April 01, 2022

Energy Fuels Resources

Sample Delivery Group:	L1469322
Samples Received:	03/09/2022
Project Number:	PINYAN PLAIN GW
Description:	Pinyon Plane RAD
Site:	PINYAN PLAIN
Report To:	Kathy Weinel 225 Union Blvd Suite 600 Lakewood, CO 80228

Entire Report Reviewed By:

Donna Eidson
Project Manager

TABLE OF CONTENTS

SAMPLE SUMMARY

SUMP-02282022 L1469322-01 Non-Potable Water

Collected by: Matt Germansen | Collected date/time: 02/28/22 11:10 | Received date/time: 03/09/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG1832125	1	03/17/22 08:21	03/18/22 16:42	JMR	Mt. Juliet, TN
Radiochemistry by Method 903.0/9315	WG1831806	1	03/14/22 14:16	03/17/22 01:42	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1831875	1	03/15/22 14:08	03/29/22 15:05	JMR	Mt. Juliet, TN
Radiochemistry by Method D3972 U-02	WG1830482	1	03/10/22 14:38	03/18/22 09:45	RGT	Mt. Juliet, TN

PREWTP-02282022 L1469322-02 Non-Potable Water

Collected by: Matt Germansen | Collected date/time: 02/28/22 13:10 | Received date/time: 03/09/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG1832125	1	03/17/22 08:21	03/18/22 16:42	JMR	Mt. Juliet, TN
Radiochemistry by Method 903.0/9315	WG1831806	1	03/14/22 14:16	03/17/22 02:42	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1831875	1	03/15/22 14:08	03/29/22 15:05	JMR	Mt. Juliet, TN
Radiochemistry by Method D3972 U-02	WG1830482	1	03/10/22 14:38	03/15/22 18:20	RGT	Mt. Juliet, TN

POSTWTP-02282022 L1469322-03 Non-Potable Water

Collected by: Matt Germansen | Collected date/time: 02/28/22 13:55 | Received date/time: 03/09/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG1832125	1	03/17/22 08:21	03/18/22 16:42	JMR	Mt. Juliet, TN
Radiochemistry by Method 903.0/9315	WG1831806	1	03/14/22 14:16	03/17/22 02:42	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1831875	1	03/15/22 14:08	03/29/22 15:05	JMR	Mt. Juliet, TN
Radiochemistry by Method D3972 U-02	WG1830482	1	03/10/22 14:38	03/15/22 18:20	RGT	Mt. Juliet, TN

MW01-03032022 L1469322-04 Non-Potable Water

Collected by: Matt Germansen | Collected date/time: 03/03/22 11:37 | Received date/time: 03/09/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG1832125	1	03/17/22 08:21	03/21/22 11:44	JMR	Mt. Juliet, TN
Radiochemistry by Method 903.0/9315	WG1831806	1	03/14/22 14:16	03/17/22 02:42	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1831875	1	03/15/22 14:08	03/29/22 15:05	JMR	Mt. Juliet, TN
Radiochemistry by Method D3972 U-02	WG1830482	1	03/10/22 14:38	03/15/22 18:20	RGT	Mt. Juliet, TN

MW01-03032022 DUP L1469322-05 Non-Potable Water

Collected by: Matt Germansen | Collected date/time: 03/03/22 11:37 | Received date/time: 03/09/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG1832125	1	03/17/22 08:21	03/21/22 11:44	JMR	Mt. Juliet, TN
Radiochemistry by Method 903.0/9315	WG1831806	1	03/14/22 14:16	03/17/22 02:42	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1831875	1	03/15/22 14:08	03/29/22 15:05	JMR	Mt. Juliet, TN
Radiochemistry by Method D3972 U-02	WG1830482	1	03/10/22 14:38	03/15/22 18:20	RGT	Mt. Juliet, TN

MW02-02282022 L1469322-06 Non-Potable Water

Collected by: Matt Germansen | Collected date/time: 02/28/22 11:58 | Received date/time: 03/09/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG1832125	1	03/17/22 08:21	03/21/22 11:44	JMR	Mt. Juliet, TN
Radiochemistry by Method 903.0/9315	WG1831806	1	03/14/22 14:16	03/17/22 03:42	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1831875	1	03/15/22 14:08	03/29/22 15:05	JMR	Mt. Juliet, TN
Radiochemistry by Method D3972 U-02	WG1830482	1	03/10/22 14:38	03/15/22 18:20	RGT	Mt. Juliet, TN

SAMPLE SUMMARY

MW03-03022022 L1469322-07 Non-Potable Water

Collected by: Matt Germansen
Collected date/time: 03/02/22 15:19
Received date/time: 03/09/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG1835656	1	03/21/22 10:27	03/22/22 11:40	JMR	Mt. Juliet, TN
Radiochemistry by Method 903.0/9315	WG1831806	1	03/14/22 14:16	03/17/22 03:42	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1831875	1	03/15/22 14:08	03/29/22 15:05	JMR	Mt. Juliet, TN
Radiochemistry by Method D3972 U-02	WG1830482	1	03/10/22 14:38	03/15/22 18:20	RGT	Mt. Juliet, TN

RW01-03012022 L1469322-08 Non-Potable Water

Collected by: Matt Germansen
Collected date/time: 03/01/22 15:45
Received date/time: 03/09/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG1835656	1	03/21/22 10:27	03/22/22 11:40	JMR	Mt. Juliet, TN
Radiochemistry by Method 903.0/9315	WG1831806	1	03/14/22 14:16	03/17/22 03:42	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1831875	1	03/15/22 14:08	03/28/22 13:25	JMR	Mt. Juliet, TN
Radiochemistry by Method D3972 U-02	WG1830482	1	03/10/22 14:38	03/15/22 18:20	RGT	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Donna Eidson
Project Manager

SUMP-02282022
Collected date/time: 02/28/22 11:10

SAMPLE RESULTS - 01
L1469322

Radiochemistry by Method 900

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
GROSS ALPHA	250		11.7	2.07	03/18/2022 16:42	WG1832125

Radiochemistry by Method 903.0/9315

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Radium-226	14.6		1.63	0.423	03/17/2022 01:42	WG1831806
(T) Barium	*93.4*			*30.0-143*	*03/17/2022 01:42*	WG1831806

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	2.28		0.356	0.623	03/29/2022 15:05	WG1831875
(T) Barium	*94.5*			*62.0-143*	*03/29/2022 15:05*	WG1831875
(T) Yttrium	*104*			*79.0-136*	*03/29/2022 15:05*	WG1831875

Radiochemistry by Method D3972 U-02

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
URANIUM-234	114		4.28	0.667	03/18/2022 09:45	WG1830482
URANIUM-235	7.00		1.06	0.299	03/18/2022 09:45	WG1830482
URANIUM-238	56.1		2.99	0.427	03/18/2022 09:45	WG1830482
(T) URANIUM-232	*75.6*			*30.0-110*	*03/18/2022 09:45*	WG1830482

WG1832125

Radiochemistry by Method 900

QUALITY CONTROL SUMMARY

L1469322-01,02,03,04,05,06

Method Blank (MB)

(MB) R3772711-1 03/18/22 16:42

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / -	MB MDA pCi/l
GROSS ALPHA	0.0542	U	0.361	0.571

L1471168-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1471168-01 03/21/22 11:45 • (DUP) R3772711-5 03/18/22 16:42

Analyte	Original Result pCi/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
GROSS ALPHA	1.95	0.878	0.911	1.59	0.872	0.911	1	20.4	0.292		20	3

Laboratory Control Sample (LCS)

(LCS) R3772711-2 03/18/22 16:42

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
GROSS ALPHA	15.0	14.6	97.3	80.0-120	

L1467820-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1467820-01 03/18/22 16:42 • (MS) R3772711-3 03/18/22 16:42 • (MSD) R3772711-4 03/18/22 16:42

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
GROSS ALPHA	30.0	3.07	32.6	35.5	98.5	108	1	70.0-130			8.37		20

WG1835656

Radiochemistry by Method 900

QUALITY CONTROL SUMMARY

L1469322-07,08

Method Blank (MB)

(MB) R3773046-1 03/22/22 11:39

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty +/- pCi/l	MB MDA pCi/l
GROSS ALPHA	-0.0943	U	0.312	0.552

L1470052-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1470052-02 03/22/22 11:40 • (DUP) R3773046-5 03/22/22 11:39

Analyte	Original Result pCi/l	Original Uncertainty +/- pCi/l	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty +/- pCi/l	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
GROSS ALPHA	2.14	0.940	0.959	1.87	0.941	0.959	1	13.4	0.202		20	3

Laboratory Control Sample (LCS)

(LCS) R3773046-2 03/22/22 11:39

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
GROSS ALPHA	15.0	15.5	103	80.0-120	

L1470052-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1470052-01 03/22/22 11:40 • (MS) R3773046-3 03/22/22 11:39 • (MSD) R3773046-4 03/22/22 11:39

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
GROSS ALPHA	18.8	8.77	25.0	26.7	86.2	95.5	1	70.0-130			6.77		20

WG1831806

Radiochemistry by Method 903.0/9315

QUALITY CONTROL SUMMARY

L1469322-01,02,03,04,05,06,07,08

Method Blank (MB)

(MB) R3771273-1 03/17/22 00:41

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty +/- pCi/l	MB MDA pCi/l
Radium-226	-0.0235	U	0.103	0.239
(T) Barium	*92.9*		*92.9*	

L1470372-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1470372-01 03/17/22 03:42 • (DUP) R3771273-4 03/17/22 01:42

Analyte	Original Result pCi/l	Original Uncertainty +/- pCi/l	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty +/- pCi/l	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.170	0.263	0.369	0.370	0.444	0.369	1	74.2	0.388	J	20	3
(T) Barium	*107*			*94.8*	*94.8*							

Laboratory Control Sample (LCS)

(LCS) R3771273-2 03/17/22 01:42

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.01	4.41	88.0	80.0-120	
(T) Barium			*91.8*		

L1469322-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1469322-01 03/17/22 01:42 • (MS) R3771273-3 03/17/22 01:42

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Radium-226	20.0	14.6	35.6	105	1	75.0-125	
(T) Barium		*93.4*		*94.3*			

WG1831875

Radiochemistry by Method 904/9320

QUALITY CONTROL SUMMARY

L1469322-01,02,03,04,05,06,07,08

Method Blank (MB)

(MB) R3776700-1 03/29/22 15:05

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
Radium-228	0.0957	U	0.227	0.450
(T) Barium	*104*		*104*	
(T) Yttrium	*104*		*104*	

L1469322-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1469322-01 03/29/22 15:05 • (DUP) R3776700-5 03/29/22 15:05

Analyte	Original Result pCi/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	2.28	0.356	0.623	0.927	0.846	0.623	1	84.4	1.47	J	20	3
(T) Barium	*94.5*			*104*	*104*							
(T) Yttrium	*104*			*98.2*	*98.2*							

Laboratory Control Sample (LCS)

(LCS) R3776700-2 03/29/22 15:05

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.43	109	80.0-120	
(T) Barium			*105*		
(T) Yttrium			*105*		

L1468811-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1468811-01 03/29/22 15:05 • (MS) R3776700-3 03/29/22 15:05 • (MSD) R3776700-4 03/29/22 15:05

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	16.7	0.629	18.2	18.9	105	109	1	70.0-130			4.05		20
(T) Barium		*99.1*			*104*	*111*							
(T) Yttrium		*92.6*			*99.9*	*96.8*							

WG1830482

Radiochemistry by Method D3972 U-02

QUALITY CONTROL SUMMARY

L1469322-01,02,03,04,05,06,07,08

Method Blank (MB)

(MB) R3771401-1 03/15/22 18:20

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / -	MB MDA pCi/l
URANIUM-234	0.0871	J	0.109	0.150
URANIUM-235	-0.00471	U	0.0523	0.101
URANIUM-238	0.000	U	0.0604	0.111
(T) URANIUM-232	*75.0*		*75.0*	

L1469322-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1469322-08 03/15/22 18:20 • (DUP) R3771401-4 03/15/22 18:20

Analyte	Original Result pCi/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
URANIUM-234	8.33	0.782	0.264	8.65	1.25	0.264	1	3.75	0.216		20	3
URANIUM-235	0.869	0.254	0.121	0.741	0.438	0.121	1	16.0	0.254		20	3
URANIUM-238	5.04	0.604	0.187	5.91	0.985	0.187	1	15.9	0.754		20	3
(T) URANIUM-232	*83.2*			*70.9*	*70.9*							

Laboratory Control Sample (LCS)

(LCS) R3771401-2 03/15/22 18:20

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
URANIUM-234	10.1	8.84	87.5	80.0-120	
URANIUM-238	9.80	9.10	92.8	80.0-120	
(T) URANIUM-232			*80.6*		

L1469322-07 Original Sample (OS) • Matrix Spike (MS)

(OS) L1469322-07 03/15/22 18:20 • (MS) R3771401-3 03/15/22 18:20

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
URANIUM-234	40.2	2.65	38.9	90.3	1	75.0-125	
URANIUM-238	39.2	1.54	40.7	99.8	1	75.0-125	
(T) URANIUM-232		*82.8*		*80.2*			

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Below Detectable Limits: Indicates that the analyte was not detected.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Company Name/Address:
Energy Fuels Resources

225 Union Blvd
Suite 600
Lakewood. CO 80228

Billing Information:
Accounts Payable
225 Union Blvd
Suite 600
Lakewood, CO 80228

Report to:
Kathy Weinel

Email To: KWeinel@energyfuels.com

Project Description:
Pinyon Plane RAD

City/State Collected: Tusayan, AZ

Please Circle: PT MT CT ET

Phone:
303-389-4134

Client Project #
PinyanPlain GW

Lab Project #

Collected by (print):
Matt Germansen

Site/Facility ID #
Pinyan Plain

P.O. #

Collected by (signature):
NO ICE

Immediately Packed on Ice N X Y ___

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #
00102880

Date Results Needed

Pace Analytical®
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgement and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1469322
Table A065
Acctnum: ENEFUELCO
Template: T199351
Prelogin: P894564
PM: 732 - Donna Eidson
PB: 12/16/21 VM
Shipped Via: FedEX Ground

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date *	Time *	No. of Cntrs	GROSS ALPHA,RA-226 1L-HDPE-Add HNO3	RA-228 1L-HDPE-Add HNO3	U-ISO 1L-HDPE-Add HNO3	Remarks	Sample # (lab only)
Sump-02282022		NPW		2/28/22	1110	3	X	X	X		-01
PreWTP-02282022		NPW		2/28/22	1310	3	X	X	X		-02
Post WTP-02282022		NPW		2/28/22	1355	3	X	X	X		-03
MW01-03032022		NPW		03/3/22	1137	3	X	X	X		-04
MW01-03032022 Dup		NPW		3/3/22	1137	3	X	X	X		-05
MW02-02282022		NPW		2/28/22	11:58	3	X	X	X		-06
MW03-03022022		NPW		3/2/22	15:19	3	X	X	X		-07
RW01-03012022		NPW		3/1/22	15:45	3	X	X	X		-08
		NPW				3	X	X	X		

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: No Ice Required

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	3/3/2022			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 8 °C Bottles Received: 24
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 3/9/22 Time: 0930

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

June 28, 2022

Report to:
Kathy Weinel
Energy Fuels Resources (USA) Inc.
225 Union Blvd. ,Suite 600
Lakewood, CO 80228

Bill to:
Accounts Payable
Energy Fuels Resources (USA) Inc.
225 Union Blvd. ,Suite 600
Lakewood, CO 80228

Project ID:
ACZ Project ID: L73533

Kathy Weinel:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on May 27, 2022. This project has been assigned to ACZ's project number, L73533. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L73533. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after July 28, 2022. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Max Janicek has reviewed and approved this report.

Energy Fuels Resources (USA) Inc.

June 28, 2022

Project ID:
ACZ Project ID: L73533

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 2 groundwater samples from Energy Fuels Resources (USA) Inc. on May 27, 2022. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L73533. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

Any analyses not performed within EPA recommended holding times have been qualified with an "H" flag.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition, the following has been noted with this specific project:

The below is from WG544659
Qualifier: H1
Applies to:
L73533-01/SULFATE
L73533-02/SULFATE

Sample analysis performed past holding time. Due to instrument troubleshooting and maintenance, samples were analyzed as soon as possible.

Energy Fuels Resources (USA) Inc.
Project ID:
Sample ID: SUMP-05242022

ACZ Sample ID: ***L73533-01***
Date Sampled: *05/24/22 13:15*
Date Received: *05/27/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Recoverable Digestion	M200.2 ICP								06/10/22 10:21	aeh
Total Recoverable Digestion	M200.2 ICP-MS								06/10/22 10:15	kja

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total recoverable	M200.8 ICP-MS	1	0.00347			mg/L	0.0004	0.002	06/14/22 11:17	kja
Arsenic, total recoverable	M200.8 ICP-MS	1	0.137			mg/L	0.0002	0.001	06/14/22 11:17	kja
Barium, total recoverable	M200.7 ICP	1	0.0251	B		mg/L	0.009	0.035	06/15/22 0:10	wtc
Beryllium, total recoverable	M200.8 ICP-MS	1	<0.00008	U		mg/L	0.00008	0.00025	06/14/22 11:17	kja
Cadmium, total recoverable	M200.8 ICP-MS	1	0.000806			mg/L	0.00005	0.00025	06/14/22 11:17	kja
Calcium, total recoverable	M200.7 ICP	1	111			mg/L	0.1	0.5	06/15/22 0:10	wtc
Chromium, total recoverable	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	06/15/22 0:10	wtc
Copper, total recoverable	M200.7 ICP	1	0.023	B		mg/L	0.01	0.05	06/15/22 0:10	wtc
Iron, total recoverable	M200.7 ICP	1	1.22			mg/L	0.06	0.15	06/15/22 0:10	wtc
Lead, total recoverable	M200.8 ICP-MS	1	0.00261			mg/L	0.0001	0.0005	06/14/22 11:17	kja
Magnesium, total recoverable	M200.7 ICP	1	61.3			mg/L	0.2	1	06/15/22 0:10	wtc
Manganese, total recoverable	M200.7 ICP	1	0.030	B		mg/L	0.01	0.05	06/15/22 0:10	wtc
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	06/01/22 14:05	mlh
Nickel, total recoverable	M200.7 ICP	1	0.518			mg/L	0.008	0.04	06/15/22 0:10	wtc
Potassium, total recoverable	M200.7 ICP	1	6.48			mg/L	0.2	1	06/15/22 0:10	wtc
Selenium, total recoverable	M200.8 ICP-MS	1	0.00099			mg/L	0.0001	0.00025	06/14/22 11:17	kja
Sodium, total recoverable	M200.7 ICP	1	25.0			mg/L	0.2	1	06/15/22 0:10	wtc
Thallium, total recoverable	M200.8 ICP-MS	1	0.00381			mg/L	0.0001	0.0005	06/14/22 11:17	kja
Uranium, total recoverable	M200.8 ICP-MS	1	0.121			mg/L	0.0001	0.0005	06/14/22 11:17	kja
Vanadium, total recoverable	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.025	06/15/22 0:10	wtc
Zinc, total recoverable	M200.7 ICP	1	0.712			mg/L	0.02	0.05	06/15/22 0:10	wtc

Energy Fuels Resources (USA) Inc.
Project ID:
Sample ID: SUMP-05242022

ACZ Sample ID: ***L73533-01***
Date Sampled: *05/24/22 13:15*
Date Received: *05/27/22*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	160			mg/L	2	20	06/01/22 0:00	jck
Carbonate as CaCO3		1	6.8	B		mg/L	2	20	06/01/22 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	06/01/22 0:00	jck
Total Alkalinity		1	166			mg/L	2	20	06/01/22 0:00	jck
Conductivity @25C	SM2510B	1	1070			umhos/cm	1	10	06/01/22 5:34	jck
Fluoride	SM4500F-C	1	0.24	B		mg/L	0.15	0.35	06/14/22 20:15	eep
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.243			mg/L	0.02	0.1	06/18/22 22:20	pjb
pH (lab)	SM4500H+ B									
pH		1	8.3	H		units	0.1	0.1	06/01/22 0:00	jck
pH measured at		1	21.5			C	0.1	0.1	06/01/22 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	1	748		*	mg/L	20	40	05/31/22 14:09	emk
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	25	364	H	*	mg/L	25	125	06/27/22 11:10	mjj1

Arizona license number: AZ0102

Energy Fuels Resources (USA) Inc.
Project ID:
Sample ID: SUMP DUP-05242022

ACZ Sample ID: ***L73533-02***
Date Sampled: *05/24/22 13:15*
Date Received: *05/27/22*
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Recoverable Digestion	M200.2 ICP-MS								06/10/22 10:28	kja
Total Recoverable Digestion	M200.2 ICP								06/10/22 10:35	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total recoverable	M200.8 ICP-MS	1	0.00347			mg/L	0.0004	0.002	06/14/22 11:19	kja
Arsenic, total recoverable	M200.8 ICP-MS	1	0.138			mg/L	0.0002	0.001	06/14/22 11:19	kja
Barium, total recoverable	M200.7 ICP	1	0.0248	B		mg/L	0.009	0.035	06/15/22 0:13	wtc
Beryllium, total recoverable	M200.8 ICP-MS	1	<0.00008	U		mg/L	0.00008	0.00025	06/14/22 11:19	kja
Cadmium, total recoverable	M200.8 ICP-MS	1	0.000752			mg/L	0.00005	0.00025	06/14/22 11:19	kja
Calcium, total recoverable	M200.7 ICP	1	112			mg/L	0.1	0.5	06/15/22 0:13	wtc
Chromium, total recoverable	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	06/15/22 0:13	wtc
Copper, total recoverable	M200.7 ICP	1	0.019	B		mg/L	0.01	0.05	06/15/22 0:13	wtc
Iron, total recoverable	M200.7 ICP	1	1.24			mg/L	0.06	0.15	06/15/22 0:13	wtc
Lead, total recoverable	M200.8 ICP-MS	1	0.00264			mg/L	0.0001	0.0005	06/14/22 11:19	kja
Magnesium, total recoverable	M200.7 ICP	1	61.7			mg/L	0.2	1	06/15/22 0:13	wtc
Manganese, total recoverable	M200.7 ICP	1	0.029	B		mg/L	0.01	0.05	06/15/22 0:13	wtc
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	06/01/22 14:06	mlh
Nickel, total recoverable	M200.7 ICP	1	0.523			mg/L	0.008	0.04	06/15/22 0:13	wtc
Potassium, total recoverable	M200.7 ICP	1	6.44			mg/L	0.2	1	06/15/22 0:13	wtc
Selenium, total recoverable	M200.8 ICP-MS	1	0.00101			mg/L	0.0001	0.00025	06/14/22 11:19	kja
Sodium, total recoverable	M200.7 ICP	1	25.3			mg/L	0.2	1	06/15/22 0:13	wtc
Thallium, total recoverable	M200.8 ICP-MS	1	0.00381			mg/L	0.0001	0.0005	06/14/22 11:19	kja
Uranium, total recoverable	M200.8 ICP-MS	1	0.124			mg/L	0.0001	0.0005	06/14/22 11:19	kja
Vanadium, total recoverable	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.025	06/15/22 0:13	wtc
Zinc, total recoverable	M200.7 ICP	1	0.736			mg/L	0.02	0.05	06/15/22 0:13	wtc

Energy Fuels Resources (USA) Inc.
Project ID:
Sample ID: SUMP DUP-05242022

ACZ Sample ID: ***L73533-02***
Date Sampled: *05/24/22 13:15*
Date Received: *05/27/22*
Sample Matrix: *Groundwater*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	160			mg/L	2	20	06/01/22 0:00	jck
Carbonate as CaCO3		1	7.1	B		mg/L	2	20	06/01/22 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	06/01/22 0:00	jck
Total Alkalinity		1	168			mg/L	2	20	06/01/22 0:00	jck
Conductivity @25C	SM2510B	1	1060			umhos/cm	1	10	06/01/22 5:44	jck
Fluoride	SM4500F-C	1	0.23	B		mg/L	0.15	0.35	06/14/22 20:20	eep
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.250			mg/L	0.02	0.1	06/18/22 22:03	pjb
pH (lab)	SM4500H+ B									
pH		1	8.3	H		units	0.1	0.1	06/01/22 0:00	jck
pH measured at		1	21.5			C	0.1	0.1	06/01/22 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	1	744		*	mg/L	20	40	05/31/22 14:10	emk
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	25	355	H	*	mg/L	25	125	06/27/22 11:10	mjj1

Arizona license number: AZ0102

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Reference

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

EFRC ACZ Project ID: ***L73533***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543272													
WG543272PBW1	PBW	05/31/22 18:40				6.4	mg/L		-20	20			
WG543272LCSW3	LCSW	05/31/22 18:56	WC220513-7	820.0001		777	mg/L	95	90	110			
WG543272LCSW6	LCSW	05/31/22 22:14	WC220513-7	820.0001		780.6	mg/L	95	90	110			
WG543272PBW2	PBW	05/31/22 22:20				6.5	mg/L		-20	20			
WG543272LCSW9	LCSW	06/01/22 1:14	WC220513-7	820.0001		801.9	mg/L	98	90	110			
WG543272PBW3	PBW	06/01/22 1:19				5.4	mg/L		-20	20			
WG543272LCSW12	LCSW	06/01/22 4:29	WC220513-7	820.0001		801.7	mg/L	98	90	110			
WG543272PBW4	PBW	06/01/22 4:35				4.9	mg/L		-20	20			
L73534-02DUP	DUP	06/01/22 6:09			66.6	64.4	mg/L				3	20	
WG543272LCSW15	LCSW	06/01/22 7:46	WC220513-7	820.0001		806.6	mg/L	98	90	110			

Antimony, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544270													
WG544270ICV	ICV	06/14/22 11:10	MS220502-1	.0201		.01883	mg/L	94	90	110			
WG544270ICB	ICB	06/14/22 11:12				U	mg/L		-0.0012	0.0012			
WG544049LRB	LRB	06/14/22 11:13				U	mg/L		-0.00088	0.00088			
WG544049LFB	LFB	06/14/22 11:15	MS220601-10	.01		.01072	mg/L	107	85	115			
L73635-01LFM	LFM	06/14/22 11:31	MS220601-10	.01	U	.01068	mg/L	107	70	130			
L73635-01LFMD	LFMD	06/14/22 11:33	MS220601-10	.01	U	.01082	mg/L	108	70	130	1	20	

Arsenic, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544270													
WG544270ICV	ICV	06/14/22 11:10	MS220502-1	.05		.05108	mg/L	102	90	110			
WG544270ICB	ICB	06/14/22 11:12				U	mg/L		-0.0006	0.0006			
WG544049LRB	LRB	06/14/22 11:13				U	mg/L		-0.00044	0.00044			
WG544049LFB	LFB	06/14/22 11:15	MS220601-10	.05005		.05204	mg/L	104	85	115			
L73635-01LFM	LFM	06/14/22 11:31	MS220601-10	.05005	.00067	.05083	mg/L	100	70	130			
L73635-01LFMD	LFMD	06/14/22 11:33	MS220601-10	.05005	.00067	.05082	mg/L	100	70	130	0	20	

Barium, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544325													
WG544325ICV	ICV	06/14/22 23:46	II220609-1	2		2.005	mg/L	100	95	105			
WG544325ICB	ICB	06/14/22 23:51				U	mg/L		-0.027	0.027			
WG544053LRB	LRB	06/15/22 0:04				U	mg/L		-0.0198	0.0198			
WG544053LFB	LFB	06/15/22 0:07	II220602-7	.5		.5071	mg/L	101	85	115			
L73534-01LFM	LFM	06/15/22 0:19	II220602-7	.5	.0519	.559	mg/L	101	70	130			
L73534-01LFMD	LFMD	06/15/22 0:22	II220602-7	.5	.0519	.55	mg/L	100	70	130	2	20	

EFRC ACZ Project ID: ***L73533***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Beryllium, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544270													
WG544270ICV	ICV	06/14/22 11:10	MS220502-1	.05		.050054	mg/L	100	90	110			
WG544270ICB	ICB	06/14/22 11:12				U	mg/L		-0.00024	0.00024			
WG544049LRB	LRB	06/14/22 11:13				U	mg/L		-0.000176	0.000176			
WG544049LFB	LFB	06/14/22 11:15	MS220601-10	.05005		.050155	mg/L	100	85	115			
L73635-01LFM	LFM	06/14/22 11:31	MS220601-10	.05005	U	.046318	mg/L	93	70	130			
L73635-01LFMD	LFMD	06/14/22 11:33	MS220601-10	.05005	U	.046875	mg/L	94	70	130	1	20	

Cadmium, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544270													
WG544270ICV	ICV	06/14/22 11:10	MS220502-1	.05		.05142	mg/L	103	90	110			
WG544270ICB	ICB	06/14/22 11:12				U	mg/L		-0.00015	0.00015			
WG544049LRB	LRB	06/14/22 11:13				U	mg/L		-0.00011	0.00011			
WG544049LFB	LFB	06/14/22 11:15	MS220601-10	.05005		.051108	mg/L	102	85	115			
L73635-01LFM	LFM	06/14/22 11:31	MS220601-10	.05005	U	.049002	mg/L	98	70	130			
L73635-01LFMD	LFMD	06/14/22 11:33	MS220601-10	.05005	U	.049452	mg/L	99	70	130	1	20	

Calcium, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544325													
WG544325ICV	ICV	06/14/22 23:46	II220609-1	100		99	mg/L	99	95	105			
WG544325ICB	ICB	06/14/22 23:51				U	mg/L		-0.3	0.3			
WG544053LRB	LRB	06/15/22 0:04				U	mg/L		-0.22	0.22			
WG544053LFB	LFB	06/15/22 0:07	II220602-7	67.9908		69.39	mg/L	102	85	115			
L73534-01LFM	LFM	06/15/22 0:19	II220602-7	67.9908	73.4	142.5	mg/L	102	70	130			
L73534-01LFMD	LFMD	06/15/22 0:22	II220602-7	67.9908	73.4	139.4	mg/L	97	70	130	2	20	

Chromium, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544325													
WG544325ICV	ICV	06/14/22 23:46	II220609-1	2		1.965	mg/L	98	95	105			
WG544325ICB	ICB	06/14/22 23:51				U	mg/L		-0.06	0.06			
WG544053LRB	LRB	06/15/22 0:04				U	mg/L		-0.044	0.044			
WG544053LFB	LFB	06/15/22 0:07	II220602-7	.501		.513	mg/L	102	85	115			
L73534-01LFM	LFM	06/15/22 0:19	II220602-7	.501	U	.499	mg/L	100	70	130			
L73534-01LFMD	LFMD	06/15/22 0:22	II220602-7	.501	U	.489	mg/L	98	70	130	2	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543272													
WG543272LCSW2	LCSW	05/31/22 18:46	PCN65454	1409		1458	umhos/cm	103	90	110			
WG543272LCSW5	LCSW	05/31/22 22:03	PCN65454	1409		1448	umhos/cm	103	90	110			
WG543272LCSW8	LCSW	06/01/22 1:01	PCN65454	1409		1448	umhos/cm	103	90	110			
WG543272LCSW11	LCSW	06/01/22 4:16	PCN65454	1409		1439	umhos/cm	102	90	110			
L73534-02DUP	DUP	06/01/22 6:09			958	955	umhos/cm				0	20	
WG543272LCSW14	LCSW	06/01/22 7:35	PCN65454	1409		1431	umhos/cm	102	90	110			

EFRC ACZ Project ID: ***L73533***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Copper, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544325													
WG544325ICV	ICV	06/14/22 23:46	II220609-1	2		1.978	mg/L	99	95	105			
WG544325ICB	ICB	06/14/22 23:51				U	mg/L		-0.03	0.03			
WG544053LRB	LRB	06/15/22 0:04				U	mg/L		-0.022	0.022			
WG544053LFB	LFB	06/15/22 0:07	II220602-7	.5		.499	mg/L	100	85	115			
L73534-01LFM	LFM	06/15/22 0:19	II220602-7	.5	U	.506	mg/L	101	70	130			
L73534-01LFMD	LFMD	06/15/22 0:22	II220602-7	.5	U	.495	mg/L	99	70	130	2	20	

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544304													
WG544304ICV	ICV	06/14/22 12:37	WC220608-1	2.008		2.06	mg/L	103	90	110			
WG544304ICB	ICB	06/14/22 12:44				U	mg/L		-0.3	0.3			
WG544332													
WG544332ICV	ICV	06/14/22 18:24	WC220608-1	2.008		1.95	mg/L	97	90	110			
WG544332ICB	ICB	06/14/22 18:30				U	mg/L		-0.3	0.3			
WG544332LFB	LFB	06/14/22 18:40	WC220606-1	5.02		5.15	mg/L	103	90	110			
L73550-02AS	AS	06/14/22 20:57	WC220606-1	5.02	.67	5.62	mg/L	99	90	110			
L73550-02ASD	ASD	06/14/22 21:02	WC220606-1	5.02	.67	5.67	mg/L	100	90	110	1	20	

Iron, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544325													
WG544325ICV	ICV	06/14/22 23:46	II220609-1	2		2.001	mg/L	100	95	105			
WG544325ICB	ICB	06/14/22 23:51				U	mg/L		-0.18	0.18			
WG544053LRB	LRB	06/15/22 0:04				U	mg/L		-0.132	0.132			
WG544053LFB	LFB	06/15/22 0:07	II220602-7	1.0013		1.044	mg/L	104	85	115			
L73534-01LFM	LFM	06/15/22 0:19	II220602-7	1.0013	.134	1.163	mg/L	103	70	130			
L73534-01LFMD	LFMD	06/15/22 0:22	II220602-7	1.0013	.134	1.126	mg/L	99	70	130	3	20	

Lead, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544270													
WG544270ICV	ICV	06/14/22 11:10	MS220502-1	.05		.05101	mg/L	102	90	110			
WG544270ICB	ICB	06/14/22 11:12				U	mg/L		-0.0003	0.0003			
WG544049LRB	LRB	06/14/22 11:13				U	mg/L		-0.00022	0.00022			
WG544049LFB	LFB	06/14/22 11:15	MS220601-10	.0501		.05028	mg/L	100	85	115			
L73635-01LFM	LFM	06/14/22 11:31	MS220601-10	.0501	.00013	.04976	mg/L	99	70	130			
L73635-01LFMD	LFMD	06/14/22 11:33	MS220601-10	.0501	.00013	.05042	mg/L	100	70	130	1	20	

EFRC ACZ Project ID: ***L73533***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Magnesium, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544325													
WG544325ICV	ICV	06/14/22 23:46	II220609-1	100		95.75	mg/L	96	95	105			
WG544325ICB	ICB	06/14/22 23:51				U	mg/L		-0.6	0.6			
WG544053LRB	LRB	06/15/22 0:04				U	mg/L		-0.44	0.44			
WG544053LFB	LFB	06/15/22 0:07	II220602-7	49.99922		49.25	mg/L	99	85	115			
L73534-01LFM	LFM	06/15/22 0:19	II220602-7	49.99922	41	89.59	mg/L	97	70	130			
L73534-01LFMD	LFMD	06/15/22 0:22	II220602-7	49.99922	41	87.3	mg/L	93	70	130	3	20	

Manganese, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544325													
WG544325ICV	ICV	06/14/22 23:46	II220609-1	2		1.977	mg/L	99	95	105			
WG544325ICB	ICB	06/14/22 23:51				U	mg/L		-0.03	0.03			
WG544053LRB	LRB	06/15/22 0:04				U	mg/L		-0.022	0.022			
WG544053LFB	LFB	06/15/22 0:07	II220602-7	.499		.515	mg/L	103	85	115			
L73534-01LFM	LFM	06/15/22 0:19	II220602-7	.499	U	.514	mg/L	103	70	130			
L73534-01LFMD	LFMD	06/15/22 0:22	II220602-7	.499	U	.504	mg/L	101	70	130	2	20	

Mercury, total M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543277													
WG543277ICV	ICV	06/01/22 11:11	HG220523-3	.005005		.00508	mg/L	101	95	105			
WG543277ICB	ICB	06/01/22 11:12				U	mg/L		-0.0002	0.0002			
WG543281													
WG543281LRB	LRB	06/01/22 13:42				U	mg/L		-0.00044	0.00044			
WG543281LFB	LFB	06/01/22 13:43	HG220523-6	.002002		.00204	mg/L	102	85	115			
L73522-03LFM	LFM	06/01/22 14:00	HG220523-6	.002002	U	.00201	mg/L	100	85	115			
L73522-03LFMD	LFMD	06/01/22 14:01	HG220523-6	.002002	U	.00202	mg/L	101	85	115	0	20	

Nickel, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544325													
WG544325ICV	ICV	06/14/22 23:46	II220609-1	2		1.911	mg/L	96	95	105			
WG544325ICB	ICB	06/14/22 23:51				U	mg/L		-0.024	0.024			
WG544053LRB	LRB	06/15/22 0:04				U	mg/L		-0.0176	0.0176			
WG544053LFB	LFB	06/15/22 0:07	II220602-7	.5005		.5064	mg/L	101	85	115			
L73534-01LFM	LFM	06/15/22 0:19	II220602-7	.5005	.146	.6441	mg/L	100	70	130			
L73534-01LFMD	LFMD	06/15/22 0:22	II220602-7	.5005	.146	.6275	mg/L	96	70	130	3	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544669													
WG544669ICV	ICV	06/18/22 21:34	WI220602-3	2.4161		2.348	mg/L	97	90	110			
WG544669ICB	ICB	06/18/22 21:36				U	mg/L		-0.02	0.02			
WG544669LFB	LFB	06/18/22 21:39	WI220401-10	2		1.946	mg/L	97	90	110			
L73533-02DUP	DUP	06/18/22 22:04			.25	.252	mg/L				1	20	
L73533-01AS	AS	06/18/22 22:21	WI220401-10	2	.243	2.384	mg/L	107	90	110			

EFRC ACZ Project ID: ***L73533***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543272													
WG543272LCSW1	LCSW	05/31/22 18:44	PCN64057	6		6.1	units	102	5.9	6.1			
WG543272LCSW4	LCSW	05/31/22 22:01	PCN64057	6		6.1	units	102	5.9	6.1			
WG543272LCSW7	LCSW	06/01/22 1:00	PCN64057	6		6.1	units	102	5.9	6.1			
WG543272LCSW10	LCSW	06/01/22 4:14	PCN64057	6		6.1	units	102	5.9	6.1			
L73534-02DUP	DUP	06/01/22 6:09			7.4	7.4	units				0	20	
WG543272LCSW13	LCSW	06/01/22 7:33	PCN64057	6		6.1	units	102	5.9	6.1			

Potassium, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544325													
WG544325ICV	ICV	06/14/22 23:46	II220609-1	20		19.75	mg/L	99	95	105			
WG544325ICB	ICB	06/14/22 23:51				U	mg/L		-0.6	0.6			
WG544053LRB	LRB	06/15/22 0:04				U	mg/L		-0.44	0.44			
WG544053LFB	LFB	06/15/22 0:07	II220602-7	99.96218		101	mg/L	101	85	115			
L73534-01LFM	LFM	06/15/22 0:19	II220602-7	99.96218	1.82	102.3	mg/L	101	70	130			
L73534-01LFMD	LFMD	06/15/22 0:22	II220602-7	99.96218	1.82	100.1	mg/L	98	70	130	2	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543245													
WG543245PBW	PBW	05/31/22 13:30				U	mg/L		-20	20			
WG543245LCSW	LCSW	05/31/22 13:31	PCN63843	1000		990	mg/L	99	80	120			
L73537-05DUP	DUP	05/31/22 14:14			78	80	mg/L				3	10	RA

Selenium, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544270													
WG544270ICV	ICV	06/14/22 11:10	MS220502-1	.05		.04943	mg/L	99	90	110			
WG544270ICB	ICB	06/14/22 11:12				.0001	mg/L		-0.0003	0.0003			
WG544049LRB	LRB	06/14/22 11:13				U	mg/L		-0.00022	0.00022			
WG544049LFB	LFB	06/14/22 11:15	MS220601-10	.05		.04967	mg/L	99	85	115			
L73635-01LFM	LFM	06/14/22 11:31	MS220601-10	.05	.00068	.048	mg/L	95	70	130			
L73635-01LFMD	LFMD	06/14/22 11:33	MS220601-10	.05	.00068	.04837	mg/L	95	70	130	1	20	

Sodium, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544325													
WG544325ICV	ICV	06/14/22 23:46	II220609-1	100		98.5	mg/L	99	95	105			
WG544325ICB	ICB	06/14/22 23:51				U	mg/L		-0.6	0.6			
WG544053LRB	LRB	06/15/22 0:04				U	mg/L		-0.44	0.44			
WG544053LFB	LFB	06/15/22 0:07	II220602-7	100.0282		99.66	mg/L	100	85	115			
L73534-01LFM	LFM	06/15/22 0:19	II220602-7	100.0282	5.42	105.4	mg/L	100	70	130			
L73534-01LFMD	LFMD	06/15/22 0:22	II220602-7	100.0282	5.42	103.4	mg/L	98	70	130	2	20	

EFRC ACZ Project ID: ***L73533***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Sulfate D516-02/-07/-11 - TURBIDIMETRIC

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544659													
WG544659ICB	ICB	06/27/22 8:41				U	mg/L		-3	3			
WG544659ICV	ICV	06/27/22 8:41	WI220618-1	19.54		19.7	mg/L	101	90	110			
WG544659LFB1	LFB	06/27/22 10:19	WI220415-3	9.95		10.1	mg/L	102	90	110			
L73522-04DUP	DUP	06/27/22 11:08			284	280.5	mg/L				1	20	
L73532-01AS	AS	06/27/22 11:08	SO4TURB25X	10	270	284.3	mg/L	143	90	110			M3
WG544659LFB2	LFB	06/27/22 15:51	WI220415-3	9.95		10.8	mg/L	109	90	110			

Thallium, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544270													
WG544270ICV	ICV	06/14/22 11:10	MS220502-1	.05		.05217	mg/L	104	90	110			
WG544270ICB	ICB	06/14/22 11:12				U	mg/L		-0.0003	0.0003			
WG544049LRB	LRB	06/14/22 11:13				U	mg/L		-0.00022	0.00022			
WG544049LFB	LFB	06/14/22 11:15	MS220601-10	.05		.05071	mg/L	101	85	115			
L73635-01LFM	LFM	06/14/22 11:31	MS220601-10	.05	U	.0501	mg/L	100	70	130			
L73635-01LFMD	LFMD	06/14/22 11:33	MS220601-10	.05	U	.05051	mg/L	101	70	130	1	20	

Uranium, total recoverable M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544270													
WG544270ICV	ICV	06/14/22 11:10	MS220502-1	.05		.05109	mg/L	102	90	110			
WG544270ICB	ICB	06/14/22 11:12				U	mg/L		-0.0003	0.0003			
WG544049LRB	LRB	06/14/22 11:13				U	mg/L		-0.00022	0.00022			
WG544049LFB	LFB	06/14/22 11:15	MS220601-10	.05		.05012	mg/L	100	85	115			
L73635-01LFM	LFM	06/14/22 11:31	MS220601-10	.05	.00074	.05242	mg/L	103	70	130			
L73635-01LFMD	LFMD	06/14/22 11:33	MS220601-10	.05	.00074	.05289	mg/L	104	70	130	1	20	

Vanadium, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544325													
WG544325ICV	ICV	06/14/22 23:46	II220609-1	2		2.011	mg/L	101	95	105			
WG544325ICB	ICB	06/14/22 23:51				U	mg/L		-0.015	0.015			
WG544053LRB	LRB	06/15/22 0:04				U	mg/L		-0.022	0.022			
WG544053LFB	LFB	06/15/22 0:07	II220602-7	.5005		.5234	mg/L	105	85	115			
L73534-01LFM	LFM	06/15/22 0:19	II220602-7	.5005	U	.5181	mg/L	104	70	130			
L73534-01LFMD	LFMD	06/15/22 0:22	II220602-7	.5005	U	.504	mg/L	101	70	130	3	20	

Zinc, total recoverable M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG544325													
WG544325ICV	ICV	06/14/22 23:46	II220609-1	2		1.973	mg/L	99	95	105			
WG544325ICB	ICB	06/14/22 23:51				U	mg/L		-0.06	0.06			
WG544053LRB	LRB	06/15/22 0:04				U	mg/L		-0.044	0.044			
WG544053LFB	LFB	06/15/22 0:07	II220602-7	.50045		.532	mg/L	106	85	115			
L73534-01LFM	LFM	06/15/22 0:19	II220602-7	.50045	.195	.717	mg/L	104	70	130			
L73534-01LFMD	LFMD	06/15/22 0:22	II220602-7	.50045	.195	.687	mg/L	98	70	130	4	20	

Inorganic Extended Qualifier Report

Energy Fuels Resources (USA) Inc.

ACZ Project ID: ***L73533***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L73533-01	WG543245	Residue, Filterable (TDS) @180C	SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG544659	Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	H1	Sample prep or analysis performed past holding time. See case narrative.
			D516-02/-07/-11 - TURBIDIMETRIC	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
L73533-02	WG543245	Residue, Filterable (TDS) @180C	SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG544659	Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	H1	Sample prep or analysis performed past holding time. See case narrative.
			D516-02/-07/-11 - TURBIDIMETRIC	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.

Certification Qualifiers

Energy Fuels Resources (USA) Inc.

ACZ Project ID: ***L73533***

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Energy Fuels Resources (USA) Inc.

ACZ Project ID: L73533
Date Received: 05/27/2022 12:02
Received By:
Date Printed: 5/31/2022

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?		X	
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
5188	1.1	<=6.0	15	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Energy Fuels Resources (USA) Inc.

ACZ Project ID:	L73533
Date Received:	05/27/2022 12:02
Received By:	
Date Printed:	5/31/2022

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L73533

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Kathy Weinel
Company: Energy Fuels
E-mail: Kweinel@energyfuels.com
Address: 225 Union Blvd. Suite 600
Lakewood, Co 80228
Telephone: 303-389-4134

Copy of Report to:

Name:
Company:
E-mail:
Telephone:

Invoice to:

Name: Kathy Weinel
Company: Energy Fuels
E-mail: Kweinel@energyfuels.com
Address: 225 Union Blvd, Suite 600
Lakewood, Co 80228
Telephone: 303-389-4134

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Matt Germansen **Sampler's Site Information** State AZ Zip code_____ Time Zone_____

***Sampler's Signature:** [signature]

*I attest to the authenticity and validity of this sample. I understand that intentionally mislabeling the time/date/location or tampering with the sample in anyway, is considered fraud and punishable by State Law.

PROJECT INFORMATION

Quote #: PP-Sump-IND API
PO#:
Reporting state for compliance testing:
Check box if samples include NRC licensed material?

ANALYSES REQUESTED (attach list or use quote number)

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	ANALYSES REQUESTED
Sump-05242022	5/24/22:1315	WW	4	See Quote
Sump Dup-05242022	5/24/22:1315	WW	4	

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

See Quote, No Rads, Normal TAT

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Matt Germansen	5/26/22:1210	[signature]	5/27/22 12:02

FRMAD050.06.14.14 L73533-2206281509 White - Return with sample. Yellow - Retain for your records.

L73533 Chain of Custod

ANALYTICAL REPORT

July 29, 2022

Revised Report

Energy Fuels Resources

Sample Delivery Group:	L1500464
Samples Received:	06/02/2022
Project Number:	PINYON PLAIN GW
Description:	Pinyon Plane RAD
Site:	PINYON PLAIN
Report To:	Kathy Weinel 3549 South Cheryl Drive Flagstaff, AZ 86005

Entire Report Reviewed By:

Donna Eidson
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

TABLE OF CONTENTS

SAMPLE SUMMARY

SUMP-05242022 L1500464-01 Non-Potable Water

Collected by: Matt Germansen | Collected date/time: 05/24/22 13:15 | Received date/time: 06/02/22 10:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG1877491	1	06/10/22 11:02	06/30/22 17:31	SWM	Mt. Juliet, TN
Radiochemistry by Method 903.0/9315	WG1876117	1	06/10/22 12:52	06/19/22 14:39	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1884067	1	06/28/22 09:26	07/06/22 15:08	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1877491	1	06/10/22 11:02	07/01/22 10:35	RRE	Mt. Juliet, TN
Radiochemistry by Method D3972 U-02	WG1886219	1	06/28/22 11:13	07/01/22 10:35	RGT	Mt. Juliet, TN

SUMP DUP-05242022 L1500464-02 Non-Potable Water

Collected by: Matt Germansen | Collected date/time: 05/24/22 13:15 | Received date/time: 06/02/22 10:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG1877491	1	06/10/22 11:02	06/30/22 17:31	SWM	Mt. Juliet, TN
Radiochemistry by Method 903.0/9315	WG1876117	1	06/10/22 12:52	06/19/22 14:39	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1884067	1	06/28/22 09:26	07/06/22 15:08	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1877491	1	06/10/22 11:02	07/01/22 10:35	RRE	Mt. Juliet, TN
Radiochemistry by Method D3972 U-02	WG1886219	1	06/28/22 11:13	07/01/22 10:35	RGT	Mt. Juliet, TN

PRE WTP-05252022 L1500464-03 Non-Potable Water

Collected by: Matt Germansen | Collected date/time: 05/24/22 14:32 | Received date/time: 06/02/22 10:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG1877491	1	06/10/22 11:02	06/30/22 17:31	SWM	Mt. Juliet, TN
Radiochemistry by Method 903.0/9315	WG1876117	1	06/10/22 12:52	06/19/22 14:39	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1884067	1	06/28/22 09:26	07/06/22 15:08	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1877491	1	06/10/22 11:02	07/01/22 10:35	RRE	Mt. Juliet, TN
Radiochemistry by Method D3972 U-02	WG1886219	1	06/28/22 11:13	07/01/22 10:35	RGT	Mt. Juliet, TN

POST WTP-05252022 L1500464-04 Non-Potable Water

Collected by: Matt Germansen | Collected date/time: 05/24/22 14:28 | Received date/time: 06/02/22 10:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG1877491	1	06/10/22 11:02	06/30/22 17:31	SWM	Mt. Juliet, TN
Radiochemistry by Method 903.0/9315	WG1876117	1	06/10/22 12:52	06/19/22 14:39	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1884067	1	06/28/22 09:26	07/06/22 15:08	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1877491	1	06/10/22 11:02	07/01/22 10:35	RRE	Mt. Juliet, TN
Radiochemistry by Method D3972 U-02	WG1886219	1	06/28/22 11:13	07/01/22 10:35	RGT	Mt. Juliet, TN

MW01-05252022 L1500464-05 Non-Potable Water

Collected by: Matt Germansen | Collected date/time: 05/24/22 11:35 | Received date/time: 06/02/22 10:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG1877491	1	06/10/22 11:02	06/30/22 17:31	SWM	Mt. Juliet, TN
Radiochemistry by Method 903.0/9315	WG1876117	1	06/10/22 12:52	06/19/22 15:40	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1884067	1	06/28/22 09:26	07/06/22 15:08	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1877491	1	06/10/22 11:02	07/01/22 10:35	RRE	Mt. Juliet, TN
Radiochemistry by Method D3972 U-02	WG1886219	1	06/28/22 11:13	07/01/22 10:35	RGT	Mt. Juliet, TN

SAMPLE SUMMARY

MW02-05252022 L1500464-06 Non-Potable Water

Collected by: Matt Germansen | Collected date/time: 05/24/22 10:41 | Received date/time: 06/02/22 10:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG1877491	1	06/10/22 11:02	06/30/22 17:31	SWM	Mt. Juliet, TN
Radiochemistry by Method 903.0/9315	WG1876117	1	06/10/22 12:52	06/19/22 15:40	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1884067	1	06/28/22 09:26	07/06/22 15:08	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1877491	1	06/10/22 11:02	07/21/22 10:12	RRE	Mt. Juliet, TN
Radiochemistry by Method D3972 U-02	WG1895037	1	07/19/22 17:34	07/21/22 10:12	RGT	Mt. Juliet, TN

MW02-05252022 DUP L1500464-07 Non-Potable Water

Collected by: Matt Germansen | Collected date/time: 05/24/22 10:41 | Received date/time: 06/02/22 10:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG1877491	1	06/10/22 11:02	06/30/22 17:31	SWM	Mt. Juliet, TN
Radiochemistry by Method 903.0/9315	WG1876117	1	06/10/22 12:52	06/19/22 15:40	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1884067	1	06/28/22 09:26	07/08/22 13:19	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1877491	1	06/10/22 11:02	07/21/22 10:12	RRE	Mt. Juliet, TN
Radiochemistry by Method D3972 U-02	WG1895037	1	07/19/22 17:34	07/21/22 10:12	RGT	Mt. Juliet, TN

MW03-05242022 L1500464-08 Non-Potable Water

Collected by: Matt Germansen | Collected date/time: 05/24/22 15:01 | Received date/time: 06/02/22 10:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG1877491	1	06/10/22 11:02	06/30/22 17:31	SWM	Mt. Juliet, TN
Radiochemistry by Method 903.0/9315	WG1876117	1	06/10/22 12:52	06/19/22 15:40	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1884834	1	06/28/22 14:03	07/11/22 10:36	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1877491	1	06/10/22 11:02	07/21/22 10:12	RRE	Mt. Juliet, TN
Radiochemistry by Method D3972 U-02	WG1895037	1	07/19/22 17:34	07/21/22 10:12	RGT	Mt. Juliet, TN

RW01-05252022 L1500464-09 Non-Potable Water

Collected by: Matt Germansen | Collected date/time: 05/24/22 15:39 | Received date/time: 06/02/22 10:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG1877491	1	06/10/22 11:02	07/01/22 10:04	SWM	Mt. Juliet, TN
Radiochemistry by Method 903.0/9315	WG1876117	1	06/10/22 12:52	06/19/22 16:40	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1884834	1	06/28/22 14:03	07/11/22 10:36	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1877491	1	06/10/22 11:02	07/21/22 10:12	RRE	Mt. Juliet, TN
Radiochemistry by Method D3972 U-02	WG1895037	1	07/19/22 17:34	07/21/22 10:12	RGT	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Donna Eidson
Project Manager

Report Revision History

Level II Report - Version 1: 07/22/22 16:16

Project Narrative

Added Adjusted GA per customer request

Radiochemistry by Method 900

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
GROSS ALPHA	216		14.8	2.56	06/30/2022 17:31	WG1877491

Radiochemistry by Method 903.0/9315

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Radium-226	13.7		1.41	0.204	06/19/2022 14:39	WG1876117
(T) Barium	*114*			*30.0-143*	*06/19/2022 14:39*	WG1876117

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.702		0.231	0.405	07/06/2022 15:08	WG1884067
(T) Barium	*82.1*			*62.0-143*	*07/06/2022 15:08*	WG1884067
(T) Yttrium	*97.8*			*79.0-136*	*07/06/2022 15:08*	WG1884067

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Adjusted Gross Alpha	96.6				07/01/2022 10:35	WG1877491

Radiochemistry by Method D3972 U-02

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
URANIUM-234	80.4		3.65	0.508	07/01/2022 10:35	WG1886219
URANIUM-235	4.96		0.922	0.348	07/01/2022 10:35	WG1886219
URANIUM-238	38.6		2.53	0.348	07/01/2022 10:35	WG1886219
(T) URANIUM-232	*74.9*			*30.0-110*	*07/01/2022 10:35*	WG1886219

SUMP DUP-05242022

Collected date/time: 05/24/22 13:15

SAMPLE RESULTS - 02

L1500464

Radiochemistry by Method 900

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
GROSS ALPHA	218		14.9	2.73	06/30/2022 17:31	WG1877491

Radiochemistry by Method 903.0/9315

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Radium-226	13.2		1.42	0.370	06/19/2022 14:39	WG1876117
(T) Barium	*113*			*30.0-143*	*06/19/2022 14:39*	WG1876117

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.329	J	0.259	0.471	07/06/2022 15:08	WG1884067
(T) Barium	*78.2*			*62.0-143*	*07/06/2022 15:08*	WG1884067
(T) Yttrium	*94.2*			*79.0-136*	*07/06/2022 15:08*	WG1884067

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Adjusted Gross Alpha	94.7				07/01/2022 10:35	WG1877491

Radiochemistry by Method D3972 U-02

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
URANIUM-234	84.0		3.95	0.633	07/01/2022 10:35	WG1886219
URANIUM-235	2.62		0.722	0.388	07/01/2022 10:35	WG1886219
URANIUM-238	39.4		2.70	0.388	07/01/2022 10:35	WG1886219
(T) URANIUM-232	*76.4*			*30.0-110*	*07/01/2022 10:35*	WG1886219

QUALITY CONTROL SUMMARY

L1500464-01,02,03,04,05,06,07,08,09

Method Blank (MB)

(MB) R3810171-2 06/30/22 15:20

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty +/-	MB MDA pCi/l
GROSS ALPHA	-0.0375	U	0.477	0.832

L1500306-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1500306-01 06/30/22 17:30 • (DUP) R3810171-5 06/30/22 15:20

Analyte	Original Result pCi/l	Original Uncertainty +/-	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty +/-	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
GROSS ALPHA	-0.138	0.604	1.16	-0.0582	0.665	1.16	1	0.000	0.0886	U	20	3

Laboratory Control Sample (LCS)

(LCS) R3810171-1 06/29/22 17:10

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
GROSS ALPHA	15.0	13.9	92.6	80.0-120	

L1500330-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1500330-01 06/30/22 17:30 • (MS) R3810171-3 06/30/22 15:20 • (MSD) R3810171-4 06/30/22 15:20

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
GROSS ALPHA	15.0	10.4	26.6	26.5	108	108	1	70.0-130			0.339		20

WG1876117

Radiochemistry by Method 903.0/9315

QUALITY CONTROL SUMMARY

L1500464-01,02,03,04,05,06,07,08,09

Method Blank (MB)

(MB) R3805076-1 06/19/22 12:39

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / -	MB MDA pCi/l
Radium-226	0.0593	J	0.0866	0.142
(T) Barium	*97.0*		*97.0*	

L1502986-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1502986-01 06/19/22 17:40 • (DUP) R3805076-5 06/19/22 13:39

Analyte	Original Result pCi/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.573	0.359	0.364	0.533	0.447	0.364	1	7.24	0.0698		20	3
(T) Barium	*113*			*113*	*113*							

Laboratory Control Sample (LCS)

(LCS) R3805076-2 06/19/22 12:39

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.01	4.90	97.8	80.0-120	
(T) Barium			*97.6*		

L1498833-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1498833-01 06/19/22 13:39 • (MS) R3805076-3 06/19/22 12:39 • (MSD) R3805076-4 06/19/22 12:39

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	12.5	34.3	29.5	109	85.1	1	75.0-125			15.0		20
(T) Barium		*103*			*102*	*102*							

QUALITY CONTROL SUMMARY

L1500464-01,02,03,04,05,06,07

Method Blank (MB)

(MB) R3812707-1 07/06/22 15:08

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty +/-	MB MDA pCi/l
Radium-228	-0.0362	U	0.173	0.325
(T) Barium	*104*		*104*	
(T) Yttrium	*90.9*		*90.9*	

L1499212-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1499212-02 07/06/22 15:08 • (DUP) R3812707-5 07/06/22 15:08

Analyte	Original Result pCi/l	Original Uncertainty +/-	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty +/-	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.878	0.227	0.391	0.305	0.342	0.391	1	96.9	1.40	J	20	3
(T) Barium	*85.3*			*87.3*	*87.3*							
(T) Yttrium	*96.1*			*100*	*100*							

Laboratory Control Sample (LCS)

(LCS) R3812707-2 07/06/22 15:08

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.47	89.3	80.0-120	
(T) Barium			*112*		
(T) Yttrium			*95.7*		

L1499212-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1499212-01 07/06/22 15:08 • (MS) R3812707-3 07/06/22 15:08 • (MSD) R3812707-4 07/06/22 15:08

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	10.0	0.154	10.6	9.51	105	93.6	1	70.0-130			11.2		20
(T) Barium		*84.2*			*92.4*	*93.2*							
(T) Yttrium		*93.8*			*98.2*	*101*							

WG1884834

Radiochemistry by Method 904/9320

QUALITY CONTROL SUMMARY

L1500464-08,09

Method Blank (MB)

(MB) R3813855-1 07/08/22 13:19

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
Radium-228	0.210	U	0.117	0.333
(T) Barium	*112*		*112*	
(T) Yttrium	*102*		*102*	

L1506370-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1506370-06 07/11/22 10:36 • (DUP) R3813855-5 07/08/22 13:19

Analyte	Original Result Bq/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.0161	0.00830	0.0236	0.792	0.326	0.0236	1	192	2.38	J	20	3
(T) Barium	*87.8*			*102*	*102*							
(T) Yttrium	*100*			*93.3*	*93.3*							

Laboratory Control Sample (LCS)

(LCS) R3813855-2 07/08/22 13:19

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.34	86.8	80.0-120	
(T) Barium			*113*		
(T) Yttrium			*101*		

L1501712-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1501712-01 07/11/22 10:36 • (MS) R3813855-3 07/08/22 13:19 • (MSD) R3813855-4 07/08/22 13:19

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	10.0	0.0423	10.2	10.6	102	106	1	70.0-130			4.13		20
(T) Barium		*100*			*103*	*103*							
(T) Yttrium		*89.8*			*105*	*97.6*							

WG1886219

Radiochemistry by Method D3972 U-02

QUALITY CONTROL SUMMARY

L1500464-01,02,03,04,05

Method Blank (MB)

(MB) R3810230-1 07/01/22 10:35

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
URANIUM-234	0.272	J	0.266	0.346
URANIUM-235	0.117	J	0.188	0.275
URANIUM-238	0.170	J	0.200	0.275
(T) URANIUM-232	*96.2*		*96.2*	

L1506370-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1506370-01 07/01/22 10:51 • (DUP) R3810230-5 07/01/22 10:35

Analyte	Original Result Bq/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
URANIUM-234	0.00475	0.0103	0.0162	0.120	0.304	0.0162	1	185	0.380	U	20	3
URANIUM-235	0.000889	0.00694	0.0128	0.102	0.208	0.0128	1	197	0.483	U	20	3
URANIUM-238	0.00951	0.00982	0.0128	0.0401	0.176	0.0128	1	123	0.174	U	20	3
(T) URANIUM-232	*83.4*			*79.1*	*79.1*							

Laboratory Control Sample (LCS)

(LCS) R3810230-2 07/01/22 10:35

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
URANIUM-234	25.2	22.5	89.2	80.0-120	
URANIUM-238	24.5	22.7	92.6	80.0-120	
(T) URANIUM-232			*86.9*		

L1500464-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1500464-01 07/01/22 10:35 • (MS) R3810230-3 07/01/22 10:35 • (MSD) R3810230-4 07/01/22 10:35

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
URANIUM-234	25.2	80.4	103	110	90.7	117	1	75.0-125			6.19		20
URANIUM-238	24.5	38.6	63.5	58.7	101	82.0	1	75.0-125			7.79		20
(T) URANIUM-232		*74.9*			*74.6*	*74.2*							

WG1895037

Radiochemistry by Method D3972 U-02

QUALITY CONTROL SUMMARY

L1500464-06,07,08,09

Method Blank (MB)

(MB) R3818158-1 07/21/22 10:12

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
URANIUM-234	0.0538	U	0.183	0.278
URANIUM-235	-0.00470	U	0.0703	0.145
URANIUM-238	0.0359	U	0.111	0.183
(T) URANIUM-232	*45.7*		*45.7*	

L1501073-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1501073-07 07/21/22 10:24 • (DUP) R3818158-6 07/21/22 18:38

Analyte	Original Result pCi/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
URANIUM-234	1.25	0.698	0.833	2.75	0.606	0.833	1	75.5	1.63		20	3
URANIUM-235	0.359	0.277	0.306	0.297	0.258	0.306	1	18.9	0.163	J	20	3
URANIUM-238	1.70	0.558	0.446	1.29	0.453	0.446	1	27.2	0.566		20	3
(T) URANIUM-232	*73.5*			*50.2*	*50.2*							

Laboratory Control Sample (LCS)

(LCS) R3818158-2 07/21/22 10:12

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
URANIUM-234	10.1	9.77	96.7	80.0-120	
URANIUM-238	9.80	10.6	108	80.0-120	
(T) URANIUM-232			*85.4*		

L1500464-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1500464-06 07/21/22 10:12 • (MS) R3818158-3 07/21/22 10:12 • (MSD) R3818158-4 07/21/22 10:12

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
URANIUM-234	40.2	4.63	42.2	43.3	93.3	96.3	1	75.0-125			2.78		20
URANIUM-238	39.2	2.07	41.1	43.1	99.5	105	1	75.0-125			4.87		20
(T) URANIUM-232		*78.4*			*77.1*	*70.6*							

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Below Detectable Limits: Indicates that the analyte was not detected.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Energy Fuels Resources

225 Union Blvd
Suite 600
Lakewood, CO 80228

Billing Information:
Accounts Payable
225 Union Blvd
Suite 600
Lakewood, CO 80228

Pres Chk

Report to:
Kathy Weinel

Email To: KWeinel@energyfuels.com

Project Description:
Pinyon Plane RAD

City/State Collected: Tusayan, Az

Please Circle: PT MT CT ET

Phone:
393-389-4134

Client Project #
Pinyon Plain GW

Lab Project #

Collected by (print):
Matt Germansen

Site/Facility ID #
Pinyon Plain

P.O. #
00102880?

Collected by (signature):

Quote #

Immediately Packed on Ice N X Y ___ NO ICE

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	GROSS ALPHA,RA-226 1L-HDPE-Add HNO3	RA-228 1L-HDPE-Acc HNO3	U-ISO 1L-HDPE-Add HNO3	Remarks	Sample # (lab only)
① Sump-05242022		NPW		5/24/22	1315	3	X	X	X		-01
Sump Dup-05242022		NPW		5/24/22	1315	3	X	X	X		-02
② Pre WTP-05252022		NPW		5/25/22	1432	3	X	X	X		-03
Post WTP-05252022		NPW		5/25/22	1428	3	X	X	X		-04
MW01-05252022		NPW		5/25/22	1135	3	X	X	X		-05
MW02-05262022		NPW		5/26/22	1041	3	X	X	X		-06
③ MW02 Dup-05262022 Dup		NPW		5/26/22	1041	3	X	X	X		-07
MW03 Dup-05242022		NPW		5/24/22	1501	3	X	X	X		-08
RW01-05252022		NPW		5/25/22	1539	3	X	X	X		-09

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: No Ice Required
NO ICE

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Relinquished by: (Signature) Matt Germansen
Date: 5/26/22 Time: 1210
Received by: (Signature)

Relinquished by: (Signature)
Date: Time:
Received by: (Signature)

Relinquished by: (Signature)
Date: Time:
Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: DRFT °C Bottles Received: 27
29.2 to 29.2

Date: 6/2/22 Time: 1015

Sample Receipt Checklist
COC Seal Present/Intact: __NP X Y __N
COC Signed/Accurate: X Y __N
Bottles arrive intact: X Y __N
Correct bottles used: X Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: X Y __N
RAD Screen <0.5 mR/hr: X Y __N

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Chain of Custody Page ___ of ___

Pace Analytical®
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1500464
A056

Acctnum: ENEFUELCO
Template: T199351
Prelogin: P894564
PM: 732 - Donna Eldson
PB: 12/16/21 mb
Shipped Via: FedEX Ground

ANALYTICAL REPORT

October 18, 2022

Energy Fuels Resources

Sample Delivery Group:	L1540498
Samples Received:	09/28/2022
Project Number:	
Description:	

Report To: Kathy Weinel
225 Union Blvd
Suite 600
Lakewood, CO 80228

Entire Report Reviewed By:

Donna Eidson
Project Manager

TABLE OF CONTENTS

SAMPLE SUMMARY

SUMP-1470_09272022 L1540498-01 GW

Collected by	Collected date/time	Received date/time
	09/27/22 07:40	09/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1936913	1	10/04/22 12:15	10/04/22 14:37	AEC	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG1936138	1	10/03/22 09:56	10/03/22 09:56	ARD	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG1933899	1	10/01/22 21:07	10/01/22 21:07	CAT	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1937293	1	10/05/22 16:00	10/05/22 16:00	SGB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1934083	1	09/29/22 06:57	09/29/22 06:57	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1934083	5	09/29/22 07:13	09/29/22 07:13	GEB	Mt. Juliet, TN
Mercury by Method 7470A	WG1936169	1	10/12/22 08:55	10/13/22 15:59	SRT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1937252	1	10/06/22 15:51	10/06/22 20:23	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1941539	1	10/17/22 21:57	10/18/22 02:23	JPD	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Donna Eidson
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Solids	733		13.3	1	10/04/2022 14:37	WG1936913

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity,Carbonate	U		8.45	20.0	1	10/03/2022 09:56	WG1936138

Sample Narrative:
L1540498-01 WG1936138: Endpoint pH 4.5

Wet Chemistry by Method 353.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	0.527		0.0500	0.100	1	10/01/2022 21:07	WG1933899

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.99	T8	1	10/05/2022 16:00	WG1937293

Sample Narrative:
L1540498-01 WG1937293: 7.99 at 18.5C

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Fluoride	0.212		0.0640	0.150	1	09/29/2022 06:57	WG1934083
Sulfate	419		2.97	25.0	5	09/29/2022 07:13	WG1934083

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Mercury	U		0.000100	0.000200	1	10/13/2022 15:59	WG1936169

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Antimony	0.00670	J	0.00430	0.0100	1	10/06/2022 20:23	WG1937252
Arsenic	0.149		0.00440	0.0100	1	10/06/2022 20:23	WG1937252
Barium	0.0238		0.000736	0.00500	1	10/06/2022 20:23	WG1937252
Beryllium	U		0.000330	0.00200	1	10/06/2022 20:23	WG1937252
Cadmium	0.000662	J	0.000479	0.00200	1	10/06/2022 20:23	WG1937252
Calcium	107		0.0793	1.00	1	10/06/2022 20:23	WG1937252
Chromium	U		0.00140	0.0100	1	10/06/2022 20:23	WG1937252
Copper	0.0396	B	0.00368	0.0100	1	10/06/2022 20:23	WG1937252
Iron	2.06		0.0180	0.100	1	10/06/2022 20:23	WG1937252
Lead	0.00508	J	0.00299	0.00600	1	10/06/2022 20:23	WG1937252
Magnesium	60.3		0.0853	1.00	1	10/06/2022 20:23	WG1937252
Manganese	0.0473		0.000934	0.0100	1	10/06/2022 20:23	WG1937252
Nickel	0.417		0.00161	0.0100	1	10/06/2022 20:23	WG1937252
Potassium	5.92		0.261	2.00	1	10/06/2022 20:23	WG1937252
Selenium	U		0.00735	0.0100	1	10/06/2022 20:23	WG1937252
Sodium	30.3		0.504	3.00	1	10/06/2022 20:23	WG1937252

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Thallium	U		0.00431	0.0100	1	10/06/2022 20:23	WG1937252
Vanadium	U		0.00499	0.0200	1	10/06/2022 20:23	WG1937252
Zinc	0.462		0.00652	0.0500	1	10/06/2022 20:23	WG1937252

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Uranium	0.131		0.0000789	0.00100	1	10/18/2022 02:23	WG1941539

WG1936913

Gravimetric Analysis by Method 2540 C-2011

QUALITY CONTROL SUMMARY

L1540498-01

Method Blank (MB)

(MB) R3846244-1 10/04/22 14:37

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1541409-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1541409-04 10/04/22 14:37 • (DUP) R3846244-3 10/04/22 14:37

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1760	2160	1	20.2	J3	5

L1541409-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1541409-08 10/04/22 14:37 • (DUP) R3846244-4 10/04/22 14:37

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1540	1660	1	7.34	J3	5

Laboratory Control Sample (LCS)

(LCS) R3846244-2 10/04/22 14:37

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8360	95.0	77.3-123	

QUALITY CONTROL SUMMARY

L1540498-01

Method Blank (MB)

(MB) R3844250-2 10/03/22 08:41

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity,Carbonate	U		8.45	20.0

Sample Narrative:
BLANK: Endpoint pH 4.5

L1540358-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1540358-02 10/03/22 08:56 • (DUP) R3844250-3 10/03/22 09:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity,Carbonate	U	U	1	0.000		20

Sample Narrative:
OS: Endpoint pH 4.5
DUP: Endpoint pH 4.5

L1540387-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1540387-01 10/03/22 09:33 • (DUP) R3844250-4 10/03/22 09:37

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity,Carbonate	U	U	1	0.000		20

Sample Narrative:
OS: Endpoint pH 4.5 headspace
DUP: Endpoint pH 4.5

WG1933899

Wet Chemistry by Method 353.2

QUALITY CONTROL SUMMARY

L1540498-01

Method Blank (MB)

(MB) R3843723-1 10/01/22 20:01

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Nitrate-Nitrite	U		0.0500	0.100

L1539666-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1539666-16 10/01/22 20:09 • (DUP) R3843723-3 10/01/22 20:10

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate-Nitrite	0.152	0.146	1	4.03		20

L1540494-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1540494-01 10/01/22 20:27 • (DUP) R3843723-6 10/01/22 20:28

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate-Nitrite	0.0923	0.0975	1	5.48	J	20

Laboratory Control Sample (LCS)

(LCS) R3843723-2 10/01/22 20:03

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Nitrate-Nitrite	2.50	2.52	101	90.0-110	

L1539666-16 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1539666-16 10/01/22 20:09 • (MS) R3843723-4 10/01/22 20:12 • (MSD) R3843723-5 10/01/22 20:17

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Nitrate-Nitrite	2.50	0.152	2.57	2.60	96.7	97.9	1	90.0-110			1.16	20

L1540494-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1540494-01 10/01/22 20:27 • (MS) R3843723-8 10/01/22 21:05

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Nitrate-Nitrite	2.50	0.0923	2.49	95.9	1	90.0-110	

QUALITY CONTROL SUMMARY

L1540498-01

L1540149-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1540149-03 10/05/22 16:00 • (DUP) R3845111-3 10/05/22 16:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.84	8.85	1	0.113		1

Sample Narrative:
OS: 8.84 at 18.7C
DUP: 8.85 at 18.4C

L1540682-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1540682-03 10/05/22 16:00 • (DUP) R3845111-4 10/05/22 16:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.92	7.95	1	0.378		1

Sample Narrative:
OS: 7.92 at 18.4C
DUP: 7.95 at 18.3C

Laboratory Control Sample (LCS)

(LCS) R3845111-1 10/05/22 16:00

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	9.91	99.1	99.0-101	

Sample Narrative:
LCS: 9.91 at 18.7C

WG1934083

Wet Chemistry by Method 9056A

QUALITY CONTROL SUMMARY

L1540498-01

Method Blank (MB)

(MB) R3842815-1 09/28/22 22:10

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Fluoride	U		0.0640	0.150
Sulfate	U		0.594	5.00

L1540428-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1540428-07 09/29/22 02:27 • (DUP) R3842815-3 09/29/22 02:43

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Fluoride	0.908	0.906	1	0.232		15
Sulfate	136	135	1	0.165		15

L1540613-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1540613-04 09/29/22 08:49 • (DUP) R3842815-5 09/29/22 09:05

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Fluoride	1.98	1.97	1	0.567		15
Sulfate	29.1	29.1	1	0.0960		15

Laboratory Control Sample (LCS)

(LCS) R3842815-2 09/28/22 22:25

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluoride	8.00	8.41	105	80.0-120	
Sulfate	40.0	41.8	105	80.0-120	

L1540428-07 Original Sample (OS) • Matrix Spike (MS)

(OS) L1540428-07 09/29/22 02:27 • (MS) R3842815-4 09/29/22 02:58

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Fluoride	5.00	0.908	6.36	109	1	80.0-120	
Sulfate	50.0	136	181	90.3	1	80.0-120	

WG1934083

Wet Chemistry by Method 9056A

QUALITY CONTROL SUMMARY

L1540498-01

L1540613-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1540613-04 09/29/22 08:49 • (MS) R3842815-6 09/29/22 09:20 • (MSD) R3842815-7 09/29/22 09:36

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Fluoride	5.00	1.98	7.32	7.23	107	105	1	80.0-120			1.29	15
Sulfate	50.0	29.1	82.5	82.3	107	107	1	80.0-120			0.240	15

WG1936169

Mercury by Method 7470A

QUALITY CONTROL SUMMARY

L1540498-01

Method Blank (MB)

(MB) R3848308-1 10/13/22 15:47

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury	U		0.000100	0.000200

Laboratory Control Sample (LCS)

(LCS) R3848308-2 10/13/22 15:49

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.00300	0.00346	115	80.0-120	

L1540530-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1540530-01 10/13/22 15:52 • (MS) R3848308-3 10/13/22 15:54 • (MSD) R3848308-4 10/13/22 15:56

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	U	0.00348	0.00343	116	114	1	75.0-125			1.38	20

WG1937252

Metals (ICP) by Method 6010B

QUALITY CONTROL SUMMARY

L1540498-01

Method Blank (MB)

(MB) R3845678-1 10/06/22 19:36

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.00430	0.0100
Arsenic	U		0.00440	0.0100
Barium	U		0.000736	0.00500
Beryllium	U		0.000330	0.00200
Cadmium	U		0.000479	0.00200
Calcium	U		0.0793	1.00
Chromium	U		0.00140	0.0100
Copper	0.00987	J	0.00368	0.0100
Iron	U		0.0180	0.100
Lead	U		0.00299	0.00600
Magnesium	U		0.0853	1.00
Manganese	U		0.000934	0.0100
Nickel	U		0.00161	0.0100
Potassium	U		0.261	2.00
Selenium	U		0.00735	0.0100
Sodium	U		0.504	3.00
Thallium	U		0.00431	0.0100
Vanadium	U		0.00499	0.0200
Zinc	U		0.00652	0.0500

Laboratory Control Sample (LCS)

(LCS) R3845678-2 10/06/22 19:39

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Antimony	1.00	0.939	93.9	80.0-120	
Arsenic	1.00	0.891	89.1	80.0-120	
Barium	1.00	0.956	95.6	80.0-120	
Beryllium	1.00	0.952	95.2	80.0-120	
Cadmium	1.00	0.929	92.9	80.0-120	
Calcium	10.0	9.49	94.9	80.0-120	
Chromium	1.00	0.929	92.9	80.0-120	
Copper	1.00	0.918	91.8	80.0-120	
Iron	10.0	9.40	94.0	80.0-120	
Lead	1.00	0.946	94.6	80.0-120	
Magnesium	10.0	9.62	96.2	80.0-120	
Manganese	1.00	0.914	91.4	80.0-120	
Nickel	1.00	0.942	94.2	80.0-120	
Potassium	10.0	9.14	91.4	80.0-120	

WG1937252

Metals (ICP) by Method 6010B

QUALITY CONTROL SUMMARY

L1540498-01

Laboratory Control Sample (LCS)

(LCS) R3845678-2 10/06/22 19:39

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Selenium	1.00	0.920	92.0	80.0-120	
Sodium	10.0	9.26	92.6	80.0-120	
Thallium	1.00	0.938	93.8	80.0-120	
Vanadium	1.00	0.971	97.1	80.0-120	
Zinc	1.00	0.932	93.2	80.0-120	

L1539878-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1539878-01 10/06/22 19:42 • (MS) R3845678-4 10/06/22 19:47 • (MSD) R3845678-5 10/06/22 19:49

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	1.00	U	0.975	0.960	97.5	96.0	1	75.0-125			1.56	20
Arsenic	1.00	0.00463	0.958	0.940	95.3	93.6	1	75.0-125			1.82	20
Barium	1.00	0.0839	1.05	1.04	96.4	95.4	1	75.0-125			0.931	20
Beryllium	1.00	U	0.979	0.971	97.9	97.1	1	75.0-125			0.816	20
Cadmium	1.00	U	0.971	0.958	97.1	95.8	1	75.0-125			1.25	20
Calcium	10.0	125	131	132	57.2	66.9	1	75.0-125	V	V	0.743	20
Chromium	1.00	0.00538	0.948	0.939	94.3	93.4	1	75.0-125			0.928	20
Copper	1.00	U	0.960	0.951	96.0	95.1	1	75.0-125			0.947	20
Iron	10.0	U	9.45	9.41	94.5	94.1	1	75.0-125			0.464	20
Lead	1.00	0.00410	0.968	0.954	96.4	95.0	1	75.0-125			1.49	20
Magnesium	10.0	39.4	47.9	47.6	85.4	82.4	1	75.0-125			0.630	20
Manganese	1.00	U	0.910	0.900	91.0	90.0	1	75.0-125			1.08	20
Nickel	1.00	0.00188	0.958	0.948	95.6	94.6	1	75.0-125			1.09	20
Potassium	10.0	8.09	17.4	17.5	93.5	94.2	1	75.0-125			0.412	20
Selenium	1.00	U	0.977	0.963	97.7	96.3	1	75.0-125			1.46	20
Sodium	10.0	97.9	104	105	58.6	73.7	1	75.0-125	V	V	1.44	20
Thallium	1.00	U	0.962	0.953	96.2	95.3	1	75.0-125			0.898	20
Vanadium	1.00	0.0123	1.00	0.995	99.1	98.3	1	75.0-125			0.802	20
Zinc	1.00	U	0.934	0.925	93.4	92.5	1	75.0-125			1.01	20

WG1941539

Metals (ICPMS) by Method 6020

QUALITY CONTROL SUMMARY

L1540498-01

Method Blank (MB)

(MB) R3849692-1 10/18/22 02:02

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Uranium	U		0.0000789	0.00100

Laboratory Control Sample (LCS)

(LCS) R3849692-2 10/18/22 02:06

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Uranium	0.0500	0.0489	97.8	80.0-120	

L1540970-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1540970-01 10/18/22 02:09 • (MS) R3849692-4 10/18/22 02:16 • (MSD) R3849692-5 10/18/22 02:19

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Uranium	0.0500	0.00673	0.0559	0.0581	98.4	103	1	75.0-125			3.78	20

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Energy Fuels Resources

3549 South Cheryl Drive
Flagstaff, AZ 86005

Billing Information:
Accounts Payable
3549 South Cheryl Drive
Suite 600
Lakewood, CO 80228

Pres Chk

Report to:
Kathy Weinel

Email To: **KWeinel@energyfuels.com**

Project Description:

City/State Collected:

Please Circle: PT MT CT ET

Phone:

Client Project #

Lab Project #
ENEFUELCO

Collected by (print):

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote # 00122017

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALKCA 125mlHDPE-NoPres	FLUORIDE,SULFATE 125mlHDPE-NoPres	GROSS ALPHA 500mlHDPE-Add HNO3	NO2NO3 250mlHDPE-H2SO4	PH 125mlHDPE-NoPres	RA-226 1L-HDPE-Add HNO3	RA-228 1L-HDPE-Add-HNO3	TDS 1L-HDPE NoPres	Total Metals 250mlHDPE-HNO3		Remarks	Sample # (lab only)
									H2	H2					H2			
Sump-1470_0927 2022	Grab	GW	1470	9/27/22	0740	6	X	X		X	X			X	X			-01
		GW				6	X	X		X	X			X	X			
		GW				6	X	X		X	X			X	X			
		GW				6	X	X		X	X			X	X			
		GW				6	X	X		X	X			X	X			
SAA		NPW				4			X			X	X					
		NPW				4			X			X	X					
		NPW				4			X			X	X					
		NPW				4			X			X	X					
		NPW				4			X			X	X					

Chain of Custody Page ___ of ___

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at http://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1540498
H057

Acctnum: **ENEFUELCO**
Template: **T215492**
Prelogin: **P948242**
PM: 732 - Donna Eldson
PB: 8/31/22 MW
Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: Sump Discharge

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: (UPS) __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / (No) HCL / MeoH TBR	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: NS/7 °C 3.8+0.3=4.1	Bottles Received: 10
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Zac Parrish	Date: 9-28-22	Time: 10:00

If preservation required by Login: Date/Time

Hold:

Condition: NCF / (OK)

ANALYTICAL REPORT

November 15, 2022

Energy Fuels Resources

Sample Delivery Group:	L1540499
Samples Received:	09/28/2022
Project Number:	
Description:	Sump Discharge

Report To:

Kathy Weinel
225 Union Blvd
Suite 600
Lakewood, CO 80228

Entire Report Reviewed By:

Donna Eidson
Project Manager

TABLE OF CONTENTS

SAMPLE SUMMARY

	Collected by	Collected date/time	Received date/time
SUMP-1470_09272022 L1540499-01 Non-Potable Water		09/27/22 07:40	09/28/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG1949162	1	10/26/22 14:05	11/02/22 14:26	SWM	Mt. Juliet, TN
Radiochemistry by Method 903.0/9315	WG1941453	1	10/12/22 15:44	10/20/22 15:00	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1946251	1	10/21/22 16:05	10/31/22 14:56	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1949162	1	10/26/22 14:05	11/03/22 17:51	RGT	Mt. Juliet, TN
Radiochemistry by Method D3972 U-02	WG1949475	1	11/01/22 18:41	11/03/22 17:51	RGT	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Donna Eidson
Project Manager

Radiochemistry by Method 900

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
GROSS ALPHA	210		10.6	2.36	11/02/2022 14:26	WG1949162

Radiochemistry by Method 903.0/9315

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Radium-226	12.7		1.19	0.240	10/20/2022 15:00	WG1941453
(T) Barium	*93.9*			*30.0-143*	*10/20/2022 15:00*	WG1941453

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.0849	U	0.226	0.411	10/31/2022 14:56	WG1946251
(T) Barium	*98.5*			*30.0-143*	*10/31/2022 14:56*	WG1946251
(T) Yttrium	*97.3*			*30.0-136*	*10/31/2022 14:56*	WG1946251

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Adjusted Gross Alpha	60.5				11/03/2022 17:51	WG1949162

Radiochemistry by Method D3972 U-02

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
URANIUM-234	101		3.35	0.523	11/03/2022 17:51	WG1949475
URANIUM-235	6.51		0.853	0.218	11/03/2022 17:51	WG1949475
URANIUM-238	48.4		2.31	0.272	11/03/2022 17:51	WG1949475
(T) URANIUM-232	*71.2*			*30.0-110*	*11/03/2022 17:51*	WG1949475

WG1949162

Radiochemistry by Method 900

QUALITY CONTROL SUMMARY

L1540499-01

Method Blank (MB)

(MB) R3855681-1 10/31/22 20:24

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / -	MB MDA pCi/l
GROSS ALPHA	-0.127	U	0.398	0.659

L1538854-20 Original Sample (OS) • Duplicate (DUP)

(OS) L1538854-20 11/01/22 13:59 • (DUP) R3855681-5 10/31/22 20:24

Analyte	Original Result pCi/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
GROSS ALPHA	0.260	0.406	0.577	0.00731	0.404	0.577	1	189	0.442	U	20	3

Laboratory Control Sample (LCS)

(LCS) R3855681-2 10/31/22 20:24

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
GROSS ALPHA	15.0	12.3	81.7	80.0-120	

L1542980-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1542980-06 11/01/22 13:59 • (MS) R3855681-3 10/31/22 20:24 • (MSD) R3855681-4 10/31/22 20:24

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
GROSS ALPHA	200	6.53	205	206	99.3	99.8	1	70.0-130			0.486		20

WG1941453

Radiochemistry by Method 903.0/9315

QUALITY CONTROL SUMMARY

L1540499-01

Method Blank (MB)

(MB) R3851082-1 10/20/22 14:00

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / -	MB MDA pCi/l
Radium-226	0.0414	U	0.0811	0.161
(T) Barium	*95.3*		*95.3*	

L1540499-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1540499-01 10/20/22 15:00 • (DUP) R3851082-5 10/20/22 15:00

Analyte	Original Result pCi/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	12.7	1.19	0.240	14.0	1.75	0.240	1	10.1	0.638		20	3
(T) Barium	*93.9*			*94.7*	*94.7*							

Laboratory Control Sample (LCS)

(LCS) R3851082-2 10/20/22 14:00

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.01	5.59	112	80.0-120	
(T) Barium			*93.3*		

L1539720-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1539720-01 10/20/22 15:00 • (MS) R3851082-3 10/20/22 14:00 • (MSD) R3851082-4 10/20/22 14:00

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	2.81	23.6	24.0	104	106	1	75.0-125			1.60		20
(T) Barium		*99.0*			*97.4*	*99.2*							

WG1946251

Radiochemistry by Method 904/9320

QUALITY CONTROL SUMMARY

L1540499-01

Method Blank (MB)

(MB) R3856151-1 10/31/22 14:56

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / -	MB MDA pCi/l
Radium-228	0.175	J	0.163	0.292
(T) Barium	*110*		*110*	
(T) Yttrium	*92.8*		*92.8*	

L1548476-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1548476-01 10/31/22 14:56 • (DUP) R3856151-5 10/31/22 14:56

Analyte	Original Result pCi/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.0657	0.242	0.441	0.423	0.293	0.441	1	146	0.941	J	20	3
(T) Barium	*109*			*114*	*114*							
(T) Yttrium	*94.5*			*99.1*	*99.1*							

Laboratory Control Sample (LCS)

(LCS) R3856151-2 10/31/22 14:56

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.37	87.4	80.0-120	
(T) Barium			*116*		
(T) Yttrium			*102*		

L1542980-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1542980-06 10/31/22 14:56 • (MS) R3856151-3 10/31/22 14:56 • (MSD) R3856151-4 10/31/22 14:56

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	10.0	0.894	9.70	7.95	88.1	70.5	1	70.0-130			19.9		20
(T) Barium		*104*			*102*	*99.9*							
(T) Yttrium		*95.3*			*97.0*	*106*							

WG1949475

Radiochemistry by Method D3972 U-02

QUALITY CONTROL SUMMARY

L1540499-01

Method Blank (MB)

(MB) R3857148-1 11/03/22 17:51

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / -	MB MDA pCi/l
URANIUM-234	0.0737		0.0515	0.0687
URANIUM-235	-0.00843	U	0.0146	0.0373
URANIUM-238	0.0418		0.0307	0.0373
(T) URANIUM-232	*78.6*		*78.6*	

L1540499-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1540499-01 11/03/22 17:51 • (DUP) R3857148-4 11/03/22 17:51

Analyte	Original Result pCi/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
URANIUM-234	101	3.35	0.523	112	3.58	0.523	1	11.0	2.39		20	3
URANIUM-235	6.51	0.853	0.218	3.40	0.630	0.218	1	62.8	2.93		20	3
URANIUM-238	48.4	2.31	0.272	49.7	2.38	0.272	1	2.79	0.413		20	3
(T) URANIUM-232	*71.2*			*68.2*	*68.2*							

Laboratory Control Sample (LCS)

(LCS) R3857148-2 11/03/22 17:51

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
URANIUM-234	10.1	10.3	102	80.0-120	
URANIUM-238	9.80	11.1	113	80.0-120	
(T) URANIUM-232			*80.8*		

L1538854-23 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1538854-23 11/03/22 17:51 • (MS) R3857148-5 11/04/22 09:54 • (MSD) R3857148-3 11/03/22 17:51

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
URANIUM-234	40.2	0.207	45.5	37.9	113	93.9	1	75.0-125			18.2		20
URANIUM-238	39.2	0.00768	48.2	41.8	123	107	1	75.0-125			14.1		20
(T) URANIUM-232		*83.6*			*67.3*	*78.4*							

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Below Detectable Limits: Indicates that the analyte was not detected.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Company Name/Address:
Energy Fuels Resources

3549 South Cheryl Drive
Flagstaff, AZ 86005

Billing Information:
Accounts Payable
3549 South Cheryl Drive
Suite 600
Lakewood, CO 80228

Pres Chk

Report to:
Kathy Weinel

Email To: KWeinel@energyfuels.com

Project Description:

City/State Collected:

Please Circle: PT MT CT ET

Phone:

Client Project #

Lab Project #
ENEFUELCO

Collected by (print):

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote # 00122017

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALKCA 125mlHDPE-NoPres	FLUORIDE,SULFATE 125mlHDPE-NoPres	GROSS ALPHA 500mlHDPE-Add HNO3	NO2NO3 250mlHDPE-H2SO4	PH 125mlHDPE-NoPres	RA-226 1L-HDPE-Add HNO3	RA-228 1L-HDPE-Add-HNO3	TDS 1L-HDPE NoPres	Total Metals 250mlHDPE-HNO3		Remarks	Sample # (lab only)
Sump-1470_0927 2022	Grab	GW	1470	9/27/22	0740	6	X	X		X	X			X	X			-01
		GW				6	X	X		X	X			X	X			
		GW				6	X	X		X	X			X	X			
		GW				6	X	X		X	X			X	X			
		GW				6	X	X		X	X			X	X			
SAA		NPW				4			X			X	X					-01
		NPW				4			X			X	X					
		NPW				4			X			X	X					
		NPW				4			X			X	X					
		NPW				4			X			X	X					

Chain of Custody Page ___ of ___

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at:
https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1540499
H057

Acctnum: ENEFUELCO
Template: T215492
Prelogin: P948242
PM: 732 - Donna Eldson
PB: 6/21/22 MW
Shipped Via: FedEX Ground

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: Sump Discharge

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / (No) HCL / MeoH TBR	If preservation required by Login: Date/Time
				0	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: NSA °C 3.8+0.2=3.8	Bottles Received: 10
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Zac Price	Date: 9-28-22	Time: 10:00

Hold: | Condition: NCF / (OK)

ANALYTICAL REPORT

January 27, 2023

Revised Report

Energy Fuels Resources

Sample Delivery Group:	L1559124
Samples Received:	11/17/2022
Project Number:	
Description:	

Report To:

Kathy Weinel
225 Union Blvd
Suite 600
Lakewood, CO 80228

Entire Report Reviewed By:

Donna Eidson
Project Manager

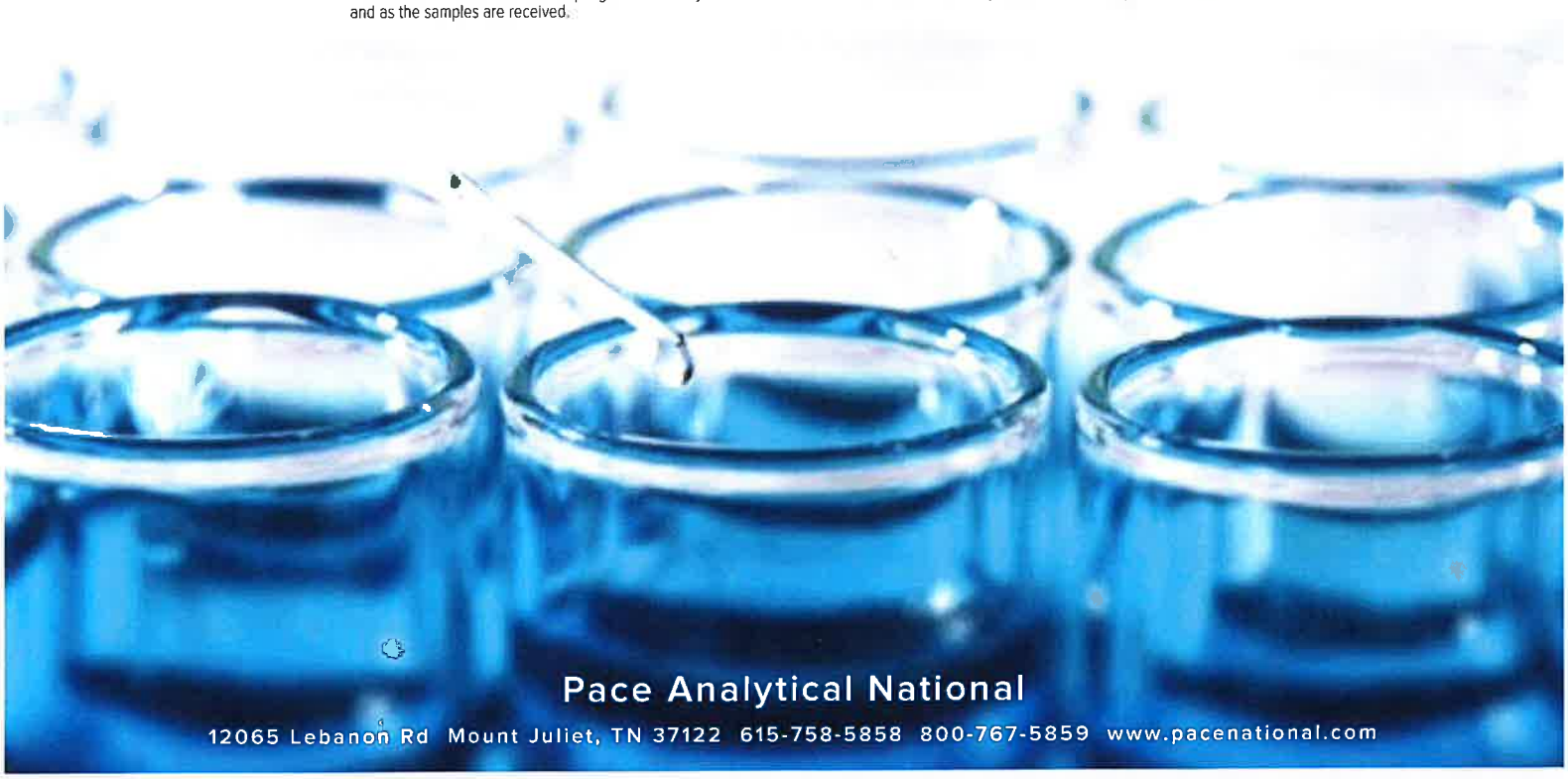

TABLE OF CONTENTS

SAMPLE SUMMARY

SUMP1470_11162022 L1559124-01 GW

Collected by: MG / MF | Collected date/time: 11/16/22 07:30 | Received date/time: 11/17/22 11:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1964149	1	11/23/22 10:21	11/23/22 11:51	AS	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG1964875	1	11/25/22 07:14	11/25/22 07:14	ARD	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG1962999	20	11/29/22 15:11	11/29/22 15:11	JCS	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1965103	1	11/25/22 16:08	11/25/22 16:08	KAD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1971206	1	12/08/22 22:00	12/08/22 22:00	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1973077	5	12/12/22 18:29	12/12/22 18:29	LBR	Mt. Juliet, TN
Mercury by Method 7470A	WG1963512	1	11/22/22 15:13	11/23/22 10:25	SRT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1973503	1	12/14/22 19:40	12/15/22 12:54	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1973503	1	12/14/22 19:40	12/15/22 19:12	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1988004	1	01/13/23 12:42	01/13/23 15:23	JPD	Mt. Juliet, TN

SUMP65_11162022 L1559124-02 GW

Collected by: MG / MF | Collected date/time: 11/16/22 07:30 | Received date/time: 11/17/22 11:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1964149	1	11/23/22 10:21	11/23/22 11:51	AS	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG1964875	1	11/25/22 07:20	11/25/22 07:20	ARD	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG1962999	20	11/29/22 15:12	11/29/22 15:12	JCS	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG1965103	1	11/25/22 16:08	11/25/22 16:08	KAD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1971206	1	12/08/22 22:54	12/08/22 22:54	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1973077	5	12/12/22 18:42	12/12/22 18:42	LBR	Mt. Juliet, TN
Mercury by Method 7470A	WG1963512	1	11/22/22 15:13	11/23/22 10:36	SRT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1973503	1	12/14/22 19:40	12/15/22 12:44	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1988004	1	01/13/23 12:42	01/13/23 15:26	JPD	Mt. Juliet, TN

SUMP1470_11162022 L1559124-03 Non-Potable Water

Collected by: MG / MF | Collected date/time: 11/16/22 07:30 | Received date/time: 11/17/22 11:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG1968143	1	12/09/22 13:47	12/14/22 11:10	SWM	Mt. Juliet, TN
Radiochemistry by Method 903.0/9315	WG1961194	1	12/09/22 11:12	12/15/22 16:52	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1969805	1	12/06/22 15:49	12/28/22 15:18	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1968143	1	12/09/22 13:47	12/14/22 11:10	RRE	Mt. Juliet, TN
Radiochemistry by Method D3972 U-02	WG1967592	1	12/06/22 17:00	12/09/22 10:03	RGT	Mt. Juliet, TN

SUMP65_11162022 L1559124-04 Non-Potable Water

Collected by: MG / MF | Collected date/time: 11/16/22 07:30 | Received date/time: 11/17/22 11:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 900	WG1968143	1	12/09/22 13:47	12/14/22 11:10	SWM	Mt. Juliet, TN
Radiochemistry by Method 903.0/9315	WG1961194	1	12/09/22 11:12	12/15/22 16:52	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1969805	1	12/06/22 15:49	12/28/22 15:18	SWM	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1968143	1	12/09/22 13:47	12/14/22 11:10	SWM	Mt. Juliet, TN
Radiochemistry by Method D3972 U-02	WG1967592	1	12/06/22 17:00	12/08/22 19:08	RGT	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Donna Eidson
Project Manager

Report Revision History

Level II Report - Version 1: 01/04/23 14:19

Project Narrative

Added 6020 U per customer request

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Solids	787	J3	13.3	1	11/23/2022 11:51	WG1964149

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity,Carbonate	U		8.45	20.0	1	11/25/2022 07:14	WG1964875

Sample Narrative:
L1559124-01 WG1964875: Endpoint pH 4.5 headspace

Wet Chemistry by Method 353.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	13.2		1.00	2.00	20	11/29/2022 15:11	WG1962999

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.81	T8	1	11/25/2022 16:08	WG1965103

Sample Narrative:
L1559124-01 WG1965103: 7.81 at 19.7C

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Fluoride	0.341		0.0640	0.150	1	12/08/2022 22:00	WG1971206
Sulfate	395		2.97	25.0	5	12/12/2022 18:29	WG1973077

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Mercury	U		0.000100	0.000200	1	11/23/2022 10:25	WG1963512

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Antimony	0.00549	J	0.00430	0.0100	1	12/15/2022 12:54	WG1973503
Arsenic	0.169		0.00440	0.0100	1	12/15/2022 12:54	WG1973503
Barium	0.0517		0.000736	0.00500	1	12/15/2022 12:54	WG1973503
Beryllium	U		0.000330	0.00200	1	12/15/2022 12:54	WG1973503
Cadmium	0.000783	J	0.000479	0.00200	1	12/15/2022 12:54	WG1973503
Calcium	124		0.0793	1.00	1	12/15/2022 12:54	WG1973503
Chromium	0.00225	J	0.00140	0.0100	1	12/15/2022 12:54	WG1973503
Copper	0.117		0.00368	0.0100	1	12/15/2022 12:54	WG1973503
Iron	4.52		0.0180	0.100	1	12/15/2022 12:54	WG1973503
Lead	0.0395		0.00299	0.00600	1	12/15/2022 12:54	WG1973503
Magnesium	65.3		0.0853	1.00	1	12/15/2022 12:54	WG1973503
Manganese	0.108		0.000934	0.0100	1	12/15/2022 12:54	WG1973503
Nickel	0.478		0.00161	0.0100	1	12/15/2022 12:54	WG1973503
Potassium	7.62		0.261	2.00	1	12/15/2022 12:54	WG1973503
Selenium	U		0.00735	0.0100	1	12/15/2022 12:54	WG1973503
Sodium	28.2		0.504	3.00	1	12/15/2022 12:54	WG1973503

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Thallium	U		0.00431	0.0100	1	12/15/2022 19:12	WG1973503
Vanadium	U		0.00499	0.0200	1	12/15/2022 12:54	WG1973503
Zinc	0.540		0.00652	0.0500	1	12/15/2022 12:54	WG1973503

Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Uranium	0.119		0.0000789	0.00100	1	01/13/2023 15:23	WG1988004

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Solids	784	J3	13.3	1	11/23/2022 11:51	WG1964149

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity,Carbonate	U		8.45	20.0	1	11/25/2022 07:20	WG1964875

Sample Narrative:
L1559124-02 WG1964875: Endpoint pH 4.5 headspace

Wet Chemistry by Method 353.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	12.4		1.00	2.00	20	11/29/2022 15:12	WG1962999

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.77	T8	1	11/25/2022 16:08	WG1965103

Sample Narrative:
L1559124-02 WG1965103: 7.77 at 19.8C

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Fluoride	0.249		0.0640	0.150	1	12/08/2022 22:54	WG1971206
Sulfate	390		2.97	25.0	5	12/12/2022 18:42	WG1973077

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Mercury	U		0.000100	0.000200	1	11/23/2022 10:36	WG1963512

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Antimony	0.00691	J	0.00430	0.0100	1	12/15/2022 12:44	WG1973503
Arsenic	0.172		0.00440	0.0100	1	12/15/2022 12:44	WG1973503
Barium	0.0533		0.000736	0.00500	1	12/15/2022 12:44	WG1973503
Beryllium	U		0.000330	0.00200	1	12/15/2022 12:44	WG1973503
Cadmium	0.000756	J	0.000479	0.00200	1	12/15/2022 12:44	WG1973503
Calcium	123		0.0793	1.00	1	12/15/2022 12:44	WG1973503
Chromium	0.00212	J	0.00140	0.0100	1	12/15/2022 12:44	WG1973503
Copper	0.122		0.00368	0.0100	1	12/15/2022 12:44	WG1973503
Iron	4.61		0.0180	0.100	1	12/15/2022 12:44	WG1973503
Lead	0.0449		0.00299	0.00600	1	12/15/2022 12:44	WG1973503
Magnesium	65.3		0.0853	1.00	1	12/15/2022 12:44	WG1973503
Manganese	0.110		0.000934	0.0100	1	12/15/2022 12:44	WG1973503
Nickel	0.474		0.00161	0.0100	1	12/15/2022 12:44	WG1973503
Potassium	7.57		0.261	2.00	1	12/15/2022 12:44	WG1973503
Selenium	U		0.00735	0.0100	1	12/15/2022 12:44	WG1973503
Sodium	28.4	O1	0.504	3.00	1	12/15/2022 12:44	WG1973503

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Thallium	0.00679	J	0.00431	0.0100	1	12/15/2022 12:44	WG1973503
Vanadium	U		0.00499	0.0200	1	12/15/2022 12:44	WG1973503
Zinc	0.545	O1	0.00652	0.0500	1	12/15/2022 12:44	WG1973503

Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Uranium	0.115		0.0000789	0.00100	1	01/13/2023 15:26	WG1988004

Radiochemistry by Method 900

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
GROSS ALPHA	180		9.35	2.33	12/14/2022 11:10	WG1968143

Radiochemistry by Method 903.0/9315

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Radium-226	6.95		1.52	0.564	12/15/2022 16:52	WG1961194
(T) Barium	*102*			*30.0-143*	*12/15/2022 16:52*	WG1961194

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.880		0.366	0.665	12/28/2022 15:18	WG1969805
(T) Barium	*108*			*30.0-143*	*12/28/2022 15:18*	WG1969805
(T) Yttrium	*100*			*30.0-136*	*12/28/2022 15:18*	WG1969805

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Adjusted Gross Alpha	72.8				12/14/2022 11:10	WG1968143

Radiochemistry by Method D3972 U-02

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
URANIUM-234	73.1		2.44	0.521	12/09/2022 10:03	WG1967592
URANIUM-235	3.03		0.533	0.358	12/09/2022 10:03	WG1967592
URANIUM-238	34.0		1.65	0.249	12/09/2022 10:03	WG1967592
(T) URANIUM-232	*58.1*			*30.0-110*	*12/09/2022 10:03*	WG1967592

Radiochemistry by Method 900

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
GROSS ALPHA	187	J3	9.97	2.39	12/14/2022 11:10	WG1968143

Radiochemistry by Method 903.0/9315

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Radium-226	7.34		1.53	0.454	12/15/2022 16:52	WG1961194
(T) Barium	*107*			*30.0-143*	*12/15/2022 16:52*	WG1961194

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.03		0.304	0.540	12/28/2022 15:18	WG1969805
(T) Barium	*113*			*30.0-143*	*12/28/2022 15:18*	WG1969805
(T) Yttrium	*120*			*30.0-136*	*12/28/2022 15:18*	WG1969805

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Adjusted Gross Alpha	70.1				12/14/2022 11:10	WG1968143

Radiochemistry by Method D3972 U-02

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
URANIUM-234	79.0		2.61	0.466	12/08/2022 19:08	WG1967592
URANIUM-235	3.95		0.589	0.208	12/08/2022 19:08	WG1967592
URANIUM-238	37.5		1.80	0.349	12/08/2022 19:08	WG1967592
(T) URANIUM-232	*55.2*			*30.0-110*	*12/08/2022 19:08*	WG1967592

WG1964149

Gravimetric Analysis by Method 2540 C-2011

QUALITY CONTROL SUMMARY

L1559124-01,02

Method Blank (MB)

(MB) R3865030-1 11/23/22 11:51

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1559124-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1559124-01 11/23/22 11:51 • (DUP) R3865030-3 11/23/22 11:51

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	787	844	1	7.03	J3	5

L1559124-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1559124-02 11/23/22 11:51 • (DUP) R3865030-4 11/23/22 11:51

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	784	921	1	16.1	J3	5

Laboratory Control Sample (LCS)

(LCS) R3865030-2 11/23/22 11:51

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8450	96.0	77.3-123	

WG1968143

Radiochemistry by Method 900

QUALITY CONTROL SUMMARY

L1559124-03,04

Method Blank (MB)

(MB) R3872862-1 12/14/22 11:10

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
GROSS ALPHA	-0.167	U	0.411	0.686

L1559124-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1559124-04 12/14/22 11:10 • (DUP) R3872862-5 12/14/22 11:10

Analyte	Original Result pCi/l	Original Uncertainty + / - pCi/l	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / - pCi/l	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
GROSS ALPHA	187	9.97	2.39	277	14.8	2.39	1	38.9	5.05	J3	20	3

Laboratory Control Sample (LCS)

(LCS) R3872862-2 12/14/22 11:10

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
GROSS ALPHA	15.0	15.0	100	80.0-120	

L1562790-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1562790-01 12/14/22 23:53 • (MS) R3872862-3 12/14/22 11:10 • (MSD) R3872862-4 12/14/22 11:10

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
GROSS ALPHA	15.0	2.09	15.6	15.3	90.0	87.9	1	70.0-130			2.07		20

WG1961194

Radiochemistry by Method 903.0/9315

QUALITY CONTROL SUMMARY

L1559124-03,04

Method Blank (MB)

(MB) R3872312-1 12/15/22 13:04

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / -	MB MDA pCi/l
Radium-226	0.0687	U	0.142	0.251
(T) Barium	*90.7*		*90.7*	

L1559122-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1559122-04 12/15/22 14:05 • (DUP) R3872312-5 12/15/22 13:34

Analyte	Original Result pCi/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	2.27	0.862	0.360	2.36	1.30	0.360	1	4.11	0.0609		20	3
(T) Barium	*104*			*94.6*	*94.6*							

Laboratory Control Sample (LCS)

(LCS) R3872312-2 12/15/22 13:04

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.01	5.90	118	80.0-120	
(T) Barium			*96.1*		

L1556623-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1556623-04 12/15/22 13:34 • (MS) R3872312-3 12/15/22 13:04 • (MSD) R3872312-4 12/15/22 13:04

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	0.519	20.0	22.2	97.2	108	1	75.0-125			10.7		20
(T) Barium		*91.1*			*94.1*	*100*							

WG1969805

Radiochemistry by Method 904/9320

QUALITY CONTROL SUMMARY

L1559124-03,04

Method Blank (MB)

(MB) R3877617-1 12/28/22 15:18

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / -	MB MDA pCi/l
Radium-228	0.129	U	0.162	0.303
(T) Barium	*98.1*		*98.1*	
(T) Yttrium	*92.5*		*92.5*	

L1557029-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1557029-01 12/28/22 15:18 • (DUP) R3877617-5 12/28/22 15:18

Analyte	Original Result pCi/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	1.97	0.215	0.339	1.23	0.303	0.339	1	46.0	1.98		20	3
(T) Barium	*111*			*113*	*113*							
(T) Yttrium	*118*			*113*	*113*							

Laboratory Control Sample (LCS)

(LCS) R3877617-2 12/28/22 15:18

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.01	80.3	80.0-120	
(T) Barium			*105*		
(T) Yttrium			*121*		

L1558425-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1558425-11 12/28/22 15:18 • (MS) R3877617-3 12/28/22 15:18 • (MSD) R3877617-4 12/28/22 15:18

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	10.0	2.79	12.5	11.9	97.1	91.3	1	70.0-130			4.75		20
(T) Barium		*108*			*111*	*108*							
(T) Yttrium		*121*			*115*	*112*							

WG1967592

Radiochemistry by Method D3972 U-02

QUALITY CONTROL SUMMARY

L1559124-03,04

Method Blank (MB)

(MB) R3871568-1 12/08/22 19:08

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
URANIUM-234	0.0813	J	0.0704	0.0984
URANIUM-235	0.000675	U	0.0287	0.0586
URANIUM-238	0.0719		0.0498	0.0586
(T) URANIUM-232	*52.3*		*52.3*	

L1562249-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1562249-03 12/08/22 19:08 • (DUP) R3871568-5 12/08/22 19:08

Analyte	Original Result uCi/F	Original Uncertainty + / -	Original MDA uCi/F	DUP Result uCi/F	DUP Uncertainty + / -	DUP MDA uCi/F	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
URANIUM-234	0.000000524	0.000000296	0.000000375	0.000000327	0.000000370	0.000000375	1	46.3	0.416	J	20	3
URANIUM-235	-0.0000000324	0.000000118	0.000000242	-0.0000000232	0.000000212	0.000000242	1	0.000	0.0381	U	20	3
URANIUM-238	0.000000524	0.000000237	0.000000242	0.000000436	0.000000234	0.000000242	1	18.3	0.264		20	3
(T) URANIUM-232	*79.9*			*69.2*	*69.2*							

Laboratory Control Sample (LCS)

(LCS) R3871568-2 12/08/22 19:08

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
URANIUM-234	10.1	10.4	103	80.0-120	
URANIUM-238	9.80	11.1	113	80.0-120	
(T) URANIUM-232			*53.0*		

L1559122-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1559122-06 12/08/22 19:08 • (MS) R3871568-3 12/08/22 19:08 • (MSD) R3871568-4 12/08/22 19:08

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
URANIUM-234	40.2	9.06	46.3	47.9	92.7	96.7	1	75.0-125			3.39		20
URANIUM-238	39.2	4.26	43.5	44.1	100	102	1	75.0-125			1.23		20
(T) URANIUM-232		*50.6*			*47.1*	*62.7*							

WG1964875

Wet Chemistry by Method 2320 B-2011

QUALITY CONTROL SUMMARY

L1559124-01,02

Method Blank (MB)

(MB) R3865011-2 11/25/22 07:06

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity,Carbonate	U		8.45	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1560899-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1560899-06 11/25/22 09:21 • (DUP) R3865011-3 11/25/22 09:26

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity,Carbonate	U	U	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

WG1962999

Wet Chemistry by Method 353.2

QUALITY CONTROL SUMMARY

L1559124-01,02

Method Blank (MB)

(MB) R3866150-1 11/29/22 14:46

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Nitrate-Nitrite	U		0.0500	0.100

L1556155-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1556155-02 11/29/22 14:48 • (DUP) R3866150-3 11/29/22 14:49

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate-Nitrite	0.414	0.406	1	1.95		20

L1559149-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1559149-01 11/29/22 15:17 • (DUP) R3866150-6 11/29/22 15:19

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate-Nitrite	0.0737	0.0711	1	3.59	J	20

Laboratory Control Sample (LCS)

(LCS) R3866150-2 11/29/22 14:47

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Nitrate-Nitrite	2.50	2.55	102	90.0-110	

L1556155-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1556155-02 11/29/22 14:48 • (MS) R3866150-4 11/29/22 14:51 • (MSD) R3866150-5 11/29/22 14:52

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Nitrate-Nitrite	2.50	0.414	3.04	3.01	105	104	1	90.0-110			0.992	20

L1559149-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1559149-01 11/29/22 15:17 • (MS) R3866150-7 11/29/22 15:20

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Nitrate-Nitrite	2.50	0.0737	2.60	101	1	90.0-110	

L1560232-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1560232-02 11/25/22 16:08 • (DUP) R3865110-2 11/25/22 16:08

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.68	7.70	1	0.260		1

Sample Narrative:
OS: 7.68 at 19.6C
DUP: 7.7 at 19.7C

L1560703-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1560703-01 11/25/22 16:08 • (DUP) R3865110-3 11/25/22 16:08

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.72	7.70	1	0.259		1

Sample Narrative:
OS: 7.72 at 19.8C
DUP: 7.7 at 19.8C

Laboratory Control Sample (LCS)

(LCS) R3865110-1 11/25/22 16:08

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	9.91	99.1	99.0-101	

Sample Narrative:
LCS: 9.91 at 19.7C

WG1971206

Wet Chemistry by Method 9056A

QUALITY CONTROL SUMMARY

L1559124-01,02

Method Blank (MB)

(MB) R3870756-1 12/08/22 10:53

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Fluoride	U		0.0640	0.150

L1565119-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1565119-04 12/08/22 14:15 • (DUP) R3870756-3 12/08/22 14:33

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Fluoride	0.945	0.930	1	1.63		15

L1565129-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1565129-02 12/08/22 17:32 • (DUP) R3870756-6 12/08/22 17:50

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Fluoride	0.239	0.255	1	6.44		15

Laboratory Control Sample (LCS)

(LCS) R3870756-2 12/08/22 11:11

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluoride	8.00	7.74	96.7	80.0-120	

L1565119-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1565119-04 12/08/22 14:15 • (MS) R3870756-4 12/08/22 14:51 • (MSD) R3870756-5 12/08/22 15:45

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Fluoride	5.00	0.945	5.77	5.76	96.6	96.3	1	80.0-120			0.222	15

L1565129-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1565129-02 12/08/22 17:32 • (MS) R3870756-7 12/08/22 18:08

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Fluoride	5.00	0.239	4.95	94.1	1	80.0-120	

QUALITY CONTROL SUMMARY

L1559124-01,02

Method Blank (MB)

(MB) R3871050-1 12/12/22 10:03

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Sulfate	0.811	J	0.594	5.00

L1559122-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1559122-03 12/12/22 18:04 • (DUP) R3871050-3 12/12/22 18:16

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Sulfate	271	271	5	0.120		15

L1565565-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1565565-08 12/12/22 20:49 • (DUP) R3871050-6 12/12/22 21:02

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Sulfate	386	373	5	3.55		15

Laboratory Control Sample (LCS)

(LCS) R3871050-2 12/12/22 10:16

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Sulfate	40.0	38.7	96.7	80.0-120	

L1564962-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1564962-01 12/12/22 19:33 • (MS) R3871050-4 12/12/22 19:46 • (MSD) R3871050-5 12/12/22 19:58

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Sulfate	50.0	38.7	86.5	87.1	95.7	96.9	1	80.0-120			0.688	15

L1566271-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1566271-03 12/12/22 21:40 • (MS) R3871050-7 12/12/22 21:53

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/l	mg/l	mg/l	%		%	
Sulfate	50.0	2.97	52.6	99.3	1	80.0-120	

WG1963512

Mercury by Method 7470A

QUALITY CONTROL SUMMARY

L1559124-01,02

Method Blank (MB)

(MB) R3864456-1 11/23/22 10:21

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury	U		0.000100	0.000200

Laboratory Control Sample (LCS)

(LCS) R3864456-2 11/23/22 10:23

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.00300	0.00278	92.5	80.0-120	

L1559124-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1559124-01 11/23/22 10:25 • (MS) R3864456-3 11/23/22 10:27 • (MSD) R3864456-4 11/23/22 10:29

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	U	0.00315	0.00290	105	96.7	1	75.0-125			8.13	20

WG1973503

Metals (ICP) by Method 6010B

QUALITY CONTROL SUMMARY

L1559124-01,02

Method Blank (MB)

(MB) R3872373-1 12/15/22 12:39

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.00430	0.0100
Arsenic	U		0.00440	0.0100
Barium	U		0.000736	0.00500
Beryllium	U		0.000330	0.00200
Cadmium	U		0.000479	0.00200
Calcium	U		0.0793	1.00
Chromium	U		0.00140	0.0100
Copper	U		0.00368	0.0100
Iron	U		0.0180	0.100
Lead	U		0.00299	0.00600
Magnesium	U		0.0853	1.00
Manganese	U		0.000934	0.0100
Nickel	U		0.00161	0.0100
Potassium	U		0.261	2.00
Selenium	U		0.00735	0.0100
Sodium	U		0.504	3.00
Thallium	U		0.00431	0.0100
Vanadium	U		0.00499	0.0200
Zinc	U		0.00652	0.0500

Laboratory Control Sample (LCS)

(LCS) R3872373-2 12/15/22 12:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Antimony	1.00	0.974	97.4	80.0-120	
Arsenic	1.00	0.932	93.2	80.0-120	
Barium	1.00	0.947	94.7	80.0-120	
Beryllium	1.00	0.958	95.8	80.0-120	
Cadmium	1.00	0.963	96.3	80.0-120	
Calcium	10.0	9.76	97.6	80.0-120	
Chromium	1.00	0.969	96.9	80.0-120	
Copper	1.00	0.973	97.3	80.0-120	
Iron	10.0	9.68	96.8	80.0-120	
Lead	1.00	0.978	97.8	80.0-120	
Magnesium	10.0	9.56	95.6	80.0-120	
Manganese	1.00	0.953	95.3	80.0-120	
Nickel	1.00	0.997	99.7	80.0-120	
Potassium	10.0	9.56	95.6	80.0-120	

WG1973503

Metals (ICP) by Method 6010B

QUALITY CONTROL SUMMARY

L1559124-01,02

Laboratory Control Sample (LCS)

(LCS) R3872373-2 12/15/22 12:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Selenium	1.00	0.941	94.1	80.0-120	
Sodium	10.0	10.0	100	80.0-120	
Thallium	1.00	0.984	98.4	80.0-120	
Vanadium	1.00	0.966	96.6	80.0-120	
Zinc	1.00	0.971	97.1	80.0-120	

L1559124-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1559124-02 12/15/22 12:44 • (MS) R3872373-4 12/15/22 12:49 • (MSD) R3872373-5 12/15/22 12:51

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	1.00	0.00691	0.992	1.00	98.5	99.6	1	75.0-125			1.02	20
Arsenic	1.00	0.172	1.12	1.11	94.6	94.2	1	75.0-125			0.321	20
Barium	1.00	0.0533	1.02	1.03	96.4	97.5	1	75.0-125			1.06	20
Beryllium	1.00	U	0.956	0.953	95.6	95.3	1	75.0-125			0.271	20
Cadmium	1.00	0.000756	0.978	0.978	97.7	97.7	1	75.0-125			0.0345	20
Calcium	10.0	123	133	132	101	94.5	1	75.0-125			0.455	20
Chromium	1.00	0.00212	0.959	0.960	95.7	95.8	1	75.0-125			0.160	20
Copper	1.00	0.122	1.12	1.13	99.7	101	1	75.0-125			0.876	20
Iron	10.0	4.61	14.3	14.1	96.5	95.4	1	75.0-125			0.798	20
Lead	1.00	0.0449	1.03	1.02	98.0	97.5	1	75.0-125			0.570	20
Magnesium	10.0	65.3	74.8	74.3	94.7	89.4	1	75.0-125			0.721	20
Manganese	1.00	0.110	1.05	1.06	94.0	94.6	1	75.0-125			0.615	20
Nickel	1.00	0.474	1.47	1.47	99.9	100	1	75.0-125			0.0922	20
Potassium	10.0	7.57	17.1	17.1	95.7	94.9	1	75.0-125			0.492	20
Selenium	1.00	U	0.958	0.961	95.8	96.1	1	75.0-125			0.278	20
Sodium	10.0	28.4	37.8	38.1	93.4	96.7	1	75.0-125			0.870	20
Thallium	1.00	0.00679	1.02	1.01	101	101	1	75.0-125			0.267	20
Vanadium	1.00	U	0.986	0.985	98.6	98.5	1	75.0-125			0.0351	20
Zinc	1.00	0.545	1.50	1.49	95.7	95.0	1	75.0-125			0.441	20

WG1988004

Metals (ICPMS) by Method 6020

QUALITY CONTROL SUMMARY

L1559124-01,02

Method Blank (MB)

(MB) R3880888-1 01/13/23 15:03

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Uranium	U		0.0000789	0.00100

Laboratory Control Sample (LCS)

(LCS) R3880888-2 01/13/23 15:06

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Uranium	0.0500	0.0528	106	80.0-120	

L1575372-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1575372-01 01/13/23 15:09 • (MS) R3880888-4 01/13/23 15:16 • (MSD) R3880888-5 01/13/23 15:19

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Uranium	0.0500	U	0.0529	0.0522	106	104	1	75.0-125			1.35	20

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
T8	Sample(s) received past/too close to holding time expiration.
U	Below Detectable Limits: Indicates that the analyte was not detected.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Energy Fuels Resources

3549 South Cheryl Drive
Flagstaff, AZ 86005

Billing Information:
Accounts Payable
3549 South Cheryl Drive
Suite 600
Lakewood, CO 80228

Pres Chk

Report to: Kathy Weinel

Email To: KWeinel@energyfuels.com

Project Description:

City/State Collected:

Please Circle: PT MT CT ET

Phone:

Client Project #

Lab Project # ENEFUELCO

Collected by (print): M. Gerwonsen / M. Farmer

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote # 00122017

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALKCA 125mlHDPE-NoPres	FLUORIDE,SULFATE 125mlHDPE-NoPres	GROSS ALPHA 500mlHDPE-Add HNO3	NO2NO3 250mlHDPE-H2SO4	PH 125mlHDPE-NoPres	RA-226 1L-HDPE-Acc HNO3	RA-228 1L-HDPE-Acc-HNO3	TDS 1L-HDPE NoPres	Total Metals 250mlHDPE-HNO3	Remarks	Sample # (lab only)
Sump 1470 - 11162022		GW		11/16/22	0730	6	X	X		X	X			X	X		01/03
Sump 65 - 11162022		GW		11/16/22	0730	6	X	X		X	X			X	X		02/04
		GW				6	X	X		X	X			X	X		
		GW				6	X	X		X	X			X	X		
Same As ABOVE		NPW				6	X	X		X	X			X	X		
		NPW				4			X			X	X				
		NPW				4			X			X	X				
		NPW				4			X			X	X				
		NPW				4			X			X	X				

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks: Sump Discharge

pH ___ Temp ___
Flow ___ Other ___

Samples returned via: X UPS __ FedEx __ Courier

Tracking # 1Z 18E 99F 01 9451 7272

Relinquished by: (Signature) Melissa Farmer
Date: 11/16/22 Time: 230
Received by: (Signature)

Relinquished by: (Signature)
Date: Time:
Received by: (Signature)

Relinquished by: (Signature)
Date: Time:
Received for lab by: (Signature)

Trip Blank Received: Yes (No) HCL / MeoH TBR

Temp °C Bottles Received: 14
5.2 + 0 = 5.2

Date: 11-17-22 Time: 0900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Chain of Custody Page ___ of ___

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1559124

E042

Acctnum: ENEFUELCO
Template: T215492
Prelogin: P948242
PM: 732 - Donna Eidson
PB: 8/31/22 mo
Shipped Via: FedEX Ground

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

1100