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November 16, 2017

Sent VIA OVERNIGHT DELIVERY

Mr. Scott Anderson
Director
Division of Waste Management and Radiation Control
Utah Department of Environmental Quality
195 North 1950 West
P.O. Box 144850
Salt Lake City, UT 84114-4820

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

Dear Mr. Anderson:

Enclosed are two copies of the White Mesa Uranium Mill Annual Tailings System Wastewater Monitoring Report for 2017 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
Mark Chalmers
David Turk
Dave Frydenlund
Logan Shumway
Paul Goranson

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White Mesa Uranium Mill

2017 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 16, 2017

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2017 ANNUAL TAILINGS SYSTEM WASTEWATER SAMPLING REPORT

1.0 INTRODUCTION

This is the 2017 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 (the "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 (the "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.

2.0 SUMMARY OF MILL TAILINGS SYSTEM ACTIVITIES IN 2017

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 2017, Cell 1 received fluid from the Mill process, storm water run-off, and Mill laboratory waste. The LDS in Cell 1 was dry in 2017.

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 2017. 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 and is undergoing pre-closure steps. This cell is equipped with a LDS and a slimes drain. The LDS was dry in 2017 and the slimes drain system will be monitored once dewatering begins. In 2017, Cell 3 received solid Mill waste 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 2017, as described below. In 2017, Cell 4A received solutions from the Mill process, and solid tailings sands.

2.4 Cell 4B

Cell 4B is a 40-acre impoundment built in 2011. It operates as an evaporation pond which receives solutions only. Cell 4B is equipped with a LDS. In 2017, Cell 4B received fluid from the Mill process. The LDS in Cell 4B was sampled in 2017, 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 August 29, 2017. 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 a split sample aliquots.

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 Semi-Volatile Organic Compounds ("SVOCs").

Additionally, in order to further characterize the radiological constituents and physical properties of the solution, EFRI conducted voluntary analyses on the August 29, 2017 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 August 29, 2017 sampling event are included in a separate data table 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 and LDS and slimes drain samples are at a pH of 3.0 or less 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. The VOC sample aliquots were preserved in the field.

3.3.1 Cells

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

Disposable or dedicated sample ladles were 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, 3 LDSs were not sampled during the 2017 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 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 American West Analytical Laboratories ("AWAL").

The laboratories utilized during this investigation were certified under the Environmental Lab Certification Program administered by the UDEQ Bureau of Lab Improvement for the analyses they completed.

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.

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.

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. AWAL 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 methods used by the laboratory were appropriate and provided accurate data. 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 limit evaluations are provided in Tab E. All analytes were measured and reported to the required reporting limits. 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.

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 all 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 ammonia, acetone, and gross alpha in the duplicate pair Cell 4A/Cell 65. The gross alpha duplicate results are discussed in Section 4.3.8 below. The acetone result RPD is greater than 20% (27.1%). Both of the acetone sample results reported for Cell 4A/Cell 65 were not five times greater than the reporting limit of 20 mg/L, and, as such, the deviation from the 20% RPD requirement is acceptable.

The ammonia results for the duplicate sample Cell 4A/Cell 65 did not meet the duplicate comparability check. Per the QAP, Revision 7.2, 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 for the ammonia results in duplicate pair Cell 4A/Cell 65. 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 met the counting error requirement.

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:

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

The original and duplicate sample did not meet the duplicate comparability check specified in the QAP. Results of the RPD test are provided under Tab E. Per QAP, Revision 7.2, 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 4A/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 CTF 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. It should be noted that:

- Laboratory fortified blanks are equivalent to LCSs.
- Laboratory reagent blanks are equivalent to method blanks.
- Post digestion spikes are equivalent to MSs.
- Post digestion spike duplicates are equivalent to MSDs.
- For method E900.1, used to determine gross alpha, a sample duplicate was used instead of a MSD.

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 all tailings system wastewater samples were within acceptable laboratory limits for all regulated compounds except as indicated in Tab E. The recoveries and RPDs which are outside of the laboratory established acceptance limits do not affect the quality or usability of the data because the recoveries and RPDs outside of the acceptance limits are indicative of matrix interference. The recoveries outside of acceptance limits reported in these analyses were due to a matrix interference caused by high levels of metals and other inorganic constituents. The QAP requirement to analyze a MS/MSD pair with each analytical batch was met and as such the data are compliant with the QAP.

Eighteen metals MS/MSD recoveries were not calculated because the analyte level in the natural sample was 4 times greater than the spike level added by the laboratory. It is not possible to calculate the MS/MSD recovery when the sample results are significantly higher than the spike amount added. In effect, the sample results mask the spike results and the calculations are not possible. There is no effect on the quality or usability of the data.

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 all tailings system wastewater samples were within acceptable laboratory limits for all surrogate compounds except as indicated in Tab E.

There are twenty-one surrogate recoveries outside of acceptance limits for the SVOC analyses. In all instances the surrogate recoveries outside of acceptance limits were the result of a matrix interference. A matrix interference resulted in the surrogate compounds being outside of the acceptance limits noted in Tab E. There are other surrogate compounds used for SVOC analyses which were all within acceptance limits. As such there is no effect on the quality or usability of the data. Since surrogate compounds were added to all of the organic analyses as required by the QAP, the data are compliant with the QAP requirements.

The information from the Laboratory QA/QC Summary Reports indicates that the LCS recoveries for the samples were within acceptable laboratory limits for all LCS compounds as noted in Tab E.

The QAP Section 8.1.2 requires that each analytical batch shall be accompanied by a reagent blank. Contamination detected in analysis of reagent blanks (method blank) will be used to evaluate any analytical laboratory contamination of environmental samples. The QAP criteria for method blanks states that nonconformance will exist when blanks are within an order of magnitude of the sample results. Copper, manganese and zinc were reported the method blank from AWAL. The QAP criteria were met for copper, manganese and zinc because the method blank detections were not within an order of magnitude of the sample results. 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.

5.0 HISTORIC DATA

The historic analytical data for the tailings system wastewater sampling program are included in Tab D. In addition, the minimum and maximum concentrations 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 <1.00. As expected, the solutions contained gross alpha, major ions, metals, and Volatile Organic Compounds ("VOCs"). SVOCs 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, uranium, vanadium and zinc. A decrease was noted in the gross alpha concentration in the August 2017 sample, but it is the same order of magnitude as the 2016 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 concentrations reported in the 2017 sample remained within historic ranges. 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 composition and concentration ratios to the fluids in Cells 4A and 4B.

6.2 Cell 3

Cell 3 solutions were acidic in nature, with a laboratory pH of 3.63. As expected, the solutions contained gross alpha, major ions, metals, and VOCs. SVOCs were not detected. Regarding major ions, chloride, fluoride, magnesium, nitrate, potassium, 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 cadmium, cobalt, copper, iron, manganese, nickel, selenium, uranium, vanadium and zinc. A decrease in the gross alpha and many metals and ions concentrations was noted in the August 2017 sample. The reason for the significant decrease in many constituent concentrations was due to the majority of the liquid pool having evaporated in 2017 and significant rains occurred prior to sampling. As a result of the evaporation and heavy rain, the liquid was minimally cell solution and a large amount of rain water. Gross alpha results 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 2017 sample are below previous results due to the cell liquid pool shrinking and being diluted by rain water. 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.

6.3 Cell 4A

Cell 4A solutions were acidic in nature, with a laboratory pH of 1.53. As expected, the solutions contained gross alpha, major ions, metals, and VOCs. 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. A decrease in the gross alpha concentration was noted in the 2017 sample. The variable and increased 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 2017 sample remained approximately the same as the 2016 sample. 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 composition and 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 1.41. As expected, the solutions contained gross alpha, major ions, metals and VOCs. SVOCs were not detected. Cell 4B fluid exhibited the highest major ion concentrations for chloride, fluoride, magnesium, 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. A decrease in the gross alpha concentration was noted in the 2017 sample, but it is the same order of magnitude as the 2016 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.

With the exception of uranium,, the concentrations reported in the 2017 sample remained approximately the same as the 2016 sample. Concentrations of uranium were approximately one order of magnitude less than 2016 and are expected as a result of solution reprocessing during 2017 and the re-filling of Cell 4B with solutions containing lower concentrations of uranium. 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 4B fluids to those of Cells 1, and 4A reveals that Cell 4B is similar in composition and 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 3.08. As expected, the solutions contained gross alpha, major ions, metals, and VOCs. SVOCs were not detected. Major ions that were highest in concentration by one or more orders of magnitude included chloride, magnesium, sodium and sulfate. For metals, arsenic, cadmium, chromium, cobalt, copper, iron, manganese, molybdenum, nickel, uranium, vanadium and zinc were at least one order of magnitude greater in concentration than other metals analyzed. A slight decrease in the gross alpha concentration was noted in the 2017 sample. The gross alpha result decreased but is the same order of magnitude of the historic data. Overall, the concentrations reported in the 2017 sample remained approximately the same as the 2016 sample. 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 Cell 2 Leak Detection System

Consistent with the Permit, the Cell 2 LDS was not sampled during the 2017 sampling event. The Cell 2 LDS is now dry and covered to prevent precipitation inflow.

6.8 Cells 1 and 3 Leak Detection System

Consistent with the Permit, the Cells 1 and 3 leak detection systems were not sampled during the 2017 sampling event because the systems were dry.

6.9 Cell 4A Leak Detection System

Cell 4A LDS solutions were acidic in nature, with a laboratory pH of 1.50. As expected, the solutions contained gross alpha, major ions, metals and VOCs. SVOCs were not detected. Cell 4A LDS fluid exhibited the highest major ion concentrations for chloride, fluoride, magnesium, 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. A slight increase in the gross alpha concentration was noted in the 2017 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 concentrations reported in the Cell 4A LDS fluid are similar to the concentrations reported for the fluid in Cell 4A. Because the Cell 4A LDS fluids are from Cell 4A, the similarities in concentration are expected. The factors affecting the Cell 4A fluid concentrations will have the same impacts and overall effects on the LDS fluid concentrations. Overall, the concentrations reported in the 2017 Cell 4A LDS sample remained within historic ranges.

6.10 Cell 4B Leak Detection System

Cell 4B LDS solutions were acidic in nature, with a laboratory pH of 1.44. As expected, the solutions contained gross alpha, major ions, metals, VOCs and one SVOC. Cell 4B LDS fluid exhibited the highest major ion concentrations for chloride, fluoride, magnesium, 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. A decrease in the gross alpha concentration was noted in the 2017 sample, but it is the same order of magnitude as the 2016 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 concentrations reported in the Cell 4B LDS fluid are similar to the concentrations reported for the fluid in Cell 4B. Because the Cell 4B LDS fluids are from Cell 4B, the similarities in concentration are expected. The factors affecting the Cell 4B fluid concentrations will have the same impacts and overall effects on the LDS fluid concentrations. Overall, the concentrations reported in the 2017 Cell 4B LDS sample are within historic ranges.

6.11 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. Increases were noted for several metals and major anions as well as in some of the gross alpha concentrations. However, some gross alpha concentrations decreased. 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 indicative of a "concentration effect" during the warm summer months and are off-set by the addition of fluids during periods of operation, which provide information relative to the system as a whole. 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 2017 tailings solutions are within historic, expected ranges.

7.0 CORRECTIVE ACTION REPORT

No corrective action reports are required for the 2017 annual sampling event.

7.1 Assessment of Corrective Actions from Previous Period

No corrective action reports were required for the 2016 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. on November 16, 2017.

ENERGY FUELS RESOURCES (USA) INC.

By:

Scott A. Bakken
Senior Director 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
Senior Director Regulatory Affairs
Energy Fuels Resources (USA) Inc.

TABLES

Table 1
Summary of 2017 Tailings System Wastewater Monitoring

Location	Sample Date	Date of Laboratory Report	Work Order Number/Lab Set ID
Cell 1 Solutions	8/29/2017*	GEL – 10/03/2017	GEL – 432537
		AWAL - 9/19/2017	AWAL - 1708707
Cell 2 Slimes Drain	8/29/2017*	GEL – 10/03/2017	GEL – 432537
		AWAL - 9/19/2017	AWAL - 1708707
Cell 3 Solutions	8/29/2017*	GEL – 10/03/2017	GEL – 432537
		AWAL - 9/19/2017	AWAL - 1708707
Cell 4A Solutions	8/29/2017*	GEL – 10/03/2017	GEL – 432537
		AWAL - 9/19/2017	AWAL - 1708707
Cell 4A LDS	8/29/2017*	GEL – 10/03/2017	GEL – 432537
		AWAL - 9/19/2017	AWAL - 1708707
Cell 4B Solutions	8/29/2017*	GEL – 10/03/2017	GEL – 432537
		AWAL - 9/19/2017	AWAL - 1708707
Cell 4B LDS	8/29/2017*	GEL – 10/03/2017	GEL – 432537
		AWAL - 9/19/2017	AWAL - 1708707
Cell 65 - Duplicate of Cell 4A	8/29/2017*	GEL – 10/03/2017	GEL – 432537
		AWAL - 9/19/2017	AWAL - 1708707

Notes:

GEL = GEL Laboratories, LLC

AWAL = American West Analytical Laboratories

* - EFRI conducted the annual sampling event in August 2017. EFRI collected additional sample 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:** Garrin, Tanner, Dean

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): NA

Weather Conditions at Time of Sampling: Sunny - 19°C

Analytical Parameters/Sample Collection Method:

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

QC Samples Associated with this Location:

☐ Rinsate Blank

☐ Duplicate

Duplicate Sample Name: _____

Notes: Arrived on site at 0815. Garrin, Tanner, Dean present for sampling. Samples were collected at 0820. Left site at 0832.

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

Location: Cell #2 Slimes **Sampling Personnel:** Garrin, Tanner, Dean

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): 40.43

Weather Conditions at Time of Sampling: Sunny, 19°C

Analytical Parameters/Sample Collection Method:

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

QC Samples Associated with this Location:

☐ Rinsate Blank

☐ Duplicate

Duplicate Sample Name: _____

Notes: Arrived on site at 0835. Garrin, Tanner, Dean present for sampling. Samples were collected at 0842. Left site at 0854.

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

Location: Cell 3 **Sampling Personnel:** Garrin, Tanner, Dean

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): NA

Weather Conditions at Time of Sampling: Sunny, 20°C

Analytical Parameters/Sample Collection Method:

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

QC Samples Associated with this Location:

☐ Rinsate Blank

☐ Duplicate

Duplicate Sample Name: _____

Notes: Arrived on site at 0900. Garrin, Tanner, Dean present for sampling. Samples were collected at 0917. Left site at 0925. Solution was mostly dried but rain storms have created a pool at the sample location. Sample looked to be mostly rain water. Sample was clear.

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

Location: Cell 4A **Sampling Personnel:** Garrin, Tanner, Dean

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): NA

Weather Conditions at Time of Sampling: Sunny, 20°C

Analytical Parameters/Sample Collection Method:

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

QC Samples Associated with this Location:

☐ Rinsate Blank

☐ Duplicate

Duplicate Sample Name: _____

Notes: Arrived on site at 0930. Garrin, Tanner, Dean present for sampling. Samples were collected at 0940. Left site at 0950.

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

Location: Cell 4A LDS **Sampling Personnel:** Garrin, Tanner, Dean

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): NA

Weather Conditions at Time of Sampling: Sunny, 21°C

Analytical Parameters/Sample Collection Method:

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

QC Samples Associated with this Location:

☐ Rinsate Blank

☐ Duplicate

Duplicate Sample Name: _____

Notes: Arrived on site at 0951. Garrin, Tanner, Dean present for sampling. Samples were collected at 0956 Left site at 1007. Solution was pumped into a dedicated stainless steel bucket from the 4A LDS discharge. A ladel was then used to fill the sample bottles.

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

Location: Cell 4B **Sampling Personnel:** Garrin, Tanner, Dean

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): NA

Weather Conditions at Time of Sampling: Sunny, 21°C

Analytical Parameters/Sample Collection Method:

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

QC Samples Associated with this Location:

☐ Rinsate Blank

☐ Duplicate

Duplicate Sample Name: _____

Notes: Arrived on site at 1027. Garrin, Tanner, Dean present for sampling. Samples were collected at 1035. Left site at 1046. Dean Henderson split samples at this location.

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

Location: Cell 4B LDS **Sampling Personnel:** Garrin, Tanner, Dean

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): NA

Weather Conditions at Time of Sampling: Sunny, 21°C

Analytical Parameters/Sample Collection Method:

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

QC Samples Associated with this Location:

☐ Rinsate Blank

☐ Duplicate

Duplicate Sample Name: _____

Notes: Arrived on site at 1009 Garrin, Tanner, Dean present for Sampling. Samples were collected at 1015. Left site at 1025. Solution was pumped from the discharge line into a dedicated stainless steel bucket. A ladel was then used to fill sample bottles from bucket.

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

Location: Cell 4A **Sampling Personnel:** Garrin, Tanner, Dean

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): NA

Weather Conditions at Time of Sampling: Sunny, 20°C

Analytical Parameters/Sample Collection Method:

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

QC Samples Associated with this Location:

☐ Rinsate Blank

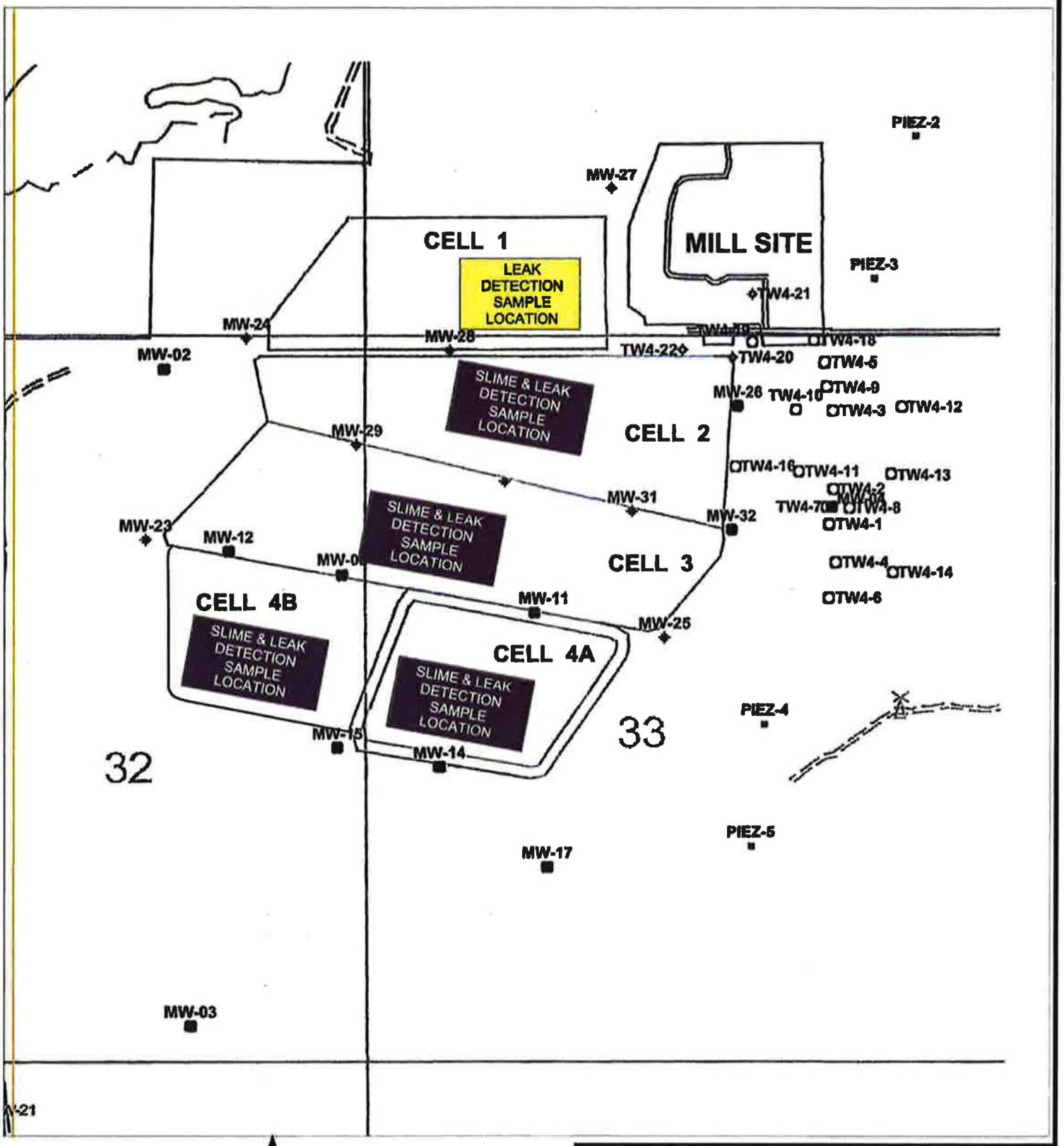
☒ Duplicate

Duplicate Sample Name: Cell 65

Notes: Arrived on site at 0930 Garrin, Tanner, Dean present for sampling. Samples were collected at 0940. Left site at 0950. *Duplicate of Cell 4A.

Tab B

Sample Location Figures



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 Slimes and Leak Detection Sample Locations

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

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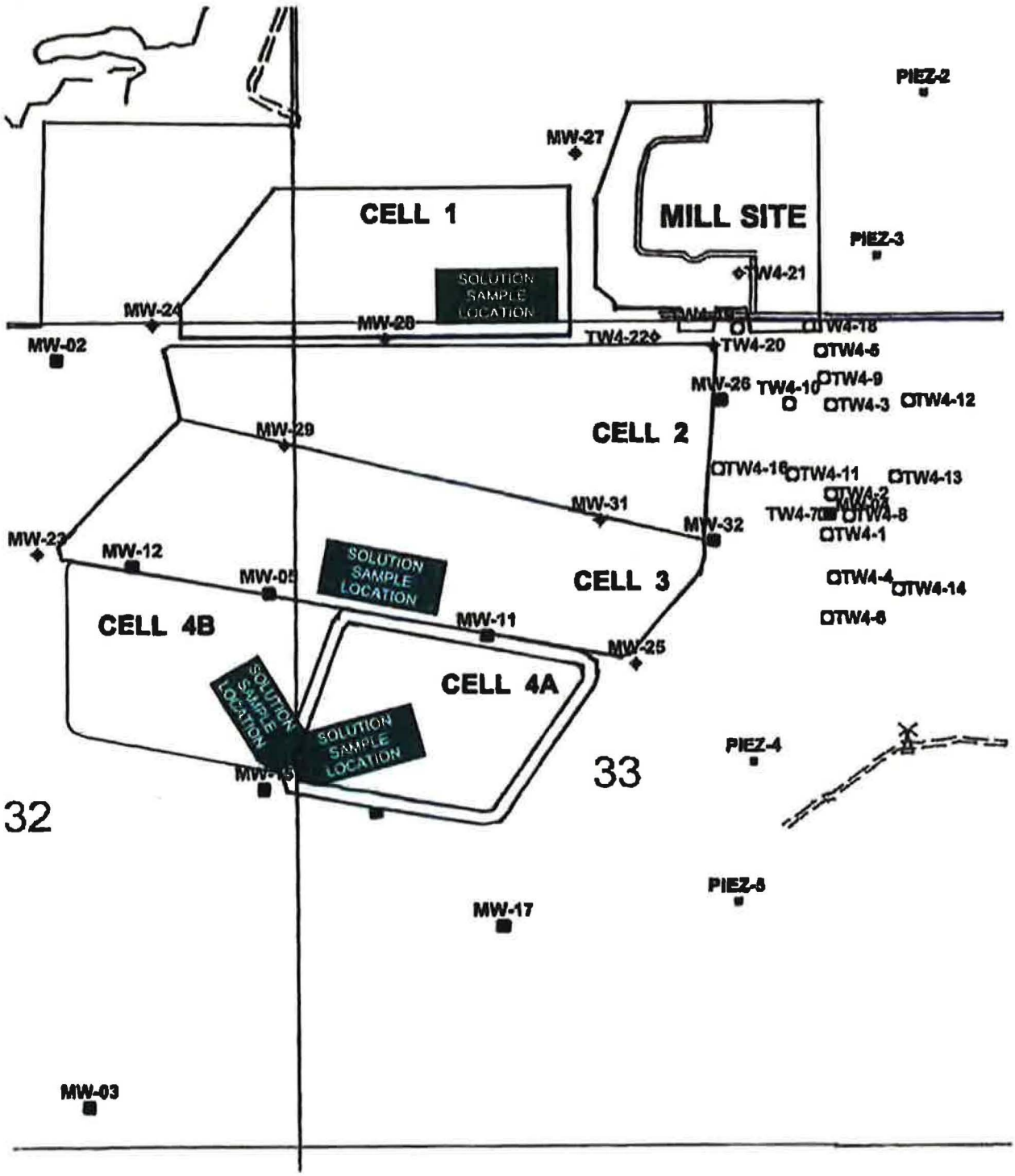

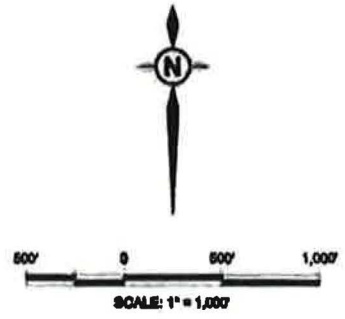

Energy Fuels Resources (USA) Inc.

REVISIONS	
Date	By
10/6/14	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:

S:\Source\UT\WhiteMesaMill\Maps\Tailings Management\Annual Tails Report Figures.dwg Page7 REIIs

Tab C

Laboratory Analytical Reports

INORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-001
Client Sample ID: Cell 1
Collection Date: 8/29/2017 820h
Received Date: 8/31/2017 925h

Analytical Results DISSOLVED METALS

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Arsenic	mg/L	8/31/2017 1440h	9/1/2017 1504h	E200.8	1.00	**391**	
Beryllium	mg/L	8/31/2017 1440h	9/11/2017 1411h	E200.8	0.100	**0.749**	
Cadmium	mg/L	8/31/2017 1440h	9/1/2017 1504h	E200.8	0.250	**6.73**	
Calcium	mg/L	8/31/2017 1440h	9/11/2017 1508h	E200.7	50.0	**581**	
Chromium	mg/L	8/31/2017 1440h	9/1/2017 1504h	E200.8	1.00	**15.9**	
Cobalt	mg/L	8/31/2017 1440h	9/1/2017 1504h	E200.8	2.00	**91.4**	
Copper	mg/L	8/31/2017 1440h	9/7/2017 1210h	E200.8	6.25	**3,440**	
Iron	mg/L	8/31/2017 1440h	9/7/2017 1250h	E200.8	1,250	**2,300**	
Lead	mg/L	8/31/2017 1440h	9/1/2017 1504h	E200.8	1.00	**23.0**	
Magnesium	mg/L	8/31/2017 1440h	9/11/2017 1337h	E200.7	500	**9,380**	
Manganese	mg/L	8/31/2017 1440h	9/1/2017 1504h	E200.8	1.00	**510**	B
Mercury	mg/L	9/7/2017 1430h	9/8/2017 752h	E245.1	0.00200	**0.00786**	
Molybdenum	mg/L	8/31/2017 1440h	9/1/2017 1504h	E200.8	1.00	**128**	
Nickel	mg/L	8/31/2017 1440h	9/1/2017 1504h	E200.8	1.00	**183**	
Potassium	mg/L	8/31/2017 1440h	9/11/2017 1508h	E200.7	50.0	**2,700**	
Selenium	mg/L	8/31/2017 1440h	9/1/2017 1504h	E200.8	1.00	**5.07**	
Silver	mg/L	8/31/2017 1440h	9/1/2017 1504h	E200.8	1.00	**1.24**	
Sodium	mg/L	8/31/2017 1440h	9/11/2017 1337h	E200.7	500	**23,900**	
Thallium	mg/L	8/31/2017 1440h	9/7/2017 1305h	E200.8	0.0250	**0.155**	
Tin	mg/L	8/31/2017 1440h	9/1/2017 1504h	E200.8	17.0	< 17.0	
Uranium	mg/L	8/31/2017 1440h	9/1/2017 1504h	E200.8	1.00	**102**	
Vanadium	mg/L	8/31/2017 1440h	9/12/2017 1446h	E200.7	6.00	**1,520**	
Zinc	mg/L	8/31/2017 1440h	9/1/2017 1504h	E200.8	5.00	**515**	B

Analysis performed on a portion of the sample filtered at the laboratory upon receipt. The sample was received after the filtration holding time had expired for dissolved analysis.

B - The method blank was acceptable, as the Filter Method Blank result is less than 10% of the lowest reported sample concentration.

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Kyle F. Gross
Laboratory Director
Jose Rocha
QA Officer

American West
ANALYTICAL LABORATORIES

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-001
Client Sample ID: Cell 1
Collection Date: 8/29/2017 820h
Received Date: 8/31/2017 925h

Analytical Results

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Ammonia (as N)	mg/L	9/8/2017 840h	9/8/2017 1126h	E350.1	5.00	**1,040**	
Bicarbonate (as CaCO3)	mg/L		9/6/2017 915h	SM2320B	1.00	< 1.00	
Carbonate (as CaCO3)	mg/L		9/6/2017 915h	SM2320B	1.00	< 1.00	
Chloride	mg/L		9/13/2017 1809h	E300.0	2,000	**19,900**	
Conductivity	µmhos/cm		9/1/2017 539h	SM2510B	2.00	**57,600**	
Fluoride	mg/L		9/13/2017 1809h	E300.0	200	**4,290**	
Ion Balance	%		9/13/2017 1413h	Calc.	-100	**-32.5**	
Nitrate/Nitrite (as N)	mg/L		8/31/2017 1734h	E353.2	2.00	**152**	
pH @ 25° C	pH Units		8/31/2017 1514h	SW9040C	1.00	< 1.00	H
Sulfate	mg/L		9/13/2017 1554h	E300.0	20,000	**165,000**	
Total Anions, Measured	meq/L		9/13/2017 1413h	Calc.		**3,990**	
Total Cations, Measured	meq/L		9/13/2017 1413h	Calc.		**2,030**	
Total Dissolved Solids	mg/L		9/1/2017 1230h	SM2540C	500	**231,000**	
Total Dissolved Solids Ratio, Measured/Calculated			9/13/2017 1413h	Calc.		**1.03**	
Total Dissolved Solids, Calculated	mg/L		9/13/2017 1413h	Calc.		**224,000**	

H - Sample was received outside of the holding time.

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ORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-001G
Client Sample ID: Cell 1
Collection Date: 8/29/2017 820h
Received Date: 8/31/2017 925h

Test Code: 8270-W

Analytical Results SVOA by GC/MS Method 8270D/3510C

Analyzed: 9/5/2017 1505h **Extracted:** 9/1/2017 928h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1,2,4-Trichlorobenzene	120-82-1	10.0	< 10.0	
1,2-Dichlorobenzene	95-50-1	10.0	< 10.0	
1,3-Dichlorobenzene	541-73-1	10.0	< 10.0	
1,4-Dichlorobenzene	106-46-7	10.0	< 10.0	
1-Methylnaphthalene	90-12-0	10.0	< 10.0	
2,4,5-Trichlorophenol	95-95-4	10.0	< 10.0	
2,4,6-Trichlorophenol	88-06-2	10.0	< 10.0	
2,4-Dichlorophenol	120-83-2	10.0	< 10.0	
2,4-Dimethylphenol	105-67-9	10.0	< 10.0	
2,4-Dinitrophenol	51-28-5	10.0	< 10.0	
2,4-Dinitrotoluene	121-14-2	10.0	< 10.0	
2,6-Dinitrotoluene	606-20-2	10.0	< 10.0	
2-Chloronaphthalene	91-58-7	10.0	< 10.0	
2-Chlorophenol	95-57-8	10.0	< 10.0	
2-Methylnaphthalene	91-57-6	10.0	< 10.0	
2-Methylphenol	95-48-7	10.0	< 10.0	
2-Nitrophenol	88-75-5	10.0	< 10.0	
3&4-Methylphenol		10.0	< 10.0	
3,3′-Dichlorobenzidine	91-94-1	10.0	< 10.0	
4,6-Dinitro-2-methylphenol	534-52-1	10.0	< 10.0	
4-Bromophenyl phenyl ether	101-55-3	10.0	< 10.0	
4-Chloro-3-methylphenol	59-50-7	10.0	< 10.0	
4-Chlorophenyl phenyl ether	7005-72-3	10.0	< 10.0	
4-Nitrophenol	100-02-7	10.0	< 10.0	
Acenaphthene	83-32-9	10.0	< 10.0	
Acenaphthylene	208-96-8	10.0	< 10.0	
Anthracene	120-12-7	10.0	< 10.0	
Azobenzene	103-33-3	10.0	< 10.0	
Benz(a)anthracene	56-55-3	10.0	< 10.0	

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Lab Sample ID: 1708707-001G
Client Sample ID: Cell 1

Analyzed: 9/5/2017 1505h **Extracted:** 9/1/2017 928h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Benzidine	92-87-5	10.0	< 10.0	
Benzo(a)pyrene	50-32-8	10.0	< 10.0	
Benzo(b)fluoranthene	205-99-2	10.0	< 10.0	
Benzo(g,h,i)perylene	191-24-2	10.0	< 10.0	
Benzo(k)fluoranthene	207-08-9	10.0	< 10.0	
Bis(2-chloroethoxy)methane	111-91-1	10.0	< 10.0	
Bis(2-chloroethyl) ether	111-44-4	10.0	< 10.0	
Bis(2-chloroisopropyl) ether	108-60-1	10.0	< 10.0	
Bis(2-ethylhexyl) phthalate	117-81-7	10.0	< 10.0	
Butyl benzyl phthalate	85-68-7	10.0	< 10.0	
Chrysene	218-01-9	10.0	< 10.0	
Dibenz(a,h)anthracene	53-70-3	10.0	< 10.0	
Diethyl phthalate	84-66-2	10.0	< 10.0	
Dimethyl phthalate	131-11-3	10.0	< 10.0	
Di-n-butyl phthalate	84-74-2	10.0	< 10.0	
Di-n-octyl phthalate	117-84-0	10.0	< 10.0	
Fluoranthene	206-44-0	10.0	< 10.0	
Fluorene	86-73-7	10.0	< 10.0	
Hexachlorobenzene	118-74-1	10.0	< 10.0	
Hexachlorobutadiene	87-68-3	10.0	< 10.0	
Hexachlorocyclopentadiene	77-47-4	10.0	< 10.0	
Hexachloroethane	67-72-1	10.0	< 10.0	
Indeno(1,2,3-cd)pyrene	193-39-5	10.0	< 10.0	
Isophorone	78-59-1	10.0	< 10.0	
Naphthalene	91-20-3	10.0	< 10.0	
Nitrobenzene	98-95-3	10.0	< 10.0	
N-Nitrosodimethylamine	62-75-9	10.0	< 10.0	
N-Nitrosodi-n-propylamine	621-64-7	10.0	< 10.0	
N-Nitrosodiphenylamine	86-30-6	10.0	< 10.0	
Pentachlorophenol	87-86-5	10.0	< 10.0	
Phenanthrene	85-01-8	10.0	< 10.0	
Phenol	108-95-2	10.0	< 10.0	
Pyrene	129-00-0	10.0	< 10.0	
Pyridine	110-86-1	10.0	< 10.0	

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Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1708707-001G
Client Sample ID: Cell 1

Analyzed: 9/5/2017 1505h **Extracted:** 9/1/2017 928h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 2,4,6-Tribromophenol	118-79-6	12.4	80.00	15.5	14-159	
Surr: 2-Fluorobiphenyl	321-60-8	4.21	40.00	10.5	10-124	
Surr: 2-Fluorophenol	367-12-4	9.93	80.00	12.4	10-106	
Surr: Nitrobenzene-d5	4165-60-0	3.46	40.00	8.65	10-180	S
Surr: Phenol-d6	13127-88-3	12.7	80.00	15.9	10-122	
Surr: Terphenyl-d14	1718-51-0	7.01	40.00	17.5	10-221	

S - Surrogate recoveries outside the control limits as expected from historical results of samples received from client.
This sample was analyzed for TICs and no 4-Chlorophenol peaks were detected.

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ORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-001A
Client Sample ID: Cell 1
Collection Date: 8/29/2017 820h
Received Date: 8/31/2017 925h

Test Code: 8260-W-DEN100

Analytical Results VOAs by GC/MS Method 8260C/5030C

Analyzed: 8/31/2017 2038h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8260C

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
2-Butanone	78-93-3	20.0	< 20.0	
Acetone	67-64-1	20.0	**28.0**	
Benzene	71-43-2	1.00	< 1.00	
Carbon tetrachloride	56-23-5	1.00	< 1.00	
Chloroform	67-66-3	1.00	**3.42**	
Chloromethane	74-87-3	1.00	**1.13**	
Methylene chloride	75-09-2	1.00	**1.09**	
Naphthalene	91-20-3	1.00	< 1.00	
Tetrahydrofuran	109-99-9	1.00	< 1.00	
Toluene	108-88-3	1.00	< 1.00	
Xylenes, Total	1330-20-7	1.00	< 1.00	

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 1,2-Dichloroethane-d4	17060-07-0	57.6	50.00	115	72-151	
Surr: 4-Bromofluorobenzene	460-00-4	48.8	50.00	97.5	80-152	
Surr: Dibromofluoromethane	1868-53-7	51.5	50.00	103	70-130	
Surr: Toluene-d8	2037-26-5	60.8	50.00	122	81-123	

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

Certificate of Analysis

Report Date: October 5, 2017

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings 2017 Characterization

Client Sample ID:	Cell 1	Project:	DNMI00107
Sample ID:	432537001	Client ID:	DNMI001
Matrix:	Water		
Collect Date:	29-AUG-17 08:20		
Receive Date:	08-SEP-17		
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	U	2890	+/-2020	5390	1.00	pCi/L			JXC5	09/27/17	1342	1702127	1
Thorium-230		8.10E+06	+/-83400	6430	1.00	pCi/L							
Thorium-232		76000	+/-8130	4220	1.00	pCi/L							
GFPC,Total Alpha Radium, Liquid "As Received"													
Gross Radium Alpha		1.91E+05	+/-1600	134	1.00	pCi/L			AXM6	09/27/17	1555	1702128	2
Lucas Cell, Ra226, liquid "As Received"													
Radium-226		391	+/-28.9	20.0	1.00	pCi/L			MXH8	10/02/17	0950	1702129	3
U- 233/234,U-235/236 and U-238 "As Received"													
Uranium-233/234		3.53E+05	+/-16700	6080	1.00	pCi/L			JXC5	09/26/17	0853	1702126	4
Uranium-235/236		20400	+/-4550	2910	1.00	pCi/L							
Uranium-238		3.44E+05	+/-16500	4790	1.00	pCi/L							

The following Analytical Methods were performed:

Method	Description	Analyst Comments
	DOE EML HASL-300, Th-01-RC Modified	
2	EPA 900.1 Modified	
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"			82.4	(15%-125%)
Barium Carrier	GFPC,Total Alpha Radium, Liquid "As Received"			93.5	(25%-125%)
Uranium-232 Tracer	U- 233/234,U-235/236 and U-238 "As Received"			88.8	(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.

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

Certificate of Analysis

Report Date: September 27, 2017

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings 2017 Characterization

Client Sample ID:	Cell 1	Project:	DNMI00107
Sample ID:	432537001	Client ID:	DNMI001
Matrix:	Water		
Collect Date:	29-AUG-17 08:20		
Receive Date:	08-SEP-17		
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		1.17	0.010	0.100	none		1	VH1	09/26/17	1026	1703328	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
	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

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INORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-002
Client Sample ID: Cell 2 Slimes
Collection Date: 8/29/2017 842h
Received Date: 8/31/2017 925h

Analytical Results DISSOLVED METALS

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Arsenic	mg/L	8/31/2017 1440h	9/1/2017 1507h	E200.8	1.00	**21.1**	
Beryllium	mg/L	8/31/2017 1440h	9/11/2017 1414h	E200.8	0.100	**0.261**	
Cadmium	mg/L	8/31/2017 1440h	9/1/2017 1507h	E200.8	0.250	**6.79**	
Calcium	mg/L	8/31/2017 1440h	9/11/2017 1510h	E200.7	20.0	**477**	
Chromium	mg/L	8/31/2017 1440h	9/1/2017 1507h	E200.8	1.00	**2.29**	
Cobalt	mg/L	8/31/2017 1440h	9/1/2017 1507h	E200.8	2.00	**50.6**	
Copper	mg/L	8/31/2017 1440h	9/1/2017 1507h	E200.8	1.30	**148**	B
Iron	mg/L	8/31/2017 1440h	9/7/2017 1213h	E200.8	312	**3,430**	
Lead	mg/L	8/31/2017 1440h	9/7/2017 1308h	E200.8	0.0250	**0.593**	
Magnesium	mg/L	8/31/2017 1440h	9/11/2017 1339h	E200.7	100	**3,630**	
Manganese	mg/L	8/31/2017 1440h	9/1/2017 1507h	E200.8	1.00	**151**	B
Mercury	mg/L	9/7/2017 1430h	9/8/2017 754h	E245.1	0.00200	< 0.00200	
Molybdenum	mg/L	8/31/2017 1440h	9/1/2017 1507h	E200.8	1.00	**4.06**	
Nickel	mg/L	8/31/2017 1440h	9/1/2017 1507h	E200.8	1.00	**133**	
Potassium	mg/L	8/31/2017 1440h	9/11/2017 1510h	E200.7	20.0	**668**	
Selenium	mg/L	8/31/2017 1440h	9/7/2017 1308h	E200.8	0.0500	**0.683**	
Silver	mg/L	8/31/2017 1440h	9/7/2017 1308h	E200.8	0.100	< 0.100	
Sodium	mg/L	8/31/2017 1440h	9/11/2017 1339h	E200.7	100	**4,810**	
Thallium	mg/L	8/31/2017 1440h	9/7/2017 1308h	E200.8	0.0250	**0.373**	
Tin	mg/L	8/31/2017 1440h	9/7/2017 1308h	E200.8	17.0	< 17.0	
Uranium	mg/L	8/31/2017 1440h	9/1/2017 1507h	E200.8	1.00	**28.6**	
Vanadium	mg/L	8/31/2017 1440h	9/12/2017 1441h	E200.7	3.00	**534**	
Zinc	mg/L	8/31/2017 1440h	9/1/2017 1507h	E200.8	5.00	**760**	B

Analysis performed on a portion of the sample filtered at the laboratory upon receipt. The sample was received after the filtration holding time had expired for dissolved analysis.

B - The method blank was acceptable, as the Filter Method Blank result is less than 10% of the lowest reported sample concentration.

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INORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-002
Client Sample ID: Cell 2 Slimes
Collection Date: 8/29/2017 842h
Received Date: 8/31/2017 925h

Analytical Results

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Ammonia (as N)	mg/L	9/8/2017 840h	9/8/2017 1127h	E350.1	5.00	**500**	
Bicarbonate (as CaCO3)	mg/L		9/6/2017 915h	SM2320B	1.00	< 1.00	
Carbonate (as CaCO3)	mg/L		9/6/2017 915h	SM2320B	1.00	< 1.00	
Chloride	mg/L		9/14/2017 831h	E300.0	1,000	**3,820**	
Conductivity	µmhos/cm		9/1/2017 539h	SM2510B	2.00	**52,600**	
Fluoride	mg/L		9/14/2017 941h	E300.0	10.0	**110**	
Ion Balance	%		9/13/2017 1413h	Calc.	-100	**-28.6**	
Nitrate/Nitrite (as N)	mg/L		8/31/2017 1735h	E353.2	0.100	**13.7**	
pH @ 25° C	pH Units		8/31/2017 1514h	SW9040C	1.00	**3.08**	H
Sulfate	mg/L		9/13/2017 1611h	E300.0	10,000	**58,300**	
Total Anions, Measured	meq/L		9/13/2017 1413h	Calc.		**1,320**	
Total Cations, Measured	meq/L		9/13/2017 1413h	Calc.		**734**	
Total Dissolved Solids	mg/L		9/1/2017 1230h	SM2540C	500	**85,900**	
Total Dissolved Solids Ratio, Measured/Calculated			9/13/2017 1413h	Calc.		**1.14**	
Total Dissolved Solids, Calculated	mg/L		9/13/2017 1413h	Calc.		**75,100**	

H - Sample was received outside of the holding time.

ORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-002G
Client Sample ID: Cell 2 Slimes
Collection Date: 8/29/2017 842h
Received Date: 8/31/2017 925h
Test Code: 8270-W

Analytical Results SVOA by GC/MS Method 8270D/3510C

Analyzed: 9/5/2017 1530h **Extracted:** 9/1/2017 928h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1,2,4-Trichlorobenzene	120-82-1	10.0	< 10.0	
1,2-Dichlorobenzene	95-50-1	10.0	< 10.0	
1,3-Dichlorobenzene	541-73-1	10.0	< 10.0	
1,4-Dichlorobenzene	106-46-7	10.0	< 10.0	
1-Methylnaphthalene	90-12-0	10.0	< 10.0	
2,4,5-Trichlorophenol	95-95-4	10.0	< 10.0	
2,4,6-Trichlorophenol	88-06-2	10.0	< 10.0	
2,4-Dichlorophenol	120-83-2	10.0	< 10.0	
2,4-Dimethylphenol	105-67-9	10.0	< 10.0	
2,4-Dinitrophenol	51-28-5	10.0	< 10.0	
2,4-Dinitrotoluene	121-14-2	10.0	< 10.0	
2,6-Dinitrotoluene	606-20-2	10.0	< 10.0	
2-Chloronaphthalene	91-58-7	10.0	< 10.0	
2-Chlorophenol	95-57-8	10.0	< 10.0	
2-Methylnaphthalene	91-57-6	10.0	< 10.0	
2-Methylphenol	95-48-7	10.0	< 10.0	
2-Nitrophenol	88-75-5	10.0	< 10.0	
3&4-Methylphenol		10.0	< 10.0	
3,3′-Dichlorobenzidine	91-94-1	10.0	< 10.0	
4,6-Dinitro-2-methylphenol	534-52-1	10.0	< 10.0	
4-Bromophenyl phenyl ether	101-55-3	10.0	< 10.0	
4-Chloro-3-methylphenol	59-50-7	10.0	< 10.0	
4-Chlorophenyl phenyl ether	7005-72-3	10.0	< 10.0	
4-Nitrophenol	100-02-7	10.0	< 10.0	
Acenaphthene	83-32-9	10.0	< 10.0	
Acenaphthylene	208-96-8	10.0	< 10.0	
Anthracene	120-12-7	10.0	< 10.0	
Azobenzene	103-33-3	10.0	< 10.0	
Benz(a)anthracene	56-55-3	10.0	< 10.0	

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Jose Rocha
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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1708707-002G
Client Sample ID: Cell 2 Slimes

Analyzed: 9/5/2017 1530h **Extracted:** 9/1/2017 928h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Benzidine	92-87-5	10.0	< 10.0	
Benzo(a)pyrene	50-32-8	10.0	< 10.0	
Benzo(b)fluoranthene	205-99-2	10.0	< 10.0	
Benzo(g,h,i)perylene	191-24-2	10.0	< 10.0	
Benzo(k)fluoranthene	207-08-9	10.0	< 10.0	
Bis(2-chloroethoxy)methane	111-91-1	10.0	< 10.0	
Bis(2-chloroethyl) ether	111-44-4	10.0	< 10.0	
Bis(2-chloroisopropyl) ether	108-60-1	10.0	< 10.0	
Bis(2-ethylhexyl) phthalate	117-81-7	10.0	< 10.0	
Butyl benzyl phthalate	85-68-7	10.0	< 10.0	
Chrysene	218-01-9	10.0	< 10.0	
Dibenz(a,h)anthracene	53-70-3	10.0	< 10.0	
Diethyl phthalate	84-66-2	10.0	< 10.0	
Dimethyl phthalate	131-11-3	10.0	< 10.0	
Di-n-butyl phthalate	84-74-2	10.0	< 10.0	
Di-n-octyl phthalate	117-84-0	10.0	< 10.0	
Fluoranthene	206-44-0	10.0	< 10.0	
Fluorene	86-73-7	10.0	< 10.0	
Hexachlorobenzene	118-74-1	10.0	< 10.0	
Hexachlorobutadiene	87-68-3	10.0	< 10.0	
Hexachlorocyclopentadiene	77-47-4	10.0	< 10.0	
Hexachloroethane	67-72-1	10.0	< 10.0	
Indeno(1,2,3-cd)pyrene	193-39-5	10.0	< 10.0	
Isophorone	78-59-1	10.0	< 10.0	
Naphthalene	91-20-3	10.0	< 10.0	
Nitrobenzene	98-95-3	10.0	< 10.0	
N-Nitrosodimethylamine	62-75-9	10.0	< 10.0	
N-Nitrosodi-n-propylamine	621-64-7	10.0	< 10.0	
N-Nitrosodiphenylamine	86-30-6	10.0	< 10.0	
Pentachlorophenol	87-86-5	10.0	< 10.0	
Phenanthrene	85-01-8	10.0	< 10.0	
Phenol	108-95-2	10.0	< 10.0	
Pyrene	129-00-0	10.0	< 10.0	
Pyridine	110-86-1	10.0	< 10.0	

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1708707-002G
Client Sample ID: Cell 2 Slimes

Analyzed: 9/5/2017 1530h **Extracted:** 9/1/2017 928h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 2,4,6-Tribromophenol	118-79-6	70.4	80.00	88.0	14-159	
Surr: 2-Fluorobiphenyl	321-60-8	13.2	40.00	33.0	10-124	
Surr: 2-Fluorophenol	367-12-4	43.0	80.00	53.7	10-106	
Surr: Nitrobenzene-d5	4165-60-0	0.470	40.00	1.18	10-180	S
Surr: Phenol-d6	13127-88-3	40.6	80.00	50.7	10-122	
Surr: Terphenyl-d14	1718-51-0	29.6	40.00	74.1	10-221	

S - Surrogate recoveries outside the control limits as expected from historical results of samples received from client.
This sample was analyzed for TICs and no 4-Chlorophenol peaks were detected.

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Laboratory Director

Jose Rocha
QA Officer

ORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-002A
Client Sample ID: Cell 2 Slimes
Collection Date: 8/29/2017 842h
Received Date: 8/31/2017 925h

Test Code: 8260-W-DEN100

Analytical Results VOAs by GC/MS Method 8260C/5030C

Analyzed: 8/31/2017 1917h
Units: µg/L **Dilution Factor:** 10 **Method:** SW8260C

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Acetone	67-64-1	200	**451**	~

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 1,2-Dichloroethane-d4	17060-07-0	517	500.0	103	72-151	
Surr: 4-Bromofluorobenzene	460-00-4	501	500.0	100	80-152	
Surr: Dibromofluoromethane	1868-53-7	496	500.0	99.3	70-130	
Surr: Toluene-d8	2037-26-5	582	500.0	116	81-123	

~ - The reporting limits were raised due to high analyte concentrations.

Analyzed: 8/31/2017 1306h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8260C

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
2-Butanone	78-93-3	20.0	**60.7**	
Benzene	71-43-2	1.00	< 1.00	
Carbon tetrachloride	56-23-5	1.00	< 1.00	
Chloroform	67-66-3	1.00	**16.7**	
Chloromethane	74-87-3	1.00	**1.50**	
Methylene chloride	75-09-2	1.00	< 1.00	
Naphthalene	91-20-3	1.00	**10.1**	
Tetrahydrofuran	109-99-9	1.00	< 1.00	
Toluene	108-88-3	1.00	**3.80**	
Xylenes, Total	1330-20-7	1.00	< 1.00	

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 1,2-Dichloroethane-d4	17060-07-0	52.6	50.00	105	72-151	
Surr: 4-Bromofluorobenzene	460-00-4	48.5	50.00	97.1	80-152	
Surr: Dibromofluoromethane	1868-53-7	48.6	50.00	97.2	70-130	
Surr: Toluene-d8	2037-26-5	59.9	50.00	120	81-123	

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

Certificate of Analysis

Report Date: October 5, 2017

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings 2017 Characterization

Client Sample ID:	Cell 2 Slimes	Project:	DNMI00107
Sample ID:	432537002	Client ID:	DNMI001
Matrix:	Water		
Collect Date:	29-AUG-17 08:42		
Receive Date:	08-SEP-17		
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	U	-102	+/-1170	5200	1.00	pCi/L			JXC5	09/27/17	0838	1702127	1
Thorium-230		38500	+/-4990	5570	1.00	pCi/L							
Thorium-232	U	1020	+/-1060	3000	1.00	pCi/L							
GFPC,Total Alpha Radium, Liquid "As Received"													
Gross Radium Alpha		4570	+/-251	177	1.00	pCi/L			AXM6	09/27/17	1555	1702128	2
Lucas Cell, Ra226, liquid "As Received"													
Radium-226		51.2	+/-13.1	33.1	1.00	pCi/L			MXH8	10/02/17	0950	1702129	3
U- 233/234,U-235/236 and U-238 "As Received"													
Uranium-233/234		1.11E+05	+/-9220	4950	1.00	pCi/L			JXC5	09/26/17	0853	1702126	4
Uranium-235/236	U	4240	+/-2530	6870	1.00	pCi/L							
Uranium-238		75600	+/-7600	4160	1.00	pCi/L							

The following Analytical Methods were performed:

Method	Description	Analyst Comments
	DOE EML HASL-300, Th-01-RC Modified	
2	EPA 900.1 Modified	
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"			123	(15%-125%)
Barium Carrier	GFPC,Total Alpha Radium, Liquid "As Received"			94.2	(25%-125%)
Uranium-232 Tracer	U- 233/234,U-235/236 and U-238 "As Received"			91.9	(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 he 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

Report Date: September 27, 2017

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings 2017 Characterization

Client Sample ID:	Cell 2 Slimes	Project:	DNMI00107
Sample ID:	432537002	Client ID:	DNMI001
Matrix:	Water		
Collect Date:	29-AUG-17 08:42		
Receive Date:	08-SEP-17		
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	0.010	0.100	none		1	VH1	09/26/17	1028	1703328	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
	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

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QA Officer

INORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-003
Client Sample ID: Cell 3
Collection Date: 8/29/2017 917h
Received Date: 8/31/2017 925h

Analytical Results DISSOLVED METALS

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Arsenic	mg/L	8/31/2017 1440h	9/7/2017 1216h	E200.8	0.0500	**0.0870**	
Beryllium	mg/L	8/31/2017 1440h	9/7/2017 1216h	E200.8	0.0250	**0.0590**	
Cadmium	mg/L	8/31/2017 1440h	9/7/2017 1216h	E200.8	0.00625	**1.19**	
Calcium	mg/L	8/31/2017 1440h	9/11/2017 1445h	E200.7	20.0	**526**	
Chromium	mg/L	8/31/2017 1440h	9/7/2017 1216h	E200.8	0.100	< 0.100	
Cobalt	mg/L	8/31/2017 1440h	9/7/2017 1216h	E200.8	0.730	**4.44**	
Copper	mg/L	8/31/2017 1440h	9/7/2017 1216h	E200.8	1.30	**9.72**	
Iron	mg/L	8/31/2017 1440h	9/1/2017 1635h	E200.8	50.0	**262**	
Lead	mg/L	8/31/2017 1440h	9/14/2017 1100h	E200.8	0.0150	**0.0158**	
Magnesium	mg/L	8/31/2017 1440h	9/11/2017 1445h	E200.7	20.0	**844**	
Manganese	mg/L	8/31/2017 1440h	9/1/2017 1635h	E200.8	1.00	**102**	B
Mercury	mg/L	9/7/2017 1430h	9/8/2017 759h	E245.1	0.00200	< 0.00200	
Molybdenum	mg/L	8/31/2017 1440h	9/7/2017 1216h	E200.8	0.0400	**0.0701**	
Nickel	mg/L	8/31/2017 1440h	9/7/2017 1216h	E200.8	0.100	**7.22**	
Potassium	mg/L	8/31/2017 1440h	9/11/2017 1459h	E200.7	5.00	**133**	
Selenium	mg/L	8/31/2017 1440h	9/7/2017 1216h	E200.8	0.0500	**0.306**	
Silver	mg/L	8/31/2017 1440h	9/7/2017 1216h	E200.8	0.100	< 0.100	
Sodium	mg/L	8/31/2017 1440h	9/11/2017 1417h	E200.7	50.0	**2,120**	
Thallium	mg/L	8/31/2017 1440h	9/14/2017 1100h	E200.8	0.0100	**0.0213**	
Tin	mg/L	8/31/2017 1440h	9/7/2017 1216h	E200.8	17.0	< 17.0	
Uranium	mg/L	8/31/2017 1440h	9/7/2017 1216h	E200.8	0.0300	**9.63**	
Vanadium	mg/L	8/31/2017 1440h	9/11/2017 1459h	E200.7	0.0600	**5.60**	
Zinc	mg/L	8/31/2017 1440h	9/1/2017 1635h	E200.8	5.00	**68.1**	B

** - The reporting limits were raised due to sample matrix interferences.*

Analysis performed on a portion of the sample filtered at the laboratory upon receipt. The sample was received after the filtration holding time had expired for dissolved analysis.

B - The method blank was acceptable, as the Filter Method Blank result is less than 10% of the lowest reported sample concentration.

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INORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-003
Client Sample ID: Cell 3
Collection Date: 8/29/2017 917h
Received Date: 8/31/2017 925h

Analytical Results

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Ammonia (as N)	mg/L	9/8/2017 840h	9/8/2017 1127h	E350.1	5.00	**88.5**	
Bicarbonate (as CaCO3)	mg/L		9/6/2017 915h	SM2320B	1.00	< 1.00	
Carbonate (as CaCO3)	mg/L		9/6/2017 915h	SM2320B	1.00	< 1.00	
Chloride	mg/L		9/13/2017 1628h	E300.0	2,000	**2,720**	
Conductivity	µmhos/cm		9/1/2017 539h	SM2510B	2.00	**20,300**	
Fluoride	mg/L		9/13/2017 2007h	E300.0	10.0	**189**	
Ion Balance	%		9/13/2017 1413h	Calc.	-100	**-16.4**	
Nitrate/Nitrite (as N)	mg/L		8/31/2017 1736h	E353.2	2.00	**107**	
pH @ 25° C	pH Units		8/31/2017 1514h	SW9040C	1.00	**3.63**	H
Sulfate	mg/L		9/13/2017 1628h	E300.0	2,000	**9,970**	
Total Anions, Measured	meq/L		9/13/2017 1413h	Calc.		**286**	
Total Cations, Measured	meq/L		9/13/2017 1413h	Calc.		**205**	
Total Dissolved Solids	mg/L		9/1/2017 1230h	SM2540C	500	**17,300**	
Total Dissolved Solids Ratio, Measured/Calculated			9/13/2017 1413h	Calc.		**1.04**	
Total Dissolved Solids, Calculated	mg/L		9/13/2017 1413h	Calc.		**16,700**	

H - Sample was received outside of the holding time.

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ORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-003G
Client Sample ID: Cell 3
Collection Date: 8/29/2017 917h
Received Date: 8/31/2017 925h

Test Code: 8270-W

Analytical Results SVOA by GC/MS Method 8270D/3510C

Analyzed: 9/5/2017 1555h **Extracted:** 9/1/2017 928h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1,2,4-Trichlorobenzene	120-82-1	10.0	< 10.0	
1,2-Dichlorobenzene	95-50-1	10.0	< 10.0	
1,3-Dichlorobenzene	541-73-1	10.0	< 10.0	
1,4-Dichlorobenzene	106-46-7	10.0	< 10.0	
1-Methylnaphthalene	90-12-0	10.0	< 10.0	
2,4,5-Trichlorophenol	95-95-4	10.0	< 10.0	
2,4,6-Trichlorophenol	88-06-2	10.0	< 10.0	
2,4-Dichlorophenol	120-83-2	10.0	< 10.0	
2,4-Dimethylphenol	105-67-9	10.0	< 10.0	
2,4-Dinitrophenol	51-28-5	10.0	< 10.0	
2,4-Dinitrotoluene	121-14-2	10.0	< 10.0	
2,6-Dinitrotoluene	606-20-2	10.0	< 10.0	
2-Chloronaphthalene	91-58-7	10.0	< 10.0	
2-Chlorophenol	95-57-8	10.0	< 10.0	
2-Methylnaphthalene	91-57-6	10.0	< 10.0	
2-Methylphenol	95-48-7	10.0	< 10.0	
2-Nitrophenol	88-75-5	10.0	< 10.0	
3&4-Methylphenol		10.0	< 10.0	
3,3'-Dichlorobenzidine	91-94-1	10.0	< 10.0	
4,6-Dinitro-2-methylphenol	534-52-1	10.0	< 10.0	
4-Bromophenyl phenyl ether	101-55-3	10.0	< 10.0	
4-Chloro-3-methylphenol	59-50-7	10.0	< 10.0	
4-Chlorophenyl phenyl ether	7005-72-3	10.0	< 10.0	
4-Nitrophenol	100-02-7	10.0	< 10.0	
Acenaphthene	83-32-9	10.0	< 10.0	
Acenaphthylene	208-96-8	10.0	< 10.0	
Anthracene	120-12-7	10.0	< 10.0	
Azobenzene	103-33-3	10.0	< 10.0	
Benz(a)anthracene	56-55-3	10.0	< 10.0	

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1708707-003G
Client Sample ID: Cell 3

Analyzed: 9/5/2017 1555h **Extracted:** 9/1/2017 928h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Benzidine	92-87-5	10.0	< 10.0	
Benzo(a)pyrene	50-32-8	10.0	< 10.0	
Benzo(b)fluoranthene	205-99-2	10.0	< 10.0	
Benzo(g,h,i)perylene	191-24-2	10.0	< 10.0	
Benzo(k)fluoranthene	207-08-9	10.0	< 10.0	
Bis(2-chloroethoxy)methane	111-91-1	10.0	< 10.0	
Bis(2-chloroethyl) ether	111-44-4	10.0	< 10.0	
Bis(2-chloroisopropyl) ether	108-60-1	10.0	< 10.0	
Bis(2-ethylhexyl) phthalate	117-81-7	10.0	< 10.0	
Butyl benzyl phthalate	85-68-7	10.0	< 10.0	
Chrysene	218-01-9	10.0	< 10.0	
Dibenz(a,h)anthracene	53-70-3	10.0	< 10.0	
Diethyl phthalate	84-66-2	10.0	< 10.0	
Dimethyl phthalate	131-11-3	10.0	< 10.0	
Di-n-butyl phthalate	84-74-2	10.0	< 10.0	
Di-n-octyl phthalate	117-84-0	10.0	< 10.0	
Fluoranthene	206-44-0	10.0	< 10.0	
Fluorene	86-73-7	10.0	< 10.0	
Hexachlorobenzene	118-74-1	10.0	< 10.0	
Hexachlorobutadiene	87-68-3	10.0	< 10.0	
Hexachlorocyclopentadiene	77-47-4	10.0	< 10.0	
Hexachloroethane	67-72-1	10.0	< 10.0	
Indeno(1,2,3-cd)pyrene	193-39-5	10.0	< 10.0	
Isophorone	78-59-1	10.0	< 10.0	
Naphthalene	91-20-3	10.0	< 10.0	
Nitrobenzene	98-95-3	10.0	< 10.0	
N-Nitrosodimethylamine	62-75-9	10.0	< 10.0	
N-Nitrosodi-n-propylamine	621-64-7	10.0	< 10.0	
N-Nitrosodiphenylamine	86-30-6	10.0	< 10.0	
Pentachlorophenol	87-86-5	10.0	< 10.0	
Phenanthrene	85-01-8	10.0	< 10.0	
Phenol	108-95-2	10.0	< 10.0	
Pyrene	129-00-0	10.0	< 10.0	
Pyridine	110-86-1	10.0	< 10.0	

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1708707-003G
Client Sample ID: Cell 3

Analyzed: 9/5/2017 1555h **Extracted:** 9/1/2017 928h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 2,4,6-Tribromophenol	118-79-6	2.30	80.00	2.88	14-159	S
Surr: 2-Fluorobiphenyl	321-60-8	18.8	40.00	46.9	10-124	
Surr: 2-Fluorophenol	367-12-4	0.0800	80.00	0.100	10-106	S
Surr: Nitrobenzene-d5	4165-60-0	0.0500	40.00	0.125	10-180	S
Surr: Phenol-d6	13127-88-3	0.0700	80.00	0.0875	10-122	S
Surr: Terphenyl-d14	1718-51-0	28.3	40.00	70.9	10-221	

S - Surrogate recoveries outside the control limits as expected from historical results of samples received from client.
This sample was analyzed for TICs and no 4-Chlorophenol peaks were detected.

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

ORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-003A
Client Sample ID: Cell 3
Collection Date: 8/29/2017 917h
Received Date: 8/31/2017 925h

Test Code: 8260-W-DEN100

Analytical Results VOAs by GC/MS Method 8260C/5030C

Analyzed: 8/31/2017 1327h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8260C

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
2-Butanone	78-93-3	20.0	< 20.0	
Acetone	67-64-1	20.0	**48.4**	
Benzene	71-43-2	1.00	< 1.00	
Carbon tetrachloride	56-23-5	1.00	< 1.00	
Chloroform	67-66-3	1.00	< 1.00	
Chloromethane	74-87-3	1.00	< 1.00	
Methylene chloride	75-09-2	1.00	< 1.00	
Naphthalene	91-20-3	1.00	< 1.00	
Tetrahydrofuran	109-99-9	1.00	< 1.00	
Toluene	108-88-3	1.00	< 1.00	
Xylenes, Total	1330-20-7	1.00	< 1.00	

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 1,2-Dichloroethane-d4	17060-07-0	52.6	50.00	105	72-151	
Surr: 4-Bromofluorobenzene	460-00-4	50.9	50.00	102	80-152	
Surr: Dibromofluoromethane	1868-53-7	50.5	50.00	101	70-130	
Surr: Toluene-d8	2037-26-5	43.4	50.00	86.8	81-123	

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

Certificate of Analysis

Report Date: October 5, 2017

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings 2017 Characterization

Client Sample ID:	Cell 3	Project:	DNMI00107
Sample ID:	432537003	Client ID:	DNMI001
Matrix:	Water		
Collect Date:	29-AUG-17 09:17		
Receive Date:	08-SEP-17		
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	U	-354	+/-794	4060	1.00	pCi/L			JXC5	09/27/17	0838	1702127	1
Thorium-230	U	3940	+/-2170	6000	1.00	pCi/L							
Thorium-232	U	671	+/-1020	2690	1.00	pCi/L							
GFPC,Total Alpha Radium, Liquid "As Received"													
Gross Radium Alpha		292	+/-44.0	87.4	1.00	pCi/L			AXM6	09/28/17	1100	1702128	2
Lucas Cell, Ra226, liquid "As Received"													
Radium-226		101	+/-15.0	19.7	1.00	pCi/L			MXH8	10/02/17	0950	1702129	3
U- 233/234,U-235/236 and U-238 "As Received"													
Uranium-233/234		37600	+/-5220	5510	1.00	pCi/L			JXC5	09/26/17	0853	1702126	4
Uranium-235/236	U	4010	+/-2080	4040	1.00	pCi/L							
Uranium-238		32800	+/-4840	4490	1.00	pCi/L							

The following Analytical Methods were performed:

Method	Description	Analyst Comments
	DOE EML HASL-300, Th-01-RC Modified	
2	EPA 900.1 Modified	
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"			98.7	(15%-125%)
Barium Carrier	GFPC,Total Alpha Radium, Liquid "As Received"			92.7	(25%-125%)
Uranium-232 Tracer	U- 233/234,U-235/236 and U-238 "As Received"			93.1	(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.

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

Report Date: September 27, 2017

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings 2017 Characterization

Client Sample ID:	Cell 3	Project:	DNMI00107
Sample ID:	432537003	Client ID:	DNMI001
Matrix:	Water		
Collect Date:	29-AUG-17 09:17		
Receive Date:	08-SEP-17		
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		0.989	0.010	0.100	none		1	VH1	09/26/17	1029	1703328	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

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-004
Client Sample ID: Cell 4A
Collection Date: 8/29/2017 940h
Received Date: 8/31/2017 925h

Analytical Results DISSOLVED METALS

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Arsenic	mg/L	8/31/2017 1440h	9/1/2017 1638h	E200.8	1.00	**104**	
Beryllium	mg/L	8/31/2017 1440h	9/11/2017 1417h	E200.8	0.100	**0.440**	
Cadmium	mg/L	8/31/2017 1440h	9/1/2017 1638h	E200.8	0.250	**3.36**	
Calcium	mg/L	8/31/2017 1440h	9/11/2017 1512h	E200.7	50.0	**607**	
Chromium	mg/L	8/31/2017 1440h	9/1/2017 1638h	E200.8	1.00	**8.52**	
Cobalt	mg/L	8/31/2017 1440h	9/1/2017 1638h	E200.8	2.00	**37.9**	
Copper	mg/L	8/31/2017 1440h	9/7/2017 1219h	E200.8	6.25	**578**	
Iron	mg/L	8/31/2017 1440h	9/7/2017 1219h	E200.8	312	**4,480**	
Lead	mg/L	8/31/2017 1440h	9/1/2017 1638h	E200.8	1.00	**15.1**	
Magnesium	mg/L	8/31/2017 1440h	9/11/2017 1419h	E200.7	500	**4,360**	
Manganese	mg/L	8/31/2017 1440h	9/1/2017 1638h	E200.8	1.00	**261**	B
Mercury	mg/L	9/7/2017 1430h	9/8/2017 801h	E245.1	0.00200	**0.00230**	
Molybdenum	mg/L	8/31/2017 1440h	9/1/2017 1638h	E200.8	1.00	**40.8**	
Nickel	mg/L	8/31/2017 1440h	9/1/2017 1638h	E200.8	1.00	**66.8**	
Potassium	mg/L	8/31/2017 1440h	9/11/2017 1512h	E200.7	50.0	**1,500**	
Selenium	mg/L	8/31/2017 1440h	9/1/2017 1638h	E200.8	1.00	**4.45**	
Silver	mg/L	8/31/2017 1440h	9/7/2017 1311h	E200.8	0.100	**0.379**	
Sodium	mg/L	8/31/2017 1440h	9/11/2017 1419h	E200.7	500	**12,000**	
Thallium	mg/L	8/31/2017 1440h	9/7/2017 1311h	E200.8	0.0250	**0.169**	
Tin	mg/L	8/31/2017 1440h	9/7/2017 1311h	E200.8	17.0	< 17.0	
Uranium	mg/L	8/31/2017 1440h	9/1/2017 1638h	E200.8	1.00	**193**	
Vanadium	mg/L	8/31/2017 1440h	9/12/2017 1449h	E200.7	6.00	**972**	
Zinc	mg/L	8/31/2017 1440h	9/1/2017 1638h	E200.8	5.00	**344**	B

Analysis performed on a portion of the sample filtered at the laboratory upon receipt. The sample was received after the filtration holding time had expired for dissolved analysis.

B - The method blank was acceptable, as the Filter Method Blank result is less than 10% of the lowest reported sample concentration.

INORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-004
Client Sample ID: Cell 4A
Collection Date: 8/29/2017 940h
Received Date: 8/31/2017 925h

Analytical Results

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Ammonia (as N)	mg/L	9/8/2017 840h	9/8/2017 1128h	E350.1	5.00	**924**	
Bicarbonate (as CaCO3)	mg/L		9/6/2017 915h	SM2320B	1.00	< 1.00	
Carbonate (as CaCO3)	mg/L		9/6/2017 915h	SM2320B	1.00	< 1.00	
Chloride	mg/L		9/13/2017 1843h	E300.0	2,000	**8,060**	
Conductivity	µmhos/cm		9/1/2017 539h	SM2510B	2.00	**89,800**	
Fluoride	mg/L		9/14/2017 924h	E300.0	100	**1,420**	
Ion Balance	%		9/13/2017 1413h	Calc.	-100	**-21.5**	
Nitrate/Nitrite (as N)	mg/L		8/31/2017 1737h	E353.2	1.00	**53.4**	
pH @ 25° C	pH Units		8/31/2017 1514h	SW9040C	1.00	**1.53**	H
Sulfate	mg/L		9/13/2017 1645h	E300.0	20,000	**77,800**	
Total Anions, Measured	meq/L		9/13/2017 1413h	Calc.		**1,850**	
Total Cations, Measured	meq/L		9/13/2017 1413h	Calc.		**1,190**	
Total Dissolved Solids	mg/L		9/1/2017 1230h	SM2540C	500	**120,000**	
Total Dissolved Solids Ratio, Measured/Calculated			9/13/2017 1413h	Calc.		**1.11**	
Total Dissolved Solids, Calculated	mg/L		9/13/2017 1413h	Calc.		**109,000**	

H - Sample was received outside of the holding time.

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Jose Rocha
QA Officer

ORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-004G
Client Sample ID: Cell 4A
Collection Date: 8/29/2017 940h
Received Date: 8/31/2017 925h

Test Code: 8270-W

Analytical Results SVOA by GC/MS Method 8270D/3510C

Analyzed: 9/5/2017 1620h **Extracted:** 9/1/2017 928h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1,2,4-Trichlorobenzene	120-82-1	10.0	< 10.0	
1,2-Dichlorobenzene	95-50-1	10.0	< 10.0	
1,3-Dichlorobenzene	541-73-1	10.0	< 10.0	
1,4-Dichlorobenzene	106-46-7	10.0	< 10.0	
1-Methylnaphthalene	90-12-0	10.0	< 10.0	
2,4,5-Trichlorophenol	95-95-4	10.0	< 10.0	
2,4,6-Trichlorophenol	88-06-2	10.0	< 10.0	
2,4-Dichlorophenol	120-83-2	10.0	< 10.0	
2,4-Dimethylphenol	105-67-9	10.0	< 10.0	
2,4-Dinitrophenol	51-28-5	10.0	< 10.0	
2,4-Dinitrotoluene	121-14-2	10.0	< 10.0	
2,6-Dinitrotoluene	606-20-2	10.0	< 10.0	
2-Chloronaphthalene	91-58-7	10.0	< 10.0	
2-Chlorophenol	95-57-8	10.0	< 10.0	
2-Methylnaphthalene	91-57-6	10.0	< 10.0	
2-Methylphenol	95-48-7	10.0	< 10.0	
2-Nitrophenol	88-75-5	10.0	< 10.0	
3&4-Methylphenol		10.0	< 10.0	
3,3'-Dichlorobenzidine	91-94-1	10.0	< 10.0	
4,6-Dinitro-2-methylphenol	534-52-1	10.0	< 10.0	
4-Bromophenyl phenyl ether	101-55-3	10.0	< 10.0	
4-Chloro-3-methylphenol	59-50-7	10.0	< 10.0	
4-Chlorophenyl phenyl ether	7005-72-3	10.0	< 10.0	
4-Nitrophenol	100-02-7	10.0	< 10.0	
Acenaphthene	83-32-9	10.0	< 10.0	
Acenaphthylene	208-96-8	10.0	< 10.0	
Anthracene	120-12-7	10.0	< 10.0	
Azobenzene	103-33-3	10.0	< 10.0	
Benz(a)anthracene	56-55-3	10.0	< 10.0	

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1708707-004G
Client Sample ID: Cell 4A

Analyzed: 9/5/2017 1620h **Extracted:** 9/1/2017 928h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Benzidine	92-87-5	10.0	< 10.0	
Benzo(a)pyrene	50-32-8	10.0	< 10.0	
Benzo(b)fluoranthene	205-99-2	10.0	< 10.0	
Benzo(g,h,i)perylene	191-24-2	10.0	< 10.0	
Benzo(k)fluoranthene	207-08-9	10.0	< 10.0	
Bis(2-chloroethoxy)methane	111-91-1	10.0	< 10.0	
Bis(2-chloroethyl) ether	111-44-4	10.0	< 10.0	
Bis(2-chloroisopropyl) ether	108-60-1	10.0	< 10.0	
Bis(2-ethylhexyl) phthalate	117-81-7	10.0	< 10.0	
Butyl benzyl phthalate	85-68-7	10.0	< 10.0	
Chrysene	218-01-9	10.0	< 10.0	
Dibenz(a,h)anthracene	53-70-3	10.0	< 10.0	
Diethyl phthalate	84-66-2	10.0	< 10.0	
Dimethyl phthalate	131-11-3	10.0	< 10.0	
Di-n-butyl phthalate	84-74-2	10.0	< 10.0	
Di-n-octyl phthalate	117-84-0	10.0	< 10.0	
Fluoranthene	206-44-0	10.0	< 10.0	
Fluorene	86-73-7	10.0	< 10.0	
Hexachlorobenzene	118-74-1	10.0	< 10.0	
Hexachlorobutadiene	87-68-3	10.0	< 10.0	
Hexachlorocyclopentadiene	77-47-4	10.0	< 10.0	
Hexachloroethane	67-72-1	10.0	< 10.0	
Indeno(1,2,3-cd)pyrene	193-39-5	10.0	< 10.0	
Isophorone	78-59-1	10.0	< 10.0	
Naphthalene	91-20-3	10.0	< 10.0	
Nitrobenzene	98-95-3	10.0	< 10.0	
N-Nitrosodimethylamine	62-75-9	10.0	< 10.0	
N-Nitrosodi-n-propylamine	621-64-7	10.0	< 10.0	
N-Nitrosodiphenylamine	86-30-6	10.0	< 10.0	
Pentachlorophenol	87-86-5	10.0	< 10.0	
Phenanthrene	85-01-8	10.0	< 10.0	
Phenol	108-95-2	10.0	< 10.0	
Pyrene	129-00-0	10.0	< 10.0	
Pyridine	110-86-1	10.0	< 10.0	

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1708707-004G
Client Sample ID: Cell 4A

Analyzed: 9/5/2017 1620h **Extracted:** 9/1/2017 928h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 2,4,6-Tribromophenol	118-79-6	17.0	80.00	21.2	14-159	
Surr: 2-Fluorobiphenyl	321-60-8	13.8	40.00	34.6	10-124	
Surr: 2-Fluorophenol	367-12-4	0.0200	80.00	0.0250	10-106	S
Surr: Nitrobenzene-d5	4165-60-0	10.7	40.00	26.8	10-180	
Surr: Phenol-d6	13127-88-3	2.27	80.00	2.84	10-122	S
Surr: Terphenyl-d14	1718-51-0	30.4	40.00	76.1	10-221	

S - Surrogate recoveries outside the control limits as expected from historical results of samples received from client.
This sample was analyzed for TICs and no 4-Chlorophenol peaks were detected.

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

ORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-004A
Client Sample ID: Cell 4A
Collection Date: 8/29/2017 940h
Received Date: 8/31/2017 925h

Test Code: 8260-W-DEN100

Analytical Results VOAs by GC/MS Method 8260C/5030C

Analyzed: 8/31/2017 1347h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8260C

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
2-Butanone	78-93-3	20.0	< 20.0	
Acetone	67-64-1	20.0	**21.4**	
Benzene	71-43-2	1.00	< 1.00	
Carbon tetrachloride	56-23-5	1.00	< 1.00	
Chloroform	67-66-3	1.00	< 1.00	
Chloromethane	74-87-3	1.00	**1.35**	
Methylene chloride	75-09-2	1.00	< 1.00	
Naphthalene	91-20-3	1.00	< 1.00	
Tetrahydrofuran	109-99-9	1.00	< 1.00	
Toluene	108-88-3	1.00	< 1.00	
Xylenes, Total	1330-20-7	1.00	< 1.00	

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 1,2-Dichloroethane-d4	17060-07-0	54.8	50.00	110	72-151	
Surr: 4-Bromofluorobenzene	460-00-4	49.3	50.00	98.6	80-152	
Surr: Dibromofluoromethane	1868-53-7	50.4	50.00	101	70-130	
Surr: Toluene-d8	2037-26-5	59.4	50.00	119	81-123	

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

Certificate of Analysis

Report Date: October 5, 2017

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: Tailings 2017 Characterization

Client Sample ID: Cell 4A
Sample ID: 432537004
Matrix: Water
Collect Date: 29-AUG-17 09:40
Receive Date: 08-SEP-17
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	-209	+/-911	4140	1.00	pCi/L			JXC5	09/27/17	0838	1702127	1
Thorium-230		4.45E+06	+/-61100	7590	1.00	pCi/L							
Thorium-232		47700	+/-6380	3120	1.00	pCi/L							
GFPC,Total Alpha Radium, Liquid "As Received"													
Gross Radium Alpha		1.33E+05	+/-1330	195	1.00	pCi/L			AXM6	09/27/17	1555	1702128	2
Lucas Cell, Ra226, liquid "As Received"													
Radium-226		759	+/-40.0	32.7	1.00	pCi/L			MXH8	10/02/17	0950	1702129	3
U- 233/234,U-235/236 and U-238 "As Received"													
Uranium-233/234		6.37E+05	+/-22700	4460	1.00	pCi/L			JXC5	09/26/17	0853	1702126	4
Uranium-235/236		30600	+/-5640	4770	1.00	pCi/L							
Uranium-238		6.92E+05	+/-23600	3860	1.00	pCi/L							

The following Analytical Methods were performed:

Method	Description	Analyst Comments
	DOE EML HASL-300, Th-01-RC Modified	
2	EPA 900.1 Modified	
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"			85.2	(15%-125%)
Barium Carrier	GFPC,Total Alpha Radium, Liquid "As Received"			96.4	(25%-125%)
Uranium-232 Tracer	U- 233/234,U-235/236 and U-238 "As Received"			79.9	(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.

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 27, 2017

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings 2017 Characterization

Client Sample ID:	Cell 4A	Project:	DNMI00107
Sample ID:	432537004	Client ID:	DNMI001
Matrix:	Water		
Collect Date:	29-AUG-17 09:40		
Receive Date:	08-SEP-17		
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		1.09	0.010	0.100	none		1	VH1	09/26/17	1030	1703328	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
	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

INORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-005
Client Sample ID: Cell 4A LDS
Collection Date: 8/29/2017 956h
Received Date: 8/31/2017 925h

Analytical Results DISSOLVED METALS

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Arsenic	mg/L	8/31/2017 1440h	9/1/2017 1641h	E200.8	1.00	**117**	
Beryllium	mg/L	8/31/2017 1440h	9/11/2017 1420h	E200.8	0.100	**0.479**	
Cadmium	mg/L	8/31/2017 1440h	9/1/2017 1641h	E200.8	0.250	**4.08**	
Calcium	mg/L	8/31/2017 1440h	9/11/2017 1515h	E200.7	50.0	**542**	
Chromium	mg/L	8/31/2017 1440h	9/1/2017 1641h	E200.8	1.00	**9.41**	
Cobalt	mg/L	8/31/2017 1440h	9/1/2017 1641h	E200.8	2.00	**42.7**	
Copper	mg/L	8/31/2017 1440h	9/7/2017 1222h	E200.8	6.25	**650**	
Iron	mg/L	8/31/2017 1440h	9/7/2017 1222h	E200.8	312	**5,140**	
Lead	mg/L	8/31/2017 1440h	9/1/2017 1641h	E200.8	1.00	**15.5**	
Magnesium	mg/L	8/31/2017 1440h	9/11/2017 1421h	E200.7	500	**4,630**	
Manganese	mg/L	8/31/2017 1440h	9/1/2017 1641h	E200.8	1.00	**296**	B
Mercury	mg/L	9/7/2017 1430h	9/8/2017 803h	E245.1	0.00200	< 0.00200	
Molybdenum	mg/L	8/31/2017 1440h	9/1/2017 1641h	E200.8	1.00	**49.9**	
Nickel	mg/L	8/31/2017 1440h	9/1/2017 1641h	E200.8	1.00	**74.7**	
Potassium	mg/L	8/31/2017 1440h	9/11/2017 1515h	E200.7	50.0	**1,710**	
Selenium	mg/L	8/31/2017 1440h	9/1/2017 1641h	E200.8	1.00	**4.94**	
Silver	mg/L	8/31/2017 1440h	9/7/2017 1314h	E200.8	0.100	**0.312**	
Sodium	mg/L	8/31/2017 1440h	9/11/2017 1421h	E200.7	500	**11,500**	
Thallium	mg/L	8/31/2017 1440h	9/7/2017 1314h	E200.8	0.0250	**0.550**	
Tin	mg/L	8/31/2017 1440h	9/7/2017 1314h	E200.8	17.0	< 17.0	
Uranium	mg/L	8/31/2017 1440h	9/1/2017 1641h	E200.8	1.00	**247**	
Vanadium	mg/L	8/31/2017 1440h	9/12/2017 1451h	E200.7	6.00	**1,090**	
Zinc	mg/L	8/31/2017 1440h	9/1/2017 1641h	E200.8	5.00	**385**	B

Analysis performed on a portion of the sample filtered at the laboratory upon receipt. The sample was received after the filtration holding time had expired for dissolved analysis.

B - The method blank was acceptable, as the method blank result is less than 10% of the lowest reported sample concentration.

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Kyle F. Gross
Laboratory Director
Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-005
Client Sample ID: Cell 4A LDS
Collection Date: 8/29/2017 956h
Received Date: 8/31/2017 925h

Analytical Results

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Ammonia (as N)	mg/L	9/8/2017 840h	9/8/2017 1129h	E350.1	5.00	**846**	
Bicarbonate (as CaCO3)	mg/L		9/6/2017 915h	SM2320B	1.00	< 1.00	
Carbonate (as CaCO3)	mg/L		9/6/2017 915h	SM2320B	1.00	< 1.00	
Chloride	mg/L		9/13/2017 1900h	E300.0	1,000	**8,610**	
Conductivity	µmhos/cm		9/1/2017 539h	SM2510B	2.00	**97,900**	
Fluoride	mg/L		9/13/2017 1900h	E300.0	100	**1,370**	
Ion Balance	%		9/13/2017 1413h	Calc.	-100	**-26.2**	
Nitrate/Nitrite (as N)	mg/L		8/31/2017 1742h	E353.2	1.00	**63.1**	
pH @ 25° C	pH Units		8/31/2017 1514h	SW9040C	1.00	**1.50**	H
Sulfate	mg/L		9/13/2017 1736h	E300.0	20,000	**89,100**	
Total Anions, Measured	meq/L		9/13/2017 1413h	Calc.		**2,100**	
Total Cations, Measured	meq/L		9/13/2017 1413h	Calc.		**1,230**	
Total Dissolved Solids	mg/L		9/1/2017 1230h	SM2540C	500	**142,000**	
Total Dissolved Solids Ratio, Measured/Calculated			9/13/2017 1413h	Calc.		**1.17**	
Total Dissolved Solids, Calculated	mg/L		9/13/2017 1413h	Calc.		**121,000**	

H - Sample was received outside of the holding time.

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Laboratory Director

Jose Rocha
QA Officer

ORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-005G
Client Sample ID: Cell 4A LDS
Collection Date: 8/29/2017 956h
Received Date: 8/31/2017 925h

Test Code: 8270-W

Analytical Results SVOA by GC/MS Method 8270D/3510C

Analyzed: 9/5/2017 1645h **Extracted:** 9/1/2017 928h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1,2,4-Trichlorobenzene	120-82-1	10.0	< 10.0	
1,2-Dichlorobenzene	95-50-1	10.0	< 10.0	
1,3-Dichlorobenzene	541-73-1	10.0	< 10.0	
1,4-Dichlorobenzene	106-46-7	10.0	< 10.0	
1-Methylnaphthalene	90-12-0	10.0	< 10.0	
2,4,5-Trichlorophenol	95-95-4	10.0	< 10.0	
2,4,6-Trichlorophenol	88-06-2	10.0	< 10.0	
2,4-Dichlorophenol	120-83-2	10.0	< 10.0	
2,4-Dimethylphenol	105-67-9	10.0	< 10.0	
2,4-Dinitrophenol	51-28-5	10.0	< 10.0	
2,4-Dinitrotoluene	121-14-2	10.0	< 10.0	
2,6-Dinitrotoluene	606-20-2	10.0	< 10.0	
2-Chloronaphthalene	91-58-7	10.0	< 10.0	
2-Chlorophenol	95-57-8	10.0	< 10.0	
2-Methylnaphthalene	91-57-6	10.0	< 10.0	
2-Methylphenol	95-48-7	10.0	< 10.0	
2-Nitrophenol	88-75-5	10.0	< 10.0	
3&4-Methylphenol		10.0	< 10.0	
3,3′-Dichlorobenzidine	91-94-1	10.0	< 10.0	
4,6-Dinitro-2-methylphenol	534-52-1	10.0	< 10.0	
4-Bromophenyl phenyl ether	101-55-3	10.0	< 10.0	
4-Chloro-3-methylphenol	59-50-7	10.0	< 10.0	
4-Chlorophenyl phenyl ether	7005-72-3	10.0	< 10.0	
4-Nitrophenol	100-02-7	10.0	< 10.0	
Acenaphthene	83-32-9	10.0	< 10.0	
Acenaphthylene	208-96-8	10.0	< 10.0	
Anthracene	120-12-7	10.0	< 10.0	
Azobenzene	103-33-3	10.0	< 10.0	
Benz(a)anthracene	56-55-3	10.0	< 10.0	

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1708707-005G
Client Sample ID: Cell 4A LDS

Analyzed: 9/5/2017 1645h **Extracted:** 9/1/2017 928h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Benzidine	92-87-5	10.0	< 10.0	
Benzo(a)pyrene	50-32-8	10.0	< 10.0	
Benzo(b)fluoranthene	205-99-2	10.0	< 10.0	
Benzo(g,h,i)perylene	191-24-2	10.0	< 10.0	
Benzo(k)fluoranthene	207-08-9	10.0	< 10.0	
Bis(2-chloroethoxy)methane	111-91-1	10.0	< 10.0	
Bis(2-chloroethyl) ether	111-44-4	10.0	< 10.0	
Bis(2-chloroisopropyl) ether	108-60-1	10.0	< 10.0	
Bis(2-ethylhexyl) phthalate	117-81-7	10.0	< 10.0	
Butyl benzyl phthalate	85-68-7	10.0	< 10.0	
Chrysene	218-01-9	10.0	< 10.0	
Dibenz(a,h)anthracene	53-70-3	10.0	< 10.0	
Diethyl phthalate	84-66-2	10.0	< 10.0	
Dimethyl phthalate	131-11-3	10.0	< 10.0	
Di-n-butyl phthalate	84-74-2	10.0	< 10.0	
Di-n-octyl phthalate	117-84-0	10.0	< 10.0	
Fluoranthene	206-44-0	10.0	< 10.0	
Fluorene	86-73-7	10.0	< 10.0	
Hexachlorobenzene	118-74-1	10.0	< 10.0	
Hexachlorobutadiene	87-68-3	10.0	< 10.0	
Hexachlorocyclopentadiene	77-47-4	10.0	< 10.0	
Hexachloroethane	67-72-1	10.0	< 10.0	
Indeno(1,2,3-cd)pyrene	193-39-5	10.0	< 10.0	
Isophorone	78-59-1	10.0	< 10.0	
Naphthalene	91-20-3	10.0	< 10.0	
Nitrobenzene	98-95-3	10.0	< 10.0	
N-Nitrosodimethylamine	62-75-9	10.0	< 10.0	
N-Nitrosodi-n-propylamine	621-64-7	10.0	< 10.0	
N-Nitrosodiphenylamine	86-30-6	10.0	< 10.0	
Pentachlorophenol	87-86-5	10.0	< 10.0	
Phenanthrene	85-01-8	10.0	< 10.0	
Phenol	108-95-2	10.0	< 10.0	
Pyrene	129-00-0	10.0	< 10.0	
Pyridine	110-86-1	10.0	< 10.0	

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web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1708707-005G
Client Sample ID: Cell 4A LDS

Analyzed: 9/5/2017 1645h **Extracted:** 9/1/2017 928h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 2,4,6-Tribromophenol	118-79-6	13.4	80.00	16.7	14-159	
Surr: 2-Fluorobiphenyl	321-60-8	5.56	40.00	13.9	10-124	
Surr: 2-Fluorophenol	367-12-4	0.870	80.00	1.09	10-106	S
Surr: Nitrobenzene-d5	4165-60-0	8.18	40.00	20.4	10-180	
Surr: Phenol-d6	13127-88-3	27.1	80.00	33.9	10-122	
Surr: Terphenyl-d14	1718-51-0	23.1	40.00	57.8	10-221	

S - Surrogate recoveries outside the control limits as expected from historical results of samples received from client.
This sample was analyzed for TICs and no 4-Chlorophenol peaks were detected.

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

ORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-005A
Client Sample ID: Cell 4A LDS
Collection Date: 8/29/2017 956h
Received Date: 8/31/2017 925h

Test Code: 8260-W-DEN100

Analytical Results VOAs by GC/MS Method 8260C/5030C

Analyzed: 8/31/2017 1407h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8260C

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
2-Butanone	78-93-3	20.0	< 20.0	
Acetone	67-64-1	20.0	**79.8**	
Benzene	71-43-2	1.00	< 1.00	
Carbon tetrachloride	56-23-5	1.00	< 1.00	
Chloroform	67-66-3	1.00	**21.6**	
Chloromethane	74-87-3	1.00	**3.00**	
Methylene chloride	75-09-2	1.00	< 1.00	
Naphthalene	91-20-3	1.00	< 1.00	
Tetrahydrofuran	109-99-9	1.00	**15.7**	
Toluene	108-88-3	1.00	< 1.00	
Xylenes, Total	1330-20-7	1.00	< 1.00	

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 1,2-Dichloroethane-d4	17060-07-0	54.9	50.00	110	72-151	
Surr: 4-Bromofluorobenzene	460-00-4	49.6	50.00	99.2	80-152	
Surr: Dibromofluoromethane	1868-53-7	49.7	50.00	99.4	70-130	
Surr: Toluene-d8	2037-26-5	58.1	50.00	116	81-123	

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Certificate of Analysis

Report Date: October 5, 2017

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings 2017 Characterization

Client Sample ID:	Cell 4A LDS	Project:	DNMI00107
Sample ID:	432537005	Client ID:	DNMI001
Matrix:	Water		
Collect Date:	29-AUG-17 09:56		
Receive Date:	08-SEP-17		
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	U	880	+/-1540	5600	1.00	pCi/L			JXC5	09/27/17	0838	1702127	1
Thorium-230		5.41E+06	+/-66900	7490	1.00	pCi/L							
Thorium-232		49200	+/-6440	4070	1.00	pCi/L							
GFPC,Total Alpha Radium, Liquid "As Received"													
Gross Radium Alpha		1.76E+05	+/-1520	152	1.00	pCi/L			AXM6	09/27/17	1555	1702128	2
Lucas Cell, Ra226, liquid "As Received"													
Radium-226		286	+/-23.2	25.1	1.00	pCi/L			MXH8	10/02/17	0950	1702129	3
U- 233/234,U-235/236 and U-238 "As Received"													
Uranium-233/234		8.52E+05	+/-26400	5380	1.00	pCi/L			JXC5	09/26/17	0853	1702126	4
Uranium-235/236		66200	+/-8280	5590	1.00	pCi/L							
Uranium-238		8.51E+05	+/-26400	4990	1.00	pCi/L							

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	EPA 900.1 Modified	
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"			90.9	(15%-125%)
Barium Carrier	GFPC,Total Alpha Radium, Liquid "As Received"			96.4	(25%-125%)
Uranium-232 Tracer	U- 233/234,U-235/236 and U-238 "As Received"			86.7	(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.

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

Certificate of Analysis

Report Date: September 27, 2017

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings 2017 Characterization

Client Sample ID:	Cell 4A LDS	Project:	DNMI00107
Sample ID:	432537005	Client ID:	DNMI001
Matrix:	Water		
Collect Date:	29-AUG-17 09:56		
Receive Date:	08-SEP-17		
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		1.17	0.010	0.100	none		1	VH1	09/26/17	1031	1703328	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 he 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

INORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-006
Client Sample ID: Cell 4B
Collection Date: 8/29/2017 1035h
Received Date: 8/31/2017 925h

Analytical Results DISSOLVED METALS

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Arsenic	mg/L	8/31/2017 1440h	9/1/2017 1644h	E200.8	1.00	**82.7**	
Beryllium	mg/L	8/31/2017 1440h	9/11/2017 1423h	E200.8	0.100	**0.347**	
Cadmium	mg/L	8/31/2017 1440h	9/1/2017 1644h	E200.8	0.250	**2.34**	
Calcium	mg/L	8/31/2017 1440h	9/11/2017 1517h	E200.7	20.0	**473**	
Chromium	mg/L	8/31/2017 1440h	9/1/2017 1644h	E200.8	1.00	**7.80**	
Cobalt	mg/L	8/31/2017 1440h	9/1/2017 1644h	E200.8	2.00	**30.3**	
Copper	mg/L	8/31/2017 1440h	9/7/2017 1225h	E200.8	6.25	**457**	
Iron	mg/L	8/31/2017 1440h	9/7/2017 1225h	E200.8	312	**3,690**	
Lead	mg/L	8/31/2017 1440h	9/1/2017 1644h	E200.8	1.00	**12.2**	
Magnesium	mg/L	8/31/2017 1440h	9/11/2017 1448h	E200.7	100	**3,550**	
Manganese	mg/L	8/31/2017 1440h	9/1/2017 1644h	E200.8	1.00	**207**	B
Mercury	mg/L	9/7/2017 1430h	9/8/2017 805h	E245.1	0.00200	< 0.00200	
Molybdenum	mg/L	8/31/2017 1440h	9/1/2017 1644h	E200.8	1.00	**22.6**	
Nickel	mg/L	8/31/2017 1440h	9/1/2017 1644h	E200.8	1.00	**53.0**	
Potassium	mg/L	8/31/2017 1440h	9/11/2017 1520h	E200.7	50.0	**1,230**	
Selenium	mg/L	8/31/2017 1440h	9/1/2017 1644h	E200.8	1.00	**3.74**	
Silver	mg/L	8/31/2017 1440h	9/7/2017 1317h	E200.8	0.100	< 0.100	
Sodium	mg/L	8/31/2017 1440h	9/11/2017 1350h	E200.7	500	**10,600**	
Thallium	mg/L	8/31/2017 1440h	9/14/2017 1103h	E200.8	0.0150	**0.0175**	
Tin	mg/L	8/31/2017 1440h	9/7/2017 1317h	E200.8	17.0	< 17.0	
Uranium	mg/L	8/31/2017 1440h	9/1/2017 1644h	E200.8	1.00	**23.1**	
Vanadium	mg/L	8/31/2017 1440h	9/12/2017 1505h	E200.7	3.00	**746**	
Zinc	mg/L	8/31/2017 1440h	9/1/2017 1644h	E200.8	5.00	**267**	B

Analysis performed on a portion of the sample filtered at the laboratory upon receipt. The sample was received after the filtration holding time had expired for dissolved analysis.

B - The method blank was acceptable, as the Filter Method Blank result is less than 10% of the lowest reported sample concentration.

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Kyle F. Gross
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Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-006
Client Sample ID: Cell 4B
Collection Date: 8/29/2017 1035h
Received Date: 8/31/2017 925h

Analytical Results

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Ammonia (as N)	mg/L	9/8/2017 840h	9/8/2017 1130h	E350.1	5.00	**724**	
Bicarbonate (as CaCO3)	mg/L		9/6/2017 915h	SM2320B	1.00	< 1.00	
Carbonate (as CaCO3)	mg/L		9/6/2017 915h	SM2320B	1.00	< 1.00	
Chloride	mg/L		9/13/2017 1917h	E300.0	1,000	**6,930**	
Conductivity	µmhos/cm		9/1/2017 539h	SM2510B	2.00	**93,800**	
Fluoride	mg/L		9/13/2017 1917h	E300.0	100	**1,170**	
Ion Balance	%		9/13/2017 1413h	Calc.	-100	**-24.8**	
Nitrate/Nitrite (as N)	mg/L		8/31/2017 1743h	E353.2	1.00	**31.3**	
pH @ 25° C	pH Units		8/31/2017 1514h	SW9040C	1.00	**1.41**	H
Sulfate	mg/L		9/13/2017 1753h	E300.0	20,000	**70,800**	
Total Anions, Measured	meq/L		9/13/2017 1413h	Calc.		**1,670**	
Total Cations, Measured	meq/L		9/13/2017 1413h	Calc.		**1,010**	
Total Dissolved Solids	mg/L		9/1/2017 1230h	SM2540C	500	**103,000**	
Total Dissolved Solids Ratio, Measured/Calculated			9/13/2017 1413h	Calc.		**1.06**	
Total Dissolved Solids, Calculated	mg/L		9/13/2017 1413h	Calc.		**97,300**	

H - Sample was received outside of the holding time.

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Jose Rocha
QA Officer

ORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-006G
Client Sample ID: Cell 4B
Collection Date: 8/29/2017 1035h
Received Date: 8/31/2017 925h

Test Code: 8270-W

Analytical Results SVOA by GC/MS Method 8270D/3510C

Analyzed: 9/5/2017 1710h **Extracted:** 9/1/2017 928h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1,2,4-Trichlorobenzene	120-82-1	10.0	< 10.0	
1,2-Dichlorobenzene	95-50-1	10.0	< 10.0	
1,3-Dichlorobenzene	541-73-1	10.0	< 10.0	
1,4-Dichlorobenzene	106-46-7	10.0	< 10.0	
1-Methylnaphthalene	90-12-0	10.0	< 10.0	
2,4,5-Trichlorophenol	95-95-4	10.0	< 10.0	
2,4,6-Trichlorophenol	88-06-2	10.0	< 10.0	
2,4-Dichlorophenol	120-83-2	10.0	< 10.0	
2,4-Dimethylphenol	105-67-9	10.0	< 10.0	
2,4-Dinitrophenol	51-28-5	10.0	< 10.0	
2,4-Dinitrotoluene	121-14-2	10.0	< 10.0	
2,6-Dinitrotoluene	606-20-2	10.0	< 10.0	
2-Chloronaphthalene	91-58-7	10.0	< 10.0	
2-Chlorophenol	95-57-8	10.0	< 10.0	
2-Methylnaphthalene	91-57-6	10.0	< 10.0	
2-Methylphenol	95-48-7	10.0	< 10.0	
2-Nitrophenol	88-75-5	10.0	< 10.0	
3&4-Methylphenol		10.0	< 10.0	
3,3′-Dichlorobenzidine	91-94-1	10.0	< 10.0	
4,6-Dinitro-2-methylphenol	534-52-1	10.0	< 10.0	
4-Bromophenyl phenyl ether	101-55-3	10.0	< 10.0	
4-Chloro-3-methylphenol	59-50-7	10.0	< 10.0	
4-Chlorophenyl phenyl ether	7005-72-3	10.0	< 10.0	
4-Nitrophenol	100-02-7	10.0	< 10.0	
Acenaphthene	83-32-9	10.0	< 10.0	
Acenaphthylene	208-96-8	10.0	< 10.0	
Anthracene	120-12-7	10.0	< 10.0	
Azobenzene	103-33-3	10.0	< 10.0	
Benz(a)anthracene	56-55-3	10.0	< 10.0	

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1708707-006G
Client Sample ID: Cell 4B

Analyzed: 9/5/2017 1710h **Extracted:** 9/1/2017 928h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Benzidine	92-87-5	10.0	< 10.0	
Benzo(a)pyrene	50-32-8	10.0	< 10.0	
Benzo(b)fluoranthene	205-99-2	10.0	< 10.0	
Benzo(g,h,i)perylene	191-24-2	10.0	< 10.0	
Benzo(k)fluoranthene	207-08-9	10.0	< 10.0	
Bis(2-chloroethoxy)methane	111-91-1	10.0	< 10.0	
Bis(2-chloroethyl) ether	111-44-4	10.0	< 10.0	
Bis(2-chloroisopropyl) ether	108-60-1	10.0	< 10.0	
Bis(2-ethylhexyl) phthalate	117-81-7	10.0	< 10.0	
Butyl benzyl phthalate	85-68-7	10.0	< 10.0	
Chrysene	218-01-9	10.0	< 10.0	
Dibenz(a,h)anthracene	53-70-3	10.0	< 10.0	
Diethyl phthalate	84-66-2	10.0	< 10.0	
Dimethyl phthalate	131-11-3	10.0	< 10.0	
Di-n-butyl phthalate	84-74-2	10.0	< 10.0	
Di-n-octyl phthalate	117-84-0	10.0	< 10.0	
Fluoranthene	206-44-0	10.0	< 10.0	
Fluorene	86-73-7	10.0	< 10.0	
Hexachlorobenzene	118-74-1	10.0	< 10.0	
Hexachlorobutadiene	87-68-3	10.0	< 10.0	
Hexachlorocyclopentadiene	77-47-4	10.0	< 10.0	
Hexachloroethane	67-72-1	10.0	< 10.0	
Indeno(1,2,3-cd)pyrene	193-39-5	10.0	< 10.0	
Isophorone	78-59-1	10.0	< 10.0	
Naphthalene	91-20-3	10.0	< 10.0	
Nitrobenzene	98-95-3	10.0	< 10.0	
N-Nitrosodimethylamine	62-75-9	10.0	< 10.0	
N-Nitrosodi-n-propylamine	621-64-7	10.0	< 10.0	
N-Nitrosodiphenylamine	86-30-6	10.0	< 10.0	
Pentachlorophenol	87-86-5	10.0	< 10.0	
Phenanthrene	85-01-8	10.0	< 10.0	
Phenol	108-95-2	10.0	< 10.0	
Pyrene	129-00-0	10.0	< 10.0	
Pyridine	110-86-1	10.0	< 10.0	

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1708707-006G
Client Sample ID: Cell 4B

Analyzed: 9/5/2017 1710h **Extracted:** 9/1/2017 928h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 2,4,6-Tribromophenol	118-79-6	9.74	80.00	12.2	14-159	S
Surr: 2-Fluorobiphenyl	321-60-8	15.3	40.00	38.2	10-124	
Surr: 2-Fluorophenol	367-12-4	0.0100	80.00	0.0125	10-106	S
Surr: Nitrobenzene-d5	4165-60-0	12.1	40.00	30.1	10-180	
Surr: Phenol-d6	13127-88-3	0.800	80.00	1.00	10-122	S
Surr: Terphenyl-d14	1718-51-0	28.8	40.00	72.0	10-221	

S - Surrogate recoveries outside the control limits as expected from historical results of samples received from client.
This sample was analyzed for TICs and no 4-Chlorophenol peaks were detected.

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

ORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-006A
Client Sample ID: Cell 4B
Collection Date: 8/29/2017 1035h
Received Date: 8/31/2017 925h

Test Code: 8260-W-DEN100

Analytical Results VOAs by GC/MS Method 8260C/5030C

Analyzed: 8/31/2017 1428h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8260C

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
2-Butanone	78-93-3	20.0	< 20.0	
Acetone	67-64-1	20.0	**38.6**	
Benzene	71-43-2	1.00	< 1.00	
Carbon tetrachloride	56-23-5	1.00	< 1.00	
Chloroform	67-66-3	1.00	**2.39**	
Chloromethane	74-87-3	1.00	**1.26**	
Methylene chloride	75-09-2	1.00	< 1.00	
Naphthalene	91-20-3	1.00	< 1.00	
Tetrahydrofuran	109-99-9	1.00	< 1.00	
Toluene	108-88-3	1.00	< 1.00	
Xylenes, Total	1330-20-7	1.00	< 1.00	

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 1,2-Dichloroethane-d4	17060-07-0	55.7	50.00	111	72-151	
Surr: 4-Bromofluorobenzene	460-00-4	48.4	50.00	96.8	80-152	
Surr: Dibromofluoromethane	1868-53-7	50.5	50.00	101	70-130	
Surr: Toluene-d8	2037-26-5	44.8	50.00	89.5	81-123	

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

Certificate of Analysis

Report Date: October 5, 2017

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: Tailings 2017 Characterization

Client Sample ID: Cell 4B
Sample ID: 432537006
Matrix: Water
Collect Date: 29-AUG-17 10:35
Receive Date: 08-SEP-17
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	1990	+/-1620	4390	1.00	pCi/L			JXC5	09/27/17	1342	1702127	1
Thorium-230		3.39E+06	+/-51100	6400	1.00	pCi/L							
Thorium-232		56000	+/-6610	2880	1.00	pCi/L							
GFPC,Total Alpha Radium, Liquid "As Received"													
Gross Radium Alpha		1.32E+05	+/-1360	161	1.00	pCi/L			AXM6	09/27/17	1555	1702128	2
Lucas Cell, Ra226, liquid "As Received"													
Radium-226		489	+/-30.8	18.3	1.00	pCi/L			MXH8	10/02/17	0950	1702129	3
U- 233/234,U-235/236 and U-238 "As Received"													
Uranium-233/234		76000	+/-7250	5800	1.00	pCi/L			JXC5	09/26/17	0853	1702126	4
Uranium-235/236		8100	+/-2900	5800	1.00	pCi/L							
Uranium-238		92700	+/-7950	4950	1.00	pCi/L							

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	DOE EML HASL-300, Th-01-RC Modified	
2	EPA 900.1 Modified	
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"			93.8	(15%-125%)
Barium Carrier	GFPC,Total Alpha Radium, Liquid "As Received"			88	(25%-125%)
Uranium-232 Tracer	U- 233/234,U-235/236 and U-238 "As Received"			80.8	(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.

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 27, 2017

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings 2017 Characterization

Client Sample ID:	Cell 4B	Project:	DNMI00107
Sample ID:	432537006	Client ID:	DNMI001
Matrix:	Water		
Collect Date:	29-AUG-17 10:35		
Receive Date:	08-SEP-17		
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	0.010	0.100	none		1	VH1	09/26/17	1032	1703328	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
	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

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Jose Rocha
QA Officer

INORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-007
Client Sample ID: Cell 4 B LDS
Collection Date: 8/29/2017 1015h
Received Date: 8/31/2017 925h

Analytical Results DISSOLVED METALS

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Arsenic	mg/L	8/31/2017 1440h	9/1/2017 1647h	E200.8	1.00	**135**	2
Beryllium	mg/L	8/31/2017 1440h	9/11/2017 1426h	E200.8	0.100	**0.559**	1
Cadmium	mg/L	8/31/2017 1440h	9/1/2017 1647h	E200.8	0.250	**4.50**	2
Calcium	mg/L	8/31/2017 1440h	9/11/2017 1549h	E200.7	10.0	**516**	2
Chromium	mg/L	8/31/2017 1440h	9/1/2017 1647h	E200.8	1.00	**13.7**	2
Cobalt	mg/L	8/31/2017 1440h	9/1/2017 1647h	E200.8	2.00	**48.9**	2
Copper	mg/L	8/31/2017 1440h	9/7/2017 1228h	E200.8	6.25	**681**	2
Iron	mg/L	8/31/2017 1440h	9/7/2017 1228h	E200.8	312	**5,910**	2
Lead	mg/L	8/31/2017 1440h	9/1/2017 1647h	E200.8	1.00	**14.0**	2
Magnesium	mg/L	8/31/2017 1440h	9/11/2017 1423h	E200.7	500	**5,370**	2
Manganese	mg/L	8/31/2017 1440h	9/1/2017 1647h	E200.8	1.00	**346**	2B
Mercury	mg/L	9/7/2017 1430h	9/8/2017 746h	E245.1	0.00200	< 0.00200	
Molybdenum	mg/L	8/31/2017 1440h	9/1/2017 1647h	E200.8	1.00	**52.9**	2
Nickel	mg/L	8/31/2017 1440h	9/1/2017 1647h	E200.8	1.00	**84.4**	2
Potassium	mg/L	8/31/2017 1440h	9/11/2017 1529h	E200.7	50.0	**2,130**	2
Selenium	mg/L	8/31/2017 1440h	9/1/2017 1647h	E200.8	1.00	**6.86**	2
Silver	mg/L	8/31/2017 1440h	9/7/2017 1320h	E200.8	0.100	**0.266**	
Sodium	mg/L	8/31/2017 1440h	9/11/2017 1423h	E200.7	500	**13,200**	2
Thallium	mg/L	8/31/2017 1440h	9/7/2017 1320h	E200.8	0.0250	**0.427**	
Tin	mg/L	8/31/2017 1440h	9/7/2017 1320h	E200.8	17.0	< 17.0	1
Uranium	mg/L	8/31/2017 1440h	9/1/2017 1647h	E200.8	1.00	**269**	2
Vanadium	mg/L	8/31/2017 1440h	9/12/2017 1507h	E200.7	6.00	**1,260**	2
Zinc	mg/L	8/31/2017 1440h	9/1/2017 1647h	E200.8	5.00	**443**	2B

[1] - Matrix spike recovery indicates matrix interference. The method is in control as indicated by the LCS.

[2] - Analyte concentration is too high for accurate matrix spike recovery and/or RPD.

Analysis performed on a portion of the sample filtered at the laboratory upon receipt. The sample was received after the filtration holding time had expired for dissolved analysis.

B - The method blank was acceptable, as the Filter Method Blank result is less than 10% of the lowest reported sample concentration.

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INORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-007
Client Sample ID: Cell 4 B LDS
Collection Date: 8/29/2017 1015h
Received Date: 8/31/2017 925h

Analytical Results

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Ammonia (as N)	mg/L	9/8/2017 840h	9/8/2017 1130h	E350.1	5.00	**739**	
Bicarbonate (as CaCO3)	mg/L		9/6/2017 915h	SM2320B	1.00	< 1.00	
Carbonate (as CaCO3)	mg/L		9/6/2017 915h	SM2320B	1.00	< 1.00	
Chloride	mg/L		9/13/2017 1934h	E300.0	1,000	**10,400**	
Conductivity	µmhos/cm		9/1/2017 539h	SM2510B	2.00	**105,000**	
Fluoride	mg/L		9/13/2017 1934h	E300.0	100	**1,050**	
Ion Balance	%		9/13/2017 1413h	Calc.	-100	**-31.8**	
Nitrate/Nitrite (as N)	mg/L		8/31/2017 1744h	E353.2	1.00	**63.9**	'
pH @ 25° C	pH Units		8/31/2017 1514h	SW9040C	1.00	**1.44**	H
Sulfate	mg/L		9/13/2017 1447h	E300.0	20,000	**117,000**	
Total Anions, Measured	meq/L		9/13/2017 1413h	Calc.		**2,740**	
Total Cations, Measured	meq/L		9/13/2017 1413h	Calc.		**1,420**	
Total Dissolved Solids	mg/L		9/1/2017 1230h	SM2540C	500	**168,000**	@
Total Dissolved Solids Ratio, Measured/Calculated			9/13/2017 1413h	Calc.		**1.09**	
Total Dissolved Solids, Calculated	mg/L		9/13/2017 1413h	Calc.		**155,000**	

@ - High RPD due to suspected sample non-homogeneity or matrix interference.
' - Matrix spike recovery indicates matrix interference. The method is in control as indicated by the LCS.
H - Sample was received outside of the holding time.

ORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-007G
Client Sample ID: Cell 4 B LDS
Collection Date: 8/29/2017 1015h
Received Date: 8/31/2017 925h

Test Code: 8270-W

Analytical Results SVOA by GC/MS Method 8270D/3510C

Analyzed: 9/5/2017 1735h **Extracted:** 9/1/2017 928h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1,2,4-Trichlorobenzene	120-82-1	10.0	< 10.0	'@
1,2-Dichlorobenzene	95-50-1	10.0	< 10.0	
1,3-Dichlorobenzene	541-73-1	10.0	< 10.0	
1,4-Dichlorobenzene	106-46-7	10.0	< 10.0	'
1-Methylnaphthalene	90-12-0	10.0	< 10.0	
2,4,5-Trichlorophenol	95-95-4	10.0	< 10.0	
2,4,6-Trichlorophenol	88-06-2	10.0	< 10.0	'@
2,4-Dichlorophenol	120-83-2	10.0	< 10.0	
2,4-Dimethylphenol	105-67-9	10.0	< 10.0	'@
2,4-Dinitrophenol	51-28-5	10.0	< 10.0	
2,4-Dinitrotoluene	121-14-2	10.0	< 10.0	'@
2,6-Dinitrotoluene	606-20-2	10.0	< 10.0	
2-Chloronaphthalene	91-58-7	10.0	< 10.0	'@
2-Chlorophenol	95-57-8	10.0	< 10.0	'
2-Methylnaphthalene	91-57-6	10.0	< 10.0	
2-Methylphenol	95-48-7	10.0	< 10.0	
2-Nitrophenol	88-75-5	10.0	< 10.0	
3&4-Methylphenol		10.0	< 10.0	
3,3'-Dichlorobenzidine	91-94-1	10.0	< 10.0	
4,6-Dinitro-2-methylphenol	534-52-1	10.0	< 10.0	'@
4-Bromophenyl phenyl ether	101-55-3	10.0	< 10.0	
4-Chloro-3-methylphenol	59-50-7	10.0	< 10.0	'@
4-Chlorophenyl phenyl ether	7005-72-3	10.0	< 10.0	
4-Nitrophenol	100-02-7	10.0	< 10.0	'@
Acenaphthene	83-32-9	10.0	< 10.0	'@
Acenaphthylene	208-96-8	10.0	< 10.0	
Anthracene	120-12-7	10.0	< 10.0	
Azobenzene	103-33-3	10.0	< 10.0	
Benz(a)anthracene	56-55-3	10.0	< 10.0	

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1708707-007G
Client Sample ID: Cell 4 B LDS

Analyzed: 9/5/2017 1735h **Extracted:** 9/1/2017 928h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Benzidine	92-87-5	10.0	< 10.0	
Benzo(a)pyrene	50-32-8	10.0	< 10.0	@
Benzo(b)fluoranthene	205-99-2	10.0	< 10.0	
Benzo(g,h,i)perylene	191-24-2	10.0	< 10.0	
Benzo(k)fluoranthene	207-08-9	10.0	< 10.0	
Bis(2-chloroethoxy)methane	111-91-1	10.0	< 10.0	
Bis(2-chloroethyl) ether	111-44-4	10.0	< 10.0	
Bis(2-chloroisopropyl) ether	108-60-1	10.0	< 10.0	
Bis(2-ethylhexyl) phthalate	117-81-7	10.0	**145**	
Butyl benzyl phthalate	85-68-7	10.0	< 10.0	
Chrysene	218-01-9	10.0	< 10.0	
Dibenz(a,h)anthracene	53-70-3	10.0	< 10.0	
Diethyl phthalate	84-66-2	10.0	< 10.0	
Dimethyl phthalate	131-11-3	10.0	< 10.0	
Di-n-butyl phthalate	84-74-2	10.0	< 10.0	
Di-n-octyl phthalate	117-84-0	10.0	< 10.0	
Fluoranthene	206-44-0	10.0	< 10.0	
Fluorene	86-73-7	10.0	< 10.0	
Hexachlorobenzene	118-74-1	10.0	< 10.0	
Hexachlorobutadiene	87-68-3	10.0	< 10.0	
Hexachlorocyclopentadiene	77-47-4	10.0	< 10.0	
Hexachloroethane	67-72-1	10.0	< 10.0	
Indeno(1,2,3-cd)pyrene	193-39-5	10.0	< 10.0	
Isophorone	78-59-1	10.0	< 10.0	
Naphthalene	91-20-3	10.0	< 10.0	
Nitrobenzene	98-95-3	10.0	< 10.0	
N-Nitrosodimethylamine	62-75-9	10.0	< 10.0	
N-Nitrosodi-n-propylamine	621-64-7	10.0	< 10.0	
N-Nitrosodiphenylamine	86-30-6	10.0	< 10.0	
Pentachlorophenol	87-86-5	10.0	< 10.0	'@
Phenanthrene	85-01-8	10.0	< 10.0	
Phenol	108-95-2	10.0	< 10.0	'
Pyrene	129-00-0	10.0	< 10.0	'@
Pyridine	110-86-1	10.0	< 10.0	

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1708707-007G
Client Sample ID: Cell 4 B LDS

Analyzed: 9/5/2017 1735h **Extracted:** 9/1/2017 928h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 2,4,6-Tribromophenol	118-79-6	3.29	80.00	4.11	14-159	S
Surr: 2-Fluorobiphenyl	321-60-8	1.88	40.00	4.70	10-124	S
Surr: 2-Fluorophenol	367-12-4	0.320	80.00	0.400	10-106	S
Surr: Nitrobenzene-d5	4165-60-0	4.22	40.00	10.6	10-180	
Surr: Phenol-d6	13127-88-3	13.6	80.00	17.0	10-122	
Surr: Terphenyl-d14	1718-51-0	7.83	40.00	19.6	10-221	

@ - High RPD due to suspected sample non-homogeneity or matrix interference.
[1] - Matrix spike recovery indicates matrix interference. The method is in control as indicated by the LCS.
S - Surrogate recoveries outside the control limits. MS and MSD samples yielded similar results indicating matrix interference. This sample was analyzed for TICs and no 4-Chlorophenol peaks were detected.

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

ORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-007A
Client Sample ID: Cell 4 B LDS
Collection Date: 8/29/2017 1015h
Received Date: 8/31/2017 925h

Test Code: 8260-W-DEN100

Analytical Results VOAs by GC/MS Method 8260C/5030C

Analyzed: 8/31/2017 1937h
Units: µg/L **Dilution Factor:** 10 **Method:** SW8260C

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Acetone	67-64-1	200	**479**	~

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 1,2-Dichloroethane-d4	17060-07-0	502	500.0	100	72-151	
Surr: 4-Bromofluorobenzene	460-00-4	482	500.0	96.3	80-152	
Surr: Dibromofluoromethane	1868-53-7	484	500.0	96.8	70-130	
Surr: Toluene-d8	2037-26-5	553	500.0	111	81-123	

~ - The reporting limits were raised due to high analyte concentrations.

Analyzed: 8/31/2017 1448h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8260C

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
2-Butanone	78-93-3	20.0	**89.4**	
Benzene	71-43-2	1.00	< 1.00	
Carbon tetrachloride	56-23-5	1.00	< 1.00	
Chloroform	67-66-3	1.00	**9.13**	
Chloromethane	74-87-3	1.00	**7.16**	
Methylene chloride	75-09-2	1.00	**1.01**	
Naphthalene	91-20-3	1.00	< 1.00	
Tetrahydrofuran	109-99-9	1.00	**51.2**	
Toluene	108-88-3	1.00	< 1.00	
Xylenes, Total	1330-20-7	1.00	< 1.00	

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 1,2-Dichloroethane-d4	17060-07-0	55.9	50.00	112	72-151	
Surr: 4-Bromofluorobenzene	460-00-4	50.5	50.00	101	80-152	
Surr: Dibromofluoromethane	1868-53-7	50.5	50.00	101	70-130	
Surr: Toluene-d8	2037-26-5	41.3	50.00	82.7	81-123	

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

Certificate of Analysis

Report Date: October 5, 2017

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings 2017 Characterization

Client Sample ID:	Cell 4B LDS	Project:	DNMI00107
Sample ID:	432537007	Client ID:	DNMI001
Matrix:	Water		
Collect Date:	29-AUG-17 10:15		
Receive Date:	08-SEP-17		
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		4680	+/-2140	4560	1.00	pCi/L			JXC5	09/27/17	0838	1702127	1
Thorium-230		5.22E+06	+/-61600	5630	1.00	pCi/L							
Thorium-232		43200	+/-5660	3590	1.00	pCi/L							
GFPC,Total Alpha Radium, Liquid "As Received"													
Gross Radium Alpha		1.65E+05	+/-1460	133	1.00	pCi/L			AXM6	09/27/17	1555	1702128	2
Lucas Cell, Ra226, liquid "As Received"													
Radium-226		143	+/-17.0	20.7	1.00	pCi/L			MXH8	10/02/17	1025	1702129	3
U- 233/234,U-235/236 and U-238 "As Received"													
Uranium-233/234		8.46E+05	+/-23600	5680	1.00	pCi/L			JXC5	09/26/17	0853	1702126	4
Uranium-235/236		64200	+/-7300	4940	1.00	pCi/L							
Uranium-238		8.94E+05	+/-24200	4000	1.00	pCi/L							

The following Analytical Methods were performed:

Method	Description	Analyst Comments
	DOE EML HASL-300, Th-01-RC Modified	
2	EPA 900.1 Modified	
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"			97.4	(15%-125%)
Barium Carrier	GFPC,Total Alpha Radium, Liquid "As Received"			95.7	(25%-125%)
Uranium-232 Tracer	U- 233/234,U-235/236 and U-238 "As Received"			87.4	(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.

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

Report Date: September 27, 2017

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings 2017 Characterization

Client Sample ID:	Cell 4B LDS	Project:	DNMI00107
Sample ID:	432537007	Client ID:	DNMI001
Matrix:	Water		
Collect Date:	29-AUG-17 10:15		
Receive Date:	08-SEP-17		
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	0.010	0.100	none		1	VH1	09/26/17	1033	1703328	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
	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 he 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

INORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-008
Client Sample ID: Cell 65
Collection Date: 8/29/2017 940h
Received Date: 8/31/2017 925h

Analytical Results DISSOLVED METALS

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Arsenic	mg/L	8/31/2017 1440h	9/1/2017 1656h	E200.8	1.00	**110**	
Beryllium	mg/L	8/31/2017 1440h	9/11/2017 1435h	E200.8	0.100	**0.416**	
Cadmium	mg/L	8/31/2017 1440h	9/1/2017 1656h	E200.8	0.250	**3.65**	
Calcium	mg/L	8/31/2017 1440h	9/11/2017 1540h	E200.7	50.0	**588**	
Chromium	mg/L	8/31/2017 1440h	9/1/2017 1656h	E200.8	1.00	**8.98**	
Cobalt	mg/L	8/31/2017 1440h	9/1/2017 1656h	E200.8	2.00	**40.1**	
Copper	mg/L	8/31/2017 1440h	9/7/2017 1237h	E200.8	6.25	**569**	
Iron	mg/L	8/31/2017 1440h	9/7/2017 1237h	E200.8	312	**4,400**	
Lead	mg/L	8/31/2017 1440h	9/1/2017 1656h	E200.8	1.00	**15.8**	
Magnesium	mg/L	8/31/2017 1440h	9/11/2017 1450h	E200.7	100	**5,230**	
Manganese	mg/L	8/31/2017 1440h	9/1/2017 1656h	E200.8	1.00	**274**	B
Mercury	mg/L	9/7/2017 1430h	9/8/2017 807h	E245.1	0.00200	**0.00239**	
Molybdenum	mg/L	8/31/2017 1440h	9/1/2017 1656h	E200.8	1.00	**43.1**	
Nickel	mg/L	8/31/2017 1440h	9/1/2017 1656h	E200.8	1.00	**70.0**	
Potassium	mg/L	8/31/2017 1440h	9/11/2017 1540h	E200.7	50.0	**1,460**	
Selenium	mg/L	8/31/2017 1440h	9/1/2017 1656h	E200.8	1.00	**4.64**	
Silver	mg/L	8/31/2017 1440h	9/7/2017 1328h	E200.8	0.100	**0.369**	
Sodium	mg/L	8/31/2017 1440h	9/11/2017 1429h	E200.7	500	**13,700**	
Thallium	mg/L	8/31/2017 1440h	9/7/2017 1328h	E200.8	0.0250	**0.159**	
Tin	mg/L	8/31/2017 1440h	9/7/2017 1328h	E200.8	17.0	< 17.0	
Uranium	mg/L	8/31/2017 1440h	9/1/2017 1656h	E200.8	1.00	**200**	
Vanadium	mg/L	8/31/2017 1440h	9/12/2017 1518h	E200.7	6.00	**979**	
Zinc	mg/L	8/31/2017 1440h	9/1/2017 1656h	E200.8	5.00	**362**	B

Analysis performed on a portion of the sample filtered at the laboratory upon receipt. The sample was received after the filtration holding time had expired for dissolved analysis.

B - The method blank was acceptable, as the Filter Method Blank result is less than 10% of the lowest reported sample concentration.

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INORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-008
Client Sample ID: Cell 65
Collection Date: 8/29/2017 940h
Received Date: 8/31/2017 925h

Analytical Results

Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Ammonia (as N)	mg/L	9/8/2017 840h	9/8/2017 1134h	E350.1	5.00	**609**	
Bicarbonate (as CaCO3)	mg/L		9/6/2017 915h	SM2320B	1.00	< 1.00	
Carbonate (as CaCO3)	mg/L		9/6/2017 915h	SM2320B	1.00	< 1.00	
Chloride	mg/L		9/13/2017 1950h	E300.0	1,000	**7,790**	
Conductivity	µmhos/cm		9/1/2017 539h	SM2510B	2.00	**83,200**	
Fluoride	mg/L		9/13/2017 1950h	E300.0	100	**1,540**	
Ion Balance	%		9/13/2017 1413h	Calc.	-100	**-15.9**	
Nitrate/Nitrite (as N)	mg/L		8/31/2017 1748h	E353.2	1.00	**52.1**	
pH @ 25° C	pH Units		8/31/2017 1514h	SW9040C	1.00	**1.55**	H
Sulfate	mg/L		9/13/2017 1537h	E300.0	20,000	**77,600**	
Total Anions, Measured	meq/L		9/13/2017 1413h	Calc.		**1,840**	
Total Cations, Measured	meq/L		9/13/2017 1413h	Calc.		**1,330**	
Total Dissolved Solids	mg/L		9/1/2017 1230h	SM2540C	500	**125,000**	
Total Dissolved Solids Ratio, Measured/Calculated			9/13/2017 1413h	Calc.		**1.13**	
Total Dissolved Solids, Calculated	mg/L		9/13/2017 1413h	Calc.		**111,000**	

H - Sample was received outside of the holding time.

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Laboratory Director

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ORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-008G
Client Sample ID: Cell 65
Collection Date: 8/29/2017 940h
Received Date: 8/31/2017 925h

Test Code: 8270-W

Analytical Results SVOA by GC/MS Method 8270D/3510C

Analyzed: 9/5/2017 1850h **Extracted:** 9/1/2017 928h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1,2,4-Trichlorobenzene	120-82-1	10.0	< 10.0	
1,2-Dichlorobenzene	95-50-1	10.0	< 10.0	
1,3-Dichlorobenzene	541-73-1	10.0	< 10.0	
1,4-Dichlorobenzene	106-46-7	10.0	< 10.0	
1-Methylnaphthalene	90-12-0	10.0	< 10.0	
2,4,5-Trichlorophenol	95-95-4	10.0	< 10.0	
2,4,6-Trichlorophenol	88-06-2	10.0	< 10.0	
2,4-Dichlorophenol	120-83-2	10.0	< 10.0	
2,4-Dimethylphenol	105-67-9	10.0	< 10.0	
2,4-Dinitrophenol	51-28-5	10.0	< 10.0	
2,4-Dinitrotoluene	121-14-2	10.0	< 10.0	
2,6-Dinitrotoluene	606-20-2	10.0	< 10.0	
2-Chloronaphthalene	91-58-7	10.0	< 10.0	
2-Chlorophenol	95-57-8	10.0	< 10.0	
2-Methylnaphthalene	91-57-6	10.0	< 10.0	
2-Methylphenol	95-48-7	10.0	< 10.0	
2-Nitrophenol	88-75-5	10.0	< 10.0	
3&4-Methylphenol		10.0	< 10.0	
3,3´-Dichlorobenzidine	91-94-1	10.0	< 10.0	
4,6-Dinitro-2-methylphenol	534-52-1	10.0	< 10.0	
4-Bromophenyl phenyl ether	101-55-3	10.0	< 10.0	
4-Chloro-3-methylphenol	59-50-7	10.0	< 10.0	
4-Chlorophenyl phenyl ether	7005-72-3	10.0	< 10.0	
4-Nitrophenol	100-02-7	10.0	< 10.0	
Acenaphthene	83-32-9	10.0	< 10.0	
Acenaphthylene	208-96-8	10.0	< 10.0	
Anthracene	120-12-7	10.0	< 10.0	
Azobenzene	103-33-3	10.0	< 10.0	
Benz(a)anthracene	56-55-3	10.0	< 10.0	

American West
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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1708707-008G
Client Sample ID: Cell 65

Analyzed: 9/5/2017 1850h **Extracted:** 9/1/2017 928h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Benzidine	92-87-5	10.0	< 10.0	
Benzo(a)pyrene	50-32-8	10.0	< 10.0	
Benzo(b)fluoranthene	205-99-2	10.0	< 10.0	
Benzo(g,h,i)perylene	191-24-2	10.0	< 10.0	
Benzo(k)fluoranthene	207-08-9	10.0	< 10.0	
Bis(2-chloroethoxy)methane	111-91-1	10.0	< 10.0	
Bis(2-chloroethyl) ether	111-44-4	10.0	< 10.0	
Bis(2-chloroisopropyl) ether	108-60-1	10.0	< 10.0	
Bis(2-ethylhexyl) phthalate	117-81-7	10.0	< 10.0	
Butyl benzyl phthalate	85-68-7	10.0	< 10.0	
Chrysene	218-01-9	10.0	< 10.0	
Dibenz(a,h)anthracene	53-70-3	10.0	< 10.0	
Diethyl phthalate	84-66-2	10.0	< 10.0	
Dimethyl phthalate	131-11-3	10.0	< 10.0	
Di-n-butyl phthalate	84-74-2	10.0	< 10.0	
Di-n-octyl phthalate	117-84-0	10.0	< 10.0	
Fluoranthene	206-44-0	10.0	< 10.0	
Fluorene	86-73-7	10.0	< 10.0	
Hexachlorobenzene	118-74-1	10.0	< 10.0	
Hexachlorobutadiene	87-68-3	10.0	< 10.0	
Hexachlorocyclopentadiene	77-47-4	10.0	< 10.0	
Hexachloroethane	67-72-1	10.0	< 10.0	
Indeno(1,2,3-cd)pyrene	193-39-5	10.0	< 10.0	
Isophorone	78-59-1	10.0	< 10.0	
Naphthalene	91-20-3	10.0	< 10.0	
Nitrobenzene	98-95-3	10.0	< 10.0	
N-Nitrosodimethylamine	62-75-9	10.0	< 10.0	
N-Nitrosodi-n-propylamine	621-64-7	10.0	< 10.0	
N-Nitrosodiphenylamine	86-30-6	10.0	< 10.0	
Pentachlorophenol	87-86-5	10.0	< 10.0	
Phenanthrene	85-01-8	10.0	< 10.0	
Phenol	108-95-2	10.0	< 10.0	
Pyrene	129-00-0	10.0	< 10.0	
Pyridine	110-86-1	10.0	< 10.0	

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID: 1708707-008G
Client Sample ID: Cell 65

Analyzed: 9/5/2017 1850h **Extracted:** 9/1/2017 928h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8270D

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 2,4,6-Tribromophenol	118-79-6	19.9	80.00	24.8	14-159	
Surr: 2-Fluorobiphenyl	321-60-8	13.0	40.00	32.4	10-124	
Surr: 2-Fluorophenol	367-12-4	1.11	80.00	1.39	10-106	S
Surr: Nitrobenzene-d5	4165-60-0	13.5	40.00	33.8	10-180	
Surr: Phenol-d6	13127-88-3	22.4	80.00	28.0	10-122	
Surr: Terphenyl-d14	1718-51-0	31.3	40.00	78.2	10-221	

S - Surrogate recoveries outside the control limits as expected from historical results of samples received from client.
This sample was analyzed for TICs and no 4-Chlorophenol peaks were detected.

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

ORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-008A
Client Sample ID: Cell 65
Collection Date: 8/29/2017 940h
Received Date: 8/31/2017 925h

Test Code: 8260-W-DEN100

Analytical Results VOAs by GC/MS Method 8260C/5030C

Analyzed: 8/31/2017 1550h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8260C

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
2-Butanone	78-93-3	20.0	< 20.0	
Acetone	67-64-1	20.0	**28.1**	
Benzene	71-43-2	1.00	< 1.00	
Carbon tetrachloride	56-23-5	1.00	< 1.00	
Chloroform	67-66-3	1.00	< 1.00	
Chloromethane	74-87-3	1.00	**1.42**	
Methylene chloride	75-09-2	1.00	< 1.00	
Naphthalene	91-20-3	1.00	< 1.00	
Tetrahydrofuran	109-99-9	1.00	< 1.00	
Toluene	108-88-3	1.00	< 1.00	
Xylenes, Total	1330-20-7	1.00	< 1.00	

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 1,2-Dichloroethane-d4	17060-07-0	55.0	50.00	110	72-151	
Surr: 4-Bromofluorobenzene	460-00-4	46.3	50.00	92.6	80-152	
Surr: Dibromofluoromethane	1868-53-7	51.1	50.00	102	70-130	
Surr: Toluene-d8	2037-26-5	58.8	50.00	118	81-123	

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

Certificate of Analysis

Report Date: October 5, 2017

Company : Energy Fuels Resources (USA), Inc.
Address : 225 Union Boulevard
Suite 600
Lakewood, Colorado 80228
Contact: Ms. Kathy Weinel
Project: Tailings 2017 Characterization

Client Sample ID: Cell 65
Sample ID: 432537008
Matrix: Water
Collect Date: 29-AUG-17 09:40
Receive Date: 08-SEP-17
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	2660	+/-1720	4200	1.00	pCi/L			JXC5	09/27/17	0838	1702127	1
Thorium-230		4.08E+06	+/-54800	6170	1.00	pCi/L							
Thorium-232		11000	+/-2950	2770	1.00	pCi/L							
GFPC,Total Alpha Radium, Liquid "As Received"													
Gross Radium Alpha		1.74E+05	+/-1500	154	1.00	pCi/L			AXM6	09/27/17	1555	1702128	2
Lucas Cell, Ra226, liquid "As Received"													
Radium-226		822	+/-40.2	18.7	1.00	pCi/L			MXH8	10/02/17	1025	1702129	3
U- 233/234,U-235/236 and U-238 "As Received"													
Uranium-233/234		6.02E+05	+/-19600	4710	1.00	pCi/L			JXC5	09/26/17	0853	1702126	4
Uranium-235/236		44900	+/-6060	5190	1.00	pCi/L							
Uranium-238		6.16E+05	+/-19800	3890	1.00	pCi/L							

The following Analytical Methods were performed:

Method	Description	Analyst Comments
	DOE EML HASL-300, Th-01-RC Modified	
2	EPA 900.1 Modified	
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"			98	(15%-125%)
Barium Carrier	GFPC,Total Alpha Radium, Liquid "As Received"			95.3	(25%-125%)
Uranium-232 Tracer	U- 233/234,U-235/236 and U-238 "As Received"			92	(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.

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 27, 2017

Company :	Energy Fuels Resources (USA), Inc.
Address :	225 Union Boulevard Suite 600 Lakewood, Colorado 80228
Contact:	Ms. Kathy Weinel
Project:	Tailings 2017 Characterization

Client Sample ID:	Cell 65	Project:	DNMI00107
Sample ID:	432537008	Client ID:	DNMI001
Matrix:	Water		
Collect Date:	29-AUG-17 09:40		
Receive Date:	08-SEP-17		
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		1.12	0.010	0.100	none		1	VH1	09/26/17	1034	1703328	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
	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 he 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

American West
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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

ORGANIC ANALYTICAL REPORT

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Sample ID: 1708707-009A
Client Sample ID: Trip Blank
Collection Date: 8/29/2017
Received Date: 8/31/2017 925h

Test Code: 8260-W-DEN100

Analytical Results VOAs by GC/MS Method 8260C/5030C

Analyzed: 8/31/2017 1226h
Units: µg/L **Dilution Factor:** 1 **Method:** SW8260C

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
2-Butanone	78-93-3	20.0	< 20.0	
Acetone	67-64-1	20.0	< 20.0	
Benzene	71-43-2	1.00	< 1.00	
Carbon tetrachloride	56-23-5	1.00	< 1.00	
Chloroform	67-66-3	1.00	< 1.00	
Chloromethane	74-87-3	1.00	< 1.00	
Methylene chloride	75-09-2	1.00	< 1.00	
Naphthalene	91-20-3	1.00	< 1.00	
Tetrahydrofuran	109-99-9	1.00	< 1.00	
Toluene	108-88-3	1.00	< 1.00	
Xylenes, Total	1330-20-7	1.00	< 1.00	

Surrogate	CAS	Result	Amount Spiked	% REC	Limits	Qual
Surr: 1,2-Dichloroethane-d4	17060-07-0	54.5	50.00	109	72-151	
Surr: 4-Bromofluorobenzene	460-00-4	48.4	50.00	96.8	80-152	
Surr: Dibromofluoromethane	1868-53-7	51.0	50.00	102	70-130	
Surr: Toluene-d8	2037-26-5	57.5	50.00	115	81-123	

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Garrin Palmer
Energy Fuels Resources, Inc.
6425 S. Hwy 191
Blanding, UT 84511

RE: Annual Tailings 2017

Dear Garrin Palmer: Lab Set ID: 1708707

American West Analytical Laboratories received sample(s) on 8/31/2017 for the analyses presented in the following report.

American West Analytical Laboratories (AWAL) is accredited by The National Environmental Laboratory Accreditation Program (NELAP) in Utah and Texas; and is state accredited in Colorado, Idaho, New Mexico, Wyoming, and Missouri.

All analyses were performed in accordance to the NELAP protocols unless noted otherwise. Accreditation scope documents are available upon request. If you have any questions or concerns regarding this report please feel free to call.

The abbreviation "Surr" found in organic reports indicates a surrogate compound that is intentionally added by the laboratory to determine sample injection, extraction, and/or purging efficiency. The "Reporting Limit" found on the report is equivalent to the practical quantitation limit (PQL). This is the minimum concentration that can be reported by the method referenced and the sample matrix. The reporting limit must not be confused with any regulatory limit. Analytical results are reported to three significant figures for quality control and calculation purposes.

Thank You,

Approved by: Kyle F. Gross Digitally signed by Kyle F. Gross Date: 2017.09.19 10:10:13 -06'00'

Laboratory Director or designee

SAMPLE SUMMARY

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Set ID: 1708707
Date Received: 8/31/2017 925h

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Lab Sample ID	Client Sample ID	Date Collected	Matrix	Analysis
1708707-001A	Cell 1	8/29/2017 820h	Aqueous	VOA by GC/MS Method 8260C/5030C
1708707-001B	Cell 1	8/29/2017 820h	Aqueous	Anions, E300.0
1708707-001B	Cell 1	8/29/2017 820h	Aqueous	Conductivity (Specific Conductance)
1708707-001B	Cell 1	8/29/2017 820h	Aqueous	pH by 9040C
1708707-001B	Cell 1	8/29/2017 820h	Aqueous	Alkalinity/ Bicarbonate/ Carbonate, Low Level
1708707-001C	Cell 1	8/29/2017 820h	Aqueous	Total Dissolved Solids, A2540C
1708707-001D	Cell 1	8/29/2017 820h	Aqueous	Ammonia, Aqueous
1708707-001D	Cell 1	8/29/2017 820h	Aqueous	Nitrite/Nitrate (as N), E353.2
1708707-001E	Cell 1	8/29/2017 820h	Aqueous	ICP Metals, Dissolved
1708707-001E	Cell 1	8/29/2017 820h	Aqueous	ICPMS Metals, Dissolved
1708707-001E	Cell 1	8/29/2017 820h	Aqueous	Mercury, Drinking Water Dissolved
1708707-001E	Cell 1	8/29/2017 820h	Aqueous	Ion Balance
1708707-001G	Cell 1	8/29/2017 820h	Aqueous	SVOAs by GC/MS Method 8270D/3510C
1708707-002A	Cell 2 Slimes	8/29/2017 842h	Aqueous	VOA by GC/MS Method 8260C/5030C
1708707-002B	Cell 2 Slimes	8/29/2017 842h	Aqueous	Conductivity (Specific Conductance)
1708707-002B	Cell 2 Slimes	8/29/2017 842h	Aqueous	pH by 9040C
1708707-002B	Cell 2 Slimes	8/29/2017 842h	Aqueous	Alkalinity/ Bicarbonate/ Carbonate, Low Level
1708707-002B	Cell 2 Slimes	8/29/2017 842h	Aqueous	Anions, E300.0
1708707-002C	Cell 2 Slimes	8/29/2017 842h	Aqueous	Total Dissolved Solids, A2540C
1708707-002D	Cell 2 Slimes	8/29/2017 842h	Aqueous	Ammonia, Aqueous
1708707-002D	Cell 2 Slimes	8/29/2017 842h	Aqueous	Nitrite/Nitrate (as N), E353.2
1708707-002E	Cell 2 Slimes	8/29/2017 842h	Aqueous	ICP Metals, Dissolved
1708707-002E	Cell 2 Slimes	8/29/2017 842h	Aqueous	ICPMS Metals, Dissolved
1708707-002E	Cell 2 Slimes	8/29/2017 842h	Aqueous	Mercury, Drinking Water Dissolved
1708707-002E	Cell 2 Slimes	8/29/2017 842h	Aqueous	Ion Balance
1708707-002G	Cell 2 Slimes	8/29/2017 842h	Aqueous	SVOAs by GC/MS Method 8270D/3510C
1708707-003A	Cell 3	8/29/2017 917h	Aqueous	VOA by GC/MS Method 8260C/5030C

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Set ID: 1708707
Date Received: 8/31/2017 925h

Lab Sample ID	Client Sample ID	Date Collected	Matrix	Analysis
1708707-003B	Cell 3	8/29/2017 917h	Aqueous	Anions, E300.0
1708707-003B	Cell 3	8/29/2017 917h	Aqueous	Conductivity (Specific Conductance)
1708707-003B	Cell 3	8/29/2017 917h	Aqueous	pH by 9040C
1708707-003B	Cell 3	8/29/2017 917h	Aqueous	Alkalinity/ Bicarbonate/ Carbonate, Low Level
1708707-003C	Cell 3	8/29/2017 917h	Aqueous	Total Dissolved Solids, A2540C
1708707-003D	Cell 3	8/29/2017 917h	Aqueous	Ammonia, Aqueous
1708707-003D	Cell 3	8/29/2017 917h	Aqueous	Nitrite/Nitrate (as N), E353.2
1708707-003E	Cell 3	8/29/2017 917h	Aqueous	ICP Metals, Dissolved
1708707-003E	Cell 3	8/29/2017 917h	Aqueous	ICPMS Metals, Dissolved
1708707-003E	Cell 3	8/29/2017 917h	Aqueous	Mercury, Drinking Water Dissolved
1708707-003E	Cell 3	8/29/2017 917h	Aqueous	Ion Balance
1708707-003G	Cell 3	8/29/2017 917h	Aqueous	SVOAs by GC/MS Method 8270D/3510C
1708707-004A	Cell 4A	8/29/2017 940h	Aqueous	VOA by GC/MS Method 8260C/5030C
1708707-004B	Cell 4A	8/29/2017 940h	Aqueous	Conductivity (Specific Conductance)
1708707-004B	Cell 4A	8/29/2017 940h	Aqueous	pH by 9040C
1708707-004B	Cell 4A	8/29/2017 940h	Aqueous	Alkalinity/ Bicarbonate/ Carbonate, Low Level
1708707-004B	Cell 4A	8/29/2017 940h	Aqueous	Anions, E300.0
1708707-004C	Cell 4A	8/29/2017 940h	Aqueous	Total Dissolved Solids, A2540C
1708707-004D	Cell 4A	8/29/2017 940h	Aqueous	Ammonia, Aqueous
1708707-004D	Cell 4A	8/29/2017 940h	Aqueous	Nitrite/Nitrate (as N), E353.2
1708707-004E	Cell 4A	8/29/2017 940h	Aqueous	ICP Metals, Dissolved
1708707-004E	Cell 4A	8/29/2017 940h	Aqueous	ICPMS Metals, Dissolved
1708707-004E	Cell 4A	8/29/2017 940h	Aqueous	Mercury, Drinking Water Dissolved
1708707-004E	Cell 4A	8/29/2017 940h	Aqueous	Ion Balance
1708707-004G	Cell 4A	8/29/2017 940h	Aqueous	SVOAs by GC/MS Method 8270D/3510C
1708707-005A	Cell 4A LDS	8/29/2017 956h	Aqueous	VOA by GC/MS Method 8260C/5030C
1708707-005B	Cell 4A LDS	8/29/2017 956h	Aqueous	Anions, E300.0
1708707-005B	Cell 4A LDS	8/29/2017 956h	Aqueous	Conductivity (Specific Conductance)

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Set ID: 1708707
Date Received: 8/31/2017 925h

Lab Sample ID	Client Sample ID	Date Collected		Matrix	Analysis
1708707-005B	Cell 4A LDS	8/29/2017	956h	Aqueous	pH by 9040C
1708707-005B	Cell 4A LDS	8/29/2017	956h	Aqueous	Alkalinity/ Bicarbonate/ Carbonate, Low Level
1708707-005C	Cell 4A LDS	8/29/2017	956h	Aqueous	Total Dissolved Solids, A2540C
1708707-005D	Cell 4A LDS	8/29/2017	956h	Aqueous	Ammonia, Aqueous
1708707-005D	Cell 4A LDS	8/29/2017	956h	Aqueous	Nitrite/Nitrate (as N), E353.2
1708707-005E	Cell 4A LDS	8/29/2017	956h	Aqueous	ICP Metals, Dissolved
1708707-005E	Cell 4A LDS	8/29/2017	956h	Aqueous	ICPMS Metals, Dissolved
1708707-005E	Cell 4A LDS	8/29/2017	956h	Aqueous	Mercury, Drinking Water Dissolved
1708707-005E	Cell 4A LDS	8/29/2017	956h	Aqueous	Ion Balance
1708707-005G	Cell 4A LDS	8/29/2017	956h	Aqueous	SVOAs by GC/MS Method 8270D/3510C
1708707-006A	Cell 4B	8/29/2017	1035h	Aqueous	VOA by GC/MS Method 8260C/5030C
1708707-006B	Cell 4B	8/29/2017	1035h	Aqueous	Conductivity (Specific Conductance)
1708707-006B	Cell 4B	8/29/2017	1035h	Aqueous	pH by 9040C
1708707-006B	Cell 4B	8/29/2017	1035h	Aqueous	Alkalinity/ Bicarbonate/ Carbonate, Low Level
1708707-006B	Cell 4B	8/29/2017	1035h	Aqueous	Anions, E300.0
1708707-006C	Cell 4B	8/29/2017	1035h	Aqueous	Total Dissolved Solids, A2540C
1708707-006D	Cell 4B	8/29/2017	1035h	Aqueous	Ammonia, Aqueous
1708707-006D	Cell 4B	8/29/2017	1035h	Aqueous	Nitrite/Nitrate (as N), E353.2
1708707-006E	Cell 4B	8/29/2017	1035h	Aqueous	ICP Metals, Dissolved
1708707-006E	Cell 4B	8/29/2017	1035h	Aqueous	ICPMS Metals, Dissolved
1708707-006E	Cell 4B	8/29/2017	1035h	Aqueous	Mercury, Drinking Water Dissolved
1708707-006E	Cell 4B	8/29/2017	1035h	Aqueous	Ion Balance
1708707-006G	Cell 4B	8/29/2017	1035h	Aqueous	SVOAs by GC/MS Method 8270D/3510C
1708707-007A	Cell 4 B LDS	8/29/2017	1015h	Aqueous	VOA by GC/MS Method 8260C/5030C
1708707-007B	Cell 4 B LDS	8/29/2017	1015h	Aqueous	Anions, E300.0
1708707-007B	Cell 4 B LDS	8/29/2017	1015h	Aqueous	Conductivity (Specific Conductance)
1708707-007B	Cell 4 B LDS	8/29/2017	1015h	Aqueous	pH by 9040C
1708707-007B	Cell 4 B LDS	8/29/2017	1015h	Aqueous	Alkalinity/ Bicarbonate/ Carbonate, Low Level

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Jose Rocha
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Client: Energy Fuels Resources, Inc. **Contact:** Garrin Palmer
Project: Annual Tailings 2017
Lab Set ID: 1708707
Date Received: 8/31/2017 925h

Lab Sample ID	Client Sample ID	Date Collected		Matrix	Analysis
1708707-007C	Cell 4 B LDS	8/29/2017	1015h	Aqueous	Total Dissolved Solids, A2540C
1708707-007D	Cell 4 B LDS	8/29/2017	1015h	Aqueous	Ammonia, Aqueous
1708707-007D	Cell 4 B LDS	8/29/2017	1015h	Aqueous	Nitrite/Nitrate (as N), E353.2
1708707-007E	Cell 4 B LDS	8/29/2017	1015h	Aqueous	ICP Metals, Dissolved
1708707-007E	Cell 4 B LDS	8/29/2017	1015h	Aqueous	ICPMS Metals, Dissolved
1708707-007E	Cell 4 B LDS	8/29/2017	1015h	Aqueous	Mercury, Drinking Water Dissolved
1708707-007E	Cell 4 B LDS	8/29/2017	1015h	Aqueous	Ion Balance
1708707-007G	Cell 4 B LDS	8/29/2017	1015h	Aqueous	SVOAs by GC/MS Method 8270D/3510C
1708707-008A	Cell 65	8/29/2017	940h	Aqueous	VOA by GC/MS Method 8260C/5030C
1708707-008B	Cell 65	8/29/2017	940h	Aqueous	Conductivity (Specific Conductance)
1708707-008B	Cell 65	8/29/2017	940h	Aqueous	pH by 9040C
1708707-008B	Cell 65	8/29/2017	940h	Aqueous	Alkalinity/ Bicarbonate/ Carbonate, Low Level
1708707-008B	Cell 65	8/29/2017	940h	Aqueous	Anions, E300.0
1708707-008C	Cell 65	8/29/2017	940h	Aqueous	Total Dissolved Solids, A2540C
1708707-008D	Cell 65	8/29/2017	940h	Aqueous	Ammonia, Aqueous
1708707-008D	Cell 65	8/29/2017	940h	Aqueous	Nitrite/Nitrate (as N), E353.2
1708707-008E	Cell 65	8/29/2017	940h	Aqueous	ICP Metals, Dissolved
1708707-008E	Cell 65	8/29/2017	940h	Aqueous	ICPMS Metals, Dissolved
1708707-008E	Cell 65	8/29/2017	940h	Aqueous	Mercury, Drinking Water Dissolved
1708707-008E	Cell 65	8/29/2017	940h	Aqueous	Ion Balance
1708707-008G	Cell 65	8/29/2017	940h	Aqueous	SVOAs by GC/MS Method 8270D/3510C
1708707-009A	Trip Blank	8/29/2017		Aqueous	VOA by GC/MS Method 8260C/5030C

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Inorganic Case Narrative

Client: Energy Fuels Resources, Inc.
Contact: Garrin Palmer
Project: Annual Tailings 2017
Lab Set ID: 1708707

Sample Receipt Information:

Date of Receipt: 8/31/2017
Date of Collection: 8/29/2017
Sample Condition: Intact
C-O-C Discrepancies: See Chain of Custody

Holding Time and Preservation Requirements: The analysis and preparation for the samples were performed within the method holding times, with the following exceptions: all of the samples for pH analysis by method SW9040C and for filtration were received outside of the holding time. The samples were properly preserved.

Preparation and Analysis Requirements: The samples were analyzed following the methods stated on the analytical reports.

Analytical QC Requirements: All instrument calibration and calibration check requirements were met. All internal standard recoveries met method criterion.

Batch QC Requirements: MB, LCS, MS, MSD, RPD, DUP:

Method Blanks (MB): No target analytes were detected above reporting limits, with the following exceptions: Zinc, Manganese, and Copper were observed above the reporting limits in the filter blank MB-FILTER-51053. The method blank was acceptable as the results were less than 10% of the lowest reported sample concentration.

Laboratory Control Samples (LCS): All LCS recoveries were within control limits, indicating that the preparation and analysis were in control.

Matrix Spike / Matrix Spike Duplicates (MS/MSD): All percent recoveries and RPDs (Relative Percent Differences) were inside established limits, with the following exceptions:

Sample ID	Analyte	QC	Explanation
1708707-007B	Alkalinity	MS/MSD	Sample matrix interference
1708449-010D	Nitrate/Nitrite	MS	Sample matrix interference
1708707-007D	Nitrate/Nitrite	MS/MSD	Sample matrix interference
1708707-007E	As, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Na, U, Zn	MS/MSD	High analyte concentration
1708707-007E	V	MS/MSD/RPD	High analyte concentration
1708707-007E	Be	MSD	Sample matrix interference
1708707-007E	Sn	MS/MSD	Sample matrix interference

Duplicate (DUP): The parameters that required a duplicate analysis had RPDs within the control limits, with the following exceptions: the RPD for Total Dissolved Solids on sample 1708707-007C was outside of the control limits due to suspected sample non-homogeneity or sample matrix interference.

Corrective Action: None required.

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Semivolatile Case Narrative

Client:	Energy Fuels Resources, Inc.
Contact:	Garrin Palmer
Project:	Annual Tailings 2017
Lab Set ID:	1708707

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Sample Receipt Information:

Date of Receipt:	8/31/2017
Date of Collection:	8/29/2017
Sample Condition:	Intact
C-O-C Discrepancies:	See Chain of Custody
Method:	SW-846 8270D/3510C
Analysis:	Semivolatile Organics

General Set Comments: One target analyte was observed above their reporting limits.

Holding Time Requirements: The preparations and analyses of the samples were performed within respective holding times.

Preparation Requirements: The samples were prepared and analyzed following the methods stated on the analytical reports.

Analytical QC Requirements: All instrument calibration and calibration check requirements were met. All internal standard recoveries met method criterion.

Batch QC Requirements: MB, LCS, MS, MSD, RPD, and Surrogates:

Method Blanks: No target analytes were detected above reporting limits, indicating that the procedure was free from contamination.

Laboratory Control Sample (LCS): All LCS recoveries were within control limits, indicating that the preparation and analysis were in control.

Matrix Spike / Matrix Spike Duplicate (MS/MSD): All percent recoveries and RPDs (Relative Percent Differences) were inside established limits, with the following exceptions: The MS percent recovery, MSD percent recovery, and/or RPD were outside of the control limits for multiple analytes on sample 1708707-007G due to sample matrix interference or sample non-homogeneity.

Surrogates: All surrogate recoveries were within established limits, with the following exceptions: one or more surrogate percent recoveries were outside of the control limits on samples 1708707-001G, -002G, -003G, -004G, -005G, -006G, and -008G due to sample matrix interference as expected from historical results of similar samples received from the client. One or more surrogate percent recoveries were outside of the control limits on samples 1708707-007G and its' MS/MSD. As the MS and MSD samples yielded similar results, the surrogate recoveries indicate matrix interference.

Corrective Action: None required.

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Volatile Case Narrative

Client:	Energy Fuels Resources, Inc.
Contact:	Garrin Palmer
Project:	Annual Tailings 2017
Lab Set ID:	1708707

Sample Receipt Information:

Date of Receipt:	8/31/2017
Date of Collection:	8/29/2017
Sample Condition:	Intact
C-O-C Discrepancies:	See Chain of Custody
Method:	SW-846 8260C/5030C
Analysis:	Volatile Organic Compounds

General Set Comments: Multiple target analytes were observed above reporting limits.

Holding Time and Preservation Requirements: All samples were received in appropriate containers and properly preserved. The analysis and preparation of all samples were performed within the method holding times following the methods stated on the analytical reports.

Analytical QC Requirements: All instrument calibration and calibration check requirements were met. All internal standard recoveries met method criterion.

Batch QC Requirements: MB, LCS, MS, MSD, RPD, and Surrogates:

Method Blanks (MBs): No target analytes were detected above reporting limits, indicating that the procedure was free from contamination.

Laboratory Control Sample (LCSs): All LCS recoveries were within control limits, indicating that the preparation and analysis were in control.

Matrix Spike / Matrix Spike Duplicate (MS/MSD): All percent recoveries and RPDs (Relative Percent Differences) were inside established limits, indicating no apparent matrix interferences.

Surrogates: All surrogate recoveries were within established limits.

Corrective Action: None required.

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QC SUMMARY REPORT

Client: Energy Fuels Resources, Inc.
Lab Set ID: 1708707
Project: Annual Tailings 2017

Contact: Garrin Palmer
Dept: ME
QC Type: LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCS-51059	Date Analyzed:	09/11/2017 1335h											
Test Code: 200.7-DIS	Date Prepared:	08/31/2017 1440h											
Calcium	20.9	mg/L	E200.7	0.0332	1.00	20.00	0	105	85 - 115				
Magnesium	20.4	mg/L	E200.7	0.0710	1.00	20.00	0	102	85 - 115				
Potassium	20.8	mg/L	E200.7	0.183	1.00	20.00	0	104	85 - 115				
Sodium	20.9	mg/L	E200.7	0.0311	1.00	20.00	0	105	85 - 115				
Vanadium	0.381	mg/L	E200.7	0.000643	0.0600	0.4000	0	95.2	85 - 115				
Lab Sample ID: LCS-51060	Date Analyzed:	09/01/2017 1501h											
Test Code: 200.8-DIS	Date Prepared:	08/31/2017 1440h											
Arsenic	0.199	mg/L	E200.8	0.000177	0.00200	0.2000	0	99.4	85 - 115				
Beryllium	0.207	mg/L	E200.8	0.0000318	0.00200	0.2000	0	104	85 - 115				
Cadmium	0.202	mg/L	E200.8	0.000226	0.000500	0.2000	0	101	85 - 115				
Chromium	0.204	mg/L	E200.8	0.000210	0.00200	0.2000	0	102	85 - 115				
Cobalt	0.202	mg/L	E200.8	0.0000336	0.00400	0.2000	0	101	85 - 115				
Copper	0.206	mg/L	E200.8	0.000648	0.00200	0.2000	0	103	85 - 115				
Iron	1.03	mg/L	E200.8	0.0113	0.100	1.000	0	103	85 - 115				
Lead	0.199	mg/L	E200.8	0.000308	0.00200	0.2000	0	99.6	85 - 115				
Manganese	0.207	mg/L	E200.8	0.000658	0.00200	0.2000	0	104	85 - 115				
Molybdenum	0.205	mg/L	E200.8	0.000692	0.00200	0.2000	0	102	85 - 115				
Nickel	0.207	mg/L	E200.8	0.000932	0.00200	0.2000	0	103	85 - 115				
Selenium	0.197	mg/L	E200.8	0.000176	0.00200	0.2000	0	98.6	85 - 115				
Silver	0.199	mg/L	E200.8	0.0000884	0.00200	0.2000	0	99.5	85 - 115				
Thallium	0.199	mg/L	E200.8	0.000462	0.00200	0.2000	0	99.3	85 - 115				
Tin	1.05	mg/L	E200.8	0.000206	0.00200	1.000	0	105	85 - 115				
Uranium	0.203	mg/L	E200.8	0.000440	0.00200	0.2000	0	102	85 - 115				
Zinc	1.01	mg/L	E200.8	0.00304	0.00500	1.000	0	101	85 - 115				
Lab Sample ID: LCS-51156	Date Analyzed:	09/08/2017 741h											
Test Code: HG-DW-DIS-245.1	Date Prepared:	09/07/2017 1430h											
Mercury	0.00334	mg/L	E245.1	0.00000511	0.000150	0.003330	0	100	85 - 115				

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Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Energy Fuels Resources, Inc.
Lab Set ID: 1708707
Project: Annual Tailings 2017

Contact: Garrin Palmer
Dept: ME
QC Type: MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: MB-51059	Date Analyzed:	09/11/2017 1333h											
Test Code: 200.7-DIS	Date Prepared:	08/31/2017 1440h											
Calcium	< 1.00	mg/L	E200.7	0.0332	1.00								
Magnesium	< 1.00	mg/L	E200.7	0.0710	1.00								
Potassium	< 1.00	mg/L	E200.7	0.183	1.00								
Sodium	< 1.00	mg/L	E200.7	0.0311	1.00								
Vanadium	< 0.0600	mg/L	E200.7	0.000643	0.0600								
Lab Sample ID: MB-FILTER-51053	Date Analyzed:	09/11/2017 1431h											
Test Code: 200.7-DIS	Date Prepared:	08/31/2017 1440h											
Calcium	< 1.00	mg/L	E200.7	0.0332	1.00								
Magnesium	< 1.00	mg/L	E200.7	0.0710	1.00								
Potassium	< 1.00	mg/L	E200.7	0.183	1.00								
Sodium	< 1.00	mg/L	E200.7	0.0311	1.00								
Vanadium	< 0.0600	mg/L	E200.7	0.000643	0.0600								
Lab Sample ID: MB-51060	Date Analyzed:	09/01/2017 1458h											
Test Code: 200.8-DIS	Date Prepared:	08/31/2017 1440h											
Arsenic	< 0.00200	mg/L	E200.8	0.000177	0.00200								
Beryllium	< 0.00200	mg/L	E200.8	0.0000318	0.00200								
Cadmium	< 0.000500	mg/L	E200.8	0.000226	0.000500								
Chromium	< 0.00200	mg/L	E200.8	0.000210	0.00200								
Cobalt	< 0.00400	mg/L	E200.8	0.0000336	0.00400								
Copper	< 0.00200	mg/L	E200.8	0.000648	0.00200								
Iron	< 0.100	mg/L	E200.8	0.0113	0.100								
Lead	< 0.00200	mg/L	E200.8	0.000308	0.00200								
Manganese	< 0.00200	mg/L	E200.8	0.000658	0.00200								
Molybdenum	< 0.00200	mg/L	E200.8	0.000692	0.00200								
Nickel	< 0.00200	mg/L	E200.8	0.000932	0.00200								
Silver	< 0.00200	mg/L	E200.8	0.0000884	0.00200								
Thallium	< 0.00200	mg/L	E200.8	0.000462	0.00200								

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QC SUMMARY REPORT

Client: Energy Fuels Resources, Inc.
Lab Set ID: 1708707
Project: Annual Tailings 2017

Contact: Garrin Palmer
Dept: ME
QC Type: MBLK

Analyte		Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID:	**MB-51060**	Date Analyzed:	09/01/2017 1458h											
Test Code:	200.8-DIS	Date Prepared:	08/31/2017 1440h											
Tin		< 0.00200	mg/L	E200.8	0.000206	0.00200								
Uranium		< 0.00200	mg/L	E200.8	0.000440	0.00200								
Zinc		< 0.00500	mg/L	E200.8	0.00304	0.00500								
Lab Sample ID:	**MB-FILTER-51053**	Date Analyzed:	09/01/2017 1601h											
Test Code:	200.8-DIS	Date Prepared:	08/31/2017 1440h											
Arsenic		< 0.00200	mg/L	E200.8	0.000177	0.00200								
Beryllium		< 0.00200	mg/L	E200.8	0.0000318	0.00200								
Cadmium		< 0.000500	mg/L	E200.8	0.000226	0.000500								
Chromium		< 0.00200	mg/L	E200.8	0.000210	0.00200								
Cobalt		< 0.00400	mg/L	E200.8	0.0000336	0.00400								
Copper		0.00776	mg/L	E200.8	0.000648	0.00200								B
Iron		< 0.100	mg/L	E200.8	0.0113	0.100								
Lead		< 0.00200	mg/L	E200.8	0.000308	0.00200								
Manganese		0.00339	mg/L	E200.8	0.000658	0.00200								B
Molybdenum		< 0.00200	mg/L	E200.8	0.000692	0.00200								
Nickel		< 0.00200	mg/L	E200.8	0.000932	0.00200								
Selenium		< 0.00200	mg/L	E200.8	0.000176	0.00200								
Silver		< 0.00200	mg/L	E200.8	0.0000884	0.00200								
Thallium		< 0.00200	mg/L	E200.8	0.000462	0.00200								
Tin		< 0.00200	mg/L	E200.8	0.000206	0.00200								
Uranium		< 0.00200	mg/L	E200.8	0.000440	0.00200								
Zinc		0.00798	mg/L	E200.8	0.00304	0.00500								B
Lab Sample ID:	**MB-51060**	Date Analyzed:	09/01/2017 1617h											
Test Code:	200.8-DIS	Date Prepared:	08/31/2017 1440h											
Selenium		< 0.000200	mg/L	E200.8	0.0000176	0.000200								

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Jose Rocha
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QC SUMMARY REPORT

Client: Energy Fuels Resources, Inc.
Lab Set ID: 1708707
Project: Annual Tailings 2017

Contact: Garrin Palmer
Dept: ME
QC Type: MBLK

Analyte		Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID:	**MB-FILTER-51047**	Date Analyzed:	09/01/2017 1623h											
Test Code:	200.8-DIS	Date Prepared:	08/31/2017 1440h											
Selenium		< 0.000200	mg/L	E200.8	0.0000176	0.000200								
Lab Sample ID:	**MB-51156**	Date Analyzed:	09/08/2017 739h											
Test Code:	HG-DW-DIS-245.1	Date Prepared:	09/07/2017 1430h											
Mercury		< 0.000150	mg/L	E245.1	0.00000511	0.000150								

B - The method blank was acceptable, as the Filter blank result is less than 10% of the lowest reported sample concentration.

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Jose Rocha
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QC SUMMARY REPORT

Client: Energy Fuels Resources, Inc.
Lab Set ID: 1708707
Project: Annual Tailings 2017

Contact: Garrin Palmer
Dept: ME
QC Type: MS

Analyte		Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID:	**1708707-007EMS**	Date Analyzed:	09/11/2017 1425h											
Test Code:	200.7-DIS	Date Prepared:	08/31/2017 1440h											
Magnesium		5,520	mg/L	E200.7	35.5	500	10.00	5370	1,520	70 - 130				2
Sodium		13,500	mg/L	E200.7	15.6	500	10.00	13200	2,990	70 - 130				2
Lab Sample ID:	**1708707-007EMS**	Date Analyzed:	09/11/2017 1536h											
Test Code:	200.7-DIS	Date Prepared:	08/31/2017 1440h											
Potassium		2,220	mg/L	E200.7	9.15	50.0	10.00	2130	924	70 - 130				2
Lab Sample ID:	**1708707-007EMS**	Date Analyzed:	09/11/2017 1552h											
Test Code:	200.7-DIS	Date Prepared:	08/31/2017 1440h											
Calcium		506	mg/L	E200.7	0.332	10.0	10.00	516	-96.6	70 - 130				2
Lab Sample ID:	**1708707-007EMS**	Date Analyzed:	09/12/2017 1509h											
Test Code:	200.7-DIS	Date Prepared:	08/31/2017 1440h											
Vanadium		1,540	mg/L	E200.7	0.0643	6.00	0.2000	1260	139,000	70 - 130				2
Lab Sample ID:	**1708707-007EMS**	Date Analyzed:	09/01/2017 1650h											
Test Code:	200.8-DIS	Date Prepared:	08/31/2017 1440h											
Arsenic		127	mg/L	E200.8	0.0883	1.00	0.4000	135	-2,050	75 - 125				2
Cadmium		4.42	mg/L	E200.8	0.113	0.250	0.4000	4.5	-19.9	75 - 125				2
Chromium		13.1	mg/L	E200.8	0.105	1.00	0.4000	13.7	-139	75 - 125				2
Cobalt		46.1	mg/L	E200.8	0.0168	2.00	0.4000	48.9	-698	75 - 125				2
Lead		13.1	mg/L	E200.8	0.154	1.00	0.4000	14	-212	75 - 125				2
Manganese		326	mg/L	E200.8	0.329	1.00	0.4000	346	-5,060	75 - 125				2
Molybdenum		51.0	mg/L	E200.8	0.346	1.00	0.4000	52.9	-478	75 - 125				2
Nickel		79.2	mg/L	E200.8	0.466	1.00	0.4000	84.4	-1,290	75 - 125				2
Selenium		6.68	mg/L	E200.8	0.0878	1.00	0.4000	6.86	-44.3	75 - 125				2
Uranium		251	mg/L	E200.8	0.220	1.00	0.4000	269	-4,680	75 - 125				2
Zinc		421	mg/L	E200.8	1.52	2.50	2.000	443	-1,090	75 - 125				2

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Energy Fuels Resources, Inc.
Lab Set ID: 1708707
Project: Annual Tailings 2017

Contact: Garrin Palmer
Dept: ME
QC Type: MS

Analyte		Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID:	**1708707-007EMS**	Date Analyzed:	09/07/2017 1231h											
Test Code:	200.8-DIS	Date Prepared:	08/31/2017 1440h											
Copper		748	mg/L	E200.8	2.02	6.25	0.2000	681	33,600	75 - 125				[2]
Lab Sample ID:	**1708707-007EMS**	Date Analyzed:	09/07/2017 1253h											
Test Code:	200.8-DIS	Date Prepared:	08/31/2017 1440h											
Iron		5,840	mg/L	E200.8	141	1,250	1.000	5910	-7,750	75 - 125				[2]
Lab Sample ID:	**1708707-007EMS**	Date Analyzed:	09/07/2017 1323h											
Test Code:	200.8-DIS	Date Prepared:	08/31/2017 1440h											
Silver		0.479	mg/L	E200.8	0.00111	0.0250	0.2000	0.266	106	75 - 125				
Thallium		0.658	mg/L	E200.8	0.00578	0.0250	0.2000	0.427	116	75 - 125				
Tin		0.755	mg/L	E200.8	0.00258	0.0250	1.000	0.41	34.5	75 - 125				[1]
Lab Sample ID:	**1708707-007EMS**	Date Analyzed:	09/11/2017 1429h											
Test Code:	200.8-DIS	Date Prepared:	08/31/2017 1440h											
Beryllium		0.716	mg/L	E200.8	0.00159	0.100	0.2000	0.559	78.8	75 - 125				[1]
Lab Sample ID:	**1708707-007EMS**	Date Analyzed:	09/08/2017 748h											
Test Code:	HG-DW-DIS-245.1	Date Prepared:	09/07/2017 1430h											
Mercury		0.00412	mg/L	E245.1	0.00000511	0.000150	0.003330	0.00112	90.1	85 - 115				

[1] - Matrix spike recovery indicates matrix interference. The method is in control as indicated by the LCS.
[2] - Analyte concentration is too high for accurate matrix spike recovery and/or RPD.

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QC SUMMARY REPORT

Client: Energy Fuels Resources, Inc.
Lab Set ID: 1708707
Project: Annual Tailings 2017

Contact: Garrin Palmer
Dept: ME
QC Type: MSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1708707-007EMSD	Date Analyzed:	09/11/2017 1427h											
Test Code: 200.7-DIS	Date Prepared:	08/31/2017 1440h											
Magnesium	4,890	mg/L	E200.7	35.5	500	10.00	5370	-4,820	70 - 130	5520	12.2	20	2
Sodium	12,100	mg/L	E200.7	15.6	500	10.00	13200	-11,600	70 - 130	13500	11.4	20	2
Lab Sample ID: 1708707-007EMSD	Date Analyzed:	09/11/2017 1538h											
Test Code: 200.7-DIS	Date Prepared:	08/31/2017 1440h											
Potassium	2,020	mg/L	E200.7	9.15	50.0	10.00	2130	-1,080	70 - 130	2220	9.47	20	2
Lab Sample ID: 1708707-007EMSD	Date Analyzed:	09/11/2017 1554h											
Test Code: 200.7-DIS	Date Prepared:	08/31/2017 1440h											
Calcium	478	mg/L	E200.7	0.332	10.0	10.00	516	-382	70 - 130	506	5.81	20	2
Lab Sample ID: 1708707-007EMSD	Date Analyzed:	09/12/2017 1512h											
Test Code: 200.7-DIS	Date Prepared:	08/31/2017 1440h											
Vanadium	1,190	mg/L	E200.7	0.0643	6.00	0.2000	1260	-35,500	70 - 130	1540	25.6	20	2
Lab Sample ID: 1708707-007EMSD	Date Analyzed:	09/01/2017 1653h											
Test Code: 200.8-DIS	Date Prepared:	08/31/2017 1440h											
Arsenic	134	mg/L	E200.8	0.0883	1.00	0.4000	135	-265	75 - 125	127	5.48	20	2
Cadmium	4.52	mg/L	E200.8	0.113	0.250	0.4000	4.5	6.11	75 - 125	4.42	2.33	20	2
Chromium	13.9	mg/L	E200.8	0.105	1.00	0.4000	13.7	57.9	75 - 125	13.1	5.85	20	2
Cobalt	48.2	mg/L	E200.8	0.0168	2.00	0.4000	48.9	-161	75 - 125	46.1	4.55	20	2
Lead	13.4	mg/L	E200.8	0.154	1.00	0.4000	14	-134	75 - 125	13.1	2.34	20	2
Manganese	339	mg/L	E200.8	0.329	1.00	0.4000	346	-1,720	75 - 125	326	4.02	20	2
Molybdenum	52.3	mg/L	E200.8	0.346	1.00	0.4000	52.9	-152	75 - 125	51	2.53	20	2
Nickel	82.7	mg/L	E200.8	0.466	1.00	0.4000	84.4	-430	75 - 125	79.2	4.27	20	2
Selenium	6.86	mg/L	E200.8	0.0878	1.00	0.4000	6.86	1.33	75 - 125	6.68	2.69	20	2
Uranium	256	mg/L	E200.8	0.220	1.00	0.4000	269	-3,300	75 - 125	251	2.18	20	2
Zinc	433	mg/L	E200.8	1.52	2.50	2.000	443	-496	75 - 125	421	2.78	20	2

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Jose Rocha
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QC SUMMARY REPORT

Client: Energy Fuels Resources, Inc.
Lab Set ID: 1708707
Project: Annual Tailings 2017

Contact: Garrin Palmer
Dept: ME
QC Type: MSD

Analyte		Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID:	**1708707-007EMSD**	Date Analyzed:	09/07/2017 1234h											
Test Code:	200.8-DIS	Date Prepared:	08/31/2017 1440h											
Copper		651	mg/L	E200.8	2.02	6.25	0.2000	681	-15,100	75 - 125	748	13.9	20	[2]
Iron		5,750	mg/L	E200.8	35.2	312	1.000	5910	-16,300	75 - 125	5840	1.47	20	[2]
Lab Sample ID:	**1708707-007EMSD**	Date Analyzed:	09/07/2017 1325h											
Test Code:	200.8-DIS	Date Prepared:	08/31/2017 1440h											
Silver		0.439	mg/L	E200.8	0.00111	0.0250	0.2000	0.266	86.3	75 - 125	0.479	8.72	20	
Thallium		0.590	mg/L	E200.8	0.00578	0.0250	0.2000	0.427	81.6	75 - 125	0.658	11.0	20	
Tin		0.723	mg/L	E200.8	0.00258	0.0250	1.000	0.41	31.3	75 - 125	0.755	4.34	20	[1]
Lab Sample ID:	**1708707-007EMSD**	Date Analyzed:	09/11/2017 1432h											
Test Code:	200.8-DIS	Date Prepared:	08/31/2017 1440h											
Beryllium		0.696	mg/L	E200.8	0.00159	0.100	0.2000	0.559	69.0	75 - 125	0.716	2.77	20	[1]
Lab Sample ID:	**1708707-007EMSD**	Date Analyzed:	09/08/2017 750h											
Test Code:	HG-DW-DIS-245.1	Date Prepared:	09/07/2017 1430h											
Mercury		0.00409	mg/L	E245.1	0.00000511	0.000150	0.003330	0.00112	89.2	85 - 115	0.00412	0.730	20	

[1] - Matrix spike recovery indicates matrix interference. The method is in control as indicated by the LCS.
[2] - Analyte concentration is too high for accurate matrix spike recovery and/or RPD.

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QC SUMMARY REPORT

Client: Energy Fuels Resources, Inc.
Lab Set ID: 1708707
Project: Annual Tailings 2017

Contact: Garrin Palmer
Dept: WC
QC Type: DUP

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1708707-007BDUP Date Analyzed: 09/01/2017 539h Test Code: COND-W-2510B													
Conductivity	106,000	µmhos/cm	SM2510B	0.523	2.00					105000	0.568	5	
Lab Sample ID: 1708449-010DDUP Date Analyzed: 08/31/2017 1730h Test Code: NO2/NO3-W-353.2													
Nitrate/Nitrite (as N)	18.1	mg/L	E353.2	0.0833	0.100					19.2	5.90	20	
Lab Sample ID: 1708449-011DDUP Date Analyzed: 08/31/2017 1732h Test Code: NO2/NO3-W-353.2													
Nitrate/Nitrite (as N)	20.0	mg/L	E353.2	0.0833	0.100					19.5	2.38	20	
Lab Sample ID: 1708707-007BDUP Date Analyzed: 08/31/2017 1514h Test Code: PH-9040C													
pH @ 25° C	1.44	pH Units	SW9040C	1.00	1.00					1.44	0	10	H
Lab Sample ID: 1708707-007CDUP Date Analyzed: 09/01/2017 1230h Test Code: TDS-W-2540C													
Total Dissolved Solids	153,000	mg/L	SM2540C	394	500					168000	9.33	5	@

@ - High RPD due to suspected sample non-homogeneity or matrix interference.
H - Sample was received outside of the holding time.

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QC SUMMARY REPORT

Client: Energy Fuels Resources, Inc.
Lab Set ID: 1708707
Project: Annual Tailings 2017

Contact: Garrin Palmer
Dept: WC
QC Type: LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCS-R105278 Date Analyzed: 09/13/2017 1430h Test Code: 300.0-W													
Chloride	4.93	mg/L	E300.0	0.0127	0.100	5.000	0	98.7	90 - 110				
Fluoride	4.81	mg/L	E300.0	0.0174	0.100	5.000	0	96.2	90 - 110				
Sulfate	4.85	mg/L	E300.0	0.0327	0.750	5.000	0	97.0	90 - 110				
Lab Sample ID: LCS-R105020 Date Analyzed: 09/06/2017 915h Test Code: ALK-W-2320B-LL													
Alkalinity (as CaCO3)	249	mg/L	SM2320B	0.470	1.00	250.0	0	99.8	90 - 110				
Lab Sample ID: LCS-R104923 Date Analyzed: 09/01/2017 539h Test Code: COND-W-2510B													
Conductivity	1,010	µmhos/cm	SM2510B	0.523	2.00	1,000	0	101	98 - 102				
Lab Sample ID: LCS-51163 Date Analyzed: 09/08/2017 1125h Test Code: NH3-W-350.1 Date Prepared: 09/08/2017 840h													
Ammonia (as N)	10.4	mg/L	E350.1	0.0330	0.0500	10.00	0	104	90 - 110				
Lab Sample ID: LCS-R104920 Date Analyzed: 08/31/2017 1713h Test Code: NO2/NO3-W-353.2													
Nitrate/Nitrite (as N)	1.04	mg/L	E353.2	0.00833	0.0100	1.000	0	104	90 - 110				
Lab Sample ID: LCS-R104914 Date Analyzed: 08/31/2017 1514h Test Code: PH-9040C													
pH @ 25° C	8.93	pH Units	SW9040C	1.00	1.00	9.000	0	99.2	98 - 102				
Lab Sample ID: LCS-R104989 Date Analyzed: 09/01/2017 1230h Test Code: TDS-W-2540C													
Total Dissolved Solids	186	mg/L	SM2540C	7.87	10.0	205.0	0	90.7	80 - 120				

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QC SUMMARY REPORT

Client: Energy Fuels Resources, Inc.
Lab Set ID: 1708707
Project: Annual Tailings 2017

Contact: Garrin Palmer
Dept: WC
QC Type: LCSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCSD-R105020 Date Analyzed: 09/06/2017 915h													
Test Code: ALK-W-2320B-LL													
Alkalinity (as CaCO3)	249	mg/L	SM2320B	0.470	1.00	250.0	0	99.8	90 - 110	249	0	20	

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QC SUMMARY REPORT

Client: Energy Fuels Resources, Inc.
Lab Set ID: 1708707
Project: Annual Tailings 2017

Contact: Garrin Palmer
Dept: WC
QC Type: MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: MB-R105278 Date Analyzed: 09/13/2017 1413h													
Test Code: 300.0-W													
Chloride	< 0.100	mg/L	E300.0	0.0127	0.100								
Fluoride	< 0.100	mg/L	E300.0	0.0174	0.100								
Sulfate	< 0.750	mg/L	E300.0	0.0327	0.750								
Lab Sample ID: MB-R105020 Date Analyzed: 09/06/2017 915h													
Test Code: ALK-W-2320B-LL													
Bicarbonate (as CaCO3)	< 1.00	mg/L	SM2320B	0.470	1.00								
Carbonate (as CaCO3)	< 1.00	mg/L	SM2320B	0.470	1.00								
Lab Sample ID: MB-R104923 Date Analyzed: 09/01/2017 539h													
Test Code: COND-W-2510B													
Conductivity	< 2.00	µmhos/cm	SM2510B	0.523	2.00								
Lab Sample ID: MB-51163 Date Analyzed: 09/08/2017 1124h													
Test Code: NH3-W-350.1 Date Prepared: 09/08/2017 840h													
Ammonia (as N)	< 0.0500	mg/L	E350.1	0.0330	0.0500								
Lab Sample ID: MB-R104920 Date Analyzed: 08/31/2017 1711h													
Test Code: NO2/NO3-W-353.2													
Nitrate/Nitrite (as N)	< 0.0100	mg/L	E353.2	0.00833	0.0100								
Lab Sample ID: MB-R104989 Date Analyzed: 09/01/2017 1230h													
Test Code: TDS-W-2540C													
Total Dissolved Solids	< 10.0	mg/L	SM2540C	7.87	10.0								

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QC SUMMARY REPORT

Client: Energy Fuels Resources, Inc.
Lab Set ID: 1708707
Project: Annual Tailings 2017

Contact: Garrin Palmer
Dept: WC
QC Type: MS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1708707-007BMS Date Analyzed: 09/13/2017 1503h Test Code: 300.0-W													
Chloride	253,000	mg/L	E300.0	635	5,000	250,000	10400	97.2	90 - 110				
Fluoride	244,000	mg/L	E300.0	870	5,000	250,000	1050	97.3	90 - 110				
Sulfate	352,000	mg/L	E300.0	1,640	37,500	250,000	117000	93.7	90 - 110				
Lab Sample ID: 1708707-007BMS Date Analyzed: 09/06/2017 915h Test Code: ALK-W-2320B-LL													
Alkalinity (as CaCO3)	< 1.00	mg/L	SM2320B	0.470	1.00	50.00	0	0	80 - 120				1
Lab Sample ID: 1708707-007DMS Date Analyzed: 09/08/2017 1131h Test Code: NH3-W-350.1 Date Prepared: 09/08/2017 840h													
Ammonia (as N)	1,780	mg/L	E350.1	3.30	5.00	1,000	739	104	90 - 110				
Lab Sample ID: 1708707-007DMS Date Analyzed: 08/31/2017 1746h Test Code: NO2/NO3-W-353.2													
Nitrate/Nitrite (as N)	143	mg/L	E353.2	0.833	1.00	100.0	63.9	78.9	90 - 110				1
Lab Sample ID: 1708449-010DMS Date Analyzed: 08/31/2017 1749h Test Code: NO2/NO3-W-353.2													
Nitrate/Nitrite (as N)	36.4	mg/L	E353.2	0.167	0.200	20.00	19.2	86.3	90 - 110				1

[1] - Matrix spike recovery indicates matrix interference. The method is in control as indicated by the LCS.

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QC SUMMARY REPORT

Client: Energy Fuels Resources, Inc.
Lab Set ID: 1708707
Project: Annual Tailings 2017

Contact: Garrin Palmer
Dept: WC
QC Type: MSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1708707-007BMSD Date Analyzed: 09/13/2017 1520h Test Code: 300.0-W													
Chloride	261,000	mg/L	E300.0	635	5,000	250,000	10400	100	90 - 110	253000	2.86	20	
Fluoride	249,000	mg/L	E300.0	870	5,000	250,000	1050	99.0	90 - 110	244000	1.71	20	
Sulfate	363,000	mg/L	E300.0	1,640	37,500	250,000	117000	98.2	90 - 110	352000	3.12	20	
Lab Sample ID: 1708707-007BMSD Date Analyzed: 09/06/2017 915h Test Code: ALK-W-2320B-LL													
Alkalinity (as CaCO3)	< 1.00	mg/L	SM2320B	0.470	1.00	50.00	0	0	80 - 120	0	0	10	1
Lab Sample ID: 1708707-007DMSD Date Analyzed: 09/08/2017 1134h Test Code: NH3-W-350.1 Date Prepared: 09/08/2017 840h													
Ammonia (as N)	1,760	mg/L	E350.1	3.30	5.00	1,000	739	103	90 - 110	1780	0.678	10	
Lab Sample ID: 1708707-007DMSD Date Analyzed: 08/31/2017 1747h Test Code: NO2/NO3-W-353.2													
Nitrate/Nitrite (as N)	144	mg/L	E353.2	0.833	1.00	100.0	63.9	80.0	90 - 110	143	0.767	10	1
Lab Sample ID: 1708449-010DMSD Date Analyzed: 08/31/2017 1750h Test Code: NO2/NO3-W-353.2													
Nitrate/Nitrite (as N)	37.2	mg/L	E353.2	0.167	0.200	20.00	19.2	90.2	90 - 110	36.5	2.09	10	

1 - Matrix spike recovery indicates matrix interference. The method is in control as indicated by the LCS.

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QC SUMMARY REPORT

Client: Energy Fuels Resources, Inc.
Lab Set ID: 1708707
Project: Annual Tailings 2017

Contact: Garrin Palmer
Dept: MSSV
QC Type: LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCS-51070	Date Analyzed:	09/05/2017 1440h											
Test Code: 8270-W	Date Prepared:	09/01/2017 928h											
1,2,4-Trichlorobenzene	24.9	µg/L	SW8270D	2.14	10.0	80.00	0	31.2	10 - 85				
1,4-Dichlorobenzene	15.8	µg/L	SW8270D	1.97	10.0	80.00	0	19.7	10 - 86				
2,4,6-Trichlorophenol	63.7	µg/L	SW8270D	2.11	10.0	80.00	0	79.6	46 - 109				
2,4-Dimethylphenol	63.9	µg/L	SW8270D	2.35	10.0	80.00	0	79.8	35 - 98				
2,4-Dinitrotoluene	66.2	µg/L	SW8270D	2.20	10.0	80.00	0	82.7	10 - 117				
2-Chloronaphthalene	42.0	µg/L	SW8270D	3.18	10.0	80.00	0	52.5	13 - 112				
2-Chlorophenol	51.4	µg/L	SW8270D	2.79	10.0	80.00	0	64.3	21 - 91				
4,6-Dinitro-2-methylphenol	62.4	µg/L	SW8270D	0.575	10.0	80.00	0	78.0	29 - 145				
4-Chloro-3-methylphenol	75.8	µg/L	SW8270D	2.34	10.0	80.00	0	94.8	48 - 108				
4-Nitrophenol	40.8	µg/L	SW8270D	0.597	10.0	80.00	0	51.0	10 - 87				
Acenaphthene	52.5	µg/L	SW8270D	2.83	10.0	80.00	0	65.7	28 - 115				
Benzo(a)pyrene	83.2	µg/L	SW8270D	3.51	10.0	80.00	0	104	35 - 155				
N-Nitrosodi-n-propylamine	52.6	µg/L	SW8270D	0.684	10.0	80.00	0	65.7	22 - 101				
Pentachlorophenol	63.8	µg/L	SW8270D	1.28	10.0	80.00	0	79.7	27 - 125				
Phenol	24.2	µg/L	SW8270D	2.22	10.0	80.00	0	30.2	10 - 61				
Pyrene	58.8	µg/L	SW8270D	2.80	10.0	80.00	0	73.5	44 - 128				
Surr: 2,4,6-Tribromophenol	64.1	µg/L	SW8270D			80.00		80.2	10 - 165				
Surr: 2-Fluorobiphenyl	20.7	µg/L	SW8270D			40.00		51.7	10 - 118				
Surr: 2-Fluorophenol	31.6	µg/L	SW8270D			80.00		39.5	10 - 121				
Surr: Nitrobenzene-d5	19.3	µg/L	SW8270D			40.00		48.2	10 - 127				
Surr: Phenol-d6	26.4	µg/L	SW8270D			80.00		33.0	10 - 124				
Surr: Terphenyl-d14	26.0	µg/L	SW8270D			40.00		65.1	30 - 147				

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Energy Fuels Resources, Inc.
Lab Set ID: 1708707
Project: Annual Tailings 2017

Contact: Garrin Palmer
Dept: MSSV
QC Type: MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: MB-51070	Date Analyzed:	09/05/2017 1415h											
Test Code: 8270-W	Date Prepared:	09/01/2017 928h											
1,2,4-Trichlorobenzene	< 10.0	µg/L	SW8270D	2.14	10.0								
1,2-Dichlorobenzene	< 10.0	µg/L	SW8270D	2.24	10.0								
1,3-Dichlorobenzene	< 10.0	µg/L	SW8270D	0.635	10.0								
1,4-Dichlorobenzene	< 10.0	µg/L	SW8270D	1.97	10.0								
1-Methylnaphthalene	< 10.0	µg/L	SW8270D	2.86	10.0								
2,4,5-Trichlorophenol	< 10.0	µg/L	SW8270D	2.07	10.0								
2,4,6-Trichlorophenol	< 10.0	µg/L	SW8270D	2.11	10.0								
2,4-Dichlorophenol	< 10.0	µg/L	SW8270D	3.06	10.0								
2,4-Dimethylphenol	< 10.0	µg/L	SW8270D	2.35	10.0								
2,4-Dinitrophenol	< 10.0	µg/L	SW8270D	3.70	10.0								
2,4-Dinitrotoluene	< 10.0	µg/L	SW8270D	2.20	10.0								
2,6-Dinitrotoluene	< 10.0	µg/L	SW8270D	2.60	10.0								
2-Chloronaphthalene	< 10.0	µg/L	SW8270D	3.18	10.0								
2-Chlorophenol	< 10.0	µg/L	SW8270D	2.79	10.0								
2-Methylnaphthalene	< 10.0	µg/L	SW8270D	2.81	10.0								
2-Methylphenol	< 10.0	µg/L	SW8270D	0.719	10.0								
2-Nitrophenol	< 10.0	µg/L	SW8270D	2.97	10.0								
3&4-Methylphenol	< 10.0	µg/L	SW8270D	4.16	10.0								
3,3′-Dichlorobenzidine	< 10.0	µg/L	SW8270D	0.898	10.0								
4,6-Dinitro-2-methylphenol	< 10.0	µg/L	SW8270D	0.575	10.0								
4-Bromophenyl phenyl ether	< 10.0	µg/L	SW8270D	0.680	10.0								
4-Chloro-3-methylphenol	< 10.0	µg/L	SW8270D	2.34	10.0								
4-Chlorophenyl phenyl ether	< 10.0	µg/L	SW8270D	2.39	10.0								
4-Nitrophenol	< 10.0	µg/L	SW8270D	0.597	10.0								
Acenaphthene	< 10.0	µg/L	SW8270D	2.83	10.0								
Acenaphthylene	< 10.0	µg/L	SW8270D	3.07	10.0								
Anthracene	< 10.0	µg/L	SW8270D	2.33	10.0								
Azobenzene	< 10.0	µg/L	SW8270D	3.18	10.0								
Benz(a)anthracene	< 10.0	µg/L	SW8270D	1.58	10.0								

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QC SUMMARY REPORT

Client: Energy Fuels Resources, Inc.
Lab Set ID: 1708707
Project: Annual Tailings 2017

Contact: Garrin Palmer
Dept: MSSV
QC Type: MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: MB-51070	Date Analyzed:	09/05/2017 1415h											
Test Code: 8270-W	Date Prepared:	09/01/2017 928h											
Benzidine	< 10.0	µg/L	SW8270D	9.97	10.0								
Benzo(a)pyrene	< 10.0	µg/L	SW8270D	3.51	10.0								
Benzo(b)fluoranthene	< 10.0	µg/L	SW8270D	0.610	10.0								
Benzo(g,h,i)perylene	< 10.0	µg/L	SW8270D	3.45	10.0								
Benzo(k)fluoranthene	< 10.0	µg/L	SW8270D	3.23	10.0								
Bis(2-chloroethoxy)methane	< 10.0	µg/L	SW8270D	2.64	10.0								
Bis(2-chloroethyl) ether	< 10.0	µg/L	SW8270D	2.88	10.0								
Bis(2-chloroisopropyl) ether	< 10.0	µg/L	SW8270D	2.80	10.0								
Bis(2-ethylhexyl) phthalate	< 10.0	µg/L	SW8270D	0.916	10.0								
Butyl benzyl phthalate	< 10.0	µg/L	SW8270D	1.07	10.0								
Chrysene	< 10.0	µg/L	SW8270D	3.00	10.0								
Dibenz(a,h)anthracene	< 10.0	µg/L	SW8270D	3.46	10.0								
Diethyl phthalate	< 10.0	µg/L	SW8270D	1.14	10.0								
Dimethyl phthalate	< 10.0	µg/L	SW8270D	1.25	10.0								
Di-n-butyl phthalate	< 10.0	µg/L	SW8270D	2.81	10.0								
Di-n-octyl phthalate	< 10.0	µg/L	SW8270D	0.783	10.0								
Fluoranthene	< 10.0	µg/L	SW8270D	0.775	10.0								
Fluorene	< 10.0	µg/L	SW8270D	2.34	10.0								
Hexachlorobenzene	< 10.0	µg/L	SW8270D	0.728	10.0								
Hexachlorobutadiene	< 10.0	µg/L	SW8270D	1.29	10.0								
Hexachlorocyclopentadiene	< 10.0	µg/L	SW8270D	1.62	10.0								
Hexachloroethane	< 10.0	µg/L	SW8270D	1.49	10.0								
Indeno(1,2,3-cd)pyrene	< 10.0	µg/L	SW8270D	3.39	10.0								
Isophorone	< 10.0	µg/L	SW8270D	3.09	10.0								
Naphthalene	< 10.0	µg/L	SW8270D	2.70	10.0								
Nitrobenzene	< 10.0	µg/L	SW8270D	0.546	10.0								
N-Nitrosodimethylamine	< 10.0	µg/L	SW8270D	2.36	10.0								
N-Nitrosodi-n-propylamine	< 10.0	µg/L	SW8270D	0.684	10.0								
N-Nitrosodiphenylamine	< 10.0	µg/L	SW8270D	3.10	10.0								

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QA Officer

QC SUMMARY REPORT

Client: Energy Fuels Resources, Inc.
Lab Set ID: 1708707
Project: Annual Tailings 2017

Contact: Garrin Palmer
Dept: MSSV
QC Type: MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: MB-51070	Date Analyzed:	09/05/2017 1415h											
Test Code: 8270-W	Date Prepared:	09/01/2017 928h											
Pentachlorophenol	< 10.0	µg/L	SW8270D	1.28	10.0								
Phenanthrene	< 10.0	µg/L	SW8270D	2.81	10.0								
Phenol	< 10.0	µg/L	SW8270D	2.22	10.0								
Pyrene	< 10.0	µg/L	SW8270D	2.80	10.0								
Pyridine	< 10.0	µg/L	SW8270D	8.18	10.0								
Surr: 2,4,6-Tribromophenol	55.7	µg/L	SW8270D			80.00		69.6	10 - 165				
Surr: 2-Fluorobiphenyl	19.9	µg/L	SW8270D			40.00		49.8	10 - 118				
Surr: 2-Fluorophenol	27.0	µg/L	SW8270D			80.00		33.7	10 - 121				
Surr: Nitrobenzene-d5	17.1	µg/L	SW8270D			40.00		42.8	10 - 127				
Surr: Phenol-d6	20.3	µg/L	SW8270D			80.00		25.3	10 - 124				
Surr: Terphenyl-d14	29.9	µg/L	SW8270D			40.00		74.7	30 - 147				

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QC SUMMARY REPORT

Client: Energy Fuels Resources, Inc.
Lab Set ID: 1708707
Project: Annual Tailings 2017

Contact: Garrin Palmer
Dept: MSSV
QC Type: MS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1708707-007GMS	Date Analyzed:	09/05/2017 1800h											
Test Code: 8270-W	Date Prepared:	09/01/2017 928h											
1,2,4-Trichlorobenzene	2.82	µg/L	SW8270D	2.14	10.0	80.00	0	3.53	20 - 107				1
1,4-Dichlorobenzene	< 10.0	µg/L	SW8270D	1.97	10.0	80.00	0	0	11 - 90				1
2,4,6-Trichlorophenol	< 10.0	µg/L	SW8270D	2.11	10.0	80.00	0	0	10 - 223				1
2,4-Dimethylphenol	< 10.0	µg/L	SW8270D	2.35	10.0	80.00	0	0	10 - 176				1
2,4-Dinitrotoluene	15.8	µg/L	SW8270D	2.20	10.0	80.00	0	19.7	21 - 191				1
2-Chloronaphthalene	7.51	µg/L	SW8270D	3.18	10.0	80.00	0	9.39	12 - 132				1
2-Chlorophenol	< 10.0	µg/L	SW8270D	2.79	10.0	80.00	0	0	20 - 107				1
4,6-Dinitro-2-methylphenol	7.85	µg/L	SW8270D	0.575	10.0	80.00	0	9.81	20 - 250				1
4-Chloro-3-methylphenol	< 10.0	µg/L	SW8270D	2.34	10.0	80.00	0	0	10 - 136				1
4-Nitrophenol	< 10.0	µg/L	SW8270D	0.597	10.0	80.00	0	0	10 - 135				1
Acenaphthene	10.9	µg/L	SW8270D	2.83	10.0	80.00	0	13.6	21 - 113				1
Benzo(a)pyrene	20.4	µg/L	SW8270D	3.51	10.0	80.00	0	25.5	15 - 169				
N-Nitrosodi-n-propylamine	50.0	µg/L	SW8270D	0.684	10.0	80.00	0	62.6	10 - 133				
Pentachlorophenol	4.49	µg/L	SW8270D	1.28	10.0	80.00	0	5.61	10 - 131				1
Phenol	< 10.0	µg/L	SW8270D	2.22	10.0	80.00	0	0	10 - 71				1
Pyrene	18.1	µg/L	SW8270D	2.80	10.0	80.00	0	22.6	23 - 150				1
Surr: 2,4,6-Tribromophenol	1.54	µg/L	SW8270D			80.00		1.92	14 - 159				S
Surr: 2-Fluorobiphenyl	3.70	µg/L	SW8270D			40.00		9.25	10 - 124				S
Surr: 2-Fluorophenol	0.190	µg/L	SW8270D			80.00		0.238	10 - 106				S
Surr: Nitrobenzene-d5	5.87	µg/L	SW8270D			40.00		14.7	10 - 180				
Surr: Phenol-d6	15.0	µg/L	SW8270D			80.00		18.8	10 - 122				
Surr: Terphenyl-d14	9.49	µg/L	SW8270D			40.00		23.7	10 - 221				

[1] - Matrix spike recovery indicates matrix interference. The method is in control as indicated by the LCS.

S - Surrogate recoveries outside the control limits. MS and MSD samples yielded similar results indicating matrix interference.

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Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Energy Fuels Resources, Inc.
Lab Set ID: 1708707
Project: Annual Tailings 2017

Contact: Garrin Palmer
Dept: MSSV
QC Type: MSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1708707-007GMSD	Date Analyzed:	09/05/2017 1825h											
Test Code: 8270-W	Date Prepared:	09/01/2017 928h											
1,2,4-Trichlorobenzene	6.14	µg/L	SW8270D	2.14	10.0	80.00	0	7.68	20 - 107	2.82	74.1	25	[1]@
1,4-Dichlorobenzene	< 10.0	µg/L	SW8270D	1.97	10.0	80.00	0	0	11 - 90	0	0	25	[1]
2,4,6-Trichlorophenol	3.24	µg/L	SW8270D	2.11	10.0	80.00	0	4.05	10 - 223	0	200	25	[1]@
2,4-Dimethylphenol	3.43	µg/L	SW8270D	2.35	10.0	80.00	0	4.29	10 - 176	0	200	25	[1]@
2,4-Dinitrotoluene	26.9	µg/L	SW8270D	2.20	10.0	80.00	0	33.6	21 - 191	15.8	52.3	25	@
2-Chloronaphthalene	14.7	µg/L	SW8270D	3.18	10.0	80.00	0	18.4	12 - 132	7.51	64.9	25	@
2-Chlorophenol	< 10.0	µg/L	SW8270D	2.79	10.0	80.00	0	0	20 - 107	0	0	25	[1]
4,6-Dinitro-2-methylphenol	14.5	µg/L	SW8270D	0.575	10.0	80.00	0	18.1	20 - 250	7.85	59.3	25	[1]@
4-Chloro-3-methylphenol	2.67	µg/L	SW8270D	2.34	10.0	80.00	0	3.34	10 - 136	0	200	25	[1]@
4-Nitrophenol	65.2	µg/L	SW8270D	0.597	10.0	80.00	0	81.5	10 - 135	0	200	25	@
Acenaphthene	19.7	µg/L	SW8270D	2.83	10.0	80.00	0	24.6	21 - 113	10.9	57.4	25	@
Benzo(a)pyrene	35.2	µg/L	SW8270D	3.51	10.0	80.00	0	44.0	15 - 169	20.4	53.3	25	@
N-Nitrosodi-n-propylamine	48.9	µg/L	SW8270D	0.684	10.0	80.00	0	61.2	10 - 133	50	2.22	25	
Pentachlorophenol	8.48	µg/L	SW8270D	1.28	10.0	80.00	0	10.6	10 - 131	4.49	61.5	25	@
Phenol	< 10.0	µg/L	SW8270D	2.22	10.0	80.00	0	0	10 - 71	0	0	25	[1]
Pyrene	32.0	µg/L	SW8270D	2.80	10.0	80.00	0	40.0	23 - 150	18.1	55.8	25	@
Surr: 2,4,6-Tribromophenol	2.48	µg/L	SW8270D			80.00		3.10	14 - 159				S
Surr: 2-Fluorobiphenyl	7.26	µg/L	SW8270D			40.00		18.2	10 - 124				
Surr: 2-Fluorophenol	0.0500	µg/L	SW8270D			80.00		0.0625	10 - 106				S
Surr: Nitrobenzene-d5	10.5	µg/L	SW8270D			40.00		26.2	10 - 180				
Surr: Phenol-d6	29.8	µg/L	SW8270D			80.00		37.3	10 - 122				
Surr: Terphenyl-d14	17.0	µg/L	SW8270D			40.00		42.5	10 - 221				

@ - High RPD due to suspected sample non-homogeneity or matrix interference.

[1] - Matrix spike recovery indicates matrix interference. The method is in control as indicated by the LCS.

S - Surrogate recoveries outside the control limits. MS and MSD samples yielded similar results indicating matrix interference.

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QC SUMMARY REPORT

Client: Energy Fuels Resources, Inc.
Lab Set ID: 1708707
Project: Annual Tailings 2017

Contact: Garrin Palmer
Dept: MSVOA
QC Type: LCS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: LCS VOC-3 083117A Date Analyzed: 08/31/2017 1125h													
Test Code: 8260-W-DEN100													
Benzene	17.3	µg/L	SW8260C	0.257	1.00	20.00	0	86.6	82 - 132				
Chloroform	18.0	µg/L	SW8260C	0.320	1.00	20.00	0	90.2	85 - 124				
Methylene chloride	18.3	µg/L	SW8260C	0.372	1.00	20.00	0	91.6	71 - 135				
Naphthalene	16.1	µg/L	SW8260C	0.479	1.00	20.00	0	80.6	63 - 129				
Tetrahydrofuran	18.7	µg/L	SW8260C	0.790	1.00	20.00	0	93.6	59 - 120				
Toluene	18.4	µg/L	SW8260C	0.248	1.00	20.00	0	92.2	69 - 129				
Xylenes, Total	44.1	µg/L	SW8260C	0.720	1.00	60.00	0	73.5	66 - 124				
Surr: 1,2-Dichloroethane-d4	51.5	µg/L	SW8260C			50.00		103	80 - 136				
Surr: 4-Bromofluorobenzene	46.7	µg/L	SW8260C			50.00		93.4	85 - 121				
Surr: Dibromofluoromethane	51.3	µg/L	SW8260C			50.00		103	78 - 121				
Surr: Toluene-d8	57.1	µg/L	SW8260C			50.00		114	81 - 123				

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QC SUMMARY REPORT

Client: Energy Fuels Resources, Inc.
Lab Set ID: 1708707
Project: Annual Tailings 2017

Contact: Garrin Palmer
Dept: MSVOA
QC Type: MBLK

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: MB VOC-3 083117A Date Analyzed: 08/31/2017 1145h													
Test Code: 8260-W-DEN100													
2-Butanone	< 20.0	µg/L	SW8260C	1.05	20.0								
Acetone	< 20.0	µg/L	SW8260C	1.70	20.0								
Benzene	< 1.00	µg/L	SW8260C	0.257	1.00								
Carbon tetrachloride	< 1.00	µg/L	SW8260C	0.217	1.00								
Chloroform	< 1.00	µg/L	SW8260C	0.320	1.00								
Chloromethane	< 1.00	µg/L	SW8260C	0.681	1.00								
Methylene chloride	< 1.00	µg/L	SW8260C	0.372	1.00								
Naphthalene	< 1.00	µg/L	SW8260C	0.479	1.00								
Tetrahydrofuran	< 1.00	µg/L	SW8260C	0.790	1.00								
Toluene	< 1.00	µg/L	SW8260C	0.248	1.00								
Xylenes, Total	< 1.00	µg/L	SW8260C	0.720	1.00								
Surr: 1,2-Dichloroethane-d4	54.7	µg/L	SW8260C			50.00		109	80 - 136				
Surr: 4-Bromofluorobenzene	49.5	µg/L	SW8260C			50.00		99.0	85 - 121				
Surr: Dibromofluoromethane	50.4	µg/L	SW8260C			50.00		101	78 - 121				
Surr: Toluene-d8	60.9	µg/L	SW8260C			50.00		122	81 - 123				

American West
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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Energy Fuels Resources, Inc.
Lab Set ID: 1708707
Project: Annual Tailings 2017

Contact: Garrin Palmer
Dept: MSVOA
QC Type: MS

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1708707-007AMS Date Analyzed: 08/31/2017 1958h													
Test Code: 8260-W-DEN100													
Benzene	177	µg/L	SW8260C	2.57	10.0	200.0	0	88.4	66 - 145				
Chloroform	187	µg/L	SW8260C	3.20	10.0	200.0	9.13	89.1	50 - 146				
Methylene chloride	189	µg/L	SW8260C	3.72	10.0	200.0	1.01	93.8	30 - 192				
Naphthalene	172	µg/L	SW8260C	4.79	10.0	200.0	0	85.8	41 - 131				
Tetrahydrofuran	278	µg/L	SW8260C	7.90	10.0	200.0	51.2	113	43 - 146				
Toluene	185	µg/L	SW8260C	2.48	10.0	200.0	0	92.5	18 - 192				
Xylenes, Total	456	µg/L	SW8260C	7.20	10.0	600.0	0	76.0	42 - 167				
Surr: 1,2-Dichloroethane-d4	512	µg/L	SW8260C			500.0		102	72 - 151				
Surr: 4-Bromofluorobenzene	483	µg/L	SW8260C			500.0		96.7	80 - 152				
Surr: Dibromofluoromethane	507	µg/L	SW8260C			500.0		101	70 - 130				
Surr: Toluene-d8	568	µg/L	SW8260C			500.0		114	81 - 123				

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Kyle F. Gross
Laboratory Director

Jose Rocha
QA Officer

QC SUMMARY REPORT

Client: Energy Fuels Resources, Inc.
Lab Set ID: 1708707
Project: Annual Tailings 2017

Contact: Garrin Palmer
Dept: MSVOA
QC Type: MSD

Analyte	Result	Units	Method	MDL	Reporting Limit	Amount Spiked	Spike Ref. Amount	%REC	Limits	RPD Ref. Amt	% RPD	RPD Limit	Qual
Lab Sample ID: 1708707-007AMSD	Date Analyzed:	08/31/2017 2018h											
Test Code: 8260-W-DEN100													
Benzene	173	µg/L	SW8260C	2.57	10.0	200.0	0	86.6	66 - 145	177	2.11	25	
Chloroform	186	µg/L	SW8260C	3.20	10.0	200.0	9.13	88.5	50 - 146	187	0.589	25	
Methylene chloride	189	µg/L	SW8260C	3.72	10.0	200.0	1.01	94.1	30 - 192	189	0.370	25	
Naphthalene	173	µg/L	SW8260C	4.79	10.0	200.0	0	86.5	41 - 131	172	0.755	25	
Tetrahydrofuran	276	µg/L	SW8260C	7.90	10.0	200.0	51.2	113	43 - 146	278	0.397	25	
Toluene	184	µg/L	SW8260C	2.48	10.0	200.0	0	92.1	18 - 192	185	0.433	25	
Xylenes, Total	434	µg/L	SW8260C	7.20	10.0	600.0	0	72.2	42 - 167	456	5.12	25	
Surr: 1,2-Dichloroethane-d4	516	µg/L	SW8260C			500.0		103	72 - 151				
Surr: 4-Bromofluorobenzene	482	µg/L	SW8260C			500.0		96.4	80 - 152				
Surr: Dibromofluoromethane	514	µg/L	SW8260C			500.0		103	70 - 130				
Surr: Toluene-d8	590	µg/L	SW8260C			500.0		118	81 - 123				

REVISED
9-1-17
Took out 8270 3511, samples exploded put in 8270 35ns, per Sam el

ET Profile Pass: Y / N
Rpt Emailed: UL
Denison

American West Analytical Laboratories

WORK ORDER Summary

Work Order: **1708707**

Client: Energy Fuels Resources, Inc. Due Date: 9/15/2017

Client ID: DEN100 **Contact:** Garrin Palmer

Project: **Annual Tailings 2017** **QC Level:** III WO Type: Project

Comments: QC 3 (Summary/No chromatograms). Use sample #7 for MS/MSD. Use CAUTION when handling these samples. Project specific DL's: see COC. Run 200.8 on the Agilent. 8270 LIBRARY SEARCH: 4-Chlorophenol. EDD-Denison. Email Group. Footnote report, pH & metals filter prep received outside of hold.; el/DS

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage	
1708707-001A	**Cell 1**	8/29/2017 0820h	8/31/2017 0925h	**8260-W-DEN100**	Aqueous		VOCFridge	3
				Test Group: 8260-W-DEN100; # of Analytes: 11 / # of Surr: 4				
1708707-001B				**300.0-W**			DF - wc	1
				3 SEL Analytes: CL F SO4				
				ALK-W-2320B-LL			DF - wc	
				2 SEL Analytes: ALKB ALKC				
				COND-W-2510B			DF - wc	
				PH-9040C			DF - wc	
1708707-001C				**TDS-W-2540C**			ww - tds	
				1 SEL Analytes: TDS				
1708707-001D				**NH3-W-350.1**			DF - no2/no3 & nh3	
				1 SEL Analytes: NH3N				
				NH3-W-PR			DF - no2/no3 & nh3	
				NO2/NO3-W-353.2			DF - no2/no3 & nh3	
				1 SEL Analytes: NO3NO2N				
1708707-001E				**200.7-DIS**			DIS MET/HG	2
				5 SEL Analytes: CA MG K NA V				
				200.7-DIS-PR			DIS MET/HG	
				200.8-DIS			DIS MET/HG	
				17 SEL Analytes: AS BE CD CR CO CU FE PB MN MO NI SE AG TL SN U ZN				
				200.8-DIS-PR			DIS MET/HG	
				FILTER-PR			DIS MET/HG	
				HG-DW-DIS-245.1			DIS MET/HG	
				1 SEL Analytes: HG				
				HG-DW-DIS-PR			DIS MET/HG	
				IONBALANCE			DIS MET/HG	
				5 SEL Analytes: BALANCE Anions Cations TDS-Balance TDS-Calc				
1708707-001F							Walkin-Semi	5
1708707-001G				**3510-SVOA-PR**			HOLD	2

FOR LABORATORY USE ONLY [fill out on page 1]: %M ☐ RT ☐ CN ☐ TAT ☐ QC ☐ HOK_____ HOK_____ HOK_____ COC Emailed_____

WORK ORDER Summary

Work Order: **1708707**

Client: Energy Fuels Resources, Inc. Due Date: 9/15/2017

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage	
1708707-001G	**Cell 1**	8/29/2017 0820h	8/31/2017 0925h	**8270-W**	Aqueous		HOLD	2
				Test Group: 8270-W-Custom; # of Analytes: 63 / # of Surr: 6				
1708707-002A	**Cell 2 Slimes**	8/29/2017 0842h	8/31/2017 0925h	**8260-W-DEN100**	Aqueous		VOCFridge	3
				Test Group: 8260-W-DEN100; # of Analytes: 11 / # of Surr: 4				
1708707-002B				**300.0-W**			DF - wc	1
				3 SEL Analytes: CL F SO4				
				ALK-W-2320B-LL			DF - wc	
				2 SEL Analytes: ALKB ALKC				
				COND-W-2510B			DF - wc	
				PH-9040C			DF - wc	
1708707-002C				**TDS-W-2540C**			ww - tds	
				1 SEL Analytes: TDS				
1708707-002D				**NH3-W-350.1**			DF - no2/no3 & nh3	
				1 SEL Analytes: NH3N				
				NH3-W-PR			DF - no2/no3 & nh3	
				NO2/NO3-W-353.2			DF - no2/no3 & nh3	
				1 SEL Analytes: NO3NO2N				
1708707-002E				**200.7-DIS**			DIS MET/HG	2
				5 SEL Analytes: CA MG K NA V				
				200.7-DIS-PR			DIS MET/HG	
				200.8-DIS			DIS MET/HG	
				17 SEL Analytes: AS BE CD CR CO CU FE PB MN MO NI SE AG TL SN U ZN				
				200.8-DIS-PR			DIS MET/HG	
				FILTER-PR			DIS MET/HG	
				HG-DW-DIS-245.1			DIS MET/HG	
				1 SEL Analytes: HG				
				HG-DW-DIS-PR			DIS MET/HG	
				IONBALANCE			DIS MET/HG	
				5 SEL Analytes: BALANCE Anions Cations TDS-Balance TDS-Calc				
1708707-002F							Walkin-Semi	5
1708707-002G				**3510-SVOA-PR**			HOLD	2
				8270-W			HOLD	
				Test Group: 8270-W-Custom; # of Analytes: 63 / # of Surr: 6				
1708707-003A	**Cell 3**	8/29/2017 0917h	8/31/2017 0925h	**8260-W-DEN100**	Aqueous		VOCFridge	3
				Test Group: 8260-W-DEN100; # of Analytes: 11 / # of Surr: 4				
1708707-003B				**300.0-W**			DF - wc	1
				3 SEL Analytes: CL F SO4				

Printed: 09/01/17 08:45 FOR LABORATORY USE ONLY [fill out on page 1]: %M ☐ RT ☐ CN ☐ TAT ☐ QC ☐ HOK_____ HOK_____ HOK_____ COC Emailed_____

WORK ORDER Summary

Work Order: **1708707**

Client: Energy Fuels Resources, Inc. Due Date: 9/15/2017

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage	
1708707-003B	**Cell 3**	8/29/2017 0917h	8/31/2017 0925h	**ALK-W-2320B-LL**	Aqueous		DF - wc	1
				2 SEL Analytes: ALKB ALKC				
				COND-W-2510B			DF - wc	
				PH-9040C			DF - wc	
1708707-003C				**TDS-W-2540C**			ww - tds	
				1 SEL Analytes: TDS				
1708707-003D				**NH3-W-350.1**			DF - no2/no3 & nh3	
				1 SEL Analytes: NH3N				
				NH3-W-PR			DF - no2/no3 & nh3	
				NO2/NO3-W-353.2			DF - no2/no3 & nh3	
				1 SEL Analytes: NO3NO2N				
1708707-003E				**200.7-DIS**			DIS MET/HG	2
				5 SEL Analytes: CA MG K NA V				
				200.7-DIS-PR			DIS MET/HG	
				200.8-DIS			DIS MET/HG	
				17 SEL Analytes: AS BE CD CR CO CU FE PB MN MO NI SE AG TL SN U ZN				
				200.8-DIS-PR			DIS MET/HG	
				FILTER-PR			DIS MET/HG	
				HG-DW-DIS-245.1			DIS MET/HG	
				1 SEL Analytes: HG				
				HG-DW-DIS-PR			DIS MET/HG	
				IONBALANCE			DIS MET/HG	
				5 SEL Analytes: BALANCE Anions Cations TDS-Balance TDS-Calc				
1708707-003F							Walkin-Semi	5
1708707-003G				**3510-SVOA-PR**			HOLD	2
				8270-W			HOLD	
				Test Group: 8270-W-Custom; # of Analytes: 63 / # of Surr: 6				
1708707-004A	**Cell 4A**	8/29/2017 0940h	8/31/2017 0925h	**8260-W-DEN100**	Aqueous		VOCFridge	3
				Test Group: 8260-W-DEN100; # of Analytes: 11 / # of Surr: 4				
1708707-004B				**300.0-W**			DF - wc	1
				3 SEL Analytes: CL F SO4				
				ALK-W-2320B-LL			DF - wc	
				2 SEL Analytes: ALKB ALKC				
				COND-W-2510B			DF - wc	
				PH-9040C			DF - wc	
1708707-004C				**TDS-W-2540C**			ww - tds	
				1 SEL Analytes: TDS				

FOR LABORATORY USE ONLY [fill out on page 1]: %M ☐ RT ☐ CN ☐ TAT ☐ QC ☐ HOK_____ HOK_____ HOK_____ COC Emailed_____

WORK ORDER Summary

Work Order: **1708707**

Client: Energy Fuels Resources, Inc. Due Date: 9/15/2017

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage	
1708707-004D	**Cell 4A**	8/29/2017 0940h	8/31/2017 0925h	**NH3-W-350.1**	Aqueous		DF - no2/no3 & nh3	1
				1 SEL Analytes: NH3N				
				NH3-W-PR			DF - no2/no3 & nh3	
				NO2/NO3-W-353.2			DF - no2/no3 & nh3	
				1 SEL Analytes: NO3NO2N				
1708707-004E				**200.7-DIS**			DIS MET/HG	2
				5 SEL Analytes: CA MG K NA V				
				200.7-DIS-PR			DIS MET/HG	
				200.8-DIS			DIS MET/HG	
				17 SEL Analytes: AS BE CD CR CO CU FE PB MN MO NI SE AG TL SN U ZN				
				200.8-DIS-PR			DIS MET/HG	
				FILTER-PR			DIS MET/HG	
				HG-DW-DIS-245.1			DIS MET/HG	
				1 SEL Analytes: HG				
				HG-DW-DIS-PR			DIS MET/HG	
				IONBALANCE			DIS MET/HG	
				5 SEL Analytes: BALANCE Anions Cations TDS-Balance TDS-Calc				
1708707-004F							Walkin-Semi	5
1708707-004G				**3510-SVOA-PR**			HOLD	2
				8270-W			HOLD	
				Test Group: 8270-W-Custom; # of Analytes: 63 / # of Surr: 6				
1708707-005A	**Cell 4A LDS**	8/29/2017 0956h	8/31/2017 0925h	**8260-W-DEN100**	Aqueous		VOCFridge	3
				Test Group: 8260-W-DEN100; # of Analytes: 11 / # of Surr: 4				
1708707-005B				**300.0-W**			DF - wc	1
				3 SEL Analytes: CL F SO4				
				ALK-W-2320B-LL			DF - wc	
				2 SEL Analytes: ALKB ALKC				
				COND-W-2510B			DF - wc	
				PH-9040C			DF - wc	
1708707-005C				**TDS-W-2540C**			ww - tds	
				1 SEL Analytes: TDS				
1708707-005D				**NH3-W-350.1**			DF - no2/no3 & nh3	
				1 SEL Analytes: NH3N				
				NH3-W-PR			DF - no2/no3 & nh3	
				NO2/NO3-W-353.2			DF - no2/no3 & nh3	
				1 SEL Analytes: NO3NO2N				

WORK ORDER Summary

Work Order: **1708707**

Client: Energy Fuels Resources, Inc. Due Date: 9/15/2017

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage	
1708707-005E	**Cell 4A LDS**	8/29/2017 0956h	8/31/2017 0925h	**200.7-DIS**	Aqueous		DIS MET/HG	2
				5 SEL Analytes: CA MG K NA V				
				200.7-DIS-PR			DIS MET/HG	
				200.8-DIS			DIS MET/HG	
				17 SEL Analytes: AS BE CD CR CO CU FE PB MN MO NI SE AG TL SN U ZN				
				200.8-DIS-PR			DIS MET/HG	
				FILTER-PR			DIS MET/HG	
				HG-DW-DIS-245.1			DIS MET/HG	
				1 SEL Analytes: HG				
				HG-DW-DIS-PR			DIS MET/HG	
				IONBALANCE			DIS MET/HG	
				5 SEL Analytes: BALANCE Anions Cations TDS-Balance TDS-Calc				
1708707-005F							Walkin-Semi	5
1708707-005G				**3510-SVOA-PR**			HOLD	2
				8270-W			HOLD	
				Test Group: 8270-W-Custom; # of Analytes: 63 / # of Surr: 6				
1708707-006A	**Cell 4B**	8/29/2017 1035h	8/31/2017 0925h	**8260-W-DEN100**	Aqueous		VOCFridge	3
				Test Group: 8260-W-DEN100; # of Analytes: 11 / # of Surr: 4				
1708707-006B				**300.0-W**			DF - wc	1
				3 SEL Analytes: CL F SO4				
				ALK-W-2320B-LL			DF - wc	
				2 SEL Analytes: ALKB ALKC				
				COND-W-2510B			DF - wc	
				PH-9040C			DF - wc	
1708707-006C				**TDS-W-2540C**			ww - tds	
				1 SEL Analytes: TDS				
1708707-006D				**NH3-W-350.1**			DF - no2/no3 & nh3	
				1 SEL Analytes: NH3N				
				NH3-W-PR			DF - no2/no3 & nh3	
				NO2/NO3-W-353.2			DF - no2/no3 & nh3	
				1 SEL Analytes: NO3NO2N				
1708707-006E				**200.7-DIS**			DIS MET/HG	2
				5 SEL Analytes: CA MG K NA V				
				200.7-DIS-PR			DIS MET/HG	
				200.8-DIS			DIS MET/HG	
				17 SEL Analytes: AS BE CD CR CO CU FE PB MN MO NI SE AG TL SN U ZN				
				200.8-DIS-PR			DIS MET/HG	

WORK ORDER Summary

Work Order: **1708707**

Client: Energy Fuels Resources, Inc. Due Date: 9/15/2017

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage	
1708707-006E	**Cell 4B**	8/29/2017 1035h	8/31/2017 0925h	**FILTER-PR**	Aqueous		DIS MET/HG	2
				HG-DW-DIS-245.1			DIS MET/HG	
				1 SEL Analytes: HG				
				HG-DW-DIS-PR			DIS MET/HG	
				IONBALANCE			DIS MET/HG	
				5 SEL Analytes: BALANCE Anions Cations TDS-Balance TDS-Calc				
1708707-006F							Walkin-Semi	5
1708707-006G				**3510-SVOA-PR**			HOLD	2
				8270-W			HOLD	
				Test Group: 8270-W-Custom; # of Analytes: 63 / # of Surr: 6				
1708707-007A	**Cell 4 B LDS**	8/29/2017 1015h	8/31/2017 0925h	**8260-W-DEN100**	Aqueous		VOCFridge	3
				Test Group: 8260-W-DEN100; # of Analytes: 11 / # of Surr: 4				
1708707-007B				**300.0-W**			DF - wc	1
				3 SEL Analytes: CL F SO4				
				ALK-W-2320B-LL			DF - wc	
				2 SEL Analytes: ALKB ALKC				
				COND-W-2510B			DF - wc	
				PH-9040C			DF - wc	
1708707-007C				**TDS-W-2540C**			ww - tds	
				1 SEL Analytes: TDS				
1708707-007D				**NH3-W-350.1**			DF - no2/no3 & nh3	
				1 SEL Analytes: NH3N				
				NH3-W-PR			DF - no2/no3 & nh3	
				NO2/NO3-W-353.2			DF - no2/no3 & nh3	
				1 SEL Analytes: NO3NO2N				
1708707-007E				**200.7-DIS**			DIS MET/HG	2
				5 SEL Analytes: CA MG K NA V				
				200.7-DIS-PR			DIS MET/HG	
				200.8-DIS			DIS MET/HG	
				17 SEL Analytes: AS BE CD CR CO CU FE PB MN MO NI SE AG TL SN U ZN				
				200.8-DIS-PR			DIS MET/HG	
				FILTER-PR			DIS MET/HG	
				HG-DW-DIS-245.1			DIS MET/HG	
				1 SEL Analytes: HG				
				HG-DW-DIS-PR			DIS MET/HG	
				IONBALANCE			DIS MET/HG	
				5 SEL Analytes: BALANCE Anions Cations TDS-Balance TDS-Calc				

WORK ORDER Summary

Work Order: **1708707**

Client: Energy Fuels Resources, Inc. Due Date: 9/15/2017

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage	
1708707-007F	**Cell 4 B LDS**	8/29/2017 1015h	8/31/2017 0925h		Aqueous		Walkin-Semi	5
1708707-007G				**3510-SVOA-PR**			HOLD	4
				8270-W			HOLD	
				Test Group: 8270-W-Custom; # of Analytes: 63 / # of Surr: 6				
1708707-008A	**Cell 65**	8/29/2017 0940h	8/31/2017 0925h	**8260-W-DEN100**	Aqueous		VOCFridge	3
				Test Group: 8260-W-DEN100; # of Analytes: 11 / # of Surr: 4				
1708707-008B				**300.0-W**			DF - wc	1
				3 SEL Analytes: CL F SO4				
				ALK-W-2320B-LL			DF - wc	
				2 SEL Analytes: ALKB ALKC				
				COND-W-2510B			DF - wc	
				PH-9040C			DF - wc	
1708707-008C				**TDS-W-2540C**			ww - tds	
				1 SEL Analytes: TDS				
1708707-008D				**NH3-W-350.1**			DF - no2/no3 & nh3	
				1 SEL Analytes: NH3N				
				NH3-W-PR			DF - no2/no3 & nh3	
				NO2/NO3-W-353.2			DF - no2/no3 & nh3	
				1 SEL Analytes: NO3NO2N				
1708707-008E				**200.7-DIS**			DIS MET/HG	2
				5 SEL Analytes: CA MG K NA V				
				200.7-DIS-PR			DIS MET/HG	
				200.8-DIS			DIS MET/HG	
				17 SEL Analytes: AS BE CD CR CO CU FE PB MN MO NI SE AG TL SN U ZN				
				200.8-DIS-PR			DIS MET/HG	
				FILTER-PR			DIS MET/HG	
				HG-DW-DIS-245.1			DIS MET/HG	
				1 SEL Analytes: HG				
				HG-DW-DIS-PR			DIS MET/HG	
				IONBALANCE			DIS MET/HG	
				5 SEL Analytes: BALANCE Anions Cations TDS-Balance TDS-Calc				
1708707-008F							Walkin-Semi	5
1708707-008G				**3510-SVOA-PR**			HOLD	2
				8270-W			HOLD	
				Test Group: 8270-W-Custom; # of Analytes: 63 / # of Surr: 6				
1708707-009A	**Trip Blank**	8/29/2017	8/31/2017 0925h	**8260-W-DEN100**	Aqueous		VOCFridge	3
				Test Group: 8260-W-DEN100; # of Analytes: 11 / # of Surr: 4				

WORK ORDER Summary

Work Order: **1708707**

Client: Energy Fuels Resources, Inc.

Due Date: 9/15/2017

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage

AWAL Use Only - One or more samples expired upon receipt:

Test Code
FILTER-PR
FILTER-PR
FILTER-PR
FILTER-PR
FILTER-PR
FILTER-PR
FILTER-PR
FILTER-PR
PH-9040C
PH-9040C
PH-9040C
PH-9040C
PH-9040C
PH-9040C
PH-9040C
PH-9040C

ET Profile Pass: Y / N
Rpt Emailed: UL
Denison

American West Analytical Laboratories

WORK ORDER Summary

Work Order: **1708707**

Client: Energy Fuels Resources, Inc. Due Date: 9/15/2017

Client ID: DEN100 **Contact:** Garrin Palmer

Project: **Annual Tailings 2017** **QC Level:** III WO Type: Project

Comments: QC 3 (Summary/No chromatograms). Use sample #7 for MS/MSD. Use CAUTION when handling these samples. Project specific DL's: see COC. Run 200.8 on the Agilent. 8270 LIBRARY SEARCH: 4-Chlorophenol. EDD-Denison. Email Group. Footnote report, pH & metals filter prep received outside of hold.; DB

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage	
1708707-001A	**Cell 1**	8/29/2017 0820h	8/31/2017 0925h	**8260-W-DEN100**	Aqueous		VOCFridge	3
				Test Group: 8260-W-DEN100; # of Analytes: 11 / # of Surr: 4				
1708707-001B				**300.0-W**			DF - wc	1
				3 SEL Analytes: CL F SO4				
				ALK-W-2320B-LL			DF - wc	
				2 SEL Analytes: ALKB ALKC				
				COND-W-2510B			DF - wc	
				PH-9040C			DF - wc	
1708707-001C				**TDS-W-2540C**			ww - tds	
				1 SEL Analytes: TDS				
1708707-001D				**NH3-W-350.1**			DF - no2/no3 & nh3	
				1 SEL Analytes: NH3N				
				NH3-W-PR			DF - no2/no3 & nh3	
				NO2/NO3-W-353.2			DF - no2/no3 & nh3	
				1 SEL Analytes: NO3NO2N				
1708707-001E				**200.7-DIS**			DIS MET/HG	2
				5 SEL Analytes: CA MG K NA V				
				200.7-DIS-PR			DIS MET/HG	
				200.8-DIS			DIS MET/HG	
				17 SEL Analytes: AS BE CD CR CO CU FE PB MN MO NI SE AG TL SN U ZN				
				200.8-DIS-PR			DIS MET/HG	
				FILTER-PR			DIS MET/HG	
				HG-DW-DIS-245.1			DIS MET/HG	
				1 SEL Analytes: HG				
				HG-DW-DIS-PR			DIS MET/HG	
				IONBALANCE			DIS MET/HG	
				5 SEL Analytes: BALANCE Anions Cations TDS-Balance TDS-Calc				
1708707-001F				**3511-SVOA-PR**			Walkin-Semi	5
				8270-W-3511			Walkin-Semi	
				Test Group: 8270-W-3511-Custom; # of Analytes: 63 / # of Surr: 6				

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WORK ORDER Summary

Work Order: **1708707**

Client: Energy Fuels Resources, Inc. Due Date: 9/15/2017

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage	
1708707-001G	**Cell 1**	8/29/2017 0820h	8/31/2017 0925h		Aqueous		HOLD	2
1708707-002A	**Cell 2 Slimes**	8/29/2017 0842h	8/31/2017 0925h	**8260-W-DEN100**	Aqueous		VOCFridge	3
				Test Group: 8260-W-DEN100; # of Analytes: 11 / # of Surr: 4				
1708707-002B				**300.0-W**			DF - wc	1
				3 SEL Analytes: CL F SO4				
				ALK-W-2320B-LL			DF - wc	
				2 SEL Analytes: ALKB ALKC				
				COND-W-2510B			DF - wc	
				PH-9040C			DF - wc	
1708707-002C				**TDS-W-2540C**			ww - tds	
				1 SEL Analytes: TDS				
1708707-002D				**NH3-W-350.1**			DF - no2/no3 & nh3	
				1 SEL Analytes: NH3N				
				NH3-W-PR			DF - no2/no3 & nh3	
				NO2/NO3-W-353.2			DF - no2/no3 & nh3	
				1 SEL Analytes: NO3NO2N				
1708707-002E				**200.7-DIS**			DIS MET/HG	2
				5 SEL Analytes: CA MG K NA V				
				200.7-DIS-PR			DIS MET/HG	
				200.8-DIS			DIS MET/HG	
				17 SEL Analytes: AS BE CD CR CO CU FE PB MN MO NI SE AG TL SN U ZN				
				200.8-DIS-PR			DIS MET/HG	
				FILTER-PR			DIS MET/HG	
				HG-DW-DIS-245.1			DIS MET/HG	
				1 SEL Analytes: HG				
				HG-DW-DIS-PR			DIS MET/HG	
				IONBALANCE			DIS MET/HG	
				5 SEL Analytes: BALANCE Anions Cations TDS-Balance TDS-Calc				
1708707-002F				**3511-SVOA-PR**			Walkin-Semi	5
				8270-W-3511			Walkin-Semi	
				Test Group: 8270-W-3511-Custom; # of Analytes: 63 / # of Surr: 6				
1708707-002G							HOLD	2
1708707-003A	**Cell 3**	8/29/2017 0917h	8/31/2017 0925h	**8260-W-DEN100**	Aqueous		VOCFridge	3
				Test Group: 8260-W-DEN100; # of Analytes: 11 / # of Surr: 4				
1708707-003B				**300.0-W**			DF - wc	1
				3 SEL Analytes: CL F SO4				

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WORK ORDER Summary

Work Order: **1708707**

Client: Energy Fuels Resources, Inc. Due Date: 9/15/2017

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage	
1708707-003B	**Cell 3**	8/29/2017 0917h	8/31/2017 0925h	**ALK-W-2320B-LL**	Aqueous		DF - wc	1
				2 SEL Analytes: ALKB ALKC				
				COND-W-2510B			DF - wc	
				PH-9040C			DF - wc	
1708707-003C				**TDS-W-2540C**			ww - tds	
				1 SEL Analytes: TDS				
1708707-003D				**NH3-W-350.1**			DF - no2/no3 & nh3	
				1 SEL Analytes: NH3N				
				NH3-W-PR			DF - no2/no3 & nh3	
				NO2/NO3-W-353.2			DF - no2/no3 & nh3	
				1 SEL Analytes: NO3NO2N				
1708707-003E				**200.7-DIS**			DIS MET/HG	2
				5 SEL Analytes: CA MG K NA V				
				200.7-DIS-PR			DIS MET/HG	
				200.8-DIS			DIS MET/HG	
				17 SEL Analytes: AS BE CD CR CO CU FE PB MN MO NI SE AG TL SN U ZN				
				200.8-DIS-PR			DIS MET/HG	
				FILTER-PR			DIS MET/HG	
				HG-DW-DIS-245.1			DIS MET/HG	
				1 SEL Analytes: HG				
				HG-DW-DIS-PR			DIS MET/HG	
				IONBALANCE			DIS MET/HG	
				5 SEL Analytes: BALANCE Anions Cations TDS-Balance TDS-Calc				
1708707-003F				**3511-SVOA-PR**			Walkin-Semi	5
				8270-W-3511			Walkin-Semi	
				Test Group: 8270-W-3511-Custom; # of Analytes: 63 / # of Surr: 6				
1708707-003G							HOLD	2
1708707-004A	**Cell 4A**	8/29/2017 0940h	8/31/2017 0925h	**8260-W-DEN100**	Aqueous		VOCFridge	3
				Test Group: 8260-W-DEN100; # of Analytes: 11 / # of Surr: 4				
1708707-004B				**300.0-W**			DF - wc	1
				3 SEL Analytes: CL F SO4				
				ALK-W-2320B-LL			DF - wc	
				2 SEL Analytes: ALKB ALKC				
				COND-W-2510B			DF - wc	
				PH-9040C			DF - wc	
1708707-004C				**TDS-W-2540C**			ww - tds	
				1 SEL Analytes: TDS				

WORK ORDER Summary

Work Order: **1708707**

Client: Energy Fuels Resources, Inc. Due Date: 9/15/2017

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage	
1708707-004D	**Cell 4A**	8/29/2017 0940h	8/31/2017 0925h	**NH3-W-350.1**	Aqueous		DF - no2/no3 & nh3	1
				1 SEL Analytes: NH3N				
				NH3-W-PR			DF - no2/no3 & nh3	
				NO2/NO3-W-353.2			DF - no2/no3 & nh3	
				1 SEL Analytes: NO3NO2N				
1708707-004E				**200.7-DIS**			DIS MET/HG	2
				5 SEL Analytes: CA MG K NA V				
				200.7-DIS-PR			DIS MET/HG	
				200.8-DIS			DIS MET/HG	
				17 SEL Analytes: AS BE CD CR CO CU FE PB MN MO NI SE AG TL SN U ZN				
				200.8-DIS-PR			DIS MET/HG	
				FILTER-PR			DIS MET/HG	
				HG-DW-DIS-245.1			DIS MET/HG	
				1 SEL Analytes: HG				
				HG-DW-DIS-PR			DIS MET/HG	
				IONBALANCE			DIS MET/HG	
				5 SEL Analytes: BALANCE Anions Cations TDS-Balance TDS-Calc				
1708707-004F				**3511-SVOA-PR**			Walkin-Semi	5
				8270-W-3511			Walkin-Semi	
				Test Group: 8270-W-3511-Custom; # of Analytes: 63 / # of Surr: 6				
1708707-004G							HOLD	2
1708707-005A	**Cell 4A LDS**	8/29/2017 0956h	8/31/2017 0925h	**8260-W-DEN100**	Aqueous		VOCFridge	3
				Test Group: 8260-W-DEN100; # of Analytes: 11 / # of Surr: 4				
1708707-005B				**300.0-W**			DF - wc	1
				3 SEL Analytes: CL F SO4				
				ALK-W-2320B-LL			DF - wc	
				2 SEL Analytes: ALKB ALKC				
				COND-W-2510B			DF - wc	
				PH-9040C			DF - wc	
1708707-005C				**TDS-W-2540C**			ww - tds	
				1 SEL Analytes: TDS				
1708707-005D				**NH3-W-350.1**			DF - no2/no3 & nh3	
				1 SEL Analytes: NH3N				
				NH3-W-PR			DF - no2/no3 & nh3	
				NO2/NO3-W-353.2			DF - no2/no3 & nh3	
				1 SEL Analytes: NO3NO2N				

WORK ORDER Summary

Work Order: **1708707**

Client: Energy Fuels Resources, Inc. Due Date: 9/15/2017

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage	
1708707-005E	**Cell 4A LDS**	8/29/2017 0956h	8/31/2017 0925h	**200.7-DIS**	Aqueous		DIS MET/HG	2
				5 SEL Analytes: CA MG K NA V				
				200.7-DIS-PR			DIS MET/HG	
				200.8-DIS			DIS MET/HG	
				17 SEL Analytes: AS BE CD CR CO CU FE PB MN MO NI SE AG TL SN U ZN				
				200.8-DIS-PR			DIS MET/HG	
				FILTER-PR			DIS MET/HG	
				HG-DW-DIS-245.1			DIS MET/HG	
				1 SEL Analytes: HG				
				HG-DW-DIS-PR			DIS MET/HG	
				IONBALANCE			DIS MET/HG	
				5 SEL Analytes: BALANCE Anions Cations TDS-Balance TDS-Calc				
1708707-005F				**3511-SVOA-PR**			Walkin-Semi	5
				8270-W-3511			Walkin-Semi	
				Test Group: 8270-W-3511-Custom; # of Analytes: 63 / # of Surr: 6				
1708707-005G							HOLD	2
1708707-006A	**Cell 4B**	8/29/2017 1035h	8/31/2017 0925h	**8260-W-DEN100**	Aqueous		VOCFridge	3
				Test Group: 8260-W-DEN100; # of Analytes: 11 / # of Surr: 4				
1708707-006B				**300.0-W**			DF - wc	1
				3 SEL Analytes: CL F SO4				
				ALK-W-2320B-LL			DF - wc	
				2 SEL Analytes: ALKB ALKC				
				COND-W-2510B			DF - wc	
				PH-9040C			DF - wc	
1708707-006C				**TDS-W-2540C**			ww - tds	
				1 SEL Analytes: TDS				
1708707-006D				**NH3-W-350.1**			DF - no2/no3 & nh3	
				1 SEL Analytes: NH3N				
				NH3-W-PR			DF - no2/no3 & nh3	
				NO2/NO3-W-353.2			DF - no2/no3 & nh3	
				1 SEL Analytes: NO3NO2N				
1708707-006E				**200.7-DIS**			DIS MET/HG	2
				5 SEL Analytes: CA MG K NA V				
				200.7-DIS-PR			DIS MET/HG	
				200.8-DIS			DIS MET/HG	
				17 SEL Analytes: AS BE CD CR CO CU FE PB MN MO NI SE AG TL SN U ZN				
				200.8-DIS-PR			DIS MET/HG	

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WORK ORDER Summary

Work Order: **1708707**

Client: Energy Fuels Resources, Inc. Due Date: 9/15/2017

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage	
1708707-006E	**Cell 4B**	8/29/2017 1035h	8/31/2017 0925h	**FILTER-PR**	Aqueous		DIS MET/HG	2
				HG-DW-DIS-245.1			DIS MET/HG	
				1 SEL Analytes: HG				
				HG-DW-DIS-PR			DIS MET/HG	
				IONBALANCE			DIS MET/HG	
				5 SEL Analytes: BALANCE Anions Cations TDS-Balance TDS-Calc				
1708707-006F				**3511-SVOA-PR**			Walkin-Semi	5
				8270-W-3511			Walkin-Semi	
				Test Group: 8270-W-3511-Custom; # of Analytes: 63 / # of Surr: 6				
1708707-006G							HOLD	2
1708707-007A	**Cell 4 B LDS**	8/29/2017 1015h	8/31/2017 0925h	**8260-W-DEN100**	Aqueous		VOCFridge	3
				Test Group: 8260-W-DEN100; # of Analytes: 11 / # of Surr: 4				
1708707-007B				**300.0-W**			DF - wc	1
				3 SEL Analytes: CL F SO4				
				ALK-W-2320B-LL			DF - wc	
				2 SEL Analytes: ALKB ALKC				
				COND-W-2510B			DF - wc	
				PH-9040C			DF - wc	
1708707-007C				**TDS-W-2540C**			ww - tds	
				1 SEL Analytes: TDS				
1708707-007D				**NH3-W-350.1**			DF - no2/no3 & nh3	
				1 SEL Analytes: NH3N				
				NH3-W-PR			DF - no2/no3 & nh3	
				NO2/NO3-W-353.2			DF - no2/no3 & nh3	
				1 SEL Analytes: NO3NO2N				
1708707-007E				**200.7-DIS**			DIS MET/HG	2
				5 SEL Analytes: CA MG K NA V				
				200.7-DIS-PR			DIS MET/HG	
				200.8-DIS			DIS MET/HG	
				17 SEL Analytes: AS BE CD CR CO CU FE PB MN MO NI SE AG TL SN U ZN				
				200.8-DIS-PR			DIS MET/HG	
				FILTER-PR			DIS MET/HG	
				HG-DW-DIS-245.1			DIS MET/HG	
				1 SEL Analytes: HG				
				HG-DW-DIS-PR			DIS MET/HG	
				IONBALANCE			DIS MET/HG	
				5 SEL Analytes: BALANCE Anions Cations TDS-Balance TDS-Calc				

WORK ORDER Summary

Work Order: **1708707**

Client: Energy Fuels Resources, Inc. Due Date: 9/15/2017

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage	
1708707-007F	**Cell 4 B LDS**	8/29/2017 1015h	8/31/2017 0925h	**3511-SVOA-PR**	Aqueous		Walkin-Semi	5
				8270-W-3511			Walkin-Semi	
				Test Group: 8270-W-3511-Custom; # of Analytes: 63 / # of Surr: 6				
1708707-007G							HOLD	4
1708707-008A	**Cell 65**	8/29/2017 0940h	8/31/2017 0925h	**8260-W-DEN100**	Aqueous		VOCFridge	3
				Test Group: 8260-W-DEN100; # of Analytes: 11 / # of Surr: 4				
1708707-008B				**300.0-W**			DF - wc	1
				3 SEL Analytes: CL F SO4				
				ALK-W-2320B-LL			DF - wc	
				2 SEL Analytes: ALKB ALKC				
				COND-W-2510B			DF - wc	
				PH-9040C			DF - wc	
1708707-008C				**TDS-W-2540C**			ww - tds	
				1 SEL Analytes: TDS				
1708707-008D				**NH3-W-350.1**			DF - no2/no3 & nh3	
				1 SEL Analytes: NH3N				
				NH3-W-PR			DF - no2/no3 & nh3	
				NO2/NO3-W-353.2			DF - no2/no3 & nh3	
				1 SEL Analytes: NO3NO2N				
1708707-008E				**200.7-DIS**			DIS MET/HG	2
				5 SEL Analytes: CA MG K NA V				
				200.7-DIS-PR			DIS MET/HG	
				200.8-DIS			DIS MET/HG	
				17 SEL Analytes: AS BE CD CR CO CU FE PB MN MO NI SE AG TL SN U ZN				
				200.8-DIS-PR			DIS MET/HG	
				FILTER-PR			DIS MET/HG	
				HG-DW-DIS-245.1			DIS MET/HG	
				1 SEL Analytes: HG				
				HG-DW-DIS-PR			DIS MET/HG	
				IONBALANCE			DIS MET/HG	
				5 SEL Analytes: BALANCE Anions Cations TDS-Balance TDS-Calc				
1708707-008F				**3511-SVOA-PR**			Walkin-Semi	5
				8270-W-3511			Walkin-Semi	
				Test Group: 8270-W-3511-Custom; # of Analytes: 63 / # of Surr: 6				
1708707-008G							HOLD	2
1708707-009A	**Trip Blank**	8/29/2017	8/31/2017 0925h	**8260-W-DEN100**	Aqueous		VOCFridge	3
				Test Group: 8260-W-DEN100; # of Analytes: 11 / # of Surr: 4				

WORK ORDER Summary

Work Order: **1708707**

Client: Energy Fuels Resources, Inc. Due Date: 9/15/2017

Sample ID	Client Sample ID	Collected Date	Received Date	Test Code	Matrix	Sel	Storage

AWAL Use Only - One or more samples expired upon receipt:

Test Code
FILTER-PR
FILTER-PR
FILTER-PR
FILTER-PR
FILTER-PR
FILTER-PR
FILTER-PR
FILTER-PR
PH-9040C
PH-9040C
PH-9040C
PH-9040C
PH-9040C
PH-9040C
PH-9040C
PH-9040C

CHAIN OF CUSTODY

1708707
AWAL Lab Sample Set #
Page 1 of 1

American West Analytical Laboratories
463 W. 3600 S. Salt Lake City, UT 84115
Phone # (801) 263-8686 Toll Free # (888) 263-8686
Fax # (801) 263-8687 Email awal@awal-labs.com
www.awal-labs.com

All analysis will be conducted using NELAP accredited methods and all data will be reported using AWAL's standard analyte lists and reporting limits (PQL) unless specifically requested otherwise on this Chain of Custody and/or attached documentation.

QC Level:	Turn Around Time:	Unless other arrangements have been made, signed reports will be emailed by 5:00 pm on the day they are due.	Due Date:
3	Standard		9/15/17

Client: **Energy Fuels Resources, Inc.**
Address: **6425 S. Hwy. 191**
Blanding, UT 84511
Contact: **Garrin Palmer**
Phone #: **(435) 678-2221** Cell #:
Email: **gpalmer@energyfuels.com; KWeinel@energyfuels.com; dturk@energyfuels.com**
Project Name: **Annual Tailings 2017**
Project #:
PO #:
Sampler Name: **Garrin Palmer**

X Include EDD:
NO LOCUS UPLOAD EXCEL ONLY
Field Filtered For:
NOT FIELD FILTERED

For Compliance With:
☐ NELAP
☐ RCRA
☐ CWA
☐ SDWA
☐ ELAP / A2LA
☐ NLLAP
☐ Non-Compliance
☐ Other:

	Sample ID:	Date Sampled	Time Sampled	# of Containers	Sample Matrix	NO2/NO3 (353.2)	NH3 (4500G or 350.1)	Fl, Cl, SO4 (4500 or 300.0)	TDS (2540C)	Carb/Bicarb (2320B)	Dissolved Metals (200.7/200.8/245.1)	As, Be, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo,	Ni, Se, Ag, Tl, Sn, U, V, Zn, Na, K, Mg, Ca	Ion Balance	SVOCs (8270D)	pH	Conductivity	VOCs (8260C)	Known Hazards & Sample Comments
1	**Cell 1**	**8/29/2017**	**820**	14	W	X	X	X	X	X	X	X	X	X	X	X	X	X	
2	**Cell 2 Slimes**	**8/29/2017**	**842**	14	W	X	X	X	X	X	X	X	X	X	X	X	X	X	
3	**Cell 3**	**8/29/2017**	**917**	14	W	X	X	X	X	X	X	X	X	X	X	X	X	X	
4	**Cell 4A**	**8/29/2017**	**940**	14	W	X	X	X	X	X	X	X	X	X	X	X	X	X	
5	**Cell 4A LDS**	**8/29/2017**	**956**	14	W	X	X	X	X	X	X	X	X	X	X	X	X	X	
6	**Cell 4B**	**8/29/2017**	**1035**	14	W	X	X	X	X	X	X	X	X	X	X	X	X	X	
7	**Cell 4 B LDS**	**8/29/2017**	**1015**	16	W	X	X	X	X	X	X	X	X	X	X	X	X	X	MS/MSD sample
8	**Cell 65**	**8/29/2017**	**940**	14	W	X	X	X	X	X	X	X	X	X	X	X	X	X	
9	**Trip Blank**	**8/29/2017**		3	W													X	
10	**Temp Blank**			1	W														
11																			
12																			

Laboratory Use Only

Samples Were:
1 Shipped or Hand delivered
2 Ambient or Chilled
3 Temperature 1.8 °C
4 Received Broken/Leaking (Improperly Sealed) Y N
5 Properly Preserved Y N
Checked at bench Y N
6 Received Within Holding Times Y N
filter pres & pH out of hold

COC Tape Was:
1 Present on Outer Package Y N NA
2 Unbroken on Outer Package Y N NA
3 Present on Sample Y N NA
4 Unbroken on Sample Y N NA

Discrepancies Between Sample Labels and COC Record? Y N

Relinquished by: Signature	Date:	Received by: Signature	Date:
Garrin Palmer	8/31/17	Denise Bruun	8/31/17
Print Name: Garrin Palmer	Time: 0925	Print Name: Denise Bruun	Time: 9:25
Relinquished by: Signature	Date:	Received by: Signature	Date:
Print Name:	Time:	Print Name:	Time:
Relinquished by: Signature	Date:	Received by: Signature	Date:
Print Name:	Time:	Print Name:	Time:
Relinquished by: Signature	Date:	Received by: Signature	Date:
Print Name:	Time:	Print Name:	Time:

Special Instructions:

Sample containers for metals were ***NOT*** field filtered. PLEASE FILTER UPON RECEIPT! See the Analytical Scope of Work for Reporting Limits and VOC analyte list. Reporting Limits are the UTAH GWQS - See Pat Noteboom for questions

Samples are not field filtered.

Lab Set ID: 1708707

pH Lot #: 5337

Preservation Check Sheet

Sample Set Extension and pH

Analysis	Preservative	-001	-002	-003	-004	-005	-006	-007	-008										
Ammonia	pH <2 H_2SO_4	yes	yes	yes	yes	yes	yes	yes	yes										
COD	pH <2 H_2SO_4																		
Cyanide	pH >12 NaOH																		
Metals	pH <2 HNO_3																		
NO_2/NO_3	pH <2 H_2SO_4	yes	yes	yes	yes	yes	yes	yes	yes										
O & G	pH <2 HCL																		
Phenols	pH <2 H_2SO_4																		
Sulfide	pH >9 NaOH, Zn Acetate																		
TKN	pH <2 H_2SO_4																		
T PO_4	pH <2 H_2SO_4																		
Cr VI+	pH >9 $(NH_4)_2SO_4$																		

Procedure:
1) Pour a small amount of sample in the sample lid
2) Pour sample from lid gently over wide range pH paper
3) **Do Not** dip the pH paper in the sample bottle or lid
4) If sample is not preserved, properly list its extension and receiving pH in the appropriate column above
5) Flag COC, notify client if requested
6) Place client conversation on COC
7) Samples may be adjusted

Frequency: All samples requiring preservation

* The sample required additional preservative upon receipt.

\+ The sample was received unpreserved.

▲ The sample was received unpreserved and therefore preserved upon receipt.

\# The sample pH was unadjustable to a pH < 2 due to the sample matrix.

• The sample pH was unadjustable to a pH > ____ due to the sample matrix interference.

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

October 03, 2017

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

Re: Tailings 2017 Characterization
Work Order: 432537

Dear Ms. Weinel:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on September 08, 2017. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

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,

Katrina Hiott for
Julie Robinson
Project Manager

Purchase Order: DW16138
Enclosures

Receipt Narrative
for
Energy Fuels Resources (USA), Inc.
SDG: 432537

October 03, 2017

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 08, 2017 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
432537001	Cell 1
432537002	Cell 2 Slimes
432537003	Cell 3
432537004	Cell 4A
432537005	Cell 4A LDS
432537006	Cell 4B
432537007	Cell 4B LDS
432537008	Cell 65

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: General Chemistry and Radiochemistry.

Katrina Hiott for
Julie Robinson
Project Manager

432537

Sheet 1 of 1

CHAIN OF CUSTODY

Samples Shipped to: Gel Laboratories
2040 Savage Road
Charleston, SC 29407

Contact: Garrin Palmer
Ph: 435 678 4115
gpalmer@energyfuels.com

Project	Samplers Name	Samplers Signature
Annual Tailings 2017	Garrin Palmer	

Sample ID	Date Collected	Time Collected	Laboratory Analysis Requested
Cell 1	8/29/2017	820	Gross Alpha, Thorium (228, 230, 232) Uranium (233/234, 235/236, 238), Ra-226, specific gravity
Cell 2 Slimes	8/29/2017	842	Gross Alpha, Thorium (228, 230, 232) Uranium (233/234, 235/236, 238), Ra-226, specific gravity
Cell 3	8/29/2017	917	Gross Alpha, Thorium (228, 230, 232) Uranium (233/234, 235/236, 238), Ra-226, specific gravity
Cell 4A	8/29/2017	940	Gross Alpha, Thorium (228, 230, 232) Uranium (233/234, 235/236, 238), Ra-226, specific gravity
Cell 4A LDS	8/29/2017	956	Gross Alpha, Thorium (228, 230, 232) Uranium (233/234, 235/236, 238), Ra-226, specific gravity
Cell 4B	8/29/2017	1035	Gross Alpha, Thorium (228, 230, 232) Uranium (233/234, 235/236, 238), Ra-226, specific gravity
Cell 4B LDS	8/29/2017	1015	Gross Alpha, Thorium (228, 230, 232) Uranium (233/234, 235/236, 238), Ra-226, specific gravity
Cell 65	8/29/2017	940	Gross Alpha, Thorium (228, 230, 232) Uranium (233/234, 235/236, 238), Ra-226, specific gravity
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 378920*

Relinquished By:(Signature)	Date/Time	Received By:(Signature)	Date/Time
Garrin Palmer	9/6/17 1200		9/8/17 1000
Relinquished By:(Signature)	Date/Time	Received By:(Signature)	Date/Time

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: DNMI	SDG/AR/COC/Work Order: 432537
Received By: MSH	Date Received: 9/8/17
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground (UPS) Field Services Courier Other 1Z187 Y4Y 01 9216 9636

Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
Shipped as a DOT Hazardous?		X	Hazard Class Shipped: UN#:
COC/Samples marked or classified as radioactive?	X		Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 70 (CPM / mR/Hr) Classified as: Rad 1 (Rad 2) Rad 3
Is package, COC, and/or Samples marked HAZ?	X		If yes, select Hazards below, and contact the GEL Safety Group. 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?	X			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	X			
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*		X		Preservation Method: Wet Ice Ice Packs Dry ice (None) Other: *all temperatures are recorded in Celsius TEMP: 21°C
4	Daily check performed and passed on IR temperature gun?	X			Temperature Device Serial #: IR4-16 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	X			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?		X		Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?			X	If Yes, Are Encores or Soil Kits present? Yes___ No___ (If yes, take to VOA Freezer) Do VOA vials contain acid preservation? Yes No___ N/A (If unknown, select No) VOA vials free of headspace? Yes No___ N/A Sample ID's and containers affected:
8	Samples received within holding time?	X			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	X			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	X			Sample ID's affected:
11	Number of containers received match number indicated on COC?	X			Sample ID's affected:
12	Are sample containers identifiable as GEL provided?			X	
13	COC form is properly signed in relinquished/received sections?	X			

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials JR Date 9/8/17 Page 1 of 1

GEL Laboratories LLC – Login Review Report

GEL Work Order/SDG: 432537 Annual Tailings 2017
Client SDG: 432537
Project Manager: Julie Robinson
Project Name: DNMI00107 Tailings 2017 Characterization
Purchase Order: DW16138
Package Level: LEVEL3
EDD Format: EIM_DNMI

Work Order Due Date: 06-OCT-17
Package Due Date: 04-OCT-17
EDD Due Date: 06-OCT-17
Due Date: 06-OCT-17
JAR1

Collector: C
Prelogin #: 20150833683
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
432537001	Cell 1		29-AUG-17 08:20	08-SEP-17 10:00	-2	2	WATER		20		1		
432537002	Cell 2 Slimes		29-AUG-17 08:42	08-SEP-17 10:00	-2	2	WATER		20		1		
432537003	Cell 3		29-AUG-17 09:17	08-SEP-17 10:00	-2	2	WATER		20		1		
432537004	Cell 4A		29-AUG-17 09:40	08-SEP-17 10:00	-2	2	WATER		20		1		
432537005	Cell 4A LDS		29-AUG-17 09:56	08-SEP-17 10:00	-2	2	WATER		20		1		
432537006	Cell 4B		29-AUG-17 10:35	08-SEP-17 10:00	-2	2	WATER		20		1		
432537007	Cell 4B LDS		29-AUG-17 10:15	08-SEP-17 10:00	-2	2	WATER		20		1		
432537008	Cell 65		29-AUG-17 09:40	08-SEP-17 10:00	-2	2	WATER		20		1		

Client Sample ID	Status	Tests/Methods	Product Reference	Fax Date	PM Comments	Aux Data	Receive Codes
-001 Cell 1	REVW	Alphaspec Th, Liquid			Handle these samples carefully, they are low pH with high metals. Use container .02 for all analyses.		RAD2,HZ
	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	Laboratory Composite	RAD2				
	REVW	Lucas Cell, Ra226, liquid					
	REVW	ASTM D 5057 Specific Gravity					
	REVW	Rad 2 Aliquot for distribution throughout the lab					
-002 Cell 2 Slimes	REVW	Alphaspec Th, Liquid			Handle these samples carefully, they are low pH with high metals. Use container .02 for all analyses.		RAD2,HZ
	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	Laboratory Composite	RAD2				
	REVW	Lucas Cell, Ra226, liquid					
	REVW	ASTM D 5057 Specific Gravity					
	REVW	Rad 2 Aliquot for distribution throughout the lab					
-003 Cell 3	REVW	Alphaspec Th, Liquid			Handle these samples carefully, they are low pH with high metals. Use container .02 for all analyses.		RAD2,HZ
	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	Laboratory Composite	RAD2		
	REVW	Lucas Cell, Ra226, liquid			
	REVW	ASTM D 5057 Specific Gravity			
	REVW	Rad 2 Aliquot for distribution throughout the lab			
-004 Cell 4A	REVW	Alphaspec Th, Liquid		Handle these samples carefully, they are low pH with high metals. Use container .02 for all analyses.	RAD2,HZ
	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	Laboratory Composite	RAD2		
	REVW	Lucas Cell, Ra226, liquid			
	REVW	ASTM D 5057 Specific Gravity			
	REVW	Rad 2 Aliquot for distribution throughout the lab			
-005 Cell 4A LDS	REVW	Alphaspec Th, Liquid		Handle these samples carefully, they are low pH with high metals. Use container .02 for all analyses.	RAD2,HZ
	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	Laboratory Composite	RAD2		
	REVW	Lucas Cell, Ra226, liquid			
	REVW	ASTM D 5057 Specific Gravity			
	REVW	Rad 2 Aliquot for distribution throughout the lab			
-006 Cell 4B	REVW	Alphaspec Th, Liquid		Handle these samples carefully, they are low pH with high metals. Use container .02 for all analyses.	RAD2,HZ
	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	Laboratory Composite	RAD2		
	REVW	Lucas Cell, Ra226, liquid			
	REVW	ASTM D 5057 Specific Gravity			
	REVW	Rad 2 Aliquot for distribution throughout the lab			
-007 Cell 4B LDS	REVW	Alphaspec Th, Liquid		Handle these samples carefully, they are low pH with high metals. Use container .02 for all analyses.	RAD2,HZ
	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	Laboratory Composite	RAD2		
	REVW	Lucas Cell, Ra226, liquid			
	REVW	ASTM D 5057 Specific Gravity			
	REVW	Rad 2 Aliquot for distribution throughout the lab			
-008 Cell 65	REVW	Alphaspec Th, Liquid		Handle these samples carefully, they are low pH with high metals. Use container .02 for all analyses.	RAD2,HZ
	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	Laboratory Composite	RAD2
REVW	Lucas Cell, Ra226, liquid	
REVW	ASTM D 5057 Specific Gravity	
REVW	Rad 2 Aliquot for distribution throughout the lab	

Product: ASP__THL **Workdef ID:** 1371096 **In Product Group?** No **Group Name:** **Group Reference:**

Method: DOE EML HASL-300, Th-01-RC Modified
Product Description: Alphaspec Th, 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?
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
Product Description: U- 233/234,U-235/236 and U-238
Samples: 001, 002, 003, 004, 005, 006, 007, 008
Parmname Check: All parmnames scheduled properly

Path: High Rad
Product Reference: U-233/234,U-235/236
Moisture Correction: "As Received"

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 900.1 Modified
Product Description: GFPC,Total Alpha Radium, Liquid
Samples: 001, 002, 003, 004, 005, 006, 007, 008
Parmname Check: All parmnames scheduled properly

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

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: MISSGAS_L **Workdef ID:** 1370067 **In Product Group?** No **Group Name:** **Group Reference:**

Method: ASTM D 5057
Product Description: ASTM D 5057 Specific Gravity
Samples: 001, 002, 003, 004, 005, 006, 007, 008
Parmname Check: All parmnames scheduled properly

Path: Standard
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?
	Specific Gravity	.1 none	none	REG	Y	Y	No

Product: RADALQT_L **Workdef ID:** 1371095 **In Product Group?** No **Group Name:** **Group Reference:**

Method:
Product Description: Rad 2 Aliquot for distribution throughout the lab
Samples: 001, 002, 003, 004, 005, 006, 007, 008
Parmname Check: All parmnames scheduled properly

Path: Standard
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?
							No

GEL Laboratories LLC – Login Review Report

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? _____

General Chemistry
Technical Case Narrative
Energy Fuels Resources (DNMI)
SDG #: 432537

Method/Analysis Information

Product: **Specific Gravity**

Analytical Batch: 1703328 **Method:** ASTM D 5057 Specific Gravity

Sample Analysis

The following samples were analyzed using the analytical protocol as established in ASTM D 5057:

Sample ID	Client ID
432537001	Cell 1
432537002	Cell 2 Slimes
432537003	Cell 3
432537004	Cell 4A
432537005	Cell 4A LDS
432537006	Cell 4B
432537007	Cell 4B LDS
432537008	Cell 65

The samples in this SDG were analyzed on an "as received" basis.

SOP Reference
Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-GC-E-065 REV# 7.

Preparation/Analytical Method Verification

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

Calibration Information

The Hazardous Waste analysis was performed on a OHAUS Balance BAL-032. Immediates area

Initial Calibration
All initial calibration requirements have been met for this SDG.

Quality Control (QC) Information

Laboratory Control Sample Duplicate (LCSD)
An LCSD was not used in place of matrix QC.

Quality Control (QC) Designation
No samples were selected for QC analysis.

Technical Information

GEL assigns holding times based on the date and time of sample collection. Those holding times expressed in hours are calculated in the AlphaLims system by hours. Those holding times expressed as days expire at midnight on the day of expiration.

Sample Dilutions
The samples in this SDG did not require dilutions.

Sample Re-analysis
The samples in this SDG did not require re-analysis.

Miscellaneous Information

Additional Comments
Additional comments were not required for this SDG.

Electronic Packaging Comment
This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted:
Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

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: 432537 GEL Work Order: 432537

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: Kristen Mizzell **Name: Kristen Mizzell**

Date: 27 SEP 2017 **Title: Analyst I**

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

QC Summary

Report Date: September 27, 2017

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

Contact: **Ms. Kathy Weinel**

Workorder: **432537**

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 (DNMI)
SDG #: 432537

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# 26
Analytical Batch: 1702126

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
432537001	Cell 1
432537002	Cell 2 Slimes
432537003	Cell 3
432537004	Cell 4A
432537005	Cell 4A LDS
432537006	Cell 4B
432537007	Cell 4B LDS
432537008	Cell 65
1203878765	Method Blank (MB)
1203878766	432537001(Cell 1) Sample Duplicate (DUP)
1203878767	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

Duplication Criteria between QC Sample and Duplicate Sample
The QC 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
1203878766 (Cell 1DUP)	Uranium-235/236	RPD 20.5* (0%-20%) RER .642 (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
1203878765 (MB)	Uranium-233/234	Result 4320 < MDA 4930 > RDL 1 pCi/L
	Uranium-235/236	Result 573 < MDA 3620 > RDL 1 pCi/L

	Uranium-238	Result 2030 < MDA 4730 > 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
432537002 (Cell 2 Slimes)	Uranium-235/236	Result 4240 < MDA 6870 > RDL 1 pCi/L
432537003 (Cell 3)	Uranium-235/236	Result 4010 < MDA 4040 > 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# 17
Analytical Batch: 1702127

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
432537001	Cell 1
432537002	Cell 2 Slimes
432537003	Cell 3
432537004	Cell 4A
432537005	Cell 4A LDS
432537006	Cell 4B
432537007	Cell 4B LDS
432537008	Cell 65
1203878768	Method Blank (MB)
1203878769	432537001(Cell 1) Sample Duplicate (DUP)
1203878770	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

Duplication Criteria between QC Sample and Duplicate Sample
The QC Sample and Duplicate, , did not meet the duplication criteria list below due to the extremely small aliquot size used not being a true representation of the samples and the non-homogenous matrix of the samples. The aliquots were reduced due to the high levels of activity in the samples.

Sample	Analyte	Value

1203878769 (Cell 1DUP)	Thorium-232	RPD 123* (0%-20%) RER 4.7 * (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
1203878768 (MB)	Thorium-228	Result -200 < MDA 3950 > RDL 1 pCi/L
	Thorium-230	Result 790 < MDA 6480 > RDL 1 pCi/L
	Thorium-232	Result -237 < MDA 4040 > 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
1203878769 (Cell 1DUP)	Thorium-228	Result 840 < MDA 5320 > RDL 1 pCi/L
432537001 (Cell 1)	Thorium-228	Result 2890 < MDA 5390 > RDL 1 pCi/L
432537002 (Cell 2 Slimes)	Thorium-228	Result -102 < MDA 5200 > RDL 1 pCi/L
	Thorium-232	Result 1020 < MDA 3000 > RDL 1 pCi/L
432537003 (Cell 3)	Thorium-228	Result -354 < MDA 4060 > RDL 1 pCi/L
	Thorium-230	Result 3940 < MDA 6000 > RDL 1 pCi/L
	Thorium-232	Result 671 < MDA 2690 > RDL 1 pCi/L
432537004 (Cell 4A)	Thorium-228	Result -209 < MDA 4140 > RDL 1 pCi/L
432537005 (Cell 4A LDS)	Thorium-228	Result 880 < MDA 5600 > RDL 1 pCi/L
432537006 (Cell 4B)	Thorium-228	Result 1990 < MDA 4390 > RDL 1 pCi/L
432537008 (Cell 65)	Thorium-228	Result 2660 < MDA 4200 > RDL 1 pCi/L

Technical Information

Recounts
Samples 1203878769 (Cell 1DUP) and 432537001 (Cell 1) were recounted due to high relative percent difference/relative error ratio. The recounts are reported. Sample 432537006 (Cell 4B) was recounted due to a peak shift. The recount is reported.

Product: **GFPC,Total Alpha Radium, Liquid**
Analytical Method: EPA 900.1 Modified
Analytical Procedure: GL-RAD-A-010 REV# 16
Analytical Batch: 1702128

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
432537001	Cell 1
432537002	Cell 2 Slimes
432537003	Cell 3
432537004	Cell 4A
432537005	Cell 4A LDS
432537006	Cell 4B
432537007	Cell 4B LDS
432537008	Cell 65
1203878771	Method Blank (MB)
1203878772	432537001(Cell 1) Sample Duplicate (DUP)
1203878773	432537001(Cell 1) Matrix Spike (MS)
1203878774	432537001(Cell 1) Matrix Spike Duplicate (MSD)
1203878775	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

Matrix Spike (MS) Recovery
The matrix spike 1203878773 (Cell 1MS) does not meet the recovery requirement. The matrix spike duplicate 1203878774 does meet the recovery requirement. The matrix spike and the matrix spike duplicate meet the relative percent difference and relative error ratio requirement.

Duplication Criteria between QC Sample and Duplicate Sample
The QC 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
1203878772 (Cell 1DUP)	Gross Radium Alpha	RPD 33.2* (0.0%-20.0%) RER 2.67

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
1203878771 (MB)	Gross Radium Alpha	Result 38.1 < MDA 110 > RDL 1 pCi/L

Technical Information

Recounts
Samples 1203878773 (Cell 1MS) and 1203878774 (Cell 1MSD) were recounted due to high recovery. The recounts are reported. Sample 1203878771 (MB) was recounted due to high MDC. The recount is reported. Sample 432537003 (Cell 3) was recounted to decrease uncertainty. The recount is reported. Sample 1203878772

(Cell 1DUP) was recounted in order to verify activity. The recount is reported.

Product: **Lucas Cell, Ra226, liquid**
Analytical Method: EPA 903.1 Modified
Analytical Procedure: GL-RAD-A-008 REV# 14
Analytical Batch: 1702129

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
432537001	Cell 1
432537002	Cell 2 Slimes
432537003	Cell 3
432537004	Cell 4A
432537005	Cell 4A LDS
432537006	Cell 4B
432537007	Cell 4B LDS
432537008	Cell 65
1203878776	Method Blank (MB)
1203878777	432537008(Cell 65) Sample Duplicate (DUP)
1203878778	432537008(Cell 65) Matrix Spike (MS)
1203878779	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
1203878776 (MB)	Radium-226	Result 12.9 < MDA 22.7 > RDL 1 pCi/L

Product: **Laboratory Composite**
Composite Preparation Method: GL-RAD-A-026
Composite Preparation Procedure: GL-RAD-A-026 REV# 17

Composite Preparation Batch: 1700105

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
432537001	Cell 1
432537002	Cell 2 Slimes
432537003	Cell 3
432537004	Cell 4A
432537005	Cell 4A LDS
432537006	Cell 4B
432537007	Cell 4B LDS
432537008	Cell 65

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.

Miscellaneous Information

Additional Comments
Approximately 50mL of each sample was filtered and placed in a new container.

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: 432537 GEL Work Order: 432537

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: Theresa L Austin **Name: Theresa Austin**

Date: 05 OCT 2017 **Title: Group Leader**

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

QC Summary

Report Date: October 5, 2017

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

Workorder: **432537**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
High Rad Testing										
Batch 1702126										
QC1203878766 432537001 DUP										
Uranium-233/234		3.53E+05		3.67E+05	pCi/L	4.07		(0%-20%)	JXC5	09/26/17 08:5
	Uncertainty	+/-16700		+/-17100						
Uranium-235/236		20400		25000	pCi/L	20.5*		(0%-20%)		
	Uncertainty	+/-4550		+/-5110						
Uranium-238		3.44E+05		4.12E+05	pCi/L	18		(0%-20%)		
	Uncertainty	+/-16500		+/-18100						
QC1203878767 LCS										
Uranium-233/234				2.61E+05	pCi/L					09/26/17 08:5
	Uncertainty			+/-12600						
Uranium-235/236				15400	pCi/L					
	Uncertainty			+/-3540						
Uranium-238	2.69E+05			2.63E+05	pCi/L		97.7	(75%-125%)		
	Uncertainty			+/-12700						
QC1203878765 MB										
Uranium-233/234			U	4320	pCi/L					09/26/17 08:5
	Uncertainty			+/-1980						
Uranium-235/236			U	573	pCi/L					
	Uncertainty			+/-1100						
Uranium-238			U	2030	pCi/L					
	Uncertainty			+/-1550						
Batch 1702127										
QC1203878769 432537001 DUP										
Thorium-228	U	2890	U	840	pCi/L	N/A		N/A	JXC5	09/27/17 13:4
	Uncertainty	+/-2020		+/-1610						
Thorium-230		8.10E+06		8.32E+06	pCi/L	2.73		(0%-20%)		
	Uncertainty	+/-83400		+/-94800						
Thorium-232		76000		18000	pCi/L	123*		(0%-20%)		
	Uncertainty	+/-8130		+/-4580						

QC Summary

Workorder: 432537

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
High Rad Testing										
Batch 1702127										
QC1203878770 LCS										
Thorium-228				1.99E+05	pCi/L				JXC5	09/27/17 08:3
	Uncertainty			+/-13200						
Thorium-230				21100	pCi/L			(75%-125%)		
	Uncertainty			+/-4520						
Thorium-232	1.99E+05			1.92E+05	pCi/L		96.5	(75%-125%)		
	Uncertainty			+/-12900						
QC1203878768 MB										
Thorium-228			U	-200	pCi/L					09/27/17 08:3
	Uncertainty			+/-867						
Thorium-230			U	790	pCi/L					
	Uncertainty			+/-1690						
Thorium-232			U	-237	pCi/L					
	Uncertainty			+/-865						
Batch 1702128										
QC1203878772 432537001 DUP										
Gross Radium Alpha		1.91E+05		2.67E+05	pCi/L	33.2*		(0%-20%)	AXM6	09/28/17 08:3
	Uncertainty	+/-1600		+/-1770						
QC1203878775 LCS										
Gross Radium Alpha	1.11E+05			1.28E+05	pCi/L		115	(75%-125%)		09/27/17 15:5
	Uncertainty			+/-1700						
QC1203878771 MB										
Gross Radium Alpha			U	38.1	pCi/L					09/28/17 11:0
	Uncertainty			+/-31.9						
QC1203878773 432537001 MS										
Gross Radium Alpha	1.12E+05	1.91E+05		3.80E+05	pCi/L		168*	(75%-125%)		09/28/17 10:5
	Uncertainty	+/-1600		+/-2130						
QC1203878774 432537001 MSD										
Gross Radium Alpha	1.12E+05	1.91E+05		3.18E+05	pCi/L	17.6	113	(0%-20%)		09/28/17 08:3
	Uncertainty	+/-1600		+/-1900						
Batch 1702129										
QC1203878777 432537008 DUP										
Radium-226		822		723	pCi/L	12.8		(0%-20%)	MXH8	10/02/17 10:2
	Uncertainty	+/-40.2		+/-37.2						

QC Summary

Workorder: 432537

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
High Rad Testing										
Batch 1702129										
QC1203878779 LCS										
Radium-226	1300			1250	pCi/L		96.1	(75%-125%)	MXH8	10/02/17 10:2
	Uncertainty			+/-49.9						
QC1203878776 MB										
Radium-226			U	12.9	pCi/L					10/02/17 10:2
	Uncertainty			+/-7.14						
QC1203878778 432537008 MS										
Radium-226	1300	822		1810	pCi/L		75.9	(75%-125%)		10/02/17 10:2
	Uncertainty	+/-40.2		+/-57.7						

Notes:

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

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

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QC Summary

Workorder: 432537

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

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.

Tab D

Chemical and Radiological Summary Tables

Cell 1

Chemical and Radiological Characteristics

Constituent	1987	2003 (Avg)	2007 (Avg)	2008	2009	2010	2011	2012	2013	2013 (resample)	2014	2015	2016	2017
Major Ions (mg/l)														
Carbonate	<5	<1	ND	ND	<1	<1	<1	<1	<1	NS	<1	<1	<1	<1
Bicarbonate	<5	NA	ND	ND	<1	<1	<1	<1	<1	NS	<1	<1	<1	<1
Calcium	630	307	483.8	604	635	711	577	426	768	NS	404	573	647	581
Chloride	8000	6728	37340	9830	20700	7440	33800	78000	9900	NS	11600	25500	19200	19900
Fluoride	<100	3005	31.72	0.3	0.4	28.4	69.2	62.9	4130	NS	2380	5880	2980	4290
Magnesium	7900	5988	21220	6550	16200	5410	14300	16000	4470	NS	5530	12400	9210	9380
Nitrogen-Ammonia	7800	3353	10628	5250	15200	8120	12900	9750	3900	NS	5700	5.4	7090	1040
Nitrogen-Nitrate	<100	41.8	269.4	64.9	142	58	212	556	128	NS	53	192	124	152
Potassium	NA	647	5698	1880	4140	1840	4510	9750	6580	NS	3010	7330	1970	2700
Sodium	10000	8638	62600	13200	39000	16700	29500	41700	15900	NS	12200	32100	18900	23900
Sulfate	190000	63667	287600	118000	232000	107000	182000	158000	100000	NS	124000	204000	212000	165000
pH (s.u.)	0.7	1.88	0.8	1.53	1.15	2.73	2.23	1.9	2.74	NS	1.3	1.01	<1.00	<1.00
TDS	120000	94700	357400	131000	140000	130000	216000	342000	149000	NS	159000	334000	242000	231000
Conductivity (umhos/cm)	NA	NA	NA	NA	365000	110000	112000	136000	94200	NS	113000	131000	123000	57600
Metals (ug/l)														
Arsenic	440000	121267	849000	271000	436000	74400	299000	25500	9800	NS	249000	377000	407000	391000
Beryllium	780	475	2262	500	410	338	1270	3180	415	NS	448	1290	1030	749
Cadmium	6600	3990	29320	8790	9120	2940	13700	30700	2380	NS	3060	7710	6320	6730
Chromium	13000	6365	29940	6760	18700	5620	22700	12100	8350	NS	13200	19600	14000	15900
Cobalt	120000	NA	88240	23500	97500	16200	56000	53100	25500	NS	56500	82000	77200	91400
Copper	740000	196667	881000	360000	168000	125000	483000	885000	544000	NS	3420000	3560000	4730000	3440000
Iron	3400000	2820000	13480000	3280000	2390000	3400000	8940000	840000	1420000	NS	2520000	6680000	5650000	2300000
Lead	<20000	3393	27420	11200	10600	9240	23600	17000	2810	NS	13500	16800	22500	23000
Manganese	140000	162500	990200	206000	723000	173000	735000	1560000	188000	NS	162000	515000	713000	510000
Mercury	NA	NA	ND	ND	7.61	7.2	61.4	117	6.16	NS	12.5	24.6	8.59	7.86
Molybdenum	240000	50550	415600	106000	142000	35300	235000	434000	16800	NS	68800	127000	97100	128000

Cell 1

Chemical and Radiological Characteristics

Constituent	1987	2003 (Avg)	2007 (Avg)	2008	2009	2010	2011	2012	2013	2013 (resample)	2014	2015	2016	2017
Nickel	370000	36950	40860	32000	156000	27500	43700	15000	39100	NS	129000	130000	170000	183000
Selenium	<20000	1862	15420	13000	14800	5220	11600	8090	2690	NS	3970	7070	3950	5070
Silver	<5000	NA	1559.2	449	558	155	1110	4310	329	NS	336	1390	1240	1240
Thallium	45000	NA	407.8	165	387	193	560	13	63.3	NS	876	1130	754	155
Tin	<5000	NA	6512	1240	2290	263	1500	<100	<100	NS	<17000	<100	<17000	<17000
Uranium	105000	134517	788600	416000	578000	159000	838000	1450000	140000	NS	137000	363000	131000	102000
Vanadium	280000	348000	2208200	1200000	773000	752000	2500000	1940000	98200	NS	485000	1130000	746000	1520000
Zinc	1300000	NA	642940	476000	229000	171000	398000	811000	228000	NS	229000	638000	448000	515000
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
VOCS (ug/L)														
Acetone	35	NA	66.5	110	710	260	80	310	41.1	NS	<700	56	40.6	28
Benzene	<5	NA	ND	ND	<1	<1	<1	<1	<1	NS	<5.0	<1	<1	<1
Carbon tetrachloride	<5	NA	ND	ND	<1	<1	<1	<1	<1	NS	<5.0	<1	<1	<1
Chloroform	8	NA	6.7	6.6	16	4.9	13	19	7.62	NS	<70.0	5.54	<1	3.42
Chloromethane	NA	NA	ND	9.4	11	4.4	3.6	4	5	NS	<30.0	1.93	<1	1.13
MEK	NA	NA	ND	ND	120	65	<1	200	<20	NS	<4000	<20	<20	<20
Methylene Chloride	11	NA	ND	ND	2	<1	<1	2	<1	NS	<5.0	1.83	<1	1.09
Naphthalene	<10000	NA	<10	ND	1.1	5.4	2	3	<1	NS	<100	<1	<1	<1
Tetrahydrofuran	NA	NA	150	<20	<100	<10	<500	2.9	<1	NS	<46.0	<1	<1	<1
Toluene	<5	NA	ND	ND	<1	<1	<1	<1	<1	NS	<1000	<1	<1	<1
Xylenes	<5	NA	ND	ND	<1	<1	<1	<1	<1	NS	<10000	<1	<1	<1
SVOCS (ug/L)														
1,2,4-Trichlorobenzene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
1,2-Dichlorobenzene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10

Cell 1

Chemical and Radiological Characteristics

Constituent	1987	2003 (Avg)	2007 (Avg)	2008	2009	2010	2011	2012	2013	2013 (resample)	2014	2015	2016	2017
1,3-Dichlorobenzene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
1,4-Dichlorobenzene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
1-Methylnaphthalene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
2,4,5-Trichlorophenol	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
2,4,6-Trichlorophenol	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
2,4-Dichlorophenol	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
2,4-Dimethylphenol	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
2,4-Dinitrophenol	NA	NA	NA	NA	<250	<20	<20	<20	<21.6	<20	<20	<20	<10	<10
2,4-Dinitrotoluene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
2,6-Dinitrotoluene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
2-Chloronaphthalene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
2-Chlorophenol	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
2-Methylnaphthalene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
2-Methylphenol	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
2-Nitrophenol	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
3&4-Methylphenol	NA	NA	NA	NA	<22	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
3,3´-Dichlorobenzidine	NA	NA	NA	NA	<100	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	<250	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
4-Bromophenyl phenyl ether	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
4-Chloro-3-methylphenol	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
4-Nitrophenol	NA	NA	NA	NA	<250	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Acenaphthene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Acenaphthylene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Anthracene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Azobenzene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Benz(a)anthracene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10

Cell 1

Chemical and Radiological Characteristics

Constituent	1987	2003 (Avg)	2007 (Avg)	2008	2009	2010	2011	2012	2013	2013 (resample)	2014	2015	2016	2017
Benzidine	NA	NA	NA	NA	<100	<10	<10	<10	<10.8	<10	41	<10	<10	<10
Benzo(a)pyrene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Benzo(k)fluoranthene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Bis(2-chloroethoxy)methane	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Bis(2-chloroethyl) ether	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Bis(2-chloroisopropyl) ether	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Bis(2-ethylhexyl) phthalate	NA	NA	NA	NA	<50	27	<10	<10	<10.8	<10	<10	<10	<10	<10
Butyl benzyl phthalate	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Chrysene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Dibenz(a,h)anthracene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Diethyl phthalate	NA	NA	NA	NA	170	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Dimethyl phthalate	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Di-n-butyl phthalate	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Di-n-octyl phthalate	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Fluoranthene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Fluorene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Hexachlorobenzene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Hexachlorobutadiene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Hexachlorocyclopentadiene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Hexachloroethane	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Isophorone	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10

Cell 1

Chemical and Radiological Characteristics

Constituent	1987	2003 (Avg)	2007 (Avg)	2008	2009	2010	2011	2012	2013	2013 (resample)	2014	2015	2016	2017
Naphthalene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Nitrobenzene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
N-Nitrosodimethylamine	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
N-Nitrosodiphenylamine	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Pentachlorophenol	NA	NA	NA	NA	<250	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Phenanthrene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Phenol	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Pyrene	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10
Pyridine	NA	NA	NA	NA	<50	<10	<10	<10	<10.8	<10	<10	<10	<10	<10

[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
Major Ions (mg/l)											
Carbonate	ND	ND	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bicarbonate	ND	ND	<1	<1	<1	<1	<1	<1	<1	<1	<1
Calcium	572	528	508	496	474	462	465	322	524	402	477
Chloride	3700	3860	2750	3510	3110	3730	3270	3720	3850	4040	3820
Fluoride	3.3	ND	<0.1	2.4	2.1	1.32	161	130	204	48.4	110
Magnesium	4100	4030	3750	3790	3640	3760	3320	2780	3810	3570	3630
Nitrogen-Ammonia	4020	3620	3240	3820	2940	3540	1880	3500	367	3800	500
Nitrogen-Nitrate	30.9	20.3	38	126	38	27	47.2	35	1.06	12.7	13.7
Potassium	636	560	689	620	636	611	622	489	659	512	668
Sodium	4050	4600	4410	4770	4590	4380	3980	3130	4800	4690	4810
Sulfate	60600	74000	72200	63700	64200	58300	83700	62200	57800	83900	58300
pH (s.u.)	3.18	3.24	3.11	3.39	3.18	3	3.02	3.1	3.1	2.99	3.08
TDS	84300	74600	84100	79900	80200	83800	92200	87000	88200	93100	85900
Conductivity (umhos/cm)	NA	NA	88700	60200	51400	52900	51100	54100	58800	44500	52600
Metals (ug/l)											
Arsenic	26900	19300	14200	23500	17800	19400	21000	19800	13300	16900	21100
Beryllium	298	245	271	267	231	251	262	197	275	259	261
Cadmium	5500	5840	5510	6370	5580	5290	5780	6480	6260	6610	6790
Chromium	2750	2450	2230	2510	2380	2350	2290	1630	1840	1630	2290
Cobalt	46500	43800	38700	48200	42500	48700	44900	46700	46000	46100	50600
Copper	106000	154000	170000	148000	132000	138000	137000	126000	143000	156000	148000
Iron	2770000	3310000	3230000	2720000	2960000	2850000	2810000	2180000	3000000	3410000	3430000
Lead	566	528	403	586	501	619	515	638	268	484	593
Manganese	117000	130000	160000	144000	123000	141000	122000	98000	136000	149000	151000
Mercury	ND	ND	<0.5	<4	11.1	1.9	<0.5	<0.0020	<0.5	<2.00	<2.00
Molybdenum	4080	3190	2240	4630	3510	3610	3650	4250	2010	3360	4060
Nickel	123000	122000	108000	126000	111000	125000	108000	127000	120000	134000	133000
Selenium	422	647	726	844	714	711	678	1020	631	615	683

Cell 2 Slimes Drain
Chemical and Radiological Characteristics

Constituents	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Silver	ND	ND	<10	<10	<10	<10	<10	<100	<20	<100	<100
Thallium	361	703	368	470	371	338	278	402	233	212	373
Tin	ND	ND	<100	<100	<100	<100	<100	<17000	<100	<17000	<17000
Uranium	23000	29200	29900	30600	27100	33400	22800	26400	27200	27300	28600
Vanadium	409000	463000	536000	469000	454000	475000	452000	497000	513000	497000	534000
Zinc	767000	750000	582000	652000	574000	639000	631000	405000	702000	764000	760000
Gross Alpha	1290	1570	1580	1000	1230	1370 (2400)*	2270	6890	7210	5660	4570
VOCS (ug/L)											
Acetone	550	410	570	460	690	600	384	<700	599	473	451
Benzene	ND	ND	<1	<1	<1	<1	<1	<5.0	<1	<1	<1
Carbon tetrachloride	ND	ND	<1	<1	<1	<1	<1	<5.0	<1	<1	<1
Chloroform	20	17	16	15	20	16	21.4	<70.0	18.6	15	16.7
Chloromethane	1.8	ND	2.2	2.3	2	3	2.04	<30.0	<1	<1	1.50
MEK	65	ND	100	83	130	100	95.5	<4000	102	80.3	60.7
Methylene Chloride	ND	ND	<1	<1	<1	<1	<1	<5.0	<1	<1	<1
Naphthalene	14	7.5	16	17	13	12	16.8	<100	16.2	11.9	10.1
Tetrahydrofuran	15	NA	<100	<10	<10	3.2	3.98	<46.0	2.16	<1	<1
Toluene	1.7	ND	2.6	2.6	3	2	3.23	<1000	3.74	2.94	3.80
Xylenes	1.5	ND	<1	2.2	<1	2	5.97	<10000	<1	<1	<1
SVOCS (ug/L)											
1,2,4-Trichlorobenzene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
1,2-Dichlorobenzene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
1,3-Dichlorobenzene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
1,4-Dichlorobenzene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
1-Methylnaphthalene	NA	NA	<11	<10	<10	<10	<10	11	<10	<10	<10
2,4,5-Trichlorophenol	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
2,4,6-Trichlorophenol	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
2,4-Dichlorophenol	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10

Cell 2 Slimes Drain
Chemical and Radiological Characteristics

Constituents	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
2,4-Dimethylphenol	NA	NA	<51	<20	<20	<10	<10	<10	<10	<10	<10
2,4-Dinitrophenol	NA	NA	<11	<10	<10	<20	<20	<20	<20	<10	<10
2,4-Dinitrotoluene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
2,6-Dinitrotoluene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
2-Chloronaphthalene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
2-Chlorophenol	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
2-Methylnaphthalene	NA	NA	<11	<10	<10	<10	<10	11	<10	11.1	<10
2-Methylphenol	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
2-Nitrophenol	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
3&4-Methylphenol	NA	NA	<21	<10	<10	<10	<10	<10	<10	<10	<10
3,3´-Dichlorobenzidine	NA	NA	<51	<10	<10	<10	<10	<10	<10	<10	<10
4,6-Dinitro-2-methylphenol	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
4-Bromophenyl phenyl ether	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
4-Chloro-3-methylphenol	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
4-Chlorophenyl phenyl ether	NA	NA	<51	<10	<10	<10	<10	<10	<10	<10	<10
4-Nitrophenol	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Acenaphthene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Acenaphthylene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Anthracene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Azobenzene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Benz(a)anthracene	NA	NA	<21	<10	<10	<10	<10	<10	<10	<10	<10
Benzidine	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(a)pyrene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(k)fluoranthene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Bis(2-chloroethoxy)methane	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Bis(2-chloroethyl) ether	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Bis(2-chloroisopropyl) ether	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10

Cell 2 Slimes Drain
Chemical and Radiological Characteristics

Constituents	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Bis(2-ethylhexyl) phthalate	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Butyl benzyl phthalate	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Chrysene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Dibenz(a,h)anthracene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Diethyl phthalate	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Dimethyl phthalate	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Di-n-butyl phthalate	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Di-n-octyl phthalate	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Fluoranthene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Fluorene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Hexachlorobenzene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Hexachlorobutadiene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Hexachlorocyclopentadiene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Hexachloroethane	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Isophorone	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Naphthalene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Nitrobenzene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
N-Nitrosodimethylamine	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
N-Nitrosodi-n-propylamine	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
N-Nitrosodiphenylamine	NA	NA	<51	<10	<10	<10	<10	<10	<10	<10	<10
Pentachlorophenol	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Phenanthrene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Phenol	NA	NA	<11	10.7	<10	<10	<10	<10	<10	<10	<10
Pyrene	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10
Pyridine	NA	NA	<11	<10	<10	<10	<10	<10	<10	<10	<10

* 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
Major Ions (mg/l)									
Carbonate	<1	<1	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
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							
Radiologics (pCi/l)									
Gross Alpha	13.5	7.3	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled

Cell 2 LDS
Chemical and Radiological Characteristics

Constituent	2009	2010	2011	2012	2013	2014	2015	2016	2017
VOCS (ug/L)									
Acetone	<20	<20	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
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							
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							

Cell 2 LDS
Chemical and Radiological Characteristics

Constituent	2009	2010	2011	2012	2013	2014	2015	2016	2017
Benz(a)anthracene	NA	<10	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled	Not Sampled
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							
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
Major Ions (mg/l)														
Carbonate	NA	<1	ND	ND	<1	<1	<1	<1	<1	NS	<1	<1	<1.00	<1.00
Bicarbonate	<5	NA	ND	ND	<1	<1	<1	<1	<1	NS	<1	<1	<1.00	<1.00
Calcium	300	418	887	478	628	560	200	591	586	NS	294	713	148	526
Chloride	NA	2460	15965	15400	17200	3470	40400	8880	38400	NS	7200	22800	115000	2720
Fluoride	<100	667	42.8	1.4	0.6	54.8	64.1	2300	12400	NS	1330	5410	46500	189
Magnesium	5400	3386	15767	13100	17100	2500	22100	5680	15400	NS	1910	12700	31000	844
Nitrogen-Ammonia	13900	1302	13867	9010	21600	2650	6470	6840	100	NS	3030	8.91	6270	88.5
Nitrogen-Nitrate	<100	20	102	44	142	26	261	64	277	NS	59.5	26.6	582	107
Potassium	NA	254	6657	4760	3820	782	2590	1190	2110	NS	386	1620	3120	133
Sodium	5900	3198	25583	22900	28600	5620	47900	6660	34400	NS	3630	23800	59800	2120
Sulfate	180000	33400	173667	167000	214000	40400	197000	80000	440000	NS	37000	158000	834000	9970
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
TDS	189000	51633	228500	193000	243000	56200	296000	120000	410000	NS	70100	238000	887000	17300
Conductivity (umhos/cm)	NA	NA	NA	NA	304000	59800	86400	80300	84300	NS	56200	121000	13600	20300
Metals (ug/l)														
Arsenic	163000	32867	256500	489000	ND	52900	263000	4340	66000	NS	2920	21500	194000	87
Beryllium	540	430	913	840	905	206	1570	678	2570	NS	222	1520	12500	59
Cadmium	2600	1958	9260	15400	ND	1960	12200	3460	24000	NS	2550	14800	41000	1190
Chromium	12000	3742	14883	12800	ND	3360	22800	10900	30600	NS	2380	15300	76200	<100
Cobalt	48000	NA	82783	57000	ND	13000	76000	76100	99700	NS	20800	72500	74200	4440
Copper	360000	87333	505000	345000	ND	89000	768000	379000	954000	NS	139000	511000	3000000	9720
Iron	2100000	1278333	4874500	4400000	5970000	1460000	10200000	3400000	9700000	NS	688000	4570000	15400000	262000
Lead	<20000	2507	9647	16900	ND	17200	16700	1860	14400	NS	1900	9090	4030	15.8
Manganese	82000	144000	496833	313000	ND	101000	587000	3110000	2470000	NS	214000	1270000	5690000	102000
Mercury	ND	NA	ND	16	ND	<4	30.9	9.6	21.6	NS	2.4	7.01	873	<2.00
Molybdenum	52000	12250	122167	209000	14	21300	96200	790	56100	NS	2930	12500	133000	70.1
Nickel	170000	20917	131833	241000	ND	23800	75800	150000	122000	NS	44900	121000	29200	7220

Cell 3

Chemical and Radiological Characteristics

Constituent	1987	2003 (Avg)	2007 (Avg)	2008	2009	2010	2011	2012	2013	2013 Resample	2014	2015	2016	2017
Selenium	<2000	910	5856	10200	ND	3080	6900	2460	7060	NS	1370	4330	3170	306
Silver	<2500	NA	305	1010	ND	101	792	1850	3380	NS	329	1790	6780	<100
Thallium	4700	NA	446	1200	ND	190	518	1080	694	NS	290	602	2160	21.3
Tin	NA	NA	1090	1070	ND	155	325	<100	<100	NS	<17000	<100	<17000	<17000
Uranium	118000	67833	332333	636000	3690	180000	458000	835000	1200000	NS	134000	530000	5360000	9630
Vanadium	210000	158333	935000	1130000	ND	692000	2370000	836000	3220000	NS	454000	1720000	10300000	5600
Zinc	590000	NA	748833	515000	ND	134000	726000	652000	1430000	NS	155000	899000	7810000	68100
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
VOCS (ug/L)														
Acetone	28	NA	80	100	67	37	330	64	302	159	<700	82.8	<200	48.4
Benzene	<5	NA	ND	ND	<1	<1	<1	<1	<5	<1	<5.0	<1	<1	<1
Carbon tetrachloride	<5	NA	ND	ND	<1	<1	<1	<1	<5	<1	<5.0	<1	<1	<1
Chloroform	6	NA	ND	11	4.2	2.6	31	2	56.3	21	<70.0	1.75	13.2	<1
Chloromethane	NA	NA	ND	ND	1.4	1.8	3.5	1	<5	2.58	<30.0	1.03	19.8	<1
MEK	NA	NA	ND	ND	<1	<1	67	<20	<100	24.5	<4000	<20	<20	<20
Methylene Chloride	10	NA	ND	ND	<1	<1	7.4	<1	6.95	<1	<5.0	<1	<1	<1
Naphthalene	<10000	NA	ND	<10	<1	2.1	1.2	<1	<5	<1	<100	<1	<1	<1
Tetrahydrofuran	NA	NA	150	<20	<100	<10	<10	<1	<5	<1	<46.0	<1	<1	<1
Toluene	<5	NA	ND	ND	<1	<1	<1	<1	<5	<1	<1000	<1	<1	<1
Xylenes	<5	NA	ND	ND	<1	<1	<1	<1	<5	<1	<10000	<1	<1	<1
SVOCS (ug/L)														
1,2,4-Trichlorobenzene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
1,2-Dichlorobenzene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
1,3-Dichlorobenzene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
1,4-Dichlorobenzene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<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
1-Methylnaphthalene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
2,4,5-Trichlorophenol	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
2,4,6-Trichlorophenol	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
2,4-Dichlorophenol	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
2,4-Dimethylphenol	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
2,4-Dinitrophenol	NA	NA	NA	NA	<53	<20	<20	<20	<21.1	<20	<20	<20	<10	<10
2,4-Dinitrotoluene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
2,6-Dinitrotoluene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
2-Chloronaphthalene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
2-Chlorophenol	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
2-Methylnaphthalene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
2-Methylphenol	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
2-Nitrophenol	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
3&4-Methylphenol	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
3,3´-Dichlorobenzidine	NA	NA	NA	NA	<21	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	<53	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
4-Bromophenyl phenyl ether	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
4-Chloro-3-methylphenol	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
4-Nitrophenol	NA	NA	NA	NA	<53	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Acenaphthene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Acenaphthylene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Anthracene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Azobenzene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Benz(a)anthracene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Benzidine	NA	NA	NA	NA	<21	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Benzo(a)pyrene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<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
Benzo(k)fluoranthene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Bis(2-chloroethoxy)methane	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Bis(2-chloroethyl) ether	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Bis(2-chloroisopropyl) ether	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Bis(2-ethylhexyl) phthalate	NA	NA	NA	NA	<11	10.6	<10	<10	<10.5	<10	<10	<10	<10	<10
Butyl benzyl phthalate	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Chrysene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Dibenz(a,h)anthracene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Diethyl phthalate	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Dimethyl phthalate	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Di-n-butyl phthalate	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Di-n-octyl phthalate	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Fluoranthene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Fluorene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Hexachlorobenzene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Hexachlorobutadiene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Hexachlorocyclopentadiene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Hexachloroethane	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Isophorone	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Naphthalene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Nitrobenzene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
N-Nitrosodimethylamine	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
N-Nitrosodiphenylamine	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Pentachlorophenol	NA	NA	NA	NA	<53	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Phenanthrene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Phenol	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10
Pyrene	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<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
Pyridine	NA	NA	NA	NA	<11	<10	<10	<10	<10.5	<10	<10	<10	<10	<10

[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
Major Ions (mg/l)									
Carbonate	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bicarbonate	<1	<1	<1	<1	<1	<1	<1	<1	<1
Calcium	627	598	558	591	668	445	604	632	607
Chloride	4650	7350	5870	4980	4530	5900	6410	7040	8060
Fluoride	0.3	21.6	30.6	43	1130	1290	1660	2030	1420
Magnesium	3250	4940	4720	2230	3660	2990	3910	3550	4360
Nitrogen-Ammonia	3140	5230	4930	1540	1340	2730	11	4770	924
Nitrogen-Nitrate	28	52	44	27	38.2	39.5	19.9	41.9	53.4
Potassium	980	1440	1450	558	773	724	1020	915	1500
Sodium	5980	11300	11400	7130	6860	7190	9760	9580	12000
Sulfate	67600	87100	267000	64900	83300	64900	77200	126000	77800
pH (s.u.)	1.4	1.99	1.73	1.2	1.47	1.7	1.51	1.59	1.53
TDS	81400	107000	108000	76000	90000	97000	104000	124000	120000
Conductivity (umhos/cm)	131000	101000	82100	78100	66300	73000	89600	81300	89800
Metals (ug/l)									
Arsenic	626000	109000	86600	60500	73700	70000	82600	94400	104000
Beryllium	296	215	323	167	247	190	281	320	440
Cadmium	1920	3670	2190	844	1450	1780	2090	2850	3360
Chromium	3220	7500	5900	5990	5220	4620	5460	7920	8520
Cobalt	9440	26500	22500	22900	22900	27500	26100	32800	37900
Copper	99200	168000	181000	433000	540000	556000	477000	566000	578000
Iron	2360000	2920000	3390000	3190000	2620000	2280000	3090000	3850000	4480000
Lead	5360	11800	11000	5270	11500	14800	11700	14000	15100
Manganese	178000	209000	131000	112000	143000	120000	181000	225000	261000
Mercury	1.19	<4	15.2	2.4	0.786	2.5	0.99	<2	2.30
Molybdenum	24300	43800	24200	58200	25500	40600	35400	43900	40800
Nickel	17100	40900	43500	41300	43300	54100	48700	61300	66800
Selenium	4620	5810	4460	1310	2080	2000	2400	2820	4450
Silver	78	193	216	127	144	197	186	305	379
Thallium	162	350	410	250	256	376	436	568	169
Tin	257	378	319	169	118	<17000	142	<17000	<17000
Uranium	118000	217000	153000	91000	112000	159000	171000	214000	193000
Vanadium	918000	1090000	730000	237000	461000	535000	577000	715000	972000
Zinc	142000	224000	286000	200000	183000	169000	237000	318000	344000
Radiologics (pCi/l)									
Gross Alpha	8910	3400	8290	16300	15800	240000	176000 (8/4/2015) 37800 (5/28/2015)	292000	133000

Cell 4A

Chemical and Radiological Characteristics

Constituent	2009	2010	2011	2012	2013	2014	2015	2016	2017
VOCS (ug/L)									
Acetone	60	55	100	25	28.4	<700	42.5	45.1	21.4
Benzene	<1	<1	<1	<1	<1	<5.0	<1	<1	<1
Carbon tetrachloride	<1	<1	<1	<1	<1	<5.0	<1	<1	<1
Chloroform	4	8.5	10	<1	<1	<70.0	<1	<1	<1
Chloromethane	3.4	5.5	7.9	<1	<1	<30.0	<1	<1	1.35
MEK	<1	<1	<1	<1	<20	<4000	<20	<20	<20
Methylene Chloride	<1	<1	<1	<20	<1	<5.0	<1	<1	<1
Naphthalene	1.8	<1	<1	<1	<1	<100	<1	<1	<1
Tetrahydrofuran	<100	<10	<10	1.36	<1	<46.0	<1	12.6	<1
Toluene	<1	<1	<1	<1	<1	<1000	<1	<1	<1
Xylenes	<1	<1	<1	<1	<1	<10000	<1	<1	<1
SVOCS (ug/L)									
1,2,4-Trichlorobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10
1,2-Dichlorobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10
1,3-Dichlorobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10
1,4-Dichlorobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10
1-Methylnaphthalene	<11	<10	<10	<10	<10	<10	<10	<10	<10
2,4,5-Trichlorophenol	<11	<10	<10	<10	<10	<10	<10	<10	<10
2,4,6-Trichlorophenol	<11	<10	<10	<10	<10	<10	<10	<10	<10
2,4-Dichlorophenol	<11	<10	<10	<10	<10	<10	<10	<10	<10
2,4-Dimethylphenol	<11	<10	<10	<10	<10	<10	<10	<10	<10
2,4-Dinitrophenol	<53	<20	<20	<20	<20	<20	<20	<10	<10
2,4-Dinitrotoluene	<11	<10	<10	<10	<10	<10	<10	<10	<10
2,6-Dinitrotoluene	<11	<10	<10	<10	<10	<10	<10	<10	<10
2-Chloronaphthalene	<11	<10	<10	<10	<10	<10	<10	<10	<10
2-Chlorophenol	<11	<10	<10	<10	<10	<10	<10	<10	<10
2-Methylnaphthalene	<11	<10	<10	<10	<10	<10	<10	<10	<10
2-Methylphenol	<11	<10	<10	<10	<10	<10	<10	<10	<10
2-Nitrophenol	<11	<10	<10	<10	<10	<10	<10	<10	<10
3&4-Methylphenol	<11	<10	<10	<10	<10	<10	<10	<10	<10
3,3´-Dichlorobenzidine	<21	<10	<10	<10	<10	<10	<10	<10	<10
4,6-Dinitro-2-methylphenol	<53	<10	<10	<10	<10	<10	<10	<10	<10
4-Bromophenyl phenyl ether	<11	<10	<10	<10	<10	<10	<10	<10	<10
4-Chloro-3-methylphenol	<11	<10	<10	<10	<10	<10	<10	<10	<10
4-Chlorophenyl phenyl ether	<11	<10	<10	<10	<10	<10	<10	<10	<10
4-Nitrophenol	<53	<10	<10	<10	<10	<10	<10	<10	<10
Acenaphthene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Acenaphthylene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Anthracene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Azobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10

Cell 4A

Chemical and Radiological Characteristics

Constituent	2009	2010	2011	2012	2013	2014	2015	2016	2017
Benz(a)anthracene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Benzidine	<21	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(a)pyrene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(k)fluoranthene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Bis(2-chloroethoxy)methane	<11	<10	<10	<10	<10	<10	<10	<10	<10
Bis(2-chloroethyl) ether	<11	<10	<10	<10	<10	<10	<10	<10	<10
Bis(2-chloroisopropyl) ether	<11	<10	<10	<10	<10	<10	<10	<10	<10
Bis(2-ethylhexyl) phthalate	<11	19.6	<10	<10	<10	<10	<10	<10	<10
Butyl benzyl phthalate	<11	<10	<10	<10	<10	<10	<10	<10	<10
Chrysene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Dibenz(a,h)anthracene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Diethyl phthalate	<11	<10	<10	<10	<10	<10	<10	<10	<10
Dimethyl phthalate	<11	<10	<10	<10	<10	<10	<10	<10	<10
Di-n-butyl phthalate	<11	<10	<10	<10	<10	<10	<10	<10	<10
Di-n-octyl phthalate	<11	<10	<10	<10	<10	<10	<10	<10	<10
Fluoranthene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Fluorene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Hexachlorobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Hexachlorobutadiene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Hexachlorocyclopentadiene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Hexachloroethane	<11	<10	<10	<10	<10	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Isophorone	<11	<10	<10	<10	<10	<10	<10	<10	<10
Naphthalene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Nitrobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10
N-Nitrosodimethylamine	<11	<10	<10	<10	<10	<10	<10	<10	<10
N-Nitrosodi-n-propylamine	<11	<10	<10	<10	<10	<10	<10	<10	<10
N-Nitrosodiphenylamine	<11	<10	<10	<10	<10	<10	<10	<10	<10
Pentachlorophenol	<53	<10	<10	<10	<10	<10	<10	<10	<10
Phenanthrene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Phenol	<11	<10	<10	<10	<10	<10	<10	<10	<10
Pyrene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Pyridine	<11	<10	<10	<10	<10	<10	<10	<10	<10

Cell 4A LDS
Chemical and Radiological Characteristics

Constituent	2009	2010	2011	2012	2013	2014	2015	2016	2017
Major Ions (mg/l)									
Carbonate	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bicarbonate	<1	<1	<1	<1	<1	<1	<1	<1	<1
Calcium	558	474	470	453	429	336	510	446	542
Chloride	7570	4670	6040	2710	1910	4200	2860	5200	8610
Fluoride	0.7	39.4	46	27	1970	1320	282	1150	1370
Magnesium	6390	3240	5100	2070	1710	2690	2730	3940	4630
Nitrogen-Ammonia	4480	2290	3480	1320	1010	2920	13.4	5050	846
Nitrogen-Nitrate	69	183	94	15	28.9	39	27.4	40.9	63.1
Potassium	1960	934	1500	503	305	415	245	675	1710
Sodium	12600	6700	11000	3500	2930	4190	3490	8050	11500
Sulfate	92400	41700	77400	39600	31400	56000	50500	91300	89100
pH (s.u.)	1.98	2.53	2.32	2.1	2.32	2.4	2.29	2.04	1.50
TDS	117000	56900	93800	55400	49700	81900	65200	95400	142000
Conductivity (umhos/cm)	150000	49000	66600	39600	31300	53600	50200	62200	97900
Metals (ug/l)									
Arsenic	133000	54000	74700	44100	35700	51200	10400	43500	117000
Beryllium	536	295	367	180	188	185	199	289	479
Cadmium	4010	2650	3160	921	1170	4720	4270	4500	4080
Chromium	9140	3890	5940	3930	2630	2780	1760	4250	9410
Cobalt	37300	15200	21700	22300	44300	41200	33700	32100	42700
Copper	222000	116000	150000	481000	754000	439000	160000	331000	650000
Iron	3940000	1420000	2530000	2460000	1370000	1850000	1320000	2330000	5140000
Lead	5270	3400	4520	2300	165	991	46.8	797	15500
Manganese	389000	157000	207000	95200	86300	98600	96700	184000	296000
Mercury	2.66	6.2	14.7	0.7	<0.5	<0.0020	<0.5	<2.00	<2.00
Molybdenum	49200	23900	29300	10200	1200	3970	278	10700	49900
Nickel	43900	23900	29600	35000	54600	99300	86300	72700	74700
Selenium	5250	2820	3780	1260	1020	2170	649	1590	4940
Silver	204	62	127	44	24.8	<100	25.6	144	312
Thallium	252	194	290	332	171	522	218	439	550
Tin	504	180	119	<100	<100	<17000	<100	<17000	<17000
Uranium	284000	145000	168000	90200	75000	82200	25000	116000	247000
Vanadium	1150000	518000	770000	240000	157000	510000	253000	449000	1090000
Zinc	298000	152000	204000	181000	163000	306000	510000	502000	385000
Radiologics (pCi/l)									
Gross Alpha	7020	3230	7440	4730	6930	61800	17200 (8/4/2015) 1670 (5/28/2015)	98700	176000

Cell 4A LDS

Chemical and Radiological Characteristics

Constituent	2009	2010	2011	2012	2013	2014	2015	2016	2017
VOCS (ug/L)									
Acetone	240	130	120	55	57	<700	84.7	61.5	79.8
Benzene	<1	<1	<1	<1	<1	<5.0	<1	<1	<1
Carbon tetrachloride	<1	<1	<1	<1	<1	<5.0	<1	<1	<1
Chloroform	23	52	26	42	110	95	129	84.5	21.6
Chloromethane	7.9	13	3.8	6	9.93	<30.0	5.35	<1.00	3.00
MEK	78	50	82	36	<20	<4000	<20	<20	<20
Methylene Chloride	<1	<1	<1	<1	<1	<5.0	<1	<1	<1
Naphthalene	<1	1.5	<1	1	2.35	<100	<1	<1	<1
Tetrahydrofuran	140	158	102	117	39.1	<46.0	18.5	<1	15.7
Toluene	<1	<1	<1	<1	<1	<1000	<1	<1	<1
Xylenes	<1	<1	<1	<1	<1	<10000	<1	<1	<1
SVOCS (ug/L)									
1,2,4-Trichlorobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10
1,2-Dichlorobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10
1,3-Dichlorobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10
1,4-Dichlorobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10
1-Methylnaphthalene	<11	<10	<10	<10	<10	<10	<10	<10	<10
2,4,5-Trichlorophenol	<11	<10	<10	<10	<10	<10	<10	<10	<10
2,4,6-Trichlorophenol	<11	<10	<10	<10	<10	<10	<10	<10	<10
2,4-Dichlorophenol	<11	<10	<10	<10	<10	<10	<10	<10	<10
2,4-Dimethylphenol	<11	<10	<10	<10	<10	<10	<10	<10	<10
2,4-Dinitrophenol	<54	<20	<20	<20	<20	<20	<20	<10	<10
2,4-Dinitrotoluene	<11	<10	<10	<10	<10	<10	<10	<10	<10
2,6-Dinitrotoluene	<11	<10	<10	<10	<10	<10	<10	<10	<10
2-Chloronaphthalene	<11	<10	<10	<10	<10	<10	<10	<10	<10
2-Chlorophenol	<11	<10	<10	<10	<10	<10	<10	<10	<10
2-Methylnaphthalene	<11	<10	<10	<10	<10	<10	<10	<10	<10
2-Methylphenol	<11	<10	<10	<10	<10	<10	<10	<10	<10
2-Nitrophenol	<11	<10	<10	<10	<10	<10	<10	<10	<10
3&4-Methylphenol	<11	<10	<10	<10	<10	<10	<10	<10	<10
3,3´-Dichlorobenzidine	<22	<10	<10	<10	<10	<10	<10	<10	<10
4,6-Dinitro-2-methylphenol	<54	<10	<10	<10	<10	<10	<10	<10	<10
4-Bromophenyl phenyl ether	<11	<10	<10	<10	<10	<10	<10	<10	<10
4-Chloro-3-methylphenol	<11	<10	<10	<10	<10	<10	<10	<10	<10
4-Chlorophenyl phenyl ether	<11	<10	<10	<10	<10	<10	<10	<10	<10
4-Nitrophenol	<54	<10	<10	<10	<10	<10	<10	<10	<10
Acenaphthene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Acenaphthylene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Anthracene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Azobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10

Cell 4A LDS

Chemical and Radiological Characteristics

Constituent	2009	2010	2011	2012	2013	2014	2015	2016	2017
Benz(a)anthracene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Benzidine	<22	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(a)pyrene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(k)fluoranthene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Bis(2-chloroethoxy)methane	<11	<10	<10	<10	<10	<10	<10	<10	<10
Bis(2-chloroethyl) ether	<11	<10	<10	<10	<10	<10	<10	<10	<10
Bis(2-chloroisopropyl) ether	<11	<10	<10	<10	<10	<10	<10	<10	<10
Bis(2-ethylhexyl) phthalate	<11	54.9	54.9	16.6	<10	<10	<10	<10	<10
Butyl benzyl phthalate	<11	<10	<10	<10	<10	<10	<10	<10	<10
Chrysene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Dibenz(a,h)anthracene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Diethyl phthalate	<11	<10	<10	<10	<10	<10	<10	<10	<10
Dimethyl phthalate	<11	<10	<10	<10	<10	<10	<10	<10	<10
Di-n-butyl phthalate	<11	<10	<10	<10	<10	<10	<10	<10	<10
Di-n-octyl phthalate	<11	<10	<10	<10	<10	<10	<10	<10	<10
Fluoranthene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Fluorene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Hexachlorobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Hexachlorobutadiene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Hexachlorocyclopentadiene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Hexachloroethane	<11	<10	<10	<10	<10	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Isophorone	<11	<10	<10	<10	<10	<10	<10	<10	<10
Naphthalene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Nitrobenzene	<11	<10	<10	<10	<10	<10	<10	<10	<10
N-Nitrosodimethylamine	<11	<10	<10	<10	<10	<10	<10	<10	<10
N-Nitrosodi-n-propylamine	<11	<10	<10	<10	<10	<10	<10	<10	<10
N-Nitrosodiphenylamine	<11	<10	<10	<10	<10	<10	<10	<10	<10
Pentachlorophenol	<54	<10	<10	<10	<10	<10	<10	<10	<10
Phenanthrene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Phenol	33	23.5	<10	<10	<10	<10	<10	<10	<10
Pyrene	<11	<10	<10	<10	<10	<10	<10	<10	<10
Pyridine	<11	<10	<10	<10	<10	<10	<10	<10	<10

Cell 4B

Chemical and Radiological Characteristics

Constituent	2011	2012	2013	2014	2015	2016	2017
Major Ions (mg/l)							
Carbonate	<1	<1	<1	<1	<1	<1	<1
Bicarbonate	<1	<1	<1	<1	<1	<1	<1
Calcium	570	580	662	366	655	523	473
Chloride	8290	8170	4570	7300	8500	12000	6930
Fluoride	26.7	23.3	1050	1150	1210	1780	1170
Magnesium	3910	4500	3560	3310	5530	5780	3550
Nitrogen-Ammonia	5220	5580	2060	5380	1.09	8690	724
Nitrogen-Nitrate	39	42	51.4	47	15.2	64.5	31.3
Potassium	1370	1650	1110	989	1700	1710	1230
Sodium	9050	11700	3150	7100	12800	14100	10600
Sulfate	134000	119000	98100	91500	108000	285000	708000
pH (s.u.)	1.87	1.5	1.65	1.6	1.35	1.26	1.41
TDS	98000	128000	108000	131000	149000	172000	103000
Conductivity (umhos/cm)	76900	86900	72800	90100	115000	116000	93800
Metals (ug/l)							
Arsenic	67400	80000	65400	70400	106000	139000	82700
Beryllium	311	356	334	275	430	557	347
Cadmium	1990	2540	1990	2290	2980	4260	2340
Chromium	6860	8280	6390	6940	7450	11900	7800
Cobalt	17800	29300	21300	24600	33700	46700	30300
Copper	193000	340000	340000	368000	499000	684000	457000
Iron	2960000	3580000	2830000	2480000	4340000	6340000	3690000
Lead	9960	11600	9820	10900	13400	17900	12200
Manganese	128000	148000	154000	129000	231000	325000	207000
Mercury	13.7	2.6	1.49	<0.0020	1.72	<2.00	<2.00
Molybdenum	21400	27600	26100	29000	39800	55400	22600
Nickel	33900	50500	35100	42000	56400	79600	53000
Selenium	4670	4470	3900	5010	5600	7300	3740
Silver	137	169	137	142	195	307	<100
Thallium	237	368	243	258	408	559	17.5
Tin	196	215	163	<17000	211	<17000	<17000
Uranium	133000	171000	110000	133000	200000	278000	23100
Vanadium	660000	783000	163000	666000	881000	868000	746000
Zinc	191000	270000	184000	144000	313000	476000	267000
Radiologics (pCi/l)							
Gross Alpha	8590	13600	14600	148000	267000 (8/4/2015) 42500 (5/28/2015)	262000	132000

Cell 4B
Chemical and Radiological Characteristics

Constituent	2011	2012	2013	2014	2015	2016	2017
VOCS (ug/L)							
Acetone	130	94	43.5	<700	56.2	86.4	38.6
Benzene	<1	<1	<1	<5.0	<1	<1	<1
Carbon tetrachloride	<1	<1	<1	<5.0	<1	<1	<1
Chloroform	9.4	4	8.06	<70.0	2.34	3.07	2.39
Chloromethane	8.5	8	7.12	<30.0	3.62	6.01	1.26
MEK	<1	<1	<20	<4000	<20	<20	<20
Methylene Chloride	<1	<1	<1	<5.0	<1	<1	<1
Naphthalene	<1	<1	<1	<100	<1	<1	<1
Tetrahydrofuran	<10	11.1	<1	<46.0	<1	<1	<1
Toluene	<1	<1	<1	<1000	<1	<1	<1
Xylenes	<1	<1	<1	<10000	<1	<1	<1
SVOCS (ug/L)							
1,2,4-Trichlorobenzene	<10	<10	<10	<10	<10	<10	<10
1,2-Dichlorobenzene	<10	<10	<10	<10	<10	<10	<10
1,3-Dichlorobenzene	<10	<10	<10	<10	<10	<10	<10
1,4-Dichlorobenzene	<10	<10	<10	<10	<10	<10	<10
1-Methylnaphthalene	<10	<10	<10	<10	<10	<10	<10
2,4,5-Trichlorophenol	<10	<10	<10	<10	<10	<10	<10
2,4,6-Trichlorophenol	<10	<10	<10	<10	<10	<10	<10
2,4-Dichlorophenol	<10	<10	<10	<10	<10	<10	<10
2,4-Dimethylphenol	<10	<10	<10	<10	<10	<10	<10
2,4-Dinitrophenol	<20	<20	<20	<20	<20	<10	<10
2,4-Dinitrotoluene	<10	<10	<10	<10	<10	<10	<10
2,6-Dinitrotoluene	<10	<10	<10	<10	<10	<10	<10
2-Chloronaphthalene	<10	<10	<10	<10	<10	<10	<10
2-Chlorophenol	<10	<10	<10	<10	<10	<10	<10
2-Methylnaphthalene	<10	<10	<10	<10	<10	<10	<10
2-Methylphenol	<10	<10	<10	<10	<10	<10	<10
2-Nitrophenol	<10	<10	<10	<10	<10	<10	<10
3&4-Methylphenol	<10	<10	<10	<10	<10	<10	<10
3,3´-Dichlorobenzidine	<10	<10	<10	<10	<10	<10	<10
4,6-Dinitro-2-methylphenol	<10	<10	<10	<10	<10	<10	<10
4-Bromophenyl phenyl ether	<10	<10	<10	<10	<10	<10	<10
4-Chloro-3-methylphenol	<10	<10	<10	<10	<10	<10	<10
4-Chlorophenyl phenyl ether	<10	<10	<10	<10	<10	<10	<10
4-Nitrophenol	<10	<10	<10	<10	<10	<10	<10
Acenaphthene	<10	<10	<10	<10	<10	<10	<10
Acenaphthylene	<10	<10	<10	<10	<10	<10	<10
Anthracene	<10	<10	<10	<10	<10	<10	<10

Cell 4B

Chemical and Radiological Characteristics

Constituent	2011	2012	2013	2014	2015	2016	2017
Azobenzene	<10	<10	<10	<10	<10	<10	<10
Benz(a)anthracene	<10	<10	<10	<10	<10	<10	<10
Benzidine	<10	<10	<10	26	<10	<10	<10
Benzo(a)pyrene	<10	<10	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	<10	<10	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	<10	<10	<10	<10	<10	<10	<10
Benzo(k)fluoranthene	<10	<10	<10	<10	<10	<10	<10
Bis(2-chloroethoxy)methane	<10	<10	<10	<10	<10	<10	<10
Bis(2-chloroethyl) ether	<10	<10	<10	<10	<10	<10	<10
Bis(2-chloroisopropyl) ether	<10	<10	<10	<10	<10	<10	<10
Bis(2-ethylhexyl) phthalate	410	19	<10	<10	<10	<10	<10
Butyl benzyl phthalate	<10	<10	<10	<10	<10	<10	<10
Chrysene	<10	<10	<10	<10	<10	<10	<10
Dibenz(a,h)anthracene	<10	<10	<10	<10	<10	<10	<10
Diethyl phthalate	<10	<10	<10	<10	<10	<10	<10
Dimethyl phthalate	<10	<10	<10	<10	<10	<10	<10
Di-n-butyl phthalate	<10	<10	<10	<10	<10	<10	<10
Di-n-octyl phthalate	<10	<10	<10	<10	<10	<10	<10
Fluoranthene	<10	<10	<10	<10	<10	<10	<10
Fluorene	<10	<10	<10	<10	<10	<10	<10
Hexachlorobenzene	<10	<10	<10	<10	<10	<10	<10
Hexachlorobutadiene	<10	<10	<10	<10	<10	<10	<10
Hexachlorocyclopentadiene	<10	<10	<10	<10	<10	<10	<10
Hexachloroethane	<10	<10	<10	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	<10	<10	<10	<10	<10	<10	<10
Isophorone	<10	<10	<10	<10	<10	<10	<10
Naphthalene	<10	<10	<10	<10	<10	<10	<10
Nitrobenzene	<10	<10	<10	<10	<10	<10	<10
N-Nitrosodimethylamine	<10	<10	<10	<10	<10	<10	<10
N-Nitrosodi-n-propylamine	<10	<10	<10	<10	<10	<10	<10
N-Nitrosodiphenylamine	<10	<10	<10	<10	<10	<10	<10
Pentachlorophenol	<10	<10	<10	<10	<10	<10	<10
Phenanthrene	<10	<10	<10	<10	<10	<10	<10
Phenol	<10	<10	<10	<10	<10	<10	<10
Pyrene	<10	<10	<10	<10	<10	<10	<10
Pyridine	<10	<10	<10	15	<10	<10	<10

Cell 4B LDS
Chemical and Radiological Characteristics

Constituent	2011	2012	2013	2014	2015	2016	2017
Major Ions (mg/l)							
Carbonate	<1	<1	Not Sampled - dry	<1	<1	<1	<1
Bicarbonate	<1	<1		<1	<1	<1	<1
Calcium	486	456		308	538	547	516
Chloride	3630	6850		6900	7960	8510	10400
Fluoride	28.4	22		970	1150	1290	1050
Magnesium	3230	3360		3400	5190	4780	5370
Nitrogen-Ammonia	4260	4090		5240	2.43	7540	739
Nitrogen-Nitrate	30	31		43	16.6	49.6	63.9
Potassium	1130	1060		952	1560	1360	2130
Sodium	8240	8080		6920	11900	10800	13200
Sulfate	59900	99100		82300	104000	163000	117000
pH (s.u.)	2.23	2.4		2.2	1.51	1.88	1.44
TDS	85800	90200		129000	131000	133000	168000
Conductivity (umhos/cm)	63000	62400		76300	106000	68400	105000
Metals (ug/l)							
Arsenic	54200	41200	Not Sampled - dry	67800	98400	98800	135000
Beryllium	274	271		282	411	430	559
Cadmium	1670	1740		2290	2790	3250	4500
Chromium	6250	5930		6160	7320	9470	13700
Cobalt	15600	19000		23300	31100	33600	48900
Copper	176000	181000		308000	458000	475000	681000
Iron	2450000	2120000		2590000	4180000	4680000	5910000
Lead	6060	4420		4120	10100	5860	14000
Manganese	118000	162000		144000	222000	262000	346000
Mercury	12.3	3		0.002	1.47	<2.00	<2.00
Molybdenum	16700	15000		24300	36300	35500	52900
Nickel	30700	33700		40100	52600	58100	84400
Selenium	3710	2880		4080	5080	5310	6860
Silver	111	117		119	179	224	266
Thallium	179	175		336	354	414	427
Tin	332	<100		<17000	198	<17000	<17000
Uranium	111000	132000		143000	185000	192000	269000
Vanadium	518000	428000		671000	817000	847000	1260000
Zinc	172000	182000		144000	296000	315000	443000
Radiologics (pCi/l)							
Gross Alpha	6000	7500	Not Sampled - dry	181000	375000 (8/4/2015) 52500 (5/28/2015)	185000	165000

Cell 4B LDS

Chemical and Radiological Characteristics

Constituent	2011	2012	2013	2014	2015	2016	2017
VOCS (ug/L)							
Acetone	390	370	Not Sampled - dry	<700	218	266	479
Benzene	<1	<1		<5.0	<1	<1	<1
Carbon tetrachloride	<1	<1		<5.0	<1	<1	<1
Chloroform	20	19		<70.0	5.03	9.97	9.13
Chloromethane	11	11		<30.0	9.72	10.8	7.16
MEK	240	180		<4000	71.8	53.6	89.4
Methylene Chloride	<1	<1		<5.0	<1	<1	1.01
Naphthalene	<1	<1		<100	<1	<1	<1
Tetrahydrofuran	198	322		75.6	36.6	75.9	51.2
Toluene	<1	<1		<1000	<1	<1	<1
Xylenes	<1	<1		<10000	<1	<1	<1
SVOCS (ug/L)							
1,2,4-Trichlorobenzene	<10	<10	Not Sampled - dry	<10	<10	<10	<10
1,2-Dichlorobenzene	<10	<10		<10	<10	<10	<10
1,3-Dichlorobenzene	<10	<10		<10	<10	<10	<10
1,4-Dichlorobenzene	<10	<10		<10	<10	<10	<10
1-Methylnaphthalene	<10	<10		<10	<10	<10	<10
2,4,5-Trichlorophenol	<10	<10		<10	<10	<10	<10
2,4,6-Trichlorophenol	<10	<10		<10	<10	<10	<10
2,4-Dichlorophenol	<10	<10		<10	<10	<10	<10
2,4-Dimethylphenol	<10	<10		<10	<10	<10	<10
2,4-Dinitrophenol	<20	<20		<20	<20	<20	<10
2,4-Dinitrotoluene	<10	<10		<10	<10	<10	<10
2,6-Dinitrotoluene	<10	<10		<10	<10	<10	<10
2-Chloronaphthalene	<10	<10		<10	<10	<10	<10
2-Chlorophenol	<10	<10		<10	<10	<10	<10
2-Methylnaphthalene	<10	<10		<10	<10	<10	<10
2-Methylphenol	<10	<10		<10	<10	<10	<10
2-Nitrophenol	<10	<10		<10	<10	<10	<10
3&4-Methylphenol	<10	<10		<10	<10	<10	<10
3,3´-Dichlorobenzidine	<10	<10		<10	<10	<10	<10
4,6-Dinitro-2-methylphenol	<10	<10		<10	<10	<10	<10
4-Bromophenyl phenyl ether	<10	<10		<10	<10	<10	<10
4-Chloro-3-methylphenol	<10	<10		<10	<10	<10	<10
4-Chlorophenyl phenyl ether	<10	<10		<10	<10	<10	<10
4-Nitrophenol	<10	<10		<10	<10	<10	<10
Acenaphthene	<10	<10		<10	<10	<10	<10
Acenaphthylene	<10	<10		<10	<10	<10	<10
Anthracene	<10	<10		<10	<10	<10	<10
Azobenzene	<10	<10		<10	<10	<10	<10

Cell 4B LDS

Chemical and Radiological Characteristics

Constituent	2011	2012	2013	2014	2015	2016	2017
Benz(a)anthracene	<10	<10	Not Sampled - dry	<10	<10	<10	<10
Benzidine	<10	<10		<10	<10	<10	<10
Benzo(a)pyrene	<10	<10		<10	<10	<10	<10
Benzo(b)fluoranthene	<10	<10		<10	<10	<10	<10
Benzo(g,h,i)perylene	<10	<10		<10	<10	<10	<10
Benzo(k)fluoranthene	<10	<10		<10	<10	<10	<10
Bis(2-chloroethoxy)methane	<10	<10		<10	<10	<10	<10
Bis(2-chloroethyl) ether	<10	<10		<10	<10	<10	<10
Bis(2-chloroisopropyl) ether	<10	<10		<10	<10	<10	<10
Bis(2-ethylhexyl) phthalate	191	191		27	<10	132	145
Butyl benzyl phthalate	<10	<10		<10	<10	<10	<10
Chrysene	<10	<10		<10	<10	<10	<10
Dibenz(a,h)anthracene	<10	<10		<10	<10	<10	<10
Diethyl phthalate	<10	<10		<10	<10	<10	<10
Dimethyl phthalate	<10	<10		<10	<10	<10	<10
Di-n-butyl phthalate	<10	<10		<10	<10	<10	<10
Di-n-octyl phthalate	<10	<10		<10	<10	<10	<10
Fluoranthene	<10	<10		<10	<10	<10	<10
Fluorene	<10	<10		<10	<10	<10	<10
Hexachlorobenzene	<10	<10		<10	<10	<10	<10
Hexachlorobutadiene	<10	<10		<10	<10	<10	<10
Hexachlorocyclopentadiene	<10	<10		<10	<10	<10	<10
Hexachloroethane	<10	<10		<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	<10	<10		<10	<10	<10	<10
Isophorone	<10	<10		<10	<10	<10	<10
Naphthalene	<10	<10		<10	<10	<10	<10
Nitrobenzene	<10	<10		<10	<10	<10	<10
N-Nitrosodimethylamine	<10	<10		<10	<10	<10	<10
N-Nitrosodi-n-propylamine	<10	<10		<10	<10	<10	<10
N-Nitrosodiphenylamine	<10	<10		<10	<10	<10	<10
Pentachlorophenol	<10	<10		<10	<10	<10	<10
Phenanthrene	<10	<10		<10	<10	<10	<10
Phenol	<10	<10		<10	<10	<10	<10
Pyrene	<10	<10		<10	<10	<10	<10
Pyridine	<10	<10		<10	<10	<10	<10

2017 Additional Analyses
Cell Radiological Characteristics

Location	Cell 1 8/4/2015	Cell 1 5/28/15	Cell 1 8/30/16	Cell 1 8/29/17	Cell 2 8/4/2015	Cell 2 8/30/16	Cell 2 8/29/17	Cell 3 8/4/2015	Cell 3 5/28/15	Cell 3 8/30/16	Cell 3 8/29/17	Cell 4A 8/4/15	Cell 4A 5/28/15	Cell 4A 8/30/16	Cell 4A 8/29/17	Cell 4A LDS 8/4/15	Cell 4A LDS 5/28/15	Cell 4A LDS 8/30/16	Cell 4A LDS 8/29/17	Cell 4B 8/4/15	Cell 4B 5/28/15	Cell 4B 8/30/16	Cell 4B 8/29/17	Cell 4B LDS 8/4/15	Cell 4B LDS 5/28/15	Cell 4B LDS 8/30/16	Cell 4B LDS 8/29/17	Cell 65 (Duplicate of 4B LDS 8/4/15)	Cell 65 (Duplicate of 4A 5/28/15)	Cell 65 (Duplicate of Cell 3 8/30/16)	Cell 65 (Duplicate of Cell 4A 8/29/17)
Radiologics (pCi/L)																															
Thorium-228	1310	204	ND	2890	ND	ND	ND	ND	798	983	ND	ND	327	ND	ND	ND	ND	ND	ND	ND	122	ND	ND	ND	334	ND	4680	ND	265	ND	ND
Thorium-230	991000	782000	677000	8100000	6680	5050	38500	123000	131000	72500	ND	374000	405000	466000	4450000	25300	25300	134000	5410000	410000	346000	595000	3390000	452000	487000	368000	5220000	436000	315000	67000	4080000
Thorium-232	6150	6730	4480	76000	ND	ND	ND	1640	1290	1670	ND	3490	3440	2870	47700	ND	ND	1130	49200	2210	3790	3510	56000	3660	5430	1010	43200	4000	3790	788	11000
Radium-226	1110	829	497	391	36.6	52.4	51.2	448	202	584	101	663	ND	1050	759	19.3	19.3	51.1	286	611	544	715	489	161	55.2	104	143	125	772	640	822
Uranium-233/234	141000	96700	45200	353000	11300	11700	111000	184000	557000	1960000	37600	57500	61200	61100	637000	9380	9380	46200	852000	63500	65000	90200	76000	62600	63500	78600	846000	62600	58600	2520000	602000
Uranium-235/236	8920	5980	2380	20400	858	599	ND	10300	37900	130000	ND	3720	4030	3320	30600	504	504	1900	66200	3710	3870	4090	8100	3890	3900	3820	64200	2680	3020	130000	44900
Uranium-238	140000	100000	45800	344000	10500	10700	75600	191000	591000	2060000	32800	64400	62700	70900	692000	10800	10800	40400	851000	67000	66100	90100	92700	60900	65500	78900	894000	61300	58300	2490000	616000
Physical Properties																															
Kinematic Viscosity (cst)	<10	<10	NS	NS	<10	NS	NS	<10	<10	NS	NS	<10	<10	NS	NS	<10	NS	NS	NS	<10	<10	NS	NS	<10	NS	NS	NS	<10	NS	NS	NS
Specific Gravity	1.21	1.13	1.15	1.17	1.09	1.03	1.07	1.21	1.29	1.62	0.989	1.11	1.07	1.10	1.09	1.07	NS	1.10	1.17	1.12	1.08	1.13	1.07	1.12	NS	1.11	1.07	1.12	NS	1.53	1.12

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 (Duplicate of Cell 4A)
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 - 432537	N/A
AWAL - 1708707	1.8°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	E200.7 and E200.8
Gross Alpha	E900.0 or E900.1	E900.1
VOCs	SW8260B or SW8260C	SW8260C
Chloride	A4500-Cl B or E300.0	E300.0
Fluoride	A4500-F C or E300.0	E300.0
Sulfate	A4500-SO4 E or E300.0	E300.0
TDS	A2540 C	SM2540C
Carbonate as CO3, Bicarbonate as HCO3	A2320 B	SM2320B
pH	Not Specified	SW9040C
Conductivity	Not Specified	SM2510B
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	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	1*
Calcium, Magnesium, Potassium, Sodium	1*
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	10*
Benz(a)anthracene	10
Benzidine	10*
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	10*
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	10*
N-Nitrosodi-n-propylamine	10
N-Nitrosodiphenylamine	10
Pentachlorophenol	50
Phenanthrene	10
Phenol	10
Pyrene	10
Pyridine	10*

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 reporting limits established by the laboratory are reported here. The reporting limits are comparable to other analytes in the same method.

** - 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

All trip blanks for the 2017 sampling program were nondetect.

Blank	Sample Date	Laboratory
1	8/29/2017	AWAL

E-6 Duplicate Sample Relative Percent Difference**

Major Ions (mg/l)	Cell 4A	Cell 65	RPD %
Carbonate	<1.00	<1.00	NC
Bicarbonate	<1.00	<1.00	NC
Calcium	607	588	3.2
Chloride	8060	7790	3.4
Fluoride	1420	1540	8.1
Magnesium	4360	5230	18.1
Nitrogen-Ammonia	924	609	41.1
Nitrogen-Nitrate	53.4	52.1	2.5
Potassium	1500	1460	2.7
Sodium	12000	13700	13.2
Sulfate	77800	77600	0.3
pH (s.u.)	1.53	1.55	1.3
TDS	120000	125000	4.1
Conductivity (umhos/cm)	89800	83200	7.6
Metals (mg/l)			
Arsenic	104	110	5.6
Beryllium	0.440	0.416	5.6
Cadmium	3.36	3.65	8.3
Chromium	8.52	8.98	5.3
Cobalt	37.9	40.1	5.6
Copper	578	569	1.6
Iron	4480	4400	1.8
Lead	15.1	15.8	4.5
Manganese	261	274	4.9
Mercury	0.00230	0.00239	3.8
Molybdenum	40.8	43.1	5.5
Nickel	66.8	70.0	4.7
Selenium	4.45	4.64	4.2
Silver	0.379	0.369	2.7
Thallium	0.169	0.159	6.1
Tin	<17.0	<17.0	NC
Uranium	193	200	3.6
Vanadium	972	979	0.7
Zinc	344	362	5.1
Radiologics (pCi/l)			
Gross Alpha*	133000	174000	20.5
VOCS (ug/L)			
Acetone	21.4	28.1	27.1
Benzene	<1.00	<1.00	NC
Carbon tetrachloride	<1.00	<1.00	NC
Chloroform	<1.00	<1.00	NC
Chloromethane	1.35	1.42	5.1

E-6 Duplicate Sample Relative Percent Difference**

Major Ions (mg/l)	Cell 4A	Cell 65	RPD %
MEK	<20.0	<20.0	NC
Methylene Chloride	<1.0	<1.00	NC
Naphthalene	<1.0	<1.00	NC
Tetrahydrofuran	<1.0	<1.00	NC
Toluene	<1.0	<1.00	NC
Xylenes	<1.0	<1.00	NC
SVOCS (ug/L)			
1,2,4-Trichlorobenzene	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	<10	<10	NC
2,4,5-Trichlorophenol	<10	<10	NC
2,4,6-Trichlorophenol	<10	<10	NC
2,4-Dichlorophenol	<10	<10	NC
2,4-Dimethylphenol	<10	<10	NC
2,4-Dinitrophenol	<10	<10	NC
2,4-Dinitrotoluene	<10	<10	NC
2,6-Dinitrotoluene	<10	<10	NC
2-Chloronaphthalene	<10	<10	NC
2-Chlorophenol	<10	<10	NC
2-Methylnaphthalene	<10	<10	NC
2-Methylphenol	<10	<10	NC
2-Nitrophenol	<10	<10	NC
3&4-Methylphenol	<10	<10	NC
3,3´-Dichlorobenzidine	<10	<10	NC
4,6-Dinitro-2-methylphenol	<10	<10	NC
4-Bromophenyl phenyl ether	<10	<10	NC
4-Chloro-3-methylphenol	<10	<10	NC
4-Chlorophenyl phenyl ether	<10	<10	NC
4-Nitrophenol	<10	<10	NC
Acenaphthene	<10	<10	NC
Acenaphthylene	<10	<10	NC
Anthracene	<10	<10	NC
Azobenzene	<10	<10	NC
Benz(a)anthracene	<10	<10	NC
Benzidine	<10	<10	NC
Benzo(a)pyrene	<10	<10	NC
Benzo(b)fluoranthene	<10	<10	NC
Benzo(g,h,i)perylene	<10	<10	NC
Benzo(k)fluoranthene	<10	<10	NC
Bis(2-chloroethoxy)methane	<10	<10	NC
Bis(2-chloroethyl) ether	<10	<10	NC

E-6 Duplicate Sample Relative Percent Difference**

Major Ions (mg/l)	Cell 4A	Cell 65	RPD %
Bis(2-chloroisopropyl) ether	<10	<10	NC
Bis(2-ethylhexyl) phthalate	<10	<10	NC
Butyl benzyl phthalate	<10	<10	NC
Chrysene	<10	<10	NC
Dibenz(a,h)anthracene	<10	<10	NC
Diethyl phthalate	<10	<10	NC
Dimethyl phthalate	<10	<10	NC
Di-n-butyl phthalate	<10	<10	NC
Di-n-octyl phthalate	<10	<10	NC
Fluoranthene	<10	<10	NC
Fluorene	<10	<10	NC
Hexachlorobenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Hexachlorocyclopentadiene	<10	<10	NC
Hexachloroethane	<10	<10	NC
Indeno(1,2,3-cd)pyrene	<10	<10	NC
Isophorone	<10	<10	NC
Naphthalene	<10	<10	NC
Nitrobenzene	<10	<10	NC
N-Nitrosodimethylamine	<10	<10	NC
N-Nitrosodi-n-propylamine	<10	<10	NC
N-Nitrosodiphenylamine	<10	<10	NC
Pentachlorophenol	<10	<10	NC
Phenanthrene	<10	<10	NC
Phenol	<10	<10	NC
Pyrene	<10	<10	NC
Pyridine	<10	<10	NC

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	191000	1600	Y	15	NA
Cell 2 Slimes	4570	251	Y	15	NA
Cell 3	292	44	Y	15	NA
Cell 4A	133000	1330	Y	15	NA
Cell 4A LDS	176000	1520	Y	15	NA
Cell 4B	132000	1360	Y	15	NA
Cell 4B LDS	165000	1460	Y	15	NA
Cell 65 (Duplicate of Cell 4A)	174000	1500	Y	15	NA

GWQS = Groundwater Quality Standard

E-8: Laboratory Matrix QC

Matrix Spike % Recovery Comparison

Lab Report	Sample ID	Analyte	MS %REC	MSD %REC	REC Range	RPD
1708707	Cell 4B LDS	Magnesium*	NC	NC	70-130	NC
1708707	Cell 4B LDS	Sodium*	NC	NC	70-130	NC
1708707	Cell 4B LDS	Potassium*	NC	NC	70-130	NC
1708707	Cell 4B LDS	Calcium*	NC	NC	70-130	NC
1708707	Cell 4B LDS	Vanadium*	NC	NC	70-130	NC
1708707	Cell 4B LDS	Arsenic*	NC	NC	75-125	NC
1708707	Cell 4B LDS	Cadmium*	NC	NC	75-125	NC
1708707	Cell 4B LDS	Chromium*	NC	NC	75-125	NC
1708707	Cell 4B LDS	Cobalt*	NC	NC	75-125	NC
1708707	Cell 4B LDS	Lead*	NC	NC	75-125	NC
1708707	Cell 4B LDS	Manganese*	NC	NC	75-125	NC
1708707	Cell 4B LDS	Molybdenum*	NC	NC	75-125	NC
1708707	Cell 4B LDS	Nickel*	NC	NC	75-125	NC
1708707	Cell 4B LDS	Selenium*	NC	NC	75-125	NC
1708707	Cell 4B LDS	Uranium*	NC	NC	75-125	NC
1708707	Cell 4B LDS	Zinc*	NC	NC	75-125	NC
1708707	Cell 4B LDS	Copper*	NC	NC	75-125	NC
1708707	Cell 4B LDS	Iron*	NC	NC	75-125	NC
1708707	Cell 4B LDS	Tin	34.5	31.3	75-125	4.34
1708707	Cell 4B LDS	Beryllium	78.8	69.0	75-125	2.77
1708707	Cell 4B LDS	Alkalinity (as CaCO3)	0	0	80-120	0
1708707	Cell 4B LDS	Nitrate	78.9	80.0	90-110	0.767
1708707	NA	Nitrate	86.3	90.2	90-110	2.09
1708707	Cell 4B LDS	1,2,4-Trichlorobenzene	3.53	7.68	20-107	74.1
1708707	Cell 4B LDS	1,4-Dichlorobenzene	0	0	11-90	0.0
1708707	Cell 4B LDS	2,4,6-Trichlorophenol	0	4.05	10-223	200
1708707	Cell 4B LDS	2,4-Dimethylphenol	0	4.29	10-176	200
1708707	Cell 4B LDS	2,4-Dinitrotoluene	19.7	33.6	21-191	52.3
1708707	Cell 4B LDS	2-Chloronaphthalene	9.39	18.4	12-132	64.9
1708707	Cell 4B LDS	2-Chlorophenol	0	0	20-107	0.0
1708707	Cell 4B LDS	4,6-Dinitro-2-methylphenol	9.81	18.1	20-250	59.3
1708707	Cell 4B LDS	4-Chloro-3-methylphenol	0	3.34	10-136	200
1708707	Cell 4B LDS	4-Nitrophenol	0	81.5	10-135	200
1708707	Cell 4B LDS	Acenaphthene	13.6	24.6	21-113	57.4
1708707	Cell 4B LDS	Benzo(a)pyrene	25.5	44.0	15-169	53.3
1708707	Cell 4B LDS	Pentachlorophenol	5.61	10.6	10-131	61.5
1708707	Cell 4B LDS	Phenol	0	0	10-71	0.0
1708707	Cell 4B LDS	Pyrene	22.6	40.0	23-150	55.8
432537	Cell 1	Gross Alpha	168	113	75 - 125	17.6

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.

LCS % Recovery

All LCS recoveries were within acceptable ranges.

E-8: Laboratory Matrix QC

Surrogate % Recovery

Lab Report	Well/Sample	Analyte	Surrogate %REC	Lab Specified REC Range	QAP Required Range
1708707	Cell 1	Nitrobenzene-d5	8.65	10-180	None
1708707	Cell 2 Slimes	Nitrobenzene-d5	1.18	10-180	None
1708707	Cell 3	2,4,6-Tribromophenol	2.88	14-159	None
1708707	Cell 3	2-Fluorophenol	0.100	10-106	None
1708707	Cell 3	Nitrobenzene-d5	0.125	10-180	None
1708707	Cell 3	Phenol-d6	0.0875	10-122	None
1708707	Cell 4A	2-Fluorophenol	0.0250	10-106	None
1708707	Cell 4A	Phenol-d6	2.84	10-122	None
1708707	Cell 4A LDS	2-Fluorophenol	1.09	10-106	None
1708707	Cell 4B	2,4,6-Tribromophenol	12.2	14-159	None
1708707	Cell 4B	2-Fluorophenol	0.0125	10-106	None
1708707	Cell 4B	Phenol-d6	1.00	10-122	None
1708707	Cell 4B LDS	2,4,6-Tribromophenol	4.11	14-159	None
1708707	Cell 4B LDS	2-Fluorobiphenyl	4.70	10-124	None
1708707	Cell 4B LDS	2-Fluorophenol	0.400	10-106	None
1708707	Cell 65	2-Fluorophenol	1.39	10-106	None
1708707	Cell 4B LDS Matrix Spike	2,4,6-Tribromophenol	1.92	14-159	None
1708707	Cell 4B LDS Matrix Spike	2-Fluorobiphenyl	9.25	10-124	None
1708707	Cell 4B LDS Matrix Spike	2-Fluorophenol	0.238	10-106	None
1708707	Cell 4B LDS Matrix Spike Duplicate	2,4,6-Tribromophenol	3.10	14-159	None
1708707	Cell 4B LDS Matrix Spike Duplicate	2-Fluorophenol	0.0625	10-106	None

Laboratory Duplicate % Recovery Comparison

Lab Report	Well	Analyte	Sample Result	Lab Duplicate Result	RPD %	RPD Range %	Units
1708707	Cell 4B LDS	TDS	153000	168000	9.33	5	mg/L
432537	Cell 1	Gross Alpha	191000	267000	33.2	20	pCi/L

Method Blanks

Lab Report	Well	Analyte	Blank Result	Units
1708707	NA	Copper	0.00776	mg/L
1708707	NA	Manganese	0.00339	mg/L
1708707	NA	Zinc	0.00798	mg/L