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DRC-2021-020683

November 29, 2021

Sent VIA OVERNIGHT DELIVERY

Mr. Doug Hansen
Director
Division of Waste Management and Radiation Control
Utah Department of Environmental Quality
195 North 1950 West
Salt Lake City, UT 84116

Re: Transmittal of Annual Tailings System Wastewater Monitoring Report
Groundwater Quality Discharge Permit UGW370004 White Mesa Uranium Mill

Dear Mr. Howard:

Enclosed are two copies of the White Mesa Uranium Mill Annual Tailings System Wastewater Monitoring Report for 2021 as required by the Groundwater Quality Discharge Permit UGW370004, as well as two CDs each containing a word searchable electronic copy of the report.

If you should have any questions regarding this report please contact me.

Yours very truly,

Kathy Weinel

ENERGY FUELS RESOURCES (USA) INC.
Kathy Weinel
Quality Assurance Manager

cc: Scott A. Bakken
Garrin Palmer
Dave Frydenlund
Logan Shumway

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White Mesa Uranium Mill

2021 Annual Tailings System Wastewater Sampling Report

State of Utah
Groundwater Discharge Permit No. UGW370004

Prepared by:

Energy Fuels Resources (USA) Inc.
225 Union Boulevard, Suite 600
Lakewood, CO 80228

November 29, 2021

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2021 ANNUAL TAILINGS SYSTEM WASTEWATER SAMPLING REPORT

1.0 INTRODUCTION

This is the 2021 Annual Tailings System Wastewater Sampling Report for the Energy Fuels Resources (USA) Inc. ("EFRI") White Mesa Mill (the "Mill"), as required under Part I.F.9 of the Mill's State of Utah Groundwater Discharge Permit No. UGW370004 (the "Permit") and Section 6.0 of the *Mill's Sampling and Analysis Plan for The Tailings Management System, Leak Detection Systems and Slimes Drains,* Revision: 3.0, dated July 8, 2016 (the "Sampling Plan") and approved by the State of Utah Division of Waste Management and Radiation Control ("DWMRC") on August 8, 2016.

Cell solution and slimes drain sampling is required under the Sampling Plan and Part I.E.10 of the Permit to be conducted on an annual basis in August of each year for the solutions in Cells 1, 3, 4A, and 4B, the solutions in the slimes drains in Cells 2, 3, 4A, and 4B (for Cells 3, 4A and 4B after the commencement of dewatering), the solutions in the leak detection system ("LDS") in Cell 4A and 4B and any detected solutions in the LDS in Cells 1, 2, and 3 at the time of the August Sampling event. The results of the sampling event are required to be reported to the DWMRC with the Mill's Third Quarter Groundwater Monitoring Report due December 1, of each year.

The 2021 sampling event was conducted September 1, 2021 at DWMRC's request to accommodate their schedule.

2.0 SUMMARY OF MILL TAILINGS SYSTEM ACTIVITIES IN 2021

This section provides a brief description of the Mill's tailings management system, and any changes that were made as a result of Mill activities during the reporting year. A description of which systems were sampled is provided in Section 3.0.

The Mill is designed not to discharge to groundwater or surface waters. Instead, the Mill tailings system utilizes tailings and evaporation cells for disposal, evaporation, and management of Mill tailings, effluents, and other wastes as indicated below:

- Cell 1: dedicated to evaporation of Mill waste solutions;
- Cell 2: contains Mill tailings and has been closed to tailings disposal since 1995 and 11e.(2) byproduct materials since 2000. Cell 2 Phase 1 cover placement commenced in April 2016;
- Cell 3: contains Mill tailings and is in the final stages of filling. It also accepts other Mill wastes and 11e.(2) material from in-situ recovery ("ISR") operations;
- Cell 4A: receives Mill tailings and is used for evaporation of Mill solutions; and
- Cell 4B: is used for evaporation of Mill solutions.

2.1 Cell 1

Cell 1 is a 55-acre impoundment built in June of 1981. It operates as an evaporation pond which receives solutions only. Cell 1 is equipped with a LDS. In 2021, Cell 1 received fluid from the Mill process, storm water run-off, and Mill laboratory waste. The LDS in Cell 1 was dry in 2021.

2.2 Cell 2

Cell 2 is a 67-acre impoundment built in May of 1980. Cell 2 contains Mill tailings and has been closed to tailings disposal since 1995 and 11e.(2) byproduct materials since 2000. Cell 2 Phase 1 cover placement commenced in April 2016. Cell 2 is equipped with a LDS and a slimes drain. The LDS was dry in 2021. As part of closure activities, EFRI began monitoring the slimes drain system in 2008. The fluid from the slimes drain is pumped to Cell 4A. Cell 2 no longer receives any solutions or solids.

2.3 Cell 3

Cell 3 is a 71-acre impoundment built in September 1982. Cell 3 is nearly full of solids. This cell is equipped with a LDS and a slimes drain. The LDS was dry in 2021 and the slimes drain system will be monitored once dewatering begins. In 2021, Cell 3 received solid Mill waste, some process solutions, and solid 11e.2 byproduct material from in situ recovery ("ISR") facilities.

2.4 Cell 4A

Cell 4A is a 40-acre impoundment built in 2008. This cell is equipped with a LDS and a slimes drain. The slimes drain system will be monitored once dewatering begins. The LDS in Cell 4A was sampled in 2021, as described below. In 2021, Cell 4A received solutions from the Mill process, and some solid tailings sands.

2.5 Cell 4B

Cell 4B is a 40-acre impoundment built in 2011. It operates as an evaporation pond which receives solutions only. No process fluids were sent to Cell 4B from the Mill in 2021.The LDS in Cell 4B was sampled in 2021, as described below.

3.0 SAMPLING EVENTS AND SAMPLING METHODOLOGY

3.1 Sampling Events

Samples of solutions from Cells 1, 3, 4A, and 4B, the Cell 2 slimes drain and the Cell 4A and Cell 4B LDSs were collected on September 1, 2021.

In accordance with the Permit, DWMRC was notified of the sampling event, and a DWMRC representative was present for a part of the sampling. The DWMRC representative collected split sample aliquots at Cell 2 slimes drain.

Maps showing the locations of the solution and slimes drain and, when applicable, LDS sampling locations are attached under Tab B. Table 1, included in the Tables Tab, provides an overview of all solution monitoring samples collected during the current period and includes the sampling date, laboratory report date, and the work order/lab set ID associated with the analytical data.

The Permit requires that the samples be analyzed for the water quality parameters listed in Table 2 of the Permit and SVOCs.

Additionally, in order to further characterize the radiological constituents and physical properties of the solution, EFRI conducted voluntary analyses on the September 1, 2021 samples for radium-226, thorium-228, thorium-230, thorium-232, uranium-233/234, uranium-235/236, uranium-238, and specific gravity. The additional data from the September 1, 2021 sampling event are included in separate data tables in Tab D. The gross alpha results have been evaluated and are included as required. These additional data are included in this report for informational purposes only. EFRI may or may not choose to continue these analyses in future sampling events.

3.2 Field Data

Attached under Tab A are copies of all of the field data sheets recorded in association with the annual tailings system monitoring program. Sampling dates are listed in Table 1.

3.3 Sampling Methodology, Equipment and Decontamination Procedures

As noted in the DWMRC-approved Sampling Plan, Revision 3.0, dated July 8, 2016, field filtering and preservation of metals and gross alpha sample aliquots was not completed due to safety concerns associated with the filtering apparatus and the backpressure created by the increased viscosity of these samples. The gross alpha and metals aliquots were filtered and preserved as necessary by the analytical laboratory. It is important to note that field preservation of the samples is to preclude biological growth and prevent the inorganic analytes from precipitating. Based on past field data, the cell solutions (except Cell 3) and LDS and slimes drain samples are at a low pH at the time of collection without additional preservative. The addition of acidic preservatives in the field would add minimal if any protection from biological growth or precipitation.

3.3.1 Cells

Cell solution samples were collected as noted above, at the cell sampling stations shown on the Figures in Tab B, using approved procedures described in the DWMRC-approved Sampling Plan, Section 3.1.2.

Disposable or dedicated sampling equipment was used during this sampling event and, as such, rinsate samples were not required.

3.3.2 Cell 2 Slimes Drain

Once a tailings cell has started the dewatering procedures, a sample will be collected from the slimes drain system. At this time, Cell 2 is the only slimes drain that requires sampling. The

location of the slimes drain for Cell 2 is shown in Tab B. While Cells 3, 4A and 4B are equipped with slimes drain sample locations, Cells 3 and 4A are still active and Cell 4B is being used as an evaporation pond, and the slimes drains will not be pumped (and/or sampled) until dewatering operations have commenced.

The Cell 2 slimes drain, shown on the Figures in Tab B, was sampled using a disposable bailer as noted in the DWMRC-approved Sampling Plan, Section 3.1.3.

Due to the use of a disposable bailer, a rinsate sample was not required.

3.3.3 Cell 4A Leak Detection Systems

The Cell 4A LDS sample was collected from the sampling station shown on the Figures in Tab B using a dedicated stainless steel bucket and ladle as noted in the DWMRC-approved Sampling Plan, Section 3.2.2.

3.3.4 Cell 4B Leak Detection Systems

The Cell 4B LDS sample was collected from the sampling station shown on the Figures in Tab B using a dedicated stainless steel bucket and ladle as noted in the DWMRC-approved Sampling Plan, Section 3.2.2.

3.3.5 Cells 1, 2, 3,

The Cells 1, 2, and 3 LDSs were not sampled during the 2021 sampling event because the systems were dry.

3.4 Field QC Samples

The field Quality Control ("QC") samples generated during this sampling event included one duplicate and one trip blank per shipment to each laboratory which received samples for Volatile Organic Compounds ("VOCs"). The duplicate sample (Cell 65) was submitted blind to the analytical laboratory. As previously stated, no rinsate blanks were collected during this sampling event as only dedicated or disposable equipment was used for sample collection.

3.5 Laboratory Results

All analytical results were provided by one of the Mill's two contract analytical laboratories, GEL Laboratories ("GEL") or Energy Laboratories ("EL").

The analytical data as well as the laboratory Quality Assurance ("QA")/QC summaries are included under Tab C.

4.0 QUALITY ASSURANCE AND DATA EVALUATION

The Permit requires that the annual tailings system wastewater sampling program be conducted in compliance with the requirements specified in the Mill's approved White Mesa Uranium Mill Groundwater Monitoring Quality Assurance Plan ("QAP"), the approved Sampling Plan and the Permit itself. To meet these requirements, the data validation completed for the tailings system wastewater sampling program and discussed in this Section utilized the requirements outlined in the QAP, the Permit and the approved Sampling Plan as necessary. The Mill Quality Assurance Manager ("QAM") performed a QA/QC review to confirm compliance of the monitoring program with the requirements of the Permit, the QAP, and the Sampling Plan. As required, data QA includes preparation and analysis of QC samples in the field, review of field procedures, an analyte completeness review, and quality control review of laboratory data methods and data. Identification of field QC samples that were collected and analyzed is provided in Section 3.4 and 4.3.1. Discussion of adherence to the Sampling Plan is provided in Section 4.1. Analytical completeness review results are provided in Section 4.2. The steps and tests applied to check laboratory data QA/QC are discussed in Section 4.3.

The analytical laboratories have provided summary reports of the analytical QA/QC measurements necessary to maintain conformance with National Environmental Laboratory Accreditation Conference ("NELAC") certification and reporting protocol. The analytical laboratory QA/QC Summary Reports, including copies of the Chain of Custody forms for each set of Analytical Results, follow the analytical results under Tab C. Results of review of the laboratory QA/QC information are provided under Tab E and discussed in Section 4.3, below.

4.1 Adherence to Sampling Plan and Permit Requirements

On a review of adherence by Mill personnel to the QA/QC requirements, the QAM observed that QA/QC requirements established in the Permit, the QAP, and the Sampling Plan were met, as discussed below.

4.2 Analyte Completeness Review

All analyses required by the Permit Table 2 were completed. In addition, all cell solution samples were analyzed for SVOCs as required by the Permit.

It is important to note that the SVOC analyses include Tentatively Identified Compounds ("TICs"). The SVOC compound 4-chlorophenol would be reported in the TIC data list if detected. 4-chlorophenol was not detected.

4.3 Data Validation

The QAP and the Permit identify the data validation steps and data quality control checks required for the tailings system wastewater monitoring program. Consistent with these requirements, the QAM performed the following evaluations: a field data QA/QC evaluation, a receipt temperature check, a holding time check, an analytical method check, a reporting limit check, a trip blank

check, a QA/QC evaluation of sample duplicates, a gross alpha counting error evaluation and a review of each laboratory's reported QA/QC information. Each evaluation is discussed in the following sections. Data check tables indicating the results of each test are provided under Tab E.

4.3.1 Field Data QA/QC Evaluation

The QAM performs a review of all field recorded data to assess adherence with QAP, Permit, and Sampling Plan requirements. The assessment involved review of the Field Data sheets. Review of the Field Data Sheets noted that all requirements for field data collection were met.

4.3.2 Holding Time Evaluation

QAP Table 1 identifies the method holding times for each suite of parameters. Sample holding time checks are provided under Tab E. All samples were analyzed within the required holding time.

EL reported two results for Total Dissolved Solids ("TDS") for Cell 1, Cell 4B and Cell 65 (duplicate sample of Cell 1). One analysis was completed within holding time and one was completed beyond the holding time. The laboratory noted that there were potential issues with the analyses completed within the holding time due to the sample matrix interferences. The results of both analyses appeared to be comparable and within analytical laboratory error. Comparison of the two TDS results indicates a 2% or less difference between the in holding time sample and the out of holding time sample and therefore the initial results are acceptable for use.

It is important to note that pH is analyzed by the laboratory and is not measured in the field because the acidic nature of the samples requires a more robust meter than what is available for field use. In most circumstances pH is measured at the time of sample collection and a holding time is not assessed. If pH is not measured at the time of collection, a 15-minute time limit is set. EL flagged the pH results with an "H" flag because the pH was measured beyond the 15-minute limit. This does not affect the usability of the data, as the sample matrices are stable and pH is collected for informational purposes only and there are no compliance criteria for pH measurements.

4.3.3 Laboratory Receipt Temperature Check

Chain of Custody sheets were reviewed to confirm compliance with the Permit. Sample receipt temperature checks are provided under Tab E. All samples were received within the required temperature limit.

4.3.4 Analytical Method Check

All analytical methods reported by both laboratories were checked against the required methods specified in Table 1 of the QAP. It is important to note that neither the QAP nor the Permit specify a method for laboratory pH or conductivity. The QAM verified that the laboratory pH and conductivity methods used by the laboratory were appropriate and provided accurate data.

Table 1 of the QAP does not specify a method for SVOCs because SVOCs are not routinely collected in the Mill groundwater samples. The GWDP requires that tailings and slimes drain samples shall include the SVOCs identified in EPA Method 8270D. The GWDP does not specify that EPA Method 8270D be used for analysis, only that the compounds specified in that method be included in the analytical list. All of the SVOCs in the GWDP-specified list were included in the analytical data The analytical data are included in Tab C.

Analytical method check results are provided in Tab E.

4.3.5 Reporting Limit Evaluation

All analytical method reporting limits reported by both laboratories were checked against the reporting limits specified in the Permit. Section I.E.4 of the Permit requires the following Reporting Limits:

> "all water quality analyses reported shall have a minimum detection limit or reporting limit that is less than or equal to the respective:
>
> i. Ground Water Quality Standards ("GWQS") concentrations defined in Table 2 of this Permit,
>
> ii. For TDS, Sulfate, and Chloride, the Minimum Detection Limit for those constituents for Cell solution monitoring will be as follows: 1,000 mg/L, 1,000 mg/L, and 1 mg/L, respectively, and
>
> iii. Lower limits of quantitation for groundwater for semi-volatile organic compounds listed in Table 2 of EPA Method 8270D, Revision 4, dated February, 2007."

Reporting limits are provided in Tab E. There are several constituents that do not have specified reporting limits in either the Permit or EPA Method 8270D. The reporting limits established by the laboratory are reported in the data packages. The reporting limits are comparable to other analytes in the same method based on the same matrix. The reporting limits used by the laboratory are considered acceptable based on the matrix and known difficulties caused by the sample matrix.

The VOCs and all of the SVOCs had reporting limits that exceeded the reporting limits listed in the permit or the method respectively.

The VOCs that had reporting limits that exceeded the reporting limits are:

- Methylene chloride in Cell 1, Cell 2 Slimes, Cell 3, Cell 4A, Cell 4A LDS, Cell 4B, Cell 4B LDS – 2021 reporting limit = 25 ug/L

All samples had methylene chloride RLs above the permit required RL of 5 ug/L. These exceedances were likely the result of dilutions necessary to address the matrix interferences inherent in these samples. The exceedances do not affect the quality or usability of the data

because the results of this sampling provide an "inventory" of cell composition and are not used for comparison to regulatory limits.

The reporting limits for the SVOCs exceeded the recommended RLs in Method 8270D. GEL provided both a method detection limit ("DL") and RL. The DL is based on the sample composition and other sample-specific variables such as TDS and pH. Method 8270D provides "recommended" quantitation limits for water samples. The tailings solution matrix is not comparable to routine groundwater samples and require dilutions to address these matrix interferences. The laboratory will report detections to the DL and therefore that is the lowest limit for reporting (i.e. the RL). These RL exceedances were likely the result of dilutions necessary to address the matrix interferences inherent in these samples. The exceedances do not affect the quality or usability of the data because the results of this sampling provide an "inventory" of cell composition and are not used for comparison to regulatory limits.

In addition, several sets of sample results had the reporting limit raised for at least one analyte due to sample dilution. In all cases the reported value for the analyte was higher than the increased detection limit. In the case of Cell 1/Cell 65, thallium and lead results, EL reported results at too high a dilution, therefore EFRI requested EL reanalyze those two analytes at a lower dilution. Thallium was also reanalyzed for Cell 3, Cell 4A, Cell 4A LDS, and Cell 4B LDS.

4.3.6 Trip Blank Evaluation

All trip blank results were reviewed to identify any blank contamination. Trip blank evaluations are provided in Tab E. All trip blank results associated with the samples were less than the reporting limit for the VOCs.

4.3.7 QA/QC Evaluation for Sample Duplicates

Section 9.1.4 a) of the QAP states that the relative percent difference (the "RPD") will be calculated for the comparison of duplicate and original field samples. The QAP acceptance limits for RPDs between the duplicate and original field sample is less than or equal to 20% unless the measured results are less than 5 times the required detection limit. This standard is based on the EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, February 1994, 9240.1-05-01 as cited in the QAP. The RPDs are calculated for all duplicate pairs for all analytes regardless of whether or not the reported concentrations are greater than 5 times the required detection limits; however, data will be considered noncompliant only when the results are greater than 5 times the required detection limit and the RPD is greater than 20%. RPDs are also only calculated when both the sample and the duplicate report a detection for any given analyte. If only one of the pair reports a detection the RPD cannot be calculated. The additional duplicate information is provided for information purposes.

All duplicate results were within 20% RPD except for pH, arsenic, beryllium, cobalt, copper, manganese, molybdenum, selenium, uranium, and vanadium in the duplicate pair Cell 1/Cell 65. The pH results were greater than 20% RPD, however, the sample and duplicate results were not greater than 5 times the RL and as such are acceptable. Per the approved QAP, and in response to requests from DWMRC, a separate corrective action for duplicate RPDs outside of acceptance

limits has been developed. The revised procedure for duplicate results outside of acceptance limits was implemented. The corrective actions that were taken in accordance with the revised procedure are as follows: the QAM contacted the Analytical Laboratory and requested a review of the raw data to assure that there were no transcription errors and the data were accurately reported. The laboratory noted that the data were accurate and reported correctly. Reanalysis was not completed as the RPDs above the limit are likely due to interferences caused by the matrix, as discussed below. There is no effect on the usability of the data due to the duplicate results exceeding the comparability criteria because the matrix of the sample solution caused the noncompliance.

Results of the RPD test are provided under Tab E. The radiologic duplicates are discussed in Section 4.3.8 below.

4.3.8 Radiologic Counting Error

Section 9.14 of the QAP requires that all gross alpha analysis reported with an activity equal to or greater than the Groundwater Compliance Limit (the "GWCL") (for the tailings system wastewater samples the GWQS will be used), shall have a counting variance that is equal to or less than 20% of the reported activity concentration. An error term may be greater than 20% of the reported activity concentration when the sum of the activity concentration and error term is less than or equal to the GWQS.

Results of routine radiologic sample QC are provided under Tab E. All tailings system wastewater radiologic sample results, except for Cell 3, met the counting error requirement. The error term in Cell 3 was greater than 20% caused by matrix interference due to the nature of the tailings solution.

Section 9.1.4 of the QAP also requires a comparability check between the sample and field duplicate sample results utilizing the formula provided below:

$$| A-B | /(s_a^2+s_b^2)^{1/2} \leq 2$$

The original and duplicate sample did not meet the duplicate comparability check specified in the QAP for gross alpha. Results of the RPD test are provided under Tab E. Per the approved QAP, and in response to requests from DWMRC, a separate corrective action for duplicate RPDs outside of acceptance limits has been developed and is documented in the revised QAP. The revised procedure for duplicate results outside of acceptance limits was implemented for the gross alpha results in duplicate pair Cell 1/Cell 65. The corrective actions that were taken in accordance with the revised procedure are as follows: the QA Manager contacted the Analytical Laboratory and requested a review of the raw data to assure that there were no transcription errors and the data were accurately reported. The laboratory noted that the data were accurate and reported correctly. Reanalysis was not completed as the RPDs above the limit are likely due to interferences caused by the matrix as discussed below.

The lack of comparability of the gross alpha results is indicative of a matrix interference and does not affect the usability of the data. Matrix interference is most likely caused by high concentrations of TDS and other constituents in the sample.

4.3.9 Laboratory Matrix QC Evaluation

Section 9.2 of the QAP requires that the laboratory's QA/QC Manager check the following items in developing data reports: (1) sample preparation information is correct and complete, (2) analysis information is correct and complete, (3) appropriate analytical laboratory procedures are followed, (4) analytical results are correct and complete, (5) QC samples are within established control limits, (6) blanks are within QC limits, (7) special sample preparation and analytical requirements have been met, and (8) documentation is complete. In addition to other laboratory checks described above, EFRI's QAM rechecks QC samples and blanks (items (5) and (6)) to confirm that the percent recovery for spikes and the relative percent difference for spike duplicates are within the method-specific required limits, or that the case narrative sufficiently explains any deviation from these limits. Results of this quantitative check are provided under Tab E. All lab QA/QC results from both EL and GEL met these requirements. There were QC results which did not meet laboratory established acceptance limits, as identified in Tab E and described below.

A significant number of the tailings system wastewater samples had the RL raised for multiple analytes due to matrix interference and/or sample dilution. RL evaluations are discussed in Section 4.3.5.

The check samples included at least the following: a method blank, a laboratory control spike ("LCS"), a matrix spike ("MS") and a matrix spike duplicate ("MSD"), or the equivalent, where applicable.

All qualifiers, and the corresponding explanations reported in the QA/QC Summary Reports for any of the check samples for any of the analytical methods were reviewed by the QAM.

The QAP Section 8.1.2 requires that a MS/MSD pair be analyzed with each analytical batch, depending upon the analytical method requirements and/or method limitations. The QAP does not specify acceptance limits for the MS/MSD pair, and the QAP does not specify that the MS/MSD pair be prepared on EFRI samples only. Acceptance limits for MS/MSDs are set by the laboratories. The review of the information provided by the laboratories in the data packages verified that the QAP requirement to analyze a MS/MSD pair with each analytical batch was met. While the QAP does not require it, the recoveries were reviewed for compliance with the laboratory established acceptance limits. The QAP does not require this level of review, and the results of this review are provided for information only.

The information from the Laboratory QA/QC Summary Reports indicates that the MS/MSDs recoveries and the associated RPDs for the samples were within acceptable laboratory limits except as indicated in Tab E. The data recoveries and RPDs which are outside the laboratory established acceptance limits do not affect the quality or usability of the data because the recoveries and RPDs above or below the acceptance limits are indicative of matrix interference most likely caused by other constituents in the samples. Matrix interferences are applicable to the individual sample results only. The requirement in the QAP to analyze a MS/MSD pair with each analytical batch was met and as such the data are compliant with the QAP.

The QAP specifies that surrogate compounds shall be employed for all organic analyses, but the QAP does not specify acceptance limits for surrogate recoveries. The analytical data associated with the routine quarterly sampling met the requirement specified in the QAP. The information from the Laboratory QA/QC Summary Reports indicates that the surrogate recoveries for the samples were within acceptable laboratory limits for the surrogate compounds. The requirement in the QAP to analyze surrogate compounds was met and the data are compliant with the QAP. Furthermore, there are no QAP requirements for surrogate recoveries.

The information from the Laboratory QA/QC Summary Reports indicates that the LCS/LCSD recoveries for the samples were within acceptable laboratory limits for all LCS/LCSD compounds except as noted in Tab E. The compounds noted with LCS/LCSD recoveries outside of acceptance limits are noted for low recovery and the surrogate recoveries associated with the LCS/LCSD indicate that the analytical system was operating within acceptable limits and the data are acceptable as reported and there is no effect on the usability of the data.

The QAP, Section 8.1.2 requires that each analytical batch shall be accompanied by a method blank. The analytical batches routinely contain a blank, which is a blank sample made and carried through all analytical steps. For the Mill samples, a method blank was prepared for the analytical methods. Per the approved QAP, contamination detected in analysis of method blanks will be used to evaluate any analytical laboratory contamination of environmental samples. The QAP states that non-conformance conditions will exist when contaminant levels in the samples(s) are not an order of magnitude greater than the blank result. Molybdenum, tin, uranium, and copper were reported the method blank from EL. The QAP criteria were not met for tin in the Cell 2 slimes, Cell 4A LDS, and Cell 3 samples because the method blank detections were not less than an order of magnitude of the sample results. The method blank detection indicates false positive results or high biased for tin in the samples, however, since the Cell 2 slimes, Cell 4A LDS, and Cell 3 were all nondetect there is no effect on the sample results. No specific corrective actions are specified in the QAP. The QAP requirement to analyze a method blank with each batch and evaluate the results has been completed as required. Method blank results are included in Tab E.

The EL data packages noted low recoveries in the initial calibration verification ("ICV") samples for manganese, cobalt and thallium. Low recoveries in the ICV sample could indicate a low bias to the sample results. The low ICV recoveries do not affect the quality or usability of the data because the results of this sampling provide an "inventory" of cell composition and are not used for comparison to regulatory limits.

5.0 HISTORIC DATA

The historic analytical data for the tailings system wastewater sampling program are included in Tab D. In addition, the average concentrations for Cell 3, compiled in the DWMRC GWDP, Statement of Basis for a Uranium Mining Facility at White Mesa, South of Blanding, Utah, dated December 1, 2004 are included in Tab D.

6.0 SUMMARY AND CONCLUSIONS

6.1 Cell 1

Cell 1 solutions were acidic in nature with a laboratory pH of 0.4. As expected, the solutions contained gross alpha, major ions, metals, and VOCs. SVOCs, except pyridine, were not detected. Regarding major ions, chloride, fluoride, magnesium, ammonia, potassium, sodium and sulfate were one or more orders of magnitude greater in concentration than the other major ions. Metals exhibiting the greatest concentration by at least one order of magnitude higher than the other metals analyzed included arsenic, beryllium, cadmium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, nickel, selenium, silver, thallium, tin, uranium, vanadium and zinc. A decrease was noted in the gross alpha concentration in the September 2021 sample. The variable gross alpha results are being caused by matrix interference due to the nature of the tailings solution and are not representative of gross alpha from radium concentrations in the solution. This is evidenced by the results of the voluntary additional analyses. The results of the voluntary analyses are shown in Tab D.

The majority of the concentrations reported in the 2021 sample remained within historic ranges. Nitrate, pH mercury, fluoride, sodium, sulfate, TDS, arsenic, beryllium, lead, manganese, selenium, thallium and vanadium had reported concentration outside of the historic ranges. Both increases and decreases were noted. The concentrations which fall outside of the historic ranges are due to effects from the severe local drought, routine sampling and analytical error, and matrix interferences during the analyses caused by the inherent composition of the fluids. It is important to note that not all constituents present in the tailings fluids will exhibit the same behavior as a result of concentration of the tailings fluids and any increases or decreases in constituent results will not be linear. The individual constituent results are greatly affected by the matrix of the tailings fluids and each constituent will behave differently based on the matrix interactions and the differing solubility properties of the constituent.

Comparison of Cell 1 fluids to those of Cells 4A, and 4B reveals that Cell 1 is similar in concentration ratios to the fluids in Cells 4A and 4B.

6.2 Cell 3

Cell 3 solutions were basic in nature, with a laboratory pH of 10. As expected, the solutions contained major ions, metals, and VOCs (acetone only). SVOCs were not detected. Regarding major ions, carbonate and bicarbonate, chloride, ammonia, sodium and sulfate were generally one or more orders of magnitude greater in concentration than the other major ions. Metals exhibiting the greatest concentration by at least one order of magnitude greater than the other metals analyzed included arsenic, copper, iron, molybdenum, selenium, uranium, vanadium and zinc. A decrease in the gross alpha and many metals and ions concentrations was noted in the September 2021 sample while an increase was noted in pH, carbonate, bicarbonate and molybdenum. The reason for the changes in many constituent concentrations was due to nature of the process solutions that flowed into Cell 3.

The analyte concentrations reported in the 2021 sample decreased overall relative to the 2019 results. The changes in concentrations are likely due to the pH change noted in 2021. The pH change is the result of the process solutions that were added in 2021. It is important to note that not all constituents present in the tailings fluids will exhibit the same behavior as a result of concentration of the tailings fluids and any increases or decreases in constituent results will not be linear. The individual constituent results are greatly affected by the matrix of the tailings fluids and each constituent will behave differently based on the matrix interactions and the differing solubility properties of the constituent.

6.3 Cell 4A

Cell 4A solutions were acidic in nature, with a laboratory pH of 2.2. As expected, the solutions contained gross alpha, major ions, metals. VOCs and SVOCs were not detected. Cell 4A fluid exhibited the highest major ion concentrations for chloride, fluoride, magnesium, ammonia, potassium, sodium and sulfate. The metals arsenic, cadmium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, nickel, selenium, uranium, vanadium and zinc were one or more orders of magnitude greater than the other metals analyzed. An increase in the gross alpha concentration of the 2021 sample was noted. The variable gross alpha results are being caused by matrix interference due to the nature of the tailings solution and are not representative of gross alpha from radium concentrations in the solution. This is evidenced by the results of the voluntary additional analyses which are shown in Tab D.

Overall, the concentrations reported in the 2021 sample remained approximately the same as the 2020 sample. Chloride, fluoride nitrate, sodium, and TDS reported concentration slightly above the historic ranges. Concentration changes noted are within the analytical accuracy of the methods used for analysis. It is important to note that not all constituents present in the tailings fluids will exhibit the same behavior as a result of concentration of the tailings fluids and the increases in constituent results will not be linear. The individual constituent results are greatly affected by the matrix of the tailings fluids and each constituent will behave differently based on the matrix interactions and the differing solubility properties of the constituent.

Comparison of Cell 4A fluids to those of Cells 1 and 4B reveals that Cell 4A is similar in concentration ratios to the fluids in Cells 1 and 4B.

6.4 Cell 4B

Cell 4B solutions were acidic in nature, with a laboratory pH of 1.2. As expected, the solutions contained gross alpha, major ions, metals, and VOCs. SVOCs, except pyridine were not detected. Cell 4B fluid exhibited the highest major ion concentrations for chloride, fluoride, magnesium, ammonia, potassium, sodium and sulfate. The metals arsenic, beryllium, cadmium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, nickel, selenium, thallium, uranium, vanadium and zinc were one or more orders of magnitude greater than the other metals analyzed. An increase in the gross alpha concentration of the 2021 sample was noted. The variable gross alpha results are being caused by matrix interference due to the nature of the tailings solution and are not representative of gross alpha from radium concentrations in the solution. This is evidenced by the results of the voluntary additional analyses which are shown in Tab D.

The concentrations reported in the 2021 sample are above previous results due to the cell liquid pool shrinking due to reprocessing and severe drought conditions which concentrated the constituents. It is important to note that not all constituents present in the tailings fluids will exhibit the same behavior as a result of concentration of the tailings fluids and the increases in constituent results will not be linear. The individual constituent results are greatly affected by the matrix of the tailings fluids and each constituent will behave differently based on the matrix interactions and the differing solubility properties of the constituent.

Comparison of Cell 4B fluids to those of Cells 1 and 4A reveals that Cell 4B is similar in concentration ratios to the fluids in Cells 1 and 4A.

6.5 Cell 2 Slimes Drain

Cell 2 Slimes drain fluid was acidic in nature, with a laboratory pH of 3.0. As expected, the solutions contained gross alpha, major ions, metals, and VOCs. Two SVOCs were detected. Major ions that were highest in concentration by one or more orders of magnitude included chloride, magnesium, ammonia, sodium and sulfate. For metals, arsenic, cadmium, chromium, cobalt, copper, iron, manganese, molybdenum, nickel, thallium, uranium, vanadium and zinc were at least one order of magnitude greater in concentration than other metals analyzed. The 2021 gross alpha concentration remained similar to the 2020 sample result. The gross alpha result remains in the same order of magnitude of the historic data. It is important to note that gross alpha results affected by matrix interference due to the nature of the tailings solution and are not representative of gross alpha from radium concentrations in the solution. This is evidenced by the results of the voluntary additional analyses which are shown in Tab D.

The concentrations reported in the 2021 sample remained within historic ranges. Concentration changes noted are within the analytical accuracy of the methods used for analysis.

6.6 Cells 3, 4A and 4B Slimes Drain

In accordance with the Permit, the slimes drains for Cell 3, 4A and 4B are not required to be sampled until dewatering operations have begun. Cell 1 was designed to be used solely as an evaporation pond and does not have a slimes drain.

6.7 Cells 1, 2, and 3 Leak Detection Systems

Consistent with the Permit, the Cells 1, 2, and 3 LDSs were not sampled during the 2021 sampling event. The Cells 1, 2, and 3 LDSs were dry.

6.8 Cell 4A Leak Detection System

Cell 4A LDS solutions were acidic in nature, with a laboratory pH of 2.4. As expected, the solutions contained gross alpha, major ions, metals and VOCs. No SVOCs were detected. Cell 4A LDS fluid exhibited the highest major ion concentrations for chloride, fluoride, magnesium, ammonia, sodium, and sulfate. The metals arsenic, cadmium, chromium, cobalt, copper, iron, lead,

manganese, molybdenum, nickel, selenium, uranium, vanadium, and zinc were one or more orders of magnitude greater than the other metals analyzed. A slight increase in the gross alpha concentration, compared to the 2020 sample was noted. The variable gross alpha results are being caused by matrix interference due to the nature of the tailings solution and are not representative of gross alpha from radium concentrations in the solution. This is evidenced by the results of the voluntary additional analyses which are shown in Tab D.

The majority of the concentrations reported in the 2021 sample remained within historic ranges. Fluoride, cobalt, acetone and methyl ethyl ketone had reported concentration above the historic ranges. The concentrations which fall outside of the historic ranges are due to effects from the severe local drought, routine sampling and analytical error, and matrix interferences during the analyses caused by the inherent composition of the fluids.

6.9 Cell 4B Leak Detection System

Cell 4B LDS solutions were acidic in nature, with a laboratory pH of 2.0. As expected, the solutions contained gross alpha, major ions, and metals. No VOCs were detected. Two SVOCs was detected. Cell 4B LDS fluid exhibited the highest major ion concentrations for chloride, fluoride, magnesium, ammonia, potassium, sodium, and sulfate. The metals arsenic, beryllium, cadmium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, nickel, selenium, uranium, vanadium and zinc were one or more orders of magnitude greater than the other metals analyzed. An increase in the gross alpha concentration was noted in the 2021 sample. The variable gross alpha results are being caused by matrix interference due to the nature of the tailings solution and are not representative of gross alpha from radium concentrations in the solution. This is evidenced by the results of the voluntary additional analyses which are shown in Tab D.

The majority of the concentrations reported in the 2021 sample remained within historic ranges. Fluoride, nitrate, cobalt, lead, molybdenum and uranium had reported concentration outside of the historic ranges. Both increases and decreases were noted. The concentrations which fall outside of the historic ranges are due to changes in the Cell 4B solutions caused by effects from the severe local drought, routine sampling and analytical error, and matrix interferences during the analyses caused by the inherent composition of the fluids.

6.10 Summary and Conclusions of Analytical Results

The metals arsenic, cadmium, chromium, cobalt, copper, iron, manganese, molybdenum, nickel, selenium, uranium, vanadium and zinc were generally present in greatest concentration for all samples. For major ions, chloride, fluoride, magnesium, ammonia, sodium, and sulfate were predominant. Both increases and decreases were noted for several metals and major anions. Concentrations are variable and are driven by Mill operations. EFRI conducted additional voluntary analyses (not required by the GWDP) in order to further characterize the radiological and physical properties of the tailings solution, as discussed Section 3.1 above. The results of the additional voluntary analyses for radium-226, thorium-228, thorium-230, thorium-232, uranium-233/234, uranium-235/236, uranium-238, and specific gravity show that the variability in gross alpha results are being caused by matrix interference due to the nature of the tailings solution and are not representative of gross alpha from radium concentrations in the solution. EFRI may or may

not choose to continue these additional analyses in the future. The changes in concentrations of metals and major ions are reflective of Mill operations and are driven by the addition/movement of fluids during periods of operation. The individual constituent results are greatly affected by the matrix of the tailings fluids and each constituent will behave differently based on the matrix interactions and the differing solubility properties of the constituent. Overall, the results of the 2021 tailings solutions are within historic, expected ranges except as noted above.

7.0 CORRECTIVE ACTION REPORT

No corrective action reports are required for the 2021 annual sampling event.

7.1 Assessment of Corrective Actions from Previous Period

No corrective action reports were required for the 2020 annual sampling event and as such there is no assessment of previous actions necessary.

8.0 SIGNATURE AND CERTIFICATION

This document was prepared by Energy Fuels Resources (USA) Inc.

Energy Fuels Resources (USA) Inc.

By:

Scott A. Bakken	Date
Vice President, Regulatory Affairs	

Certification:

I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Scott A. Bakken
Vice President, Regulatory Affairs
Energy Fuels Resources (USA) Inc.

TABLES

Table 1
Summary of Tailings System Wastewater Monitoring

Location	Sample Date	Date of Laboratory Report	Work Order Number/Lab Set ID
Cell 1 Solutions	9/1/2021	GEL- 10/4/2021, 11/1/2021	GEL - 554861
		EL - 10/15/2021, 10/29/2021, 11/11/2021	EL - C21090172
Cell 2 Slimes Drain	9/1/2021	GEL- 10/4/2021, 11/1/2021	GEL - 554861
		EL - 10/15/2021, 10/29/2021, 11/11/2021	EL - C21090172
Cell 3 Solutions	9/1/2021	GEL- 10/4/2021, 11/1/2021	GEL - 554861
		EL - 10/15/2021, 10/29/2021, 11/11/2021	EL - C21090172
Cell 4A Solutions	9/1/2021	GEL- 10/4/2021, 11/1/2021	GEL - 554861
		EL - 10/15/2021, 10/29/2021, 11/11/2021	EL - C21090172
Cell 4A LDS	9/1/2021	GEL- 10/4/2021, 11/1/2021	GEL - 554861
		EL - 10/15/2021, 10/29/2021, 11/11/2021	EL - C21090172
Cell 4B Solutions	9/1/2021	GEL- 10/4/2021, 11/1/2021	GEL - 554861
		EL - 10/15/2021, 10/29/2021, 11/11/2021	EL - C21090172
Cell 4B LDS	9/1/2021	GEL- 10/4/2021, 11/1/2021	GEL - 554861
		EL - 10/15/2021, 10/29/2021, 11/11/2021	EL - C21090172
Cell 65 - Duplicate of Cell 1	9/1/2021	GEL- 10/4/2021, 11/1/2021	GEL - 554861
		EL - 10/15/2021, 10/29/2021, 11/11/2021	EL - C21090172

Notes:

GEL = GEL Laboratories, LLC
EL = Energy Labs

***EFRI conducted the annual sampling event in September 2021. EFRI collected additional samples aliquots for specific gravity and additional radiological constituents.**

INDEX OF TABS

Tab A

Tailings System Monitoring Field Sheets

Field Data Record-Tailings Solutions, LDS and Slimes Drain Sampling

Location: Cell 1 **Sampling Personnel:** Tanner Holliday, Deen Lyman

Is this a Slimes Drain? ☐ Yes ☒ No

If this is a Slimes Drain, measure depth to wastewater immediately before sampling.

DTW immediately before sampling (slimes only): N/A

Weather Conditions at Time of Sampling: Cloudy, Raining

Analytical Parameters/Sample Collection Method:

Parameter	Sample Taken		Filtered		Sampling Method			Lab Name
					Peristaltic Pump	Bailer	Ladle	
VOCs	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	GEL
Metals	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy
Nutrients	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy
Other Non Radiologics	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy
Gross Alpha	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	GEL
SVOCs	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	GEL
Conductivity	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy

QC Samples Associated with this Location:

☐ Rinsate Blank

☒ Duplicate

Duplicate Sample Name: Cell 65

Notes: Arrived on site at 0800. Samples collected at 0810. Raining at time of collection. Left site at 0825

Deen Henderson & Phil Goble on site to observe sampling event.

Field Data Record-Tailings Solutions, LDS and Slimes Drain Sampling

Location: Slimes #2 **Sampling Personnel:** Tanner Holliday, Deen Lyman

Is this a Slimes Drain? ☒ Yes ☐ No

If this is a Slimes Drain, measure depth to wastewater immediately before sampling.

DTW immediately before sampling (slimes only): 39.58

Weather Conditions at Time of Sampling: Cloudy, Raining

Analytical Parameters/Sample Collection Method:

Parameter	Sample Taken		Filtered		Sampling Method			Lab Name
					Peristaltic Pump	Bailer	Ladle	
VOCs	☒ Yes	☐ No	☐ Yes	☒ No	☐	☒	☐	GEL
Metals	☒ Yes	☐ No	☐ Yes	☒ No	☐	☒	☐	Energy
Nutrients	☒ Yes	☐ No	☐ Yes	☒ No	☐	☒	☐	Energy
Other Non Radiologics	☒ Yes	☐ No	☐ Yes	☒ No	☐	☒	☐	Energy
Gross Alpha	☒ Yes	☐ No	☐ Yes	☒ No	☐	☒	☐	GEL
SVOCs	☒ Yes	☐ No	☐ Yes	☒ No	☐	☒	☐	GEL
Conductivity	☒ Yes	☐ No	☐ Yes	☒ No	☐	☒	☐	Energy

QC Samples Associated with this Location:

☐ Rinsate Blank

☐ Duplicate

Duplicate Sample Name: _____

Notes: Arrived on site at 0827 Samples were bailed from the Slimes drain. Left site at 0852. DWMRC split sampled Slimes #2 Samples collected at 0835.

Field Data Record-Tailings Solutions, LDS and Slimes Drain Sampling

Location: Cell 3 **Sampling Personnel:** Tanner Holliday, Deen Lyman

Is this a Slimes Drain? ☐ Yes ☒ No

If this is a Slimes Drain, measure depth to wastewater immediately before sampling.

DTW immediately before sampling (slimes only): N/A

Weather Conditions at Time of Sampling: Cloudy, Raining

Analytical Parameters/Sample Collection Method:

Parameter	Sample Taken		Filtered		Sampling Method			Lab Name
					Peristaltic Pump	Bailer	Ladle	
VOCs	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	GEL
Metals	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy
Nutrients	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy
Other Non Radiologics	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy
Gross Alpha	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	GEL
SVOCs	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	GEL
Conductivity	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy

QC Samples Associated with this Location:

☐ Rinsate Blank

☐ Duplicate

Duplicate Sample Name: _____

Notes: Arrived on site at 0856. Samples collected at 0905. Left site at 0909

Deen Henderson & Phil Goble on site to observe sampling event.

Field Data Record-Tailings Solutions, LDS and Slimes Drain Sampling

Location: Cell 4A **Sampling Personnel:** Tanner Holliday, Deen Lyman

Is this a Slimes Drain? ☐ Yes ☒ No

If this is a Slimes Drain, measure depth to wastewater immediately before sampling.

DTW immediately before sampling (slimes only): N/A

Weather Conditions at Time of Sampling: Cloudy, Raining

Analytical Parameters/Sample Collection Method:

Parameter	Sample Taken		Filtered		Sampling Method			Lab Name
					Peristaltic Pump	Bailer	Ladle	
VOCs	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	GEL
Metals	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy
Nutrients	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy
Other Non Radiologics	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy
Gross Alpha	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	GEL
SVOCs	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	GEL
Conductivity	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy

QC Samples Associated with this Location:

☐ Rinsate Blank

☐ Duplicate

Duplicate Sample Name: _____

Notes: Arrived on site at 0915. Samples collected at 0920. Left site at 0927

Deen Henderson & Phil Goble on site to observe sampling event.

Field Data Record-Tailings Solutions, LDS and Slimes Drain Sampling

Location: Cell 4A LDS **Sampling Personnel:** Tanner Holliday, Deen Lyman

Is this a Slimes Drain? ☐ Yes ☒ No

If this is a Slimes Drain, measure depth to wastewater immediately before sampling.

DTW immediately before sampling (slimes only): N/A

Weather Conditions at Time of Sampling: Cloudy, Raining

Analytical Parameters/Sample Collection Method:

Parameter	Sample Taken		Filtered		Sampling Method			Lab Name
					Peristaltic Pump	Bailer	Ladle	
VOCs	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	GEL
Metals	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy
Nutrients	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy
Other Non Radiologics	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy
Gross Alpha	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	GEL
SVOCs	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	GEL
Conductivity	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy

QC Samples Associated with this Location:

☐ Rinsate Blank

☐ Duplicate

Duplicate Sample Name:_____

Notes: Arrived on site at 0927. Samples collected at 0935. Left site at 0939

Deen Henderson & Phil Goble on site to observe sampling event.

Field Data Record-Tailings Solutions, LDS and Slimes Drain Sampling

Location: Cell 4B **Sampling Personnel:** Tanner Holliday, Deen Lyman

Is this a Slimes Drain? ☐ Yes ☒ No

If this is a Slimes Drain, measure depth to wastewater immediately before sampling.

DTW immediately before sampling (slimes only): N/A

Weather Conditions at Time of Sampling: Cloudy, Raining

Analytical Parameters/Sample Collection Method:

Parameter	Sample Taken		Filtered		Sampling Method			Lab Name
					Peristaltic Pump	Bailer	Ladle	
VOCs	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	GEL
Metals	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy
Nutrients	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy
Other Non Radiologics	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy
Gross Alpha	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	GEL
SVOCs	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	GEL
Conductivity	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy

QC Samples Associated with this Location:

☐ Rinsate Blank

☐ Duplicate

Duplicate Sample Name:_____

Notes: Arrived on site at 0939. Samples collected at 0945. Left site at 0950

Deen Henderson & Phil Goble on site to observe sampling event.

Field Data Record-Tailings Solutions, LDS and Slimes Drain Sampling

Location: Cell 4B LDS **Sampling Personnel:** Tanner Holliday, Deen Lyman

Is this a Slimes Drain? ☐ Yes ☒ No

If this is a Slimes Drain, measure depth to wastewater immediately before sampling.

DTW immediately before sampling (slimes only): N/A

Weather Conditions at Time of Sampling: Cloudy, Raining

Analytical Parameters/Sample Collection Method:

Parameter	Sample Taken		Filtered		Sampling Method			Lab Name
					Peristaltic Pump	Bailer	Ladle	
VOCs	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	GEL
Metals	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy
Nutrients	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy
Other Non Radiologics	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy
Gross Alpha	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	GEL
SVOCs	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	GEL
Conductivity	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy

QC Samples Associated with this Location:

☐ Rinsate Blank

☐ Duplicate

Duplicate Sample Name: _____

Notes: Arrived on site at 0950, Samples collected at 0955. Left site at 1001

Deen Henderson & Phil Goble on site to observe sampling event.

Field Data Record-Tailings Solutions, LDS and Slimes Drain Sampling

Location: Cell 65 **Sampling Personnel:** Tanner Holliday, Deen Lyman

Is this a Slimes Drain? ☐ Yes ☒ No

If this is a Slimes Drain, measure depth to wastewater immediately before sampling.

DTW immediately before sampling (slimes only): N/A

Weather Conditions at Time of Sampling: Cloudy, Rainy.

Analytical Parameters/Sample Collection Method:

Parameter	Sample Taken		Filtered		Sampling Method			Lab Name
					Peristaltic Pump	Bailer	Ladle	
VOCs	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	GEL
Metals	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy
Nutrients	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy
Other Non Radiologics	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy
Gross Alpha	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	GEL
SVOCs	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	GEL
Conductivity	☒ Yes	☐ No	☐ Yes	☒ No	☐	☐	☒	Energy

QC Samples Associated with this Location:

☐ Rinsate Blank

☒ Duplicate

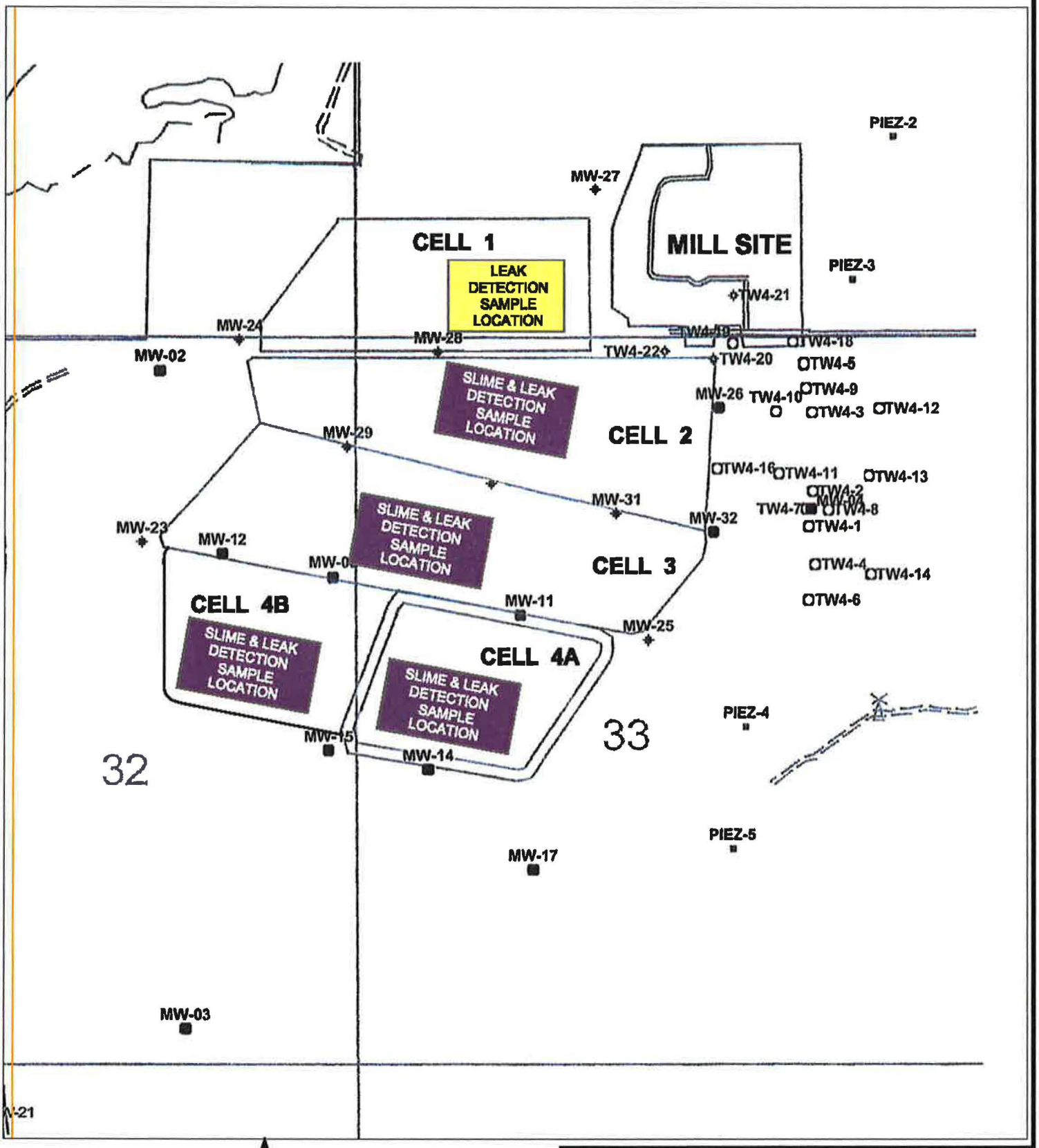
Duplicate Sample Name: Cell 65

Notes: Arrived on site at 0800. Samples collected at 0810. Left site at 0825

Deen Henderson & Phil Goble on site to observe sampling event.

Tab B

Sample Location Figures



Energy Fuels Resources (USA) Inc.

REVISIONS	
Date	By
10/6/14	RE
11/24/16	RE

Project: White Mesa Mill
County: San Juan State: Utah
Location: T37S, R22E

Annual Tailings System Slimes and Leak Detection Sample Locations

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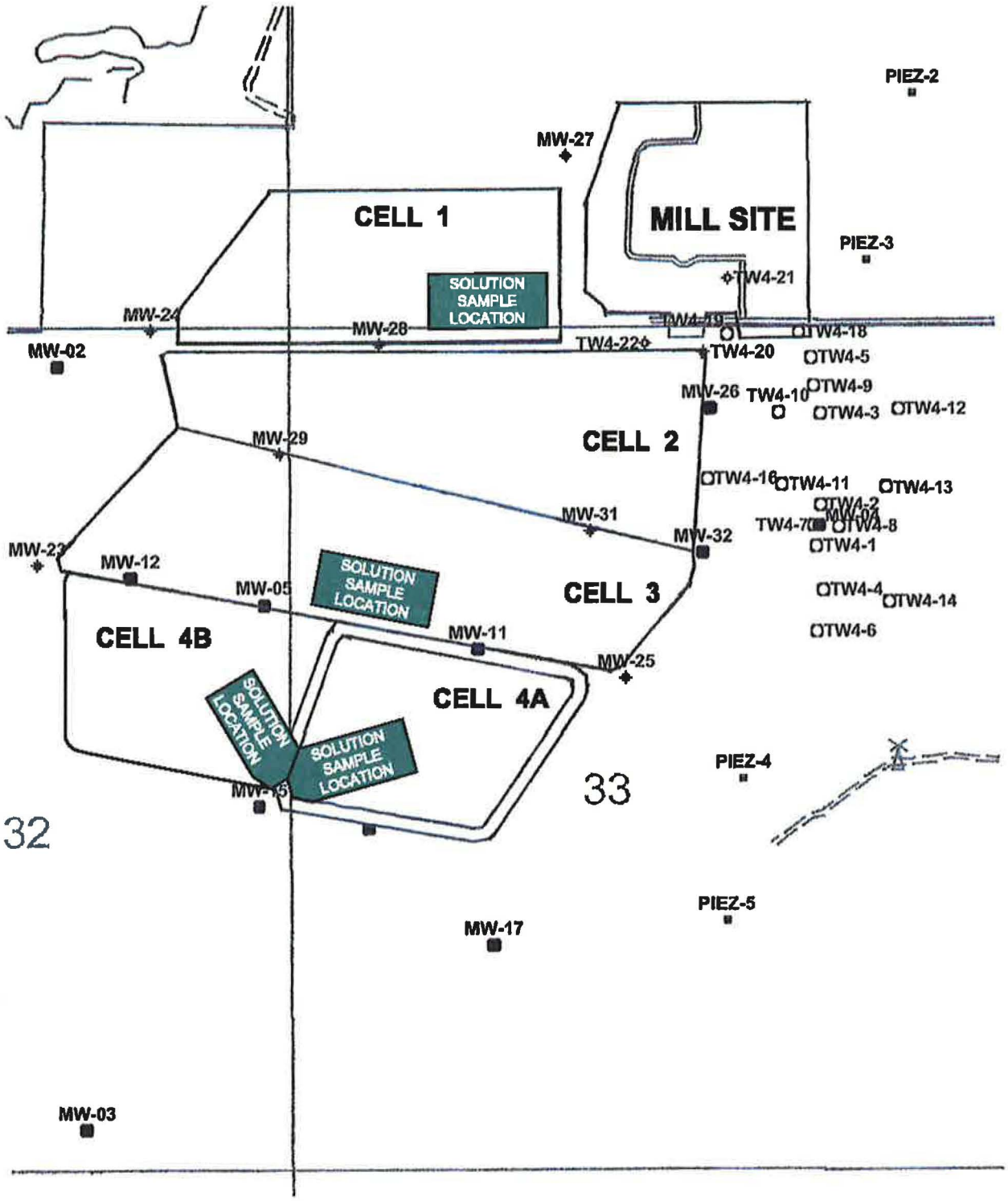

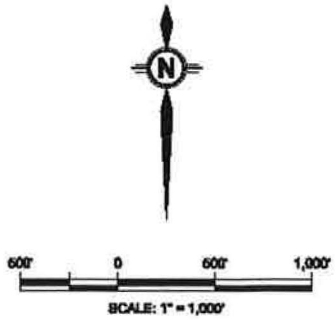

Energy Fuels Resources (USA) Inc.

REVISIONS	
Date	By
10/8/14	RE
11/24/15	RE

Project: White Mesa Mill
County: San Juan State: Utah
Location: T37S, R22E

Annual Tailings System, Cell Solution Sample Locations

Author: ---- Date: 11/24/15 Drafted By:

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Tab C

Laboratory Analytical Reports

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Energy Fuels Resources (USA) Inc
Project: Annual Tailings 2021
Lab ID: C21090172-001
Client Sample ID: Cell 1

Revised Date: 11/11/21
Report Date: 10/15/21
Collection Date: 09/01/21 08:10
DateReceived: 09/03/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Carbonate as CO3	ND	mg/L		5		A2320 B	09/07/21 13:45 / kjp
Bicarbonate as HCO3	ND	mg/L		5		A2320 B	09/07/21 13:45 / kjp
Chloride	74700	mg/L	D	100		E300.0	09/08/21 17:53 / dmb
Fluoride	14900	mg/L	D	200		A4500-F C	09/14/21 13:52 / dmb
Sulfate	351000	mg/L	D	400		E300.0	09/08/21 17:53 / dmb
Calcium	234	mg/L	D	30		E200.7	09/21/21 05:12 / jcg
Magnesium	19800	mg/L		1		E200.7	09/16/21 12:34 / jcg
Potassium	4030	mg/L	D	200		E200.7	09/21/21 05:00 / jcg
Sodium	91900	mg/L	D	500		E200.7	09/21/21 05:00 / jcg
PHYSICAL PROPERTIES							
Conductivity @ 25 C	76000	umhos/cm	E	5		A2510 B	09/07/21 13:11 / kjp
pH	0.4	s.u.	H	0.1		A4500-H B	09/07/21 13:11 / kjp
pH Measurement Temp	16.3	°C				A4500-H B	09/07/21 13:11 / kjp
Solids, Total Dissolved TDS @ 180 C	584000	mg/L	DE	1000		A2540 C	09/07/21 13:52 / kjp
Solids, Total Dissolved TDS @ 180 C	576000	mg/L	DH	5000		A2540 C	09/08/21 15:59 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	27	mg/L	D	1		E353.2	09/13/21 14:46 / nts
Nitrogen, Ammonia as N	5850	mg/L	D	200		E350.1	09/11/21 13:04 / dmb
METALS, DISSOLVED							
Arsenic	1040000	ug/L	D	600		E200.7	09/16/21 12:34 / jcg
Beryllium	3660	ug/L	D	20		E200.7	09/22/21 02:21 / jcg
Cadmium	21300	ug/L	D	600		E200.7	09/16/21 12:34 / jcg
Chromium	29600	ug/L	D	600		E200.7	09/16/21 12:34 / jcg
Cobalt	59500	ug/L	D	600		E200.7	09/22/21 02:21 / jcg
Copper	3760000	ug/L	D	20000		E200.7	09/21/21 05:00 / jcg
Iron	6680000	ug/L	D	60000		E200.7	09/21/21 05:00 / jcg
Lead	91200	ug/L	D	20		E200.8	11/05/21 14:56 / srm
Manganese	1630000	ug/L	D	1000		E200.7	09/21/21 05:00 / jcg
Mercury	0.035	mg/L		0.001		E245.1	09/17/21 18:48 / etad
Molybdenum	418000	ug/L	D	20000		E200.7	09/21/21 05:00 / jcg
Nickel	18400	ug/L	D	600		E200.7	09/22/21 02:21 / jcg
Selenium	21800	ug/L	D	600		E200.7	09/16/21 12:34 / jcg
Silver	2640	ug/L	D	4		E200.8	09/26/21 07:14 / jcg
Thallium	1680	ug/L	D	20		E200.8	11/05/21 14:56 / srm
Tin	1820	ug/L		50		E200.8	09/26/21 07:14 / jcg
Uranium	655000	ug/L	D	20		E200.8	11/05/21 14:56 / srm
Vanadium	4410000	ug/L	D	20000		E200.7	09/21/21 05:00 / jcg
Zinc	905000	ug/L	D	600		E200.7	09/16/21 12:34 / jcg

- E - TDS residue exceeded the 200 mg limit per method. The sample was re-analyzed with a lower volume to obtain a valid result. The E qualifed data is reported at client request.
- H - Original analysis was done within hold time. Data is from recheck analysis.

Report Definitions:

RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
H - Analysis performed past the method holding time
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
E - Estimated value - result exceeds the instrument upper quantitation limit

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Energy Fuels Resources (USA) Inc
Project: Annual Tailings 2021
Lab ID: C21090172-001
Client Sample ID: Cell 1

Revised Date: 11/11/21
Report Date: 10/15/21
Collection Date: 09/01/21 08:10
DateReceived: 09/03/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
DATA QUALITY							
Solids, Total Dissolved - Calculated	557000	mg/L		1.00		A1030 E	09/21/21 19:15 / tlf
A/C Balance	-4.79	%				A1030 E	09/21/21 19:15 / tlf
Anions	10200	meq/L				A1030 E	09/21/21 19:15 / tlf
Cations	9260	meq/L				A1030 E	09/21/21 19:15 / tlf

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: November 1, 2021

Client Sample ID: Cell 1
Sample ID: 554861001
Matrix: Water
Collect Date: 01-SEP-21 08:10
Receive Date: 03-SEP-21
Collector: Client

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
SW846 8260 Volatiles "As Received"												
2-Butanone	U	ND	8.34	25.0	ug/L		5	JEB	09/09/21	1310	2171666	1
Acetone		152	8.72	25.0	ug/L		5					
Benzene	U	ND	1.67	5.00	ug/L		5					
Carbon tetrachloride	U	ND	1.67	5.00	ug/L		5					
Chloroform		46.2	1.67	5.00	ug/L		5					
Chloromethane	U	ND	1.67	5.00	ug/L		5					
Methylene chloride	U	ND	2.50	25.0	ug/L		5					
Naphthalene	U	ND	1.67	5.00	ug/L		5					
Tetrahydrofuran	U	ND	8.34	25.0	ug/L		5					
Toluene	U	ND	1.67	5.00	ug/L		5					
Xylenes (total)	U	ND	5.00	15.0	ug/L		5					

Surrogate/Tracer recovery	*Result*	*Nominal*	*Recovery%*	*Acceptable Limits*	*Date Time:*	*09/09/21 13 10*
Bromofluorobenzene	243 ug/L	50.0	97	(72%-125%)		
Toluene-d8	265 ug/L	50.0	106	(75%-123%)		
1,2-Dichloroethane-d4	313 ug/L	50.0	125	(73%-129%)		

Tentatively Identified Compound (TIC)	*CAS No.*	*RT*	*Est. Concentration*	*Fit*	*Qual*	*Date Time:*	*09/09/21 13 10*
No Tentatively Identified Compounds Found							

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 8260D	

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: September 24, 2021

Client Sample ID: Cell 1
Sample ID: 554861001
Matrix: Water
Collect Date: 01-SEP-21 08:10
Receive Date: 03-SEP-21
Collector: Client

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"												
1,2,4-Trichlorobenzene	U	ND	37.5	125	ug/L	0.0125	1	NM1	09/09/21	1939	2171562	1
1,2-Dichlorobenzene	U	ND	37.5	125	ug/L	0.0125	1					
1,2-Diphenylhydrazine	U	ND	37.5	125	ug/L	0.0125	1					
1,3-Dichlorobenzene	U	ND	37.5	125	ug/L	0.0125	1					
1,4-Dichlorobenzene	U	ND	37.5	125	ug/L	0.0125	1					
1-Methylnaphthalene	U	ND	3.75	12.5	ug/L	0.0125	1					
2,4,5-Trichlorophenol	U	ND	37.5	125	ug/L	0.0125	1					
2,4,6-Trichlorophenol	U	ND	37.5	125	ug/L	0.0125	1					
2,4-Dichlorophenol	U	ND	37.5	125	ug/L	0.0125	1					
2,4-Dimethylphenol	U	ND	37.5	125	ug/L	0.0125	1					
2,4-Dinitrophenol	U	ND	62.5	250	ug/L	0.0125	1					
2,4-Dinitrotoluene	U	ND	37.5	125	ug/L	0.0125	1					
2,6-Dinitrotoluene	U	ND	37.5	125	ug/L	0.0125	1					
2-Chloronaphthalene	U	ND	5.13	12.5	ug/L	0.0125	1					
2-Chlorophenol	U	ND	37.5	125	ug/L	0.0125	1					
2-Methyl-4,6-dinitrophenol	U	ND	37.5	125	ug/L	0.0125	1					
2-Methylnaphthalene	U	ND	3.75	12.5	ug/L	0.0125	1					
2-Nitrophenol	U	ND	37.5	125	ug/L	0.0125	1					
3,3'-Dimethylbenzidine	U	ND	41.3	125	ug/L	0.0125	1					
4-Bromophenylphenylether	U	ND	37.5	125	ug/L	0.0125	1					
4-Chloro-3-methylphenol	U	ND	37.5	125	ug/L	0.0125	1					
4-Chlorophenylphenylether	U	ND	37.5	125	ug/L	0.0125	1					
4-Nitrophenol	U	ND	37.5	125	ug/L	0.0125	1					
Acenaphthene	U	ND	3.75	12.5	ug/L	0.0125	1					
Acenaphthylene	U	ND	3.75	12.5	ug/L	0.0125	1					
Anthracene	U	ND	3.75	12.5	ug/L	0.0125	1					
Benzidine	U	ND	48.8	125	ug/L	0.0125	1					
Benzo(a)anthracene	U	ND	3.75	12.5	ug/L	0.0125	1					
Benzo(a)pyrene	U	ND	3.75	12.5	ug/L	0.0125	1					
Benzo(b)fluoranthene	U	ND	3.75	12.5	ug/L	0.0125	1					

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: September 24, 2021

Client Sample ID: Cell 1
Sample ID: 554861001

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"												
Benzo(ghi)perylene	U	ND	3.75	12.5	ug/L	0.0125	1					
Benzo(k)fluoranthene	U	ND	3.75	12.5	ug/L	0.0125	1					
Butylbenzylphthalate	U	ND	3.75	125	ug/L	0.0125	1					
Chrysene	U	ND	3.75	12.5	ug/L	0.0125	1					
Di-n-butylphthalate	U	ND	3.75	125	ug/L	0.0125	1					
Di-n-octylphthalate	U	ND	3.75	125	ug/L	0.0125	1					
Dibenzo(a,h)anthracene	U	ND	3.75	12.5	ug/L	0.0125	1					
Diethylphthalate	U	ND	3.75	125	ug/L	0.0125	1					
Dimethylphthalate	U	ND	3.75	125	ug/L	0.0125	1					
Diphenylamine	U	ND	37.5	125	ug/L	0.0125	1					
Fluoranthene	U	ND	3.75	12.5	ug/L	0.0125	1					
Fluorene	U	ND	3.75	12.5	ug/L	0.0125	1					
Hexachlorobenzene	U	ND	37.5	125	ug/L	0.0125	1					
Hexachlorobutadiene	U	ND	37.5	125	ug/L	0.0125	1					
Hexachlorocyclopentadiene	U	ND	37.5	125	ug/L	0.0125	1					
Hexachloroethane	U	ND	37.5	125	ug/L	0.0125	1					
Indeno(1,2,3-cd)pyrene	U	ND	3.75	12.5	ug/L	0.0125	1					
Isophorone	U	ND	43.8	125	ug/L	0.0125	1					
N-Methyl-N-nitrosomethylamine	U	ND	37.5	125	ug/L	0.0125	1					
N-Nitrosodipropylamine	U	ND	37.5	125	ug/L	0.0125	1					
Naphthalene	U	ND	3.75	12.5	ug/L	0.0125	1					
Nitrobenzene	U	ND	37.5	125	ug/L	0.0125	1					
Pentachlorophenol	U	ND	37.5	125	ug/L	0.0125	1					
Phenanthrene	U	ND	3.75	12.5	ug/L	0.0125	1					
Phenol	U	ND	37.5	125	ug/L	0.0125	1					
Pyrene	U	ND	3.75	12.5	ug/L	0.0125	1					
Pyridine		146	37.5	125	ug/L	0.0125	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	37.5	125	ug/L	0.0125	1					
bis(2-Chloroethoxy)methane	U	ND	37.5	125	ug/L	0.0125	1					
bis(2-Chloroethyl) ether	U	ND	37.5	125	ug/L	0.0125	1					
bis(2-Ethylhexyl)phthalate	U	ND	3.75	12.5	ug/L	0.0125	1					
m,p-Cresols	U	ND	46.3	125	ug/L	0.0125	1					
o-Cresol	U	ND	37.5	125	ug/L	0.0125	1					

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: September 24, 2021

Client Sample ID: Cell 1
Sample ID: 554861001

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"												

Surrogate/Tracer recovery	*Result*	*Nominal*	*Recovery%*	*Acceptable Limits*	*Date Time:*	*09/09/21 19 39*
p-Terphenyl-d14	266 ug/L	625	43	(24%-129%)		
Nitrobenzene-d5	381 ug/L	625	61	(39%-112%)		
2-Fluorobiphenyl	404 ug/L	625	65	(39%-112%)		
Phenol-d5	481 ug/L	1250	38	(15%-85%)		
2-Fluorophenol	508 ug/L	1250	41	(11%-79%)		
2,4,6-Tribromophenol	936 ug/L	1250	75	(37%-132%)		

Tentatively Identified Compound (TIC)	*CAS No.*	*RT*	*Est. Concentration*	*Fit*	*Qual*	*Date Time:*	*09/09/21 19 39*
No Tentatively Identified Compounds Found							

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	LW1	09/22/21	1120	2176674
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	SG2	09/08/21	1228	2171561

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 3510C/8270D	

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: October 4, 2021

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: Tailings Characterization

Client Sample ID: Cell 1
Sample ID: 554861001
Matrix: Water
Collect Date: 01-SEP-21 08:10
Receive Date: 03-SEP-21
Collector: Client

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
High Rad Testing													
Alphaspec Th, Liquid "As Received"													
Thorium-228		469	+/-66.1	84.4	1.00	pCi/L			TC1	09/25/21	1004	2177500	1
Thorium-230		1.74E+05	+/-1200	79.4	1.00	pCi/L							
Thorium-232		1060	+/-93.8	33.7	1.00	pCi/L							
GFPC,Total Alpha Radium, Liquid "As Received"													
Gross Radium Alpha		24600	+/-255	20.9	1.00	pCi/L			TC1	09/28/21	0931	2177508	2
Lucas Cell, Ra226, liquid "As Received"													
Radium-226		424	+/-29.8	19.6	1.00	pCi/L			LXP1	10/03/21	0722	2177509	3
U- 233/234,U-235/236 and U-238 "As Received"													
Uranium-233/234		2.18E+05	+/-4910	1020	1.00	pCi/L			TC1	09/28/21	0926	2178805	4
Uranium-235/236		11800	+/-1280	653	1.00	pCi/L							
Uranium-238		2.21E+05	+/-4940	773	1.00	pCi/L							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
GL-RAD-A-026	Laboratory Composite				2171222

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	EPA 903.0	
3	EPA 903.1 Modified	
4	DOE EML HASL-300, U-02-RC Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Liquid "As Received"			91.7	(15%-125%)
Barium Carrier	GFPC,Total Alpha Radium, Liquid "As Received"			99.8	(25%-125%)
Uranium-232 Tracer	U- 233/234,U-235/236 and U-238 "As Received"			69	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 68% confidence level (1-sigma).

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: October 4, 2021

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings Characterization

Client Sample ID:	Cell 1	Project:	DNMI00107
Sample ID:	554861001	Client ID:	DNMI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: September 24, 2021

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings Characterization

Client Sample ID:	Cell 1	Project:	DNMI00107
Sample ID:	554861001	Client ID:	DNMI001
Matrix:	Water		
Collect Date:	01-SEP-21 08:10		
Receive Date:	03-SEP-21		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Hazardous Waste												
ASTM D 5057 Specific Gravity "As Received"												
Specific Gravity		1.38	0.0100	0.100	none		1	VH1	09/14/21	0853	2173276	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	ASTM D 5057	

Notes:

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Energy Fuels Resources (USA) Inc
Project: Annual Tailings 2021
Lab ID: C21090172-002
Client Sample ID: Slimes #2

Revised Date: 11/11/21
Report Date: 10/15/21
Collection Date: 09/01/21 08:35
DateReceived: 09/03/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Carbonate as CO3	ND	mg/L		5		A2320 B	09/07/21 13:49 / kjp
Bicarbonate as HCO3	ND	mg/L		5		A2320 B	09/07/21 13:49 / kjp
Chloride	4200	mg/L	D	50		E300.0	09/08/21 18:12 / dmb
Fluoride	130	mg/L	D	50		A4500-F C	09/14/21 10:35 / dmb
Sulfate	68500	mg/L	D	200		E300.0	09/08/21 18:12 / dmb
Calcium	463	mg/L	D	30		E200.7	09/21/21 05:17 / jcg
Magnesium	3950	mg/L		1		E200.7	09/16/21 12:51 / jcg
Potassium	661	mg/L	D	20		E200.7	09/21/21 05:17 / jcg
Sodium	4520	mg/L	D	50		E200.7	09/21/21 05:17 / jcg
PHYSICAL PROPERTIES							
Conductivity @ 25 C	53200	umhos/cm	E	5		A2510 B	09/07/21 13:19 / kjp
pH	3.0	s.u.	H	0.1		A4500-H B	09/07/21 13:19 / kjp
pH Measurement Temp	24.3	°C				A4500-H B	09/07/21 13:19 / kjp
Solids, Total Dissolved TDS @ 180 C	95700	mg/L	D	1000		A2540 C	09/07/21 13:53 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	48.0	mg/L	D	0.2		E353.2	09/13/21 14:47 / nts
Nitrogen, Ammonia as N	2950	mg/L	D	100		E350.1	09/11/21 11:35 / dmb
METALS, DISSOLVED							
Arsenic	19300	ug/L	D	10		E200.8	09/26/21 07:29 / jcg
Beryllium	217	ug/L	D	20		E200.7	09/22/21 02:25 / jcg
Cadmium	5890	ug/L	D	10		E200.8	09/26/21 07:29 / jcg
Chromium	1810	ug/L	D	10		E200.8	09/26/21 07:29 / jcg
Cobalt	42700	ug/L	D	2000		E200.7	09/21/21 05:17 / jcg
Copper	139000	ug/L	D	2000		E200.7	09/21/21 05:17 / jcg
Iron	2840000	ug/L	D	6000		E200.7	09/21/21 05:17 / jcg
Lead	562	ug/L	D	10		E200.8	09/26/21 07:29 / jcg
Manganese	138000	ug/L	D	100		E200.7	09/21/21 05:17 / jcg
Mercury	ND	mg/L		0.0002		E245.1	09/17/21 18:52 / etad
Molybdenum	3090	ug/L	D	10		E200.8	09/26/21 07:29 / jcg
Nickel	119000	ug/L	D	2000		E200.7	09/21/21 05:17 / jcg
Selenium	657	ug/L	D	20		E200.8	09/26/21 07:29 / jcg
Silver	5	ug/L	D	4		E200.8	09/26/21 07:29 / jcg
Thallium	1580	ug/L	D	1000		E200.8	09/28/21 09:17 / srm
Tin	ND	ug/L		50		E200.8	09/26/21 07:29 / jcg
Uranium	24300	ug/L	D	10		E200.8	09/26/21 07:29 / jcg
Vanadium	450000	ug/L	D	2000		E200.7	09/21/21 05:17 / jcg
Zinc	674000	ug/L	D	600		E200.7	09/22/21 02:25 / jcg
DATA QUALITY							
Solids, Total Dissolved - Calculated	82600	mg/L		1.00		A1030 E	09/21/21 19:15 / tlf
A/C Balance	0.49	%				A1030 E	09/21/21 19:15 / tlf

Report Definitions:

RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
H - Analysis performed past the method holding time
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
E - Estimated value - result exceeds the instrument upper quantitation limit

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Energy Fuels Resources (USA) Inc
Project: Annual Tailings 2021
Lab ID: C21090172-002
Client Sample ID: Slimes #2

Revised Date: 11/11/21
Report Date: 10/15/21
Collection Date: 09/01/21 08:35
DateReceived: 09/03/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
DATA QUALITY							
Anions	1550	meq/L				A1030 E	09/21/21 19:15 / tlf
Cations	1570	meq/L				A1030 E	09/21/21 19:15 / tlf

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: November 1, 2021

Client Sample ID: Slimes #2
Sample ID: 554861002
Matrix: Water
Collect Date: 01-SEP-21 08:35
Receive Date: 03-SEP-21
Collector: Client

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
SW846 8260 Volatiles "As Received"												
2-Butanone		89.9	8.34	25.0	ug/L		5	JEB	09/08/21	1733	2171666	1
Acetone		522	8.72	25.0	ug/L		5					
Benzene	U	ND	1.67	5.00	ug/L		5					
Carbon tetrachloride	U	ND	1.67	5.00	ug/L		5					
Chloroform		15.9	1.67	5.00	ug/L		5					
Chloromethane	U	ND	1.67	5.00	ug/L		5					
Methylene chloride	U	ND	2.50	25.0	ug/L		5					
Naphthalene		7.15	1.67	5.00	ug/L		5					
Tetrahydrofuran	U	ND	8.34	25.0	ug/L		5					
Toluene	U	ND	1.67	5.00	ug/L		5					
Xylenes (total)	U	ND	5.00	15.0	ug/L		5					

Surrogate/Tracer recovery	*Result*	*Nominal*	*Recovery%*	*Acceptable Limits*	*Date Time:*	*09/08/21 17 33*
Bromofluorobenzene	239 ug/L	50.0	95	(72%-125%)		
Toluene-d8	265 ug/L	50.0	106	(75%-123%)		
1,2-Dichloroethane-d4	283 ug/L	50.0	113	(73%-129%)		

Tentatively Identified Compound (TIC)	*CAS No.*	*RT*	*Est. Concentration*	*Fit*	*Qual*	*Date Time:*	*09/08/21 17 33*
Hexanal, 2-ethyl-	000123-05-7	14.252	56 ug/L	91	NJ		

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 8260D	

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: September 24, 2021

Client Sample ID: Slimes #2
Sample ID: 554861002
Matrix: Water
Collect Date: 01-SEP-21 08:35
Receive Date: 03-SEP-21
Collector: Client

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"												
1,2,4-Trichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1	NM1	09/09/21	2007	2171562	1
1,2-Dichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
1,2-Diphenylhydrazine	U	ND	30.0	100	ug/L	0.0100	1					
1,3-Dichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
1,4-Dichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
1-Methylnaphthalene		11.6	3.00	10.0	ug/L	0.0100	1					
2,4,5-Trichlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4,6-Trichlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4-Dichlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4-Dimethylphenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4-Dinitrophenol	U	ND	50.0	200	ug/L	0.0100	1					
2,4-Dinitrotoluene	U	ND	30.0	100	ug/L	0.0100	1					
2,6-Dinitrotoluene	U	ND	30.0	100	ug/L	0.0100	1					
2-Chloronaphthalene	U	ND	4.10	10.0	ug/L	0.0100	1					
2-Chlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2-Methyl-4,6-dinitrophenol	U	ND	30.0	100	ug/L	0.0100	1					
2-Methylnaphthalene		10.4	3.00	10.0	ug/L	0.0100	1					
2-Nitrophenol	U	ND	30.0	100	ug/L	0.0100	1					
3,3'-Dimethylbenzidine	U	ND	33.0	100	ug/L	0.0100	1					
4-Bromophenylphenylether	U	ND	30.0	100	ug/L	0.0100	1					
4-Chloro-3-methylphenol	U	ND	30.0	100	ug/L	0.0100	1					
4-Chlorophenylphenylether	U	ND	30.0	100	ug/L	0.0100	1					
4-Nitrophenol	U	ND	30.0	100	ug/L	0.0100	1					
Acenaphthene	U	ND	3.00	10.0	ug/L	0.0100	1					
Acenaphthylene	U	ND	3.00	10.0	ug/L	0.0100	1					
Anthracene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzidine	U	ND	39.0	100	ug/L	0.0100	1					
Benzo(a)anthracene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzo(a)pyrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzo(b)fluoranthene	U	ND	3.00	10.0	ug/L	0.0100	1					

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: September 24, 2021

Client Sample ID: Slimes #2
Sample ID: 554861002

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"												
Benzo(ghi)perylene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzo(k)fluoranthene	U	ND	3.00	10.0	ug/L	0.0100	1					
Butylbenzylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Chrysene	U	ND	3.00	10.0	ug/L	0.0100	1					
Di-n-butylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Di-n-octylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Dibenzo(a,h)anthracene	U	ND	3.00	10.0	ug/L	0.0100	1					
Diethylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Dimethylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Diphenylamine	U	ND	30.0	100	ug/L	0.0100	1					
Fluoranthene	U	ND	3.00	10.0	ug/L	0.0100	1					
Fluorene	U	ND	3.00	10.0	ug/L	0.0100	1					
Hexachlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
Hexachlorobutadiene	U	ND	30.0	100	ug/L	0.0100	1					
Hexachlorocyclopentadiene	U	ND	30.0	100	ug/L	0.0100	1					
Hexachloroethane	U	ND	30.0	100	ug/L	0.0100	1					
Indeno(1,2,3-cd)pyrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Isophorone	U	ND	35.0	100	ug/L	0.0100	1					
N-Methyl-N-nitrosomethylamine	U	ND	30.0	100	ug/L	0.0100	1					
N-Nitrosodipropylamine	U	ND	30.0	100	ug/L	0.0100	1					
Naphthalene	U	ND	3.00	10.0	ug/L	0.0100	1					
Nitrobenzene	U	ND	30.0	100	ug/L	0.0100	1					
Pentachlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
Phenanthrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Phenol	U	ND	30.0	100	ug/L	0.0100	1					
Pyrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Pyridine	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Chloroethoxy)methane	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Chloroethyl) ether	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Ethylhexyl)phthalate	U	ND	3.00	10.0	ug/L	0.0100	1					
m,p-Cresols	U	ND	37.0	100	ug/L	0.0100	1					
o-Cresol	U	ND	30.0	100	ug/L	0.0100	1					

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: September 24, 2021

Client Sample ID: Slimes #2
Sample ID: 554861002

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"												

Surrogate/Tracer recovery	*Result*	*Nominal*	*Recovery%*	*Acceptable Limits*	*Date Time:*	*09/09/21 20 07*
p-Terphenyl-d14	224 ug/L	500	45	(24%-129%)		
Phenol-d5	281 ug/L	1000	28	(15%-85%)		
Nitrobenzene-d5	308 ug/L	500	62	(39%-112%)		
2-Fluorobiphenyl	321 ug/L	500	64	(39%-112%)		
2-Fluorophenol	364 ug/L	1000	36	(11%-79%)		
2,4,6-Tribromophenol	792 ug/L	1000	79	(37%-132%)		

Tentatively Identified Compound (TIC)	*CAS No.*	*RT*	*Est. Concentration*	*Fit*	*Qual*	*Date Time:*	*09/09/21 20 07*
No Tentatively Identified Compounds Found							

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	SG2	09/08/21	1228	2171561

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 3510C/8270D	

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: October 4, 2021

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: Tailings Characterization

Client Sample ID: Slimes #2
Sample ID: 554861002
Matrix: Water
Collect Date: 01-SEP-21 08:35
Receive Date: 03-SEP-21
Collector: Client

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
High Rad Testing													
Alphaspec Th, Liquid "As Received"													
Thorium-228	U	-24.3	+/-15.3	83.9	1.00	pCi/L			TC1	09/25/21	1004	2177500	1
Thorium-230		2780	+/-142	68.5	1.00	pCi/L							
Thorium-232	U	13.7	+/-14.8	48.5	1.00	pCi/L							
GFPC,Total Alpha Radium, Liquid "As Received"													
Gross Radium Alpha		1920	+/-67.7	21.2	1.00	pCi/L			TC1	09/28/21	0931	2177508	2
Lucas Cell, Ra226, liquid "As Received"													
Radium-226		63.0	+/-12.5	25.6	1.00	pCi/L			LXP1	10/03/21	0722	2177509	3
U- 233/234,U-235/236 and U-238 "As Received"													
Uranium-233/234		9210	+/-285	99.3	1.00	pCi/L			TC1	09/28/21	0926	2178805	4
Uranium-235/236		582	+/-81.1	75.8	1.00	pCi/L							
Uranium-238		9040	+/-282	70.6	1.00	pCi/L							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
GL-RAD-A-026	Laboratory Composite				2171222

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	EPA 903.0	
3	EPA 903.1 Modified	
4	DOE EML HASL-300, U-02-RC Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Liquid "As Received"			102	(15%-125%)
Barium Carrier	GFPC,Total Alpha Radium, Liquid "As Received"			95.9	(25%-125%)
Uranium-232 Tracer	U- 233/234,U-235/236 and U-238 "As Received"			85.3	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 68% confidence level (1-sigma).

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: October 4, 2021

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings Characterization

Client Sample ID:	Slimes #2	Project:	DNMI00107
Sample ID:	554861002	Client ID:	DNMI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: September 24, 2021

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings Characterization

Client Sample ID:	Slimes #2	Project:	DNMI00107
Sample ID:	554861002	Client ID:	DNMI001
Matrix:	Water		
Collect Date:	01-SEP-21 08:35		
Receive Date:	03-SEP-21		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Hazardous Waste												
ASTM D 5057 Specific Gravity "As Received"												
Specific Gravity		1.07	0.0100	0.100	none		1	VH1	09/14/21	0855	2173276	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	ASTM D 5057	

Notes:

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Energy Fuels Resources (USA) Inc
Project: Annual Tailings 2021
Lab ID: C21090172-008
Client Sample ID: Cell 3

Revised Date: 11/11/21
Report Date: 10/15/21
Collection Date: 09/01/21 09:05
DateReceived: 09/03/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Carbonate as CO3	236	mg/L		5		A2320 B	09/07/21 14:18 / kjp
Bicarbonate as HCO3	175	mg/L		5		A2320 B	09/07/21 14:18 / kjp
Chloride	500	mg/L	D	2		E300.0	09/08/21 20:46 / dmb
Fluoride	2.2	mg/L		0.1		A4500-F C	09/14/21 14:07 / dmb
Sulfate	1630	mg/L	D	8		E300.0	09/08/21 20:46 / dmb
Calcium	3	mg/L		1		E200.7	09/16/21 13:54 / jcg
Magnesium	11	mg/L		1		E200.7	09/16/21 13:54 / jcg
Potassium	20	mg/L		1		E200.7	09/16/21 13:54 / jcg
Sodium	1210	mg/L		1		E200.7	09/16/21 13:54 / jcg
PHYSICAL PROPERTIES							
Conductivity @ 25 C	5870	umhos/cm		5		A2510 B	09/07/21 13:40 / kjp
pH	10	s.u.	H	0.1		A4500-H B	09/07/21 13:40 / kjp
pH Measurement Temp	17.1	°C				A4500-H B	09/07/21 13:40 / kjp
Solids, Total Dissolved TDS @ 180 C	3930	mg/L	D	40		A2540 C	09/07/21 13:57 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	12.2	mg/L	D	0.2		E353.2	09/13/21 14:54 / nts
Nitrogen, Ammonia as N	278	mg/L	D	100		E350.1	09/11/21 11:42 / dmb
METALS, DISSOLVED							
Arsenic	170	ug/L		1		E200.8	09/26/21 08:11 / jcg
Beryllium	ND	ug/L		1		E200.7	09/16/21 13:54 / jcg
Cadmium	2	ug/L		1		E200.8	09/26/21 08:11 / jcg
Chromium	ND	ug/L		5		E200.8	09/26/21 08:11 / jcg
Cobalt	ND	ug/L	D	100		E200.8	09/28/21 11:06 / srm
Copper	454	ug/L	D	100		E200.8	10/11/21 15:36 / srm
Iron	519	ug/L	D	100		E200.7	09/16/21 13:54 / jcg
Lead	2	ug/L		1		E200.8	09/26/21 08:11 / jcg
Manganese	47	ug/L		1		E200.8	09/26/21 08:11 / jcg
Mercury	ND	mg/L		0.001		E245.1	09/17/21 19:08 / etad
Molybdenum	759	ug/L		1		E200.8	09/26/21 08:11 / jcg
Nickel	33	ug/L		5		E200.8	09/26/21 08:11 / jcg
Selenium	135	ug/L	D	50		E200.7	09/16/21 13:54 / jcg
Silver	ND	ug/L		1		E200.8	09/26/21 08:11 / jcg
Thallium	1.6	ug/L		0.5		E200.8	11/09/21 13:23 / srm
Tin	ND	ug/L		50		E200.8	09/26/21 08:11 / jcg
Uranium	533	ug/L	D	1		E200.8	09/26/21 08:11 / jcg
Vanadium	6740	ug/L	D	50		E200.7	09/16/21 13:54 / jcg
Zinc	114	ug/L	D	50		E200.7	09/16/21 13:54 / jcg
DATA QUALITY							
Solids, Total Dissolved - Calculated	3750	mg/L		1.00		A1030 E	09/17/21 14:18 / jlw
A/C Balance	-4.90	%				A1030 E	09/17/21 14:18 / jlw

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
H - Analysis performed past the method holding time

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Energy Fuels Resources (USA) Inc
Project: Annual Tailings 2021
Lab ID: C21090172-008
Client Sample ID: Cell 3

Revised Date: 11/11/21
Report Date: 10/15/21
Collection Date: 09/01/21 09:05
DateReceived: 09/03/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
DATA QUALITY							
Anions	59.7	meq/L				A1030 E	09/17/21 14:18 / jlw
Cations	54.2	meq/L				A1030 E	09/17/21 14:18 / jlw

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: November 1, 2021

Client Sample ID: Cell 3
Sample ID: 554861008
Matrix: Water
Collect Date: 01-SEP-21 09:05
Receive Date: 03-SEP-21
Collector: Client

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
SW846 8260 Volatiles "As Received"												
2-Butanone	U	ND	8.34	25.0	ug/L		5	JEB	09/08/21	2002	2171666	1
Acetone		46.6	8.72	25.0	ug/L		5					
Benzene	U	ND	1.67	5.00	ug/L		5					
Carbon tetrachloride	U	ND	1.67	5.00	ug/L		5					
Chloroform	U	ND	1.67	5.00	ug/L		5					
Chloromethane	U	ND	1.67	5.00	ug/L		5					
Methylene chloride	U	ND	2.50	25.0	ug/L		5					
Naphthalene	U	ND	1.67	5.00	ug/L		5					
Tetrahydrofuran	U	ND	8.34	25.0	ug/L		5					
Toluene	U	ND	1.67	5.00	ug/L		5					
Xylenes (total)	U	ND	5.00	15.0	ug/L		5					

Surrogate/Tracer recovery	*Result*	*Nominal*	*Recovery%*	*Acceptable Limits*	*Date Time:*	*09/08/21 20 02*
Bromofluorobenzene	245 ug/L	50.0	98	(72%-125%)		
Toluene-d8	269 ug/L	50.0	108	(75%-123%)		
1,2-Dichloroethane-d4	319 ug/L	50.0	128	(73%-129%)		

Tentatively Identified Compound (TIC)	*CAS No.*	*RT*	*Est. Concentration*	*Fit*	*Qual*	*Date Time:*	*09/08/21 20 02*
No Tentatively Identified Compounds Found							

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 8260D	

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: September 24, 2021

Client Sample ID: Cell 3
Sample ID: 554861008
Matrix: Water
Collect Date: 01-SEP-21 09:05
Receive Date: 03-SEP-21
Collector: Client

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"												
1,2,4-Trichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1	NM1	09/09/21	2253	2171562	1
1,2-Dichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
1,2-Diphenylhydrazine	U	ND	30.0	100	ug/L	0.0100	1					
1,3-Dichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
1,4-Dichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
1-Methylnaphthalene	U	ND	3.00	10.0	ug/L	0.0100	1					
2,4,5-Trichlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4,6-Trichlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4-Dichlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4-Dimethylphenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4-Dinitrophenol	U	ND	50.0	200	ug/L	0.0100	1					
2,4-Dinitrotoluene	U	ND	30.0	100	ug/L	0.0100	1					
2,6-Dinitrotoluene	U	ND	30.0	100	ug/L	0.0100	1					
2-Chloronaphthalene	U	ND	4.10	10.0	ug/L	0.0100	1					
2-Chlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2-Methyl-4,6-dinitrophenol	U	ND	30.0	100	ug/L	0.0100	1					
2-Methylnaphthalene	U	ND	3.00	10.0	ug/L	0.0100	1					
2-Nitrophenol	U	ND	30.0	100	ug/L	0.0100	1					
3,3'-Dimethylbenzidine	U	ND	33.0	100	ug/L	0.0100	1					
4-Bromophenylphenylether	U	ND	30.0	100	ug/L	0.0100	1					
4-Chloro-3-methylphenol	U	ND	30.0	100	ug/L	0.0100	1					
4-Chlorophenylphenylether	U	ND	30.0	100	ug/L	0.0100	1					
4-Nitrophenol	U	ND	30.0	100	ug/L	0.0100	1					
Acenaphthene	U	ND	3.00	10.0	ug/L	0.0100	1					
Acenaphthylene	U	ND	3.00	10.0	ug/L	0.0100	1					
Anthracene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzidine	U	ND	39.0	100	ug/L	0.0100	1					
Benzo(a)anthracene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzo(a)pyrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzo(b)fluoranthene	U	ND	3.00	10.0	ug/L	0.0100	1					

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: September 24, 2021

Client Sample ID: Cell 3
Sample ID: 554861008

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"												
Benzo(ghi)perylene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzo(k)fluoranthene	U	ND	3.00	10.0	ug/L	0.0100	1					
Butylbenzylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Chrysene	U	ND	3.00	10.0	ug/L	0.0100	1					
Di-n-butylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Di-n-octylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Dibenzo(a,h)anthracene	U	ND	3.00	10.0	ug/L	0.0100	1					
Diethylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Dimethylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Diphenylamine	U	ND	30.0	100	ug/L	0.0100	1					
Fluoranthene	U	ND	3.00	10.0	ug/L	0.0100	1					
Fluorene	U	ND	3.00	10.0	ug/L	0.0100	1					
Hexachlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
Hexachlorobutadiene	U	ND	30.0	100	ug/L	0.0100	1					
Hexachlorocyclopentadiene	U	ND	30.0	100	ug/L	0.0100	1					
Hexachloroethane	U	ND	30.0	100	ug/L	0.0100	1					
Indeno(1,2,3-cd)pyrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Isophorone	U	ND	35.0	100	ug/L	0.0100	1					
N-Methyl-N-nitrosomethylamine	U	ND	30.0	100	ug/L	0.0100	1					
N-Nitrosodipropylamine	U	ND	30.0	100	ug/L	0.0100	1					
Naphthalene	U	ND	3.00	10.0	ug/L	0.0100	1					
Nitrobenzene	U	ND	30.0	100	ug/L	0.0100	1					
Pentachlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
Phenanthrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Phenol	U	ND	30.0	100	ug/L	0.0100	1					
Pyrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Pyridine	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Chloroethoxy)methane	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Chloroethyl) ether	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Ethylhexyl)phthalate	U	ND	3.00	10.0	ug/L	0.0100	1					
m,p-Cresols	U	ND	37.0	100	ug/L	0.0100	1					
o-Cresol	U	ND	30.0	100	ug/L	0.0100	1					

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Certificate of Analysis

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Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: September 24, 2021

Client Sample ID: Cell 3
Sample ID: 554861008

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

Semi-Volatile-GC/MS

SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"

Surrogate/Tracer recovery	*Result*	*Nominal*	*Recovery%*	*Acceptable Limits*	*Date Time:*	*09/09/21 22 53*
Phenol-d5	263 ug/L	1000	26	(15%-85%)		
p-Terphenyl-d14	310 ug/L	500	62	(24%-129%)		
Nitrobenzene-d5	330 ug/L	500	66	(39%-112%)		
2-Fluorobiphenyl	346 ug/L	500	69	(39%-112%)		
2-Fluorophenol	354 ug/L	1000	35	(11%-79%)		
2,4,6-Tribromophenol	585 ug/L	1000	58	(37%-132%)		

Tentatively Identified Compound (TIC)	*CAS No.*	*RT*	*Est. Concentration*	*Fit*	*Qual*	*Date Time:*	*09/09/21 22 53*

No Tentatively Identified Compounds Found

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	SG2	09/08/21	1228	2171561

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 3510C/8270D	

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: October 4, 2021

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: Tailings Characterization

Client Sample ID: Cell 3
Sample ID: 554861008
Matrix: Water
Collect Date: 01-SEP-21 09:05
Receive Date: 03-SEP-21
Collector: Client

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
High Rad Testing													
Alphaspec Th, Liquid "As Received"													
Thorium-228	U	15.7	+/-8.08	24.3	1.00	pCi/L			TC1	10/02/21	2103	2179693	1
Thorium-230		31.2	+/-9.10	22.7	1.00	pCi/L							
Thorium-232	U	14.4	+/-6.86	19.4	1.00	pCi/L							
GFPC,Total Alpha Radium, Liquid "As Received"													
Gross Radium Alpha	U	18.5	+/-7.69	19.8	1.00	pCi/L			TC1	09/28/21	0932	2177508	2
Lucas Cell, Ra226, liquid "As Received"													
Radium-226	U	2.06	+/-3.57	15.8	1.00	pCi/L			LXP1	10/03/21	0755	2177509	3
U- 233/234,U-235/236 and U-238 "As Received"													
Uranium-233/234		144	+/-43.8	107	1.00	pCi/L			TC1	09/28/21	0926	2178805	4
Uranium-235/236	U	-7.14	+/-16.5	81.3	1.00	pCi/L							
Uranium-238		209	+/-46.4	82.5	1.00	pCi/L							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
GL-RAD-A-026	Laboratory Composite				2171222

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	EPA 903.0	
3	EPA 903.1 Modified	
4	DOE EML HASL-300, U-02-RC Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Liquid "As Received"			92.8	(15%-125%)
Barium Carrier	GFPC,Total Alpha Radium, Liquid "As Received"			90.6	(25%-125%)
Uranium-232 Tracer	U- 233/234,U-235/236 and U-238 "As Received"			88.4	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 68% confidence level (1-sigma).

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

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Certificate of Analysis

Report Date: October 4, 2021

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings Characterization

Client Sample ID:	Cell 3	Project:	DNMI00107
Sample ID:	554861008	Client ID:	DNMI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst Date	Time	Batch	Method

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: September 24, 2021

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings Characterization

Client Sample ID:	Cell 3	Project:	DNMI00107
Sample ID:	554861008	Client ID:	DNMI001
Matrix:	Water		
Collect Date:	01-SEP-21 09:05		
Receive Date:	03-SEP-21		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Hazardous Waste												
ASTM D 5057 Specific Gravity "As Received"												
Specific Gravity		0.984	0.0100	0.100	none		1	VH1	09/14/21	0904	2173276	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	ASTM D 5057	

Notes:

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Energy Fuels Resources (USA) Inc
Project: Annual Tailings 2021
Lab ID: C21090172-003
Client Sample ID: Cell 4A

Revised Date: 11/11/21
Report Date: 10/15/21
Collection Date: 09/01/21 09:20
DateReceived: 09/03/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Carbonate as CO3	ND	mg/L		5		A2320 B	09/07/21 13:53 / kjp
Bicarbonate as HCO3	ND	mg/L		5		A2320 B	09/07/21 13:53 / kjp
Chloride	12700	mg/L	D	50		E300.0	09/08/21 18:32 / dmb
Fluoride	3190	mg/L	D	50		A4500-F C	09/14/21 10:42 / dmb
Sulfate	110000	mg/L	D	200		E300.0	09/08/21 18:32 / dmb
Calcium	637	mg/L	D	6		E200.7	09/16/21 13:33 / jcg
Magnesium	5020	mg/L		1		E200.7	09/16/21 13:33 / jcg
Potassium	1730	mg/L	D	6		E200.7	09/16/21 13:33 / jcg
Sodium	18800	mg/L	D	10		E200.7	09/16/21 13:33 / jcg
PHYSICAL PROPERTIES							
Conductivity @ 25 C	91300	umhos/cm	E	5		A2510 B	09/07/21 13:23 / kjp
pH	2.2	s.u.	H	0.1		A4500-H B	09/07/21 13:23 / kjp
pH Measurement Temp	17.3	°C				A4500-H B	09/07/21 13:23 / kjp
Solids, Total Dissolved TDS @ 180 C	162000	mg/L	D	2000		A2540 C	09/07/21 13:53 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	112	mg/L	D	0.5		E353.2	09/13/21 14:48 / nts
Nitrogen, Ammonia as N	7250	mg/L	D	200		E350.1	09/11/21 13:05 / dmb
METALS, DISSOLVED							
Arsenic	68600	ug/L	D	600		E200.7	09/16/21 13:33 / jcg
Beryllium	448	ug/L	D	20		E200.7	09/16/21 13:33 / jcg
Cadmium	3540	ug/L	D	600		E200.7	09/16/21 13:33 / jcg
Chromium	8820	ug/L	D	10		E200.8	09/26/21 07:33 / jcg
Cobalt	30600	ug/L	D	10		E200.8	09/26/21 07:33 / jcg
Copper	557000	ug/L	D	600		E200.7	09/16/21 13:33 / jcg
Iron	3810000	ug/L	D	500		E200.8	09/26/21 07:33 / jcg
Lead	8380	ug/L	D	2000		E200.7	09/16/21 13:33 / jcg
Manganese	214000	ug/L	D	30		E200.7	09/16/21 13:33 / jcg
Mercury	0.0037	mg/L		0.0002		E245.1	09/17/21 18:54 / etad
Molybdenum	32600	ug/L	D	600		E200.7	09/16/21 13:33 / jcg
Nickel	57100	ug/L	D	30		E200.8	09/26/21 07:33 / jcg
Selenium	3740	ug/L	D	600		E200.7	09/16/21 13:33 / jcg
Silver	466	ug/L	D	4		E200.8	09/26/21 07:33 / jcg
Thallium	185	ug/L	D	10		E200.8	11/08/21 12:17 / srm
Tin	105	ug/L		50		E200.8	09/26/21 07:33 / jcg
Uranium	43300	ug/L	D	10		E200.8	09/26/21 07:33 / jcg
Vanadium	237000	ug/L	D	600		E200.7	09/16/21 13:33 / jcg
Zinc	307000	ug/L	D	600		E200.7	09/16/21 13:33 / jcg
DATA QUALITY							
Solids, Total Dissolved - Calculated	152000	mg/L		1.00		A1030 E	09/17/21 14:12 / jlw
A/C Balance	-3.75	%				A1030 E	09/17/21 14:12 / jlw

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
H - Analysis performed past the method holding time
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
E - Estimated value - result exceeds the instrument upper quantitation limit

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Energy Fuels Resources (USA) Inc
Project: Annual Tailings 2021
Lab ID: C21090172-003
Client Sample ID: Cell 4A

Revised Date: 11/11/21
Report Date: 10/15/21
Collection Date: 09/01/21 09:20
DateReceived: 09/03/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
DATA QUALITY							
Anions	2820	meq/L				A1030 E	09/17/21 14:12 / jlw
Cations	2620	meq/L				A1030 E	09/17/21 14:12 / jlw

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: November 1, 2021

Client Sample ID: Cell 4A
Sample ID: 554861003
Matrix: Water
Collect Date: 01-SEP-21 09:20
Receive Date: 03-SEP-21
Collector: Client

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
SW846 8260 Volatiles "As Received"												
2-Butanone	U	ND	8.34	25.0	ug/L		5	JEB	09/08/21	1758	2171666	1
Acetone	U	ND	8.72	25.0	ug/L		5					
Benzene	U	ND	1.67	5.00	ug/L		5					
Carbon tetrachloride	U	ND	1.67	5.00	ug/L		5					
Chloroform	U	ND	1.67	5.00	ug/L		5					
Chloromethane	U	ND	1.67	5.00	ug/L		5					
Methylene chloride	U	ND	2.50	25.0	ug/L		5					
Naphthalene	U	ND	1.67	5.00	ug/L		5					
Tetrahydrofuran	U	ND	8.34	25.0	ug/L		5					
Toluene	U	ND	1.67	5.00	ug/L		5					
Xylenes (total)	U	ND	5.00	15.0	ug/L		5					

Surrogate/Tracer recovery	*Result*	*Nominal*	*Recovery%*	*Acceptable Limits*	*Date Time:*	*09/08/21 17 58*
Bromofluorobenzene	240 ug/L	50.0	96	(72%-125%)		
Toluene-d8	261 ug/L	50.0	104	(75%-123%)		
1,2-Dichloroethane-d4	296 ug/L	50.0	118	(73%-129%)		

Tentatively Identified Compound (TIC)	*CAS No.*	*RT*	*Est. Concentration*	*Fit*	*Qual*	*Date Time:*	*09/08/21 17 58*
No Tentatively Identified Compounds Found							

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 8260D	

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: September 24, 2021

Client Sample ID: Cell 4A
Sample ID: 554861003
Matrix: Water
Collect Date: 01-SEP-21 09:20
Receive Date: 03-SEP-21
Collector: Client

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"												
1,2,4-Trichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1	NM1	09/09/21	2035	2171562	1
1,2-Dichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
1,2-Diphenylhydrazine	U	ND	30.0	100	ug/L	0.0100	1					
1,3-Dichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
1,4-Dichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
1-Methylnaphthalene	U	ND	3.00	10.0	ug/L	0.0100	1					
2,4,5-Trichlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4,6-Trichlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4-Dichlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4-Dimethylphenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4-Dinitrophenol	U	ND	50.0	200	ug/L	0.0100	1					
2,4-Dinitrotoluene	U	ND	30.0	100	ug/L	0.0100	1					
2,6-Dinitrotoluene	U	ND	30.0	100	ug/L	0.0100	1					
2-Chloronaphthalene	U	ND	4.10	10.0	ug/L	0.0100	1					
2-Chlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2-Methyl-4,6-dinitrophenol	U	ND	30.0	100	ug/L	0.0100	1					
2-Methylnaphthalene	U	ND	3.00	10.0	ug/L	0.0100	1					
2-Nitrophenol	U	ND	30.0	100	ug/L	0.0100	1					
3,3'-Dimethylbenzidine	U	ND	33.0	100	ug/L	0.0100	1					
4-Bromophenylphenylether	U	ND	30.0	100	ug/L	0.0100	1					
4-Chloro-3-methylphenol	U	ND	30.0	100	ug/L	0.0100	1					
4-Chlorophenylphenylether	U	ND	30.0	100	ug/L	0.0100	1					
4-Nitrophenol	U	ND	30.0	100	ug/L	0.0100	1					
Acenaphthene	U	ND	3.00	10.0	ug/L	0.0100	1					
Acenaphthylene	U	ND	3.00	10.0	ug/L	0.0100	1					
Anthracene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzidine	U	ND	39.0	100	ug/L	0.0100	1					
Benzo(a)anthracene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzo(a)pyrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzo(b)fluoranthene	U	ND	3.00	10.0	ug/L	0.0100	1					

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: September 24, 2021

Client Sample ID: Cell 4A
Sample ID: 554861003

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"												
Benzo(ghi)perylene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzo(k)fluoranthene	U	ND	3.00	10.0	ug/L	0.0100	1					
Butylbenzylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Chrysene	U	ND	3.00	10.0	ug/L	0.0100	1					
Di-n-butylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Di-n-octylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Dibenzo(a,h)anthracene	U	ND	3.00	10.0	ug/L	0.0100	1					
Diethylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Dimethylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Diphenylamine	U	ND	30.0	100	ug/L	0.0100	1					
Fluoranthene	U	ND	3.00	10.0	ug/L	0.0100	1					
Fluorene	U	ND	3.00	10.0	ug/L	0.0100	1					
Hexachlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
Hexachlorobutadiene	U	ND	30.0	100	ug/L	0.0100	1					
Hexachlorocyclopentadiene	U	ND	30.0	100	ug/L	0.0100	1					
Hexachloroethane	U	ND	30.0	100	ug/L	0.0100	1					
Indeno(1,2,3-cd)pyrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Isophorone	U	ND	35.0	100	ug/L	0.0100	1					
N-Methyl-N-nitrosomethylamine	U	ND	30.0	100	ug/L	0.0100	1					
N-Nitrosodipropylamine	U	ND	30.0	100	ug/L	0.0100	1					
Naphthalene	U	ND	3.00	10.0	ug/L	0.0100	1					
Nitrobenzene	U	ND	30.0	100	ug/L	0.0100	1					
Pentachlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
Phenanthrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Phenol	U	ND	30.0	100	ug/L	0.0100	1					
Pyrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Pyridine	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Chloroethoxy)methane	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Chloroethyl) ether	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Ethylhexyl)phthalate	U	ND	3.00	10.0	ug/L	0.0100	1					
m,p-Cresols	U	ND	37.0	100	ug/L	0.0100	1					
o-Cresol	U	ND	30.0	100	ug/L	0.0100	1					

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: September 24, 2021

Client Sample ID: Cell 4A
Sample ID: 554861003

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

Semi-Volatile-GC/MS

SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"

Surrogate/Tracer recovery	*Result*	*Nominal*	*Recovery%*	*Acceptable Limits*	*Date Time:*	*09/09/21 20 35*
p-Terphenyl-d14	255 ug/L	500	51	(24%-129%)		
Phenol-d5	350 ug/L	1000	35	(15%-85%)		
Nitrobenzene-d5	350 ug/L	500	70	(39%-112%)		
2-Fluorobiphenyl	364 ug/L	500	73	(39%-112%)		
2-Fluorophenol	399 ug/L	1000	40	(11%-79%)		
2,4,6-Tribromophenol	723 ug/L	1000	72	(37%-132%)		

Tentatively Identified Compound (TIC)	*CAS No.*	*RT*	*Est. Concentration*	*Fit*	*Qual*	*Date Time:*	*09/09/21 20 35*

No Tentatively Identified Compounds Found

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	LW1	09/22/21	1120	2176674
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	SG2	09/08/21	1228	2171561

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 3510C/8270D	

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: October 4, 2021

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: Tailings Characterization

Client Sample ID: Cell 4A
Sample ID: 554861003
Matrix: Water
Collect Date: 01-SEP-21 09:20
Receive Date: 03-SEP-21
Collector: Client

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
High Rad Testing													
Alphaspec Th, Liquid "As Received"													
Thorium-228		1000	+/-89.9	48.8	1.00	pCi/L			TC1	09/25/21	1004	2177500	1
Thorium-230		6.62E+05	+/-2270	67.0	1.00	pCi/L							
Thorium-232		6240	+/-220	48.8	1.00	pCi/L							
GFPC,Total Alpha Radium, Liquid "As Received"													
Gross Radium Alpha		1.22E+05	+/-507	22.0	1.00	pCi/L			TC1	09/28/21	0932	2177508	2
Lucas Cell, Ra226, liquid "As Received"													
Radium-226		686	+/-37.1	15.3	1.00	pCi/L			LXP1	10/03/21	0722	2177509	3
U- 233/234,U-235/236 and U-238 "As Received"													
Uranium-233/234		18000	+/-438	118	1.00	pCi/L			TC1	09/28/21	0926	2178805	4
Uranium-235/236		1150	+/-125	102	1.00	pCi/L							
Uranium-238		17900	+/-437	86.0	1.00	pCi/L							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
GL-RAD-A-026	Laboratory Composite				2171222

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	EPA 903.0	
3	EPA 903.1 Modified	
4	DOE EML HASL-300, U-02-RC Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Liquid "As Received"			93.4	(15%-125%)
Barium Carrier	GFPC,Total Alpha Radium, Liquid "As Received"			95.2	(25%-125%)
Uranium-232 Tracer	U- 233/234,U-235/236 and U-238 "As Received"			70.1	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 68% confidence level (1-sigma).

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: October 4, 2021

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings Characterization

Client Sample ID:	Cell 4A	Project:	DNMI00107
Sample ID:	554861003	Client ID:	DNMI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
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Certificate of Analysis

Report Date: September 24, 2021

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings Characterization

Client Sample ID:	Cell 4A	Project:	DNMI00107
Sample ID:	554861003	Client ID:	DNMI001
Matrix:	Water		
Collect Date:	01-SEP-21 09:20		
Receive Date:	03-SEP-21		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Hazardous Waste												
ASTM D 5057 Specific Gravity "As Received"												
Specific Gravity		1.11	0.0100	0.100	none		1	VH1	09/14/21	0857	2173276	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	ASTM D 5057	

Notes:

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Energy Fuels Resources (USA) Inc
Project: Annual Tailings 2021
Lab ID: C21090172-004
Client Sample ID: Cell 4A LDS

Revised Date: 11/11/21
Report Date: 10/15/21
Collection Date: 09/01/21 09:35
DateReceived: 09/03/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Carbonate as CO3	ND	mg/L		5		A2320 B	09/07/21 13:59 / kjp
Bicarbonate as HCO3	ND	mg/L		5		A2320 B	09/07/21 13:59 / kjp
Chloride	6510	mg/L	D	50		E300.0	09/08/21 18:51 / dmb
Fluoride	2240	mg/L	D	50		A4500-F C	09/14/21 10:48 / dmb
Sulfate	72900	mg/L	D	200		E300.0	09/08/21 18:51 / dmb
Calcium	500	mg/L	D	6		E200.7	09/16/21 13:37 / jcg
Magnesium	3780	mg/L	D	2		E200.8	09/26/21 07:52 / jcg
Potassium	635	mg/L	D	6		E200.7	09/16/21 13:37 / jcg
Sodium	9550	mg/L	D	10		E200.7	09/16/21 13:37 / jcg
PHYSICAL PROPERTIES							
Conductivity @ 25 C	65900	umhos/cm	E	5		A2510 B	09/07/21 13:26 / kjp
pH	2.4	s.u.	H	0.1		A4500-H B	09/07/21 13:26 / kjp
pH Measurement Temp	16.7	°C				A4500-H B	09/07/21 13:26 / kjp
Solids, Total Dissolved TDS @ 180 C	105000	mg/L	D	1000		A2540 C	09/07/21 13:54 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	161	mg/L	D	0.5		E353.2	09/13/21 14:50 / nts
Nitrogen, Ammonia as N	3680	mg/L	D	100		E350.1	09/11/21 11:37 / dmb
METALS, DISSOLVED							
Arsenic	32300	ug/L	D	600		E200.7	09/16/21 13:37 / jcg
Beryllium	323	ug/L	D	20		E200.7	09/16/21 13:37 / jcg
Cadmium	4220	ug/L	D	600		E200.7	09/16/21 13:37 / jcg
Chromium	5200	ug/L	D	10		E200.8	09/26/21 07:52 / jcg
Cobalt	73400	ug/L	D	100		E200.8	09/28/21 09:48 / srm
Copper	322000	ug/L	D	600		E200.7	09/16/21 13:37 / jcg
Iron	1370000	ug/L	D	500		E200.8	09/26/21 07:52 / jcg
Lead	1120	ug/L	D	10		E200.8	09/26/21 07:52 / jcg
Manganese	195000	ug/L	D	30		E200.7	09/16/21 13:37 / jcg
Mercury	0.0003	mg/L		0.0002		E245.1	09/17/21 18:57 / etad
Molybdenum	4090	ug/L	D	600		E200.7	09/16/21 13:37 / jcg
Nickel	67700	ug/L	D	30		E200.8	09/26/21 07:52 / jcg
Selenium	1960	ug/L	D	20		E200.8	09/26/21 07:52 / jcg
Silver	212	ug/L	D	4		E200.8	09/26/21 07:52 / jcg
Thallium	245	ug/L	D	20		E200.8	11/05/21 15:16 / srm
Tin	ND	ug/L		50		E200.8	09/26/21 07:52 / jcg
Uranium	76000	ug/L	D	10		E200.8	09/26/21 07:52 / jcg
Vanadium	458000	ug/L	D	600		E200.7	09/16/21 13:37 / jcg
Zinc	380000	ug/L	D	600		E200.7	09/16/21 13:37 / jcg
DATA QUALITY							
Solids, Total Dissolved - Calculated	97800	mg/L		1.00		A1030 E	09/17/21 14:12 / jlw
A/C Balance	-0.15	%				A1030 E	09/17/21 14:12 / jlw

Report Definitions:

RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
H - Analysis performed past the method holding time
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
E - Estimated value - result exceeds the instrument upper quantitation limit

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Energy Fuels Resources (USA) Inc
Project: Annual Tailings 2021
Lab ID: C21090172-004
Client Sample ID: Cell 4A LDS

Revised Date: 11/11/21
Report Date: 10/15/21
Collection Date: 09/01/21 09:35
DateReceived: 09/03/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
DATA QUALITY							
Anions	1830	meq/L				A1030 E	09/17/21 14:12 / jlw
Cations	1820	meq/L				A1030 E	09/17/21 14:12 / jlw

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: November 1, 2021

Client Sample ID: Cell 4A LDS
Sample ID: 554861004
Matrix: Water
Collect Date: 01-SEP-21 09:35
Receive Date: 03-SEP-21
Collector: Client

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
SW846 8260 Volatiles "As Received"												
2-Butanone		92.2	8.34	25.0	ug/L		5	JEB	09/08/21	1823	2171666	1
Acetone		262	8.72	25.0	ug/L		5					
Benzene	U	ND	1.67	5.00	ug/L		5					
Carbon tetrachloride	U	ND	1.67	5.00	ug/L		5					
Chloroform		47.2	1.67	5.00	ug/L		5					
Chloromethane	U	ND	1.67	5.00	ug/L		5					
Methylene chloride	U	ND	2.50	25.0	ug/L		5					
Naphthalene	U	ND	1.67	5.00	ug/L		5					
Tetrahydrofuran	U	ND	8.34	25.0	ug/L		5					
Toluene	U	ND	1.67	5.00	ug/L		5					
Xylenes (total)	U	ND	5.00	15.0	ug/L		5					

Surrogate/Tracer recovery	*Result*	*Nominal*	*Recovery%*	*Acceptable Limits*	*Date Time:*	*09/08/21 18 23*
Bromofluorobenzene	244 ug/L	50.0	98	(72%-125%)		
Toluene-d8	267 ug/L	50.0	107	(75%-123%)		
1,2-Dichloroethane-d4	286 ug/L	50.0	114	(73%-129%)		

Tentatively Identified Compound (TIC)	*CAS No.*	*RT*	*Est. Concentration*	*Fit*	*Qual*	*Date Time:*	*09/08/21 18 23*

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 8260D	

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: September 24, 2021

Client Sample ID: Cell 4A LDS
Sample ID: 554861004
Matrix: Water
Collect Date: 01-SEP-21 09:35
Receive Date: 03-SEP-21
Collector: Client

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"												
1,2,4-Trichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1	NM1	09/09/21	2102	2171562	1
1,2-Dichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
1,2-Diphenylhydrazine	U	ND	30.0	100	ug/L	0.0100	1					
1,3-Dichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
1,4-Dichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
1-Methylnaphthalene	U	ND	3.00	10.0	ug/L	0.0100	1					
2,4,5-Trichlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4,6-Trichlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4-Dichlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4-Dimethylphenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4-Dinitrophenol	U	ND	50.0	200	ug/L	0.0100	1					
2,4-Dinitrotoluene	U	ND	30.0	100	ug/L	0.0100	1					
2,6-Dinitrotoluene	U	ND	30.0	100	ug/L	0.0100	1					
2-Chloronaphthalene	U	ND	4.10	10.0	ug/L	0.0100	1					
2-Chlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2-Methyl-4,6-dinitrophenol	U	ND	30.0	100	ug/L	0.0100	1					
2-Methylnaphthalene	U	ND	3.00	10.0	ug/L	0.0100	1					
2-Nitrophenol	U	ND	30.0	100	ug/L	0.0100	1					
3,3'-Dimethylbenzidine	U	ND	33.0	100	ug/L	0.0100	1					
4-Bromophenylphenylether	U	ND	30.0	100	ug/L	0.0100	1					
4-Chloro-3-methylphenol	U	ND	30.0	100	ug/L	0.0100	1					
4-Chlorophenylphenylether	U	ND	30.0	100	ug/L	0.0100	1					
4-Nitrophenol	U	ND	30.0	100	ug/L	0.0100	1					
Acenaphthene	U	ND	3.00	10.0	ug/L	0.0100	1					
Acenaphthylene	U	ND	3.00	10.0	ug/L	0.0100	1					
Anthracene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzidine	U	ND	39.0	100	ug/L	0.0100	1					
Benzo(a)anthracene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzo(a)pyrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzo(b)fluoranthene	U	ND	3.00	10.0	ug/L	0.0100	1					

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: September 24, 2021

Client Sample ID: Cell 4A LDS
Sample ID: 554861004

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"												
Benzo(ghi)perylene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzo(k)fluoranthene	U	ND	3.00	10.0	ug/L	0.0100	1					
Butylbenzylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Chrysene	U	ND	3.00	10.0	ug/L	0.0100	1					
Di-n-butylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Di-n-octylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Dibenzo(a,h)anthracene	U	ND	3.00	10.0	ug/L	0.0100	1					
Diethylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Dimethylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Diphenylamine	U	ND	30.0	100	ug/L	0.0100	1					
Fluoranthene	U	ND	3.00	10.0	ug/L	0.0100	1					
Fluorene	U	ND	3.00	10.0	ug/L	0.0100	1					
Hexachlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
Hexachlorobutadiene	U	ND	30.0	100	ug/L	0.0100	1					
Hexachlorocyclopentadiene	U	ND	30.0	100	ug/L	0.0100	1					
Hexachloroethane	U	ND	30.0	100	ug/L	0.0100	1					
Indeno(1,2,3-cd)pyrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Isophorone	U	ND	35.0	100	ug/L	0.0100	1					
N-Methyl-N-nitrosomethylamine	U	ND	30.0	100	ug/L	0.0100	1					
N-Nitrosodipropylamine	U	ND	30.0	100	ug/L	0.0100	1					
Naphthalene	U	ND	3.00	10.0	ug/L	0.0100	1					
Nitrobenzene	U	ND	30.0	100	ug/L	0.0100	1					
Pentachlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
Phenanthrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Phenol	U	ND	30.0	100	ug/L	0.0100	1					
Pyrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Pyridine	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Chloroethoxy)methane	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Chloroethyl) ether	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Ethylhexyl)phthalate	U	ND	3.00	10.0	ug/L	0.0100	1					
m,p-Cresols	U	ND	37.0	100	ug/L	0.0100	1					
o-Cresol	U	ND	30.0	100	ug/L	0.0100	1					

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Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: September 24, 2021

Client Sample ID: Cell 4A LDS
Sample ID: 554861004

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"												

Surrogate/Tracer recovery	*Result*	*Nominal*	*Recovery%*	*Acceptable Limits*	*Date Time:*	*09/09/21 21 02*
p-Terphenyl-d14	225 ug/L	500	45	(24%-129%)		
Phenol-d5	297 ug/L	1000	30	(15%-85%)		
Nitrobenzene-d5	322 ug/L	500	64	(39%-112%)		
2-Fluorobiphenyl	334 ug/L	500	67	(39%-112%)		
2-Fluorophenol	393 ug/L	1000	39	(11%-79%)		
2,4,6-Tribromophenol	831 ug/L	1000	83	(37%-132%)		

Tentatively Identified Compound (TIC)	*CAS No.*	*RT*	*Est. Concentration*	*Fit*	*Qual*	*Date Time:*	*09/09/21 21 02*

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	SG2	09/08/21	1228	2171561

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 3510C/8270D	

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: October 4, 2021

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: Tailings Characterization

Client Sample ID: Cell 4A LDS
Sample ID: 554861004
Matrix: Water
Collect Date: 01-SEP-21 09:35
Receive Date: 03-SEP-21
Collector: Client

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
High Rad Testing													
Alphaspec Th, Liquid "As Received"													
Thorium-228		462	+/-61.1	54.5	1.00	pCi/L			TC1	09/25/21	1004	2177500	1
Thorium-230		1.01E+05	+/-872	73.5	1.00	pCi/L							
Thorium-232		731	+/-74.7	31.2	1.00	pCi/L							
GFPC,Total Alpha Radium, Liquid "As Received"													
Gross Radium Alpha		23700	+/-226	18.4	1.00	pCi/L			TC1	09/28/21	0932	2177508	2
Lucas Cell, Ra226, liquid "As Received"													
Radium-226		33.4	+/-8.06	13.5	1.00	pCi/L			LXP1	10/03/21	0722	2177509	3
U- 233/234,U-235/236 and U-238 "As Received"													
Uranium-233/234		38200	+/-810	187	1.00	pCi/L			TC1	09/28/21	0926	2178805	4
Uranium-235/236		1720	+/-193	140	1.00	pCi/L							
Uranium-238		37500	+/-802	162	1.00	pCi/L							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
GL-RAD-A-026	Laboratory Composite				2171222

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	EPA 903.0	
3	EPA 903.1 Modified	
4	DOE EML HASL-300, U-02-RC Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Liquid "As Received"			97.9	(15%-125%)
Barium Carrier	GFPC,Total Alpha Radium, Liquid "As Received"			96.3	(25%-125%)
Uranium-232 Tracer	U- 233/234,U-235/236 and U-238 "As Received"			43.5	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 68% confidence level (1-sigma).

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

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Certificate of Analysis

Report Date: October 4, 2021

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings Characterization

Client Sample ID:	Cell 4A LDS	Project:	DNMI00107
Sample ID:	554861004	Client ID:	DNMI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst Date	Time	Batch	Method

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: September 24, 2021

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings Characterization

Client Sample ID:	Cell 4A LDS	Project:	DNMI00107
Sample ID:	554861004	Client ID:	DNMI001
Matrix:	Water		
Collect Date:	01-SEP-21 09:35		
Receive Date:	03-SEP-21		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Hazardous Waste												
ASTM D 5057 Specific Gravity "As Received"												
Specific Gravity		1.08	0.0100	0.100	none		1	VH1	09/14/21	0858	2173276	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	ASTM D 5057	

Notes:

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Energy Fuels Resources (USA) Inc
Project: Annual Tailings 2021
Lab ID: C21090172-005
Client Sample ID: Cell 4B

Revised Date: 11/11/21
Report Date: 10/15/21
Collection Date: 09/01/21 09:45
DateReceived: 09/03/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Carbonate as CO3	ND	mg/L		5		A2320 B	09/07/21 14:02 / kjp
Bicarbonate as HCO3	ND	mg/L		5		A2320 B	09/07/21 14:02 / kjp
Chloride	44800	mg/L	D	50		E300.0	09/08/21 19:10 / dmb
Fluoride	7000	mg/L	D	200		A4500-F C	09/14/21 13:58 / dmb
Sulfate	259000	mg/L	D	800		E300.0	09/09/21 21:44 / dmb
Calcium	534	mg/L	D	300		E200.7	09/21/21 05:21 / jcg
Magnesium	8200	mg/L	D	2		E200.8	09/26/21 07:57 / jcg
Potassium	3540	mg/L	D	6		E200.7	09/16/21 13:42 / jcg
Sodium	54000	mg/L	D	500		E200.7	09/21/21 05:21 / jcg
PHYSICAL PROPERTIES							
Conductivity @ 25 C	109000	umhos/cm	E	5		A2510 B	09/07/21 13:29 / kjp
pH	1.2	s.u.	H	0.1		A4500-H B	09/07/21 13:29 / kjp
pH Measurement Temp	19.0	°C				A4500-H B	09/07/21 13:29 / kjp
Solids, Total Dissolved TDS @ 180 C	423000	mg/L	DE	2000		A2540 C	09/07/21 13:54 / kjp
Solids, Total Dissolved TDS @ 180 C	433000	mg/L	DH	5000		A2540 C	09/08/21 15:59 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	286	mg/L	D	1		E353.2	09/13/21 14:51 / nts
Nitrogen, Ammonia as N	9100	mg/L	D	200		E350.1	09/11/21 13:07 / dmb
METALS, DISSOLVED							
Arsenic	307000	ug/L	D	600		E200.7	09/16/21 13:42 / jcg
Beryllium	1280	ug/L	D	20		E200.7	09/16/21 13:42 / jcg
Cadmium	6760	ug/L	D	600		E200.7	09/16/21 13:42 / jcg
Chromium	16600	ug/L	D	600		E200.7	09/16/21 13:42 / jcg
Cobalt	39700	ug/L	D	20000		E200.7	09/21/21 05:21 / jcg
Copper	1170000	ug/L	D	600		E200.7	09/16/21 13:42 / jcg
Iron	7610000	ug/L	D	60000		E200.7	09/21/21 05:21 / jcg
Lead	26000	ug/L	D	2000		E200.7	09/16/21 13:42 / jcg
Manganese	602000	ug/L	D	30		E200.7	09/16/21 13:42 / jcg
Mercury	0.0086	mg/L		0.0002		E245.1	09/17/21 18:59 / etad
Molybdenum	95600	ug/L	D	20000		E200.7	09/21/21 05:21 / jcg
Nickel	48900	ug/L	D	30		E200.8	09/26/21 07:57 / jcg
Selenium	9080	ug/L	D	600		E200.7	09/16/21 13:42 / jcg
Silver	741	ug/L	D	4		E200.8	09/26/21 07:57 / jcg
Thallium	2160	ug/L	D	1000		E200.8	09/28/21 10:04 / srm
Tin	879	ug/L		50		E200.8	09/26/21 07:57 / jcg
Uranium	279000	ug/L	D	100		E200.8	09/28/21 10:04 / srm
Vanadium	1060000	ug/L	D	600		E200.7	09/16/21 13:42 / jcg
Zinc	475000	ug/L	D	20000		E200.7	09/21/21 05:21 / jcg

- E - TDS residue exceeded the 200 mg limit per method. The sample was re-analyzed with a lower volume to obtain a valid result. The E qualifed data is reported at client request.
- H - Original analysis was done within hold time. Data is from recheck analysis.

Report Definitions:

RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
H - Analysis performed past the method holding time
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
E - Estimated value - result exceeds the instrument upper quantitation limit

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Energy Fuels Resources (USA) Inc
Project: Annual Tailings 2021
Lab ID: C21090172-005
Client Sample ID: Cell 4B

Revised Date: 11/11/21
Report Date: 10/15/21
Collection Date: 09/01/21 09:45
DateReceived: 09/03/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
DATA QUALITY							
Solids, Total Dissolved - Calculated	379000	mg/L		1.00		A1030 E	09/22/21 11:27 / jlw
A/C Balance	-1.18	%				A1030 E	09/22/21 11:27 / jlw
Anions	7040	meq/L				A1030 E	09/22/21 11:27 / jlw
Cations	6880	meq/L				A1030 E	09/22/21 11:27 / jlw
Cation/Anion Balance includes selected metals							

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: November 1, 2021

Client Sample ID: Cell 4B
Sample ID: 554861005
Matrix: Water
Collect Date: 01-SEP-21 09:45
Receive Date: 03-SEP-21
Collector: Client

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
SW846 8260 Volatiles "As Received"												
2-Butanone		57.0	8.34	25.0	ug/L		5	JEB	09/08/21	1847	2171666	1
Acetone		97.6	8.72	25.0	ug/L		5					
Benzene	U	ND	1.67	5.00	ug/L		5					
Carbon tetrachloride	U	ND	1.67	5.00	ug/L		5					
Chloroform	U	ND	1.67	5.00	ug/L		5					
Chloromethane	U	ND	1.67	5.00	ug/L		5					
Methylene chloride	U	ND	2.50	25.0	ug/L		5					
Naphthalene	U	ND	1.67	5.00	ug/L		5					
Tetrahydrofuran		164	8.34	25.0	ug/L		5					
Toluene	U	ND	1.67	5.00	ug/L		5					
Xylenes (total)	U	ND	5.00	15.0	ug/L		5					

Surrogate/Tracer recovery	*Result*	*Nominal*	*Recovery%*	*Acceptable Limits*	*Date Time:*	*09/08/21 18 47*
Bromofluorobenzene	244 ug/L	50.0	98	(72%-125%)		
Toluene-d8	265 ug/L	50.0	106	(75%-123%)		
1,2-Dichloroethane-d4	295 ug/L	50.0	118	(73%-129%)		

Tentatively Identified Compound (TIC)	*CAS No.*	*RT*	*Est. Concentration*	*Fit*	*Qual*	*Date Time:*	*09/08/21 18 47*

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 8260D	

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: September 24, 2021

Client Sample ID: Cell 4B
Sample ID: 554861005
Matrix: Water
Collect Date: 01-SEP-21 09:45
Receive Date: 03-SEP-21
Collector: Client

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"												
1,2,4-Trichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1	NM1	09/09/21	2130	2171562	1
1,2-Dichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
1,2-Diphenylhydrazine	U	ND	30.0	100	ug/L	0.0100	1					
1,3-Dichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
1,4-Dichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
1-Methylnaphthalene	U	ND	3.00	10.0	ug/L	0.0100	1					
2,4,5-Trichlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4,6-Trichlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4-Dichlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4-Dimethylphenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4-Dinitrophenol	U	ND	50.0	200	ug/L	0.0100	1					
2,4-Dinitrotoluene	U	ND	30.0	100	ug/L	0.0100	1					
2,6-Dinitrotoluene	U	ND	30.0	100	ug/L	0.0100	1					
2-Chloronaphthalene	U	ND	4.10	10.0	ug/L	0.0100	1					
2-Chlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2-Methyl-4,6-dinitrophenol	U	ND	30.0	100	ug/L	0.0100	1					
2-Methylnaphthalene	U	ND	3.00	10.0	ug/L	0.0100	1					
2-Nitrophenol	U	ND	30.0	100	ug/L	0.0100	1					
3,3'-Dimethylbenzidine	U	ND	33.0	100	ug/L	0.0100	1					
4-Bromophenylphenylether	U	ND	30.0	100	ug/L	0.0100	1					
4-Chloro-3-methylphenol	U	ND	30.0	100	ug/L	0.0100	1					
4-Chlorophenylphenylether	U	ND	30.0	100	ug/L	0.0100	1					
4-Nitrophenol	U	ND	30.0	100	ug/L	0.0100	1					
Acenaphthene	U	ND	3.00	10.0	ug/L	0.0100	1					
Acenaphthylene	U	ND	3.00	10.0	ug/L	0.0100	1					
Anthracene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzidine	U	ND	39.0	100	ug/L	0.0100	1					
Benzo(a)anthracene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzo(a)pyrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzo(b)fluoranthene	U	ND	3.00	10.0	ug/L	0.0100	1					

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: September 24, 2021

Client Sample ID: Cell 4B
Sample ID: 554861005

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"												
Benzo(ghi)perylene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzo(k)fluoranthene	U	ND	3.00	10.0	ug/L	0.0100	1					
Butylbenzylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Chrysene	U	ND	3.00	10.0	ug/L	0.0100	1					
Di-n-butylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Di-n-octylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Dibenzo(a,h)anthracene	U	ND	3.00	10.0	ug/L	0.0100	1					
Diethylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Dimethylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Diphenylamine	U	ND	30.0	100	ug/L	0.0100	1					
Fluoranthene	U	ND	3.00	10.0	ug/L	0.0100	1					
Fluorene	U	ND	3.00	10.0	ug/L	0.0100	1					
Hexachlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
Hexachlorobutadiene	U	ND	30.0	100	ug/L	0.0100	1					
Hexachlorocyclopentadiene	U	ND	30.0	100	ug/L	0.0100	1					
Hexachloroethane	U	ND	30.0	100	ug/L	0.0100	1					
Indeno(1,2,3-cd)pyrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Isophorone	U	ND	35.0	100	ug/L	0.0100	1					
N-Methyl-N-nitrosomethylamine	U	ND	30.0	100	ug/L	0.0100	1					
N-Nitrosodipropylamine	U	ND	30.0	100	ug/L	0.0100	1					
Naphthalene	U	ND	3.00	10.0	ug/L	0.0100	1					
Nitrobenzene	U	ND	30.0	100	ug/L	0.0100	1					
Pentachlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
Phenanthrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Phenol	U	ND	30.0	100	ug/L	0.0100	1					
Pyrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Pyridine		118	30.0	100	ug/L	0.0100	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Chloroethoxy)methane	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Chloroethyl) ether	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Ethylhexyl)phthalate	U	ND	3.00	10.0	ug/L	0.0100	1					
m,p-Cresols	U	ND	37.0	100	ug/L	0.0100	1					
o-Cresol	U	ND	30.0	100	ug/L	0.0100	1					

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Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: September 24, 2021

Client Sample ID: Cell 4B
Sample ID: 554861005

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

Semi-Volatile-GC/MS

SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"

Surrogate/Tracer recovery	*Result*	*Nominal*	*Recovery%*	*Acceptable Limits*	*Date Time:*	*09/09/21 21 30*
p-Terphenyl-d14	185 ug/L	500	37	(24%-129%)		
Nitrobenzene-d5	315 ug/L	500	63	(39%-112%)		
Phenol-d5	331 ug/L	1000	33	(15%-85%)		
2-Fluorobiphenyl	345 ug/L	500	69	(39%-112%)		
2-Fluorophenol	347 ug/L	1000	35	(11%-79%)		
2,4,6-Tribromophenol	663 ug/L	1000	66	(37%-132%)		

Tentatively Identified Compound (TIC)	*CAS No.*	*RT*	*Est. Concentration*	*Fit*	*Qual*	*Date Time:*	*09/09/21 21 30*

No Tentatively Identified Compounds Found

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	LW1	09/22/21	1120	2176674
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	SG2	09/08/21	1228	2171561

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 3510C/8270D	

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: October 4, 2021

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: Tailings Characterization

Client Sample ID: Cell 4B
Sample ID: 554861005
Matrix: Water
Collect Date: 01-SEP-21 09:45
Receive Date: 03-SEP-21
Collector: Client

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
High Rad Testing													
Alphaspec Th, Liquid "As Received"													
Thorium-228		1590	+/-108	64.9	1.00	pCi/L			TC1	09/25/21	1004	2177500	1
Thorium-230		5.23E+05	+/-1920	75.7	1.00	pCi/L							
Thorium-232		3240	+/-152	53.2	1.00	pCi/L							
GFPC,Total Alpha Radium, Liquid "As Received"													
Gross Radium Alpha		87400	+/-448	20.0	1.00	pCi/L			TC1	09/28/21	0932	2177508	2
Lucas Cell, Ra226, liquid "As Received"													
Radium-226		495	+/-30.3	24.0	1.00	pCi/L			LXP1	10/03/21	0722	2177509	3
U- 233/234,U-235/236 and U-238 "As Received"													
Uranium-233/234		58400	+/-1170	282	1.00	pCi/L			TC1	09/28/21	0926	2178805	4
Uranium-235/236		3780	+/-332	189	1.00	pCi/L							
Uranium-238		60000	+/-1180	265	1.00	pCi/L							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
GL-RAD-A-026	Laboratory Composite				2171222

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	EPA 903.0	
3	EPA 903.1 Modified	
4	DOE EML HASL-300, U-02-RC Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Liquid "As Received"			99.8	(15%-125%)
Barium Carrier	GFPC,Total Alpha Radium, Liquid "As Received"			94.8	(25%-125%)
Uranium-232 Tracer	U- 233/234,U-235/236 and U-238 "As Received"			31.5	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 68% confidence level (1-sigma).

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

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Certificate of Analysis

Report Date: October 4, 2021

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings Characterization

Client Sample ID:	Cell 4B	Project:	DNMI00107
Sample ID:	554861005	Client ID:	DNMI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst Date	Time	Batch	Method

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
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Certificate of Analysis

Report Date: September 24, 2021

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings Characterization

Client Sample ID:	Cell 4B	Project:	DNMI00107
Sample ID:	554861005	Client ID:	DNMI001
Matrix:	Water		
Collect Date:	01-SEP-21 09:45		
Receive Date:	03-SEP-21		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Hazardous Waste												
ASTM D 5057 Specific Gravity "As Received"												
Specific Gravity		1.25	0.0100	0.100	none		1	VH1	09/14/21	0900	2173276	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	ASTM D 5057	

Notes:

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Energy Fuels Resources (USA) Inc
Project: Annual Tailings 2021
Lab ID: C21090172-006
Client Sample ID: Cell 4B LDS

Revised Date: 11/11/21
Report Date: 10/15/21
Collection Date: 09/01/21 09:55
DateReceived: 09/03/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Carbonate as CO3	ND	mg/L		5		A2320 B	09/07/21 14:05 / kjp
Bicarbonate as HCO3	ND	mg/L		5		A2320 B	09/07/21 14:05 / kjp
Chloride	9180	mg/L	D	50		E300.0	09/08/21 19:29 / dmb
Fluoride	1870	mg/L	D	50		A4500-F C	09/14/21 11:01 / dmb
Sulfate	99000	mg/L	D	200		E300.0	09/08/21 19:29 / dmb
Calcium	526	mg/L	D	6		E200.7	09/16/21 13:46 / jcg
Magnesium	4850	mg/L		1		E200.7	09/16/21 13:46 / jcg
Potassium	1240	mg/L	D	6		E200.7	09/16/21 13:46 / jcg
Sodium	12200	mg/L	D	10		E200.7	09/16/21 13:46 / jcg
PHYSICAL PROPERTIES							
Conductivity @ 25 C	78000	umhos/cm	E	5		A2510 B	09/07/21 13:33 / kjp
pH	2.0	s.u.	H	0.1		A4500-H B	09/07/21 13:33 / kjp
pH Measurement Temp	17.3	°C				A4500-H B	09/07/21 13:33 / kjp
Solids, Total Dissolved TDS @ 180 C	132000	mg/L	D	1000		A2540 C	09/07/21 13:54 / kjp
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	67.5	mg/L	D	0.2		E353.2	09/13/21 14:52 / nts
Nitrogen, Ammonia as N	4280	mg/L	D	200		E350.1	09/11/21 13:08 / dmb
METALS, DISSOLVED							
Arsenic	74800	ug/L	D	600		E200.7	09/16/21 13:46 / jcg
Beryllium	318	ug/L	D	20		E200.7	09/16/21 13:46 / jcg
Cadmium	2140	ug/L	D	600		E200.7	09/16/21 13:46 / jcg
Chromium	8980	ug/L	D	10		E200.8	09/26/21 08:01 / jcg
Cobalt	60300	ug/L	D	100		E200.8	09/28/21 10:35 / srm
Copper	423000	ug/L	D	600		E200.7	09/16/21 13:46 / jcg
Iron	3660000	ug/L	D	500		E200.8	09/26/21 08:01 / jcg
Lead	1860	ug/L	D	10		E200.8	09/26/21 08:01 / jcg
Manganese	213000	ug/L	D	30		E200.7	09/16/21 13:46 / jcg
Mercury	ND	mg/L		0.0002		E245.1	09/17/21 19:03 / etad
Molybdenum	14300	ug/L	D	600		E200.7	09/16/21 13:46 / jcg
Nickel	52000	ug/L	D	30		E200.8	09/26/21 08:01 / jcg
Selenium	3870	ug/L	D	600		E200.7	09/16/21 13:46 / jcg
Silver	142	ug/L	D	4		E200.8	09/26/21 08:01 / jcg
Thallium	123	ug/L	D	10		E200.8	11/08/21 12:22 / srm
Tin	141	ug/L		50		E200.8	09/26/21 08:01 / jcg
Uranium	29400	ug/L	D	10		E200.8	09/26/21 08:01 / jcg
Vanadium	683000	ug/L	D	600		E200.7	09/16/21 13:46 / jcg
Zinc	244000	ug/L	D	600		E200.7	09/16/21 13:46 / jcg
DATA QUALITY							
Solids, Total Dissolved - Calculated	129000	mg/L		1.00		A1030 E	09/17/21 14:17 / jlw
A/C Balance	-5.35	%				A1030 E	09/17/21 14:17 / jlw

Report Definitions:

RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
H - Analysis performed past the method holding time
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
E - Estimated value - result exceeds the instrument upper quantitation limit

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Energy Fuels Resources (USA) Inc
Project: Annual Tailings 2021
Lab ID: C21090172-006
Client Sample ID: Cell 4B LDS

Revised Date: 11/11/21
Report Date: 10/15/21
Collection Date: 09/01/21 09:55
DateReceived: 09/03/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
DATA QUALITY							
Anions	2420	meq/L				A1030 E	09/17/21 14:17 / jlw
Cations	2180	meq/L				A1030 E	09/17/21 14:17 / jlw

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

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Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: November 1, 2021

Client Sample ID: Cell 4B LDS
Sample ID: 554861006
Matrix: Water
Collect Date: 01-SEP-21 09:55
Receive Date: 03-SEP-21
Collector: Client

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
SW846 8260 Volatiles "As Received"												
2-Butanone	U	ND	8.34	25.0	ug/L		5	JEB	09/08/21	1912	2171666	1
Acetone	U	ND	8.72	25.0	ug/L		5					
Benzene	U	ND	1.67	5.00	ug/L		5					
Carbon tetrachloride	U	ND	1.67	5.00	ug/L		5					
Chloroform	U	ND	1.67	5.00	ug/L		5					
Chloromethane	U	ND	1.67	5.00	ug/L		5					
Methylene chloride	U	ND	2.50	25.0	ug/L		5					
Naphthalene	U	ND	1.67	5.00	ug/L		5					
Tetrahydrofuran	U	ND	8.34	25.0	ug/L		5					
Toluene	U	ND	1.67	5.00	ug/L		5					
Xylenes (total)	U	ND	5.00	15.0	ug/L		5					

Surrogate/Tracer recovery	*Result*	*Nominal*	*Recovery%*	*Acceptable Limits*	*Date Time:*	*09/08/21 19 12*
Bromofluorobenzene	247 ug/L	50.0	99	(72%-125%)		
Toluene-d8	274 ug/L	50.0	109	(75%-123%)		
1,2-Dichloroethane-d4	278 ug/L	50.0	111	(73%-129%)		

Tentatively Identified Compound (TIC)	*CAS No.*	*RT*	*Est. Concentration*	*Fit*	*Qual*	*Date Time:*	*09/08/21 19 12*
No Tentatively Identified Compounds Found							

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 8260D	

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: September 24, 2021

Client Sample ID: Cell 4B LDS
Sample ID: 554861006
Matrix: Water
Collect Date: 01-SEP-21 09:55
Receive Date: 03-SEP-21
Collector: Client

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"												
1,2,4-Trichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1	NM1	09/09/21	2158	2171562	1
1,2-Dichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
1,2-Diphenylhydrazine	U	ND	30.0	100	ug/L	0.0100	1					
1,3-Dichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
1,4-Dichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
1-Methylnaphthalene	U	ND	3.00	10.0	ug/L	0.0100	1					
2,4,5-Trichlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4,6-Trichlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4-Dichlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4-Dimethylphenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4-Dinitrophenol	U	ND	50.0	200	ug/L	0.0100	1					
2,4-Dinitrotoluene	U	ND	30.0	100	ug/L	0.0100	1					
2,6-Dinitrotoluene	U	ND	30.0	100	ug/L	0.0100	1					
2-Chloronaphthalene	U	ND	4.10	10.0	ug/L	0.0100	1					
2-Chlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2-Methyl-4,6-dinitrophenol	U	ND	30.0	100	ug/L	0.0100	1					
2-Methylnaphthalene	U	ND	3.00	10.0	ug/L	0.0100	1					
2-Nitrophenol	U	ND	30.0	100	ug/L	0.0100	1					
3,3'-Dimethylbenzidine	U	ND	33.0	100	ug/L	0.0100	1					
4-Bromophenylphenylether	U	ND	30.0	100	ug/L	0.0100	1					
4-Chloro-3-methylphenol	U	ND	30.0	100	ug/L	0.0100	1					
4-Chlorophenylphenylether	U	ND	30.0	100	ug/L	0.0100	1					
4-Nitrophenol	U	ND	30.0	100	ug/L	0.0100	1					
Acenaphthene	U	ND	3.00	10.0	ug/L	0.0100	1					
Acenaphthylene	U	ND	3.00	10.0	ug/L	0.0100	1					
Anthracene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzidine	U	ND	39.0	100	ug/L	0.0100	1					
Benzo(a)anthracene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzo(a)pyrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzo(b)fluoranthene	U	ND	3.00	10.0	ug/L	0.0100	1					

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: September 24, 2021

Client Sample ID: Cell 4B LDS
Sample ID: 554861006

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"												
Benzo(ghi)perylene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzo(k)fluoranthene	U	ND	3.00	10.0	ug/L	0.0100	1					
Butylbenzylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Chrysene	U	ND	3.00	10.0	ug/L	0.0100	1					
Di-n-butylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Di-n-octylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Dibenzo(a,h)anthracene	U	ND	3.00	10.0	ug/L	0.0100	1					
Diethylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Dimethylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Diphenylamine	U	ND	30.0	100	ug/L	0.0100	1					
Fluoranthene	U	ND	3.00	10.0	ug/L	0.0100	1					
Fluorene	U	ND	3.00	10.0	ug/L	0.0100	1					
Hexachlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
Hexachlorobutadiene	U	ND	30.0	100	ug/L	0.0100	1					
Hexachlorocyclopentadiene	U	ND	30.0	100	ug/L	0.0100	1					
Hexachloroethane	U	ND	30.0	100	ug/L	0.0100	1					
Indeno(1,2,3-cd)pyrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Isophorone	U	ND	35.0	100	ug/L	0.0100	1					
N-Methyl-N-nitrosomethylamine	U	ND	30.0	100	ug/L	0.0100	1					
N-Nitrosodipropylamine	U	ND	30.0	100	ug/L	0.0100	1					
Naphthalene	U	ND	3.00	10.0	ug/L	0.0100	1					
Nitrobenzene	U	ND	30.0	100	ug/L	0.0100	1					
Pentachlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
Phenanthrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Phenol	U	ND	30.0	100	ug/L	0.0100	1					
Pyrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Pyridine	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Chloroethoxy)methane	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Chloroethyl) ether	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Ethylhexyl)phthalate		43.1	3.00	10.0	ug/L	0.0100	1					
m,p-Cresols	U	ND	37.0	100	ug/L	0.0100	1					
o-Cresol	U	ND	30.0	100	ug/L	0.0100	1					

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: September 24, 2021

Client Sample ID: Cell 4B LDS
Sample ID: 554861006

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"												

Surrogate/Tracer recovery	*Result*	*Nominal*	*Recovery%*	*Acceptable Limits*	*Date Time:*	*09/09/21 21 58*
p-Terphenyl-d14	204 ug/L	500	41	(24%-129%)		
Phenol-d5	299 ug/L	1000	30	(15%-85%)		
Nitrobenzene-d5	311 ug/L	500	62	(39%-112%)		
2-Fluorobiphenyl	325 ug/L	500	65	(39%-112%)		
2-Fluorophenol	375 ug/L	1000	37	(11%-79%)		
2,4,6-Tribromophenol	790 ug/L	1000	79	(37%-132%)		

Tentatively Identified Compound (TIC)	*CAS No.*	*RT*	*Est. Concentration*	*Fit*	*Qual*	*Date Time:*	*09/09/21 21 58*
No Tentatively Identified Compounds Found							

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	SG2	09/08/21	1228	2171561

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 3510C/8270D	

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: October 4, 2021

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: Tailings Characterization

Client Sample ID: Cell 4B LDS
Sample ID: 554861006
Matrix: Water
Collect Date: 01-SEP-21 09:55
Receive Date: 03-SEP-21
Collector: Client

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
High Rad Testing													
Alphaspec Th, Liquid "As Received"													
Thorium-228		803	+/-76.3	52.6	1.00	pCi/L			TC1	09/25/21	1004	2177500	1
Thorium-230		4.52E+05	+/-1770	79.7	1.00	pCi/L							
Thorium-232		3110	+/-147	43.7	1.00	pCi/L							
GFPC,Total Alpha Radium, Liquid "As Received"													
Gross Radium Alpha		1.05E+05	+/-510	24.8	1.00	pCi/L			TC1	09/28/21	0932	2177508	2
Lucas Cell, Ra226, liquid "As Received"													
Radium-226		174	+/-19.3	24.1	1.00	pCi/L			LXP1	10/03/21	0722	2177509	3
U- 233/234,U-235/236 and U-238 "As Received"													
Uranium-233/234		10700	+/-304	89.0	1.00	pCi/L			TC1	09/28/21	0926	2178805	4
Uranium-235/236		631	+/-83.3	65.0	1.00	pCi/L							
Uranium-238		11400	+/-314	66.7	1.00	pCi/L							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
GL-RAD-A-026	Laboratory Composite				2171222

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	EPA 903.0	
3	EPA 903.1 Modified	
4	DOE EML HASL-300, U-02-RC Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Liquid "As Received"			105	(15%-125%)
Barium Carrier	GFPC,Total Alpha Radium, Liquid "As Received"			94.8	(25%-125%)
Uranium-232 Tracer	U- 233/234,U-235/236 and U-238 "As Received"			85.7	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 68% confidence level (1-sigma).

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

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Certificate of Analysis

Report Date: October 4, 2021

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings Characterization

Client Sample ID:	Cell 4B LDS	Project:	DNMI00107
Sample ID:	554861006	Client ID:	DNMI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst Date	Time	Batch	Method

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: September 24, 2021

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings Characterization

Client Sample ID:	Cell 4B LDS	Project:	DNMI00107
Sample ID:	554861006	Client ID:	DNMI001
Matrix:	Water		
Collect Date:	01-SEP-21 09:55		
Receive Date:	03-SEP-21		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Hazardous Waste												
ASTM D 5057 Specific Gravity "As Received"												
Specific Gravity		1.10	0.0100	0.100	none		1	VH1	09/14/21	0902	2173276	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	ASTM D 5057	

Notes:

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Energy Fuels Resources (USA) Inc
Project: Annual Tailings 2021
Lab ID: C21090172-007
Client Sample ID: Cell 65

Revised Date: 11/11/21
Report Date: 10/15/21
Collection Date: 09/01/21 08:10
DateReceived: 09/03/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
MAJOR IONS							
Carbonate as CO3	ND	mg/L		5		A2320 B	09/07/21 14:08 / kjp
Bicarbonate as HCO3	ND	mg/L		5		A2320 B	09/07/21 14:08 / kjp
Chloride	67900	mg/L	D	200		E300.0	09/09/21 22:03 / dmb
Fluoride	12700	mg/L	D	200		A4500-F C	09/14/21 14:04 / dmb
Sulfate	323000	mg/L	D	800		E300.0	09/09/21 22:03 / dmb
Calcium	211	mg/L	D	6		E200.7	09/16/21 13:50 / jcg
Magnesium	17500	mg/L		1		E200.7	09/16/21 13:50 / jcg
Potassium	3530	mg/L	D	6		E200.7	09/16/21 13:50 / jcg
Sodium	70000	mg/L	D	30		E200.8	09/26/21 08:06 / jcg
PHYSICAL PROPERTIES							
Conductivity @ 25 C	86800	umhos/cm	E	5		A2510 B	09/07/21 13:36 / kjp
pH	0.5	s.u.	H	0.1		A4500-H B	09/07/21 13:36 / kjp
pH Measurement Temp	17.9	°C				A4500-H B	09/07/21 13:36 / kjp
Solids, Total Dissolved TDS @ 180 C	553000	mg/L	DE	2000		A2540 C	09/07/21 13:54 / kjp
Solids, Total Dissolved TDS @ 180 C	560000	mg/L	DH	5000		A2540 C	09/08/21 15:59 / kjp
- E - TDS residue exceeded the 200 mg limit per method. The sample was re-analyzed with a lower volume to obtain a valid result. The E qualifed data is reported at client request.							
- H - Original analysis was done within hold time. Data is from recheck analysis.							
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	26.6	mg/L	D	0.5		E353.2	09/13/21 14:53 / nts
Nitrogen, Ammonia as N	6800	mg/L	D	200		E350.1	09/11/21 13:09 / dmb
METALS, DISSOLVED							
Arsenic	778000	ug/L	D	2000		E200.7	09/21/21 05:25 / jcg
Beryllium	2820	ug/L	D	20		E200.7	09/16/21 13:50 / jcg
Cadmium	20900	ug/L	D	600		E200.7	09/16/21 13:50 / jcg
Chromium	25300	ug/L	D	600		E200.7	09/16/21 13:50 / jcg
Cobalt	46500	ug/L	D	2000		E200.7	09/21/21 05:25 / jcg
Copper	2850000	ug/L	D	2000		E200.7	09/21/21 05:25 / jcg
Iron	6790000	ug/L	D	500		E200.8	09/26/21 08:06 / jcg
Lead	68500	ug/L	D	2000		E200.7	09/16/21 13:50 / jcg
Manganese	1250000	ug/L	D	30		E200.7	09/16/21 13:50 / jcg
Mercury	0.030	mg/L		0.001		E245.1	09/17/21 19:06 / etad
Molybdenum	311000	ug/L	D	600		E200.7	09/16/21 13:50 / jcg
Nickel	17300	ug/L	D	1000		E200.7	09/24/21 15:33 / jcg
Selenium	16300	ug/L	D	600		E200.7	09/22/21 02:29 / jcg
Silver	2300	ug/L	D	4		E200.8	09/26/21 08:06 / jcg
Thallium	2190	ug/L	D	1000		E200.8	09/28/21 10:50 / srm
Tin	1690	ug/L		50		E200.8	09/26/21 08:06 / jcg
Uranium	479000	ug/L	D	100		E200.8	10/11/21 15:17 / srm
Vanadium	3560000	ug/L	D	600		E200.7	09/16/21 13:50 / jcg
Zinc	755000	ug/L	D	600		E200.7	09/16/21 13:50 / jcg

Report Definitions:

RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
H - Analysis performed past the method holding time
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
E - Estimated value - result exceeds the instrument upper quantitation limit

LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Energy Fuels Resources (USA) Inc
Project: Annual Tailings 2021
Lab ID: C21090172-007
Client Sample ID: Cell 65

Revised Date: 11/11/21
Report Date: 10/15/21
Collection Date: 09/01/21 08:10
DateReceived: 09/03/21
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
DATA QUALITY							
Solids, Total Dissolved - Calculated	495000	mg/L		1.00		A1030 E	09/27/21 13:53 / jlw
A/C Balance	-5.82	%				A1030 E	09/27/21 13:53 / jlw
Anions	9320	meq/L				A1030 E	09/27/21 13:53 / jlw
Cations	8290	meq/L				A1030 E	09/27/21 13:53 / jlw
Cation/Anion Balance includes selected metals							

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

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Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: November 1, 2021

Client Sample ID:	Cell 65	Project:	DNMI00107
Sample ID:	554861007	Client ID:	DNMI001
Matrix:	Water		
Collect Date:	01-SEP-21 08:10		
Receive Date:	03-SEP-21		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
SW846 8260 Volatiles "As Received"												
2-Butanone	U	ND	8.34	25.0	ug/L		5	JEB	09/08/21	1937	2171666	1
Acetone		154	8.72	25.0	ug/L		5					
Benzene	U	ND	1.67	5.00	ug/L		5					
Carbon tetrachloride	U	ND	1.67	5.00	ug/L		5					
Chloroform		52.8	1.67	5.00	ug/L		5					
Chloromethane	U	ND	1.67	5.00	ug/L		5					
Methylene chloride	U	ND	2.50	25.0	ug/L		5					
Naphthalene	U	ND	1.67	5.00	ug/L		5					
Tetrahydrofuran	U	ND	8.34	25.0	ug/L		5					
Toluene	U	ND	1.67	5.00	ug/L		5					
Xylenes (total)	U	ND	5.00	15.0	ug/L		5					

Surrogate/Tracer recovery	*Result*	*Nominal*	*Recovery%*	*Acceptable Limits*	*Date Time:*	*09/08/21 19 37*
Bromofluorobenzene	248 ug/L	50.0	99	(72%-125%)		
Toluene-d8	269 ug/L	50.0	108	(75%-123%)		
1,2-Dichloroethane-d4	321 ug/L	50.0	128	(73%-129%)		

Tentatively Identified Compound (TIC)	*CAS No.*	*RT*	*Est. Concentration*	*Fit*	*Qual*	*Date Time:*	*09/08/21 19 37*
No Tentatively Identified Compounds Found							

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 8260D	

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: September 24, 2021

Client Sample ID: Cell 65
Sample ID: 554861007
Matrix: Water
Collect Date: 01-SEP-21 08:10
Receive Date: 03-SEP-21
Collector: Client

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"												
1,2,4-Trichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1	NM1	09/09/21	2226	2171562	1
1,2-Dichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
1,2-Diphenylhydrazine	U	ND	30.0	100	ug/L	0.0100	1					
1,3-Dichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
1,4-Dichlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
1-Methylnaphthalene	U	ND	3.00	10.0	ug/L	0.0100	1					
2,4,5-Trichlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4,6-Trichlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4-Dichlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4-Dimethylphenol	U	ND	30.0	100	ug/L	0.0100	1					
2,4-Dinitrophenol	U	ND	50.0	200	ug/L	0.0100	1					
2,4-Dinitrotoluene	U	ND	30.0	100	ug/L	0.0100	1					
2,6-Dinitrotoluene	U	ND	30.0	100	ug/L	0.0100	1					
2-Chloronaphthalene	U	ND	4.10	10.0	ug/L	0.0100	1					
2-Chlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
2-Methyl-4,6-dinitrophenol	U	ND	30.0	100	ug/L	0.0100	1					
2-Methylnaphthalene	U	ND	3.00	10.0	ug/L	0.0100	1					
2-Nitrophenol	U	ND	30.0	100	ug/L	0.0100	1					
3,3'-Dimethylbenzidine	U	ND	33.0	100	ug/L	0.0100	1					
4-Bromophenylphenylether	U	ND	30.0	100	ug/L	0.0100	1					
4-Chloro-3-methylphenol	U	ND	30.0	100	ug/L	0.0100	1					
4-Chlorophenylphenylether	U	ND	30.0	100	ug/L	0.0100	1					
4-Nitrophenol	U	ND	30.0	100	ug/L	0.0100	1					
Acenaphthene	U	ND	3.00	10.0	ug/L	0.0100	1					
Acenaphthylene	U	ND	3.00	10.0	ug/L	0.0100	1					
Anthracene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzidine	U	ND	39.0	100	ug/L	0.0100	1					
Benzo(a)anthracene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzo(a)pyrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzo(b)fluoranthene	U	ND	3.00	10.0	ug/L	0.0100	1					

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: September 24, 2021

Client Sample ID: Cell 65 | Project: DNMI00107
Sample ID: 554861007 | Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Semi-Volatile-GC/MS												
SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"												
Benzo(ghi)perylene	U	ND	3.00	10.0	ug/L	0.0100	1					
Benzo(k)fluoranthene	U	ND	3.00	10.0	ug/L	0.0100	1					
Butylbenzylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Chrysene	U	ND	3.00	10.0	ug/L	0.0100	1					
Di-n-butylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Di-n-octylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Dibenzo(a,h)anthracene	U	ND	3.00	10.0	ug/L	0.0100	1					
Diethylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Dimethylphthalate	U	ND	3.00	100	ug/L	0.0100	1					
Diphenylamine	U	ND	30.0	100	ug/L	0.0100	1					
Fluoranthene	U	ND	3.00	10.0	ug/L	0.0100	1					
Fluorene	U	ND	3.00	10.0	ug/L	0.0100	1					
Hexachlorobenzene	U	ND	30.0	100	ug/L	0.0100	1					
Hexachlorobutadiene	U	ND	30.0	100	ug/L	0.0100	1					
Hexachlorocyclopentadiene	U	ND	30.0	100	ug/L	0.0100	1					
Hexachloroethane	U	ND	30.0	100	ug/L	0.0100	1					
Indeno(1,2,3-cd)pyrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Isophorone	U	ND	35.0	100	ug/L	0.0100	1					
N-Methyl-N-nitrosomethylamine	U	ND	30.0	100	ug/L	0.0100	1					
N-Nitrosodipropylamine	U	ND	30.0	100	ug/L	0.0100	1					
Naphthalene	U	ND	3.00	10.0	ug/L	0.0100	1					
Nitrobenzene	U	ND	30.0	100	ug/L	0.0100	1					
Pentachlorophenol	U	ND	30.0	100	ug/L	0.0100	1					
Phenanthrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Phenol	U	ND	30.0	100	ug/L	0.0100	1					
Pyrene	U	ND	3.00	10.0	ug/L	0.0100	1					
Pyridine		164	30.0	100	ug/L	0.0100	1					
bis(2-Chloro-1-methylethyl)ether	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Chloroethoxy)methane	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Chloroethyl) ether	U	ND	30.0	100	ug/L	0.0100	1					
bis(2-Ethylhexyl)phthalate	U	ND	3.00	10.0	ug/L	0.0100	1					
m,p-Cresols	U	ND	37.0	100	ug/L	0.0100	1					
o-Cresol	U	ND	30.0	100	ug/L	0.0100	1					

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: September 24, 2021

Client Sample ID: Cell 65
Sample ID: 554861007

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

Semi-Volatile-GC/MS

SW846 3510C/8270D SVOA (Separatory Funnel) "As Received"

Surrogate/Tracer recovery	*Result*	*Nominal*	*Recovery%*	*Acceptable Limits*	*Date Time:*	*09/09/21 22 26*
p-Terphenyl-d14	279 ug/L	500	56	(24%-129%)		
Nitrobenzene-d5	377 ug/L	500	75	(39%-112%)		
2-Fluorobiphenyl	378 ug/L	500	76	(39%-112%)		
Phenol-d5	423 ug/L	1000	42	(15%-85%)		
2-Fluorophenol	501 ug/L	1000	50	(11%-79%)		
2,4,6-Tribromophenol	942 ug/L	1000	94	(37%-132%)		

Tentatively Identified Compound (TIC)	*CAS No.*	*RT*	*Est. Concentration*	*Fit*	*Qual*	*Date Time:*	*09/09/21 22 26*

No Tentatively Identified Compounds Found

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	LW1	09/22/21	1120	2176674
SW846 3510C	3510C BNA Liq. Prep-8270 Analysis	SG2	09/08/21	1228	2171561

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 3510C/8270D	

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: October 4, 2021

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings Characterization

Client Sample ID:	Cell 65	Project:	DNMI00107
Sample ID:	554861007	Client ID:	DNMI001
Matrix:	Water		
Collect Date:	01-SEP-21 08:10		
Receive Date:	03-SEP-21		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
High Rad Testing													
Alphaspec Th, Liquid "As Received"													
Thorium-228		500	+/-67.9	72.7	1.00	pCi/L			TC1	09/25/21	1004	2177500	1
Thorium-230		1.78E+05	+/-1230	92.2	1.00	pCi/L							
Thorium-232		946	+/-90.2	53.0	1.00	pCi/L							
GFPC,Total Alpha Radium, Liquid "As Received"													
Gross Radium Alpha		25600	+/-247	19.8	1.00	pCi/L			TC1	09/28/21	0932	2177508	2
Lucas Cell, Ra226, liquid "As Received"													
Radium-226		281	+/-22.9	17.5	1.00	pCi/L			LXP1	10/03/21	0722	2177509	3
U- 233/234,U-235/236 and U-238 "As Received"													
Uranium-233/234		2.12E+05	+/-4470	1160	1.00	pCi/L			TC1	09/28/21	0926	2178805	4
Uranium-235/236		10300	+/-1100	706	1.00	pCi/L							
Uranium-238		2.23E+05	+/-4570	837	1.00	pCi/L							

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
GL-RAD-A-026	Laboratory Composite				2171222

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	EPA 903.0	
3	EPA 903.1 Modified	
4	DOE EML HASL-300, U-02-RC Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Liquid "As Received"			84.9	(15%-125%)
Barium Carrier	GFPC,Total Alpha Radium, Liquid "As Received"			94.1	(25%-125%)
Uranium-232 Tracer	U- 233/234,U-235/236 and U-238 "As Received"			76.4	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 68% confidence level (1-sigma).

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: October 4, 2021

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings Characterization

Client Sample ID:	Cell 65	Project:	DNMI00107
Sample ID:	554861007	Client ID:	DNMI001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst Date	Time	Batch	Method

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: September 24, 2021

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings Characterization

Client Sample ID:	Cell 65	Project:	DNMI00107
Sample ID:	554861007	Client ID:	DNMI001
Matrix:	Water		
Collect Date:	01-SEP-21 08:10		
Receive Date:	03-SEP-21		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Hazardous Waste												
ASTM D 5057 Specific Gravity "As Received"												
Specific Gravity		1.33	0.0100	0.100	none		1	VH1	09/14/21	0903	2173276	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	ASTM D 5057	

Notes:

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: **Tailings Characterization**

Report Date: November 1, 2021

Client Sample ID: Trip Blank
Sample ID: 554861009
Matrix: Water
Collect Date: 01-SEP-21 08:10
Receive Date: 03-SEP-21
Collector: Client

Project: DNMI00107
Client ID: DNMI001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
SW846 8260 Volatiles "As Received"												
2-Butanone	U	ND	1.67	5.00	ug/L		1	JEB	09/08/21	1440	2171666	1
Acetone	U	ND	1.74	5.00	ug/L		1					
Benzene	U	ND	0.333	1.00	ug/L		1					
Carbon tetrachloride	U	ND	0.333	1.00	ug/L		1					
Chloroform	U	ND	0.333	1.00	ug/L		1					
Chloromethane	U	ND	0.333	1.00	ug/L		1					
Methylene chloride	U	ND	0.500	5.00	ug/L		1					
Naphthalene	U	ND	0.333	1.00	ug/L		1					
Tetrahydrofuran	U	ND	1.67	5.00	ug/L		1					
Toluene	U	ND	0.333	1.00	ug/L		1					
Xylenes (total)	U	ND	1.00	3.00	ug/L		1					

Surrogate/Tracer recovery	*Result*	*Nominal*	*Recovery%*	*Acceptable Limits*	*Date Time:*	*09/08/21 14 40*
Bromofluorobenzene	48.5 ug/L	50.0	97	(72%-125%)		
Toluene-d8	53.7 ug/L	50.0	107	(75%-123%)		
1,2-Dichloroethane-d4	55.2 ug/L	50.0	110	(73%-129%)		

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 8260D	

SRL = Sample Reporting Limit. For metals analysis only. When the sample is U qualified and ND, the SRL column reports the value which is the greater of either the adjusted MDL or the CRDL.

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

ANALYTICAL SUMMARY REPORT

November 11, 2021

Energy Fuels Resources (USA) Inc
44 Union Blvd Ste 600
Lakewood, CO 80228-1826

Work Order: C21090172 Quote ID: C5645

Project Name: Annual Tailings 2021

Energy Laboratories, Inc. Casper WY received the following 8 samples for Energy Fuels Resources (USA) Inc on 9/3/2021 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C21090172-001	Cell 1	09/01/21 8:10	09/03/21	Aqueous	Metals by ICP/ICPMS, Dissolved Acidity, Total as CaCO3 Alkalinity Anion - Cation Balance Conductivity Mercury, Dissolved Extra Bottle Fluoride Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Sample Filtering, Metals Digestion, Mercury by CVAA Solids, Total Dissolved Solids, Total Dissolved - Calculated
C21090172-002	Slimes #2	09/01/21 8:35	09/03/21	Aqueous	Same As Above
C21090172-003	Cell 4A	09/01/21 9:20	09/03/21	Aqueous	Same As Above
C21090172-004	Cell 4A LDS	09/01/21 9:35	09/03/21	Aqueous	Same As Above
C21090172-005	Cell 4B	09/01/21 9:45	09/03/21	Aqueous	Same As Above
C21090172-006	Cell 4B LDS	09/01/21 9:55	09/03/21	Aqueous	Same As Above
C21090172-007	Cell 65	09/01/21 8:10	09/03/21	Aqueous	Same As Above
C21090172-008	Cell 3	09/01/21 9:05	09/03/21	Aqueous	Metals by ICP/ICPMS, Dissolved Alkalinity Anion - Cation Balance Conductivity Mercury, Dissolved Extra Bottle Fluoride Anions by Ion Chromatography Nitrogen, Ammonia Nitrogen, Nitrate + Nitrite pH Sample Filtering, Metals Digestion, Mercury by CVAA Solids, Total Dissolved Solids, Total Dissolved - Calculated

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

ANALYTICAL SUMMARY REPORT

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

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

Report Approved By:

Alyson Degnan
Project Manager

Digitally signed by
Alyson T. Degnan
Date: 2021.11.11 10:52:44 -07:00

CLIENT: Energy Fuels Resources (USA) Inc
Project: Annual Tailings 2021
Work Order: C21090172

Revised Date: 11/11/21
Report Date: 10/15/21

CASE NARRATIVE

Revised 11/11/2021
This report has been revised to include lower reporting limits for lead and thallium for sample Cell 1 (C21090172-001), thallium for sample Cell 4A (C21090172-003), thallium for sample Cell 4A LDS (C21090172-004), thallium for sample Cell 8 (C21090172-008).

This revised report replaces any previously issued report on 10/29/2021 in its entirety.

Revised 10/29/2021
This report has been revised to include Total Dissolved Solids for samples Cell 1 (C21090172-001), Cell 4B (C21090172-005), and Cell 65 (C21090172-007) as per telephone request from Kathy Weinel on 10/29/2021. Please see results pages for more information.

Tests associated with analyst identified as "etad" were subcontracted to Eurofins Test America, 4955 Yarrow St, Arvada, CO 80002, TEL (303) 736-0100. Please see attached data packet for details.

ORIGINAL SAMPLE SUBMITTAL(S)
All original sample submittals have been returned with the data package.

SAMPLE TEMPERATURE COMPLIANCE: 4°C (±2°C)
Temperature of samples received may not be considered properly preserved by accepted standards. Samples that are hand delivered immediately after collection shall be considered acceptable if there is evidence that the chilling process has begun.

GROSS ALPHA ANALYSIS
Method 900.0 for gross alpha and gross beta is intended as a drinking water method for low TDS waters. Data provided by this method for non potable waters should be viewed as inconsistent.

RADON IN AIR ANALYSIS
The desired exposure time is 48 hours (2 days). The time delay in returning the canister to the laboratory for processing should be as short as possible to avoid excessive decay. Maximum recommended delay between end of exposure to beginning of counting should not exceed 8 days.

SOIL/SOLID SAMPLES
All samples reported on an as received basis unless otherwise indicated.

ATRAZINE, SIMAZINE AND PCB ANALYSIS
Data for PCBs, Atrazine and Simazine are reported from EPA 525.2. PCB data reported by ELI reflects the results for seven individual Aroclors. When the results for all seven are ND (not detected), the sample meets EPA compliance criteria for PCB monitoring.

SUBCONTRACTING ANALYSIS
Subcontracting of sample analyses to an outside laboratory may be required. If so, ENERGY LABORATORIES will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories will be indicated within the Laboratory Analytical Report.

BRANCH LABORATORY LOCATIONS
eli-b - Energy Laboratories, Inc. - Billings, MT
eli-g - Energy Laboratories, Inc. - Gillette, WY
eli-h - Energy Laboratories, Inc. - Helena, MT

ISO 17025 DISCLAIMER:
The results of this Analytical Report relate only to the items submitted for analysis.

ENERGY LABORATORIES, INC. - CASPER,WY certifies that certain method selections contained in this report meet requirements as set forth by the above accrediting authorities. Some results requested by the client may not be covered under these certifications. All analysis data to be submitted for regulatory enforcement should be certified in the sample state of origin. Please verify ELI's certification coverage by visiting www.energylab.com

ELI appreciates the opportunity to provide you with this analytical service. For additional information and services visit our web page

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-152688-1
Client Project/Site: 11(e) Byproduct Material

For:
Energy Laboratories, Inc.
400 W Boxelder Rd
Gillette, Wyoming 82718

Attn: Casper Reporting

Authorized for release by:
9/20/2021 8:12:36 AM

Dylan Bieniulis, Project Manager I
(303)736-0138
Dylan.Bieniulis@Eurofinset.com

Table of Contents

Definitions/Glossary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-152688-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 280-152688-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

Job Narrative
280-152688-1

Receipt
The samples were received on 9/8/2021 9:40 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.3°C

Receipt Exceptions
All sample containers for the samples listed on the chain of custody were only approximately 25% full. No corrective action needed as sufficient volume was received to perform the requested analyses.

Metals
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-152688-1

Client Sample ID: C21090172-001D — Lab Sample ID: 280-152688-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	35		1.0	0.14	ug/L	1		245.1	Dissolved

Client Sample ID: C21090172-002D — Lab Sample ID: 280-152688-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	0.079	J	0.20	0.027	ug/L	1		245.1	Dissolved

Client Sample ID: C21090172-003D — Lab Sample ID: 280-152688-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	3.7		0.20	0.027	ug/L	1		245.1	Dissolved

Client Sample ID: C21090172-004D — Lab Sample ID: 280-152688-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	0.32		0.20	0.027	ug/L	1		245.1	Dissolved

Client Sample ID: C21090172-005D — Lab Sample ID: 280-152688-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	8.6		0.20	0.027	ug/L	1		245.1	Dissolved

Client Sample ID: C21090172-006D — Lab Sample ID: 280-152688-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	0.12	J	0.20	0.027	ug/L	1		245.1	Dissolved

Client Sample ID: C21090172-007D — Lab Sample ID: 280-152688-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	30		1.0	0.14	ug/L	1		245.1	Dissolved

Client Sample ID: C21090172-008D — Lab Sample ID: 280-152688-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	0.19	J	1.0	0.14	ug/L	1		245.1	Dissolved

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-152688-1

Method	Method Description	Protocol	Laboratory
245.1	Mercury - Dissolved	EPA	TAL DEN
245.1	Preparation, Mercury	EPA	TAL DEN

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-152688-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-152688-1	C21090172-001D	Water	09/01/21 08:10	09/08/21 09:40
280-152688-2	C21090172-002D	Water	09/01/21 08:35	09/08/21 09:40
280-152688-3	C21090172-003D	Water	09/01/21 09:20	09/08/21 09:40
280-152688-4	C21090172-004D	Water	09/01/21 09:35	09/08/21 09:40
280-152688-5	C21090172-005D	Water	09/01/21 09:45	09/08/21 09:40
280-152688-6	C21090172-006D	Water	09/01/21 09:55	09/08/21 09:40
280-152688-7	C21090172-007D	Water	09/01/21 08:10	09/08/21 09:40
280-152688-8	C21090172-008D	Water	09/01/21 09:05	09/08/21 09:40

Method: 245.1 - Mercury - Dissolved - Dissolved

Client Sample ID: C21090172-001D
Date Collected: 09/01/21 08:10
Date Received: 09/08/21 09:40

Lab Sample ID: 280-152688-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	35		1.0	0.14	ug/L		09/17/21 14:40	09/17/21 18:48	1

Client Sample ID: C21090172-002D
Date Collected: 09/01/21 08:35
Date Received: 09/08/21 09:40

Lab Sample ID: 280-152688-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.079	J	0.20	0.027	ug/L		09/17/21 14:40	09/17/21 18:52	1

Client Sample ID: C21090172-003D
Date Collected: 09/01/21 09:20
Date Received: 09/08/21 09:40

Lab Sample ID: 280-152688-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	3.7		0.20	0.027	ug/L		09/17/21 14:40	09/17/21 18:54	1

Client Sample ID: C21090172-004D
Date Collected: 09/01/21 09:35
Date Received: 09/08/21 09:40

Lab Sample ID: 280-152688-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.32		0.20	0.027	ug/L		09/17/21 14:40	09/17/21 18:57	1

Client Sample ID: C21090172-005D
Date Collected: 09/01/21 09:45
Date Received: 09/08/21 09:40

Lab Sample ID: 280-152688-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	8.6		0.20	0.027	ug/L		09/17/21 14:40	09/17/21 18:59	1

Client Sample ID: C21090172-006D
Date Collected: 09/01/21 09:55
Date Received: 09/08/21 09:40

Lab Sample ID: 280-152688-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.12	J	0.20	0.027	ug/L		09/17/21 14:40	09/17/21 19:03	1

Client Sample ID: C21090172-007D
Date Collected: 09/01/21 08:10
Date Received: 09/08/21 09:40

Lab Sample ID: 280-152688-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	30		1.0	0.14	ug/L		09/17/21 14:40	09/17/21 19:06	1

Client Sample ID: C21090172-008D
Date Collected: 09/01/21 09:05
Date Received: 09/08/21 09:40

Lab Sample ID: 280-152688-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.19	J	1.0	0.14	ug/L		09/17/21 14:40	09/17/21 19:08	1

Method: 245.1 - Mercury - Dissolved

Lab Sample ID: MB 280-550187/1-A
Matrix: Water
Analysis Batch: 550308

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 550187

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.027	ug/L		09/17/21 14:40	09/17/21 18:38	1

Lab Sample ID: LCS 280-550187/2-A
Matrix: Water
Analysis Batch: 550308

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 550187

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	5.02		ug/L		100	90 - 110

Lab Sample ID: 280-152688-8 MS
Matrix: Water
Analysis Batch: 550308

Client Sample ID: C21090172-008D
Prep Type: Dissolved
Prep Batch: 550187

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.19	J	25.0	24.7		ug/L		98	80 - 120

Lab Sample ID: 280-152688-8 MSD
Matrix: Water
Analysis Batch: 550308

Client Sample ID: C21090172-008D
Prep Type: Dissolved
Prep Batch: 550187

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.19	J	25.0	24.4		ug/L		97	80 - 120	1	10

Metals

Prep Batch: 550187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-152688-1	C21090172-001D	Dissolved	Water	245.1	
280-152688-2	C21090172-002D	Dissolved	Water	245.1	
280-152688-3	C21090172-003D	Dissolved	Water	245.1	
280-152688-4	C21090172-004D	Dissolved	Water	245.1	
280-152688-5	C21090172-005D	Dissolved	Water	245.1	
280-152688-6	C21090172-006D	Dissolved	Water	245.1	
280-152688-7	C21090172-007D	Dissolved	Water	245.1	
280-152688-8	C21090172-008D	Dissolved	Water	245.1	
MB 280-550187/1-A	Method Blank	Total/NA	Water	245.1	
LCS 280-550187/2-A	Lab Control Sample	Total/NA	Water	245.1	
280-152688-8 MS	C21090172-008D	Dissolved	Water	245.1	
280-152688-8 MSD	C21090172-008D	Dissolved	Water	245.1	

Analysis Batch: 550308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-152688-1	C21090172-001D	Dissolved	Water	245.1	550187
280-152688-2	C21090172-002D	Dissolved	Water	245.1	550187
280-152688-3	C21090172-003D	Dissolved	Water	245.1	550187
280-152688-4	C21090172-004D	Dissolved	Water	245.1	550187
280-152688-5	C21090172-005D	Dissolved	Water	245.1	550187
280-152688-6	C21090172-006D	Dissolved	Water	245.1	550187
280-152688-7	C21090172-007D	Dissolved	Water	245.1	550187
280-152688-8	C21090172-008D	Dissolved	Water	245.1	550187
MB 280-550187/1-A	Method Blank	Total/NA	Water	245.1	550187
LCS 280-550187/2-A	Lab Control Sample	Total/NA	Water	245.1	550187
280-152688-8 MS	C21090172-008D	Dissolved	Water	245.1	550187
280-152688-8 MSD	C21090172-008D	Dissolved	Water	245.1	550187

Lab Chronicle

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-152688-1

Client Sample ID: C21090172-001D

Lab Sample ID: 280-152688-1

Date Collected: 09/01/21 08:10
Matrix: Water
Date Received: 09/08/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	245.1			6 mL	50 mL	550187	09/17/21 14:40	NK	TAL DEN
Dissolved	Analysis	245.1		1			550308	09/17/21 18:48	NK	TAL DEN

Client Sample ID: C21090172-002D

Lab Sample ID: 280-152688-2

Date Collected: 09/01/21 08:35
Matrix: Water
Date Received: 09/08/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	245.1			30 mL	50 mL	550187	09/17/21 14:40	NK	TAL DEN
Dissolved	Analysis	245.1		1			550308	09/17/21 18:52	NK	TAL DEN

Client Sample ID: C21090172-003D

Lab Sample ID: 280-152688-3

Date Collected: 09/01/21 09:20
Matrix: Water
Date Received: 09/08/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	245.1			30 mL	50 mL	550187	09/17/21 14:40	NK	TAL DEN
Dissolved	Analysis	245.1		1			550308	09/17/21 18:54	NK	TAL DEN

Client Sample ID: C21090172-004D

Lab Sample ID: 280-152688-4

Date Collected: 09/01/21 09:35
Matrix: Water
Date Received: 09/08/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	245.1			30 mL	50 mL	550187	09/17/21 14:40	NK	TAL DEN
Dissolved	Analysis	245.1		1			550308	09/17/21 18:57	NK	TAL DEN

Client Sample ID: C21090172-005D

Lab Sample ID: 280-152688-5

Date Collected: 09/01/21 09:45
Matrix: Water
Date Received: 09/08/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	245.1			30 mL	50 mL	550187	09/17/21 14:40	NK	TAL DEN
Dissolved	Analysis	245.1		1			550308	09/17/21 18:59	NK	TAL DEN

Client Sample ID: C21090172-006D

Lab Sample ID: 280-152688-6

Date Collected: 09/01/21 09:55
Matrix: Water
Date Received: 09/08/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	245.1			30 mL	50 mL	550187	09/17/21 14:40	NK	TAL DEN
Dissolved	Analysis	245.1		1			550308	09/17/21 19:03	NK	TAL DEN

Lab Chronicle

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-152688-1

Client Sample ID: C21090172-007D

Lab Sample ID: 280-152688-7

Date Collected: 09/01/21 08:10

Matrix: Water

Date Received: 09/08/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	245.1			6 mL	50 mL	550187	09/17/21 14:40	NK	TAL DEN
Dissolved	Analysis	245.1		1			550308	09/17/21 19:06	NK	TAL DEN

Client Sample ID: C21090172-008D

Lab Sample ID: 280-152688-8

Date Collected: 09/01/21 09:05

Matrix: Water

Date Received: 09/08/21 09:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	245.1			6 mL	50 mL	550187	09/17/21 14:40	NK	TAL DEN
Dissolved	Analysis	245.1		1			550308	09/17/21 19:08	NK	TAL DEN

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: Energy Laboratories, Inc.
Project/Site: 11(e) Byproduct Material

Job ID: 280-152688-1

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	11-02-21
A2LA	ISO/IEC 17025	2907.01	11-02-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-28-22
Arizona	State	AZ0713	12-21-21
Arkansas DEQ	State	19-047-0	06-01-21 *
California	State	2513	01-08-22
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-22
Illinois	NELAP	2000172019-1	04-30-22
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	04-30-22
Kentucky (WW)	State	KY98047	12-31-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	07-01-22
New York	NELAP	59923	04-01-22
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-22
Oklahoma	State	2018-006	09-01-21 *
Oregon	NELAP	4025-011	01-08-22
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-22
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-20-18	09-30-21
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21 *
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-21
Wisconsin	State	999615430	08-31-22
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Energy Laboratories, Inc.
2393 Salt Creek Hwy
Casper, WY 82601-9601
307.235.0515

C21090172

CHAIN-OF-CUSTODY RECORD

07-Sep-21

PO._____

Earliest HT Expires. Wed, 9/29/2021 0810
Test Codes: CVAA-HG-245-W-D, PRP-HG-245 I

Earliest Due Date: 10/11/2021
 # Bus. Days Until Due: 24

Subcontractor
Eurofins TA-Denver
4955 Yarrow St
Arvada, CO 80002
TEL. 3037360100
FAX.
Acct #: 3037360100

Subcontractor's Client

					Requested Tests	
					CVAA-HG-245-W-D	PRP-HG-245.1
C21090172-001D	Aqueous	09/01/21 08:10 A	1 250ML-P-F-HNO3		1	1
C21090172-002D	Aqueous	09/01/21 08:35 A	1 250ML-P-F-HNO3		1	1
C21090172-003D	Aqueous	09/01/21 09:20 A	1 250ML-P-F-HNO3		1	1
C21090172-004D	Aqueous	09/01/21 09:35 A	1 250ML-P-F-HNO3		1	1
C21090172-005D	Aqueous	09/01/21 09:45 A	1 250ML-P-F-HNO3		1	1
C21090172-006D	Aqueous	09/01/21 09:55 A	1 250ML-P-F-HNO3		1	1
C21090172-007D	Aqueous	09/01/21 08:10 A	1 250ML-P-F-HNO3		1	1
C21090172-008D	Aqueous	09/01/21 09:05 A	1 250ML-P-F-HNO3		1	1

280-152688 Chain of Custody

Analysis Requested Mercury by 245 method

Comments:

QC Level
STD

		Date/Time			Date/Time
Relinquished by:		9/7/2021	**Received by:**		09/08/2021 0950
Relinquished by:		16:44	**Received by:**		

Shipped By: UPS	Custody Seal Y (N)	Intact Y N	Receipt Temp 4.3 °C	Temp Blank (Y) N	On Ice (Y) N

4-3 IR#1 DF+1.0

Login Sample Receipt Checklist

Client: Energy Laboratories, Inc.

Job Number: 280-152688-1

Login Number: 152688
List Number: 1
Creator: Dubicki, Adam L

List Source: Eurofins TestAmerica, Denver

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Energy Fuels Resources (USA) Inc **Work Order:** C21090172 **Report Date:** 09/15/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2320 B									Analytical Run: MANTECH_210907A	
Lab ID: ICV	Initial Calibration Verification Standard								09/07/21 12:18	
pH		6.86	s.u.	0.010	100	98	102			
Method: A2320 B									Batch: R274282	
Lab ID: MBLK	Method Blank					Run: MANTECH_210907A			09/07/21 12:22	
Alkalinity, Total as CaCO3		ND	mg/L	5						
Lab ID: C21090172-003ADUP	Sample Duplicate					Run: MANTECH_210907A			09/07/21 13:57	
Alkalinity, Total as CaCO3		ND	mg/L	5.0					10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Energy Fuels Resources (USA) Inc **Work Order:** C21090172 **Report Date:** 09/15/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2510 B									Analytical Run: PHSC_101-C_210907A	
Lab ID: SC 100		Initial Calibration Verification Standard							09/07/21 12:32	
Conductivity @ 25 C		104	umhos/cm	5.0	104	90	110			
Lab ID: SC 5000		Initial Calibration Verification Standard							09/07/21 12:35	
Conductivity @ 25 C		5010	umhos/cm	5.0	100	90	110			
Lab ID: SC 20000		Initial Calibration Verification Standard							09/07/21 12:38	
Conductivity @ 25 C		20200	umhos/cm	5.0	101	90	110			
Method: A2510 B									Batch: R274268	
Lab ID: SC 50000		Initial Calibration Verification Standard				Run: PHSC_101-C_210907A			09/07/21 12:41	
Conductivity @ 25 C		50000	umhos/cm	5.0	100	90	110			
Lab ID: MBLK		Method Blank				Run: PHSC_101-C_210907A			09/07/21 13:05	
Conductivity @ 25 C		2	umhos/cm	1						
Lab ID: C21090172-001ADUP		Sample Duplicate				Run: PHSC_101-C_210907A			09/07/21 13:15	
Conductivity @ 25 C		76300	umhos/cm	5.0				0.4	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Energy Fuels Resources (USA) Inc **Work Order:** C21090172 **Report Date:** 09/15/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A2540 C										Batch: TDS210907B
Lab ID: MB-1_210907B		Method Blank				Run: BAL-111_210907B				09/07/21 13:51
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	5						
Lab ID: LCS-2_210907B		Laboratory Control Sample				Run: BAL-111_210907B				09/07/21 13:52
Solids, Total Dissolved TDS @ 180 C		993	mg/L	10	99	90	110			
Lab ID: C21090172-001A DUP		Sample Duplicate				Run: BAL-111_210907B				09/07/21 13:53
Solids, Total Dissolved TDS @ 180 C		578000	mg/L	1000				1.1	5	
Method: A2540 C										Batch: TDS210908A
Lab ID: MB-1_210908A		Method Blank				Run: BAL-111_210908B				09/08/21 15:57
Solids, Total Dissolved TDS @ 180 C		ND	mg/L	5						
Lab ID: LCS-2_210908A		Laboratory Control Sample				Run: BAL-111_210908B				09/08/21 15:58
Solids, Total Dissolved TDS @ 180 C		1000	mg/L	10	100	90	110			
Lab ID: C21090172-001A DUP		Sample Duplicate				Run: BAL-111_210908B				09/08/21 15:59
Solids, Total Dissolved TDS @ 180 C		593000	mg/L	5000				3.0	5	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Energy Fuels Resources (USA) Inc **Work Order:** C21090172 **Report Date:** 09/15/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-F C										Batch: R274568
Lab ID: LCS		Laboratory Control Sample				Run: MANTECH_210914A			09/14/21 09:47	
Fluoride		2.06	mg/L	0.10	103	90	110			
Lab ID: MBLK		Method Blank				Run: MANTECH_210914A			09/14/21 09:54	
Fluoride		ND	mg/L	0.03						
Lab ID: C21090310-001AMS		Sample Matrix Spike				Run: MANTECH_210914A			09/14/21 10:16	
Fluoride		2.89	mg/L	0.10	107	90	110			
Lab ID: C21090313-002AMS		Sample Matrix Spike				Run: MANTECH_210914A			09/14/21 11:27	
Fluoride		2.46	mg/L	0.10	111	90	110			S
Lab ID: C21090313-003ADUP		Sample Duplicate				Run: MANTECH_210914A			09/14/21 11:35	
Fluoride		0.0500	mg/L	0.10				10		
Lab ID: LCS		Laboratory Control Sample				Run: MANTECH_210914A			09/14/21 12:26	
Fluoride		2.15	mg/L	0.10	107	90	110			
Lab ID: C21090424-003AMS		Sample Matrix Spike				Run: MANTECH_210914A			09/14/21 13:30	
Fluoride		2.41	mg/L	0.10	108	90	110			
Lab ID: C21090424-004ADUP		Sample Duplicate				Run: MANTECH_210914A			09/14/21 13:37	
Fluoride		0.0600	mg/L	0.10				10		

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Energy Fuels Resources (USA) Inc **Work Order:** C21090172 **Report Date:** 09/15/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B									Analytical Run: PHSC_101-C_210907A	
Lab ID: 6.86	2	Initial Calibration Verification Standard							09/07/21 12:29	
pH		6.9	s.u.	0.1	100	98	102			
pH Measurement Temp		18.3	°C			0	0			
Method: A4500-H B									Batch: R274268	
Lab ID: C21090172-001ADUP	2	Sample Duplicate				Run: PHSC_101-C_210907A			09/07/21 13:15	
pH		0.4	s.u.	0.1				0.0	1.5	
pH Measurement Temp		16.4	°C							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Energy Fuels Resources (USA) Inc **Work Order:** C21090172 **Report Date:** 09/15/21

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E300.0**									Analytical Run: IC3-C_210908A	
Lab ID:	**ICV**	2	Initial Calibration Verification Standard							09/08/21 15:01	
Chloride			10.3	mg/L	1.0	103	90	110			
Sulfate			40.2	mg/L	1.0	100	90	110			
Method:	**E300.0**									Batch: R274354	
Lab ID:	**ICB**	2	Method Blank				Run: IC3-C_210908A			09/08/21 15:20	
Chloride			ND	mg/L	0.06						
Sulfate			ND	mg/L	0.1						
Lab ID:	**LFB**	2	Laboratory Fortified Blank				Run: IC3-C_210908A			09/08/21 15:39	
Chloride			10.4	mg/L	1.0	104	90	110			
Sulfate			41.0	mg/L	1.0	102	90	110			
Lab ID:	**C21090151-001AMS**	2	Sample Matrix Spike				Run: IC3-C_210908A			09/08/21 16:37	
Chloride			89.0	mg/L	1.0	99	80	120			
Sulfate			212	mg/L	2.1	102	80	120			
Lab ID:	**C21090151-001AMSD**	2	Sample Matrix Spike Duplicate				Run: IC3-C_210908A			09/08/21 16:56	
Chloride			88.8	mg/L	1.0	99	80	120	0.3	20	
Sulfate			212	mg/L	2.1	102	80	120	0.1	20	
Lab ID:	**C21090172-008AMS**	2	Sample Matrix Spike				Run: IC3-C_210908A			09/08/21 21:05	
Chloride			676	mg/L	2.1	88	80	120			
Sulfate			2340	mg/L	8.3	89	80	120			
Lab ID:	**C21090172-008AMSD**	2	Sample Matrix Spike Duplicate				Run: IC3-C_210908A			09/08/21 21:24	
Chloride			691	mg/L	2.1	96	80	120	2.2	20	
Sulfate			2400	mg/L	8.3	97	80	120	2.4	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Energy Fuels Resources (USA) Inc **Work Order:** C21090172 **Report Date:** 09/15/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E300.0									Analytical Run: IC3-C_210909A	
Lab ID: ICV	2	Initial Calibration Verification Standard							09/09/21 14:43	
Chloride		10.3	mg/L	1.0	103	90	110			
Sulfate		40.1	mg/L	1.0	100	90	110			
Method: E300.0									Batch: R274399	
Lab ID: ICB	2	Method Blank				Run: IC3-C_210909A			09/09/21 15:02	
Chloride		ND	mg/L	0.06						
Sulfate		ND	mg/L	0.1						
Lab ID: LFB	2	Laboratory Fortified Blank				Run: IC3-C_210909A			09/09/21 15:21	
Chloride		10.5	mg/L	1.0	105	90	110			
Sulfate		41.2	mg/L	1.0	103	90	110			
Lab ID: C21090315-001AMS	2	Sample Matrix Spike				Run: IC3-C_210909A			09/09/21 20:46	
Chloride		664	mg/L	5.2	102	80	120			
Sulfate		4150	mg/L	21	99	80	120			
Lab ID: C21090315-001AMSD	2	Sample Matrix Spike Duplicate				Run: IC3-C_210909A			09/09/21 21:05	
Chloride		670	mg/L	5.2	103	80	120	1	20	
Sulfate		4200	mg/L	21	101	80	120	1.2	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Energy Fuels Resources (USA) Inc **Work Order:** C21090172 **Report Date:** 09/15/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E350.1									Analytical Run: FIA201-C_210911A	
Lab ID: ICV		Initial Calibration Verification Standard							09/11/21 11:28	
Nitrogen, Ammonia as N		1.01	mg/L	0.050	101	90	110			
Method: E350.1									Batch: R274450	
Lab ID: MBLK		Method Blank				Run: FIA201-C_210911A			09/11/21 11:27	
Nitrogen, Ammonia as N		ND	mg/L	0.01						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_210911A			09/11/21 11:29	
Nitrogen, Ammonia as N		0.989	mg/L	0.050	100	90	110			
Lab ID: C21090127-001CMS		Sample Matrix Spike				Run: FIA201-C_210911A			09/11/21 11:31	
Nitrogen, Ammonia as N		1.03	mg/L	0.050	74	90	110			S
Lab ID: C21090127-001CMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_210911A			09/11/21 11:33	
Nitrogen, Ammonia as N		1.10	mg/L	0.050	81	90	110	6.6	10	S
Method: E350.1									Analytical Run: FIA201-C_210911B	
Lab ID: ICV		Initial Calibration Verification Standard							09/11/21 12:58	
Nitrogen, Ammonia as N		0.994	mg/L	0.050	99	90	110			
Method: E350.1									Batch: R274451	
Lab ID: MBLK		Method Blank				Run: FIA201-C_210911B			09/11/21 12:57	
Nitrogen, Ammonia as N		ND	mg/L	0.01						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_210911B			09/11/21 12:59	
Nitrogen, Ammonia as N		0.974	mg/L	0.050	98	90	110			
Lab ID: C21090388-001CMS		Sample Matrix Spike				Run: FIA201-C_210911B			09/11/21 13:02	
Nitrogen, Ammonia as N		0.803	mg/L	0.050	76	90	110			S
Lab ID: C21090388-001CMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_210911B			09/11/21 13:03	
Nitrogen, Ammonia as N		0.793	mg/L	0.050	75	90	110	1.3	10	S

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Energy Fuels Resources (USA) Inc **Work Order:** C21090172 **Report Date:** 09/15/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2									Analytical Run: FIA201-C_210913B	
Lab ID: ICV		Initial Calibration Verification Standard							09/13/21 14:41	
Nitrogen, Nitrate+Nitrite as N		1.01	mg/L	0.010	101	90	110			
Method: E353.2									Batch: R274495	
Lab ID: MBLK		Method Blank				Run: FIA201-C_210913B			09/13/21 14:42	
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.009						
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA201-C_210913B			09/13/21 14:44	
Nitrogen, Nitrate+Nitrite as N		1.01	mg/L	0.010	102	90	110			
Lab ID: C21090178-001CMS		Sample Matrix Spike				Run: FIA201-C_210913B			09/13/21 14:57	
Nitrogen, Nitrate+Nitrite as N		1.54	mg/L	0.010	104	90	110			
Lab ID: C21090178-001CMSD		Sample Matrix Spike Duplicate				Run: FIA201-C_210913B			09/13/21 14:58	
Nitrogen, Nitrate+Nitrite as N		1.57	mg/L	0.010	107	90	110	2.0	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch **Revised Date:** 10/29/21

Client: Energy Fuels Resources (USA) Inc **Work Order:** C21090172 **Report Date:** 10/15/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP4-C_210916A	
Lab ID: QCS	16	Initial Calibration Verification Standard							09/16/21 09:13	
Arsenic		0.792	mg/L	0.10	99	95	105			
Beryllium		0.388	mg/L	0.010	97	95	105			
Cadmium		0.389	mg/L	0.010	97	95	105			
Calcium		39.2	mg/L	0.50	98	95	105			
Chromium		0.760	mg/L	0.050	95	95	105			
Copper		0.764	mg/L	0.014	96	95	105			
Iron		3.87	mg/L	0.10	97	95	105			
Lead		0.769	mg/L	0.050	96	95	105			
Magnesium		39.1	mg/L	0.50	98	95	105			
Manganese		3.77	mg/L	0.010	94	95	105			S
Molybdenum		0.770	mg/L	0.10	96	95	105			
Potassium		38.4	mg/L	0.50	96	95	105			
Selenium		0.786	mg/L	0.10	98	95	105			
Sodium		37.9	mg/L	0.53	95	95	105			
Vanadium		0.765	mg/L	0.10	96	95	105			
Zinc		0.757	mg/L	0.010	95	95	105			
Method: E200.7									Batch: R274625	
Lab ID: LFB	16	Laboratory Fortified Blank				Run: ICP4-C_210916A			09/16/21 09:09	
Arsenic		0.968	mg/L	0.10	97	85	115			
Beryllium		0.478	mg/L	0.010	96	85	115			
Cadmium		0.473	mg/L	0.010	95	85	115			
Calcium		48.3	mg/L	0.50	97	85	115			
Chromium		0.924	mg/L	0.050	92	85	115			
Copper		0.916	mg/L	0.014	92	85	115			
Iron		4.77	mg/L	0.10	95	85	115			
Lead		0.928	mg/L	0.050	93	85	115			
Magnesium		48.4	mg/L	0.50	97	85	115			
Manganese		4.64	mg/L	0.010	93	85	115			
Molybdenum		0.955	mg/L	0.10	95	85	115			
Potassium		47.3	mg/L	0.50	95	85	115			
Selenium		0.933	mg/L	0.10	93	85	115			
Sodium		47.1	mg/L	0.54	94	85	115			
Vanadium		0.940	mg/L	0.10	94	85	115			
Zinc		0.921	mg/L	0.010	92	85	115			
Lab ID: C21090009-003CMS2	16	Sample Matrix Spike				Run: ICP4-C_210916A			09/16/21 09:51	
Arsenic		1.03	mg/L	0.014	103	70	130			
Beryllium		0.485	mg/L	0.0010	97	70	130			
Cadmium		0.491	mg/L	0.0019	98	70	130			
Calcium		111	mg/L	1.0	95	70	130			
Chromium		0.947	mg/L	0.0050	95	70	130			
Copper		0.935	mg/L	0.010	93	70	130			
Iron		5.49	mg/L	0.026	97	70	130			
Lead		0.949	mg/L	0.021	95	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch **Revised Date:** 10/29/21

Client: Energy Fuels Resources (USA) Inc **Work Order:** C21090172 **Report Date:** 10/15/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7										Batch: R274625
Lab ID: C21090009-003CMS2	16	Sample Matrix Spike				Run: ICP4-C_210916A				09/16/21 09:51
Magnesium		67.3	mg/L	1.0	98	70	130			
Manganese		4.69	mg/L	0.0010	93	70	130			
Molybdenum		0.975	mg/L	0.0051	98	70	130			
Potassium		49.9	mg/L	1.0	97	70	130			
Selenium		0.986	mg/L	0.050	99	70	130			
Sodium		53.0	mg/L	1.0	97	70	130			
Vanadium		0.947	mg/L	0.010	95	70	130			
Zinc		0.956	mg/L	0.010	94	70	130			
Lab ID: C21090009-003CMSD	16	Sample Matrix Spike Duplicate				Run: ICP4-C_210916A				09/16/21 09:55
Arsenic		1.03	mg/L	0.014	103	70	130	0.1	20	
Beryllium		0.486	mg/L	0.0010	97	70	130	0.2	20	
Cadmium		0.488	mg/L	0.0019	98	70	130	0.5	20	
Calcium		112	mg/L	1.0	98	70	130	1.1	20	
Chromium		0.958	mg/L	0.0050	96	70	130	1.2	20	
Copper		0.949	mg/L	0.010	95	70	130	1.6	20	
Iron		5.51	mg/L	0.026	98	70	130	0.5	20	
Lead		0.975	mg/L	0.021	97	70	130	2.6	20	
Magnesium		68.4	mg/L	1.0	101	70	130	1.7	20	
Manganese		4.72	mg/L	0.0010	94	70	130	0.7	20	
Molybdenum		0.982	mg/L	0.0051	98	70	130	0.7	20	
Potassium		50.3	mg/L	1.0	98	70	130	0.9	20	
Selenium		0.995	mg/L	0.050	99	70	130	0.9	20	
Sodium		53.6	mg/L	1.0	98	70	130	1.0	20	
Vanadium		0.960	mg/L	0.010	96	70	130	1.4	20	
Zinc		0.965	mg/L	0.010	95	70	130	0.9	20	
Lab ID: MB-63857	16	Method Blank				Run: ICP4-C_210916A				09/16/21 12:30
Arsenic		ND	mg/L	0.05						
Beryllium		ND	mg/L	0.0003						
Cadmium		ND	mg/L	0.003						
Calcium		ND	mg/L	0.1						
Chromium		ND	mg/L	0.004						
Copper		ND	mg/L	0.02						
Iron		ND	mg/L	0.007						
Lead		ND	mg/L	0.05						
Magnesium		ND	mg/L	0.08						
Manganese		ND	mg/L	0.001						
Molybdenum		ND	mg/L	0.008						
Potassium		ND	mg/L	0.2						
Selenium		ND	mg/L	0.05						
Sodium		ND	mg/L	1						
Vanadium		ND	mg/L	0.006						
Zinc		ND	mg/L	0.003						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch **Revised Date:** 10/29/21

Client: Energy Fuels Resources (USA) Inc **Work Order:** C21090172 **Report Date:** 10/15/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP4-C_210920A	
Lab ID: QCS	13	Initial Calibration Verification Standard							09/20/21 21:19	
Arsenic		0.822	mg/L	0.10	103	90	110			
Calcium		40.9	mg/L	0.50	102	90	110			
Cobalt		0.764	mg/L	0.020	95	90	110			
Copper		0.778	mg/L	0.014	97	90	110			
Iron		4.07	mg/L	0.10	102	90	110			
Lead		0.780	mg/L	0.050	97	90	110			
Manganese		3.96	mg/L	0.010	99	90	110			
Molybdenum		0.787	mg/L	0.10	98	90	110			
Nickel		0.784	mg/L	0.050	98	90	110			
Potassium		40.7	mg/L	0.50	102	90	110			
Sodium		40.8	mg/L	0.53	102	90	110			
Vanadium		0.802	mg/L	0.10	100	90	110			
Zinc		0.772	mg/L	0.010	97	90	110			
Method: E200.7									Batch: R274769	
Lab ID: LFB	13	Laboratory Fortified Blank				Run: ICP4-C_210920A			09/20/21 21:15	
Arsenic		1.02	mg/L	0.10	102	85	115			
Calcium		49.8	mg/L	0.50	100	85	115			
Cobalt		0.929	mg/L	0.020	93	85	115			
Copper		0.942	mg/L	0.014	94	85	115			
Iron		4.94	mg/L	0.10	99	85	115			
Lead		0.955	mg/L	0.050	95	85	115			
Manganese		4.83	mg/L	0.010	97	85	115			
Molybdenum		0.985	mg/L	0.10	98	85	115			
Nickel		0.949	mg/L	0.050	95	85	115			
Potassium		49.7	mg/L	0.50	99	85	115			
Sodium		49.6	mg/L	0.54	99	85	115			
Vanadium		0.980	mg/L	0.10	98	85	115			
Zinc		0.942	mg/L	0.010	94	85	115			
Lab ID: MB-63857	13	Method Blank				Run: ICP4-C_210920A			09/21/21 04:48	
Arsenic		ND	mg/L	0.05						
Calcium		ND	mg/L	0.1						
Cobalt		ND	mg/L	0.006						
Copper		ND	mg/L	0.02						
Iron		ND	mg/L	0.007						
Lead		ND	mg/L	0.05						
Manganese		ND	mg/L	0.001						
Molybdenum		ND	mg/L	0.008						
Nickel		ND	mg/L	0.01						
Potassium		ND	mg/L	0.2						
Sodium		ND	mg/L	1						
Vanadium		ND	mg/L	0.006						
Zinc		ND	mg/L	0.003						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch **Revised Date:** 10/29/21

Client: Energy Fuels Resources (USA) Inc **Work Order:** C21090172 **Report Date:** 10/15/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7										Batch: R274769
Lab ID: C21090172-001BMS2	13	Sample Matrix Spike				Run: ICP4-C_210920A			09/21/21 05:05	
Arsenic		1940	mg/L	26	95	70	130			
Calcium		45700	mg/L	260	91	70	130			
Cobalt		894	mg/L	26	83	70	130			
Copper		4640	mg/L	26	88	70	130			
Iron		10800	mg/L	61	83	70	130			
Lead		948	mg/L	96	87	70	130			
Manganese		6260	mg/L	1.3	93	70	130			
Molybdenum		1410	mg/L	26	99	70	130			
Nickel		938	mg/L	26	91	70	130			
Potassium		50500	mg/L	260	93	70	130			
Sodium		123000	mg/L	540	62	70	130			S
Vanadium		5240	mg/L	26		70	130			A
Zinc		1890	mg/L	26	85	70	130			
Lab ID: C21090172-001BMSD	13	Sample Matrix Spike Duplicate				Run: ICP4-C_210920A			09/21/21 05:08	
Arsenic		1890	mg/L	26	90	70	130	2.2	20	
Calcium		49700	mg/L	260	99	70	130	8.6	20	
Cobalt		881	mg/L	26	82	70	130	1.4	20	
Copper		4650	mg/L	26	90	70	130	0.4	20	
Iron		11000	mg/L	61	87	70	130	1.9	20	
Lead		924	mg/L	96	85	70	130	2.5	20	
Manganese		6630	mg/L	1.3	100	70	130	5.8	20	
Molybdenum		1430	mg/L	26	101	70	130	1.4	20	
Nickel		941	mg/L	26	92	70	130	0.4	20	
Potassium		54600	mg/L	260	101	70	130	7.9	20	
Sodium		124000	mg/L	540	63	70	130	0.5	20	S
Vanadium		5280	mg/L	26		70	130	0.6	20	A
Zinc		1890	mg/L	26	85	70	130	0.1	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

A - Analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch **Revised Date:** 10/29/21

Client: Energy Fuels Resources (USA) Inc **Work Order:** C21090172 **Report Date:** 10/15/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.7									Analytical Run: ICP4-C_210921A	
Lab ID: QCS	5	Initial Calibration Verification Standard							09/21/21 23:58	
Beryllium		0.396	mg/L	0.010	99	95	105			
Cobalt		0.751	mg/L	0.020	94	95	105			S
Nickel		0.768	mg/L	0.050	96	95	105			
Selenium		0.788	mg/L	0.10	98	95	105			
Zinc		0.765	mg/L	0.010	96	95	105			
Method: E200.7									Batch: R274806	
Lab ID: LFB	5	Laboratory Fortified Blank				Run: ICP4-C_210921A			09/21/21 23:54	
Beryllium		0.483	mg/L	0.010	97	85	115			
Cobalt		0.917	mg/L	0.020	92	85	115			
Nickel		0.930	mg/L	0.050	93	85	115			
Selenium		0.952	mg/L	0.10	95	85	115			
Zinc		0.937	mg/L	0.010	94	85	115			
Lab ID: MB-63857	5	Method Blank				Run: ICP4-C_210921A			09/22/21 02:16	
Beryllium		ND	mg/L	0.0003						
Cobalt		ND	mg/L	0.006						
Nickel		ND	mg/L	0.01						
Selenium		ND	mg/L	0.05						
Zinc		ND	mg/L	0.003						
Lab ID: C21090172-007BMS2	5	Sample Matrix Spike				Run: ICP4-C_210921A			09/22/21 02:37	
Beryllium		12.8	mg/L	0.016	79	70	130			
Cobalt		69.7	mg/L	0.64	98	70	130			
Nickel		36.1	mg/L	0.64	88	70	130			
Selenium		43.4	mg/L	0.64	109	70	130			
Zinc		745	mg/L	0.64		70	130			A
Lab ID: C21090172-007BMSD	5	Sample Matrix Spike Duplicate				Run: ICP4-C_210921A			09/22/21 02:42	
Beryllium		13.6	mg/L	0.016	86	70	130	6.6	20	
Cobalt		69.9	mg/L	0.64	99	70	130	0.3	20	
Nickel		37.1	mg/L	0.64	92	70	130	2.8	20	
Selenium		45.1	mg/L	0.64	116	70	130	3.9	20	
Zinc		719	mg/L	0.64		70	130	3.5	20	A

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

A - Analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch **Revised Date:** 10/29/21

Client: Energy Fuels Resources (USA) Inc **Work Order:** C21090172 **Report Date:** 10/15/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **E200.7**									Analytical Run: ICP4-C_210924A	
Lab ID: **QCS**	Initial Calibration Verification Standard								09/24/21 14:46	
Nickel		0.772	mg/L	0.050	97	95	105			
Method: **E200.7**									Batch: R274970	
Lab ID: **LFB**	Laboratory Fortified Blank					Run: ICP4-C_210924A			09/24/21 14:42	
Nickel		0.943	mg/L	0.050	94	85	115			
Lab ID: **MB-63857**	Method Blank					Run: ICP4-C_210924A			09/24/21 15:29	
Nickel		ND	mg/L	0.01						
Lab ID: **C21090172-007BMS2**	Sample Matrix Spike					Run: ICP4-C_210924A			09/24/21 15:42	
Nickel		59.3	mg/L	1.3	84	70	130			
Lab ID: **C21090172-007BMSD**	Sample Matrix Spike Duplicate					Run: ICP4-C_210924A			09/24/21 15:46	
Nickel		60.5	mg/L	1.3	86	70	130	1.9	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Revised Date: 10/29/21

Client: Energy Fuels Resources (USA) Inc **Work Order:** C21090172 **Report Date:** 10/15/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_210925A	
Lab ID: QCS	14	Initial Calibration Verification Standard							09/26/21 00:38	
Arsenic		0.0501	mg/L	0.0010	100	90	110			
Cadmium		0.0243	mg/L	0.0010	97	90	110			
Chromium		0.0482	mg/L	0.0050	96	90	110			
Iron		0.244	mg/L	0.020	97	90	110			
Lead		0.0478	mg/L	0.0010	96	90	110			
Magnesium		2.46	mg/L	0.50	98	90	110			
Manganese		0.245	mg/L	0.0010	98	90	110			
Molybdenum		0.0466	mg/L	0.0010	93	90	110			
Nickel		0.0496	mg/L	0.0050	99	90	110			
Selenium		0.0502	mg/L	0.0010	100	90	110			
Silver		0.0250	mg/L	0.0010	100	90	110			
Sodium		2.46	mg/L	0.50	98	90	110			
Tin		0.0477	mg/L	0.050	95	90	110			
Uranium		0.0186	mg/L	0.00030	93	90	110			
Method: E200.8									Batch: R274971	
Lab ID: LFB	14	Laboratory Fortified Blank				Run: ICPMS5-C_210925A			09/25/21 21:35	
Arsenic		0.0479	mg/L	0.0010	96	85	115			
Cadmium		0.0469	mg/L	0.0010	94	85	115			
Chromium		0.0485	mg/L	0.0050	97	85	115			
Iron		4.90	mg/L	0.020	98	85	115			
Lead		0.0476	mg/L	0.0010	95	85	115			
Magnesium		48.3	mg/L	0.50	97	85	115			
Manganese		0.0481	mg/L	0.0010	96	85	115			
Molybdenum		0.0496	mg/L	0.0010	99	85	115			
Nickel		0.0482	mg/L	0.0050	96	85	115			
Selenium		0.0472	mg/L	0.0010	94	85	115			
Silver		0.0184	mg/L	0.0010	92	85	115			
Sodium		48.6	mg/L	0.50	97	85	115			
Tin		0.0495	mg/L	0.050	99	85	115			
Uranium		0.0482	mg/L	0.00030	96	85	115			
Lab ID: MB-63857	14	Method Blank				Run: ICPMS5-C_210925A			09/26/21 07:10	
Arsenic		ND	mg/L	0.00006						
Cadmium		ND	mg/L	0.00002						
Chromium		ND	mg/L	0.00008						
Iron		ND	mg/L	0.003						
Lead		ND	mg/L	0.00005						
Magnesium		ND	mg/L	0.02						
Manganese		ND	mg/L	0.0001						
Molybdenum		0.0001	mg/L	0.00005						
Nickel		ND	mg/L	0.0002						
Selenium		ND	mg/L	0.0001						
Silver		ND	mg/L	0.00001						
Sodium		ND	mg/L	0.3						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch **Revised Date:** 10/29/21

Client: Energy Fuels Resources (USA) Inc **Work Order:** C21090172 **Report Date:** 10/15/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: R274971
Lab ID: MB-63857	14	Method Blank				Run: ICPMS5-C_210925A				09/26/21 07:10
Tin		0.0003	mg/L	0.0001						
Uranium		ND	mg/L	0.00001						
Lab ID: C21090172-001BMS	14	Sample Matrix Spike				Run: ICPMS5-C_210925A				09/26/21 07:19
Arsenic		1090	mg/L	0.010		70	130			AE
Cadmium		25.3	mg/L	0.010		70	130			A
Chromium		38.6	mg/L	0.010		70	130			A
Iron		8240	mg/L	0.49		70	130			A
Lead		31.4	mg/L	0.010		70	130			A
Magnesium		19000	mg/L	2.6	72	70	130			
Manganese		1670	mg/L	0.011		70	130			AE
Molybdenum		418	mg/L	0.010		70	130			A
Nickel		28.8	mg/L	0.026		70	130			A
Selenium		28.9	mg/L	0.022		70	130			A
Silver		4.48	mg/L	0.0041	92	70	130			E
Sodium		78900	mg/L	32		70	130			A
Tin		6.64	mg/L	0.050	96	70	130			
Uranium		220	mg/L	0.010		70	130			A
Lab ID: C21090172-001BMSD	14	Sample Matrix Spike Duplicate				Run: ICPMS5-C_210925A				09/26/21 07:24
Arsenic		1110	mg/L	0.010		70	130	1.3	20	AE
Cadmium		25.5	mg/L	0.010		70	130	0.8	20	A
Chromium		39.0	mg/L	0.010		70	130	1.0	20	A
Iron		8490	mg/L	0.49		70	130	2.9	20	A
Lead		31.4	mg/L	0.010		70	130	0.1	20	A
Magnesium		19100	mg/L	2.6	74	70	130	0.3	20	
Manganese		1700	mg/L	0.011		70	130	1.7	20	AE
Molybdenum		429	mg/L	0.010		70	130	2.5	20	A
Nickel		28.9	mg/L	0.026		70	130	0.5	20	A
Selenium		29.8	mg/L	0.022		70	130	3.1	20	A
Silver		4.45	mg/L	0.0041	91	70	130	0.7	20	E
Sodium		79900	mg/L	32		70	130	1.2	20	A
Tin		6.64	mg/L	0.050	96	70	130	0.1	20	
Uranium		221	mg/L	0.010		70	130	0.4	20	A

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

A - Analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated

E - Estimated value - result exceeds the instrument upper quantitation limit

QA/QC Summary Report

Prepared by Casper, WY Branch **Revised Date:** 10/29/21

Client: Energy Fuels Resources (USA) Inc **Work Order:** C21090172 **Report Date:** 10/15/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_210927A	
Lab ID: QCS	3	Initial Calibration Verification Standard							09/28/21 07:41	
Cobalt		0.0486	mg/L	0.0050	97	90	110			
Thallium		0.0435	mg/L	0.00050	87	90	110			S
Uranium		0.0186	mg/L	0.00030	93	90	110			
Method: E200.8									Batch: R274993	
Lab ID: LFB	3	Laboratory Fortified Blank				Run: ICPMS5-C_210927A			09/27/21 10:43	
Cobalt		0.0493	mg/L	0.0050	99	85	115			
Thallium		0.0493	mg/L	0.00050	99	85	115			
Uranium		0.0507	mg/L	0.00030	101	85	115			
Lab ID: C21090516-001CMS	3	Sample Matrix Spike				Run: ICPMS5-C_210927A			09/28/21 08:21	
Cobalt		0.103	mg/L	0.0050	103	70	130			
Thallium		0.0949	mg/L	0.00050	95	70	130			
Uranium		0.134	mg/L	0.00030	108	70	130			
Lab ID: C21090516-001CMSD	3	Sample Matrix Spike Duplicate				Run: ICPMS5-C_210927A			09/28/21 08:26	
Cobalt		0.103	mg/L	0.0050	103	70	130	0.0	20	
Thallium		0.0994	mg/L	0.00050	99	70	130	4.7	20	
Uranium		0.134	mg/L	0.00030	108	70	130	0.0	20	
Lab ID: MB-63857	3	Method Blank				Run: ICPMS5-C_210927A			09/28/21 08:36	
Cobalt		ND	mg/L	0.00002						
Thallium		ND	mg/L	0.0003						
Uranium		ND	mg/L	0.00001						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Casper, WY Branch **Revised Date:** 10/29/21

Client: Energy Fuels Resources (USA) Inc **Work Order:** C21090172 **Report Date:** 10/15/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_211011A	
Lab ID: QCS	2	Initial Calibration Verification Standard							10/11/21 14:46	
Copper		0.0520	mg/L	0.0050	104	90	110			
Uranium		0.0190	mg/L	0.00030	95	90	110			
Method: E200.8									Batch: R275502	
Lab ID: LFB	2	Laboratory Fortified Blank				Run: ICPMS5-C_211011A			10/11/21 08:03	
Copper		0.0534	mg/L	0.0050	107	85	115			
Uranium		0.0539	mg/L	0.00030	108	85	115			
Lab ID: MB-63857	4	Method Blank				Run: ICPMS5-C_211011A			10/11/21 15:12	
Copper		0.0002	mg/L	0.0002						
Lead		ND	mg/L	0.00005						
Thallium		ND	mg/L	0.0003						
Uranium		0.0002	mg/L	0.00001						
Lab ID: C21090172-007BMS	2	Sample Matrix Spike				Run: ICPMS5-C_211011A			10/11/21 15:26	
Copper		3270	mg/L	0.98		70	130			AE
Uranium		542	mg/L	0.10		70	130			A
Lab ID: C21090172-007BMSD	2	Sample Matrix Spike Duplicate				Run: ICPMS5-C_211011A			10/11/21 15:31	
Copper		3290	mg/L	0.98		70	130	0.5	20	AE
Uranium		544	mg/L	0.10		70	130	0.4	20	A
Method: E200.8									Analytical Run: ICPMS5-C_211104A	
Lab ID: QCS	3	Initial Calibration Verification Standard							11/05/21 13:12	
Lead		0.0468	mg/L	0.0010	94	90	110			
Thallium		0.0501	mg/L	0.00050	100	90	110			
Uranium		0.0188	mg/L	0.00030	94	90	110			
Method: E200.8									Batch: R276471	
Lab ID: LFB	3	Laboratory Fortified Blank				Run: ICPMS5-C_211104A			11/04/21 16:40	
Lead		0.0489	mg/L	0.0010	101	85	115			
Thallium		0.0500	mg/L	0.00050	103	85	115			
Uranium		0.0501	mg/L	0.00030	103	85	115			
Lab ID: C21100671-002BMS	3	Sample Matrix Spike				Run: ICPMS5-C_211104A			11/05/21 15:50	
Lead		0.0489	mg/L	0.0010	101	70	130			
Thallium		0.0461	mg/L	0.00050	95	70	130			
Uranium		0.0557	mg/L	0.00030	102	70	130			
Lab ID: C21100671-002BMSD	3	Sample Matrix Spike Duplicate				Run: ICPMS5-C_211104A			11/05/21 15:55	
Lead		0.0492	mg/L	0.0010	101	70	130	0.7	20	
Thallium		0.0474	mg/L	0.00050	98	70	130	2.7	20	
Uranium		0.0562	mg/L	0.00030	103	70	130	0.9	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

A - Analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated

E - Estimated value - result exceeds the instrument upper quantitation limit

QA/QC Summary Report

Prepared by Casper, WY Branch

Revised Date: 10/29/21

Client: Energy Fuels Resources (USA) Inc **Work Order:** C21090172 **Report Date:** 10/15/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS5-C_211107A	
Lab ID: QCS	Initial Calibration Verification Standard								11/08/21 12:03	
Thallium		0.0511	mg/L	0.00050	102	90	110			
Method: E200.8									Batch: R276540	
Lab ID: LFB	Laboratory Fortified Blank					Run: ICPMS5-C_211107A			11/07/21 18:36	
Thallium		0.0472	mg/L	0.00050	94	85	115			
Lab ID: C21100751-003AMS	Sample Matrix Spike					Run: ICPMS5-C_211107A			11/08/21 04:18	
Thallium		0.486	mg/L	0.0016	97	70	130			
Lab ID: C21100751-003AMSD	Sample Matrix Spike Duplicate					Run: ICPMS5-C_211107A			11/08/21 04:23	
Thallium		0.496	mg/L	0.0016	99	70	130	2.1	20	
Method: E200.8									Analytical Run: ICPMS5-C_211109A	
Lab ID: QCS	Initial Calibration Verification Standard								11/09/21 12:10	
Thallium		0.0510	mg/L	0.00050	102	90	110			
Method: E200.8									Batch: R276593	
Lab ID: LFB	Laboratory Fortified Blank					Run: ICPMS5-C_211109A			11/09/21 12:52	
Thallium		0.0519	mg/L	0.00050	104	85	115			
Lab ID: C21100859-001BMS	Sample Matrix Spike					Run: ICPMS5-C_211109A			11/09/21 14:41	
Thallium		0.281	mg/L	0.00052	112	70	130			
Lab ID: C21100859-001BMSD	Sample Matrix Spike Duplicate					Run: ICPMS5-C_211109A			11/09/21 14:46	
Thallium		0.285	mg/L	0.00052	114	70	130	1.3	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

Work Order Receipt Checklist

Energy Fuels Resources (USA) Inc

C21090172

Login completed by: Kirsten L. Smith
Date Received: 9/3/2021
Reviewed by: Misty Stephens
Received by: cml
Reviewed Date: 9/7/2021
Carrier name: NDA

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	5.1°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☑	Not Applicable ☐

Standard Reporting Procedures:

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

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

Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

Dissolved Metals/Hardness were filtered and preserved to pH <2 with 2 mL of nitric acid per 250 mL in the laboratory. According to 40CFR136, samples for Dissolved Metals should be filtered and preserved within 15 minutes of collection.

ENERGY LABORATORIES
Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

www.energylab.com

Page 1 of 1

Account Information (Billing information)

Company/Name	Energy FUels
Contact	Kathy Weinel
Phone	(303) 389-4134
Mailing Address	225 Union Blvd, Suite 600
City, State, Zip	Lakewood, CO 80228
Email	kweinel@energyfuels.com
Receive Invoice	☐Hard Copy ■Email
Receive Report	☐Hard Copy ■Email
Purchase Order	
Quote	C5645
Bottle Order	

Report Information (If different than Account Information)

Company/Name	
Contact	
Phone	
Mailing Address	
City, State, Zip	
Email	
Receive Report	☐Hard Copy ☐Email
Special Report/Formats:	☐LEVEL IV ☐NELAC ☐EDD/EDT (contact laboratory) ☐Other STD EFRI

Comments

Samples HAVE NOT BEEN FILTERED

Project Information

Project Name, PWSID, Permit, etc.	Annual Tailings 2021
Sampler Name	Tanner Holliday
Sampler Phone	(435) 678-4115
Sample Origin State	Utah
EPA/State Compliance	■ Yes ☐ No

URANIUM MINING CLIENTS MUST Indicate sample type.
☐ NOT Source or Byproduct Material
☐ Source/Processed Ore (Ground or Refined) **CALL BEFORE SENDING
■ 11e.(2) Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	Quote C5645 (NO VOCs OR SVOCs)	See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1 Cell 1	9/1/21	8:10 am	4	O	X			C21090172
2 Slimes # 2	9/1/21	8:35 am	4	O	X			
3 Cell 4A	9/1/21	9:20 am	4	O	X			
4 Cell 4A LDS	9/1/21	9:35 am	4	O	X			
5 Cell 4B	9/1/21	9:45 am	4	O	X			
6 Cell 4B LDS	9/1/21	9:55 am	4	O	X			
7 Cell 65	9/1/21	8:10 am	4	O	X			
8 Cell 3	9/1/21	9:05 am	4	O	X			
9								
10								

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Tanner Holliday	9/2/2021 1100	Tanner Holliday			
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Lacelis	9/2/21 10:19	

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals Y N C B	Intact Y N	Receipt Temp °C	Temp Blank Y N	On Ice Y N	Payment Type CC Cash Check	Amount $	Receipt Number (cash/check only)

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171
F 843.766.1178

gel.com

November 01, 2021

Ms. Kathy Weinel
Energy Fuels Resources (USA), Inc.
225 Union Boulevard
Suite 600
Lakewood, Colorado 80228

Re: Tailings Characterization
Work Order: 554861

Dear Ms. Weinel:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on September 03, 2021. This revised data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4289.

Sincerely,

Julie Robinson

Julie Robinson
Project Manager

Purchase Order: DW16138
Enclosures

Energy Fuels Resources (USA), Inc.
Tailings Characterization
SDG: 554861

Receipt Narrative
for
Energy Fuels Resources (USA), Inc.
SDG: 554861

November 01, 2021

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary:

Sample receipt: The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on September 03, 2021 for analysis. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

Sample Identification: The laboratory received the following samples:

Laboratory ID	Client ID
554861001	Cell 1
554861002	Slimes #2
554861003	Cell 4A
554861004	Cell 4A LDS
554861005	Cell 4B
554861006	Cell 4B LDS
554861007	Cell 65
554861008	Cell 3
554861009	Trip Blank

Case Narrative:

Sample analyses were conducted using methodology as outlined in GEL's Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: GC/MS Semivolatile, GC/MS Volatile, General Chemistry and Radiochemistry.

Julie Robinson

Julie Robinson
Project Manager

554861

Sheet 1 of 1

CHAIN OF CUSTODY

Samples Shipped to:	Gel Laboratories	Contact:	Tanner Holliday
	2040 Savage Road		Ph: 435 678 4115
	Charleston, SC 29407		tholliday@energyfuels.com

Project	Samplers Name	Samplers Signature
Annual Tailings 2021	Tanner Holliday	Tanner Holliday

Sample ID	Date Collected	Time Collected	Laboratory Analysis Requested
Cell 1	9/1/2021	810	Dissolved Gross Alpha, Thorium (228, 230, 232) Uranium (233/234, 235/236, 238), Ra-226, specific gravity, VOCs, SVOCs
Slimes # 2	9/1/2021	835	Dissolved Gross Alpha, Thorium (228, 230, 232) Uranium (233/234, 235/236, 238), Ra-226, specific gravity, VOCs, SVOCs
Cell 4A	9/1/2021	920	Dissolved Gross Alpha, Thorium (228, 230, 232) Uranium (233/234, 235/236, 238), Ra-226, specific gravity, VOCs, SVOCs
Cell 4A LDS	9/1/2021	935	Dissolved Gross Alpha, Thorium (228, 230, 232) Uranium (233/234, 235/236, 238), Ra-226, specific gravity, VOCs, SVOCs
Cell 4B	9/1/2021	945	Dissolved Gross Alpha, Thorium (228, 230, 232) Uranium (233/234, 235/236, 238), Ra-226, specific gravity, VOCs, SVOCs
Cell 4B LDS	9/1/2021	955	Dissolved Gross Alpha, Thorium (228, 230, 232) Uranium (233/234, 235/236, 238), Ra-226, specific gravity, VOCs, SVOCs
Cell 65	9/1/2021	810	Dissolved Gross Alpha, Thorium (228, 230, 232) Uranium (233/234, 235/236, 238), Ra-226, specific gravity, VOCs, SVOCs
Cell 3	9/1/2021	905	Dissolved Gross Alpha, Thorium (228, 230, 232) Uranium (233/234, 235/236, 238), Ra-226, specific gravity, VOCs, SVOCs
Trip Blank	9/1/2021	0810	VOC's
Specific gravity is to be run on UNFILTERED sample aliquot			

Comments: SAMPLES ARE NOT FIELD FILTERED - PLEASE FILTER UPON RECEIPT! SAMPLES ARE NOT PRESERVED - pH is as collected! See Julie Robinson for technical questions. No LOCUS UPLOAD. *Methods used = same as 488668*

Relinquished By:(Signature)	Date/Time	Received By:(Signature)	Date/Time
Tanner Holliday	9/2/2021 1100		9/3/2021 1000
Relinquished By:(Signature)	Date/Time	Received By:(Signature)	Date/Time

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: DMNI	SDG/AR/COC/Work Order: 554861
Received By: GM	Date Received: 9/3/21
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other 1Z1877Y41905997249

Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A) Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?	✓		COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?	✓		Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0 CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?		✓	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		✓	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: Wet Ice Ice Packs Dry Ice None Other: *all temperatures are recorded in Celsius TEMP: 2
4	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: 3-19 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?		✓		Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?	✓			If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA✓ (If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes✓ No___ NA___ (If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No✓ NA___ Sample ID's and containers affected: all trip blank have headspace, not 9a1 preserved
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided by use of GEL labels?	✓			all except the trip blank, ESS vials.
13	COC form is properly signed in relinquished/received sections?	✓			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials NRG Date 9/7/21 Page 1 of 1

GL-CHL-SR-001 Rev 7

GEL Laboratories LLC – Login Review Report

GEL Work Order/SDG: 554861 Annual Tailings 2021
Client SDG: 554861
Project Manager: Julie Robinson
Project Name: DNMI00107 Tailings Characterization
Purchase Order: DW16138
Package Level: LEVEL3
EDD Format: EIM_DNMI

Work Order Due Date: 04-OCT-21
Package Due Date: 01-OCT-21
EDD Due Date: 04-OCT-21
Due Date: 04-OCT-21
JAR1

Collector: C
Prelogin #: 202008114643
Project Workdef ID: 1330584
SDG Status: Closed
Logged by:

GEL ID	Client Sample ID	Client Sample Desc.	Collect Date & Time	Receive Date & Time	Time Zone	# of Cont.	Lab Matrix	Fax Due Date	Days to Process	CofC #	Prelog Group	Lab QC	Field QC
554861001	Cell 1		01-SEP-21 08:10	03-SEP-21 10:00	-2	5	WATER		20		1		
554861002	Slimes #2		01-SEP-21 08:35	03-SEP-21 10:00	-2	5	WATER		20		1		
554861003	Cell 4A		01-SEP-21 09:20	03-SEP-21 10:00	-2	5	WATER		20		1		
554861004	Cell 4A LDS		01-SEP-21 09:35	03-SEP-21 10:00	-2	5	WATER		20		1		
554861005	Cell 4B		01-SEP-21 09:45	03-SEP-21 10:00	-2	5	WATER		20		1		
554861006	Cell 4B LDS		01-SEP-21 09:55	03-SEP-21 10:00	-2	5	WATER		20		1		
554861007	Cell 65		01-SEP-21 08:10	03-SEP-21 10:00	-2	5	WATER		20		1		
554861008	Cell 3		01-SEP-21 09:05	03-SEP-21 10:00	-2	5	WATER		20		1		
554861009	Trip Blank		01-SEP-21 08:10	03-SEP-21 10:00	-2	3	WATER		20		2		Y

Client Sample ID	Status	Tests/Methods	Product Reference	Fax Date	PM Comments	Aux Data	Receive Codes
-001 Cell 1	REVW	ASTM D 5057 Specific Gravity			Handle these samples carefully, they are low pH with high metals. Samples are not preserved.		RAD2
	REVW	Rad 2 Aliquot for distribution throughout the lab					
	REVW	Alphaspec Th, Liquid					
	REVW	U- 233/234,U-235/236 and U-238	U-233/234,U-235/236				
	REVW	GFPC,Total Alpha Radium, Liquid	Gross Alpha				
	REVW	Lucas Cell, Ra226, liquid					
	REVW	Laboratory Composite	RAD2				
	REVW	BNA Tentatively Identified Compound (TIC) Search					
	REVW	SW846 3510C/8270D SVOA (Separatory Funnel)					
	REVW	VOA Library Search Liquid					
	REVW	SW846 8260 Volatiles					
-002 Slimes #2	REVW	ASTM D 5057 Specific Gravity			Handle these samples carefully, they are low pH with high metals. Samples are not preserved.		RAD2
	REVW	Rad 2 Aliquot for distribution throughout the lab					
	REVW	Alphaspec Th, Liquid					
	REVW	U- 233/234,U-235/236 and U-238	U-233/234,U-235/236				
	REVW	GFPC,Total Alpha Radium,	Gross Alpha				

		Liquid			
	REVW	Lucas Cell, Ra226, liquid			
	REVW	Laboratory Composite	RAD2		
	REVW	BNA Tentatively Identified Compound (TIC) Search			
	REVW	SW846 3510C/8270D SVOA (Separatory Funnel)			
	REVW	VOA Library Search Liquid			
	REVW	SW846 8260 Volatiles			
-003 Cell 4A	REVW	ASTM D 5057 Specific Gravity		Handle these samples carefully, they are low pH with high metals. Samples are not preserved.	RAD2
	REVW	Rad 2 Aliquot for distribution throughout the lab			
	REVW	Alphaspec Th, Liquid			
	REVW	U- 233/234,U-235/236 and U-238	U-233/234,U-235/236		
	REVW	GFPC,Total Alpha Radium, Liquid	Gross Alpha		
	REVW	Lucas Cell, Ra226, liquid			
	REVW	Laboratory Composite	RAD2		
	REVW	BNA Tentatively Identified Compound (TIC) Search			
	REVW	SW846 3510C/8270D SVOA (Separatory Funnel)			
	REVW	VOA Library Search Liquid			
	REVW	SW846 8260 Volatiles			
-004 Cell 4A LDS	REVW	ASTM D 5057 Specific Gravity		Handle these samples carefully, they are low pH with high metals. Samples are not preserved.	RAD2
	REVW	Rad 2 Aliquot for distribution throughout the lab			
	REVW	Alphaspec Th, Liquid			
	REVW	U- 233/234,U-235/236 and U-238	U-233/234,U-235/236		
	REVW	GFPC,Total Alpha Radium, Liquid	Gross Alpha		
	REVW	Lucas Cell, Ra226, liquid			
	REVW	Laboratory Composite	RAD2		
	REVW	BNA Tentatively Identified Compound (TIC) Search			
	REVW	SW846 3510C/8270D SVOA (Separatory Funnel)			
	REVW	VOA Library Search Liquid			
	REVW	SW846 8260 Volatiles			
-005 Cell 4B	REVW	ASTM D 5057 Specific Gravity		Handle these samples carefully, they are low pH with high metals. Samples are not preserved.	RAD2
	REVW	Rad 2 Aliquot for distribution throughout the lab			
	REVW	Alphaspec Th, Liquid			
	REVW	U- 233/234,U-235/236 and U-238	U-233/234,U-235/236		
	REVW	GFPC,Total Alpha Radium, Liquid	Gross Alpha		
	REVW	Lucas Cell, Ra226, liquid			

	REVW	Laboratory Composite	RAD2		
	REVW	BNA Tentatively Identified Compound (TIC) Search			
	REVW	SW846 3510C/8270D SVOA (Separatory Funnel)			
	REVW	VOA Library Search Liquid			
	REVW	SW846 8260 Volatiles			
-006 Cell 4B LDS	REVW	ASTM D 5057 Specific Gravity		Handle these samples carefully, they are low pH with high metals. Samples are not preserved.	RAD2
	REVW	Rad 2 Aliquot for distribution throughout the lab			
	REVW	Alphaspec Th, Liquid			
	REVW	U- 233/234,U-235/236 and U-238	U-233/234,U-235/236		
	REVW	GFPC,Total Alpha Radium, Liquid	Gross Alpha		
	REVW	Lucas Cell, Ra226, liquid			
	REVW	Laboratory Composite	RAD2		
	REVW	BNA Tentatively Identified Compound (TIC) Search			
	REVW	SW846 3510C/8270D SVOA (Separatory Funnel)			
	REVW	VOA Library Search Liquid			
	REVW	SW846 8260 Volatiles			
-007 Cell 65	REVW	ASTM D 5057 Specific Gravity		Handle these samples carefully, they are low pH with high metals. Samples are not preserved.	RAD2
	REVW	Rad 2 Aliquot for distribution throughout the lab			
	REVW	Alphaspec Th, Liquid			
	REVW	U- 233/234,U-235/236 and U-238	U-233/234,U-235/236		
	REVW	GFPC,Total Alpha Radium, Liquid	Gross Alpha		
	REVW	Lucas Cell, Ra226, liquid			
	REVW	Laboratory Composite	RAD2		
	REVW	BNA Tentatively Identified Compound (TIC) Search			
	REVW	SW846 3510C/8270D SVOA (Separatory Funnel)			
	REVW	VOA Library Search Liquid			
	REVW	SW846 8260 Volatiles			
-008 Cell 3	REVW	ASTM D 5057 Specific Gravity		Handle these samples carefully, they are low pH with high metals. Samples are not preserved.	RAD2
	REVW	Rad 2 Aliquot for distribution throughout the lab			
	REVW	Alphaspec Th, Liquid			
	REVW	U- 233/234,U-235/236 and U-238	U-233/234,U-235/236		
	REVW	GFPC,Total Alpha Radium, Liquid	Gross Alpha		
	REVW	Lucas Cell, Ra226, liquid			
	REVW	Laboratory Composite	RAD2		
	REVW	BNA Tentatively Identified Compound (TIC) Search			

REVW SW846 3510C/8270D SVOA (Separatory Funnel)
REVW VOA Library Search Liquid

REVW SW846 8260 Volatiles

–009 Trip Blank — REVW SW846 8260 Volatiles — Handle these samples carefully, they are low pH with high metals. Samples are not preserved.

Product: VOA8260_L **Workdef ID:** 1542350 **In Product Group?** No **Group Name:** **Group Reference:**

Method: SW846 8260D
Path: 8260D Unpreserved (7d HT)
Product Description: SW846 8260 Volatiles
Product Reference:
Samples: 001, 002, 003, 004, 005, 006, 007, 008, 009
Moisture Correction: "As Received"
Parmname Check: All parmnames scheduled properly

CAS #	Parmname	Client RDL or PQL & Unit	Reporting Units	Parm Function	Included in Sample?	Included in QC?	Custom List?
17060-07-0	1,2-Dichloroethane-d4	50 ug/L	ug/L	SURR	Y	Y	No
3855-82-1	1,4-Dichlorobenzene-d4		ug/L	IS	Y	Y	
78-93-3	2-Butanone	4000	ug/L	REG	Y	Y	
67-64-1	Acetone	700	ug/L	REG	Y	Y	
71-43-2	Benzene	5	ug/L	REG	Y	Y	
460-00-4	Bromofluorobenzene	50 ug/L	ug/L	SURR	Y	Y	
56-23-5	Carbon tetrachloride	5	ug/L	REG	Y	Y	
3114-55-4	Chlorobenzene-d5		ug/L	IS	Y	Y	
67-66-3	Chloroform	70	ug/L	REG	Y	Y	
74-87-3	Chloromethane	30	ug/L	REG	Y	Y	
462-06-6	Fluorobenzene		ug/L	IS	Y	Y	
75-09-2	Methylene chloride	5	ug/L	REG	Y	Y	
91-20-3	Naphthalene	100	ug/L	REG	Y	Y	
109-99-9	Tetrahydrofuran	46	ug/L	REG	Y	Y	
108-88-3	Toluene	1000	ug/L	REG	Y	Y	
2037-26-5	Toluene-d8	50 ug/L	ug/L	SURR	Y	Y	
1330-20-7	Xylenes (total)	10000	ug/L	REG	Y	Y	

Product: MSDTIC_L **Workdef ID:** 1508377 **In Product Group?** No **Group Name:** **Group Reference:**
Method: **Path:** 8270D EXPIRED
Product Description: BNA Tentatively Identified Compound (TIC) Search **Product Reference:**
Samples: 001, 002, 003, 004, 005, 006, 007, 008 **Moisture Correction:** "As Received"
Parmname Check: All parmnames scheduled properly

CAS #	Parmname	Client RDL or PQL & Unit	Reporting Units	Parm Function	Included in Sample?	Included in QC?	Custom List?
	TIC		ug/L	IS	Y	Y	No

Product: ASP__THL **Workdef ID:** 1371096 **In Product Group?** No **Group Name:** **Group Reference:**
Method: DOE EML HASL-300, Th-01-RC Modified **Path:** High Rad
Product Description: Alphaspec Th, Liquid **Product Reference:**
Samples: 001, 002, 003, 004, 005, 006, 007, 008 **Moisture Correction:** "As Received"
Parmname Check: All parmnames scheduled properly

CAS #	Parmname	Client RDL or PQL & Unit	Reporting Units	Parm Function	Included in Sample?	Included in QC?	Custom List?
14274-82-9	Thorium-228	1	pCi/L	REG	Y	Y	No
14269-63-7	Thorium-230	1	pCi/L	REG	Y	Y	
7440-29-1	Thorium-232	1	pCi/L	REG	Y	Y	

Product: ASP__UUL **Workdef ID:** 1371097 **In Product Group?** No **Group Name:** **Group Reference:**
Method: DOE EML HASL-300, U-02-RC Modified **Path:** High Rad
Product Description: U- 233/234,U-235/236 and U-238 **Product Reference:** U-233/234,U-235/236
Samples: 001, 002, 003, 004, 005, 006, 007, 008 **Moisture Correction:** "As Received"
Parmname Check: All parmnames scheduled properly

CAS #	Parmname	Client RDL or PQL & Unit	Reporting Units	Parm Function	Included in Sample?	Included in QC?	Custom List?
13968-55-3/13966-	Uranium-233/234	1	pCi/L	REG	Y	Y	No
15117-96-1/13982-	Uranium-235/236	1	pCi/L	REG	Y	Y	
7440-61-1	Uranium-238	1	pCi/L	REG	Y	Y	

Product: GFCTORAL **Workdef ID:** 1371098 **In Product Group?** No **Group Name:** **Group Reference:**
Method: EPA 903.0 **Path:** High Rad
Product Description: GFPC,Total Alpha Radium, Liquid **Product Reference:** Gross Alpha
Samples: 001, 002, 003, 004, 005, 006, 007, 008 **Moisture Correction:** "As Received"
Parmname Check: All parmnames scheduled properly

CAS #	Parmname	Client RDL or PQL & Unit	Reporting Units	Parm Function	Included in Sample?	Included in QC?	Custom List?
	Gross Radium Alpha	1	pCi/L	REG	Y	Y	No

Product: LUC26RAL **Workdef ID:** 1371099 **In Product Group?** No **Group Name:** **Group Reference:**

Method: EPA 903.1 Modified
Product Description: Lucas Cell, Ra226, liquid
Samples: 001, 002, 003, 004, 005, 006, 007, 008
Parmname Check: All parmnames scheduled properly

Path: High Rad
Product Reference:
Moisture Correction: "As Received"

CAS #	Parmname	Client RDL or PQL & Unit	Reporting Units	Parm Function	Included in Sample?	Included in QC?	Custom List?
13982-63-3	Radium-226	1	pCi/L	REG	Y	Y	No

Product: LABCOMP_L **Workdef ID:** 1371213 **In Product Group?** No **Group Name:** **Group Reference:**

Method:
Product Description: Laboratory Composite
Samples: 001, 002, 003, 004, 005, 006, 007, 008
Parmname Check: All parmnames scheduled properly

Path: High Rad
Product Reference: RAD2
Moisture Correction: "As Received"

CAS #	Parmname	Client RDL or PQL & Unit	Reporting Units	Parm Function	Included in Sample?	Included in QC?	Custom List?

No

Product: MSD10C70DL **Workdef ID:** 1508378 **In Product Group?** No **Group Name:** **Group Reference:**

Method: SW846 3510C/8270D
Product Description: SW846 3510C/8270D SVOA (Separatory Funnel)
Samples: 001, 002, 003, 004, 005, 006, 007, 008
Parmname Check: All parmnames scheduled properly

Path: SW846 3510C/8270D EXPIRED
Product Reference:
Moisture Correction: "As Received"

CAS #	Parmname	Client RDL or PQL & Unit	Reporting Units	Parm Function	Included in Sample?	Included in QC?	Custom List?
120-82-1	1,2,4-Trichlorobenzene	10 ug/L	ug/L	REG	Y	Y	No
95-50-1	1,2-Dichlorobenzene	10 ug/L	ug/L	REG	Y	Y	
122-66-7	1,2-Diphenylhydrazine	10 ug/L	ug/L	REG	Y	Y	
541-73-1	1,3-Dichlorobenzene	10 ug/L	ug/L	REG	Y	Y	
106-46-7	1,4-Dichlorobenzene	10 ug/L	ug/L	REG	Y	Y	
3855-82-1	1,4-Dichlorobenzene-d4		ug/L	IS	Y	Y	
90-12-0	1-Methylnaphthalene	1 ug/L	ug/L	REG	Y	Y	
95-95-4	2,4,5-Trichlorophenol	10 ug/L	ug/L	REG	Y	Y	
118-79-6	2,4,6-Tribromophenol	10 ug/L	ug/L	SURR	Y	Y	
88-06-2	2,4,6-Trichlorophenol	10 ug/L	ug/L	REG	Y	Y	
120-83-2	2,4-Dichlorophenol	10 ug/L	ug/L	REG	Y	Y	
105-67-9	2,4-Dimethylphenol	10 ug/L	ug/L	REG	Y	Y	
51-28-5	2,4-Dinitrophenol	20 ug/L	ug/L	REG	Y	Y	
121-14-2	2,4-Dinitrotoluene	10 ug/L	ug/L	REG	Y	Y	

606-20-2	2,6-Dinitrotoluene	10 ug/L	ug/L	REG	Y	Y
91-58-7	2-Chloronaphthalene	1 ug/L	ug/L	REG	Y	Y
95-57-8	2-Chlorophenol	10 ug/L	ug/L	REG	Y	Y
321-60-8	2-Fluorobiphenyl	10 ug/L	ug/L	SURR	Y	Y
367-12-4	2-Fluorophenol	10 ug/L	ug/L	SURR	Y	Y
534-52-1	2-Methyl-4,6-dinitrophenol	10 ug/L	ug/L	REG	Y	Y
91-57-6	2-Methylnaphthalene	1 ug/L	ug/L	REG	Y	Y
88-75-5	2-Nitrophenol	10 ug/L	ug/L	REG	Y	Y
119-93-7	3,3'-Dimethylbenzidine	10 ug/L	ug/L	REG	Y	Y
101-55-3	4-Bromophenylphenylether	10 ug/L	ug/L	REG	Y	Y
59-50-7	4-Chloro-3-methylphenol	10 ug/L	ug/L	REG	Y	Y
7005-72-3	4-Chlorophenylphenylether	10 ug/L	ug/L	REG	Y	Y
100-02-7	4-Nitrophenol	10 ug/L	ug/L	REG	Y	Y
83-32-9	Acenaphthene	1 ug/L	ug/L	REG	Y	Y
15067-26-2	Acenaphthene-d10		ug/L	IS	Y	Y
208-96-8	Acenaphthylene	1 ug/L	ug/L	REG	Y	Y
120-12-7	Anthracene	1 ug/L	ug/L	REG	Y	Y
92-87-5	Benzidine	10 ug/L	ug/L	REG	Y	Y
56-55-3	Benzo(a)anthracene	1 ug/L	ug/L	REG	Y	Y
50-32-8	Benzo(a)pyrene	1 ug/L	ug/L	REG	Y	Y
205-99-2	Benzo(b)fluoranthene	1 ug/L	ug/L	REG	Y	Y
191-24-2	Benzo(ghi)perylene	1 ug/L	ug/L	REG	Y	Y
207-08-9	Benzo(k)fluoranthene	1 ug/L	ug/L	REG	Y	Y
85-68-7	Butylbenzylphthalate	10 ug/L	ug/L	REG	Y	Y
218-01-9	Chrysene	1 ug/L	ug/L	REG	Y	Y
1719-03-5	Chrysene-d12		ug/L	IS	Y	Y
84-74-2	Di-n-butylphthalate	10 ug/L	ug/L	REG	Y	Y
117-84-0	Di-n-octylphthalate	10 ug/L	ug/L	REG	Y	Y
53-70-3	Dibenzo(a,h)anthracene	1 ug/L	ug/L	REG	Y	Y
84-66-2	Diethylphthalate	10 ug/L	ug/L	REG	Y	Y
131-11-3	Dimethylphthalate	10 ug/L	ug/L	REG	Y	Y
122-39-4	Diphenylamine	10 ug/L	ug/L	REG	Y	Y
206-44-0	Fluoranthene	1 ug/L	ug/L	REG	Y	Y
86-73-7	Fluorene	1 ug/L	ug/L	REG	Y	Y
118-74-1	Hexachlorobenzene	10 ug/L	ug/L	REG	Y	Y
87-68-3	Hexachlorobutadiene	10 ug/L	ug/L	REG	Y	Y

77-47-4	Hexachlorocyclopentadiene	10 ug/L	ug/L	REG	Y	Y
67-72-1	Hexachloroethane	10 ug/L	ug/L	REG	Y	Y
193-39-5	Indeno(1,2,3-cd)pyrene	1 ug/L	ug/L	REG	Y	Y
78-59-1	Isophorone	10 ug/L	ug/L	REG	Y	Y
62-75-9	N-Methyl-N-nitrosomethylamine	10 ug/L	ug/L	REG	Y	Y
621-64-7	N-Nitrosodipropylamine	10 ug/L	ug/L	REG	Y	Y
91-20-3	Naphthalene	1 ug/L	ug/L	REG	Y	Y
1146-65-2	Naphthalene-d8		ug/L	IS	Y	Y
98-95-3	Nitrobenzene	10 ug/L	ug/L	REG	Y	Y
4165-60-0	Nitrobenzene-d5	10 ug/L	ug/L	SURR	Y	Y
87-86-5	Pentachlorophenol	10 ug/L	ug/L	REG	Y	Y
1520-96-3	Perylene-d12		ug/L	IS	Y	Y
85-01-8	Phenanthrene	1 ug/L	ug/L	REG	Y	Y
1517-22-2	Phenanthrene-d10		ug/L	IS	Y	Y
108-95-2	Phenol	10 ug/L	ug/L	REG	Y	Y
4165-62-2	Phenol-d5	10 ug/L	ug/L	SURR	Y	Y
129-00-0	Pyrene	1 ug/L	ug/L	REG	Y	Y
110-86-1	Pyridine	10 ug/L	ug/L	REG	Y	Y
108-60-1	bis(2-Chloro-1-methylethyl)ether	10 ug/L	ug/L	REG	Y	Y
111-91-1	bis(2-Chloroethoxy)methane	10 ug/L	ug/L	REG	Y	Y
111-44-4	bis(2-Chloroethyl) ether	10 ug/L	ug/L	REG	Y	Y
117-81-7	bis(2-Ethylhexyl)phthalate	1 ug/L	ug/L	REG	Y	Y
65794-96-9	m,p-Cresols	10 ug/L	ug/L	REG	Y	Y
95-48-7	o-Cresol	10 ug/L	ug/L	REG	Y	Y
1718-51-0	p-Terphenyl-d14	10 ug/L	ug/L	SURR	Y	Y

Product: MISSGAS_L **Workdef ID:** 1370067 **In Product Group?** No **Group Name:** **Group Reference:**

Method: ASTM D 5057 **Path:** Standard

Product Description: ASTM D 5057 Specific Gravity **Product Reference:**

Samples: 001, 002, 003, 004, 005, 006, 007, 008 **Moisture Correction:** "As Received"

Parmname Check: All parmnames scheduled properly

CAS #	Parmname	Client RDL or PQL & Unit	Reporting Units	Parm Function	Included in Sample?	Included in QC?	Custom List?
	Specific Gravity	.1 none	none	REG	Y	Y	No

GEL Laboratories LLC – Login Review Report

Product: RADALQT_L **Workdef ID:** 1371095 **In Product Group?** No **Group Name:** **Group Reference:**

Method: **Path:** Standard
Product Description: Rad 2 Aliquot for distribution throughout the lab **Product Reference:**
Samples: 001, 002, 003, 004, 005, 006, 007, 008 **Moisture Correction:** "As Received"
Parmname Check: All parmnames scheduled properly

CAS #	Parmname	Client RDL or PQL & Unit	Reporting Units	Parm Function	Included in Sample?	Included in QC?	Custom List?
							No

Product: VOATIC_L **Workdef ID:** 1542348 **In Product Group?** No **Group Name:** **Group Reference:**

Method: **Path:** TIC 8260D Standard
Product Description: VOA Library Search Liquid **Product Reference:**
Samples: 001, 002, 003, 004, 005, 006, 007, 008 **Moisture Correction:** "As Received"
Parmname Check: All parmnames scheduled properly

CAS #	Parmname	Client RDL or PQL & Unit	Reporting Units	Parm Function	Included in Sample?	Included in QC?	Custom List?
							No

Action	Product Name	Description	Samples

Contingent Tests

Login Requirements:

Requirement	Include?	Comments

Peer Review by:_____ Work Order (SDG#), PO# Checked?_____ C of C signed in receiver location? _____

List of current GEL Certifications as of 01 November 2021

State	Certification
Alabama	42200
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122021-1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	2019-165
Pennsylvania NELAP	68-00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-21-19
Utah NELAP	SC000122021-36
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

GC/MS Volatile
Technical Case Narrative
Energy Fuels Resources
SDG #: 554861

Product: **Volatile Organic Compounds (VOC) by Gas Chromatograph/Mass Spectrometer**
Analytical Method: SW846 8260D
Analytical Procedure: GL-OA-E-038 REV# 28
Analytical Batch: 2171666

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
554861001	Cell 1
554861002	Slimes #2
554861003	Cell 4A
554861004	Cell 4A LDS
554861005	Cell 4B
554861006	Cell 4B LDS
554861007	Cell 65
554861008	Cell 3
554861009	Trip Blank
1204905488	Laboratory Control Sample (LCS)
1204905489	Method Blank (MB)
1204905490	554760004(NonSDG) Post Spike (PS)
1204905491	554760004(NonSDG) Post Spike Duplicate (PSD)
1204911399	Laboratory Control Sample (LCS)
1204911400	Method Blank (MB)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Sample Dilutions/Methanol Dilutions
Samples 1204905490 (Non SDG 554760004PS), 1204905491 (Non SDG 554760004PSD), 554861001 (Cell 1), 554861002 (Slimes #2), 554861003 (Cell 4A), 554861004 (Cell 4A LDS), 554861005 (Cell 4B), 554861006 (Cell 4B LDS), 554861007 (Cell 65) and 554861008 (Cell 3) were analyzed at 5X dilutions at the request of the client.

Analyte	554861							
	001	002	003	004	005	006	007	008
1,4-Dichlorobenzene-d4	5X	5X	5X	5X	5X	5X	5X	5X
2-Butanone	5X	5X	5X	5X	5X	5X	5X	5X
Acetone	5X	5X	5X	5X	5X	5X	5X	5X
Benzene	5X	5X	5X	5X	5X	5X	5X	5X
Carbon tetrachloride	5X	5X	5X	5X	5X	5X	5X	5X
Chlorobenzene-d5	5X	5X	5X	5X	5X	5X	5X	5X

Chloroform	5X	5X	5X	5X	5X	5X	5X	5X
Chloromethane	5X	5X	5X	5X	5X	5X	5X	5X
Fluorobenzene	5X	5X	5X	5X	5X	5X	5X	5X
Methylene chloride	5X	5X	5X	5X	5X	5X	5X	5X
Naphthalene	5X	5X	5X	5X	5X	5X	5X	5X
Tetrahydrofuran	5X	5X	5X	5X	5X	5X	5X	5X
Toluene	5X	5X	5X	5X	5X	5X	5X	5X
Xylenes (total)	5X	5X	5X	5X	5X	5X	5X	5X

Sample Re-extraction/Re-analysis
Sample 554861001 (Cell 1) was re-analyzed due to unacceptable surrogate or internal standard recoveries in the initial analysis. The re-analyses confirmed/and or passed and were reported.

Miscellaneous Information

TIC Comment
Tentatively identified compounds (TIC) may be requested for samples 554861001 (Cell 1), 554861002 (Slimes #2), 554861003 (Cell 4A), 554861004 (Cell 4A LDS), 554861005 (Cell 4B), 554861006 (Cell 4B LDS), 554861007 (Cell 65), 554861008 (Cell 3) and 554861009 (Trip Blank) in this delivery group/work order. Please note that non-requested calibrated analytes detected in a client sample may be reported on the Form 1/Certificate of Analysis as TICs. TIC data, if requested, were included on the Sample Data Summary (Form 1) and included with the sample raw data.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Qualifier Definition Report
for

DNMI001 Energy Fuels Resources (USA), Inc.

Client SDG: 554861 GEL Work Order: 554861

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria
** Analyte is a surrogate compound
U Analyte was analyzed for, but not detected above the CRDL.

DL Indicates that sample is diluted.
RA Indicates that sample is re-analyzed without re-extraction.
RE Indicates that sample is re-extracted.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: Erin Haubert **Name: Erin Haubert**

Date: 01 NOV 2021 **Title: Data Validator**

QC Summary

Report Date: November 1, 2021

Energy Fuels Resources (USA), Inc.
225 Union Boulevard
Suite 600
Lakewood, Colorado

Contact: **Ms. Kathy Weinel**

Workorder: **554861**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 2171666											
QC1204905488 LCS											
2-Butanone	250			232	ug/L		93	(58%-138%)	JEB	09/08/21	10:0
Acetone	250			229	ug/L		92	(53%-151%)			
Benzene	50.0			49.1	ug/L		98	(74%-118%)			
Carbon tetrachloride	50.0			55.0	ug/L		110	(73%-140%)			
Chloroform	50.0			50.0	ug/L		100	(77%-126%)			
Chloromethane	50.0			49.8	ug/L		100	(60%-139%)			
Methylene chloride	50.0			48.2	ug/L		96	(69%-120%)			
Naphthalene	50.0			45.7	ug/L		91	(70%-128%)			
Toluene	50.0			46.9	ug/L		94	(74%-118%)			
Xylenes (total)	150			143	ug/L		95	(72%-126%)			
1,2-Dichloroethane-d4	50.0			55.3	ug/L		111	(73%-129%)			
Bromofluorobenzene	50.0			49.3	ug/L		99	(72%-125%)			
Toluene-d8	50.0			53.2	ug/L		106	(75%-123%)			

QC Summary

Workorder: 554861

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Volatile-GC/MS										
Batch 2171666										
QC1204911399 LCS										
2-Butanone	250			236	ug/L		94	(58%-138%)	JEB	09/09/21 09:2
Acetone	250			234	ug/L		94	(53%-151%)		
Benzene	50.0			51.2	ug/L		102	(74%-118%)		
Carbon tetrachloride	50.0			58.5	ug/L		117	(73%-140%)		
Chloroform	50.0			53.7	ug/L		107	(77%-126%)		
Chloromethane	50.0			62.0	ug/L		124	(60%-139%)		
Methylene chloride	50.0			51.8	ug/L		104	(69%-120%)		
Naphthalene	50.0			45.9	ug/L		92	(70%-128%)		
Toluene	50.0			48.8	ug/L		98	(74%-118%)		
Xylenes (total)	150			149	ug/L		99	(72%-126%)		
1,2-Dichloroethane-d4	50.0			54.9	ug/L		110	(73%-129%)		
Bromofluorobenzene	50.0			47.6	ug/L		95	(72%-125%)		
Toluene-d8	50.0			52.0	ug/L		104	(75%-123%)		
QC1204905489 MB										
2-Butanone			U	1.67	ug/L					09/08/21 11:4
Acetone			U	1.74	ug/L					

QC Summary

Workorder: 554861

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Volatile-GC/MS										
Batch 2171666										
Benzene			U	0.333	ug/L				JEB	09/08/21 11:4
Carbon tetrachloride			U	0.333	ug/L					
Chloroform			U	0.333	ug/L					
Chloromethane			U	0.333	ug/L					
Methylene chloride			U	0.500	ug/L					
Naphthalene			U	0.333	ug/L					
Tetrahydrofuran			U	1.67	ug/L					
Toluene			U	0.333	ug/L					
Xylenes (total)			U	1.00	ug/L					
1,2-Dichloroethane-d4	50.0			52.0	ug/L		104	(73%-129%)		
Bromofluorobenzene	50.0			47.6	ug/L		95	(72%-125%)		
Toluene-d8	50.0			53.2	ug/L		106	(75%-123%)		
QC1204911400 MB										
2-Butanone			U	1.67	ug/L					09/09/21 12:0
Acetone			U	1.74	ug/L					
Benzene			U	0.333	ug/L					

QC Summary

Workorder: 554861

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS												
Batch 2171666												
Carbon tetrachloride				U	0.333	ug/L				JEB	09/09/21	12:0
Chloroform				U	0.333	ug/L						
Chloromethane				U	0.333	ug/L						
Methylene chloride				U	0.500	ug/L						
Naphthalene				U	0.333	ug/L						
Tetrahydrofuran				U	1.67	ug/L						
Toluene				U	0.333	ug/L						
Xylenes (total)				U	1.00	ug/L						
1,2-Dichloroethane-d4	50.0				49.9	ug/L		100	(73%-129%)			
Bromofluorobenzene	50.0				48.2	ug/L		96	(72%-125%)			
Toluene-d8	50.0				53.5	ug/L		107	(75%-123%)			
QC1204905490 554760004 PS												
2-Butanone	250	U	4000		232	ug/L		93	(38%-137%)		09/08/21	20:2
Acetone	250	U	700		235	ug/L		93	(47%-140%)			
Benzene	50.0	U	5.00		51.3	ug/L		103	(65%-122%)			
Carbon tetrachloride	50.0	U	5.00		54.8	ug/L		110	(63%-144%)			

QC Summary

Workorder: 554861

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Volatile-GC/MS											
Batch 2171666											
Chloroform	50.0	U	70.0		53.0	ug/L		106	(69%-133%)	JEB	09/08/21 20:2
Chloromethane	50.0	U	30.0		44.7	ug/L		89	(45%-142%)		
Methylene chloride	50.0	U	5.00		51.3	ug/L		103	(62%-125%)		
Naphthalene	50.0	U	100		45.9	ug/L		92	(61%-134%)		
Toluene	50.0	U	1000		48.5	ug/L		97	(63%-121%)		
Xylenes (total)	150	U	10000		147	ug/L		98	(52%-132%)		
1,2-Dichloroethane-d4	50.0		55.3		56.1	ug/L		112	(73%-129%)		
Bromofluorobenzene	50.0		48.3		51.0	ug/L		102	(72%-125%)		
Toluene-d8	50.0		53.6		53.8	ug/L		108	(75%-123%)		
QC1204905491 554760004 PSD											
2-Butanone	250	U	4000		246	ug/L	6	99	(0%-20%)		09/08/21 20:5
Acetone	250	U	700		249	ug/L	6	99	(0%-20%)		
Benzene	50.0	U	5.00		54.5	ug/L	6	109	(0%-20%)		
Carbon tetrachloride	50.0	U	5.00		59.4	ug/L	8	119	(0%-20%)		
Chloroform	50.0	U	70.0		56.7	ug/L	7	113	(0%-20%)		
Chloromethane	50.0	U	30.0		51.4	ug/L	14	103	(0%-20%)		

QC Summary

Workorder: 554861

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Volatile-GC/MS											
Batch 2171666											
Methylene chloride	50.0	U	5.00		55.2	ug/L	7	110	(0%-20%)	JEB	09/08/21 20:5
Naphthalene	50.0	U	100		49.8	ug/L	8	100	(0%-20%)		
Toluene	50.0	U	1000		51.8	ug/L	6	104	(0%-20%)		
Xylenes (total)	150	U	10000		156	ug/L	6	104	(0%-20%)		
1,2-Dichloroethane-d4	50.0		55.3		55.3	ug/L		111	(73%-129%)		
Bromofluorobenzene	50.0		48.3		50.1	ug/L		100	(72%-125%)		
Toluene-d8	50.0		53.6		53.7	ug/L		107	(75%-123%)		

Notes:

The Qualifiers in this report are defined as follows:

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value
- H Analytical holding time was exceeded
- JNX Non Calibrated Compound
- M Matrix Related Failure
- N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- N/A RPD or %Recovery limits do not apply.
- N1 See case narrative
- ND Analyte concentration is not detected above the detection limit

QC Summary

Workorder: 554861

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P	Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the CRDL.
UJ	Compound cannot be extracted
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	QC Samples were not spiked with this compound
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

GC/MS Semivolatile
Technical Case Narrative
Energy Fuels Resources
SDG #: 554861

Product: **Analysis of Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry**
Analytical Method: SW846 3510C/8270D
Analytical Procedure: GL-OA-E-009 REV# 45
Analytical Batch: 2171562

Preparation Method: SW846 3510C
Preparation Procedure: GL-OA-E-013 REV# 35
Preparation Batch: 2171561

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
554861001	Cell 1
554861002	Slimes #2
554861003	Cell 4A
554861004	Cell 4A LDS
554861005	Cell 4B
554861006	Cell 4B LDS
554861007	Cell 65
554861008	Cell 3
1204905319	Method Blank (MB)
1204905320	Laboratory Control Sample (LCS)
1204905321	Laboratory Control Sample Duplicate (LCSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Laboratory Control Sample Duplicate (LCSD)
An LCSD was used in place of matrix QC due to limited sample volume.

LCS/LCSD Relative Percent Difference (RPD) Statement
The RPD values between the LCS and LCSD (See Below) did not meet the acceptance limits for one or more analytes. Since the individual LCS and LCSD recoveries for these analytes were within the established acceptance criteria, the failures did not adversely impact the reported data.

Sample	Analyte	Value
1204905320 (LCS) and 1204905321 (LCSD)	Benzidine	RPD 46* (0%-30%)

Technical Information

Sample Re-extraction/Re-analysis
Samples 554861001 (Cell 1), 554861005 (Cell 4B) and 554861007 (Cell 65) contained detects of Pyridine just above the LOQ. The daily CCV passed acceptance criteria for Pyridine; however, the ICV was biased high for this analyte. The samples were re-extracted out of holding and analyzed on an instrument with passing ICV and CCV. The Pyridine results were confirmed. The initial data results were reported.

Miscellaneous Information

Additional Comments
Diphenylamine Statement
Diphenylamine has now superseded N-Nitroso-diphenylamine as a CCC in EPA Method 8270C. Previous versions of EPA Method 8270 (prior to 8270C) listed N-Nitroso-diphenylamine as a CCC. However, as stated in EPA Method 8270C, Revision 3, December, 1996, Section 1.4.5, "N-Nitroso-diphenylamine decomposes in the gas chromatographic inlet and cannot be separated from Diphenylamine." Studies of these two compounds at GEL, both independent of each other and together, show that they not only coelute, but also have similar mass spectra. The GEL Mobile Lab will report N-Nitroso-diphenylamine and Diphenylamine as N-Nitroso-diphenylamine on all reports and forms.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Qualifier Definition Report
for

DNMI001 Energy Fuels Resources (USA), Inc.

Client SDG: 554861 GEL Work Order: 554861

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria
** Analyte is a surrogate compound
B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
U Analyte was analyzed for, but not detected above the CRDL.
h Preparation or preservation holding time was exceeded

DL Indicates that sample is diluted.
RA Indicates that sample is re-analyzed without re-extraction.
RE Indicates that sample is re-extracted.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: Cameron Bearden **Name: Cameron Bearden**

Date: 24 SEP 2021 **Title: Group Leader**

QC Summary

Report Date: September 24, 2021

Energy Fuels Resources (USA), Inc.
225 Union Boulevard
Suite 600
Lakewood, Colorado

Contact: Ms. Kathy Weinel

Workorder: 554861

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 2171562											
QC1204905320 LCS											
1,2,4-Trichlorobenzene	50.0			33.0	ug/L		66	(43%-105%)	NM1	09/09/21	13:3
1,2-Dichlorobenzene	50.0			31.5	ug/L		63	(40%-92%)			
1,2-Diphenylhydrazine	50.0			35.7	ug/L		71	(50%-111%)			
1,3-Dichlorobenzene	50.0			30.4	ug/L		61	(40%-89%)			
1,4-Dichlorobenzene	50.0			30.7	ug/L		61	(42%-92%)			
1-Methylnaphthalene	50.0			38.1	ug/L		76	(50%-111%)			
2,4,5-Trichlorophenol	50.0			37.2	ug/L		74	(58%-137%)			
2,4,6-Trichlorophenol	50.0			36.0	ug/L		72	(60%-127%)			
2,4-Dichlorophenol	50.0			34.2	ug/L		68	(58%-119%)			
2,4-Dimethylphenol	50.0			27.9	ug/L		56	(46%-99%)			
2,4-Dinitrophenol	50.0			59.6	ug/L		119	(28%-151%)			
2,4-Dinitrotoluene	50.0			44.1	ug/L		88	(55%-134%)			
2,6-Dinitrotoluene	50.0			41.3	ug/L		83	(59%-126%)			

QC Summary

Workorder: 554861

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 2171562											
2-Chloronaphthalene	50.0			36.9	ug/L		74	(47%-108%)	NM1	09/09/21	13:3
2-Chlorophenol	50.0			30.0	ug/L		60	(46%-107%)			
2-Methyl-4,6-dinitrophenol	50.0			56.1	ug/L		112	(42%-149%)			
2-Methylnaphthalene	50.0			36.1	ug/L		72	(48%-104%)			
2-Nitrophenol	50.0			35.9	ug/L		72	(56%-115%)			
4-Bromophenylphenylether	50.0			38.1	ug/L		76	(49%-114%)			
4-Chloro-3-methylphenol	50.0			36.4	ug/L		73	(56%-118%)			
4-Chlorophenylphenylether	50.0			39.1	ug/L		78	(56%-120%)			
4-Nitrophenol	50.0			11.3	ug/L		23	(21%-110%)			
Acenaphthene	50.0			37.7	ug/L		75	(51%-109%)			
Acenaphthylene	50.0			37.8	ug/L		76	(51%-108%)			
Anthracene	50.0			39.4	ug/L		79	(56%-110%)			
Benzidine	100			56.4	ug/L		56	(13%-141%)			
Benzo(a)anthracene	50.0			39.8	ug/L		80	(60%-112%)			
Benzo(a)pyrene	50.0			32.1	ug/L		64	(55%-110%)			

QC Summary

Workorder: 554861

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 2171562											
Benzo(b)fluoranthene	50.0			37.0	ug/L		74	(54%-111%)	NM1	09/09/21	13:3
Benzo(ghi)perylene	50.0			33.9	ug/L		68	(44%-133%)			
Benzo(k)fluoranthene	50.0			38.2	ug/L		76	(54%-117%)			
Butylbenzylphthalate	50.0			39.7	ug/L		79	(54%-118%)			
Chrysene	50.0			37.7	ug/L		75	(59%-116%)			
Di-n-butylphthalate	50.0		B	41.2	ug/L		82	(55%-122%)			
Di-n-octylphthalate	50.0			35.1	ug/L		70	(50%-125%)			
Dibenzo(a,h)anthracene	50.0			34.8	ug/L		70	(42%-130%)			
Diethylphthalate	50.0			42.5	ug/L		85	(60%-121%)			
Dimethylphthalate	50.0			41.6	ug/L		83	(62%-123%)			
Diphenylamine	50.0			37.2	ug/L		74	(48%-117%)			
Fluoranthene	50.0			44.8	ug/L		90	(54%-121%)			
Fluorene	50.0			40.2	ug/L		80	(56%-111%)			
Hexachlorobenzene	50.0			38.9	ug/L		78	(51%-118%)			
Hexachlorobutadiene	50.0			31.4	ug/L		63	(39%-103%)			

QC Summary

Workorder: 554861

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Semi-Volatile-GC/MS										
Batch 2171562										
Hexachlorocyclopentadiene	50.0			23.9	ug/L		48	(30%-95%)	NM1	09/09/21 13:3
Hexachloroethane	50.0			28.0	ug/L		56	(36%-90%)		
Indeno(1,2,3-cd)pyrene	50.0			35.5	ug/L		71	(48%-128%)		
Isophorone	50.0			39.0	ug/L		78	(58%-113%)		
N-Methyl-N-nitrosomethylamine	50.0			24.0	ug/L		48	(32%-84%)		
N-Nitrosodipropylamine	50.0			38.2	ug/L		76	(49%-118%)		
Naphthalene	50.0			36.1	ug/L		72	(49%-103%)		
Nitrobenzene	50.0			35.1	ug/L		70	(55%-110%)		
Pentachlorophenol	50.0			46.8	ug/L		94	(42%-132%)		
Phenanthrene	50.0			39.5	ug/L		79	(56%-110%)		
Phenol	50.0			14.7	ug/L		29	(12%-90%)		
Pyrene	50.0			38.1	ug/L		76	(43%-122%)		
Pyridine	50.0			26.6	ug/L		53	(25%-90%)		
bis(2-Chloro-1-methylethyl)ether	50.0			34.1	ug/L		68	(42%-115%)		
bis(2-Chloroethoxy)methane	50.0			33.9	ug/L		68	(56%-108%)		

QC Summary

Workorder: 554861

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 2171562											
bis(2-Chloroethyl) ether	50.0			34.2	ug/L		68	(47%-108%)	NM1	09/09/21	13:3
bis(2-Ethylhexyl)phthalate	50.0			36.5	ug/L		73	(47%-118%)			
m,p-Cresols	50.0			27.5	ug/L		55	(39%-95%)			
o-Cresol	50.0			28.4	ug/L		57	(39%-102%)			
2,4,6-Tribromophenol	100			85.4	ug/L		85	(37%-132%)			
2-Fluorobiphenyl	50.0			33.5	ug/L		67	(39%-112%)			
2-Fluorophenol	100			35.7	ug/L		36	(11%-79%)			
Nitrobenzene-d5	50.0			32.2	ug/L		64	(39%-112%)			
Phenol-d5	100			27.8	ug/L		28	(15%-85%)			
p-Terphenyl-d14	50.0			33.2	ug/L		66	(24%-129%)			
QC1204905321 LCSD											
1,2,4-Trichlorobenzene	50.0			37.4	ug/L	13	75	(0%-30%)		09/09/21	14:0
1,2-Dichlorobenzene	50.0			36.5	ug/L	15	73	(0%-30%)			
1,2-Diphenylhydrazine	50.0			42.4	ug/L	17	85	(0%-30%)			
1,3-Dichlorobenzene	50.0			34.9	ug/L	14	70	(0%-30%)			
1,4-Dichlorobenzene	50.0			35.2	ug/L	13	70	(0%-30%)			

QC Summary

Workorder: 554861

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Semi-Volatile-GC/MS										
Batch 2171562										
1-Methylnaphthalene	50.0			43.1	ug/L	12	86	(0%-30%)	NM1	09/09/21 14:0
2,4,5-Trichlorophenol	50.0			43.7	ug/L	16	87	(0%-27%)		
2,4,6-Trichlorophenol	50.0			41.4	ug/L	14	83	(0%-28%)		
2,4-Dichlorophenol	50.0			39.0	ug/L	13	78	(0%-30%)		
2,4-Dimethylphenol	50.0			32.8	ug/L	16	66	(0%-30%)		
2,4-Dinitrophenol	50.0			65.3	ug/L	9	131	(0%-30%)		
2,4-Dinitrotoluene	50.0			50.0	ug/L	13	100	(0%-32%)		
2,6-Dinitrotoluene	50.0			48.7	ug/L	16	97	(0%-30%)		
2-Chloronaphthalene	50.0			42.2	ug/L	14	84	(0%-30%)		
2-Chlorophenol	50.0			34.8	ug/L	15	70	(0%-30%)		
2-Methyl-4,6-dinitrophenol	50.0			65.7	ug/L	16	131	(0%-30%)		
2-Methylnaphthalene	50.0			41.1	ug/L	13	82	(0%-30%)		
2-Nitrophenol	50.0			41.3	ug/L	14	83	(0%-30%)		
4-Bromophenylphenylether	50.0			44.8	ug/L	16	90	(0%-30%)		
4-Chloro-3-methylphenol	50.0			41.5	ug/L	13	83	(0%-30%)		

QC Summary

Workorder: 554861

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 2171562											
4-Chlorophenylphenylether	50.0			44.5	ug/L	13	89	(0%-30%)	NM1	09/09/21	14:0
4-Nitrophenol	50.0			12.1	ug/L	7	24	(0%-30%)			
Acenaphthene	50.0			43.0	ug/L	13	86	(0%-30%)			
Acenaphthylene	50.0			43.3	ug/L	14	87	(0%-30%)			
Anthracene	50.0			45.4	ug/L	14	91	(0%-30%)			
Benzidine	100			90.4	ug/L	46*	90	(0%-30%)			
Benzo(a)anthracene	50.0			46.9	ug/L	17	94	(0%-30%)			
Benzo(a)pyrene	50.0			37.4	ug/L	15	75	(0%-30%)			
Benzo(b)fluoranthene	50.0			41.7	ug/L	12	83	(0%-30%)			
Benzo(ghi)perylene	50.0			44.9	ug/L	28	90	(0%-30%)			
Benzo(k)fluoranthene	50.0			43.1	ug/L	12	86	(0%-30%)			
Butylbenzylphthalate	50.0			42.9	ug/L	8	86	(0%-30%)			
Chrysene	50.0			44.4	ug/L	16	89	(0%-30%)			
Di-n-butylphthalate	50.0		B	47.6	ug/L	14	95	(0%-30%)			
Di-n-octylphthalate	50.0			45.9	ug/L	27	92	(0%-30%)			

QC Summary

Workorder: 554861

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 2171562											
Dibenzo(a,h)anthracene	50.0			47.3	ug/L	30	95	(0%-30%)	NM1	09/09/21	14:0
Diethylphthalate	50.0			49.7	ug/L	16	99	(0%-30%)			
Dimethylphthalate	50.0			48.6	ug/L	16	97	(0%-30%)			
Diphenylamine	50.0			43.6	ug/L	16	87	(0%-30%)			
Fluoranthene	50.0			51.3	ug/L	14	103	(0%-30%)			
Fluorene	50.0			46.2	ug/L	14	92	(0%-30%)			
Hexachlorobenzene	50.0			45.9	ug/L	17	92	(0%-25%)			
Hexachlorobutadiene	50.0			34.8	ug/L	10	70	(0%-28%)			
Hexachlorocyclopentadiene	50.0			25.0	ug/L	4	50	(0%-30%)			
Hexachloroethane	50.0			32.5	ug/L	15	65	(0%-29%)			
Indeno(1,2,3-cd)pyrene	50.0			47.1	ug/L	28	94	(0%-30%)			
Isophorone	50.0			45.3	ug/L	15	91	(0%-30%)			
N-Methyl-N-nitrosomethylamine	50.0			28.5	ug/L	17	57	(0%-30%)			
N-Nitrosodipropylamine	50.0			44.7	ug/L	16	89	(0%-30%)			
Naphthalene	50.0			41.0	ug/L	13	82	(0%-30%)			

QC Summary

Workorder: 554861

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Semi-Volatile-GC/MS										
Batch 2171562										
Nitrobenzene	50.0			40.3	ug/L	14	81	(0%-28%)	NM1	09/09/21 14:0
Pentachlorophenol	50.0			54.6	ug/L	15	109	(0%-33%)		
Phenanthrene	50.0			45.9	ug/L	15	92	(0%-30%)		
Phenol	50.0			17.4	ug/L	17	35	(0%-30%)		
Pyrene	50.0			39.5	ug/L	4	79	(0%-30%)		
Pyridine	50.0			28.9	ug/L	8	58	(0%-154%)		
bis(2-Chloro-1-methylethyl)ether	50.0			39.6	ug/L	15	79	(0%-30%)		
bis(2-Chloroethoxy)methane	50.0			39.3	ug/L	15	79	(0%-30%)		
bis(2-Chloroethyl) ether	50.0			39.8	ug/L	15	80	(0%-30%)		
bis(2-Ethylhexyl)phthalate	50.0			40.4	ug/L	10	81	(0%-30%)		
m,p-Cresols	50.0			31.6	ug/L	14	63	(0%-34%)		
o-Cresol	50.0			32.6	ug/L	14	65	(0%-36%)		
2,4,6-Tribromophenol	100			97.5	ug/L		98	(37%-132%)		
2-Fluorobiphenyl	50.0			37.4	ug/L		75	(39%-112%)		
2-Fluorophenol	100			41.5	ug/L		42	(11%-79%)		

QC Summary

Workorder: 554861

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 2171562											
Nitrobenzene-d5	50.0			36.9	ug/L		74	(39%-112%)	NM1	09/09/21	14:0
Phenol-d5	100			32.7	ug/L		33	(15%-85%)			
p-Terphenyl-d14	50.0			34.5	ug/L		69	(24%-129%)			
QC1204905319 MB											
1,2,4-Trichlorobenzene			U	ND	ug/L					09/09/21	13:0
1,2-Dichlorobenzene			U	ND	ug/L						
1,2-Diphenylhydrazine			U	ND	ug/L						
1,3-Dichlorobenzene			U	ND	ug/L						
1,4-Dichlorobenzene			U	ND	ug/L						
1-Methylnaphthalene			U	ND	ug/L						
2,4,5-Trichlorophenol			U	ND	ug/L						
2,4,6-Trichlorophenol			U	ND	ug/L						
2,4-Dichlorophenol			U	ND	ug/L						
2,4-Dimethylphenol			U	ND	ug/L						
2,4-Dinitrophenol			U	ND	ug/L						
2,4-Dinitrotoluene			U	ND	ug/L						

QC Summary

Workorder: 554861

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 2171562											
2,6-Dinitrotoluene			U	ND	ug/L				NM1	09/09/21	13:0
2-Chloronaphthalene			U	ND	ug/L						
2-Chlorophenol			U	ND	ug/L						
2-Methyl-4,6-dinitrophenol			U	ND	ug/L						
2-Methylnaphthalene			U	ND	ug/L						
2-Nitrophenol			U	ND	ug/L						
3,3'-Dimethylbenzidine			U	ND	ug/L						
4-Bromophenylphenylether			U	ND	ug/L						
4-Chloro-3-methylphenol			U	ND	ug/L						
4-Chlorophenylphenylether			U	ND	ug/L						
4-Nitrophenol			U	ND	ug/L						
Acenaphthene			U	ND	ug/L						
Acenaphthylene			U	ND	ug/L						
Anthracene			U	ND	ug/L						
Benzidine			U	ND	ug/L						

QC Summary

Workorder: 554861

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 2171562											
Benzo(a)anthracene			U	ND	ug/L				NM1	09/09/21	13:0
Benzo(a)pyrene			U	ND	ug/L						
Benzo(b)fluoranthene			U	ND	ug/L						
Benzo(ghi)perylene			U	ND	ug/L						
Benzo(k)fluoranthene			U	ND	ug/L						
Butylbenzylphthalate			U	ND	ug/L						
Chrysene			U	ND	ug/L						
Di-n-butylphthalate			U	ND	ug/L						
Di-n-octylphthalate			U	ND	ug/L						
Dibenzo(a,h)anthracene			U	ND	ug/L						
Diethylphthalate			U	ND	ug/L						
Dimethylphthalate			U	ND	ug/L						
Diphenylamine			U	ND	ug/L						
Fluoranthene			U	ND	ug/L						
Fluorene			U	ND	ug/L						

QC Summary

Workorder: 554861

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 2171562											
Hexachlorobenzene			U	ND	ug/L				NM1	09/09/21	13:0
Hexachlorobutadiene			U	ND	ug/L						
Hexachlorocyclopentadiene			U	ND	ug/L						
Hexachloroethane			U	ND	ug/L						
Indeno(1,2,3-cd)pyrene			U	ND	ug/L						
Isophorone			U	ND	ug/L						
N-Methyl-N-nitrosomethylamine			U	ND	ug/L						
N-Nitrosodipropylamine			U	ND	ug/L						
Naphthalene			U	ND	ug/L						
Nitrobenzene			U	ND	ug/L						
Pentachlorophenol			U	ND	ug/L						
Phenanthrene			U	ND	ug/L						
Phenol			U	ND	ug/L						
Pyrene			U	ND	ug/L						
Pyridine			U	ND	ug/L						

QC Summary

Workorder: 554861

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 2171562											
bis(2-Chloro-1-methylethyl)ether			U	ND	ug/L				NM1	09/09/21	13:0
bis(2-Chloroethoxy)methane			U	ND	ug/L						
bis(2-Chloroethyl) ether			U	ND	ug/L						
bis(2-Ethylhexyl)phthalate			U	ND	ug/L						
m,p-Cresols			U	ND	ug/L						
o-Cresol			U	ND	ug/L						
2,4,6-Tribromophenol	100			87.8	ug/L		88	(37%-132%)			
2-Fluorobiphenyl	50.0			37.8	ug/L		76	(39%-112%)			
2-Fluorophenol	100			42.7	ug/L		43	(11%-79%)			
Nitrobenzene-d5	50.0			36.7	ug/L		73	(39%-112%)			
Phenol-d5	100			30.9	ug/L		31	(15%-85%)			
p-Terphenyl-d14	50.0			38.0	ug/L		76	(24%-129%)			

Notes:

The Qualifiers in this report are defined as follows:

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.

QC Summary

Workorder: 554861

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
E	Organics--Concentration of the target analyte exceeds the instrument calibration range
F	Estimated Value
H	Analytical holding time was exceeded
JNX	Non Calibrated Compound
M	Matrix Related Failure
N	Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P	Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the CRDL.
UJ	Compound cannot be extracted
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	QC Samples were not spiked with this compound
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

General Chemistry
Technical Case Narrative
Energy Fuels Resources
SDG #: 554861

Product: **Specific Gravity**
Analytical Method: ASTM D 5057
Analytical Procedure: GL-GC-E-065 REV# 7
Analytical Batch: 2173276

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
554861001	Cell 1
554861002	Slimes #2
554861003	Cell 4A
554861004	Cell 4A LDS
554861005	Cell 4B
554861006	Cell 4B LDS
554861007	Cell 65
554861008	Cell 3

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Qualifier Definition Report
for

DNMI001 Energy Fuels Resources (USA), Inc.

Client SDG: 554861 GEL Work Order: 554861

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria
** Analyte is a surrogate compound

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: 

Name: **Aubrey Kingsbury**

Date: **24 SEP 2021**

Title: **Data Validator**

QC Summary

Report Date: October 4, 2021

Energy Fuels Resources (USA), Inc.
225 Union Boulevard
Suite 600
Lakewood, Colorado

Contact: **Ms. Kathy Weinel**

Workorder: **554861**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
High Rad Testing										
Batch 2177500										
QC1204916258 554861001 DUP										
Thorium-228		469		361	pCi/L	25.9*		(0%-20%)	TC1	09/25/21 10:0
	Uncertainty	+/-66.1		+/-65.4						
Thorium-230		1.74E+05		1.81E+05	pCi/L	4.35		(0%-20%)		
	Uncertainty	+/-1200		+/-1360						
Thorium-232		1060		760	pCi/L	32.6*		(0%-20%)		
	Uncertainty	+/-93.8		+/-88.9						
QC1204916259 LCS										
Thorium-228				2350	pCi/L					09/25/21 10:0
	Uncertainty			+/-148						
Thorium-230				433	pCi/L			(75%-125%)		
	Uncertainty			+/-68.5						
Thorium-232	1990			2230	pCi/L		112	(75%-125%)		
	Uncertainty			+/-144						
QC1204916257 MB										
Thorium-228			U	0.101	pCi/L					09/28/21 09:2
	Uncertainty			+/-10.8						
Thorium-230				90.9	pCi/L					
	Uncertainty			+/-30.8						
Thorium-232			U	-6.03	pCi/L					
	Uncertainty			+/-7.90						
Batch 2177508										
QC1204916267 554861001 DUP										
Gross Radium Alpha		24600		28700	pCi/L	15.4		(0%-20%)	TC1	09/28/21 09:3
	Uncertainty	+/-255		+/-281						
QC1204916270 LCS										
Gross Radium Alpha	22800			19000	pCi/L		83.2	(75%-125%)		09/28/21 09:3
	Uncertainty			+/-210						

QC Summary

Workorder: 554861

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
High Rad Testing										
Batch 2177508										
QC1204916266 MB										
Gross Radium Alpha			U	23.1	pCi/L				TC1	09/28/21 09:3
	Uncertainty			+/-9.95						
QC1204916268 554861001 MS										
Gross Radium Alpha	23000	24600		27300	pCi/L		11.7*	(75%-125%)		09/29/21 11:2
	Uncertainty	+/-255		+/-229						
QC1204916269 554861001 MSD										
Gross Radium Alpha	23000	24600		31900	pCi/L	15.3	31.3*	(0%-20%)		09/29/21 11:2
	Uncertainty	+/-255		+/-246						
Batch 2177509										
QC1204916272 554861001 DUP										
Radium-226		424		433	pCi/L	2.18		(0%-20%)	LXP1	10/03/21 07:5
	Uncertainty	+/-29.8		+/-27.9						
QC1204916274 LCS										
Radium-226	1350			1380	pCi/L		102	(75%-125%)		10/03/21 07:5
	Uncertainty			+/-48.9						
QC1204916271 MB										
Radium-226			U	13.3	pCi/L					10/03/21 07:5
	Uncertainty			+/-8.27						
QC1204916273 554861001 MS										
Radium-226	1350	424		1440	pCi/L		75.2	(75%-125%)		10/03/21 07:5
	Uncertainty	+/-29.8		+/-49.4						
Batch 2178805										
QC1204918845 554861001 DUP										
Uranium-233/234		2.18E+05		2.43E+05	pCi/L	10.9		(0%-20%)	TC1	09/28/21 09:2
	Uncertainty	+/-4910		+/-5860						
Uranium-235/236		11800		12100	pCi/L	1.91		(0%-20%)		
	Uncertainty	+/-1280		+/-1460						
Uranium-238		2.21E+05		2.48E+05	pCi/L	11.6		(0%-20%)		
	Uncertainty	+/-4940		+/-5930						
QC1204918846 LCS										
Uranium-233/234				3440	pCi/L					09/28/21 09:2
	Uncertainty			+/-186						
Uranium-235/236				204	pCi/L					
	Uncertainty			+/-52.8						

QC Summary

Workorder: 554861

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
High Rad Testing										
Batch 2178805										
Uranium-238	2720			3410	pCi/L		125	(75%-125%)	TC1	09/28/21 09:2
	Uncertainty			+/-186						
QC1204918844 MB										
Uranium-233/234			U	3.39	pCi/L					09/28/21 09:2
	Uncertainty			+/-22.1						
Uranium-235/236			U	11.9	pCi/L					
	Uncertainty			+/-20.7						
Uranium-238			U	28.0	pCi/L					
	Uncertainty			+/-21.2						
Batch 2179693										
QC1204920652 554861008 DUP										
Thorium-228	U	15.7	U	-2.03	pCi/L	N/A		N/A	TC1	10/02/21 21:0
	Uncertainty	+/-8.08		+/-10.3						
Thorium-230		31.2	U	8.02	pCi/L	20.6		(0% - 100%)		
	Uncertainty	+/-9.10		+/-7.59						
Thorium-232	U	14.4	U	4.46	pCi/L	N/A		N/A		
	Uncertainty	+/-6.86		+/-4.72						
QC1204920653 LCS										
Thorium-228				2030	pCi/L					09/30/21 13:3
	Uncertainty			+/-127						
Thorium-230				219	pCi/L			(75%-125%)		
	Uncertainty			+/-45.1						
Thorium-232	1990			2010	pCi/L		101	(75%-125%)		
	Uncertainty			+/-126						
QC1204920651 MB										
Thorium-228			U	6.19	pCi/L					10/02/21 21:0
	Uncertainty			+/-6.76						
Thorium-230			U	21.5	pCi/L					
	Uncertainty			+/-10.3						
Thorium-232			U	-0.897	pCi/L					
	Uncertainty			+/-4.48						

Notes:

Counting Uncertainty is calculated at the 68% confidence level (1-sigma).

QC Summary

Workorder: 554861

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

The Qualifiers in this report are defined as follows:

**	Analyte is a surrogate compound
<	Result is less than value reported
>	Result is greater than value reported
A	The TIC is a suspected aldol-condensation product
B	For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
BD	Results are either below the MDC or tracer recovery is low
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
F	Estimated Value
H	Analytical holding time was exceeded
K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
M	M if above MDC and less than LLD
M	Matrix Related Failure
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the CRDL.
UI	Gamma Spectroscopy--Uncertain identification
UJ	Gamma Spectroscopy--Uncertain identification
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	QC Samples were not spiked with this compound
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

QC Summary

Report Date: September 24, 2021

Energy Fuels Resources (USA), Inc.
225 Union Boulevard
Suite 600
Lakewood, Colorado

Contact: Ms. Kathy Weinel

Workorder: 554861

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

Notes:

The Qualifiers in this report are defined as follows:

**	Analyte is a surrogate compound
<	Result is less than value reported
>	Result is greater than value reported
A	The TIC is a suspected aldol-condensation product
B	For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
E	General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
F	Estimated Value
H	Analytical holding time was exceeded
M	Matrix Related Failure
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the CRDL.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	QC Samples were not spiked with this compound
Z	Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
d	5-day BOD--The 2:1 depletion requirement was not met for this sample
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Radiochemistry
Technical Case Narrative
Energy Fuels Resources
SDG #: 554861

Product: **Alphaspec Th, Liquid**
Analytical Method: DOE EML HASL-300, Th-01-RC Modified
Analytical Procedure: GL-RAD-A-038 REV# 18
Analytical Batch: 2177500

Composite Preparation Method: GL-RAD-A-026
Composite Preparation Procedure: GL-RAD-A-026 REV# 18
Composite Preparation Batch: 2171222

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
554861001	Cell 1
554861002	Slimes #2
554861003	Cell 4A
554861004	Cell 4A LDS
554861005	Cell 4B
554861006	Cell 4B LDS
554861007	Cell 65
1204916257	Method Blank (MB)
1204916258	554861001(Cell 1) Sample Duplicate (DUP)
1204916259	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Method Blank Criteria
The blank (See Below) activity is greater than the MDC but is less than five percent of the lowest activity in the batch.

Sample	Analyte	Value
1204916257 (MB)	Thorium-230	Result: 90.9 pCi/L > MDA: 73.3 pCi/L > RDL: 1.00 pCi/L

Duplication Criteria between QC Sample and Duplicate Sample
The Sample and the Duplicate, (See Below), did not meet the relative percent difference requirement; however, they do meet the relative error ratio requirement with the value listed below.

Sample	Analyte	Value

1204916258 (Cell 1DUP)	Thorium-228	RPD 25.9* (0.00%-20.00%) RER 1.05 (0-3)
	Thorium-232	RPD 32.6* (0.00%-20.00%) RER 1.86 (0-3)

RDL Met
The blank (See Below) did not meet the detection limit due to keeping the blank volume consistent with the other sample aliquots.

Sample	Analyte	Value
1204916257 (MB)	Thorium-228	Result 0.101 < MDA 47.5 > RDL 1 pCi/L
	Thorium-232	Result -6.03 < MDA 45 > RDL 1 pCi/L

Sample (See Below) did not meet the detection limit due to the small sample aliquot used. The aliquot was reduced due to the high activity of other isotopes and in attempt to minimize interference.

Sample	Analyte	Value
554861002 (Slimes #2)	Thorium-228	Result -24.3 < MDA 83.9 > RDL 1 pCi/L
	Thorium-232	Result 13.7 < MDA 48.5 > RDL 1 pCi/L

Technical Information

Recounts
Sample 1204916257 (MB) was recounted to verify sample results. Recount is reported.

Product: **U- 233/234,U-235/236 and U-238**
Analytical Method: DOE EML HASL-300, U-02-RC Modified
Analytical Procedure: GL-RAD-A-011 REV# 28
Analytical Batch: 2178805

Composite Preparation Method: GL-RAD-A-026
Composite Preparation Procedure: GL-RAD-A-026 REV# 18
Composite Preparation Batch: 2171222

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
554861001	Cell 1
554861002	Slimes #2
554861003	Cell 4A
554861004	Cell 4A LDS
554861005	Cell 4B
554861006	Cell 4B LDS
554861007	Cell 65
554861008	Cell 3
1204918844	Method Blank (MB)

1204918845	554861001(Cell 1) Sample Duplicate (DUP)
1204918846	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

RDL Met
The blank (See Below) did not meet the detection limit due to keeping the blank volume consistent with the other sample aliquots.

Sample	Analyte	Value
1204918844 (MB)	Uranium-233/234	Result 3.39 < MDA 90.7 > RDL 1 pCi/L
	Uranium-235/236	Result 11.9 < MDA 75.1 > RDL 1 pCi/L
	Uranium-238	Result 28 < MDA 60.8 > RDL 1 pCi/L

Sample (See Below) did not meet the detection limit due to the small sample aliquot used. The aliquot was reduced due to the high activity of other isotopes and in attempt to minimize interference.

Sample	Analyte	Value
554861008 (Cell 3)	Uranium-235/236	Result -7.14 < MDA 81.3 > RDL 1 pCi/L

Product: **Alphaspec Th, Liquid**
Analytical Method: DOE EML HASL-300, Th-01-RC Modified
Analytical Procedure: GL-RAD-A-038 REV# 18
Analytical Batch: 2179693

Composite Preparation Method: GL-RAD-A-026
Composite Preparation Procedure: GL-RAD-A-026 REV# 18
Composite Preparation Batch: 2171222

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
554861008	Cell 3
1204920651	Method Blank (MB)
1204920652	554861008(Cell 3) Sample Duplicate (DUP)
1204920653	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

RDL Met
The blank (See Below) did not meet the detection limit due to keeping the blank volume consistent with the other sample aliquots.

Sample	Analyte	Value
1204920651 (MB)	Thorium-228	Result 6.19 < MDA 23 > RDL 1 pCi/L
	Thorium-230	Result 21.5 < MDA 31.7 > RDL 1 pCi/L
	Thorium-232	Result -0.897 < MDA 18.1 > RDL 1 pCi/L

Samples (See Below) did not meet the detection limits due to the small sample aliquots used. The aliquots were reduced due to the high activity of other isotopes and in attempt to minimize interference.

Sample	Analyte	Value
1204920652 (Cell 3DUP)	Thorium-228	Result -2.03 < MDA 38.8 > RDL 1 pCi/L
	Thorium-230	Result 8.02 < MDA 25.4 > RDL 1 pCi/L
	Thorium-232	Result 4.46 < MDA 14.6 > RDL 1 pCi/L
554861008 (Cell 3)	Thorium-228	Result 15.7 < MDA 24.3 > RDL 1 pCi/L
	Thorium-232	Result 14.4 < MDA 19.4 > RDL 1 pCi/L

Technical Information

Sample Re-prep/Re-analysis
Samples were reprepped due to high blank activity. The re-analysis is being reported.

Recounts
Samples 1204920651 (MB), 1204920652 (Cell 3DUP) and 554861008 (Cell 3) were recounted due to high MDCs. The recounts are reported.

Product: **GFPC,Total Alpha Radium, Liquid**
Analytical Method: EPA 903.0
Analytical Procedure: GL-RAD-A-010 REV# 21
Analytical Batch: 2177508

Composite Preparation Method: GL-RAD-A-026

Composite Preparation Procedure: GL-RAD-A-026 REV# 18
Composite Preparation Batch: 2171222

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
554861001	Cell 1
554861002	Slimes #2
554861003	Cell 4A
554861004	Cell 4A LDS
554861005	Cell 4B
554861006	Cell 4B LDS
554861007	Cell 65
554861008	Cell 3
1204916266	Method Blank (MB)
1204916267	554861001(Cell 1) Sample Duplicate (DUP)
1204916268	554861001(Cell 1) Matrix Spike (MS)
1204916269	554861001(Cell 1) Matrix Spike Duplicate (MSD)
1204916270	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Preparation Information

Preparation Information
Samples were filtered to remove any solids

Quality Control (QC) Information

Matrix Spike (MS) Recovery
Matrix spike (See Below) recovery requirement not met due to the matrix of the sample.

Sample	Analyte	Value
1204916268 (Cell 1MS)	Gross Radium Alpha	11.7* (75%-125%)

Matrix Spike Duplicate (See Below) recovery requirement not met due to the matrix of the sample.

Sample	Analyte	Value
1204916269 (Cell 1MSD)	Gross Radium Alpha	31.3* (75%-125%)

RDL Met
The blank (See Below) did not meet the detection limit due to keeping the blank volume consistent with the other sample aliquots.

Sample	Analyte	Value

1204916266 (MB)	Gross Radium Alpha	Result 23.1 < MDA 26.4 > RDL 1 pCi/L

Sample (See Below) did not meet the detection limit due to limited sample volume.

Sample	Analyte	Value
554861008 (Cell 3)	Gross Radium Alpha	Result 18.5 < MDA 19.8 > RDL 1 pCi/L

Technical Information

Recounts
Samples 1204916268 (Cell 1MS) and 1204916269 (Cell 1MSD) were recounted due to low recovery. The recounts are reported.

Product: Lucas Cell, Ra226, liquid
Analytical Method: EPA 903.1 Modified
Analytical Procedure: GL-RAD-A-008 REV# 15
Analytical Batch: 2177509

Composite Preparation Method: GL-RAD-A-026
Composite Preparation Procedure: GL-RAD-A-026 REV# 18
Composite Preparation Batch: 2171222

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
554861001	Cell 1
554861002	Slimes #2
554861003	Cell 4A
554861004	Cell 4A LDS
554861005	Cell 4B
554861006	Cell 4B LDS
554861007	Cell 65
554861008	Cell 3
1204916271	Method Blank (MB)
1204916272	554861001(Cell 1) Sample Duplicate (DUP)
1204916273	554861001(Cell 1) Matrix Spike (MS)
1204916274	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

RDL Met

Samples (See Below) did not meet the detection limits due to the small sample aliquots used. The aliquots were reduced due to the matrix of the samples. The samples were counted the maximum count time in order to achieve the lowest possible MDAs.

Sample	Analyte	Value
1204916271 (MB)	Radium-226	Result 13.3 < MDA 27.3 > RDL 1 pCi/L
554861008 (Cell 3)	Radium-226	Result 2.06 < MDA 15.8 > RDL 1 pCi/L

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Qualifier Definition Report
for

DNMI001 Energy Fuels Resources (USA), Inc.

Client SDG: 554861 GEL Work Order: 554861

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria
** Analyte is a surrogate compound
U Analyte was analyzed for, but not detected above the CRDL.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature:  **Name: Theresa Austin**

Date: 04 OCT 2021 **Title: Group Leader**

Tab D

Chemical and Radiological Summary Tables

Cell 1

Chemical and Radiological Characteristics

Constituent	1987	2003	2007	2008	2009	2010	2011	2012	2013	2013 Resample	2014	2015	2016	2017	2018	2018 Resample	2019	2020	2021
Major Ions (mg/L)																			
Carbonate	<5	<1	ND	ND	<1	<1	<1	<1	<1	NS	<1	<1	<1	<1	<1	NS	<5	<5	<5
Bicarbonate	<5	NA	ND	ND	<1	<1	<1	<1	<1	NS	<1	<1	<1	<1	<1	NS	<5	<5	<5
Calcium	630	307	483.8	604	635	711	577	426	768	NS	404	573	647	581	518	NS	720	618	234
Chloride	8000	6728	37340	9830	20700	7440	33800	78000	9900	NS	11600	25500	19200	19900	39300	NS	19800	40000	74700
Fluoride	<100	3005	31.72	0.3	0.4	28.4	69.2	62.9	4130	NS	2380	5880	2980	4290	5020	NS	3480	7460	14900
Magnesium	7900	5988	21220	6550	16200	5410	14300	16000	4470	NS	5530	12400	9210	9380	20800	NS	9200	12300	19800
Nitrogen-Ammonia	7800	3353	10628	5250	15200	8120	12900	9750	3900	NS	5700	5.4	7090	1040	9810	NS	10400	10600	5850
Nitrogen-Nitrate	<100	41.8	269.4	64.9	142	58	212	556	128	NS	53	192	124	152	328	NS	118	191	27
Potassium	NA	647	5698	1880	4140	1840	4510	9750	6580	NS	3010	7330	1970	2700	4790	NS	2600	4580	4030
Sodium	10000	8638	62600	13200	39000	16700	29500	41700	15900	NS	12200	32100	18900	23900	53500	NS	28000	62900	91900
Sulfate	190000	63667	287600	118000	232000	107000	182000	158000	100000	NS	124000	204000	212000	165000	253000	NS	169000	222000	351000
pH (s.u.)	0.70	1.88	0.80	1.53	1.15	2.73	2.23	1.90	2.74	NS	1.30	1.01	<1.00	<1.00	<1.00	NS	1.14	0.92	0.4
TDS	120000	94700	357400	131000	140000	130000	216000	342000	149000	NS	159000	334000	242000	231000	361000	NS	257000	422000	584000
Conductivity (umhos/cm)	NA	NA	NA	NA	365000	110000	112000	136000	94200	NS	113000	131000	123000	57600	110000	NS	119000	81500	76000
Metals (ug/L)																			
Arsenic	440000	121267	849000	271000	436000	74400	299000	25500	9800	NS	249000	377000	407000	391000	641000	NS	270000	599000	1040000
Beryllium	780	475	2262	500	410	338	1270	3180	415	NS	448	1290	1030	749	1510	NS	930	1330	3660
Cadmium	6600	3990	29320	8790	9120	2940	13700	30700	2380	NS	3060	7710	6320	6730	14000	NS	5400	9070	21300
Chromium	13000	6365	29940	6760	18700	5620	22700	12100	8350	NS	13200	19600	14000	15900	21100	NS	15000	25700	29600
Cobalt	120000	NA	88240	23500	97500	16200	56000	53100	25500	NS	56500	82000	77200	91400	113000	NS	66000	51400	59500
Copper	740000	196667	881000	360000	168000	125000	483000	885000	544000	NS	3420000	3560000	4730000	3440000	4550000	NS	1700000	2110000	3760000
Iron	3400000	2820000	13480000	3280000	2390000	3400000	8940000	840000	1420000	NS	2520000	6680000	5650000	2300000	12200000	NS	9100000	15400000	6680000
Lead	<20000	3393	27420	11200	10600	9240	23600	17000	2810	NS	13500	16800	22500	23000	41000	NS	22000	42400	91200
Manganese	140000	162500	990200	206000	723000	173000	735000	1560000	188000	NS	162000	515000	713000	510000	936000	NS	540000	833000	1630000
Mercury	NA	NA	ND	ND	7.61	7.2	61.4	117	6.16	NS	12.5	24.6	8.59	7.86	16.8	NS	3.7	14	0.035
Molybdenum	240000	50550	415600	106000	142000	35300	235000	434000	16800	NS	68800	127000	97100	128000	239000	NS	120000	247000	418000
Nickel	370000	36950	40860	32000	156000	27500	43700	15000	39100	NS	129000	130000	170000	183000	167000	NS	110000	27100	18400
Selenium	<20000	1862	15420	13000	14800	5220	11600	8090	2690	NS	3970	7070	3950	5070	10700	NS	10000	16600	21800
Silver	<5000	NA	1559.2	449	558	155	1110	4310	329	NS	336	1390	1240	1240	2320	NS	790	1290	2640
Thallium	45000	NA	407.8	165	387	193	560	13	63.3	NS	876	1130	754	155	442	NS	<700	<50	1680
Tin	<5000	NA	6512	1240	2290	263	1500	<100	<100	NS	<17000	<100	<17000	<17000	<17000	NS	540	1220	1820
Uranium	105000	134517	788600	416000	578000	159000	838000	1450000	140000	NS	137000	363000	131000	102000	248000	NS	81000	200000	655000
Vanadium	280000	348000	2208200	1200000	773000	752000	2500000	1940000	98200	NS	485000	1130000	746000	1520000	2440000	NS	1400000	2090000	4410000
Zinc	1300000	NA	642940	476000	229000	171000	398000	811000	228000	NS	229000	638000	448000	515000	948000	NS	550000	396000	905000
Radiologics (pCi/L)																			
Gross Alpha	NA	1693331	29380	21900	16500	11300	3610	12600	32700	NS	331000	735000 (8/4/2015) 73800 (5/28/2015)	420000	191000	550000	NS	326000	83800	24600

Cell 1
Chemical and Radiological Characteristics

Constituent	1987	2003	2007	2008	2009	2010	2011	2012	2013	2013 Resample	2014	2015	2016	2017	2018	2018 Resample	2019	2020	2021
VOCS (ug/L)																			
Acetone	35	NA	66.5	110	710	260	80	310	41.1	NS	<700	56	40.6	28	50.4	NS	28	32.6	152
Benzene	<5	NA	ND	ND	<1	<1	<1	<1	<1	NS	<5.0	<1	<1	<1	<1	NS	<1	<1	<5
Carbon tetrachloride	<5	NA	ND	ND	<1	<1	<1	<1	<1	NS	<5.0	<1	<1	<1	<1	NS	<1	<1	<5
Chloroform	8	NA	6.7	6.6	16	4.9	13	19	7.62	NS	<70.0	5.54	<1	3.42	114	NS	7.5	2.84	46.2
Chloromethane	NA	NA	ND	9.4	11	4.4	3.6	4	5	NS	<30.0	1.93	<1	1.13	1.16	NS	2.3	1.49	<5
MEK	NA	NA	ND	ND	120	65	<1	200	<20	NS	<4000	<20	<20	<20	<20	NS	11 J	6.41	<25
Methylene Chloride	11	NA	ND	ND	2	<1	<1	2	<1	NS	<5.0	1.83	<1	1.09	2.41	NS	<1	<5	<25
Naphthalene	<10000	NA	<10	ND	1.1	5.4	2	3	<1	NS	<100	<1	<1	<1	<1	NS	<1	<1	<5
Tetrahydrofuran	NA	NA	150	<20	<100	<10	<500	2.9	<1	NS	<46.0	<1	<1	<1	4.93	NS	<35	<5	<25
Toluene	<5	NA	ND	ND	<1	<1	<1	<1	<1	NS	<1000	<1	<1	<1	<1	NS	<1	<1	<5
Xylenes	<5	NA	ND	ND	<1	<1	<1	<1	<1	NS	<10000	<1	<1	<1	<1	NS	<1	<3	<15
SVOCS (ug/L)																			
1,2,4-Trichlorobenzene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
1,2-Dichlorobenzene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
1,3-Dichlorobenzene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
1,4-Dichlorobenzene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
1-Methylnaphthalene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<3.0	<3.75
2,4,5-Trichlorophenol	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
2,4,6-Trichlorophenol	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
2,4-Dichlorophenol	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
2,4-Dimethylphenol	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
2,4-Dinitrophenol	NA	NA	NA	NA	<250	<20	<20	<20	<21.6	<20	<20	<20	<10	<10	<148	<8.04	<50	<50	<62.5
2,4-Dinitrotoluene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
2,6-Dinitrotoluene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
2-Chloronaphthalene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<4.1	<5.13
2-Chlorophenol	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
2-Methylnaphthalene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<3	<3.75
2-Methylphenol	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
2-Nitrophenol	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
3&4-Methylphenol	NA	NA	NA	NA	<22	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<37	<46.3
3,3-Dichlorobenzidine	NA	NA	NA	NA	<100	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<50	<33	<41.3
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	<250	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<50	<30	<37.5
4-Bromophenyl phenyl ether	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
4-Chloro-3-methylphenol	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
4-Nitrophenol	NA	NA	NA	NA	<250	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<50	<30	<37.5
Acenaphthene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<3	<3.75
Acenaphthylene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<3	<3.75
Anthracene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<3	<3.75
Azobenzene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
Benz(a)anthracene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<3	<3.75

Cell 1
Chemical and Radiological Characteristics

Constituent	1987	2003	2007	2008	2009	2010	2011	2012	2013	2013 Resample	2014	2015	2016	2017	2018	2018 Resample	2019	2020	2021
Benzidine	NA	NA	NA	NA	<100	<10	<10	<10	<10.8	<10	41	<10	<10	<10	<148	<8.04	<100	<39	<48.8
Benzo(a)pyrene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<3	<3.75
Benzo(b)fluoranthene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<3	<3.75
Benzo(g,h,i)perylene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<3	<3.75
Benzo(k)fluoranthene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<3	<3.75
Bis(2-chloroethoxy) methane	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<3	<37.5
Bis(2-chloroethyl) ether	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
Bis(2-chloroisopropyl) ether	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
Bis(2-ethylhexyl) phthalate	NA	NA	NA	NA	<50	27	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<3	<3.75
Butyl benzyl phthalate	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<3	<3.75
Chrysene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<3	<3.75
Dibenz(a,h)anthracene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<3	<3.75
Diethyl phthalate	NA	NA	NA	NA	170	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<3	<3.75
Dimethyl phthalate	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<3	<3.75
Di-n-butyl phthalate	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<3	<3.75
Di-n-octyl phthalate	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<3	<3.75
Fluoranthene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<3	<3.75
Fluorene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<3	<3.75
Hexachlorobenzene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
Hexachlorobutadiene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<30	<30	<37.5
Hexachloro - cyclopentadiene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
Hexachloroethane	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<30	<30	<37.5
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<3	<3.75
Isophorone	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<35	<43.8
Naphthalene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<3	<3.75
Nitrobenzene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
N-Nitrosodimethylamine	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
N-Nitrosodiphenylamine	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
Pentachlorophenol	NA	NA	NA	NA	<250	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<50	<30	<37.5
Phenanthrene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<3	<3.75
Phenol	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<30	<37.5
Pyrene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<10	<3	<3.75
Pyridine	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10	<148	<8.04	<20	<30	146

[1] Historic values reported for Gross Alpha from 1987 and 2003 are total gross alpha reported in pCi/L. All other gross alpha data are reported as Gross Alpha minus Rn & U.

Cell 2 Slimes Drain

Chemical and Radiological Characteristics

Constituents	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Major Ions (mg/L)															
Carbonate	ND	ND	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
Bicarbonate	ND	ND	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
Calcium	572	528	508	496	474	462	465	322	524	402	477	538	480	513	463
Chloride	3700	3860	2750	3510	3110	3730	3270	3720	3850	4040	3820	4310	3870	4080	4200
Fluoride	3.3	ND	<0.1	2.4	2.1	1.32	161	130	204	48.4	110	116	105	130	130
Magnesium	4100	4030	3750	3790	3640	3760	3320	2780	3810	3570	3630	4470	3700	3800	3950
Nitrogen-Ammonia	4020	3620	3240	3820	2940	3540	1880	3500	367	3800	500	5620	4420	7150	2950
Nitrogen-Nitrate	30.9	20.3	38	126	38	27	47.2	35	1.06	12.7	13.7	12.1	33.0	21.6	48.0
Potassium	636	560	689	620	636	611	622	489	659	512	668	774	710	735	661
Sodium	4050	4600	4410	4770	4590	4380	3980	3130	4800	4690	4810	5290	4600	4620	4520
Sulfate	60600	74000	72200	63700	64200	58300	83700	62200	57800	83900	58300	63300	67000	67000	68500
pH (s.u.)	3.18	3.24	3.11	3.39	3.18	3	3.02	3.1	3.1	2.99	3.08	2.89	3.07	3.06	3.0
TDS	84300	74600	84100	79900	80200	83800	92200	87000	88200	93100	85900	99900	94300	89500	95700
Conductivity (umhos/cm)	NA	NA	88700	60200	51400	52900	51100	54100	58800	44500	52600	58200	55700	53900	53200
Metals (ug/L)															
Arsenic	26900	19300	14200	23500	17800	19400	21000	19800	13300	16900	21100	19600	23000	18000	19300
Beryllium	298	245	271	267	231	251	262	197	275	259	261	241	280	284	217
Cadmium	5500	5840	5510	6370	5580	5290	5780	6480	6260	6610	6790	6380	6500	5220	5890
Chromium	2750	2450	2230	2510	2380	2350	2290	1630	1840	1630	2290	2100	2100	1860	1810
Cobalt	46500	43800	38700	48200	42500	48700	44900	46700	46000	46100	50600	46900	54000	40800	42700
Copper	106000	154000	170000	148000	132000	138000	137000	126000	143000	156000	148000	136000	160000	93900	139000
Iron	2770000	3310000	3230000	2720000	2960000	2850000	2810000	2180000	3000000	3410000	3430000	3030000	3600000	2420000	2840000
Lead	566	528	403	586	501	619	515	638	268	484	593	589	590	400	562
Manganese	117000	130000	160000	144000	123000	141000	122000	98000	136000	149000	151000	137000	170000	133000	138000
Mercury	ND	ND	<0.5	<4	11.1	1.9	<0.5	<0.0020	<0.5	<2.00	<2.00	<2.00	<0.2	0.058	<0.2
Molybdenum	4080	3190	2240	4630	3510	3610	3650	4250	2010	3360	4060	3340	3200	2170	3090
Nickel	123000	122000	108000	126000	111000	125000	108000	127000	120000	134000	133000	121000	140000	104000	119000
Selenium	422	647	726	844	714	711	678	1020	631	615	683	635	1300	585	657
Silver	ND	ND	<10	<10	<10	<10	<10	<100	<20	<100	<100	<100	<50	6	5
Thallium	361	703	368	470	371	338	278	402	233	212	373	374	390	2190	1580
Tin	ND	ND	<100	<100	<100	<100	<100	<17000	<100	<17000	<17000	<17000	<50	<50	<50
Uranium	23000	29200	29900	30600	27100	33400	22800	26400	27200	27300	28600	25200	29000	18600	24300
Vanadium	409000	463000	536000	469000	454000	475000	452000	497000	513000	497000	534000	516000	500000	345000	450000
Zinc	767000	750000	582000	652000	574000	639000	631000	405000	702000	764000	760000	728000	850000	816000	674000
Radiologics (pCi/L)															
Gross Alpha	1290	1570	1580	1000	1230	1370 (2400)*	2270	6890	7210	5660	4570	7520	3790	1630	1920
VOCS (ug/L)															
Acetone	550	410	570	460	690	600	384	<700	599	473	551	551	449	501	522
Benzene	ND	ND	<1	<1	<1	<1	<1	<5.0	<1	<1	<1	<1	<1	<5	<5
Carbon tetrachloride	ND	ND	<1	<1	<1	<1	<1	<5.0	<1	<1	<1	<1	<1	<5	<5
Chloroform	20	17	16	15	20	16	21.4	<70.0	18.6	15	17.1	17.1	16	13.7	15.9
Chloromethane	1.8	ND	2.2	2.3	2	3	2.04	<30.0	<1	<1	1.46	1.46	2.2	<5	<5

Cell 2 Slimes Drain

Chemical and Radiological Characteristics

Constituents	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
MEK	65	ND	100	83	130	100	95.5	<4000	102	80.3	58.4	58.4	135	74.0	89.9
Methylene Chloride	ND	ND	<1	<1	<1	<1	<1	<5.0	<1	<1	1.02	1.02	0.49 J	<25	<25
Naphthalene	14	7.5	16	17	13	12	16.8	<100	16.2	11.9	10.1	10.1	13	7.65	7.15
Tetrahydrofuran	15	NA	<100	<10	<10	3.2	3.98	<46.0	2.16	<1	2.88	2.88	<10	<25	<25
Toluene	1.7	ND	2.6	2.6	3	2	3.23	<1000	3.74	2.94	3.20	3.20	2.4	<5	<5
Xylenes	1.5	ND	<1	2.2	<1	2	5.97	<10000	<1	<1	<1	<1	0.51 J	<15	<15
SVOCS (ug/L)															
1,2,4-Trichlorobenzene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30
1,2-Dichlorobenzene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30
1,3-Dichlorobenzene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30
1,4-Dichlorobenzene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30
1-Methylnaphthalene	NA	NA	<11	<10	<10	<10	<10	11	<10	<10	<10	<9.03	12	<3.0	11.6
2,4,5-Trichlorophenol	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30
2,4,6-Trichlorophenol	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30
2,4-Dichlorophenol	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30
2,4-Dimethylphenol	NA	NA	<51	<20	<20	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30
2,4-Dinitrophenol	NA	NA	<11	<10	<10	<20	<20	<20	<20	<10	<10	<9.03	<50	<50	<50
2,4-Dinitrotoluene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30
2,6-Dinitrotoluene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30
2-Chloronaphthalene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<4.1	<4.10
2-Chlorophenol	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30
2-Methylnaphthalene	NA	NA	<11	<10	<10	<10	<10	11	<10	11.1	<10	<9.03	11	<3	10.4
2-Methylphenol	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30
2-Nitrophenol	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30
3&4-Methylphenol	NA	NA	<21	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<37	<37
3,3´-Dichlorobenzidine	NA	NA	<51	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<46	<33	<33
4,6-Dinitro-2-methylphenol	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<50	<30	<30
4-Bromophenyl phenyl ether	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30
4-Chloro-3-methylphenol	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30
4-Chlorophenyl phenyl ether	NA	NA	<51	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30
4-Nitrophenol	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<50	<30	<30
Acenaphthene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<3	<3
Acenaphthylene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<3	<3
Anthracene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<3	<3
Azobenzene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30
Benz(a)anthracene	NA	NA	<21	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<3	<3
Benzidine	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<92	<39	<39
Benzo(a)pyrene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<3	<3
Benzo(b)fluoranthene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<3	<3
Benzo(g,h,i)perylene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<3	<3
Benzo(k)fluoranthene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<3	<3
Bis(2-chloroethoxy)methane	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<3	<30
Bis(2-chloroethyl) ether	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30
Bis(2-chloroisopropyl) ether	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30

Cell 2 Slimes Drain

Chemical and Radiological Characteristics

Constituents	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Bis(2-ethylhexyl) phthalate	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	1.1	<3	<3
Butyl benzyl phthalate	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<3	<3
Chrysene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<3	<3
Dibenz(a,h)anthracene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<3	<3
Diethyl phthalate	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<3	<3
Dimethyl phthalate	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	1.5	<3	<3
Di-n-butyl phthalate	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<3	<3
Di-n-octyl phthalate	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<3	<3
Fluoranthene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<3	<3
Fluorene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<3	<3
Hexachlorobenzene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30
Hexachlorobutadiene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<28	<30	<30
Hexachlorocyclopentadiene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30
Hexachloroethane	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<28	<30	<30
Indeno(1,2,3-cd)pyrene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<3	<3
Isophorone	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<35	<35
Naphthalene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	5.3	<3	<3
Nitrobenzene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30
N-Nitrosodimethylamine	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30
N-Nitrosodi-n-propylamine	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30
N-Nitrosodiphenylamine	NA	NA	<51	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30
Pentachlorophenol	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<50	<30	<30
Phenanthrene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<3	<3
Phenol	NA	NA	<11	10.7	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<30	<30
Pyrene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<10	<3	<3
Pyridine	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.03	<18	<30	<30

* Sample was reanalyzed due to comparability with the duplicate sample. The reanalysis data are in (parenthesis).

Cell 2 LDS

Chemical and Radiological Characteristics

Constituent	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Major Ions (mg/L)													
Carbonate	<1	<1	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
Bicarbonate	168	324											
Calcium	711	615											
Chloride	1750	1360											
Fluoride	0.4	0.4											
Magnesium	596	454											
Nitrogen-Ammonia	32.6	0.7											
Nitrogen-Nitrate	2.8	2.2											
Potassium	22	13											
Sodium	412	318											
Sulfate	2700	1780											
pH (s.u.)	6.6	7.36											
TDS	6750	5310											
Conductivity (umhos/cm)	11000	6500											
Metals (ug/L)													
Arsenic	<5	<5	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
Beryllium	<0.50	<0.50											
Cadmium	33.4	1.1											
Chromium	<25	<25											
Cobalt	314	<10											
Copper	59	12											
Iron	208	37											
Lead	<1.0	<1.0											
Manganese	1810	395											
Mercury	<0.50	0.52											
Molybdenum	21	13											
Nickel	948	<20											
Selenium	7.9	9.4											
Silver	<10	<10											
Thallium	0.92	<0.50											
Tin	<100	<100											
Uranium	83.8	79.6											
Vanadium	22	<15											
Zinc	4220	78											

Cell 2 LDS

Chemical and Radiological Characteristics

Constituent	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Radiologics (pCi/L)													
Gross Alpha	13.5	7.3	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
VOCS (ug/L)													
Acetone	<20	<20	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
Benzene	<1	<1											
Carbon tetrachloride	<1	<1											
Chloroform	<1	<1											
Chloromethane	<1	<1											
MEK	<20	<20											
Methylene Chloride	<1	<1											
Naphthalene	<1	<1											
Tetrahydrofuran	<100	6.13											
Toluene	<1	<1											
Xylenes	<1	<1											
SVOCS (ug/L)													
1,2,4-Trichlorobenzene	NA	<10	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
1,2-Dichlorobenzene	NA	<10											
1,3-Dichlorobenzene	NA	<10											
1,4-Dichlorobenzene	NA	<10											
1-Methylnaphthalene	NA	<10											
2,4,5-Trichlorophenol	NA	<10											
2,4,6-Trichlorophenol	NA	<10											
2,4-Dichlorophenol	NA	<10											
2,4-Dimethylphenol	NA	<10											
2,4-Dinitrophenol	NA	<20											
2,4-Dinitrotoluene	NA	<10											
2,6-Dinitrotoluene	NA	<10											
2-Chloronaphthalene	NA	<10											
2-Chlorophenol	NA	<10											
2-Methylnaphthalene	NA	<10											
2-Methylphenol	NA	<10											
2-Nitrophenol	NA	<10											
3&4-Methylphenol	NA	<10											
3,3´-Dichlorobenzidine	NA	<10											
4,6-Dinitro-2-methylphenol	NA	<10											
4-Bromophenyl phenyl ether	NA	<10											

Cell 2 LDS

Chemical and Radiological Characteristics

Constituent	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
4-Chloro-3-methylphenol	NA	<10											
4-Chlorophenyl phenyl ether	NA	<10											
4-Nitrophenol	NA	<10											
Acenaphthene	NA	<10											
Acenaphthylene	NA	<10											
Anthracene	NA	<10											
Azobenzene	NA	<10											
Benz(a)anthracene	NA	<10											
Benzidine	NA	<10											
Benzo(a)pyrene	NA	<10											
Benzo(b)fluoranthene	NA	<10											
Benzo(g,h,i)perylene	NA	<10											
Benzo(k)fluoranthene	NA	<10											
Bis(2-chloroethoxy)methane	NA	<10											
Bis(2-chloroethyl) ether	NA	<10											
Bis(2-chloroisopropyl) ether	NA	<10											
Bis(2-ethylhexyl) phthalate	NA	<10											
Butyl benzyl phthalate	NA	<10											
Chrysene	NA	<10											
Dibenz(a,h)anthracene	NA	<10											
Diethyl phthalate	NA	<10	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
Dimethyl phthalate	NA	<10											
Di-n-butyl phthalate	NA	<10											
Di-n-octyl phthalate	NA	<10											
Fluoranthene	NA	<10											
Fluorene	NA	<10											
Hexachlorobenzene	NA	<10											
Hexachlorobutadiene	NA	<10											
Hexachlorocyclopentadiene	NA	<10											
Hexachloroethane	NA	<10											
Indeno(1,2,3-cd)pyrene	NA	<10											
Isophorone	NA	<10											
Naphthalene	NA	<10											
Nitrobenzene	NA	<10											
N-Nitrosodimethylamine	NA	<10											
N-Nitrosodi-n-propylamine	NA	<10											
N-Nitrosodiphenylamine	NA	<10											
Pentachlorophenol	NA	<10											
Phenanthrene	NA	<10											
Phenol	NA	<10											
Pyrene	NA	<10											
Pyridine	NA	<10											

Cell 3
Chemical and Radiological Characteristics

Constituent	1987	2003 (Avg)	2007 (Avg)	2008	2009	2010	2011	2012	2013	2013 ReSample	2014	2015	2016	2017	2018	2018 ReSample	2019	2020	2021
Major Ions (mg/L)																			
Carbonate	NA	<1	ND	ND	<1	<1	<1	<1	<1	NS	<1	<1	<1.00	<1.00	<1.00	NS	<5	Not Sampled - Dry	236
Bicarbonate	<5	NA	ND	ND	<1	<1	<1	<1	<1	NS	<1	<1	<1.00	<1.00	<1.00	NS	<5		175
Calcium	300	418	887	478	628	560	200	591	586	NS	294	713	148	526	498	NS	510		3
Chloride	NA	2460	15965	15400	17200	3470	40400	8880	38400	NS	7200	22800	115000	2720	55200	NS	15000		500
Fluoride	<100	667	42.8	1.4	0.6	54.8	64.1	2300	12400	NS	1330	5410	46500	189	7400	NS	1340		2.2
Magnesium	5400	3386	15767	13100	17100	2500	22100	5680	15400	NS	1910	12700	31000	84400	22000	NS	10000		11
Nitrogen-Ammonia	13900	1302	13867	9010	21600	2650	6470	6840	100	NS	3030	8.91	6270	88.5	9490	NS	9000		278
Nitrogen-Nitrate	<100	20	102	44	142	26	261	64	277	NS	59.5	26.6	582	107	710	NS	925		12.2
Potassium	NA	254	6657	4760	3820	782	2590	1190	2110	NS	386	1620	3120	133	1480	NS	630		20
Sodium	5900	3198	25583	22900	28600	5620	47900	6660	34400	NS	3630	23800	59800	2120	46900	NS	14000		1210
Sulfate	180000	33400	173667	167000	214000	40400	197000	80000	440000	NS	37000	158000	834000	9970	208000	NS	96000		1630
pH (s.u.)	0.82	2.28	1.6	1.79	1.4	2.18	1.27	2.4	1.05	NS	2.2	1.72	<1.00	3.63	1.32	NS	3.88		10
TDS	189000	51633	228500	193000	243000	56200	296000	120000	410000	NS	70100	238000	887000	17300	327000	NS	143000		3930
Conductivity (umhos/cm)	NA	NA	NA	NA	304000	59800	86400	80300	84300	NS	56200	121000	13600	20300	104000	NS	95500		5870
Metals (ug/L)																			
Arsenic	163000	32867	256500	489000	ND	52900	263000	4340	66000	NS	2920	21500	194000	870	20900	NS	380	Not Sampled - Dry	170
Beryllium	540	430	913	840	905	206	1570	678	2570	NS	222	1520	12500	590	2950	NS	350		<1
Cadmium	2600	1958	9260	15400	ND	1960	12200	3460	24000	NS	2550	14800	41000	1190	52100	NS	7400		2
Chromium	12000	3742	14883	12800	ND	3360	22800	10900	30600	NS	2380	15300	76200	<100	25100	NS	230J		<5
Cobalt	48000	NA	82783	57000	ND	13000	76000	76100	99700	NS	20800	72500	74200	4440	120000	NS	64000		<100
Copper	360000	87333	505000	345000	ND	89000	768000	379000	954000	NS	139000	511000	3000000	9720	515000	NS	35000		454
Iron	2100000	1278333	4874500	4400000	5970000	1460000	10200000	3400000	9700000	NS	688000	4570000	15400000	262000	13300000	NS	2500000		519
Lead	<20000	2507	9647	16900	ND	17200	16700	1860	14400	NS	1900	9090	4030	15.8	20500	NS	<75		2
Manganese	82000	144000	496833	313000	ND	101000	587000	3110000	2470000	NS	214000	1270000	5690000	102000	4070000	NS	1000000	Not Sampled - Dry	47
Mercury	ND	NA	ND	16	ND	<4	30.9	9.6	21.6	NS	2.4	7.01	873	<2.00	430	NS	0.20		<1
Molybdenum	52000	12250	122167	209000	14	21300	96200	790	56100	NS	2930	12500	133000	70.1	3740	NS	550		759
Nickel	170000	20917	131833	241000	ND	23800	75800	150000	122000	NS	44900	121000	29200	7220	113000	NS	150000		33
Selenium	<2000	910	5856	10200	ND	3080	6900	2460	7060	NS	1370	4330	3170	306	3680	NS	2900		135
Silver	<2500	NA	305	1010	ND	101	792	1850	3380	NS	329	1790	6780	<100	3770	NS	110		<1
Thallium	4700	NA	446	1200	ND	190	518	1080	694	NS	290	602	2160	21.3	3760	NS	170		1.6
Tin	NA	NA	1090	1070	ND	155	325	<100	<100	NS	<17000	<100	<17000	<17000	<17000	NS	<50		<50
Uranium	118000	67833	332333	636000	3690	180000	458000	835000	1200000	NS	134000	530000	5360000	9630	1110000	NS	19000		533
Vanadium	210000	158333	935000	1130000	ND	692000	2370000	836000	3220000	NS	454000	1720000	10300000	5600	2420000	NS	54000		6740
Zinc	590000	NA	748833	515000	ND	134000	726000	652000	1430000	NS	155000	899000	7810000	68100	2100000	NS	950000		114
Radiologics (pCi/L)																			
Gross Alpha	NA	1015831	16533	21700	17000	4030	11100	1530	81900	NS	19700	94900 (8/4/2015) 8780 (5/28/2015)	86000	292	19700	NS	3890	Not Sampled - Dry	<18.5

Cell 3
Chemical and Radiological Characteristics

Constituent	1987	2003 (Avg)	2007 (Avg)	2008	2009	2010	2011	2012	2013	2013 ReSample	2014	2015	2016	2017	2018	2018 ReSample	2019	2020	2021
VOCS (ug/L)																			
Acetone	28	NA	80	100	67	37	330	64	302	159	<700	82.8	<200	48.4	135	NS	135	Not Sampled - Dry	46.6
Benzene	<5	NA	ND	ND	<1	<1	<1	<1	<5	<1	<5.0	<1	<1	<1	<1	NS	<1		<5
Carbon tetrachloride	<5	NA	ND	ND	<1	<1	<1	<1	<5	<1	<5.0	<1	<1	<1	<1	NS	<1		<5
Chloroform	6	NA	ND	11	4.2	2.6	31	2	56.3	21	<70.0	1.75	13.2	<1	5.02	NS	18		<5
Chloromethane	NA	NA	ND	ND	1.4	1.8	3.5	1	<5	2.58	<30.0	1.03	19.8	<1	5.36	NS	2.8		<5
MEK	NA	NA	ND	ND	<1	<1	67	<20	<100	24.5	<4000	<20	<20	<20	<20	NS	34		<25
Methylene Chloride	10	NA	ND	ND	<1	<1	7.4	<1	6.95	<1	<5.0	<1	<1	<1	10.4	NS	0.67 J		<25
Naphthalene	<10000	NA	ND	<10	<1	2.1	1.2	<1	<5	<1	<100	<1	<1	<1	<1	NS	0.57 J		<5
Tetrahydrofuran	NA	NA	150	<20	<100	<10	<10	<1	<5	<1	<46.0	<1	<1	<1	3.01	NS	<35.0		<25
Toluene	<5	NA	ND	ND	<1	<1	<1	<1	<5	<1	<1000	<1	<1	<1	<1	NS	<1		<5
Xylenes	<5	NA	ND	ND	<1	<1	<1	<1	<5	<1	<10000	<1	<1	<1	<1	NS	<1		<15
SVOCS (ug/L)																			
1,2,4-Trichlorobenzene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
1,2-Dichlorobenzene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
1,3-Dichlorobenzene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
1,4-Dichlorobenzene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
1-Methylnaphthalene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<3
2,4,5-Trichlorophenol	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
2,4,6-Trichlorophenol	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
2,4-Dichlorophenol	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
2,4-Dimethylphenol	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
2,4-Dinitrophenol	NA	NA	NA	NA	<53	<20	<20	<20	<21.1	<20	<20	<20	<10	<10	<1,490	<7.78	<50		<50
2,4-Dinitrotoluene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
2,6-Dinitrotoluene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10	Not Sampled - Dry	<30
2-Chloronaphthalene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<4.10
2-Chlorophenol	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
2-Methylnaphthalene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<3
2-Methylphenol	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
2-Nitrophenol	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
3&4-Methylphenol	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<37
3,3´-Dichlorobenzidine	NA	NA	NA	NA	<21	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<45		<33
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	<53	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<50		<30
4-Bromophenyl phenyl ether	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
4-Chloro-3-methylphenol	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
4-Nitrophenol	NA	NA	NA	NA	<53	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<50		<30
Acenaphthene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<3

Cell 3
Chemical and Radiological Characteristics

Constituent	1987	2003 (Avg)	2007 (Avg)	2008	2009	2010	2011	2012	2013	2013 ReSample	2014	2015	2016	2017	2018	2018 ReSample	2019	2020	2021
Acenaphthylene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10	Not Sampled - Dry	<3
Anthracene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<3
Azobenzene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
Benz(a)anthracene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<3
Benzidine	NA	NA	NA	NA	<21	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<39
Benzo(a)pyrene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<3
Benzo(b)fluoranthene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<3
Benzo(g,h,i)perylene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<3
Benzo(k)fluoranthene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<3
Bis(2-chloroethoxy)methane	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
Bis(2-chloroethyl) ether	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
Bis(2-chloroisopropyl) ether	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
Bis(2-ethylhexyl) phthalate	NA	NA	NA	NA	<11	10.6	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<3
Butyl benzyl phthalate	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<3
Chrysene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<3
Dibenz(a,h)anthracene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<3
Diethyl phthalate	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<3
Dimethyl phthalate	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<3
Di-n-butyl phthalate	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<3
Di-n-octyl phthalate	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<3
Fluoranthene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<3
Fluorene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<3
Hexachlorobenzene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
Hexachlorobutadiene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<27		<30
Hexachlorocyclopentadiene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
Hexachloroethane	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<27		<30
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<3
Isophorone	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<35
Naphthalene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<3
Nitrobenzene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
N-Nitrosodimethylamine	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
N-Nitrosodiphenylamine	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
Pentachlorophenol	NA	NA	NA	NA	<53	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<50		<30
Phenanthrene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<3
Phenol	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<30
Pyrene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<10		<3
Pyridine	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10	<1,490	<7.78	<18		<30

[1] Historic values reported for Gross Alpha from 1987 and 2003 are total gross alpha reported in pCi/L. All other gross alpha data are reported as Gross Alpha minus Rn & U.

Cell 4A

Chemical and Radiological Characteristics

Constituent	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Major Ions (mg/L)													
Carbonate	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
Bicarbonate	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
Calcium	627	598	558	591	668	445	604	632	607	707	510	641	637
Chloride	4650	7350	5870	4980	4530	5900	6410	7040	8060	10100	8670	9120	12700
Fluoride	0.3	21.6	30.6	43	1130	1290	1660	2030	1420	2000	1650	1700	3190
Magnesium	3250	4940	4720	2230	3660	2990	3910	3550	4360	7030	4100	4700	5020
Nitrogen-Ammonia	3140	5230	4930	1540	1340	2730	11	4770	924	9060	6700	10000	7250
Nitrogen-Nitrate	28	52	44	27	38.2	39.5	19.9	41.9	53.4	73.4	70.4	84.8	112
Potassium	980	1440	1450	558	773	724	1020	915	1500	2020	1200	1660	1730
Sodium	5980	11300	11400	7130	6860	7190	9760	9580	12000	17600	15000	17700	18800
Sulfate	67600	87100	267000	64900	83300	64900	77200	126000	77800	116000	81300	85700	110000
pH (s.u.)	1.4	1.99	1.73	1.2	1.47	1.7	1.51	1.59	1.53	1.25	2.40	2.36	2.2
TDS	81400	107000	108000	76000	90000	97000	104000	124000	120000	147000	122000	139000	162000
Conductivity (umhos/cm)	131000	101000	82100	78100	66300	73000	89600	81300	89800	115000	81400	84000	91300
Metals (ug/L)													
Arsenic	626000	109000	86600	60500	73700	70000	82600	94400	104000	125000	63000	71300	68600
Beryllium	296	215	323	167	247	190	281	320	440	538	420	485	448
Cadmium	1920	3670	2190	844	1450	1780	2090	2850	3360	3850	2500	3490	3540
Chromium	3220	7500	5900	5990	5220	4620	5460	7920	8520	9350	7200	9050	8820
Cobalt	9440	26500	22500	22900	22900	27500	26100	32800	37900	41000	28000	32800	30600
Copper	99200	168000	181000	433000	540000	556000	477000	566000	578000	683000	580000	617000	557000
Iron	2360000	2920000	3390000	3190000	2620000	2280000	3090000	3850000	4480000	5320000	3200000	3690000	3810000
Lead	5360	11800	11000	5270	11500	14800	11700	14000	15100	16400	9000	8680	8380
Manganese	178000	209000	131000	112000	143000	120000	181000	225000	261000	307000	210000	211000	214000
Mercury	1.19	<4	15.2	2.4	0.786	2.5	0.99	<2	2.30	2.52	2.1	3.4	3.7
Molybdenum	24300	43800	24200	58200	25500	40600	35400	43900	40800	59100	19000	25700	32600
Nickel	17100	40900	43500	41300	43300	54100	48700	61300	66800	71900	50000	58800	57100
Selenium	4620	5810	4460	1310	2080	2000	2400	2820	4450	5870	3700	3660	3740
Silver	78	193	216	127	144	197	186	305	379	521	310	487	466
Thallium	162	350	410	250	256	376	436	568	169	727	90	524	185
Tin	257	378	319	169	118	<17000	142	<17000	<17000	<17000	77	181	105
Uranium	118000	217000	153000	91000	112000	159000	171000	214000	193000	244000	35000	42600	43300
Vanadium	918000	1090000	730000	237000	461000	535000	577000	715000	972000	1080000	150000	205000	237000
Zinc	142000	224000	286000	200000	183000	169000	237000	318000	344000	406000	280000	350000	307000
Radiologics (pCi/L)													
Gross Alpha	8910	3400	8290	16300	15800	240000	176000 (8/4/2015) 37800 (5/28/2015)	292000	133000	516000	261000	52400	122000

Cell 4A

Chemical and Radiological Characteristics

Constituent	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
VOCS (ug/L)													
Acetone	60	55	100	25	28.4	<700	42.5	45.1	21.4	42.7	39 J	16.2	<25
Benzene	<1	<1	<1	<1	<1	<5.0	<1	<1	<1	<1	<2.5	<1	<5
Carbon tetrachloride	<1	<1	<1	<1	<1	<5.0	<1	<1	<1	<1	<2.5	<1	<5
Chloroform	4	8.5	10	<1	<1	<70.0	<1	<1	<1	1.91	1.9 J	1.50	<5
Chloromethane	3.4	5.5	7.9	<1	<1	<30.0	<1	<1	1.35	1.76	1.7 J	1.90	<5
MEK	<1	<1	<1	<1	<20	<4000	<20	<20	<20	<20	13 J	<5	<25
Methylene Chloride	<1	<1	<1	<20	<1	<5.0	<1	<1	<1	<1	<2.5	<5	<25
Naphthalene	1.8	<1	<1	<1	<1	<100	<1	<1	<1	<1	<2.5	<1	<5
Tetrahydrofuran	<100	<10	<10	1.36	<1	<46.0	<1	12.6	<1	<1	<35.0	<5	<25
Toluene	<1	<1	<1	<1	<1	<1000	<1	<1	<1	<1	<2.5	<1	<5
Xylenes	<1	<1	<1	<1	<1	<10000	<1	<1	<1	<1	<2.5	<3	<5
SVOCS (ug/L)													
1,2,4-Trichlorobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30
1,2-Dichlorobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30
1,3-Dichlorobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30
1,4-Dichlorobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30
1-Methylnaphthalene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<3.0	<3
2,4,5-Trichlorophenol	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30
2,4,6-Trichlorophenol	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30
2,4-Dichlorophenol	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30
2,4-Dimethylphenol	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30
2,4-Dinitrophenol	<53	<20	<20	<20	<20	<20	<20	<10	<10	<8.57	<50	<50	<50
2,4-Dinitrotoluene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30
2,6-Dinitrotoluene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30
2-Chloronaphthalene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<4.1	<4.10
2-Chlorophenol	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30
2-Methylnaphthalene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<3	<3
2-Methylphenol	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30
2-Nitrophenol	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30
3&4-Methylphenol	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<37	<37
3,3´-Dichlorobenzidine	<21	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<46	<33	<33
4,6-Dinitro-2-methylphenol	<53	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<50	<30	<30
4-Bromophenyl phenyl ether	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30
4-Chloro-3-methylphenol	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30
4-Chlorophenyl phenyl ether	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30
4-Nitrophenol	<53	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<50	<30	<30
Acenaphthene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<3	<3
Acenaphthylene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<3	<3
Anthracene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	1.2	<3	<3
Azobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30

Cell 4A

Chemical and Radiological Characteristics

Constituent	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Benz(a)anthracene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<3	<3
Benzidine	<21	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<39	<39
Benzo(a)pyrene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<3	<3
Benzo(b)fluoranthene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<3	<3
Benzo(g,h,i)perylene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<3	<3
Benzo(k)fluoranthene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<3	<3
Bis(2-chloroethoxy)methane	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<3	<30
Bis(2-chloroethyl) ether	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30
Bis(2-chloroisopropyl) ether	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30
Bis(2-ethylhexyl) phthalate	<11	19.6	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<3	<3
Butyl benzyl phthalate	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<3	<3
Chrysene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<3	<3
Dibenz(a,h)anthracene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<3	<3
Diethyl phthalate	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<3	<3
Dimethyl phthalate	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<3	<3
Di-n-butyl phthalate	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<3	<3
Di-n-octyl phthalate	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<3	<3
Fluoranthene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<3	<3
Fluorene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<3	<3
Hexachlorobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30
Hexachlorobutadiene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<28	<30	<30
Hexachlorocyclopentadiene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30
Hexachloroethane	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<28	<30	<30
Indeno(1,2,3-cd)pyrene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<3	<3
Isophorone	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<35	<35
Naphthalene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<3	<3
Nitrobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30
N-Nitrosodimethylamine	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30
N-Nitrosodi-n-propylamine	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30
N-Nitrosodiphenylamine	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30
Pentachlorophenol	<53	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<50	<30	<30
Phenanthrene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<3	<3
Phenol	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<30	<30
Pyrene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<8.57	<10	<3	<3
Pyridine	<11	<10	<10	<10	<10	<10	<10	<10	<10	34.0	<19	<30	<30

Cell 4A LDS

Chemical and Radiological Characteristics

Constituent	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Major Ions (mg/L)													
Carbonate	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
Bicarbonate	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
Calcium	558	474	470	453	429	336	510	446	542	516	520	496	500
Chloride	7570	4670	6040	2710	1910	4200	2860	5200	8610	4360	7360	3860	6510
Fluoride	0.7	39.4	46	27	1970	1320	282	1150	1370	716	1530	500	2240
Magnesium	6390	3240	5100	2070	1710	2690	2730	3940	4630	3820	3800	3690	3780
Nitrogen-Ammonia	4480	2290	3480	1320	1010	2920	13.4	5050	846	4580	6080	3050	3680
Nitrogen-Nitrate	69	183	94	15	28.9	39	27.4	40.9	63.1	44.0	58.2	60.2	161
Potassium	1960	934	1500	503	305	415	245	675	1710	539	1000	334	635
Sodium	12600	6700	11000	3500	2930	4190	3490	8050	11500	6780	13000	5260	9550
Sulfate	92400	41700	77400	39600	31400	56000	50500	91300	89100	68600	72600	59900	72900
pH (s.u.)	1.98	2.53	2.32	2.1	2.32	2.4	2.29	2.04	1.50	1.88	2.39	2.25	2.4
TDS	117000	56900	93800	55400	49700	81900	65200	95400	142000	75300	112000	83800	105000
Conductivity (umhos/cm)	150000	49000	66600	39600	31300	53600	50200	62200	97900	63400	75600	53200	65900
Metals (ug/L)													
Arsenic	133000	54000	74700	44100	35700	51200	10400	43500	117000	42400	52000	16600	32300
Beryllium	536	295	367	180	188	185	199	289	479	298	370	317	323
Cadmium	4010	2650	3160	921	1170	4720	4270	4500	4080	3740	1900	4410	4220
Chromium	9140	3890	5940	3930	2630	2780	1760	4250	9410	3930	6500	2820	5200
Cobalt	37300	15200	21700	22300	44300	41200	33700	32100	42700	30600	25000	45800	73400
Copper	222000	116000	150000	481000	754000	439000	160000	331000	650000	376000	500000	273000	322000
Iron	3940000	1420000	2530000	2460000	1370000	1850000	1320000	2330000	5140000	2090000	2500000	1440000	1370000
Lead	5270	3400	4520	2300	165	991	46.8	797	15500	118	4200	254	1120
Manganese	389000	157000	207000	95200	86300	98600	96700	184000	296000	136000	190000	137000	195000
Mercury	2.66	6.2	14.7	0.7	<0.5	<0.0020	<0.5	<2.00	<2.00	<2.00	1.4	0.20	0.30
Molybdenum	49200	23900	29300	10200	1200	3970	278	10700	49900	2350	8400	2190	4090
Nickel	43900	23900	29600	35000	54600	99300	86300	72700	74700	70900	46000	110000	67700
Selenium	5250	2820	3780	1260	1020	2170	649	1590	4940	1550	3100	1230	1960
Silver	204	62	127	44	24.8	<100	25.6	144	312	<100	230	150	212
Thallium	252	194	290	332	171	522	218	439	550	281	55	425	245
Tin	504	180	119	<100	<100	<17000	<100	<17000	<17000	<17000	<70	<500	<50
Uranium	284000	145000	168000	90200	75000	82200	25000	116000	247000	78600	38000	48000	76000
Vanadium	1150000	518000	770000	240000	157000	510000	253000	449000	1090000	475000	130000	374000	458000
Zinc	298000	152000	204000	181000	163000	306000	510000	502000	385000	446000	210000	541000	380000
Radiologics (pCi/L)													
Gross Alpha	7020	3230	7440	4730	6930	61800	17200 (8/4/2015) 1670 (5/28/2015)	98700	176000	51000	163000	5450	23700

Cell 4A LDS

Chemical and Radiological Characteristics

Constituent	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
VOCS (ug/L)													
Acetone	240	130	120	55	57	<700	84.7	61.5	79.8	108	84	90.3	262
Benzene	<1	<1	<1	<1	<1	<5.0	<1	<1	<1	<1	<1	<5	<5
Carbon tetrachloride	<1	<1	<1	<1	<1	<5.0	<1	<1	<1	<1	<1	<5	<5
Chloroform	23	52	26	42	110	95	129	84.5	21.6	33.8	31	120	47.2
Chloromethane	7.9	13	3.8	6	9.93	<30.0	5.35	<1.00	3.00	2.41	3.6	6.90	<5
MEK	78	50	82	36	<20	<4000	<20	<20	<20	<20	43	29.5	92.2
Methylene Chloride	<1	<1	<1	<1	<1	<5.0	<1	<1	<1	1.05	0.47 J	<25	<25
Naphthalene	<1	1.5	<1	1	2.35	<100	<1	<1	<1	<1	<1	<5	<5
Tetrahydrofuran	140	158	102	117	39.1	<46.0	18.5	<1	15.7	19.7	16	<25	<25
Toluene	<1	<1	<1	<1	<1	<1000	<1	<1	<1	<1	<1	<5	<5
Xylenes	<1	<1	<1	<1	<1	<10000	<1	<1	<1	<1	<1	<15	<15
SVOCS (ug/L)													
1,2,4-Trichlorobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<30	<30
1,2-Dichlorobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<30	<30
1,3-Dichlorobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<30	<30
1,4-Dichlorobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<30	<30
1-Methylnaphthalene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<3.0	<3
2,4,5-Trichlorophenol	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<30	<30
2,4,6-Trichlorophenol	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<30	<30
2,4-Dichlorophenol	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<30	<30
2,4-Dimethylphenol	<11	<10	<10	<10	<10	<10	<10	<10	<10	11.1	<10	<30	<30
2,4-Dinitrophenol	<54	<20	<20	<20	<20	<20	<20	<10	<10	<9.08	<50	<50	<50
2,4-Dinitrotoluene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<30	<30
2,6-Dinitrotoluene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<30	<30
2-Chloronaphthalene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<4.1	<4.10
2-Chlorophenol	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<30	<30
2-Methylnaphthalene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<3	<3
2-Methylphenol	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<30	<30
2-Nitrophenol	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<30	<30
3&4-Methylphenol	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<37	<37
3,3´-Dichlorobenzidine	<22	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<46	<33	<33
4,6-Dinitro-2-methylphenol	<54	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<50	<30	<30
4-Bromophenyl phenyl ether	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<30	<30
4-Chloro-3-methylphenol	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<30	<30
4-Chlorophenyl phenyl ether	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<30	<30
4-Nitrophenol	<54	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<50	<30	<30
Acenaphthene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<3	<3
Acenaphthylene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<3	<3
Anthracene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<3	<3
Azobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<30	<30

Cell 4A LDS

Chemical and Radiological Characteristics

Constituent	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Benz(a)anthracene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<3	<3
Benzidine	<22	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<39	<39
Benzo(a)pyrene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<3	<3
Benzo(b)fluoranthene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<3	<3
Benzo(g,h,i)perylene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<3	<3
Benzo(k)fluoranthene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<3	<3
Bis(2-chloroethoxy)methane	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<3	<30
Bis(2-chloroethyl) ether	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<30	<30
Bis(2-chloroisopropyl) ether	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<30	<30
Bis(2-ethylhexyl) phthalate	<11	54.9	54.9	16.6	<10	<10	<10	<10	<10	<9.08	1.1	<3	<3
Butyl benzyl phthalate	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<3	<3
Chrysene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<3	<3
Dibenz(a,h)anthracene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<3	<3
Diethyl phthalate	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<3	<3
Dimethyl phthalate	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<3	<3
Di-n-butyl phthalate	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<3	<3
Di-n-octyl phthalate	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<3	<3
Fluoranthene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<3	<3
Fluorene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<3	<3
Hexachlorobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<30	<30
Hexachlorobutadiene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<28	<30	<30
Hexachlorocyclopentadiene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<30	<30
Hexachloroethane	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<28	<30	<30
Indeno(1,2,3-cd)pyrene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<3	<3
Isophorone	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<35	<35
Naphthalene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<3	<3
Nitrobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<30	<30
N-Nitrosodimethylamine	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<30	<30
N-Nitrosodi-n-propylamine	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<30	<30
N-Nitrosodiphenylamine	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<30	<30
Pentachlorophenol	<54	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<50	<30	<30
Phenanthrene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<3	<3
Phenol	33	23.5	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<30	<30
Pyrene	<11	<10	<10	<10	<10	<10	<10	<10	<10	<9.08	<10	<3	<3
Pyridine	<11	<10	<10	<10	<10	<10	<10	<10	<10	12.9	<19	<30	<30

Cell 4B

Chemical and Radiological Characteristics

Constituent	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Major Ions (mg/L)											
Carbonate	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
Bicarbonate	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5
Calcium	570	580	662	366	655	523	473	664	670	628	534
Chloride	8290	8170	4570	7300	8500	12000	6930	7860	10500	10200	44800
Fluoride	26.7	23.3	1050	1150	1210	1780	1170	1410	2300	1730	7000
Magnesium	3910	4500	3560	3310	5530	5780	3550	5790	6500	4520	8200
Nitrogen-Ammonia	5220	5580	2060	5380	1.09	8690	724	7590	8150	6580	9100
Nitrogen-Nitrate	39	42	51.4	47	15.2	64.5	31.3	42.2	38.6	70.0	286
Potassium	1370	1650	1110	989	1700	1710	1230	1660	1900	1680	3540
Sodium	9050	11700	3150	7100	12800	14100	10600	15700	18000	17100	54000
Sulfate	134000	119000	98100	91500	108000	285000	708000	98400	124000	97200	259000
pH (s.u.)	1.87	1.5	1.65	1.6	1.35	1.26	1.41	1.24	1.53	2.24	1.2
TDS	98000	128000	108000	131000	149000	172000	103000	117000	180000	150000	423000
Conductivity (umhos/cm)	76900	86900	72800	90100	115000	116000	93800	107000	99600	87300	109000
Metals (ug/L)											
Arsenic	67400	80000	65400	70400	106000	139000	82700	97800	140000	67900	307000
Beryllium	311	356	334	275	430	557	347	407	640	455	1280
Cadmium	1990	2540	1990	2290	2980	4260	2340	2520	2000	1800	6760
Chromium	6860	8280	6390	6940	7450	11900	7800	8630	12000	9350	16600
Cobalt	17800	29300	21300	24600	33700	46700	30300	32900	44000	30900	39700
Copper	193000	340000	340000	368000	499000	684000	457000	539000	830000	602000	1170000
Iron	2960000	3580000	2830000	2480000	4340000	6340000	3690000	4400000	5800000	3690000	7610000
Lead	9960	11600	9820	10900	13400	17900	12200	12500	16000	8150	26000
Manganese	128000	148000	154000	129000	231000	325000	207000	242000	320000	201000	602000
Mercury	13.7	2.6	1.49	<0.0020	1.72	<2.00	<2.00	<2.00	0.46	0.40	8.6
Molybdenum	21400	27600	26100	29000	39800	55400	22600	27400	29000	8110	95600
Nickel	33900	50500	35100	42000	56400	79600	53000	57800	78000	56400	48900
Selenium	4670	4470	3900	5010	5600	7300	3740	4510	6600	3540	9080
Silver	137	169	137	142	195	307	<100	160	170	76	741
Thallium	237	368	243	258	408	559	17.5	33.7	<100	165	2160
Tin	196	215	163	<17000	211	<17000	<17000	<17000	340	138	879
Uranium	133000	171000	110000	133000	200000	278000	23100	28100	36000	47400	279000
Vanadium	660000	783000	163000	666000	881000	868000	746000	828000	710000	113000	1060000
Zinc	191000	270000	184000	144000	313000	476000	267000	323000	280000	334000	475000
Radiologics (pCi/L)											
Gross Alpha	8590	13600	14600	148000	267000 (8/4/2015) 42500 (5/28/2015)	262000	132000	320000	310000	54500	87400
VOCS (ug/L)											
Acetone	130	94	43.5	<700	56.2	86.4	38.6	56.8	39	12.7	97.6
Benzene	<1	<1	<1	<5.0	<1	<1	<1	<1	<1	<1	<5
Carbon tetrachloride	<1	<1	<1	<5.0	<1	<1	<1	<1	<1	<1	<5
Chloroform	9.4	4	8.06	<70.0	2.34	3.07	2.39	2.17	3.4	<1	<5
Chloromethane	8.5	8	7.12	<30.0	3.62	6.01	1.26	1.72	2.1	1.28	<5
MEK	<1	<1	<20	<4000	<20	<20	<20	27.4	15 J	<5	57

Cell 4B

Chemical and Radiological Characteristics

Constituent	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Methylene Chloride	<1	<1	<1	<5.0	<1	<1	<1	<1	<1	<5	<25
Naphthalene	<1	<1	<1	<100	<1	<1	<1	<1	<1	<1	<5
Tetrahydrofuran	<10	11.1	<1	<46.0	<1	<1	<1	1.87	<35.0	<5	164
Toluene	<1	<1	<1	<1000	<1	<1	<1	<1	<1	<1	<5
Xylenes	<1	<1	<1	<10000	<1	<1	<1	<1	<1	<3	<15
SVOCS (ug/L)											
1,2,4-Trichlorobenzene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<30	<30
1,2-Dichlorobenzene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<30	<30
1,3-Dichlorobenzene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<30	<30
1,4-Dichlorobenzene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<30	<30
1-Methylnaphthalene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<3.0	<3
2,4,5-Trichlorophenol	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<30	<30
2,4,6-Trichlorophenol	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<30	<30
2,4-Dichlorophenol	<10	<10	<10	<10	<10	<10	<10	<8.72	<50	<30	<30
2,4-Dimethylphenol	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<30	<30
2,4-Dinitrophenol	<20	<20	<20	<20	<20	<10	<10	<8.72	<10	<50	<50
2,4-Dinitrotoluene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<30	<30
2,6-Dinitrotoluene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<30	<30
2-Chloronaphthalene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<4.1	<4.10
2-Chlorophenol	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<30	<30
2-Methylnaphthalene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<3	<3
2-Methylphenol	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<30	<30
2-Nitrophenol	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<30	<30
3&4-Methylphenol	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<37	<37
3,3´-Dichlorobenzidine	<10	<10	<10	<10	<10	<10	<10	<8.72	<44	<33	<33
4,6-Dinitro-2-methylphenol	<10	<10	<10	<10	<10	<10	<10	<8.72	<50	<30	<30
4-Bromophenyl phenyl ether	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<30	<30
4-Chloro-3-methylphenol	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<30	<30
4-Chlorophenyl phenyl ether	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<30	<30
4-Nitrophenol	<10	<10	<10	<10	<10	<10	<10	<8.72	<50	<30	<30
Acenaphthene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<3	<3
Acenaphthylene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<3	<3
Anthracene	<10	<10	<10	<10	<10	<10	<10	<8.72	1.7	<3	<3
Azobenzene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<30	<30
Benz(a)anthracene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<3	<30
Benzidine	<10	<10	<10	26	<10	<10	<10	<8.72	<10	<39	<39
Benzo(a)pyrene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<3	<30
Benzo(b)fluoranthene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<3	<30
Benzo(g,h,i)perylene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<3	<30
Benzo(k)fluoranthene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<3	<30
Bis(2-chloroethoxy)methane	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<3	<30
Bis(2-chloroethyl) ether	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<30	<30

Cell 4B

Chemical and Radiological Characteristics

Constituent	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Bis(2-chloroisopropyl) ether	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<30	<30
Bis(2-ethylhexyl) phthalate	410	19	<10	<10	<10	<10	<10	<8.72	<10	<3	<3
Butyl benzyl phthalate	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<3	<3
Chrysene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<3	<3
Dibenz(a,h)anthracene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<3	<3
Diethyl phthalate	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<3	<3
Dimethyl phthalate	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<3	<3
Di-n-butyl phthalate	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<3	<3
Di-n-octyl phthalate	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<3	<3
Fluoranthene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<3	<3
Fluorene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<3	<3
Hexachlorobenzene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<30	<30
Hexachlorobutadiene	<10	<10	<10	<10	<10	<10	<10	<8.72	<26	<30	<30
Hexachlorocyclopentadiene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<30	<30
Hexachloroethane	<10	<10	<10	<10	<10	<10	<10	<8.72	<26	<30	<30
Indeno(1,2,3-cd)pyrene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<3	<3
Isophorone	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<35	<35
Naphthalene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<3	<3
Nitrobenzene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<30	<30
N-Nitrosodimethylamine	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<30	<30
N-Nitrosodi-n-propylamine	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<30	<30
N-Nitrosodiphenylamine	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<30	<30
Pentachlorophenol	<10	<10	<10	<10	<10	<10	<10	<8.72	<50	<30	<30
Phenanthrene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<3	<3
Phenol	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<30	<30
Pyrene	<10	<10	<10	<10	<10	<10	<10	<8.72	<10	<3	<3
Pyridine	<10	<10	<10	15	<10	<10	<10	31.7	<18	<30	118

Cell 4B LDS

Chemical and Radiological Characteristics

Constituent	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Major Ions (mg/L)											
Carbonate	<1	<1	dry	<1	<1	<1	<1	<1	<5	<5	<5
Bicarbonate	<1	<1	dry	<1	<1	<1	<1	<1	<5	<5	<5
Calcium	486	456	dry	308	538	547	516	592	550	555	526
Chloride	3630	6850	dry	6900	7960	8510	10400	8060	8050	7630	9180
Fluoride	28.4	22	dry	970	1150	1290	1050	1480	1680	1550	1870
Magnesium	3230	3360	dry	3400	5190	4780	5370	5580	4800	4830	4850
Nitrogen-Ammonia	4260	4090	dry	5240	2.43	7540	739	7510	7080	5080	4280
Nitrogen-Nitrate	30	31	dry	43	16.6	49.6	63.9	47.4	41.2	39.5	67.5
Potassium	1130	1060	dry	952	1560	1360	2130	1620	1400	1350	1240
Sodium	8240	8080	dry	6920	11900	10800	13200	14500	13000	12600	12200
Sulfate	59900	99100	dry	82300	104000	163000	117000	100000	89500	88700	99000
pH (s.u.)	2.23	2.4	dry	2.2	1.51	1.88	1.44	1.35	1.73	1.89	2.0
TDS	85800	90200	dry	129000	131000	133000	168000	132000	131000	134000	132000
Conductivity (umhos/cm)	63000	62400	dry	76300	106000	68400	105000	104000	80800	77600	78000
Metals (ug/L)											
Arsenic	54200	41200	dry	67800	98400	98800	135000	94100	89000	84900	74800
Beryllium	274	271	dry	282	411	430	559	416	470	483	318
Cadmium	1670	1740	dry	2290	2790	3250	4500	2610	2000	2060	2140
Chromium	6250	5930	dry	6160	7320	9470	13700	8980	9100	9620	8980
Cobalt	15600	19000	dry	23300	31100	33600	48900	31700	31000	32200	60300
Copper	176000	181000	dry	308000	458000	475000	681000	497000	550000	500000	423000
Iron	2450000	2120000	dry	2590000	4180000	4680000	5910000	4190000	4400000	4180000	3660000
Lead	6060	4420	dry	4120	10100	5860	14000	8770	7800	5110	1860
Manganese	118000	162000	dry	144000	222000	262000	346000	239000	240000	221000	213000
Mercury	12.3	3	dry	0.002	1.47	<2.00	<2.00	<2.00	0.11J	0.10	<0.2
Molybdenum	16700	15000	dry	24300	36300	35500	52900	25900	27000	19800	14300
Nickel	30700	33700	dry	40100	52600	58100	84400	56100	59000	57900	52000
Selenium	3710	2880	dry	4080	5080	5310	6860	4500	4700	3950	3870
Silver	111	117	dry	119	179	224	266	156	170	173	142
Thallium	179	175	dry	336	354	414	427	245	87	98	123
Tin	332	<100	dry	<17000	198	<17000	<17000	<17000	200	258	141
Uranium	111000	132000	dry	143000	185000	192000	269000	54200	31000	34600	29400
Vanadium	518000	428000	dry	671000	817000	847000	1260000	811000	760000	743000	683000
Zinc	172000	182000	dry	144000	296000	315000	443000	303000	280000	286000	244000
Radiologics (pCi/L)											
Gross Alpha	6000	7500	dry	181000	375000 (8/4/2015) 52500 (5/28/2015)	185000	165000	305000	226000	54100	105000

Cell 4B LDS

Chemical and Radiological Characteristics

Constituent	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
VOCS (ug/L)											
Acetone	390	370	dry	<700	218	266	479	147	102	68.5	<25
Benzene	<1	<1	dry	<5.0	<1	<1	<1	<1	<1	<1	<5
Carbon tetrachloride	<1	<1	dry	<5.0	<1	<1	<1	<1	<1	<1	<5
Chloroform	20	19	dry	<70.0	5.03	9.97	9.13	4.74	3.9	1.22	<5
Chloromethane	11	11	dry	<30.0	9.72	10.8	7.16	2.4	2.3	<1	<5
MEK	240	180	dry	<4000	71.8	53.6	89.4	34.6	71	42.8	<25
Methylene Chloride	<1	<1	dry	<5.0	<1	<1	1.01	<1	<1	<5	<25
Naphthalene	<1	<1	dry	<100	<1	<1	<1	<1	<1	<1	<5
Tetrahydrofuran	198	322	dry	75.6	36.6	75.9	51.2	17.3	53	96.5	<25
Toluene	<1	<1	dry	<1000	<1	<1	<1	<1	<1	<1	<5
Xylenes	<1	<1	dry	<10000	<1	<1	<1	<1	<1	<3	<15
SVOCS (ug/L)											
1,2,4-Trichlorobenzene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30
1,2-Dichlorobenzene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30
1,3-Dichlorobenzene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30
1,4-Dichlorobenzene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30
1-Methylnaphthalene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<3.0	<3
2,4,5-Trichlorophenol	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30
2,4,6-Trichlorophenol	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30
2,4-Dichlorophenol	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30
2,4-Dimethylphenol	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30
2,4-Dinitrophenol	<20	<20	dry	<20	<20	<20	<10	<8.79	<50	<50	<50
2,4-Dinitrotoluene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30
2,6-Dinitrotoluene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30
2-Chloronaphthalene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<4.1	<4.10
2-Chlorophenol	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30
2-Methylnaphthalene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<3	<3
2-Methylphenol	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30
2-Nitrophenol	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30
3&4-Methylphenol	<10	<10	dry	<10	<10	<10	<10	<8.79	0.42	<37	<37
3,3´-Dichlorobenzidine	<10	<10	dry	<10	<10	<10	<10	<8.79	<45	<33	<33
4,6-Dinitro-2-methylphenol	<10	<10	dry	<10	<10	<10	<10	<8.79	<50	<30	<30
4-Bromophenyl phenyl ether	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30
4-Chloro-3-methylphenol	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30
4-Chlorophenyl phenyl ether	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30
4-Nitrophenol	<10	<10	dry	<10	<10	<10	<10	<8.79	<50	<30	<30
Acenaphthene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<3	<3
Acenaphthylene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<3	<3
Anthracene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<3	<3
Azobenzene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30

Cell 4B LDS

Chemical and Radiological Characteristics

Constituent	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Benz(a)anthracene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<3	<3
Benzidine	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<39	<39
Benzo(a)pyrene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<3	<3
Benzo(b)fluoranthene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<3	<3
Benzo(g,h,i)perylene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<3	<3
Benzo(k)fluoranthene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<3	<3
Bis(2-chloroethoxy)methane	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<3	<30
Bis(2-chloroethyl) ether	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30
Bis(2-chloroisopropyl) ether	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30
Bis(2-ethylhexyl) phthalate	191	191	dry	27	<10	132	145	65.9	16	<3	43.1
Butyl benzyl phthalate	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<3	<3
Chrysene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<3	<3
Dibenz(a,h)anthracene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<3	<3
Diethyl phthalate	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<3	<3
Dimethyl phthalate	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<3	<3
Di-n-butyl phthalate	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<3	<3
Di-n-octyl phthalate	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<3	<3
Fluoranthene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<3	<3
Fluorene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<3	<3
Hexachlorobenzene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30
Hexachlorobutadiene	<10	<10	dry	<10	<10	<10	<10	<8.79	<27	<30	<30
Hexachlorocyclopentadiene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30
Hexachloroethane	<10	<10	dry	<10	<10	<10	<10	<8.79	<27	<30	<30
Indeno(1,2,3-cd)pyrene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<3	<3
Isophorone	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<35	<35
Naphthalene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<3	<3
Nitrobenzene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30
N-Nitrosodimethylamine	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30
N-Nitrosodi-n-propylamine	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30
N-Nitrosodiphenylamine	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30
Pentachlorophenol	<10	<10	dry	<10	<10	<10	<10	<8.79	<50	<30	<30
Phenanthrene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<3	<3
Phenol	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<30	<30
Pyrene	<10	<10	dry	<10	<10	<10	<10	<8.79	<10	<3	<3
Pyridine	<10	<10	dry	<10	<10	<10	<10	29.1	<18	<30	146

Cell 1

Additional Radiological Analyses

	Thorium-228 (pCi/L)	Thorium-230 (pCi/L)	Thorium-232 (pCi/L)	Radium-226 (pCi/L)	Uranium-233/234 (pCi/L)	Uranium-235/236 (pCi/L)	Uranium-238 (pCi/L)	Specific Gravity
8/4/15	1310	991000	6150	1110	141000	8920	140000	1.21
5/28/15	204	782000	6730	829	96700	5980	100000	1.13
8/30/16	ND	677000	4480	497		2380	45800	1.15
8/29/17	2890	8100000	76000	391	353000	20400	344000	1.17
8/1/18	ND	856000	8410	443	97300	6970	97200	1.16
8/21/19	1380	747000	4780	348	28400	1650	28700	1.15
8/21/2019 (Cell 65 - Duplicate of Cell 1)	1500	663000	5720	434	25500	1960	27700	1.15
8/19/20	1090	1030000	6670	801	68300	4020	64600	1.33
9/1/21	469	174000	1060	424	218000	11800	221000	1.38
9/1/2021 (Cell 65 - Duplicate of Cell 1)	500	178000	946	281	212000	10300	223000	1.33

Cell 2 Slimes Drain
Additional Radiological Analyses

	Thorium-228 (pCi/L)	Thorium-230 (pCi/L)	Thorium-232 (pCi/L)	Radium-226 (pCi/L)	Uranium-233/234 (pCi/L)	Uranium-235/236 (pCi/L)	Uranium-238 (pCi/L)	Specific Gravity
8/4/15	ND	6680	ND	36.6	11300	858	10500	1.09
8/30/16	ND	5050	ND	52.4	11700	599	10700	1.03
8/29/17	ND	38500	ND	51.2	111000	ND	75600	1.07
8/1/2018	ND	7390	ND	36.2	14900	ND	12500	1.07
8/1/2018 (cell 65 - Duplicate of Cell 2 Slimes)	ND	6860	ND	29.8	10700	3440	12600	1.06
8/21/2019	ND	1750	ND	62.5	9300	484	9150	1.03
8/19/2020	ND	5180	ND	86.0	8680	917	8760	1.08
9/1/21	ND	2780	ND	63.0	9210	582	9040	1.07

Cell 3
Additional Radiological Analyses

	Thorium-228 (pCi/L)	Thorium-230 (pCi/L)	Thorium-232 (pCi/L)	Radium-226 (pCi/L)	Uranium-233/234 (pCi/L)	Uranium-235/236 (pCi/L)	Uranium-238 (pCi/L)	Specific Gravity
8/4/15	ND	123000	1640	448	184000	10300	191000	1.21
5/28/15	798	131000	1290	202	557000	37900	591000	1.29
8/30/16	983	72500	1670	584	1960000	130000	2060000	1.62
8/30/16 (cell 65 - Duplicate of Cell 3)	ND	67000	788	640	2520000	130000	2490000	1.53
8/29/17	ND	ND	ND	101	37600	ND	32800	0.989
8/1/18	ND	28100	2310	79.8	398000	24000	468000	1.21
8/21/19	ND	6610	ND	48.0	6640	ND	5780	1.07
8/19/20	Not Sampled - Dry							
9/1/21	ND	31.2	ND	ND	144	ND	209	0.984

Cell 4A
Additional Radiological Analyses

	Thorium-228 (pCi/L)	Thorium-230 (pCi/L)	Thorium-232 (pCi/L)	Radium-226 (pCi/L)	Uranium-233/234 (pCi/L)	Uranium-235/236 (pCi/L)	Uranium-238 (pCi/L)	Specific Gravity
8/4/15	ND	374000	3490	663	57500	3720	64400	1.11
5/28/15	327	405000	3440	ND	61200	4030	62700	1.07
5/28/2015 (Cell 65 - Duplicate of Cell 4A)	265	315000	3790	772	58600	3020	58300	NS
8/30/16	ND	466000	2870	1050	61100	3320	70900	1.10
8/29/17	ND	4450000	47700	759	637000	30600	692000	1.09
8/29/17 (Cell 65 - Duplicate of Cell 4A)	ND	4080000	11000	822	602000	44900	616000	1.12
8/1/18	1970	539000	8230	59.2	88700	9900	86300	1.10
8/21/19	941	430000	2870	260	9350	674	10900	1.02
8/19/20	1040	521000	4130	395	17200	991	13700	1.10
8/19/2020 (Cell 65 - Duplicate of Cell 4A)	ND	488000	2200	372	14100	1000	14300	1.11
9/1/21	1000	662000	6240	686	18000	1150	17900	1.11

Cell 4A LDS
Additional Radiological Analyses

	Thorium-228 (pCi/L)	Thorium-230 (pCi/L)	Thorium-232 (pCi/L)	Radium-226 (pCi/L)	Uranium-233/234 (pCi/L)	Uranium-235/236 (pCi/L)	Uranium-238 (pCi/L)	Specific Gravity
8/4/15	ND	25300	ND	19.3	9380	504	10800	1.07
5/28/15	ND	25300	ND	19.3	9380	504	10800	NS
8/30/16	ND	134000	1130	51.1	46200	1900	40400	1.10
8/29/17	ND	5410000	49200	286	852000	66200	851000	1.17
8/1/18	ND	76000	ND	38.2	28800	ND	30500	1.05
8/21/19	1060	366000	2230	73.4	13500	738	13000	1.02
8/19/20	ND	39500	ND	18.6	19000	711	16600	1.07
9/1/21	462	101000	731	33.4	38200	1720	37500	1.08

Cell 4B

Additional Radiological Analyses

	Thorium-228 (pCi/L)	Thorium-230 (pCi/L)	Thorium-232 (pCi/L)	Radium-226 (pCi/L)	Uranium-233/234 (pCi/L)	Uranium-235/236 (pCi/L)	Uranium-238 (pCi/L)	Specific Gravity
8/4/15	ND	410000	2210	611	63500	3710	67000	1.12
5/28/15	122	346000	3790	544	65000	3870	66100	1.08
8/30/16	ND	595000	3510	715	90200	4090	90100	1.13
8/29/17	ND	3390000	56000	489	76000	8100	92700	1.07
8/1/18	ND	461000	7360	307	13700	ND	8420	1.08
8/21/19	1080	434000	3490	296	11600	563	10800	1.10
8/19/20	1280	606000	4320	360	17000	1080	17700	1.11
9/1/21	1590	523000	3240	495	58400	3780	60000	1.25

Cell 4B LDS

Additional Radiological Analyses

	Thorium-228 (pCi/L)	Thorium-230 (pCi/L)	Thorium-232 (pCi/L)	Radium-226 (pCi/L)	Uranium-233/234 (pCi/L)	Uranium-235/236 (pCi/L)	Uranium-238 (pCi/L)	Specific Gravity
8/4/15	ND	452000	3660	161	62600	3890	60900	1.12
8/4/15 (Cell 65 - Duplicate of Cell 4B LDS)	ND	436000	4000	125	62600	2680	61300	1.12
5/28/15	334	487000	5430	55.2	63500	3900	65500	NS
8/30/16	ND	368000	1010	104	78600	3820	78900	1.11
8/29/17	4680	5220000	43200	143	846000	64200	894000	1.07
8/1/18	1520	424000	5130	88.3	14300	ND	18400	1.09
8/21/19	1030	368000	2650	105	8840	412	9600	1.05
8/19/20	888	541000	4070	153	11700	749	14500	1.11
9/1/21	803	452000	3110	174	10700	631	11400	1.10

Tab E

Quality Assurance and Data Validation Tables

Table E-1 Holding Time Evaluation**

	Required Holding Time	Cell 1 Solutions	Cell 2 Slimes Drain	Cell 3 Solutions	Cell 4A Solutions	Cell 4A LDS	Cell 4B Solutions	Cell 4B LDS	Cell 65 (Cell 1)
Carbonate	14 days	OK	OK	OK	OK	OK	OK	OK	OK
Bicarbonate	14 days	OK	OK	OK	OK	OK	OK	OK	OK
Calcium	6 months	OK	OK	OK	OK	OK	OK	OK	OK
Chloride	28 days	OK	OK	OK	OK	OK	OK	OK	OK
Fluoride	28 days	OK	OK	OK	OK	OK	OK	OK	OK
Magnesium	6 months	OK	OK	OK	OK	OK	OK	OK	OK
Nitrogen-Ammonia	28 days	OK	OK	OK	OK	OK	OK	OK	OK
Nitrogen-Nitrate	28 days	OK	OK	OK	OK	OK	OK	OK	OK
Potassium	6 months	OK	OK	OK	OK	OK	OK	OK	OK
Sodium	6 months	OK	OK	OK	OK	OK	OK	OK	OK
Sulfate	28 days	OK	OK	OK	OK	OK	OK	OK	OK
pH (pH units)	Immediately	OK*	OK*	OK*	OK*	OK*	OK*	OK*	OK*
TDS	7 days	OK	OK	OK	OK	OK	OK	OK	OK
Conductivity (umhos/cm)	N/A	OK	OK	OK	OK	OK	OK	OK	OK
Metals	6 months (except mercury which is 28 days)	OK	OK	OK	OK	OK	OK	OK	OK
Radiologics	6 months	OK	OK	OK	OK	OK	OK	OK	OK
VOCS (including THF)	14 days	OK	OK	OK	OK	OK	OK	OK	OK
SVOCS	7 days to extraction/40 days for analysis	OK	OK	OK	OK	OK	OK	OK	OK

* Per the method, pH should be analyzed within 15 minutes of sample collection. Due to the nature of the solution matrix, sample handling in the field is minimized and pH is measured by the laboratory upon receipt. This procedure change was requested by and approved by DWMRC.

** - The voluntary analyses conducted for specific gravity, thorium isotopes, uranium isotopes, and radium-226 are for informational purposes only. These analyses do not have QAP required holding times, and therefore, are not included in the holding time evaluation.

E-2 Laboratory Receipt Temperature Check

Work Order Number/Lab Set ID	Receipt Temp
GEL - 519405	2.0 °C
EL - C20080962	5.1 °C

N/A = These shipments contained samples for the analysis of radionuclides only. Samples submitted for radionuclide analyses do not have a sample temperature requirement.

E-3: Analytical Method Check - Routine Samples**

Parameter	QAP/Permit Method	Method Used by Lab
Ammonia (as N)	A4500-NH3 G or E350.1	E350.1
Nitrate + Nitrite (as N)	E353.1 or E353.2	E353.2
Metals	E200.7 or E200.8 (Hg 245.1)	E200.7 and E200.8 and E245.1 (Hg)
Gross Alpha	E900.0 or E900.1 or E903.0	E903.0
VOCs	SW8260B or SW8260C or SW8260D	SW8260D
Chloride	A4500-Cl B or E300.0	E300.0
Fluoride	A4500-F C or E300.0	A4500-F C
Sulfate	A4500-SO4 E or E300.0	E300.0
TDS	A2540 C	A2540C
Carbonate as CO3, Bicarbonate as HCO3	A2320 B	A2320B
pH	Not Specified	A4500-H B
Conductivity	Not Specified	A2510B
SVOCs	SW8270D	SW8270D

** - The voluntary analyses conducted for specific gravity, thorium isotopes, uranium isotopes, and radium-226 are for informational purposes only. These analyses do not have QAP required methods, and therefore, are not included in the analytical method evaluation.

E-4 Reporting Limit Evaluation**

Parameter	Permit-Specified RL
Ammonia (as N)	25 mg/L
Nitrate + Nitrite (as N)	10 mg/L
Metals ug/L	
Arsenic	50
Beryllium	4
Cadmium	5
Chromium	100
Cobalt	730
Copper	1300
Iron	11000
Lead	15
Manganese	800
Mercury	2
Molybdenum	40
Nickel	100
Selenium	50
Silver	100
Thallium	2
Tin	17000
Uranium	30
Vanadium	60
Zinc	5000
Gross Alpha	15
VOCs ug/L	
Acetone	700
Benzene	5
Carbon tetrachloride	5
Chloroform	70
Chloromethane	30
MEK (2-Butanone)	4000
Methylene Chloride	5
Naphthalene	100
Tetrahydrofuran	46
Toluene	1000
Xylenes	10000
Major Ions	
Chloride	1.0 mg/L
Fluoride	4 mg/L
Sulfate	1000 mg/L
TDS	1000 mg/L
Carbonate as CO3, Bicarbonate as HCO3	*
Calcium, Magnesium, Potassium, Sodium	*
SVOCs (from the 8270D LLD) ug/L	
1,2,4-Trichlorobenzene	10
1,2-Dichlorobenzene	10

E-4 Reporting Limit Evaluation**

Parameter	Permit-Specified RL
1,3-Dichlorobenzene	10
1,4-Dichlorobenzene	10
1-Methylnaphthalene	10
2,4,5-Trichlorophenol	10
2,4,6-Trichlorophenol	10
2,4-Dichlorophenol	10
2,4-Dimethylphenol	10
2,4-Dinitrophenol	50
2,4-Dinitrotoluene	10
2,6-Dinitrotoluene	10
2-Chloronaphthalene	10
2-Chlorophenol	10
2-Methylnaphthalene	10
2-Methylphenol	10
2-Nitrophenol	10
3&4-Methylphenol	10
3,3´-Dichlorobenzidine	20
4,6-Dinitro-2-methylphenol	50
4-Bromophenyl phenyl ether	10
4-Chloro-3-methylphenol	20
4-Chlorophenyl phenyl ether	10
4-Nitrophenol	50
Acenaphthene	10
Acenaphthylene	10
Anthracene	10
Azobenzene	*
Benz(a)anthracene	10
Benzidine	*
Benzo(a)pyrene	10
Benzo(b)fluoranthene	10
Benzo(g,h,i)perylene	10
Benzo(k)fluoranthene	10
Bis(2-chloroethoxy)methane	10
Bis(2-chloroethyl) ether	10
Bis(2-chloroisopropyl) ether	10
Bis(2-ethylhexyl) phthalate	*
Butyl benzyl phthalate	10
Chrysene	10
Dibenz(a,h)anthracene	10
Diethyl phthalate	10
Dimethyl phthalate	10
Di-n-butyl phthalate	10
Di-n-octyl phthalate	10
Fluoranthene	10
Fluorene	10

E-4 Reporting Limit Evaluation**

Parameter	Permit-Specified RL
Hexachlorobenzene	10
Hexachlorobutadiene	10
Hexachlorocyclopentadiene	10
Hexachloroethane	10
Indeno(1,2,3-cd)pyrene	10
Isophorone	10
Naphthalene	10
Nitrobenzene	10
N-Nitrosodimethylamine	*
N-Nitrosodi-n-propylamine	10
N-Nitrosodiphenylamine	10
Pentachlorophenol	50
Phenanthrene	10
Phenol	10
Pyrene	10
Pyridine	*

All analyses were reported to the required RLs unless noted in the text.
* Reporting limits for these analytes are not specified in either the Permit or EPA Method 8270D.

** - The voluntary analyses conducted for specific gravity, thorium isotopes, uranium isotopes, and radium-226 are for informational purposes only. These analyses do not have QAP required reporting limits, and therefore, are not included in the reporting limit evaluation.

E-5: Trip Blank Evaluation

Lab Report	Constituent	Result	Units
554861	2-Butanone	ND	ug/L
	Acetone	ND	ug/L
	Benzene	ND	ug/L
	Carbon tetrachloride	ND	ug/L
	Chloroform	ND	ug/L
	Chloromethane	ND	ug/L
	Methylene Chloride	ND	ug/L
	Naphthalene	ND	ug/L
	Tetrahydrofuran	ND	ug/L
	Toluene	ND	ug/L
	Xylenes	ND	ug/L

E-6 Duplicate Sample Relative Percent Difference**

Major Ions (mg/l)	Cell 1	Cell 65	RPD %
Carbonate	<5	<5	NC
Bicarbonate	<5	<5	NC
Calcium	234	211	10.3
Chloride	74700	67900	9.5
Fluoride	14900	12700	15.9
Magnesium	19800	17500	12.3
Nitrogen-Ammonia	5850	6800	15.0
Nitrogen-Nitrate	27.0	26.6	1.5
Potassium	4030	3530	13.2
Sodium	91900	70000	27.1
Sulfate	351000	323000	8.3
pH (s.u.)	0.4	0.5	22.2
TDS	584000	553000	5.5
Conductivity (umhos/cm)	76000	86800	13.3
Metals (mg/l)			
Arsenic	1040000	778000	28.8
Beryllium	3660	2820	25.9
Cadmium	21300	20900	1.9
Chromium	29600	25300	15.7
Cobalt	59500	46500	24.5
Copper	3760000	2850000	27.5
Iron	6680000	6790000	1.6
Lead	91200	68500	28.4
Manganese	1630000	1250000	26.4
Mercury	35	30	15.4
Molybdenum	418000	311000	29.4
Nickel	18400	17300	6.2
Selenium	21800	16300	28.9
Silver	2640	2300	13.8
Thallium	1680	2190	26.4
Tin	1820	1690	7.4
Uranium	655000	479000	31.0
Vanadium	4410000	3560000	21.3
Zinc	905000	755000	18.1
Radiologics (pCi/l)			
Gross Alpha*	24600	25600	2.82
VOCS (ug/L)			
Acetone	152	154	1.3
Benzene	<5	<5	NC
Carbon tetrachloride	<5	<5	NC
Chloroform	46.2	52.8	13.3
Chloromethane	<5	<5	NC
MEK	<25	<25	NC
Methylene Chloride	<25	<25	NC
Naphthalene	<5	<5	NC
Tetrahydrofuran	<25	<25	NC
Toluene	<5	<5	NC
Xylenes	<15	<15	NC
SVOCS (ug/L)			
1,2,4-Trichlorobenzene	<37.5	<30	NC
1,2-Dichlorobenzene	<37.5	<30	NC
1,3-Dichlorobenzene	<37.5	<30	NC
1,4-Dichlorobenzene	<37.5	<30	NC
1-Methylnaphthalene	<3.75	<3.0	NC
2,4,5-Trichlorophenol	<37.5	<30	NC
2,4,6-Trichlorophenol	<37.5	<30	NC
2,4-Dichlorophenol	<37.5	<30	NC
2,4-Dimethylphenol	<37.5	<30	NC
2,4-Dinitrophenol	<62.5	<50	NC
2,4-Dinitrotoluene	<37.5	<30	NC
2,6-Dinitrotoluene	<37.5	<30	NC
2-Chloronaphthalene	<5.13	<4.1	NC

E-6 Duplicate Sample Relative Percent Difference**

Major Ions (mg/l)	Cell 1	Cell 65	RPD %
2-Chlorophenol	<37.5	<30	NC
2-Methylnaphthalene	<3.75	<3	NC
2-Methylphenol	<37.5	<30	NC
2-Nitrophenol	<37.5	<30	NC
3&4-Methylphenol	<46.3	<37	NC
3,3´-Dichlorobenzidine	<41.3	<33	NC
4,6-Dinitro-2-methylphenol	<37.5	<30	NC
4-Bromophenyl phenyl ether	<37.5	<30	NC
4-Chloro-3-methylphenol	<37.5	<30	NC
4-Chlorophenyl phenyl ether	<37.5	<30	NC
4-Nitrophenol	<37.5	<30	NC
Acenaphthene	<3.75	<3	NC
Acenaphthylene	<3.75	<3	NC
Anthracene	<3.75	<3	NC
Azobenzene (1,2-Diphenylhydrazine)	<37.5	<30	NC
Benz(a)anthracene	<3.75	<3	NC
Benzidine	<48.8	<39	NC
Benzo(a)pyrene	<3.75	<3	NC
Benzo(b)fluoranthene	<3.75	<3	NC
Benzo(g,h,i)perylene	<3.75	<3	NC
Benzo(k)fluoranthene	<3.75	<3	NC
Bis(2-chloroethoxy)methane	<37.5	<30	NC
Bis(2-chloroethyl) ether	<37.5	<30	NC
Bis(2-chloroisopropyl) ether	<37.5	<30	NC
Bis(2-ethylhexyl) phthalate	<3.75	<3	NC
Butyl benzyl phthalate	<3.75	<3	NC
Chrysene	<3.75	<3	NC
Dibenz(a,h)anthracene	<3.75	<3	NC
Diethyl phthalate	<3.75	<3	NC
Dimethyl phthalate	<3.75	<3	NC
Di-n-butyl phthalate	<3.75	<3	NC
Di-n-octyl phthalate	<3.75	<3	NC
Fluoranthene	<3.75	<3	NC
Fluorene	<3.75	<3	NC
Hexachlorobenzene	<37.5	<30	NC
Hexachlorobutadiene	<37.5	<30	NC
Hexachlorocyclopentadiene	<37.5	<30	NC
Hexachloroethane	<37.5	<30	NC
Indeno(1,2,3-cd)pyrene	<3.75	<3	NC
Isophorone	<43.8	<35	NC
Naphthalene	<3.75	<3	NC
Nitrobenzene	<37.5	<30	NC
N-Nitrosodimethylamine	<37.5	<30	NC
N-Nitrosodi-n-propylamine	<37.5	<30	NC
N-Nitrosodiphenylamine	<37.5	<30	NC
Pentachlorophenol	<37.5	<30	NC
Phenanthrene	<3.75	<3	NC
Phenol	<37.5	<30	NC
Pyrene	<3.75	<3	NC
Pyridine	146	164	11.6

Highlighted cells indicate an RPD that exceeded the 20% RPD criteria

Per the approved QAP, an RPD greater than 20% is acceptable if the reported results are less than 5 times the RL. These results are provided for information only.

* Duplicate checks reported for gross alpha minus RN and U are not %RPD. Calculated values are based on the formula in the approved QAP.

** - The voluntary analyses conducted for specific gravity, thorium isotopes, uranium isotopes, and radium-226 are for informational purposes only. These analyses do not have QAP required duplicate requirements, and therefore, are not included in the duplicate evaluation.

NC = Not Calculated.

E-7 Radiologics Counting Error

Sample ID	Gross Alpha minus Rn & U	Gross Alpha minus Rn & U Precision (±)	Counting Error ≤ 20%	GWQS	Within GWQS
Cell 1	24600	255	Y	15	NA
Cell 2 Slimes	1920	67.7	Y	15	NA
Cell 3	ND	NA	NC	15	NA
Cell 4A	122000	507	Y	15	NA
Cell 4A LDS	23700	226	Y	15	NA
Cell 4B	87400	448	Y	15	NA
Cell 4B LDS	105000	510	Y	15	NA
Cell 65 (Duplicate of Cell 1)	25600	247	Y	15	NA

GWQS = Groundwater Quality Standard

NA - the counting error is less than 20% of the activity as required by the GWDP and this check column is not applicable.

NC = Not calculated. The sample results are nondetect and the check is not applicable.

E-8: Laboratory Matrix QC

Matrix Spike % Recovery Comparison

Lab Report	Sample ID	Analyte	MS %REC	MSD %REC	REC Range	RPD
C21090172	NA	Fluoride	111	N/A	90 - 110	NC
C21090172	NA	Ammonia	74	81	90 - 110	6.6
C21090172	NA	Ammonia	76	75	90 - 110	1.3
C21090172	Cell 1	Vanadium*	NC	NC	70 - 130	NC
C21090172	Cell 1	Sodium	62	63	70 - 130	0.5
C21090172	Cell 65 (Cell 1 duplicate)	Zinc*	NC	NC	70 - 130	NC
C21090172	Cell 1	Arsenic*	NC	NC	70 - 130	NC
C21090172	Cell 1	Cadmium*	NC	NC	70 - 130	NC
C21090172	Cell 1	Chromium*	NC	NC	70 - 130	NC
C21090172	Cell 1	Iron*	NC	NC	70 - 130	NC
C21090172	Cell 1	Lead*	NC	NC	70 - 130	NC
C21090172	Cell 1	Manganese*	NC	NC	70 - 130	NC
C21090172	Cell 1	Molybdenum*	NC	NC	70 - 130	NC
C21090172	Cell 1	Nickel*	NC	NC	70 - 130	NC
C21090172	Cell 1	Selenium*	NC	NC	70 - 130	NC
C21090172	Cell 1	Sodium*	NC	NC	70 - 130	NC
C21090172	Cell 1	Uranium*	NC	NC	70 - 130	NC
C21090172	Cell 65 (Cell 1 duplicate)	Copper*	NC	NC	70 - 130	NC
C21090172	Cell 65 (Cell 1 duplicate)	Uranium*	NC	NC	70 - 130	NC
554861	Cell 1	Gross Alpha	11.7	31.3	75 - 125	15.3

NC = Not Calculated

*= Analyte concentration is too high for accurate matrix spike recovery and/or RPD.

N/A = QC was not performed on an EFRI sample.

* Recovery was not calculated as the analyte level in the sample was greater than 4 times the spike amount

LCS % Recovery

Lab Report	Sample ID	Analyte	LCS %REC	LCSD %REC	REC Range	RPD
554861	NA	Benzidine	56	90	13-141	46

Laboratory Duplicate % Recovery Comparison

All Laboratory Duplicates were within acceptance limits.

Method Blanks

Lab Report	Lab Sample ID	Analyte	Blank Result	RL	Units
C21090172	MB-63857	Molybdenum	0.1	0.05	ug/L
C21090172	MB-63857	Tin	0.3	0.1	ug/L
C21090172	MB-63857	Copper	0.2	0.2	ug/L
C21090172	MB-63857	Uranium	0.2	0.01	ug/L

Surrogate % Recovery

All surrogate recoveries were within acceptance limits.