APPENDIX B

FIELD AND POST-PILOT STUDY ACTIVITIES DOCUMENTATION

APPENDIX B-1A
STANDARD OPERATING PROCEDURES FOR DISA BATCH SYSTEM OPERATION

DISA

EXHIBIT A:

Standard Operating Procedures for Disa Batch System Operation

1. Scope

This SOP outlines the general procedures for operation of Disa's HPSA batch unit when processing solid material in slurry form. It does not cover sample preparation of the material to be processed in the batch system, analysis of post-system processed samples, or the system shakedown with only water present in the operating system. Further, this procedure does not cover the collection of feed material for comparison against the sample analyses on samples retrieved in sample buckets from the sampler during system operation.

2. Terminology

System – Batch HPSA operating unit.

Catch Tank – Conical and cylindrical tank below the collision chamber in the system.

Material – Crushed soil material prepared for processing in the system.

Material Bucket – Bucket, typically of 5-gallon volume used for collection of bulk samples to be processed in the system, not to be confused with sample buckets.

VFD – Variable Frequency Drive. Controls the rotation speed of the motors for the collision pumps in the system.

Collision Pump – High-pressure slurry pumps located at the bottom of the system catch tank. The outlet at the bottom of the catch tank is connected by 2-inch piping to the suction of the HPSA pump. For this system there are two collision pumps feeding the nozzles in the collision chamber through piping and hose connections.

Collision Chamber – Chamber containing impinging nozzles for the system, located above the catch tank.

Sample Port – 2-inch wye on the vertical discharge section of the system collision pumps. Sample ports are connected to the sampler with transparent tubing. For this apparatus there are two sample ports, one on each pump's vertical discharge piping. Flow from the sample ports to the sampler is controlled by a 2-inch ball valve on each of the sample ports.

Sampler – Connected by tubing to the sample ports on the system. Flow from the sampler to the sample buckets is controlled by a ball valve.

Sample Bucket – Bucket with tight sealing lid, typically of 2-gallon volume used for collection of slurry samples from the system retrieved from the sampler.

Transfer Pump – Gas-fired pump used to transfer slurry or rinse water from the system catch tank to the proper containment tote or trough as described in the procedure.

Rinse/Process Water Tote – 350-gallon tote for collection of the rinse water used to clean the system after conduction of a test as well as the water separated from the solids in the full discharge trough.

Full Discharge Trough – 200-gallon trough for discharge of all slurry upon conclusion of system operation during a test. This trough allows for settling to separate the solids from the dilution water used in testing and ease of removal of solids once the solids have settled.

3. Summary of Test Method

The batch HPSA unit processes solid material in slurry form by first adding dilution water to the system, ramping the pumps for recirculation, then adding material to the unit during recirculation. Solid material is poured into the open top of the HPSA system catch tank during recirculation by the high-pressure pumps. Upon addition of all material desired to be processed during the test, a timer is started. Using this timer, samples are collected from the unit from the sample ports on the vertical discharge of the pumps at various times for further analysis. Upon conclusion of each test, the system is rinsed with clean water to prevent accumulation of any hazardous materials as removable contamination as well as to prevent any contamination of future system testing results.

4. Apparatus

The HPSA batch system consists of a system catch tank which contains the slurry or water during operation, two collision pumps which individually pump slurry through a set nozzle contained in the collision chamber, associated piping and hoses connecting the suctions of the pump to the bottom of the system catch tank as well as the discharge of the pump to the inlet of the collision chamber nozzles, a VFD to control the operating speed of the two collision pumps, a collision chamber containing the two impinging nozzles, and associated process monitoring equipment such as the pressure sensors installed on the suction, discharge, and nozzle inlet on each of the system collision pumps and a portable Siemens Dopler flow meter. Water is added to the system using a shop garden hose with a known flowrate. Samples are retrieved from the unit using the sample discharge ports on the vertical discharge section of the pumps connected to the system sampler. A gas-fired transfer pump is connected to the tank outlet via hose and camlock connections for discharge of the system into the appropriate containment as described in the procedure.

5. Sampling

The HPSA batch system unit has a top processing size of ¼-inch. Prior to performing the testing procedure, ensure by checking the labels on material to be processed and, if needed, pour the pre-processed material over a ¼-inch Tyler sieve to ensure that the material does not contain any particles larger than ¼-inch. Any particles remaining on the ¼-inch Tyler sieve may be discarded or carefully pressed through the screen with the appropriate tool so as not to damage the screen.

All material should be thoroughly mixed prior to addition to the system. Material can be mixed by pouring the bucket(s) of collected material into a wheelbarrow or other concave container capable of retaining the material volume without spilling over the edges then mixed with a shovel or other suitable instrument of similar length.

6. Procedure

a. Using a low flowrate hose in the range of 1-20 gallons per minute, fill the system catch tank with approximately 80 gallons of fresh dilution water. Record the time over the course of water addition and check it against the determined flowrate of the water addition system. This time will be used in post-process analysis for determination of the actual dilution water volume added.
b. Inspect the system for any leaks of water. If there are any defects in the piping, hose connections, catch tank, or other component of the system, drain the system and fix the defect before attempting to complete a test.

c. Attach the Siemens FUP 1010 doppler flow meter to the vertical section of one of the pump discharge pipes at least 10 pipe diameters downstream of any changes in the pipe and 5 pipe diameters upstream of any changes in the pipe. Ensure that all flow meter specifications are correct for the pipe. Set the application data to "liquid" with the approximate specific gravity for the liquid of 1.1. Begin logging data on the logger display for every 5 seconds. During operation make notes of the times displayed on the logger for time that the unit is started, when the unit is turned to the required VFD rotation frequency, when sample buckets start addition and end addition, when sample times are, and when the unit is powered down for discharge.
d. Ensure that the valves are open to the suction of the pump as well as between the discharge of the pump to the collision nozzle.
e. Turn on the power on the VFD.
f. Connect either your phone or laptop to the wifi networks provided by the Sinamics smart access modules for each pump.
g. Begin recirculation of the water only by ramping the pumps to a rotation frequency of 60 hz each. Ensure there are no defects in the system including leaks. If any leaks are present, power down the system and fix any issues prior to attempting to perform a batch unit test.
h. If no issues in system operation are present, ramp the collision pumps to the desired frequency for test operation. Typically, this operating rotation frequency is 94.3 hz.
i. If uneven distribution of flow between the nozzle outlets is observed in the collision chamber, adjust the frequencies of the pumps and allow the distribution of flow to match through each nozzle. Ensure that the minimum frequency between both pumps remains at 94.3 hz. Once flow has balance between the two pumps, material addition may begin.
j. Introduce the material into the main process tank by pouring the material containing 5-gallon buckets into the open-top portion of the system catch tank. When the material is fully introduced, start the timer. Take care to introduce the material at a controlled rate so as not to slug the pump, but attempt as best as possible to limit the introduction of material into the catch tank to under one (1) minute, for collection of representative samples. Samples may be introduced in typical masses of 100 to 200 pounds. Only on rare occasions should this be exceeded.
k. Allow the system to recirculate processed material for a predetermined length of time.
l. At the determined sample times for the test:
    - One operator will control both the ball valve on the sample port and the ball valve on the sampler while the other will be responsible only for opening and closing the ball valve on the opposite sample port.
    - With the sampler open and positioned with its outlet inside of the tank, both operators will open their respective sample port ball valves.
    - NOTE: Ensure that the sampler outlet tubing is sufficiently positioned directly downward in the system catch tank to prevent splashing of the purge slurry out of the open top of the system catch tank. Close the sampler ball valve and position the sampler in the properly labeled sample bucket, labeled for the proper time at which the sample was taken, which material was being processed in the system, and any specific variables that were used for the system testing procedure. Open the ball valve sufficiently to allow slurry to fill the bucket to approximately half the bucket's volume. Purging the sampler should be done approximately 10 seconds before the
    - Close the sample ball valve once approximately half of the bucket has been filled with slurry and allow the any remaining slurry sample to exit the tubing prior to hanging the sampler back on its place on the unit.
    - At the same time, both operators will close the ball valves on the sample ports and allow the system to continue operation.
    - Tightly cap the lid to the 2-gallon slurry sample bucket and set the bucket in a previously specified sample for further analysis.

m. Repeat these steps for the desired number of samples at specified time intervals for the test. Once the final sample has been collected, slow the pumps from their set flowrate to 60 hz.
n. With a hose securely connected by camlock fittings to the system tank outlet and the suction of the gas-fired transfer pump as well as the discharge of the gas-fired transfer pump securely with a hose and camlock fittings to the discharge tote, turn on the gas-fired pump to transfer the slurry to the containment tote.
o. Visually observe the slurry exiting the system catch tank from above the open top on the system catch tank. Once the slurry reaches just below the weld separating the conical section of the system catch tank from the cylindrical section of the catch tank, stop operation of the collision pumps.
p. NOTE: During discharge of the slurry, use a garden hose connected to a spray nozzle to spray the insides of the system catch tank, removing any contamination residue on that may remain on the insides of the system catch tank.
q. Once all slurry has been pumped out of the system into the containment trough, turn off the gas-fired pump and close the tank outlet ball valve.
r. Begin filling the tank with rinse water to approximately 45 gallons of volume.
s. Transfer the discharge end of the hose on the gas-fired transfer pump to the rinse water containment tote.
t. Once the system has been filled to 45 gallons of rinse water volume, begin recirculation of the pumps at 60 hz.
u. As described in the first and second bullet points of part j in the procedure, purge clean water through the sampler.
v. Turn on the gas-fired transfer pump and open the tank outlet ball valve to discharge rinse water into the rinse water containment tote.
w. Turn off the collision pumps once the water is below the weld connecting the conical portion of the tank to the cylindrical portion of the tank.
x. Once all rinse water has been discharged into the rinse water containment tote, turn off the transfer pump and close the ball valve for the system catch tank outlet.
y. If necessary, with the discharge of the transfer pump still connected to the rinse water containment tote, repeat the rinsing procedure as described in steps r through x for another rinse of the system. After two rinses, the system should be clean and ready for another test.
z. Allow the solids in the slurry discharged into the slurry containment tote to settle for 24 hours before separating the water from the solids using a small pump to pump the process water into the rinse/process water containment tote.

APPENDIX B-1B
STANDARD OPERATING PROCEDURE FOR MATERIAL TRACKING POST-DEMONSTRATION

EXHIBIT B:

Standard Operation Procedure for Material Tracking Post-Demonstration

1. Scope

This SOP outlines the general procedures for tracking material after the on-site field demonstration. Once material has been processed in HPSA and sub-samples collected, material will be brought back to Disa's shop in Casper, WY for lab work and prep to be sent out for assay. This procedure applies to all material transported to Disa's facility.

2. Terminology

RSO – Radiation safety officer. This is an individual who has completed formal RSO training.

Radioactive Material – Any radioactive product or radioactive waste.

Storage Area for Radioactive Material – a designated area for radioactive materials storage which can be accessed by the appointed personnel only.

3. Work Instruction

1. All samples collected from the identified sites will be considered radioactive material and handled appropriately.
2. Radioactive materials will be labeled immediately on-site when prepared for transport to Disa's HQ. A record of all samples, sample size and any other relevant notes will be recorded in Disa's inventory for this project.
3. When material undergoes ROTAP and lab prep, subsets of the material will be further labeled and noted in Disa's inventory as described in Exhibits C and D.
4. Radioactive materials will be stored in Disa's radioactive material storage area. This area will be locked when not in use and overnight.
5. Stored radioactive materials will be adequately shielded and contained in secure containers.
6. Disa's RSO will ensure the storage area is always locked and can only be accessed by adequately trained personnel.
7. A radioactive material warning sign will be displayed on the storage area door.
8. Only personnel adequately trained in the handling of radioactive materials are allowed to mobilize the radioactive material from the storage area to the lab prep area.
9. Radioactive materials that must be removed from the storage area have to be checked to ensure good condition of the material container and that no material is missing.
10. A weekly inventory review and radiation survey will be completed to ensure all material is tracked and accounted for. Radioactive material inventory will be saved as an excel document to be updated, as a PDF for the date which it was reviewed, and as a hard copy in Disa's radiation safety records binder.

11. Once ROTAP and lab prep work is complete, sub samples sent out to labs will be weighed, labeled, and recorded in Disa's inventory tracking system.
12. Any remaining material not sent for assay will be recombined and eventually returned to the original site where collected.

APPENDIX B-1C
STANDARD OPERATING PROCEDURES FOR RO-TAP MATERIAL PROCESSING

DISA

EXHIBIT C:

Standard Operating Procedures for RO-TAP Material Processing

1. Scope

This SOP covers the sieve separation of both samples collected in dry form prior to material processing in the batch HPSA system as well as the samples collected from the sampler during system testing as described in Exhibit A: SOP for DISA Batch System Operation.

2. Terminology

System – Refers to the batch HPSA system as described in Exhibit A: SOP for DISA Batch System Operation.

Sieve – Description of screens for sample separation. Particle sizes of these sieves are detailed in this procedure by their mesh size or number of openings per inch with the corresponding particle micron size in parentheses throughout the procedure.

RO-TAP – Sieve shaking device described in the apparatus section consisting of a device to hold the WS Tyler sieves and a small motor to shake the apparatus.

RO-TAP Motor – Motor attached to the RO-TAP device for shaking sieves during the analysis described in the procedure.

Material – Refers to a subset of the sieved sample retained or passing each of the sieves during the procedure.

Pressure Filter – Bench top pressure filtering apparatus.

3. Summary of Test Method

This testing method is used for sieve separation into retained and passing material fractions from both dry soil samples and slurry samples retrieved from HPSA testing. Dry, moist, and slurry samples are both subject to the same wet RO-TAP procedure of separation to ensure consistency of data collected. Material collected in the sample cups and on the pressure filter paper will either be individually analyzed or combined for specific procedures as described in Exhibit D depending on the required analyses.

4. Apparatus

The general apparatus consists of the following equipment:

- RO-TAP machine consisting of a platform on which to place sieves, legs long enough to support the sieve holder above a 5-gallon bucket, and a RO-TAP motor that shakes the screens allowing material to pass through them.
- Two (2) clean 5-gallon buckets. These buckets will be place alternatingly under the RO-TAP machine throughout the course of the procedure as described below.
- 3-gallon pressure filter apparatus connected to an air compressor and regulator set to 60 pounds per square inch (psi).
- WS Tyler 8-inch sieves of varying mesh sizes (apertures per inch). Only two will reside on the sieve holder in the RO-TAP machine at a time.

5. Sampling

General sampling procedures should

6. Procedure

Procedure A: Wet sieve separation of collected dried samples prior to material processing in the HPSA system.

a. After collection of a dry or damp soil sample, place the soil sample into a sample cup. Identify the sample by writing in a clearly visible colored marker on the sample cup. Note the tare mass of the sample cup as well as the damp mass of the sample regardless of if the sample is expected to contain any moisture.
b. Place the sample cup containing the soil sample into a drying oven set for 24 hours at 120 °F. Once the 24-hour drying period has elapsed, remove the sample from the oven and record in an excel document for the pertinent test, the damp mass of the sample and the mass of the sample after its time in the drier. Be sure to include the tare mass of the sample cup in the calculation for the percent moisture of the soil sample. This dried sample mass will serve as a comparison against the summation of the mass retained on each sieve during the procedure for a percent difference/error between the original sample and after conduction of the RO-TAP on the material.
c. Collect the proper number of sample cups for the sieve procedure as dictated by the number of screens used. Label these cups using a visible permanent marker with:
    - Sample ID. This will indicate what test the sample was retrieved from and whether it is a feed material sample or a dried sample retrieved from a full system discharge.
    - Tare mass of the cup for reference in recording the mass after the material is dry.
    - A label for "Time Spent on Screen" or abbreviated "TOS." This area will be filled out during the procedure.
d. If the dried soil mass of the grab sample is less than or equal to 500 grams, the sieve separation procedure can be completed in one set of sieve separation. If the dried soil mass of the grab sample is greater than 500 grams, the sample should be split into two samples of roughly equal mass. When performing two sieve separations for the same sample spit into equal proportions, additionally note which sample was performed first and which was performed second by writing in visible permanent marker on the sample cup "1 of 2" or "2 of 2."
e. Dried samples greater than 1000 grams should be split into three equal size fractions prior to performance of the sieve procedure, >1500-gram samples should be split into four equal size fractions, and so on with the proper labeling as described by the point above.
f. Set up the apparatus as described in Section 4 of the SOP. Place the two coarsest screen sieves on the holder of the RO-TAP apparatus. These screens are typically the 10- and 25-mesh (2 mm and 707 micron).
g. Pour the sample over the top of the top-most screen until the entire sample resides on the coarsest screen.
h. Using a garden hose with the inlet connected to a garden hose and the outlet connected to a garden hose spray nozzle set to the "Center" selection, wet the material residing on the top of the coarsest screen deck until it is apparent, no dry material remains.
i. NOTE: Throughout the procedure, two 5-gallon water catch buckets will be alternatingly used to collect water passing the screens. Use water sparingly throughout the procedure, attempting to keep the total volume used throughout the full planned sieve deck under 5 gallons to ensure that no more than these two buckets are required.

j. Prepare a stopwatch, timer, or other appropriate timing device. Using the on/off toggle on the power cord to the RO-TAP motor, as best as possible, turn the timer on and the RO-TAP motor on at the same time.
k. Allow the sieve shaker to shake material through the sieves and into the water collection bucket, occasionally using water to rinse the material and rotate the screens to allow the material to travel across the mesh from side to side.
l. Visually assess while looking down on the sieve if material has stopped passing through the screen.
m. If material has finished passing through the sieve, carefully raise the sieve above the sieve below it and visually observe the water passing around the bottom rim of the screen. If the water is clear and no material can be seen dripping onto the sieve below for approximately ten seconds, the sieving for material retained on that sieve fraction can be transferred from the sieve to the sample cups. If material is still seen to be passing through the screen, perform another rinse of the sample on top of the sieve and repeat the process of assessing if the sieve separation for that size fraction is complete.
n. Upon determination that sieve separation has been completed for that size fraction, use a laboratory wash bottle to remove the sample from the sieve and into the correspondingly labeled sample cup.
o. NOTE: Take care to ensure that as much material as possible is transferred from the sieve on which it is retained to the sample cup. This will ensure that there are fewer errors associated with the sieving procedure for representative results as well as ensuring more ease of cleaning the screens.
p. Set the sieve with all material removed near the sink, indicating that it is ready for cleaning.
q. Proceed with performance of the same rinsing and rotation of the sieve for the lower sieve as described on the two-sieve deck earlier. Typically, this is the 25-mesh sieve (707 micron).
r. Once the sieving separation for this second sieve is complete and all material has been transferred to the sample cup, record the time on the cups as previously labeled for the time on the two-sieve group.
s. NOTE: Samples should not remain on a screen for greater than 20 minutes as recommended by ASTM D6913, regardless of if material is still seen passing through with water. Some materials are friable and will fracture into smaller particles if retained on a sieve shaker for an extended period of time, contributing to inaccurate results. If the total time for the two-sieve combination is exceeded when performing the sieve separation on the second sieve, transfer the material retained on the second sieve to its respective sample cup and note on both sample cups for the two-sieve set "Full 20" under the time spent on screen label. If the total time for the two-sieve combination is exceeded when performing the sieve separation on the first/top sieve of the two-sieve set, transfer the material from the top sieve to its respective sample cup and note "Full 20" on that specific sample cup. Reset the timing device and perform the sieve separation on the second/lower sieve for a maximum of 10 minutes. Record the time for this specific sieve on the respective sample cup once the sample has been transferred. If 10 minutes elapses on the second sieve, transfer the retained material to the sample cup and indicate its time spent on the sieve as "Full 10."
t. Once samples have been transferred to their proper sample cups from the cleaned sieves, place the RO-TAP over the top of the second clean 5-gallon bucket. Set the next two sieves on top of the RO-TAP sieve shaker holder. For this example, the next two sieves would be 50-mesh and 100-mesh (297 micron and 149 micron) with the 50-mesh sieve residing on top of the 100-mesh sieve and the 100-mesh sieve residing in the sieve holder of the RO-TAP apparatus.
u. Pour the water passing the first two sieves over the top of the top sieve on the two-sieve deck, taking care to ensure that no water or material is lost, misses the sieve, or overflows between the small aperture where the lower sieve connects to the upper sieve. Once all slurry from the catch

bucket has been transferred to the top of the first sieve in the deck, repeat the procedure as outlined in steps j through t until all desired sieves for the analysis have been completed.

v. NOTE: The typical procedure calls for material mass to be collected from a sample on the sieve screens of 10-, 25-, 50, 100-, 140-, 200-, and 270-mesh (2 mm, 707-micron, 297-micron, 149-micron, 105-micron, 74-micron, and 53-micron). This may differ depending on the material tested. Refer to the specific Design of Experiments for further information on if the sieve sizes vary for that material application.

w. NOTE: The typical procedure calls for sieving times to not exceed 20 minutes for any one sieve and not exceed 30 minutes for any two-sieve set. Refer to the specific Design of Experiments for further information on if the time on the sieves should be decreased for a more friable material.

x. Once the material retained on each sieve has been transferred to the properly labeled sample cup. Place these sample cups in the drying oven for at least 24 hours at a temperature of 110 °F. Depending on how wet the samples are, the samples may need to be dried for a longer period of time. During the procedure described in Exhibit D: SOP for Sampling After RO-TAP Material Processing, check that the summation of the material masses retained on each sieve does not exceed the original dried mass. If it does, this indicates material in the sample cups may need to be dried for a longer period.

y. Upon conclusion of the RO-TAP procedure and placement of the sample cups on a drying pan into the drying oven as described above, pour the bucket of water passing the finest sieve used into the pressure filter tube with the correctly labeled 5-micron filter paper below the tube.

z. Once the top of the pressure filter apparatus is securely sealed, open the pressure line to the pressure filter, allowing 60 psi of pressure to build up and pressure the collected water through for collection of solids on the 5-micron filter paper.

aa. Collect the water exiting the pressure filter in a clean 5-gallon bucket.

bb. Visually inspect the water. If it is apparent that the pressure filtered water contains particulates, recirculate this water through the pressure filter until the effluent of the pressure filter is clear upon visual inspection.

cc. Once the pressure filter has removed all water from the finest fraction of solids, dispose of the collected effluent water properly.

dd. Release the pressure from the pressure filter tube and remove the pressure filter tube from the pressure filtering apparatus. Once this is removed, place the collected fine material fraction on a drying pan and place this drying pan into the oven.

ee. Let the material dry for 24 hours at 110 °F.

ff. Clean all equipment used for the procedure:
    - Thoroughly scrub the sieves used for the RO-TAP procedure using dish soap and water.
    - After scrubbing the sieves, allow the sieves to sit in the ultrasonic sieve cleaner for at least 5 minutes. Some screens may take longer to dislodge any contaminants stuck in the sieve.
    - After cleaning with the ultrasonic sieve cleaner, rinse the sieves using water only and allow them to dry prior to performance of another RO-TAP procedure.
    - Thoroughly clean with soap and water, the pressure filter tube, filter cloth, and base by removing the wire mesh and rubber gasket in the bottom of the pressure filter stand prior to running another sample through.

Procedure B: Wet sieve separation of collected slurry samples from the HPSA system operation during a test described in Exhibit A.

a. Prior to collection of a slurry sample from HPSA system operations as described in Exhibit A, record the tare mass of the slurry sample bucket to the nearest tenth of a pound.
b. After collection of the sample from the HPSA system in the slurry form, record the total slurry mass of the sample for use in determination of the percent solids by mass and volume of the sample.
c. Prepare sample cups in a similar manner as described in Procedure A for sieve separation of a dry sample in part c with the addition of the sample time that the sample was retrieved from the batch HPSA unit during material processing operations.
d. If it is expected that the collected solid mass of the slurry sample retrieved from HSPA batch unit operation will be greater than 500 grams, split the RO-TAP procedure into two separate parts. Further considerations that apply to part d and e of Procedure A apply to performance of multiple sieve separations for large samples.
e. Pour the liquid and solids from the sample bucket over the top of the first two screens and perform the RO-TAP procedure in the same manner as described in parts h through ff in Procedure A.

APPENDIX B-1D
STANDARD OPERATING PROCEDURES FOR SAMPLING AFTER RO-TAP MATERIAL PROCESSING

EXHIBIT D:

Standard Operating Procedures for Sampling After RO-TAP Material Processing

1. Scope

This SOP covers the material preparation for assay analysis by a third-party lab of samples taken from the HPSA batch unit during operation and previously processed through the RO-TAP for size fraction separation. For the SOPs covering the performance of HPSA batch unit testing/collection of samples from the batch unit as well as the sieve separation of the material through RO-TAP sample processing, refer to Exhibit A and Exhibit C, respectively.

2. Terminology

Assay – Third-party analysis of collected samples. This may be through a variety of methods depending on the requirements for the testing.

Sample – Refers to an assayed sample as outlined in the procedure.

Sample Cup – Refers to the sample cups collected and correctly labeled as described in Exhibit C.

Sample Bag – Sandwich size bag for collection and storage of samples. Sample bags should be properly labeled with the test they were collected from, what time sample they are a part of, and if applicable the size fraction they represent from the sieved separate size fraction or combined size fraction of the sample.

Bulk Reserve – Denotation for samples to be kept at Disa's HQ if further replicates or other analyses are required for the sample.

Time Sample Bag – In assay of separate size fractions collected from samples, these gallon or larger Ziploc bags should contain the separate size fractions for the appropriate test and time sample they correspond to. In the case of separate size fraction assay of all samples at a collected time from the batch unit, the chain of custody (CoC) should be included in the shipment of the bag along with the individual size fraction sample bags.

Sieved Sample – Refers to the sample separated into the sieved size fractions as described in Exhibit C. This may be referred to throughout the procedure in the past tense (prior to sieve separation) or in the present tense (after sieve separation and drying) since the samples are identical and have only been separated through a physical process.

XRF – Refers to the bench top X-Ray Fluorescence device used throughout the initial spot check of the procedure.

XRF Sample – Refers to small sample split from original samples for the corresponding size fraction, contained in the XRF sample cup.

XRF Sample Cup – Small sample cup containing 5 to 10 grams of collected split sample for XRF spot check analysis.

Spot Check – Also referred to throughout the procedure as spot check analysis. This analysis is to determine a baseline understanding of the material to be sent for assay. It may educate the combination of size fractions for combined size fraction analysis or may be used as a comparison against the assays for assay of separated size fractions. Spot check analysis should never be used as a substitute for third-party assays and is often only used internally by Disa.

3. Summary of Test Method

This testing method comprises the standard operating procedures for collection of data for mass distributions from the prior sieve separations for the material fractions as well as assay of the sample after logging of mass distribution data by A: separate size assay of each individual fraction, B: combined size fraction assay, C: combination of separate size assay and assay of combined size fractions collected from the procedure described in Exhibit C. In general, all sample size fractions are initially analyzed using a bench top XRF for initial bearing on the concentrations of constituents, as well as verified either by assay of the individual size fraction or a combination of multiple size fractions for the specific class.

4. Apparatus

In general, a device (computer or other) is required for logging of data, a bench top Olympus Vanta XRF, and a weight scale for reporting of weight to the nearest hundredth (0.01) of a gram. Further, as described in Variant C of this procedure, a small bench-top riffle splitter may be required with a capacity of approximately 1000 grams of material in each side of the riffle split cups.

5. Sampling

Care should be taken when transferring the material from sample cups to reduce sample cross contamination for accurate assay results from a third-party laboratory. Sample bags should be properly labeled prior to transfer of the sample from the sample cup into the sample bag according to the test they were collected from, the time which they were collected at, and what size fraction the sample represents from the total sieved sample. Sample masses should be recorded while the samples still reside in the sample cups, factoring in the tare mass of the sample cups as originally labeled by Exhibit C for a total net mass of the sample, provided that the sample cups were labeled correctly. If the sample cups were labeled incorrectly or do not include labeling information on the tare mass of the sample cup, place the sample bag on the weight scale and tare the scale. Transfer, as best as possible, all the sample contained in the sample cup to the sample bag on the scale. Record this as the sample's net mass.

Gloves may remain on for the transfer of samples from the sample cups to the sample bags for the duration of a time sample (through the entire sieve set). However, between time samples, gloves should be exchanged for fresh gloves to ensure as little cross-contamination of time samples for a particular test as possible.

The XRF is used in this procedure only as a spot check of the material. No material is pulverized throughout the course of this SOP. While this may lead to inaccuracies from the XRF data due to non-uniformity of the sample in the XRF cup, the XRF is used as a baseline to understand the material and its constituent distributions and should not be used as a substitute for third-party assay analysis. By pulverizing the material prior to XRF and assay, the material will be altered and may provide inaccurate results for assay analysis, specifically for leaching tests that may be performed. When collecting samples in XRF cups for the initial spot checks, ensure that the sample bag is tightly closed. Mix this bag prior to collection of the XRF sample in a small XRF cup to ensure, as best as possible, uniformity prior to sampling and analysis.

As described in variant C of this procedure, some samples may require splitting through riffle splitting. Prior to riffle splitting, ensure that there are no contaminants on the riffle splitter or riffle splitter cups. If contamination is present that might lead to inaccurate assay results, wipe the riffle splitter thoroughly with disinfectant wipes until no more contamination can be visibly seen in the riffle splitter. Allow the riffle splitter to dry prior to riffle splitting to prevent riffle split material from becoming wet and sticking to the sides of the riffle splitter.

6. Procedure

General procedure for logging of mass distributions and XRF for separated sample size fractions through the procedure described in Exhibit C:

a. Once material has been allowed to dry for a sufficient period, remove the sample cups from their drying racks in the oven.
b. With a weight scale capable of reporting the mass in grams to the nearest hundredth of a gram (0.01), place the sample cup on the weight scale.
c. Record the mass shown on the electronic display of the weight scale and subtract the tare mass of the sample cup from this mass for the net mass of the material (typically logged in Excel or other Microsoft processing datasheet for ease of data analysis) for the specific mass of the sample reporting to that size fraction.
d. Record the time spent on screen as labeled on the sample cup per the instructions in Exhibit C.
e. Prepare a sample bag by writing in permanent marker, the test which the sieved sample was collected from, the size fraction which it represents, and the time at which the sieved sample was collected. Write the net mass of the sample on the sample bag and transfer as much of the material as possible from the sample cup to the sample bag. Close this sample bag tightly and store the sample bag in the correctly labeled time sample bag.
f. Once all net masses of samples have been collected and the sample bags transferred to the proper time sample bag, analyze the recorded mass distribution data using Excel or another appropriate program.
    a. If the sieved sample was dried prior to sieving, perform a summation on the collected masses of the size fractions and compare this summation to the dried sample mass by: (mass pre-sieved sample – mass summation of size fractions)/(mass pre-sieved sample) for a percentage difference that may have contributed to error in the RO-TAP procedure. NOTE: For dry sieved samples this value should be less than 1%.
    b. From the summation of masses collected on each sieve, perform a balance on the percentage report by mass of the sieved sample for the appropriate size fractions it was separated into. As an example (net mass +10-mesh fraction)/(summation of size fractions) = percentage report by mass of the sieved sample to that fraction.
    c. With this information further analysis can be performed for cumulative percent passing a certain size fraction or cumulative percent retained on a size fraction. These values can additionally be used for fitting of particle size distribution curves/particle size shift curves over processing time for the specific test.
g. For each collected sample fraction, collect a split of the sample in an XRF sample cup. Cap the XRF sample cup with mylar film and place the cup with the mylar film facing down on the beam of the XRF setup.
h. Using the Vanta Desktop App for the XRF, analyze the sample through two replicates and record the average in Microsoft Excel or another appropriate data analysis program with the correct labelling for the retrieved results.

i. Upon conclusion of spot check on the sample with the XRF, remove the mylar film from the XRF cup and return the sample contained in the XRF sample cup to the sample bag.
j. Dispose of the mylar film and clean the XRF sample cup with soap and water.
k. The sample is now ready for assay by any of the following variants.

Procedure variant A: Assay of all separated size fractions.

l. With the samples in their respective sample bags, fill out the third party CoC according to the directions on the CoC with correct required analyses and note the recorded mass of the sample that is labeled on the bag for the specified sample.
m. Place the completed CoC in the Time Sample Bag to ensure that the correct analyses are performed for the correct CoC.

Procedure variant B: Assay of combined size fractions.

n. Depending on the results of the XRF or required material for particular analyses, material may need to be combined from the sieve separated size fraction samples.
o. When combining, label the sample bag according to the test from which it was sampled, the time the sample was taken, and the size fractions that were combined for the sample.
    a. Example: for the combined size fractions of +10-, +25-, +50-, and +100-mesh, label in permanent marker "+10/+100-mesh."
p. Ensure that samples are combined in the proper proportions from their sieved fractions by transferring all the material from the sieve separated sample bags to the combined fraction sample bags.
q. Record the net mass of the combined sample bag and compare this net mass to the summation of the previously recorded individual fractions for analysis of error in the combination of the size fractions for assay.

Procedure variant C: Combination of assay for both combined and separated size fractions.

r. If both separate size fraction assay and combined size fraction assay are required for the specific sieved sample, a riffle splitter must be used to split the samples into roughly equal and representative proportions.
s. Pour a specific size fraction sample from its sample bag container through the riffle splitter three times to ensure adequate mixing and collection of a representative sample for assay. Once the material has been riffle split three times, riffle split a fourth time and collect the split size fractions.
t. Transfer the split samples into their respective sample bags for either combined size fraction analysis or separate size fraction analysis. On the separate size fraction analysis sample bags, note the date and time when the sample was split and how much of the net original mass remains in that size fraction. This will be used along with the data collected from the masses from each split into the combined size fraction sample bag to determine propagation of error from this riffle splitting.
u. If a bulk reserve sample is required for the sample, split the material into fourths and label the sample bags according to which material will be kept as bulk reserve, combined for assay, or kept in individual size fractions for assay.
v. By splitting the material into halves and fourths, combined size fractions and individual separate size fractions should retain their same mass report throughout the sample and should decrease the amount of error propagation associated with sample variance.

Post-Report Data Analysis:

w. Once reports have been issued for the assay of separate size fractions, determine the percentage report of the element(s) of interest throughout the sieved material.

   a. Overall concentration throughout the sieved size fractions can be determined using excel by a mass average of the assay concentration results using the "sumproduct" function.
   b. Once the overall concentration of the sieved sample has been determined from the assays, this may be used to determine the percentage report of the element(s) of interest by: (Mass% of size fraction)*(Concentration size fraction)/(Overall concentration) = % report of constituent to the analyzed size fraction.

x. These results will be compared across time samples and tests for determination of the test producing the best results of recovery of the constituent(s) of interest.

y. Combined size fraction assay results will be analyzed on a case by case basis.

APPENDIX B-2A
DISA FIELD STUDY CHAINS OF CUSTODY

Project:	RAES TO33 Ablation TS	Sampler Name Print	Andrew Halverson
Project Site:	Church Rock		
Test Date:	8/22 – 8/25/2022	Sampler Signature	
Test Time:	All day		

Soil Samples

Sample ID:	Sample Mass [g]	Sample Date	Sample Time
CR-L-0-SL-01	1961.34	8/23	10:03 AM
CR-M-0-SL-01	1384.34	8/23	10:32 AM
CR-H-0-SL-01	1763.06	8/23	10:51 AM
~~CR-H-0-KY~~	—	~~8/24~~	~~12 PM~~
CR-H-0-KY	1713.58	8/24	12 PM

Slurry/Water Samples

Sample ID:	Bucket Tare Mass [lb]	Collected Sample Total Mass [lb]	Collected Sample ~~Tare~~ Net Mass [lb]	Sample Date	Sample Time
CR-L-4-SY	1.2	17.6 ✓	16.4	8/24	11 AM
CR-L-8-SY	1.2	17.8 18.2	16.6	8/24	11 AM
CR-L-30-SY	1.2	18.0 ✓+	16.8	8/24	11 AM
CR-M-4-SY	1.2	18.4 ✓+	17.2	8/24	12:30 PM
CR-M-8-SY	1.2	20.2 ✓−	19.0	8/24	12:30 PM
CR-M-30-SY	1.2	19.2 ✓+	18.0	8/24	12:30 PM
CR-H-4-SY	1.2	20.8 ✓+	19.6	8/24	3:10 PM
CR-H-8-SY	1.2	20.0 ✓	18.8	8/24	3:10 PM
CR-M-30-SY	1.2	21.0 20.0	19.8	8/24	3:10 PM

(1) SITE ID:	CR = Curch Rock CTS = Cove Transfer Station QV = Quivera	(3) Time ID:	0 = Feed 2 = 2 min 4 = 4 min 8 = 8 min T= TEST (reconn)	(4) Matrix ID:	SY = Slurry SL = Soil WT = Water	Example: QV-M-T-SL-01	
(2) CONC:	L = low M = medium H = high		MU = makeup	(5) Dup differentiator	01 = original 02 = duplicate	See Tt SAP Table A-16	

Notes: CR-H-0-KY used for ~~Ken~~ sample by Kenyon's request of CR-H-0 coarse feed after pre-cutting. ~~No mass recorded.~~ ~~Half quart bag full.~~ Gross & Tare written on

DISA

Project:	RAES TO33 Ablation TS	Sampler Name Print	Andrew Halverson
Project Site:	Church Rock		
Test Date:	8/22-8/25/2022	Sampler Signature	
Test Time:	All Day		

Soil Samples				Slurry/Water Samples					
Sample ID:	Sample Mass [g]	Sample Date	Sample Time	Sample ID:	Bucket Tare Mass [lb]	Collected Sample Total Mass [lb]	Collected Sample Net ~~Tare~~ Mass [lb]	Sample Date	Sample Time
				CR-L-0-F-01	2.2	41.6 ✓+	39.4	8/25	11 AM
				CR-L-0-F-02	2.2	48.0 ✓-	45.8	8/25	11 AM
				CR-L-0-F-03	2.2	18.6 ✓+	16.4	8/25	11 AM
				CR-L-0-F-WT	1.2	16.0 ✓	14.8	8/25	11 AM
				CR-M-0-F-01	2.2	38.0 37.6	35.8	8/25	11 AM
				CR-M-0-F-02	2.2	43.8 ✓	41.6	8/25	11 AM
				CR-M-0-F-WT	1.2	16.8 ✓+	15.6	8/25	11 AM
				CR-H-0-F-01	2.2	41.6 ✓+	39.4	8/25	11 AM
				CR-H-0-F-02	2.2	44.6 ✓	42.4	8/25	11 AM
				~~CR-H-0-F-WT~~	~~1.2~~	—	—	~~8/25~~	—

(1) SITE ID:	CR = Curch Rock CTS = Cove Transfer Station QV = Quivera	(3) Time ID:	0 = Feed 2 = 2 min 4 = 4 min 8 = 8 min T= TEST (reconn)	(4) Matrix ID:	SY = Slurry SL = Soil WT = Water	Example: QV-M-T-SL-01
(2) CONC:	L = low M = medium H = high		MU = makeup	(5) Dup differentiator	01 = original 02 = duplicate	See Tt SAP Table A-16

Notes: All water settled on CR-H-0-F. No water ~~settled~~ sampled.

DISA

Project:	RAES TO33 Ablation TS	Sampler Name Print	maddie orrell
Project Site:	CR-Logging at Disa HQ		
Test Date:	9/2/2022	Sampler Signature	Madeline Orrell
Test Time:			

includes bag mass

Soil Samples

Sample ID:	Sample Mass [g]	Sample Date	Sample Time
CR-L-0-SL-01	1475.75		
CR-M-0-SL-01	1407.30		
CR-H-0-SL-01	1776.93		
CR-H-0-KY	719.50		

Slurry/Water Samples

Sample ID:	Bucket Tare Mass [lb]	Collected Sample Total Mass [lb]	Collected Sample Tare Mass [lb]	Sample Date	Sample Time
CR-L-4-SY	1.2	17.6	16.4		
CR-L-8-SY	1.2	18.2	~~16~~ 17.0		
CR-L-30-SY	1.2	~~19.0~~ 18.2	17.0		
CR-M-4-SY	1.2	18.6	17.4		
CR-M-8-SY	1.2	20.0	18.8		
CR-M-30-SY	1.2	19.4	18.2		
CR-H-4-SY	1.2	21.0	19.8		
CR-H-8-SY	1.2	20.0	18.8		
CR-H-30-SY	1.2	20.0	18.8		

(1) SITE ID:	CR = Curch Rock CTS = Cove Transfer Station QV = Quivera	(3) Time ID:	0 = Feed 2 = 2 min 4 = 4 min 8 = 8 min T= TEST (reconn)	(4) Matrix ID:	SY = Slurry SL = Soil WT = Water	Example: QV-M-T-SL-01
(2) CONC:	L = low M = medium H = high		MU = makeup	(5) Dup differentiator	01 = original 02 = duplicate	See Tt SAP Table A-16

DISA

Project:	RAES TO33 Ablation TS	Sampler Name Print	Maddie Orrell
Project Site:	CR- Logging at Disa HQ		
Test Date:	9/2/2022	Sampler Signature	Madeline Orrell
Test Time:			

Soil Samples				Slurry/Water Samples					
Sample ID:	Sample Mass [g]	Sample Date	Sample Time	Sample ID:	Bucket Tare Mass [lb]	Collected Sample Total Mass [lb]	Collected Sample Tare Mass [lb]	Sample Date	Sample Time
				CR-L-0-F-01	2.2	41.8	39.6		
				CR-L-0-F-02	2.2	39.8	37.6		
				CR-L-0-F-03	2.2	18.8	16.6		
				CR-L-0-F-WT	1.2	16.0	14.8		
				CR-M-0-F-01	2.2	37.6	35.4		
				CR-M-0-F-02	2.2	43.8	41.6		
				CR-M-0-F-WT	1.2	17.0	15.8		
				CR-H-0-F-01	2.2	41.8	39.6		
				CR-H-0-F-02	2.2	44.6	42.4		

(1) SITE ID:	CR = Curch Rock CTS = Cove Transfer Station QV = Quivera	(3) Time ID:	0 = Feed 2 = 2 min 4 = 4 min 8 = 8 min T= TEST (reconn)	(4) Matrix ID:	SY = Slurry SL = Soil WT = Water	Example: QV-M-T-SL-01	
(2) CONC:	L = low M = medium H = high		MU = makeup	(5) Dup differentiator	01 = original 02 = duplicate	See Tt SAP Table A-16	

DISA

Project:	RAES TO33 Ablation TS	Sampler Name Print	Andrew Halverson
Project Site:	Quivera		
Test Date:	8/25 - 8/28/2022	Sampler Signature	
Test Time:	All day		

Soil Samples				Slurry/Water Samples					
Sample ID:	Sample Mass [g]	Sample Date	Sample Time	Sample ID:	Bucket Tare Mass [lb]	Collected Sample Total Mass [lb]	Net Collected Sample ~~Tare~~ Mass [lb]	Sample Date	Sample Time
QV-L-0-SL-01	1414.34	8/26	10 AM	QV-L-4-SY	1.2	18.2 ✓	17.0	8/28	10:50 AM
QV-M-0-SL-01	1545.11	8/27	9:25 AM	QV-L-8-SY	1.2	20.8 ✓ +	19.6	8/28	10:50 AM
QV-H-0-SL-01	1602.93	8/27	12 PM	QV-L-30-SY	1.2	20.0 ✓ -	18.8	8/28	10:50 AM
				QV-M-4-SY	1.0	20.8 ~~19.8~~ mg ✓ +	19.8	8/28	11:50 AM
				QV-M-8-SY	1.2	20.8 ✓ +	19.6	8/28	11:50 AM
				QV-M-30-SY	1.2	20.8 ✓ +	19.6	8/28	11:50 AM
				QV-H-4-SY	1.2	22.2 ✓ +	21.0	8/28	2 PM
				QV-H-8-SY	1.2	21.6 ✓ -	20.4	8/28	2 PM
				QV-H-30-SY	1.0	20.8 ✓	19.8	8/28	2 PM

(1) SITE ID:	CR = Curch Rock CTS = Cove Transfer Station QV = Quivera	(3) Time ID:	0 = Feed 2 = 2 min 4 = 4 min 8 = 8 min T= TEST (reconn)	(4) Matrix ID:	SY = Slurry SL = Soil WT = Water	Example: QV-M-T-SL-01
(2) CONC:	L = low M = medium H = high		MU = makeup	(5) Dup differentiator	01 = original 02 = duplicate	See Tt SAP Table A-16

Notes: Gross & Tare Mass written on soil sample bags. Stored on ice in cooler.

DISA

Project:	RAES TO33 Ablation TS
Project Site:	Quivera
Test Date:	8/25/2022 – 8/28/2022
Test Time:	All Day
Sampler Name Print	Andrew Halverson
Sampler Signature	

Soil Samples				Slurry/Water Samples					
Sample ID:	Sample Mass [g]	Sample Date	Sample Time	Sample ID:	Bucket Tare Mass [lb]	Collected Sample Total Mass [lb]	Collected Sample ~~Tare~~ Net Mass [lb]	Sample Date	Sample Time
				QV-L-0-F-01	2.2	47.0 ✓	44.8	8/28	4 PM
				QV-L-0-F-WT	1.2	15.6 ✓	14.4	8/28	4 PM
				QV-M-0-F-01	2.2	49.4 ✓	47.2	8/28	4 PM
				QV-M-0-F-02	2.2	18.0 ✓	15.8	8/28	4 PM
				QV-M-0-F-WT	1.2	18.6 ✓	17.4	8/28	4 PM
				QV-H-0-F-01	2.2	47.0 ✓	44.8	8/28	4 PM
				QV-H-0-F-02	2.2	21.0 ✓	18.8	8/28	4 PM
				QV-H-0-F-WT	~~2.2~~ 1.2	17.0 ✓+	15.8	8/28	4 PM

(1) SITE ID:	CR = Curch Rock CTS = Cove Transfer Station QV = Quivera	(3) Time ID:	0 = Feed 2 = 2 min 4 = 4 min 8 = 8 min T= TEST (reconn)	(4) Matrix ID:	SY = Slurry SL = Soil WT = Water	Example: QV-M-T-SL-01	
(2) CONC:	L = low M = medium H = high		MU = makeup	(5) Dup differentiator	01 = original 02 = duplicate	See Tt SAP Table A-16	

DISA

Project:	RAES TO33 Ablation TS	Sampler Name Print	maddie orreli
Project Site:	QV Logging at Disa HQ		
Test Date:	9/2/2022	Sampler Signature	Madeline Orrell
Test Time:			

includes bag mass

Soil Samples: Sample ID:	Sample Mass [g]	Sample Date	Sample Time	Slurry/Water Samples: Sample ID:	Bucket Tare Mass [lb]	Collected Sample Total Mass [lb]	Collected Sample Tare Mass [lb]	Sample Date	Sample Time
QV-L-0-SL-02	1426.74			QV-L-4-SY	1.2	18.2	17.0		
QV-M-0-SL-02	1556.62			QV-L-8-SY	1.2	21.0	19.8		
QV-H-0-SL-02	1614.47			QV-L-30-SY	1.2	19.8	18.6		
				QV-M-4-SY	1.0	21.0	20.0		
				QV-M-8-SY	1.2	21.0	19.8		
				QV-M-30-SY	1.2	21.0	19.8		
				QV-H-4-SY	1.2	22.4	21.2		
				QV-H-8-SY	1.2	21.4	20.2		
				QV-H-30-SY	1.0	20.8	19.8		

(1) SITE ID:	CR = Curch Rock CTS = Cove Transfer Station QV = Quivera	(3) Time ID:	0 = Feed 2 = 2 min 4 = 4 min 8 = 8 min T= TEST (reconn)	(4) Matrix ID:	SY = Slurry SL = Soil WT = Water	Example: QV-M-T-SL-01	
(2) CONC:	L = low M = medium H = high		MU = makeup	(5) Dup differentiator	01 = original 02 = duplicate	See Tt SAP Table A-16	

DISA

Project:	RAES TO33 Ablation TS	Sampler Name Print	Maddie Orrell
Project Site:	QV-Logging at Disa HQ	Sampler Signature	Madeline Orrell
Test Date:	9/2/2022		
Test Time:			

Soil Samples				Slurry/Water Samples					
Sample ID:	Sample Mass [g]	Sample Date	Sample Time	Sample ID:	Bucket Tare Mass [lb]	Collected Sample Total Mass [lb]	Collected Sample Tare Mass [lb]	Sample Date	Sample Time
				QV-L-0-F-01	2.2	47.0	44.8		
				QV-L-0-F-WT	1.2	15.6	14.4		
				QV-M-0-F-01	2.2	49.4	47.2		
				QV-M-0-F-02	2.2	18.0	15.8		
				QV-M-0-F-WT	1.2	18.6	17.4		
				QV-H-0-F-01	2.2	47.0	44.8		
				QV-H-0-F-02	2.2	21.0	18.8		
				QV-H-0-F-WT	1.2	17.2	16.0		

(1) SITE ID:	CR = Curch Rock CTS = Cove Transfer Station QV = Quivera	(3) Time ID:	0 = Feed 2 = 2 min 4 = 4 min 8 = 8 min T= TEST (reconn)	(4) Matrix ID:	SY = Slurry SL = Soil WT = Water	Example: QV-M-T-SL-01
(2) CONC:	L = low M = medium H = high		MU = makeup	(5) Dup differentiator	01 = original 02 = duplicate	See Tt SAP Table A-16

DISA

Project:	RAES TO33 Ablation TS	Sampler Name Print	Andrew Halverson
Project Site:	COVE Transfer Station		
Test Date:	8/29 - 8/31/2022		
Test Time:	All day	Sampler Signature	

Soil Samples			
Sample ID:	Sample Mass [g]	Sample Date	Sample Time
CTS-L-0-SL-01	1272.61	8/30	10 AM
CTS-L-0+¼inch	1369.23	8/30	10 AM
CTS-M-0-SL-01	1401.79	8/30	10 AM
CTS-M-0+¼inch	1518.72	8/30	10 AM
CTS-H-0-SL-01	1576.09	8/30	10 AM
CTS-H-0+¼inch	1383.60	8/30	10 AM

Slurry/Water Samples					
Sample ID:	Bucket Tare Mass [lb]	Collected Sample Total Mass [lb]	Collected Sample ~~Tare~~ Net Mass [lb]	Sample Date	Sample Time
CTS-L-4-SY	1.2	19.4 ✓	18.2	8/30	2:10PM
CTS-L-8-SY	1.2	19.2 ✓	18.0	8/30	2:10PM
CTS-L-30-SY	1.2	19.8 ✓+	18.6	8/30	2:10PM
CTS-M-4-SY	1.2	19.8 ✓	18.6	8/30	3:10PM
CTS-M-8-SY	1.2	19.8 ✓	18.6	8/30	3:10PM
CTS-M-30-SY	1.2	19.8 ✓	18.6	8/30	3:10PM
CTS-H-4-SY	1.2	18.2 ✓	17.0	8/30	4:10PM
CTS-H-8-SY	1.2	19.8 ✓	18.6	8/30	4:10PM
CTS-H-30-SY	1.2	19.2 ✓	18.0	8/30	4:10PM

(1) SITE ID:	CR = Curch Rock CTS = Cove Transfer Station QV = Quivera	(3) Time ID:	0 = Feed 2 = 2 min 4 = 4 min 8 = 8 min T= TEST (reconn)	(4) Matrix ID:	SY = Slurry SL = Soil WT = Water	Example: QV-M-T-SL-01	
(2) CONC:	L = low M = medium H = high		MU = makeup	(5) Dup differentiator	01 = original 02 = duplicate	See Tt SAP Table A-16	

Notes: Soil samples double bagged. Put in cooler on ice

DISA

Project: RAES TO33 Ablation TS	Sampler Name Print: Maddie Orrell
Project Site: CTS-Logging at Disa HQ	Sampler Signature: Madeline Orrell
Test Date: 9/2/2022	
Test Time:	

includes bag mass

Soil Samples				Slurry/Water Samples					
Sample ID:	Sample Mass [g]	Sample Date	Sample Time	Sample ID:	Bucket Tare Mass [lb]	Collected Sample Total Mass [lb]	Collected Sample Tare Mass [lb]	Sample Date	Sample Time
CTS-L-0-SL-01	1283.64			CTS-L-4-SY	1.2	19.4	18.2		
CTS-L-0+¼inch	1380.33			CTS-L-8-SY	1.2	19.2	18.0		
CTS-M-0-SL-01	1412.94			CTS-L-30-SY	1.2	20.0	18.8		
CTS-M-0+¼inch	1529.97			CTS-M-4-SY	1.2	19.8	18.6		
CTS-H-0-SL-01	1587.48			CTS-M-8-SY	1.2	19.8	18.6		
CTS-H-0+¼inch	1394.80			CTS-M-30-SY	1.2	19.8	18.6		
				CTS-H-4-SY	1.2	18.2	17.0		
				CTS-H-8-SY	1.2	19.8	18.6		
				CTS-H-30-SY	1.2	19.2	18.0		

(1) SITE ID:	CR = Curch Rock CTS = Cove Transfer Station QV = Quivera	(3) Time ID:	0 = Feed 2 = 2 min 4 = 4 min 8 = 8 min T= TEST (reconn)	(4) Matrix ID:	SY = Slurry SL = Soil WT = Water	Example: QV-M-T-SL-01
(2) CONC:	L = low M = medium H = high		MU = makeup	(5) Dup differentiator	01 = original 02 = duplicate	See Tt SAP Table A-16

APPENDIX B-2B
PACE LABORATORY CHAINS OF CUSTODY

Pace Analytical®

Pace Analytical Services, LLC

Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

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Page 1 of 1

\# 196831

Field	Entry
Client Name	Tetra Tech/Disa
Project Identification	RAES T033/103G5440033.03.01
Sampler (Signature/Attestation of Authenticity)	[signature]
Telephone #	307-871-7291
Report Address	Tetra Tech/Disa
Contact Name	Mike Dahlquist/Andrew Halverson
Email	mike.dahlquist@tetratech.com / a.halverson@disausa.com
Phone	510-302-6310/307-871-7291
Invoice Address	Tetra Tech
Purchase Order #	
Quote #	

Preservative Lot #
1:1 HNO3: M-072722-2
H2SO4: Chem 2-71-4
NaOH: Wet-3-40-1

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/6020	Ra226 by 903.1	Ra228 by 904.0	TDS by SM2540	TSS by SM2540				REMARKS
1		09/07/22	10:00	CR-L-4-WT	WT	7	✓	✓	✓	✓	✓				
2		09/07/22	16:00	CR-L-8-WT	WT	7	✓	✓	✓	✓	✓				
3		09/08/22	08:00	CR-L-30-WT	WT	7	✓	✓	✓	✓	✓				
4		09/09/22	09:00	CR-M-4-WT	WT	7	✓	✓	✓	✓	✓				
5		09/12/22	14:00	CR-M-8-WT	WT	7	✓	✓	✓	✓	✓				
6		09/13/22	14:30	CR-M-30-WT	WT	7	✓	✓	✓	✓	✓				
7															
8															
9															
10															
11															
12															
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	09/15/22	16:00			

SHIPPING INFO
- ☐ UPS
- ☐ Fed Express
- ☐ US Mail
- ☐ Hand Carried
- ☑ Other Lab courier secure dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURNAROUND TIMES

Check desired service
- ☑ Standard turnaround
- ☐ RUSH - 5 Working Days
- ☐ URGENT - < 2 Working Days

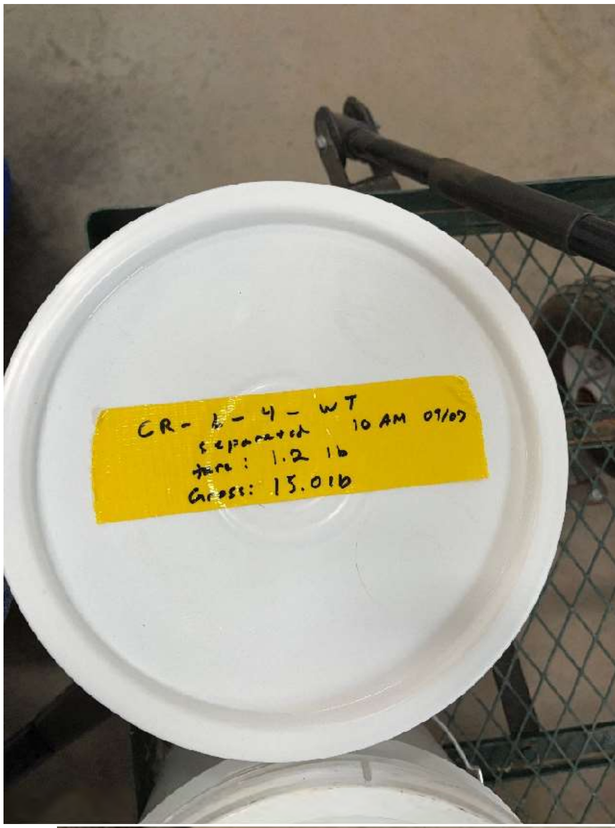
Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

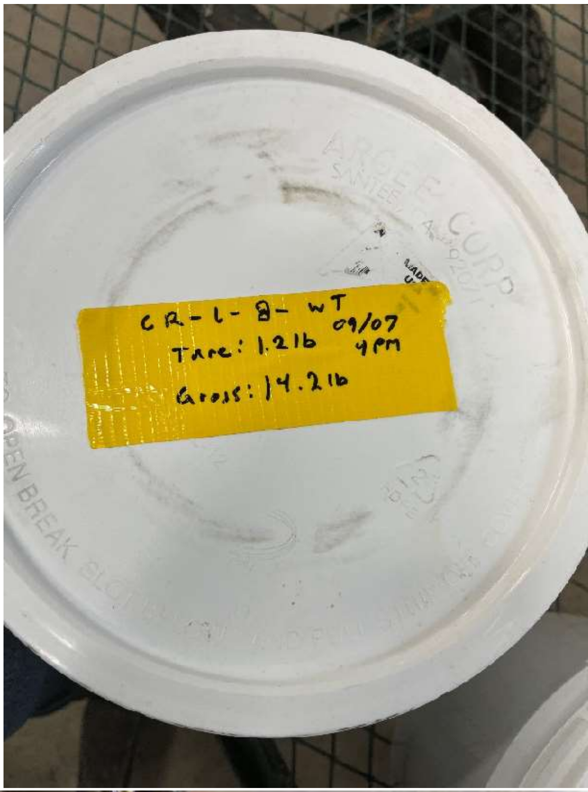
Compliance Monitoring? Y / N
Program (SDWA, NPDES,...)
PWSID / Permit #
Chlorinated? Y / N
Sample Disposal: Lab ✓ Client

ADDITIONAL REMARKS

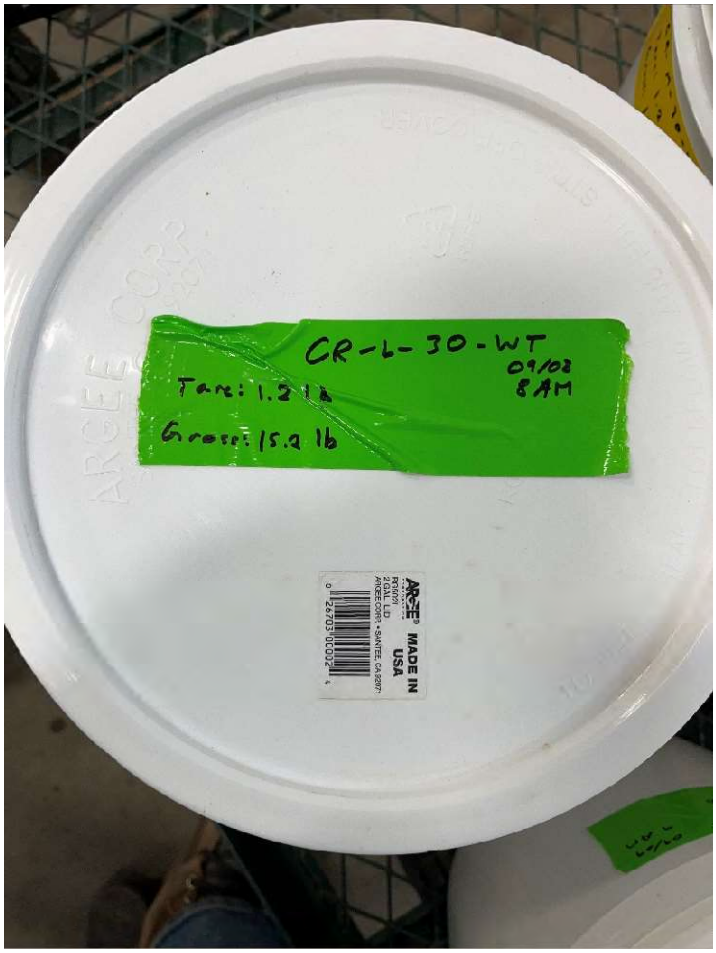
Not filtered. No preservatives. In 3 separate coolers. Perform TSS and TDS immediately. Hold on metals, Ra226, and Ra228 until directed by Tetra Tech and Disa.


separated 10 AM 09/07
tare: 1.2 lb
Gross: 15.0 lb

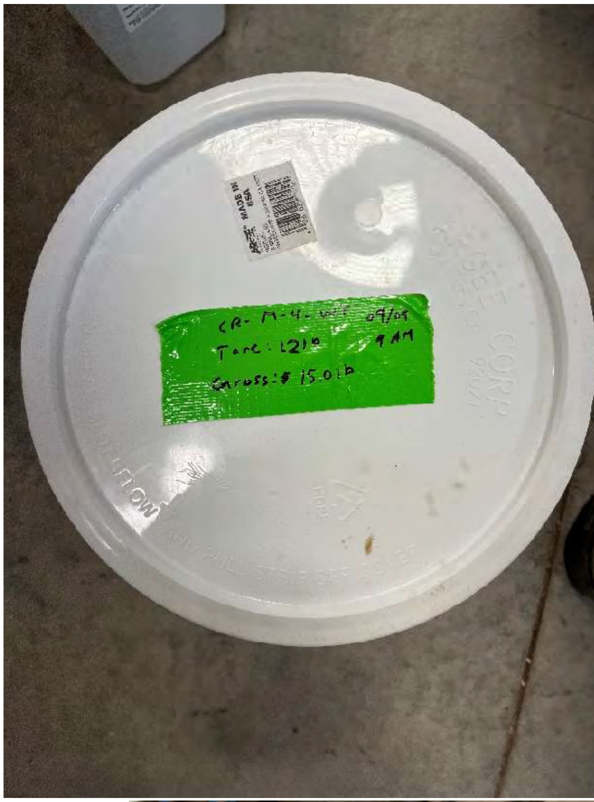

Fill completely and cap tightly


CR-1-8-WT 09/07
Tare: 1.2lb 4PM
Gross: 14.2lb

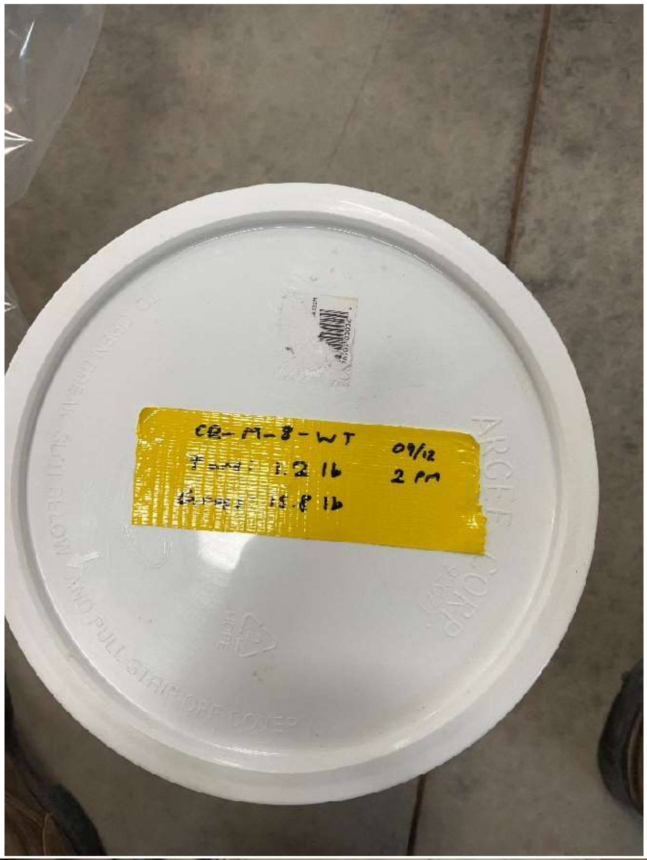

Fill completely and cap tightly.


CR-L-30-WT
09/02
8AM
Tare: 1.2 lb
Gross: 15.2 lb
ARGEE CORP
MADE IN USA

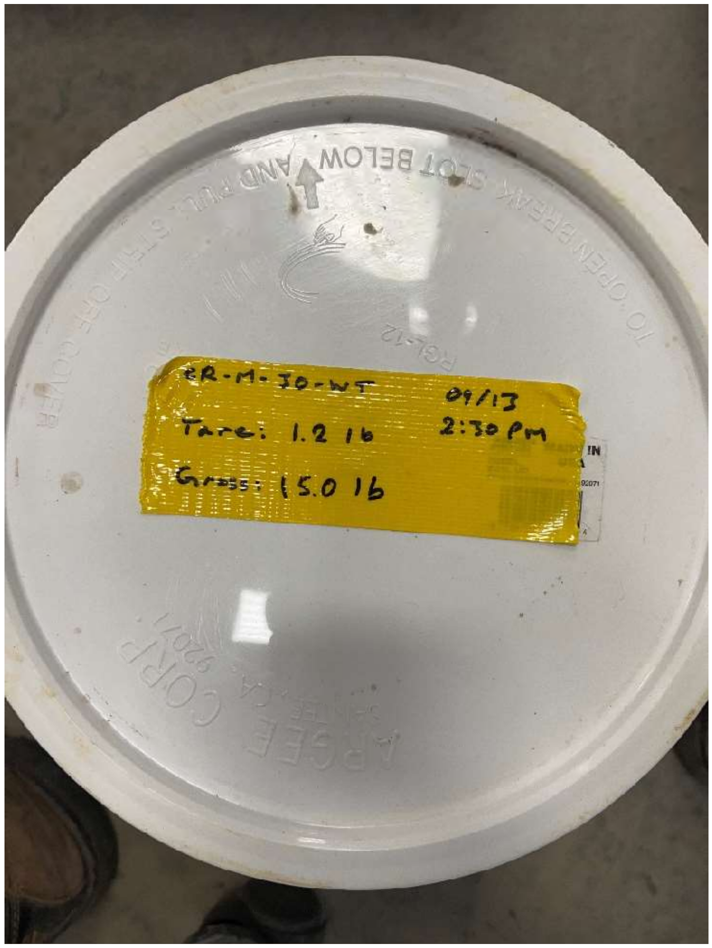

Fill completely and cap tightly.
Coleman

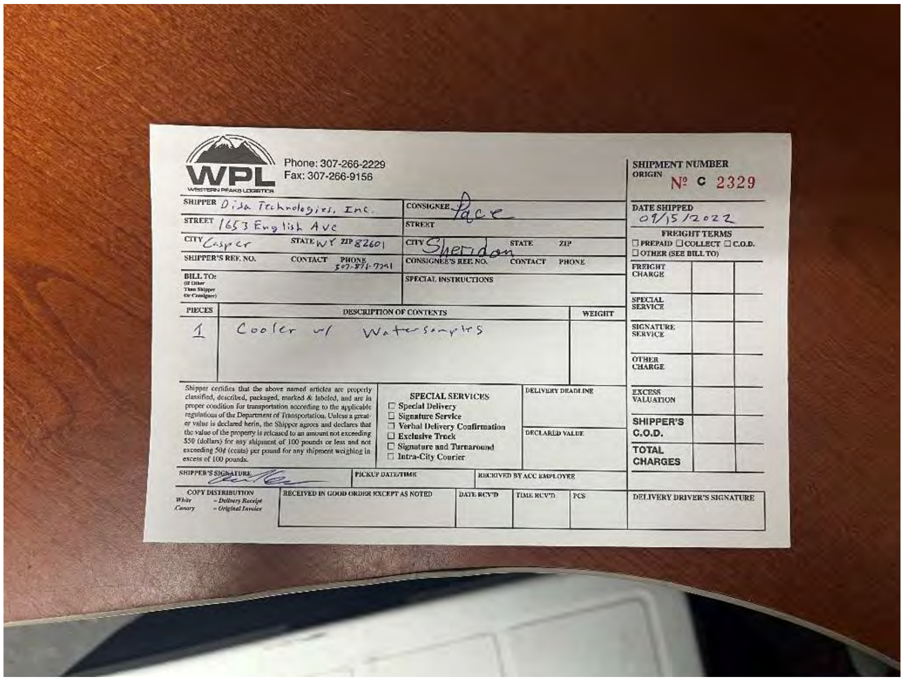

MADE IN USA
CR- M-4- WT 09/05
Tare: 1.2lb 9AM
Gross: # 15.0lb


Fill completely and cap tightly.
Fill completely and cap tightly.
Fill completely and cap tightly.
Fill completely and cap tightly.


CB-M-8-WT
09/12
2 PM
15.8 lb


Fill completely and cap tightly.


ER-M-30-WT
09/13
Tare: 1.2 lb
2:30 PM
Gross: 15.0 lb



WPL
WESTERN PEAKS LOGISTICS
Phone: 307-266-2229
Fax: 307-266-9156

SHIPMENT NUMBER
ORIGIN № C 2329

SHIPPER Dida Technologies, Inc.
STREET 1653 English Ave
CITY Casper STATE WY ZIP 82601
SHIPPER'S REF. NO. CONTACT PHONE 307-871-7291
BILL TO: (If Other Than Shipper Or Consignee)

CONSIGNEE Pace
STREET
CITY Sheridan STATE ZIP
CONSIGNEE'S REF. NO. CONTACT PHONE
SPECIAL INSTRUCTIONS

DATE SHIPPED 09/15/2022

FREIGHT TERMS
☐ PREPAID ☐ COLLECT ☐ C.O.D.
☐ OTHER (SEE BILL TO)

PIECES	DESCRIPTION OF CONTENTS	WEIGHT
1	Cooler w/ Watersamples	

FREIGHT CHARGE		
SPECIAL SERVICE		
SIGNATURE SERVICE		
OTHER CHARGE		
EXCESS VALUATION		
SHIPPER'S C.O.D.		
TOTAL CHARGES		

Shipper certifies that the above named articles are properly classified, described, packaged, marked & labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Unless a greater value is declared herin, the Shipper agrees and declares that the value of the property is released to an amount not exceeding $50 (dollars) for any shipment of 100 pounds or less and not exceeding 50¢ (cents) per pound for any shipment weighing in excess of 100 pounds.

SPECIAL SERVICES
☐ Special Delivery
☐ Signature Service
☐ Verbal Delivery Confirmation
☐ Exclusive Truck
☐ Signature and Turnaround
☐ Intra-City Courier

DELIVERY DEADLINE

DECLARED VALUE

SHIPPER'S SIGNATURE [signature]
PICKUP DATE/TIME
RECEIVED BY ACC EMPLOYEE

COPY DISTRIBUTION
White = Delivery Receipt
Canary = Original Invoice

RECEIVED IN GOOD ORDER EXCEPT AS NOTED
DATE RCV'D
TIME RCV'D
PCS
DELIVERY DRIVER'S SIGNATURE

WPL
WESTERN PEAKS LOGISTICS
Phone: 307-266-2229
Fax: 307-266-9156

SHIPMENT NUMBER
ORIGIN Nº C 2328

SHIPPER Disa Technologies, Inc.	CONSIGNEE Pace
STREET 1653 English Avenue	STREET
CITY Casper STATE WY ZIP 82601	CITY Sheridan STATE ZIP
SHIPPER'S REF. NO. CONTACT PHONE 307-871-7291	CONSIGNEE'S REF. NO. CONTACT PHONE
BILL TO: (If Other Than Shipper Or Consignee)	SPECIAL INSTRUCTIONS

DATE SHIPPED 09/15/2022

FREIGHT TERMS
☐ PREPAID ☐ COLLECT ☐ C.O.D.
☐ OTHER (SEE BILL TO)

PIECES	DESCRIPTION OF CONTENTS	WEIGHT
1	Cooler w/ Water Samples	

FREIGHT CHARGE		
SPECIAL SERVICE		
SIGNATURE SERVICE		
OTHER CHARGE		
EXCESS VALUATION		
SHIPPER'S C.O.D.		
TOTAL CHARGES		

Shipper certifies that the above named articles are properly classified, described, packaged, marked & labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Unless a greater value is declared herin, the Shipper agrees and declares that the value of the property is released to an amount not exceeding $50 (dollars) for any shipment of 100 pounds or less and not exceeding 50¢ (cents) per pound for any shipment weighing in excess of 100 pounds.

SPECIAL SERVICES
☐ Special Delivery
☐ Signature Service
☐ Verbal Delivery Confirmation
☐ Exclusive Truck
☐ Signature and Turnaround
☐ Intra-City Courier

DELIVERY DEADLINE

DECLARED VALUE

SHIPPER'S SIGNATURE | PICKUP DATE/TIME | RECEIVED BY ACC EMPLOYEE

COPY DISTRIBUTION
White – Delivery Receipt
Canary – Original Invoice

RECEIVED IN GOOD ORDER EXCEPT AS NOTED | DATE RCV'D | TIME RCV'D | PCS | DELIVERY DRIVER'S SIGNATURE


Crow Butte
3
WPL
Phone: 307-266-2229
Fax: 307-266-9156
SHIPMENT NUMBER
ORIGIN № C 2327
SHIPPER
STREET 1653 English Avenue
CITY Casper STATE WY ZIP 82601
CONSIGNEE Pace
CITY Sheridan
DATE SHIPPED 09/15/2022
FREIGHT TERMS
PIECES
DESCRIPTION OF CONTENTS
WEIGHT
1 Cooler w/ Water samples
SPECIAL SERVICES
Special Delivery
Signature Service
Verbal Delivery Confirmation
Exclusive Truck
Signature and Turnaround
Intra-City Courier
SHIPPER'S C.O.D.
TOTAL CHARGES
DELIVERY DRIVER'S SIGNATURE

Pace Analytical

Pace Analytical Services, LLC

Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

All shaded fields must be completed.

This is a legal document: any misrepresentation may be construed as fraud.

Page 1 of 1

196831

Client Name	Tetra Tech/Disa
Project Identification	RAESTO33/103G5440033.03.01
Sampler (Signature/Attestation of Authenticity)	[signature]
Telephone #	307-871-7291
Report Address	Tetra Tech/Disa
Contact Name	Mike Dahlquist/Andrew Halverson
Email	mike.dahlquist@tetratech.com / a.halverson@disausa.com
Phone	510-302-6310/307-871-7291
Invoice Address	Tetra Tech
Purchase Order #	
Quote #	

Preservative Lot #: 1:1 HNO3: M-072722-2; H2SO4: Chem 2-71-4; NaOH: Wet-3-40-1

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/6020	Ra226 by 903.1	Ra228 by 904.0	TDS by SM2540	TSS by SM2540				REMARKS
1	S2209244-001	09/07/22	10:00	CR-L-4-WT	WT	7	✓	✓	✓	✓	✓				
2	-002	09/07/22	16:00	CR-L-8-WT	WT	7	✓	✓	✓	✓	✓				
3	-003	09/08/22	08:00	CR-L-30-WT	WT	7	✓	✓	✓	✓	✓				
4	-004	09/09/22	09:00	CR-M-4-WT	WT	7	✓	✓	✓	✓	✓				
5	-005	09/12/22	14:00	CR-M-8-WT	WT	7	✓	✓	✓	✓	✓				
6	-006	09/13/22	14:30	CR-M-30-WT	WT	7	✓	✓	✓	✓	✓				
7															
8															
9															
10															
11															
12															
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
10.6°C 9.7°C 11.6°C ROI-Melted, 3 Coolers, all Arrow Sweep ok (3)	[signature] / Andrew Halverson	09/15/22	16:00	[signature]	9/16/22	15:00

SHIPPING INFO

- ☐ UPS
- ☐ Fed Express
- ☐ US Mail
- ☐ Hand Carried
- ☑ Other Lab courier secure dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURNAROUND TIMES

Check desired service

- ☑ Standard turnaround
- ☐ RUSH - 5 Working Days
- ☐ URGENT - < 2 Working Days

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

Compliance Monitoring? Y / N

Program (SDWA, NPDES,...)

PWSID / Permit #

Chlorinated? Y / N

Sample Disposal: Lab ✓ Client

ADDITIONAL REMARKS

Not filtered. No preservatives. In 3 separate coolers. Perform TSS and TDS immediately. Hold on metals, Ra226, and Ra228 until directed by Tetra Tech and Disa.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-SHRT-0033 v00_Condition Upon Receipt Form Terra Lab
	Effective Date: 05/13/2022

Survey Meter # Model 2241-2; SN 182115
pH strip lot # HC281827
Thermometer SN# 27130475

Condition Upon Receipt (Attach to COC)

Sample Receipt

1 Number of ice chests/packages received: 3 ROI? Yes No - Melted

*Note as "**OTC**" if samples are received over the counter, unpackaged*

2 Temperature of cooler/samples. *(If more than 8 coolers, please write on back)*

Temps Observed (°C):	10.6							
Temps Corrected (°C):	10.5							

***Acceptable is**: **0.1° to 10°C** for Bacteria; and 0.1° to 6°C for most other water parameters. Samples may not have had adequate time to co following collection. Indicate ROI (Received on Ice) for iced samples received on the same day as sampled, in addition to temperature at r*

Client contact for temperatures outside method criteria must be documented below.

3 Emission rate of samples for radiochemical analyses < 0.5mR/hr?	Yes	No	N/A
4 COC Number (If applicable): 196831			
5 Do the number of bottles agree with the COC?	Yes	No	N/A
6 Were the samples received intact? *(no broken bottles, leaks, etc.)*	Yes	No	N/A
7 Were the sample custody seals intact?	Yes	No	N/A
8 Is the COC properly completed, legible, and signed?	Yes	No	

Sample Verification, Labeling & Distribution

1 Were all requested analyses understood and appropriate?	Yes	No
2 Did the bottle labels correspond with the COC information?	Yes	No
3 Samples collected in method-prescribed containers?	Yes	No

4 Sample Preservation:

pH at Receipt:	Final pH (if added in lab):	Preservative/Lot#	Date/Time Added:
___ Total Metals	___ Total Metals	HNO_3 ___	___
~6 Diss Metals	___ Diss Metals	HNO_3 ___	Filtered and preserved in metal
___ Nutrient	___ Nutrient	H_2SO_4 ___	
___ Cyanide	___ Cyanide	NaOH ___	
___ Sulfide	___ Sulfide	ZnAcet ___	
___ Phenol	___ Phenol	H_2SO_4 ___	
___ SDWA Rads	___ SDWA Rads	HNO_3 ___	___

5 VOA vials have <6mm headspace?	Yes	No	N/A
6 Were all analyses within holding time at the time of receipt?	Yes	No → Solids coll #'s 1-3	
7 Have rush or project due dates been checked and accepted?	Yes	No IS	N/A
8 Do samples require subcontracted analyses?	Yes	No	

If "Yes", which type of subcontracting is required? **General** **Customer-Specified** **Certified**

Sample Receipt, Verification, Login, Labeling & Distribution completed by *(initials)*: IS

Set ID: 5220924

Discrepancy Documentation *(use back of sheet for notes on discrepancies)*

Any items listed above with a response of "No" or do not meet specifications must be resolved.

Person Contacted: ______ Method of Contact: __ Phone: ______

Initiated By: ______ Date/Time: ______ __ Email: ______

Problem: Metals + Rads on hold until further notice, per client request.

Resolution:

Pace Analytical®

Pace Analytical Services, LLC

Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

All shaded fields must be completed.
This is a legal document: any misrepresentation may be construed as fraud.

Page 1 of 1

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Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech / Disa	RAES T033/103G5440033.03.01		307-871-7291

Report Address: Tetra Tech / Disa

Contact Name: Mike Dahlquist / Andrew Halverson

Email: mike.dahlquist@tetratech.com / a.halverson@disausa.com

Phone: 510-302-6310 / 307-871-7291

Invoice Address: Tetra Tech

Purchase Order #:

Quote #:

Preservative Lot #
1:1 HNO3: M-072722-2
H2SO4: Chem 2-71-4
NaOH: Wet-3-40-1

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Total Metals by 6010/6020	Dissolved Metals by 6010/6020	Total Ra226 by 903.1	Total Ra228 by 904.0	Dissolved Ra226 903.1	TDS by SM 2540	TSS by SM 2540		REMARKS
1		09/15/22	10:30	CR-H-4-WT	WT	7	✓		✓	✓		✓	✓		Unfiltered
2		09/17/22	15:00	CR-H-8-WT	WT	7	✓		✓	✓		✓	✓		Unfiltered
3		09/16/22	18:20	CR-M-0-SL-0.45 Filtrate Pre-Rec	WT	1		✓							Filtered, Preserved
4		09/19/22	06:00	CR-M-0-SL-0.45 Filtrate Post-Rec	WT	1		✓							Filtered, Preserved
5		09/19/22	10:50	CR-H-30-WT	WT	7	✓	✓	✓	✓	✓	✓	✓		Unfiltered
6		09/20/22	16:50	QV-L-4-WT	WT	7	✓		✓	✓		✓	✓		Unfiltered
7		09/20/22	18:20	QV-L-8-WT	WT	7	✓		✓	✓		✓	✓		Unfiltered
8		09/21/22	07:00	QV-L-30-WT	WT	7	✓	✓	✓	✓	✓	✓	✓		Unfiltered
9															
10															
11															
12															
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	/ Andrew Halverson	09/21/22	10:00			

SHIPPING INFO
- ☐ UPS
- ☐ Fed Express
- ☐ US Mail
- ☐ Hand Carried
- ☑ Other Lab courier secure dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURNAROUND TIMES

Check desired service
- ☑ Standard turnaround
- ☐ **RUSH - 5 Working Days**
- ☐ **URGENT** - < 2 Working Days

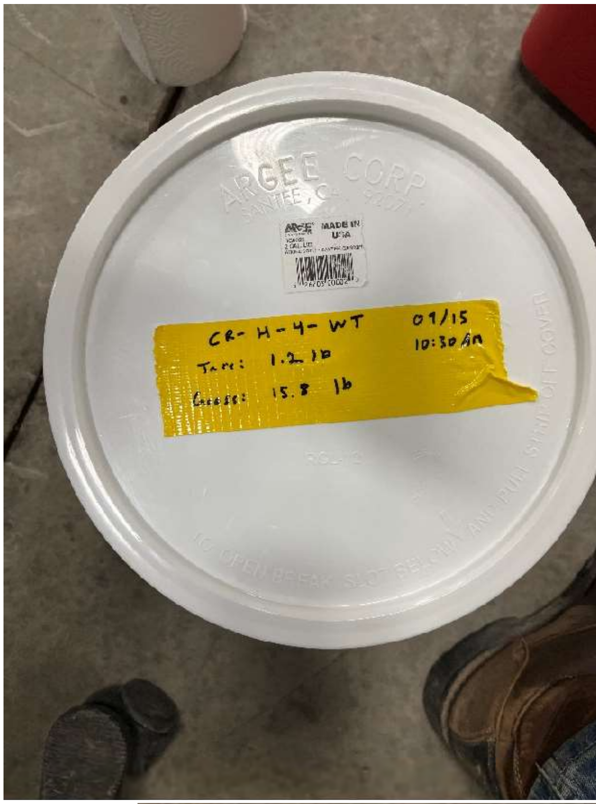
Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

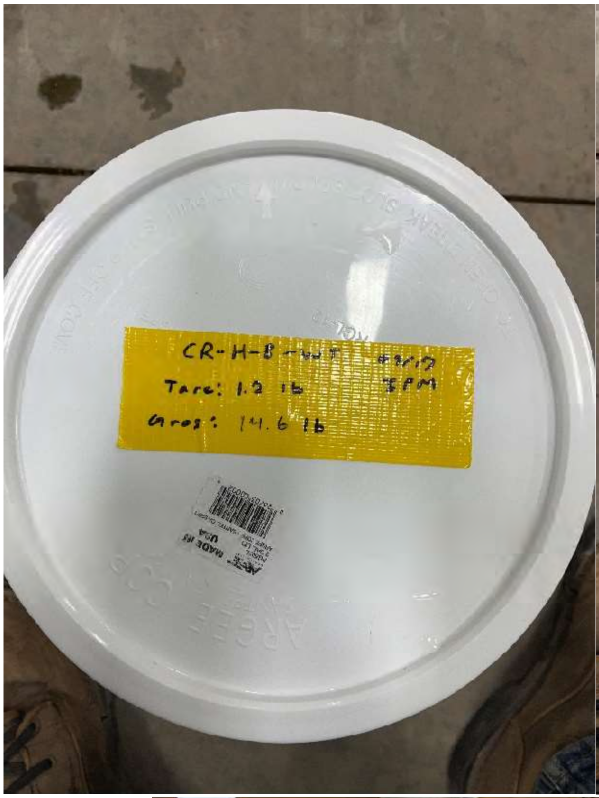
Compliance Monitoring? Y / N
Program (SDWA, NPDES,...)
PWSID / Permit #
Chlorinated? Y / N
Sample Disposal: Lab ✓ Client

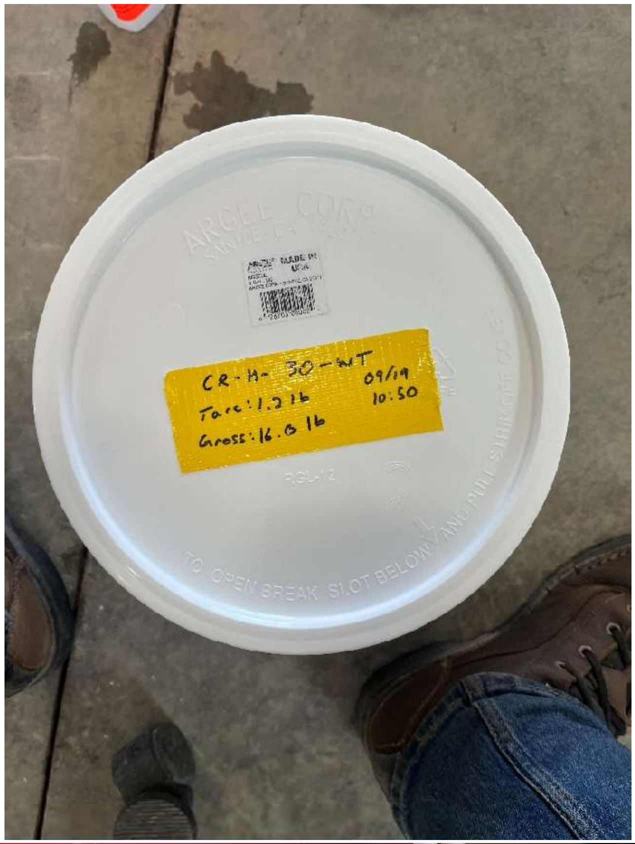
ADDITIONAL REMARKS

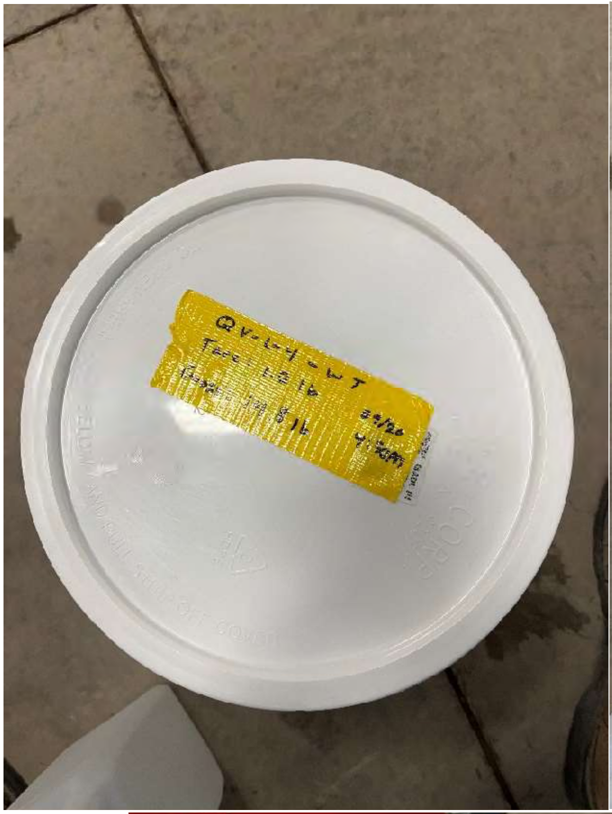
In 3 separate coolers. For unfiltered samples, filter prior to addition of preservatives on total vs dissolved analysis.

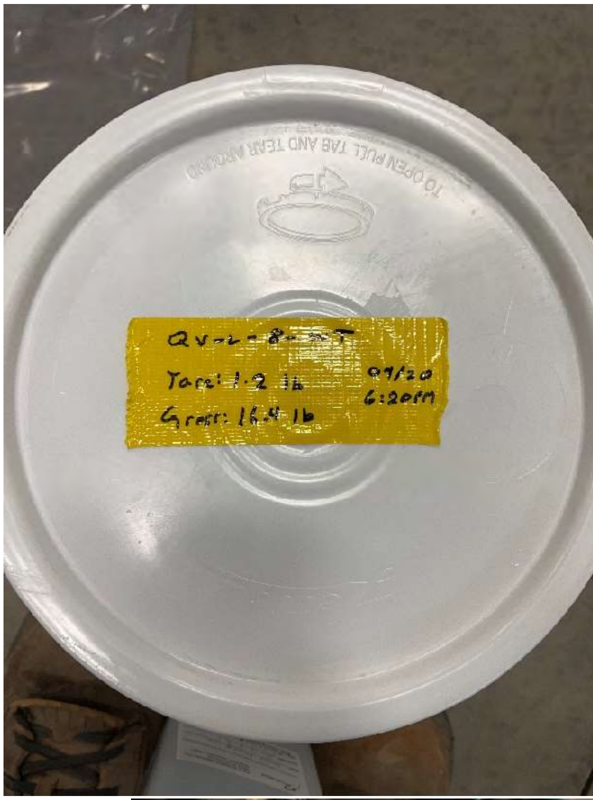

ARGEE CORP
SANTEE, CA 92071
MADE IN USA
CR-H-4-WT
01/15
10:30 Am
Tare: 1.2 lb
Gross: 15.8 lb

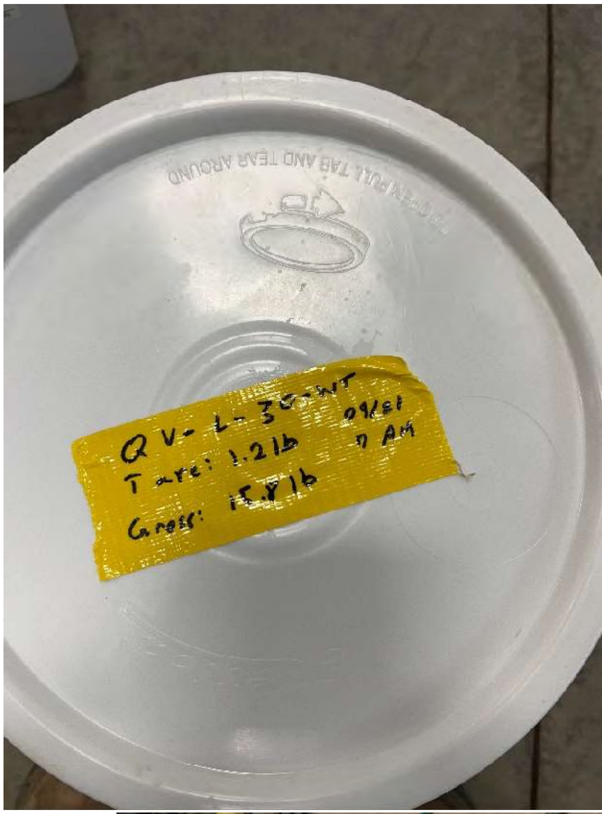

Fill completely and cap tightly.
IGLOO


CR-H-8-WT
Tare: 1.2 lb
3PM
Gros: 14.6 lb


CR-H-30-WT
09/19
10:50
Tare: 1.2 lb
Gross: 16.0 lb
TO OPEN BREAK SLOT BELOW AND PULL




TO OPEN PULL TAB AND TEAR AROUND
Tare: 1.2 lb
Gross: 16.4 lb
6:20PM


QV-L-30-WT
Tare: 1.2lb
7 AM
Gross: 15.8lb

WPL
WESTERN PEAKS LOGISTICS
Phone: 307-266-2229
Fax: 307-266-9156

SHIPMENT NUMBER
ORIGIN Nº C 2322

SHIPPER Oisa Technologies, Inc.	CONSIGNEE Pace
STREET 1653 English Ave	STREET
CITY Casper STATE WY ZIP 82601	CITY Sheridan STATE ZIP
SHIPPER'S REF. NO. CONTACT PHONE 307-871-7291	CONSIGNEE'S REF. NO. CONTACT PHONE
BILL TO: (If Other Than Shipper Or Consignee)	SPECIAL INSTRUCTIONS

DATE SHIPPED 09/21/2022

FREIGHT TERMS
☐ PREPAID ☐ COLLECT ☐ C.O.D.
☐ OTHER (SEE BILL TO)

PIECES	DESCRIPTION OF CONTENTS	WEIGHT
1	Water Samples in cooler	

FREIGHT CHARGE	
SPECIAL SERVICE	
SIGNATURE SERVICE	
OTHER CHARGE	
EXCESS VALUATION	
SHIPPER'S C.O.D.	
TOTAL CHARGES	

Shipper certifies that the above named articles are properly classified, described, packaged, marked & labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Unless a greater value is declared herin, the Shipper agrees and declares that the value of the property is released to an amount not exceeding $50 (dollars) for any shipment of 100 pounds or less and not exceeding 50¢ (cents) per pound for any shipment weighing in excess of 100 pounds.

SPECIAL SERVICES
☐ Special Delivery
☐ Signature Service
☐ Verbal Delivery Confirmation
☐ Exclusive Truck
☐ Signature and Turnaround
☐ Intra-City Courier

DELIVERY DEADLINE

DECLARED VALUE

SHIPPER'S SIGNATURE | PICKUP DATE/TIME | RECEIVED BY ACC EMPLOYEE

COPY DISTRIBUTION
White – Delivery Receipt
Canary – Original Invoice

RECEIVED IN GOOD ORDER EXCEPT AS NOTED | DATE RCV'D | TIME RCV'D | PCS

DELIVERY DRIVER'S SIGNATURE

WPL
WESTERN PEAKS LOGISTICS
Phone: 307-266-2229
Fax: 307-266-9156

SHIPMENT NUMBER
ORIGIN Nº C 2323

SHIPPER Oisa Technologies, Inc.	CONSIGNEE Pace
STREET 1653 English Ave	STREET
CITY Casper STATE WY ZIP 82601	CITY Sheridan STATE ZIP
SHIPPER'S REF. NO. CONTACT PHONE 307-871-7291	CONSIGNEE'S REF. NO. CONTACT PHONE
BILL TO: (If Other Than Shipper Or Consignee)	SPECIAL INSTRUCTIONS

DATE SHIPPED 09/21/2022

FREIGHT TERMS
☐ PREPAID ☐ COLLECT ☐ C.O.D.
☐ OTHER (SEE BILL TO)

PIECES	DESCRIPTION OF CONTENTS	WEIGHT
1	Water Samples in cooler	

FREIGHT CHARGE	
SPECIAL SERVICE	
SIGNATURE SERVICE	
OTHER CHARGE	
EXCESS VALUATION	
SHIPPER'S C.O.D.	
TOTAL CHARGES	

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☐ Signature Service
☐ Verbal Delivery Confirmation
☐ Exclusive Truck
☐ Signature and Turnaround
☐ Intra-City Courier

DELIVERY DEADLINE

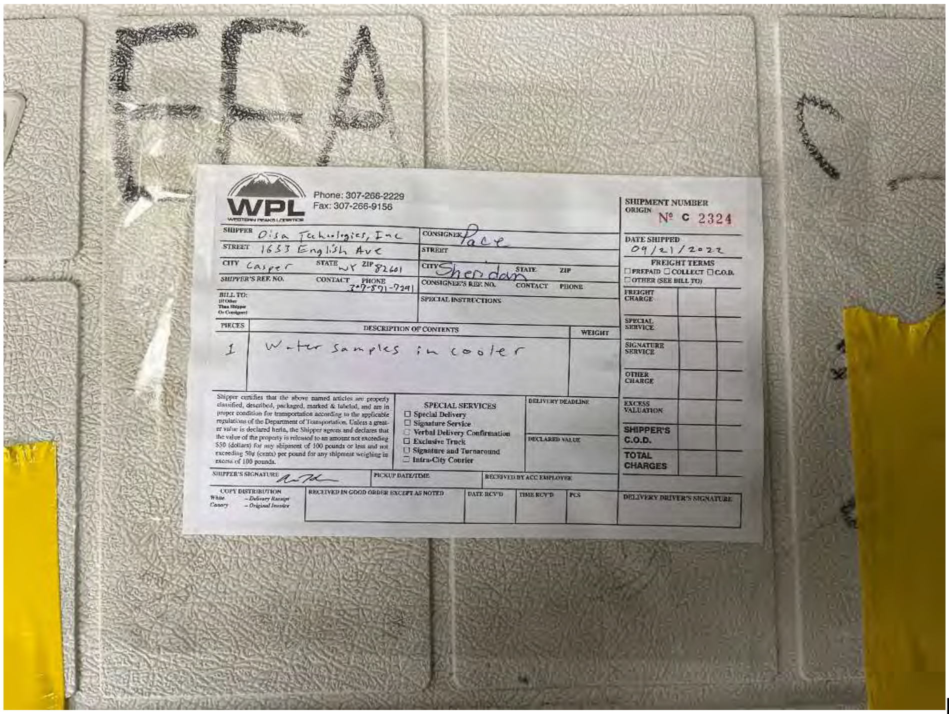
DECLARED VALUE

SHIPPER'S SIGNATURE | PICKUP DATE/TIME | RECEIVED BY ACC EMPLOYEE

COPY DISTRIBUTION
White – Delivery Receipt
Canary – Original Invoice

RECEIVED IN GOOD ORDER EXCEPT AS NOTED | DATE RCV'D | TIME RCV'D | PCS

DELIVERY DRIVER'S SIGNATURE


EFA
WPL
WESTERN PEAKS LOGISTICS
Phone: 307-266-2229
Fax: 307-266-9156
SHIPMENT NUMBER
ORIGIN
№ C 2324
SHIPPER Oisa Technologies, Inc
STREET 1633 English Ave
CITY Casper STATE WY ZIP 82601
SHIPPER'S REF. NO. CONTACT PHONE 307-871-7291
CONSIGNEE Pace
STREET
CITY Sheridan STATE ZIP
CONSIGNEE'S REF. NO. CONTACT PHONE
DATE SHIPPED 09/21/2022
FREIGHT TERMS
☐ PREPAID ☐ COLLECT ☐ C.O.D.
☐ OTHER (SEE BILL TO)
BILL TO: If Other Than Shipper Or Consignee
SPECIAL INSTRUCTIONS
PIECES
DESCRIPTION OF CONTENTS
WEIGHT
1 Water samples in cooler
FREIGHT CHARGE
SPECIAL SERVICE
SIGNATURE SERVICE
OTHER CHARGE
EXCESS VALUATION
SHIPPER'S C.O.D.
TOTAL CHARGES
Shipper certifies that the above named articles are properly classified, described, packaged, marked & labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Unless a greater value is declared herein, the Shipper agrees and declares that the value of the property is released to an amount not exceeding $50 (dollars) for any shipment of 100 pounds or less and not exceeding 50¢ (cents) per pound for any shipment weighing in excess of 100 pounds.
SPECIAL SERVICES
☐ Special Delivery
☐ Signature Service
☐ Verbal Delivery Confirmation
☐ Exclusive Truck
☐ Signature and Turnaround
☐ Intra-City Courier
DELIVERY DEADLINE
DECLARED VALUE
SHIPPER'S SIGNATURE
PICKUP DATE/TIME
RECEIVED BY ACC EMPLOYEE
COPY DISTRIBUTION
White – Delivery Receipt
Canary – Original Invoice
RECEIVED IN GOOD ORDER EXCEPT AS NOTED
DATE RCV'D
TIME RCV'D
PCS
DELIVERY DRIVER'S SIGNATURE
p

Pace Analytical®

Pace Analytical Services, LLC
Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

\# 196832

All shaded fields must be completed.
This is a legal document: any misrepresentation may be construed as fraud.

Client Name: Tetra Tech / Disa
Project Identification: RAES T033/103G5440033.03.01
Sampler (Signature/Attestation of Authenticity): [signature]
Telephone #: 307-871-7291

Report Address: Tetra Tech / Disa
Contact Name: Mike Dahlquist / Andrew Halverson
Email: mike.dahlquist@tetratech.com / a.halverson@disausa.com
Phone: 510-302-6310 / 307-871-7291

Invoice Address: Tetra Tech
Purchase Order #:
Quote #:

Preservative Lot #
1:1 HNO3: M-072722-2
H2SO4: Chem 2-71-4
NaOH: Wet-3-40-1

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Total Metals by 6010/6020	Dissolved Metals by 6010/6020	Total Ra226 by 903.1	Total Ra228 by 904.0	Dissolved Ra226 903.1	TDS by SM2540	TSS by SM2540		REMARKS
1	S2209316-001	09/15/22	10:30	CR-H-4-WT	WT	7	✓		✓	✓		✓	✓		Unfiltered
2	002	09/17/22	15:00	CR-H-8-WT	WT	7	✓		✓	✓		✓	✓		Unfiltered
3	003	09/16/22	18:20	CR-M-0-SL-0.45 Filtrate Pre-Rec	WT	1		✓							Filtered, Preserved
4	004	09/19/22	06:00	CR-M-0-SL-0.45 Filtrate Post-Rec	WT	1		✓							Filtered, Preserved
5	005	09/19/22	10:50	CR-H-30-WT	WT	7	✓	✓	✓	✓	✓	✓	✓		Unfiltered
6	006	09/20/22	16:50	QV-L-4-WT	WT	7	✓		✓	✓		✓	✓		Unfiltered
7	007	09/20/22	18:20	QV-L-8-WT	WT	7	✓		✓	✓		✓	✓		Unfiltered
8	008	09/21/22	07:00	QV-L-30-WT	WT	7	✓	✓	✓	✓	✓	✓	✓		Unfiltered
9															
10															
11															
12															
13															
14															

LAB COMMENTS
1.6°C (3 coolers) ROI
3.7°C ROI
5.9°C ROI
Fed Seal OK

Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
[signature] / Andrew Halverson	09/21/22	10:00	[signature] Daniel Slipp	9/21/22	16:05

SHIPPING INFO
- ☐ UPS
- ☐ Fed Express
- ☐ US Mail
- ☐ Hand Carried
- ☑ Other Lab courier secure dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURNAROUND TIMES
Check desired service
- ☑ Standard turnaround
- ☐ RUSH - 5 Working Days
- ☐ URGENT - < 2 Working Days

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION
Compliance Monitoring? Y / N
Program (SDWA, NPDES,...)
PWSID / Permit #
Chlorinated? Y / N
Sample Disposal: Lab ✓ Client

ADDITIONAL REMARKS
In 3 separate coolers. For unfiltered samples, filter prior to addition of preservatives on total vs dissolved analysis.

Cont. Ph Information for S2209316

Pace Analytical Services	DC#_Title: ENV-FRM-SHRT-0033 v00_Condition Upon Receipt Form Terra Lab
	Effective Date: 05/13/2022

Survey Meter # Model 2241-2; SN 182115
pH strip lot # HC281827
Thermometer SN# 27130475

Condition Upon Receipt (Attach to COC)

Sample Receipt

1 Number of ice chests/packages received: ______ ROI? Yes No

Note as "OTC" if samples are received over the counter, unpackaged

2 Temperature of cooler/samples. *(If more than 8 coolers, please write on back)*

Temps Observed (°C):								
Temps Corrected (°C):								

Acceptable is: 0.1° to 10°C for Bacteria; and 0.1° to 6°C for most other water parameters. Samples may not have had adequate time to co following collection. Indicate ROI (Received on Ice) for iced samples received on the same day as sampled, in addition to temperature at r

Client contact for temperatures outside method criteria must be documented below.

3 Emission rate of samples for radiochemical analyses < 0.5mR/hr? Yes No N/A
4 COC Number (If applicable): ______
5 Do the number of bottles agree with the COC? Yes No N/A
6 Were the samples received intact? *(no broken bottles, leaks, etc.)* Yes No N/A
7 Were the sample custody seals intact? Yes No N/A
8 Is the COC properly completed, legible, and signed? Yes No

Sample Verification, Labeling & Distribution

1 Were all requested analyses understood and appropriate? Yes No DJ 9/22/22
2 Did the bottle labels correspond with the COC information? Yes No
3 Samples collected in method-prescribed containers? Yes No ~~See other Sheet for preservation~~
4 Sample Preservation:

pH at Receipt:		Final pH (if added in lab):		Preservative/Lot#		Date/Time Added:
≈6	Total Metals	≈1	Total Metals	HNO_3	9/22/22	10:37–11:44
≈1/≈6	Diss Metals	≈1	Diss Metals	HNO_3		Filtered and preserved in metal
	Nutrient		Nutrient	H_2SO_4		
	Cyanide		Cyanide	NaOH		
	Sulfide		Sulfide	ZnAcet		
	Phenol		Phenol	H_2SO_4		
	SDWA Rads		SDWA Rads	HNO_3		

≈1 for filtered
≈6 for non-filtered

Pace Analytical — Preservative Lot #
1:1 HNO_3: M-072722-2
H_2SO_4: Chem 2-71-3
NaOH: Wet-3-40-1

5 VOA vials have <6mm headspace? Yes No N/A
6 Were all analyses within holding time at the time of receipt? Yes No
7 Have rush or project due dates been checked and accepted? Yes No N/A
8 Do samples require subcontracted analyses? Yes No

If "Yes", which type of subcontracting is required? **General** **Customer-Specified** **Certified**

Sample Receipt, Verification, Login, Labeling & Distribution completed by *(initials)*: WN/DS

Set ID: S2209316

Discrepancy Documentation ***(use back of sheet for notes on discrepancies)***

Any items listed above with a response of "No" or do not meet specifications must be resolved.

Person Contacted: ______ Method of Contact: __ Phone: ______
Initiated By: ______ Date/Time: ______ __ Email: ______
Problem:

Resolution:

Update on other Sheet. All tot prs. once → ph ≈1

As Start of 9/22/22 DS of this page DJ 9/22/22

Pace

Report Review Checklist

COC Review Information on COC matches that on report; spelling accurate. **Initials/Date:**	Log Review WN 9/22/22
1 Original COC attached, signed and dated.	✓
2 Samples received within temperature	✓
2 Parameters requested.	✓
3 Client.	✓
4 Report recipient/address.	✓
5 Invoice recipient/address.	✓
6 Project. **Requested changes to Project must be communicated to Project Mgr.**	NA
7 Appropriate detection limits (RLs) assigned.	✓
8 Prices may need to be adjusted prior to invoicing. (circle)	Yes or No
9 P. O. number.	NA
10 Sample IDs.	✓
11 Sample dates.	✓
12 Date received.	✓
13 Date due.	✓
14 Matrix.	✓
15 PWSID included for safe drinking water compliance samples.	NA
16 Field data entered appropriately (**Log Review**); matches lab data (**Report Review**).	NA
17 Special requests indicated in "Comments" section of Work Order summary.	✓
18 All "No" responses on Condition Upon Receipt form have been resolved	Yes or No

Data Review	Report Review
1 Automated QC (Check Data button) review performed, discrepancies resolved.	✓
2 Worksheet/instrument data sheet for all requested parameters attached in LIMS or to work Order summary.	✓
3 Worksheet/instrument data compared to report results for calculation, transcription and data entry errors.	✓
4 Results compared to historical data if applicable.	NA
5 Analysis date and time.	✓
6 Analytical method.	✓
7 Appropriate detection limits (RLs) assigned.	✓
8 Appropriate units of measure.	✓
9 Analyst's initials.	✓
10 Calculations checked?	✓
11 Subcontracted analyses identified as such with qualifier or as attachment to lab report	NA
12 Subcontracted report reviewed	NA
13 Invoice parameters match those on COC.	✓

Final Review	
1 Report appears complete and appropriate.	✓
2 Condition Upon Receipt form completed, attached to packet, and related qualifiers included in report.	✓
3 All necessary qualifiers included in report.	✓
4 Qualifiers referenced in case narrative; which includes descriptions of all sample/analysis anomalies.	✓
5 Anomalies, including reason for report reissue, explained in Case Narrative.	✓
6 Copies of report sent to all recipients requested on COC. **(circle)** **Copy to Regulator** **Hard Copy**	**Email**
7 All special requests listed on COC, or attached parameter list, honored.	✓
8 Special report format per client request.	✓
9 Report pages signed.	✓

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Pace Analytical Services, LLC

Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

Page 1 of 1

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196827

Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES T033/103G5440033.03.01	[signature]	307-871-7291

Report Address: Tetra Tech/Disa

Contact Name: Mike Dahlquist / Andrew Halverson

Email: mike.dahlquist@tetratech.com / a.halverson@disausa.com

Phone: 510-302-6310 / 307-871-7291

Invoice Address: Tetra Tech

Purchase Order #: 1150922

Quote #:

Preservative Lot #
1:1 HNO_3: M-072722-2
H_2SO_4: Chem 2-71-4
NaOH: Wet-3-40-1

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Total Metals by 6010/6020	Dissolved Metals by 6010/6020	Total Ra226 by 903.1	Total Ra228 by 904.0	Dissolved Ra226 by 903.1	TDS by SM 2540	TSS by SM2540		REMARKS
1		09/30/22	06:30	QV-M-4-WT	WT	7	✓		✓	✓		✓	✓		Unfiltered
2		09/29/22	19:00	QV-M-8-WT	WT	7	✓		✓	✓		✓	✓		Unfiltered
3		10/01/22	16:00	QV-M-30-WT	WT	7	✓	✓	✓	✓	✓	✓	✓		Unfiltered
4		10/02/22	08:00	QV-H-4-WT	WT	7	✓		✓	✓		✓	✓		Unfiltered
5		10/02/22	16:00	QV-H-8-WT	WT	7	✓		✓	✓		✓	✓		Unfiltered
6		10/03/22	10:00	QV-H-30-WT	WT	7	✓	✓	✓	✓	✓	✓	✓		Unfiltered
7															
8															
9															
10															
11															
12															
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/05/22	18:00			

SHIPPING INFO

- ☐ UPS
- ☐ Fed Express
- ☐ US Mail
- ☐ Hand Carried
- ☑ Other Lab courier secure dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURNAROUND TIMES

Check desired service

- ☑ Standard turnaround
- ☐ **RUSH - 5 Working Days**
- ☐ **URGENT** - < 2 Working Days

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

Compliance Monitoring? Y / N

Program (SDWA, NPDES,...)

PWSID / Permit #

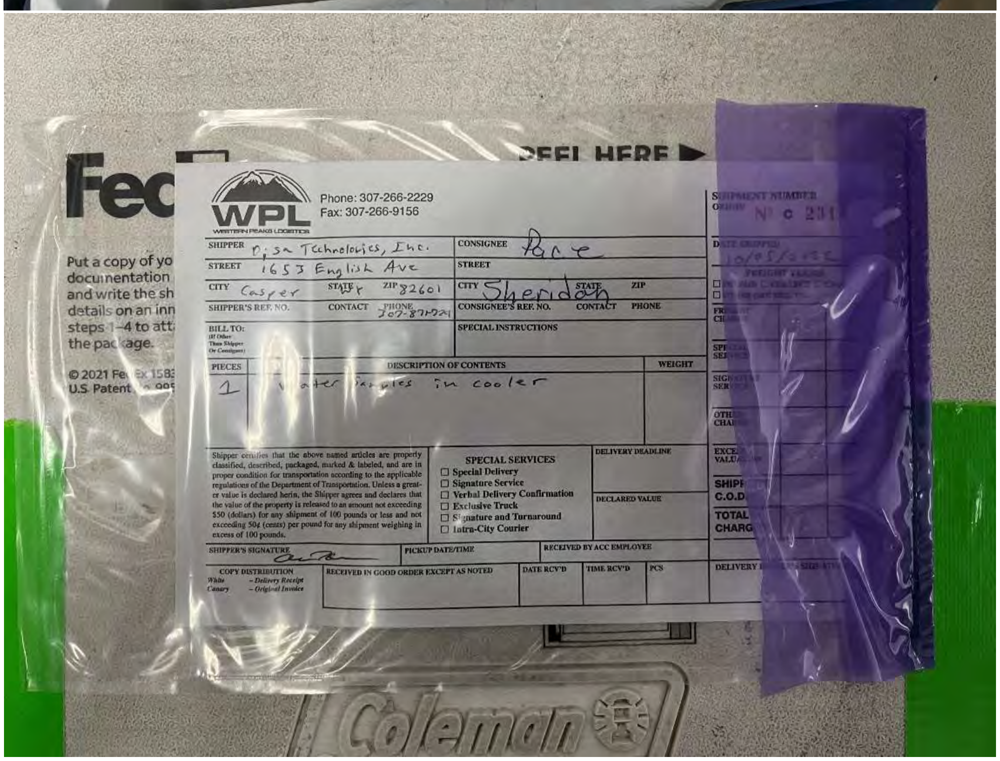
Chlorinated? Y / N

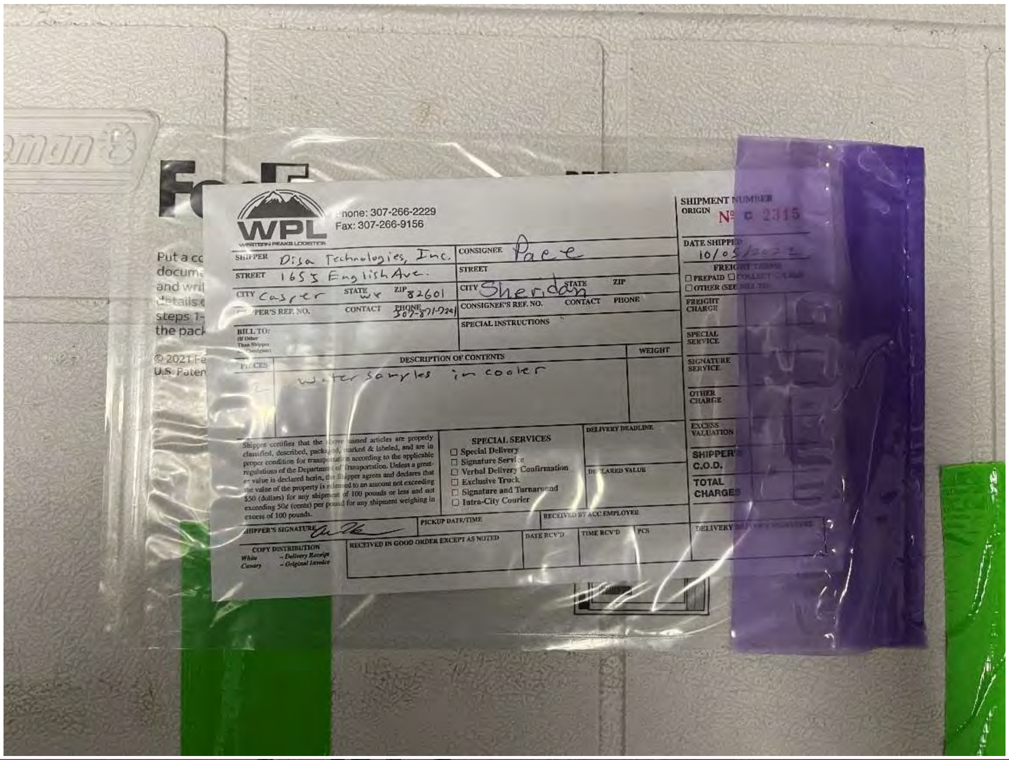
Sample Disposal: Lab ✓ Client

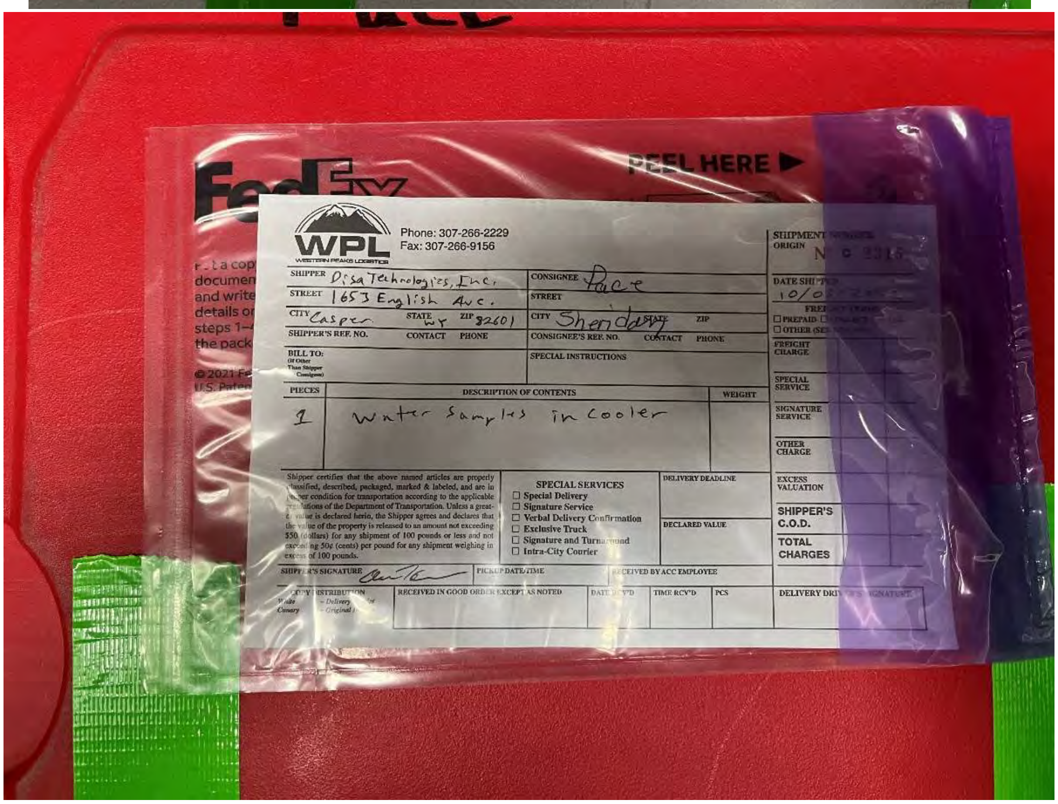
ADDITIONAL REMARKS

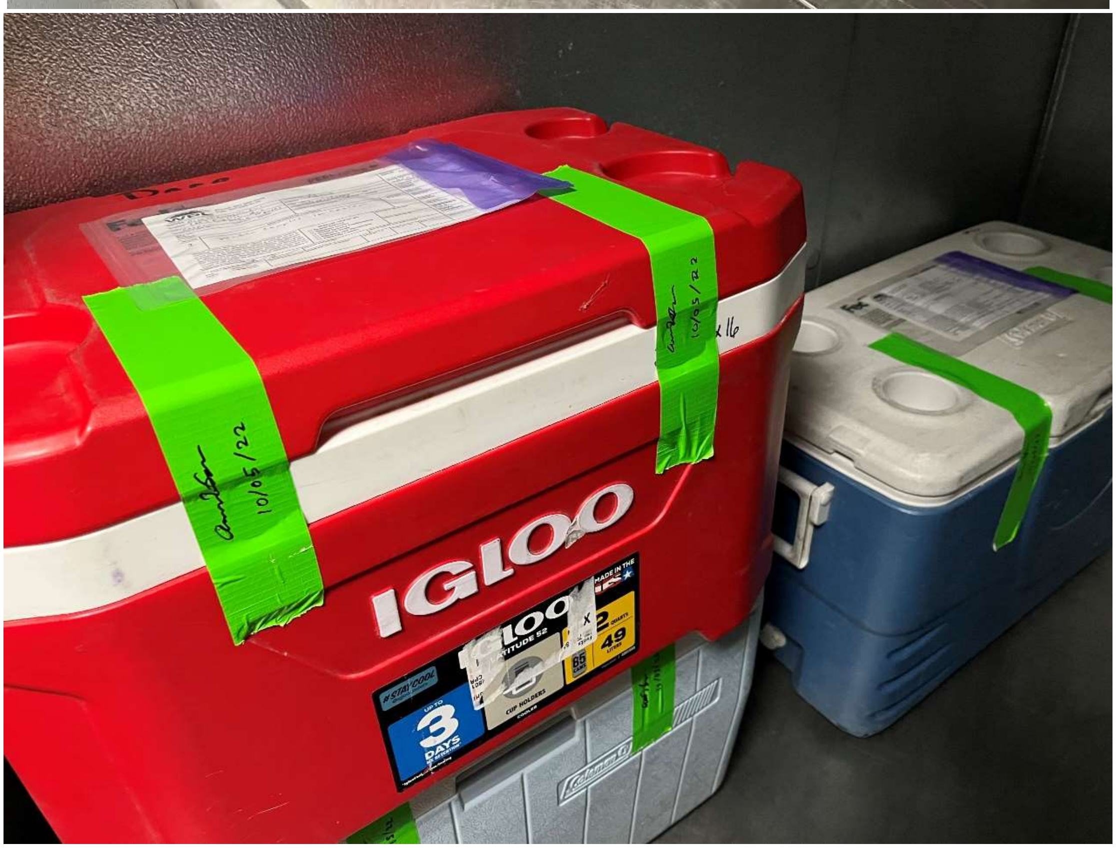
In 3 separate coolers. For Unfiltered samples, filter prior to addition of preservatives on total vs dissolved analysis.


Pace Analytical Services, LLC
CHAIN-OF-CUSTODY RECORD


PEEL HERE
WPL
WESTERN PEAKS LOGISTICS
Phone: 307-266-2229
Fax: 307-266-9158
SHIPPER
STREET 1653 English Ave
CITY Casper STATE WY ZIP 82601
SHIPPER'S REF. NO. CONTACT PHONE
CONSIGNEE Pace
STREET
CITY Sheridan STATE ZIP
CONSIGNEE'S REF. NO. CONTACT PHONE
BILL TO:
SPECIAL INSTRUCTIONS
PIECES 1
DESCRIPTION OF CONTENTS
WEIGHT
SPECIAL SERVICES
Special Delivery
Signature Service
Verbal Delivery Confirmation
Exclusive Truck
Signature and Turnaround
Intra-City Courier
DELIVERY DEADLINE
DECLARED VALUE
SHIPPER'S SIGNATURE
PICKUP DATE/TIME
RECEIVED BY ACC EMPLOYEE
COPY DISTRIBUTION
White – Delivery Receipt
Canary – Original Invoice
RECEIVED IN GOOD ORDER EXCEPT AS NOTED
DATE RCV'D
TIME RCV'D
PCS
Coleman

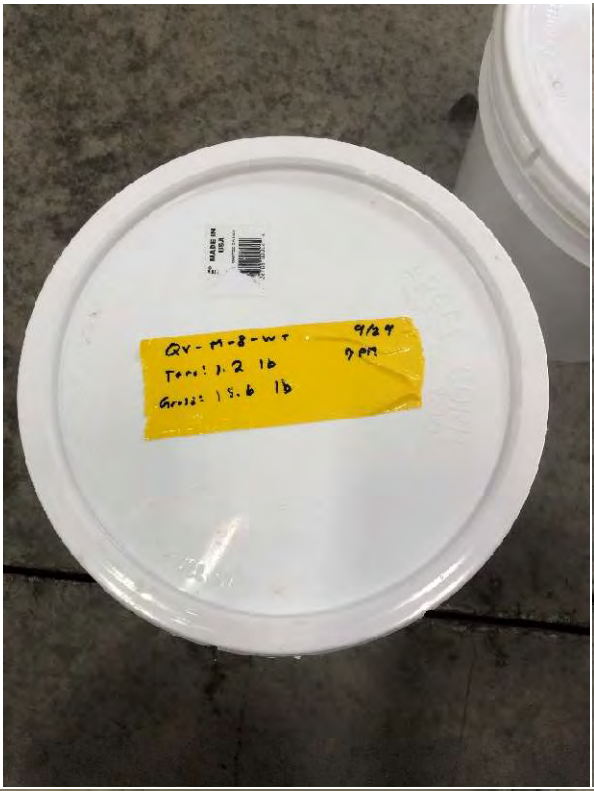

WPL
WESTERN PEAKS LOGISTICS
Fax: 307-266-9156
SHIPMENT NUMBER
ORIGIN
DATE SHIPPED
10/05/
SHIPPER Disa Technologies, Inc.
STREET 1653 English Ave.
CITY Casper STATE WY ZIP 82601
CONSIGNEE Pace
STREET
CITY Sheridan STATE ZIP
CONSIGNEE'S REF. NO. CONTACT PHONE
SPECIAL INSTRUCTIONS
BILL TO:
DESCRIPTION OF CONTENTS
WEIGHT
Water samples in cooler
FREIGHT CHARGE
SPECIAL SERVICE
SIGNATURE SERVICE
OTHER CHARGE
EXCESS VALUATION
SHIPPER'S C.O.D.
TOTAL CHARGES
SPECIAL SERVICES
Special Delivery
Signature Service
Verbal Delivery Confirmation
Exclusive Truck
Signature and Turnaround
Intra-City Courier
DELIVERY DEADLINE
DECLARED VALUE
SHIPPER'S SIGNATURE
PICKUP DATE/TIME
RECEIVED BY ACC EMPLOYEE
RECEIVED IN GOOD ORDER EXCEPT AS NOTED
DATE RCV'D
TIME RCV'D
PCS
DELIVERY DRIVER'S SIGNATURE


FedEx
PEEL HERE ▶
WPL
WESTERN PEAKS LOGISTICS
Phone: 307-266-2229
Fax: 307-266-9156
SHIPMENT NUMBER
ORIGIN
DATE SHIPPED
SHIPPER Disa Technologies, Inc.
STREET 1653 English Ave.
CITY Casper STATE WY ZIP 82601
SHIPPER'S REF. NO. CONTACT PHONE
CONSIGNEE Pace
STREET
CITY Sheridan ZIP
CONSIGNEE'S REF. NO. CONTACT PHONE
BILL TO:
SPECIAL INSTRUCTIONS
PIECES
DESCRIPTION OF CONTENTS
WEIGHT
1 Water Samples in Cooler
FREIGHT CHARGE
SPECIAL SERVICE
SIGNATURE SERVICE
OTHER CHARGE
EXCESS VALUATION
SHIPPER'S C.O.D.
TOTAL CHARGES
SPECIAL SERVICES
Special Delivery
Signature Service
Verbal Delivery Confirmation
Exclusive Truck
Signature and Turnaround
Intra-City Courier
DELIVERY DEADLINE
DECLARED VALUE
SHIPPER'S SIGNATURE
PICKUP DATE/TIME
RECEIVED BY ACC EMPLOYEE
RECEIVED IN GOOD ORDER EXCEPT AS NOTED
DATE RCV'D
TIME RCV'D
PCS
DELIVERY DRIVER'S SIGNATURE


IGLOO

IGLOO
10/05/22
10/05/22
3 DAYS
49

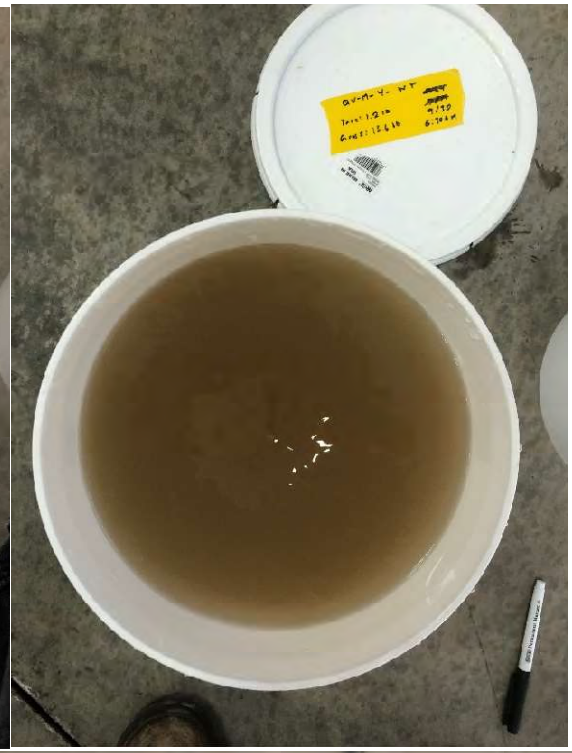

DAYS
ICE RETENTION
CUP HOLDERS
COOLER
CANS
LITERS
Coleman
10/05/22

10/05/22


QV-M-8-WT
9/29
7PM
Tare: 1.2 lb
Gross: 15.6 lb


DANGER
208 VOLTS
TETRA TECH/DISA
QV-M-8-WT
Fill completely and cap tightly.
Tetra Tech/DISA
QV-M-8-WT
Fill completely and cap tightly.
DISA/TETRA TECH
QV-M-8-WT
Fill completely and cap tightly.
TETRA TECH/DISA
QV-M-8-WT
09/29/2022
Fill completely and cap tightly.
Fill completely and cap tightly.
IOWA - 5144

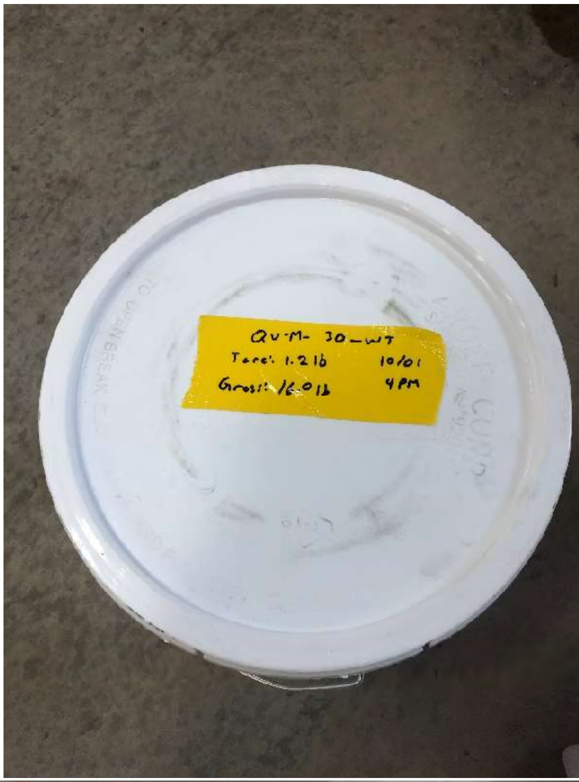

QV-M-4-WT
Tare: 1.2 lb
Gross: 15.6 lb
9/30
6:30AM
MADE IN USA


QV-M-4-WT
9/30
6:30AM

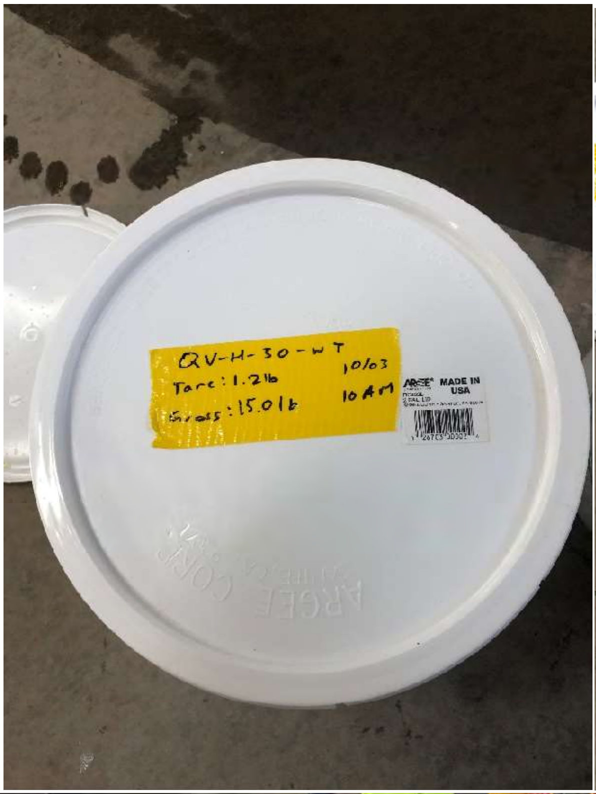

DANGER
208 VOLTS
Pace Analytical
Pace Analytical Services LLC
1673 Terra Avenue
Sheridan, Wyoming 82801
Client TETRA TECH/DISA
Sample Site QV-M-4-WT
Date 09/30/2022 Time 6:30
Fill completely and cap tightly.

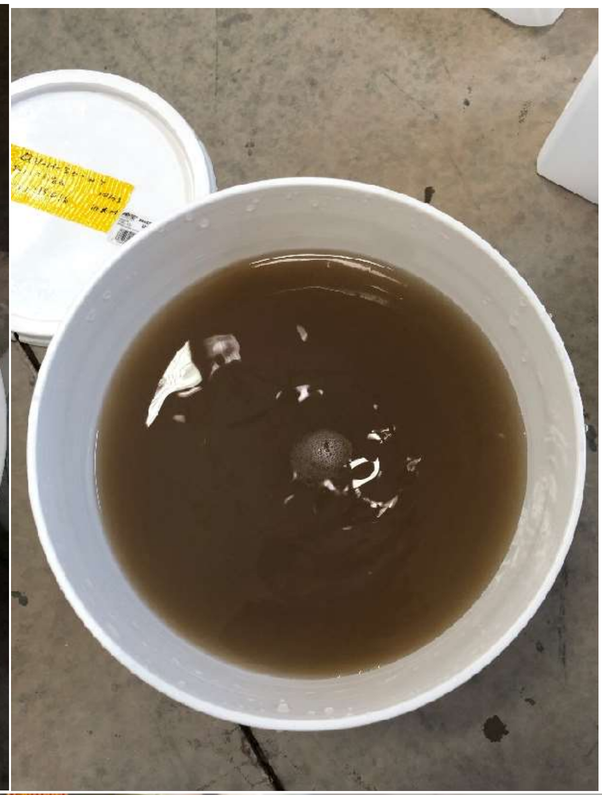

QV-H-4-WT 10/02
Tare: 1.2 lb 8 AM
Gross: 15.4 lb


Pace Analytical Services LLC
1673 Terra Avenue
Sheridan, Wyoming 82801
TETRA TECH/DISA
QV-H-4-WT
10/02/2022
8:00
Fill completely and cap tightly.
24x14x16

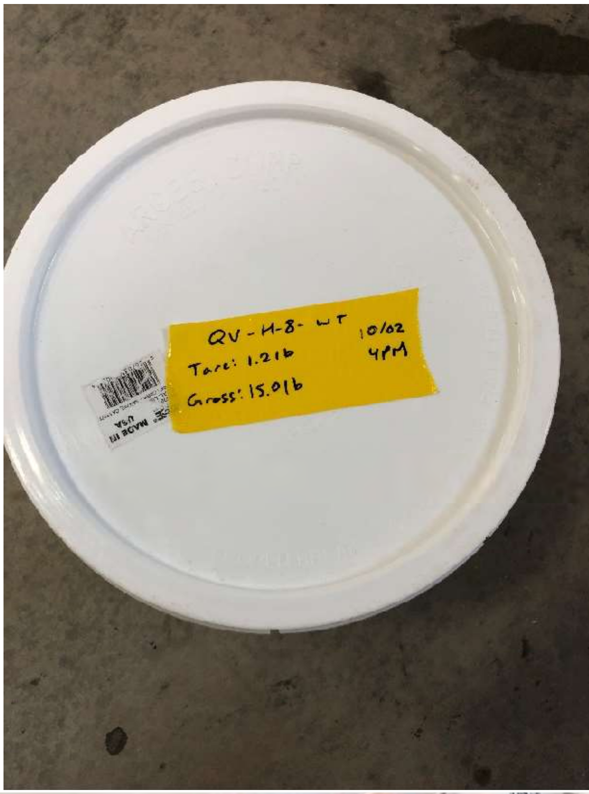

QV-M- 30 _ WT
Tare: 1.2 lb 10/01
Gross: 16.0 lb 4PM


Pace Analytical Services LLC
1673 Terra Avenue
Sheridan, Wyoming 82801
TETRA TECH/DISA
QV-M-30-WT
10/01/2022 16:00
Fill completely and cap tightly.
24 x 14 x 16


QV-H-30-WT
Tare: 1.2lb
Gross: 15.0lb
10/03
10 AM
MADE IN USA




Pace Analytical Services LLC
1673 Terra Avenue
Sheridan, Wyoming 82801
Client Tetra Tech / DISA
Sample Site QV-H-30-WT
Date 10/03/2022 Time 10:00
Fill completely and cap tightly.


QV-H-8-WT
10/02
Tare: 1.2lb
4PM
Gross: 15.0lb


QV-H-8-WT
10/02
4PM


CAUTION
Pace Analytical Services LLC
1673 Terra Avenue
Sheridan, Wyoming 82801
TETRA TECH/DISA
QV-H-8-WT
10/02/2022
16:00
Fill completely and cap tightly.

Pace Analytical

Pace Analytical Services, LLC

Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

All shaded fields must be completed.

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Page 1 of 1

196827

Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES T033/103G5440033.03.02	[signature]	307-871-7291

Report Address: Tetra Tech/Disa

Contact Name: Mike Dahlquist/Andrew Halverson

Email: mike.dahlquist@tetratech.com/a.halverson@disausa.com

Phone: 510-302-6310/307-871-7291

Invoice Address: Tetra Tech

Purchase Order #: 1150922

Quote #:

Preservative Lot #
1:1 HNO3: M-072722-2
H2SO4: Chem 2-71-4
NaOH: Wet-3-40-1

ANALYSES / PARAMETERS

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3	003	10/01/22	16:00	QV-M-30-WT	WT	7	✓	✓	✓	✓	✓	✓	✓		Unfiltered
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6	006	10/03/22	10:00	QV-H-30-WT	WT	7	✓	✓	✓	✓	✓	✓	✓		Unfiltered
7															
8															
9															
10															
11															
12															
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
3 Coolers 1.6° 1.0° 1.5° RoI	[signature] / Andrew Halverson	10/05/22	18:00	[signature]	10/6/22	10:45

SHIPPING INFO
- ☐ UPS
- ☐ Fed Express
- ☐ US Mail
- ☐ Hand Carried
- ☑ Other Lab courier secure dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURNAROUND TIMES

Check desired service
- ☑ Standard turnaround
- ☐ **RUSH - 5 Working Days**
- ☐ **URGENT** - < 2 Working Days

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

Compliance Monitoring? Y / N

Program (SDWA, NPDES,...)

PWSID / Permit #

Chlorinated? Y / N

Sample Disposal: Lab ✓ Client

ADDITIONAL REMARKS

In 3 separate coolers. For Unfiltered samples, filter prior to addition of preservatives on total vs dissolved analysis.

S2210090001

Pace Analytical Services, LLC

www.pacelabs.com

555 Absaraka St. Sheridan, WY 82801 *Voice:* 307.674.7506 *FAX:* 307.672.9845	1673 Terra Ave. Sheridan, WY 82801 *Voice:* 307.672.8945 *FAX:* 307.672.6053	4506 Wigwam Blvd., Ste. D Gillette, WY 82718 *Voice:* 307.682.8945

It is critical that Pace has enough information to prepare your report to meet strict quality review processes. Therefore, please complete the Chain of Custody (COC) form with as much detailed information as possible – especially contact information – to ensure accurate analysis, reporting, and invoicing.

Provide as much contact information as possible.

Include purchase order if required and quote if available.

Provide as much information as possible so that the correct analyses will be performed.

Address where final report will be sent.

Address where invoice will be sent.

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Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

All shaded fields must be completed.
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Page 1 of 3
10101

Client Name: Acme Environmental Company	Project Identification: Main Street Project / AEC 1234	Sampler (Signature/Printed): John Doe / John Doe	Telephone #: (307) 555-1212
Report Address: 555 First Street, Springfield, WY 12345	Contact Name: Bob Smith Email: bsmith@email.com Phone: (307) 555-6789		
Invoice Address: P O Box 123, Springfield, WY 12345	Purchase Order #: AEC 5678	Quote #: 12345	

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	BTEXN (8260)	TPH-GRO (8015)	TPH-DRO (8015)	NO_3, NO_2, SO_4	pH, EC, TDS	Diss Fe, Mn	Total Cd, Cr, Pb	Pb	REMARKS pH	EC	Temp	SWL
1		01/01/11	8:00	MW-1	WT	6	X	X	X						7.1	1200	10.0	93.5
2		01/01/11	8:30	MW-2	WT	6	X	X	X			X			7.3	1100	9.4	104.0
3		01/01/11	9:00	MW-3	WT	7	X	X	X		X		X		7.8	1300	6.3	84.75
4		01/01/11	8:00	10104-FT	FT	1								X				
5		01/01/11	12:00	Runoff 1	WT	4				X		X	X					
6		01/01/11	15.35	Runoff 2	WT	4				X		X	X					
7		01/02/11	10:00	Truck 1	OT	2							X		Matrix = Oil			
8		01/02/11	11:30	Site ABC 1" - 6"	SL	1				X			X					
9		01/02/11	13:30	Site ABC 6" - 12"	SL	1				X			X					
10																		
11																		
12																		
13																		
14																		

Information entered in "Sample Identification" will be used in the final report. Include all information necessary for unique sample identification.

Use the "Remarks" area to document field measurements for samples and/or additional sample information.

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	John Doe / John Doe	01/02/11	17:00	Mary Jones / Mary Jones	01/02/11	17:00

Custody Record MUST include signature, date and time.

SHIPPING INFO	MATRIX CODES		TURNAROUND TIMES	COMPLIANCE INFORMATION		ADDITIONAL REMARKS
❑ UPS	Water	WT	Check desired service	Compliance Monitoring?	(Y) / N	
❑ Fed Express	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...)	UST	Field conditions 01/01/11 Clear, Calm.
❑ US Mail	Solid	SD	❑ **RUSH** - 5 Working Days	PWSID / Permit #	WY 123456	Field conditions 01/02/11 Overcast, wind 10 mph
☑ Hand Carried	Filter	FT	❑ **URGENT** - < 2 Working Days	Chlorinated?	Y / (N)	
❑ Other ______	Other	OT	*Rush & Urgent Surcharges will be applied*	Sample Disposal: Lab	Client X	

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Use the "Additional Remarks" area to document field observations and/or additional instructions to laboratory.

Specify required turnaround time. Prior notification is required for Rush and Urgent service.

Indicate whether data will be used in compliance monitoring report. Report format may depend on program selected.

Specify who will dispose of sample. Disposal of hazardous samples by Pace will result in additional charges to client.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-SHRT-0033 v00_Condition Upon Receipt Form Terra Lab
	Effective Date: 05/13/2022

Survey Meter # Model 2241-2; SN 182115
pH strip lot #
Thermometer SN# 27130475

Condition Upon Receipt (Attach to COC)

Sample Receipt

1 Number of ice chests/packages received: 3 ROI? Yes No

*Note as "**OTC**" if samples are received over the counter, unpackaged*

2 Temperature of cooler/samples. *(If more than 8 coolers, please write on back)*

Temps Observed (°C):	1.6	1.0	1.5					
Temps Corrected (°C):	1.5	0.9	1.4					

***Acceptable is**: **0.1° to 10°C** for Bacteria; and 0.1° to 6°C for most other water parameters. Samples may not have had adequate time to co following collection. Indicate ROI (Received on Ice) for iced samples received on the same day as sampled, in addition to temperature at r*

Client contact for temperatures outside method criteria must be documented below.

3 Emission rate of samples for radiochemical analyses < 0.5mR/hr? Yes No N/A

4 COC Number (If applicable): 196827

5 Do the number of bottles agree with the COC? Yes No N/A

6 Were the samples received intact? *(no broken bottles, leaks, etc.)* Yes No N/A

7 Were the sample custody seals intact? Yes No N/A

8 Is the COC properly completed, legible, and signed? Yes No

Sample Verification, Labeling & Distribution

1 Were all requested analyses understood and appropriate? Yes No

2 Did the bottle labels correspond with the COC information? Yes No

3 Samples collected in method-prescribed containers? Yes No

4 Sample Preservation:

pH at Receipt:	Final pH (if added in lab):	Preservative/Lot#	Date/Time Added:
____ Total Metals	____ Total Metals	HNO_3 ____	____
____ Diss Metals	____ Diss Metals	HNO_3 ____	*Filtered and preserved in metal*
____ Nutrient	____ Nutrient	H_2SO_4 ____	
____ Cyanide	____ Cyanide	NaOH ____	
____ Sulfide	____ Sulfide	ZnAcet ____	
____ Phenol	____ Phenol	H_2SO_4 ____	
____ SDWA Rads	____ SDWA Rads	HNO_3 ____	____

5 VOA vials have <6mm headspace? Yes No N/A

6 Were all analyses within holding time at the time of receipt? Yes No

7 Have rush or project due dates been checked and accepted? Yes No N/A

8 Do samples require subcontracted analyses? Yes No

If "Yes", which type of subcontracting is required? **General** **Customer-Specified** **Certified**

Sample Receipt, Verification, Login, Labeling & Distribution completed by *(initials)*: WN

Set ID: S122109O

Discrepancy Documentation ***(use back of sheet for notes on discrepancies)***

Any items listed above with a response of "No" or do not meet specifications must be resolved.

Person Contacted: ____ Method of Contact: __ Phone: ____

Initiated By: ____ Date/Time: ____ __ Email: ____

Problem:

Resolution:

COC Review Initials/Date: WN 10/10/22

	Log Review Yes	No	N/A
1 Original COC attached, signed and dated COC #: 196827	✓		
2 Sample(s) received within temperature	✓		
3 Parameter(s) requested	✓		
4 Client	✓		
5 Report recipient/address	✓		
6 Invoice recipient/address	✓		
7 Project and RLs **Requested changes to Project must be communicated to Project Mgr.**			✓
8 Prices may need to be adjusted prior to invoicing		✓	
9 P. O. number	✓		
10 Sample IDs	✓		
11 Sample dates	✓		
12 Date received	✓		
13 Date due	✓		
14 Matrix	✓		
15 PWSID included for safe drinking water compliance samples			✓
16 Field data entered appropriately			✓
17 Special requests indicated in "Comments" section of Work Order summary	✓		
18 All "No" responses on Condition Upon Receipt form have been resolved			✓

Data Review

	Report Review Yes	No	N/A
1 Automated QC (Check Data button) review performed, discrepancies resolved.	✓		
2 Worksheet/instrument data sheet for all requested parameters attached in LIMS or to work Order summary.	✓		
3 Results compared to historical data if applicable	✓		
4 Analysis date and time	✓		
5 Analytical method	✓		
6 Appropriate units of measure	✓		
7 Analyst's initials	✓		
8 Field data entered matches lab data			✓
9 Subcontracted analyses identified as such with qualifier or as attachment to lab report			✓
10 Subcontracted report reviewed			✓
11 Invoice parameters match those on COC	✓		

Final Review

	Yes	No	N/A
1 Report appears complete and appropriate	✓		
2 Condition Upon Receipt form completed, attached to packet, and related qualifiers included in report	✓		
3 All necessary analytical qualifiers included in report	✓		
4 Copies of report sent to all recipients requested on COC **(circle)** Email Hard Copy	✓		
5 Copies of report sent to Regulator (ex. PWS ID)			✓
6 All special requests listed on COC, or attached parameter list, honored.	✓		
7 Special report format per client request	✓		
8 Case Narrative signed and includes completion date	✓		

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Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

Page 1 of 1

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\# 196822

Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech / Disa	RAEST033/103G5440033.03.01	[signature]	3078717291

Report Address: Tetra Tech/Disa

Contact Name: Mike Dahlquist / Andrew Halverson

Email: mike.dahlquist@tetratech.com / a.halverson@disausa.com

Phone: 510-302-6310 / 307-871-7291

Invoice Address: Tetra Tech

Purchase Order #: 1150922

Quote #:

Preservative Lot #: 1:1 HNO3: M-072722-2; H2SO4: Chem 2-71-4; NaOH: Wet-3-40-1

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Total Metals by 6010/6020	Total Ra226 by 903.1	Total Ra228 by 904.0	TDS by SM2540	TSS by SM2540	MS/MSD			REMARKS
1		10/05/22	17:00	SW-WT-01	WT	7	✓	✓	✓	✓	✓				Unfiltered
2		10/05/22	17:10	SW-WT-02	WT	21	✓	✓	✓	✓	✓	✓			Unfiltered, MS/MSD for Metals and Ra226
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/06/22	19:00			

SHIPPING INFO

- ☐ UPS
- ☐ Fed Express
- ☐ US Mail
- ☐ Hand Carried
- ☑ Other Lab courier secure dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURNAROUND TIMES

Check desired service

- ☑ Standard turnaround
- ☐ **RUSH - 5 Working Days**
- ☐ **URGENT** - < 2 Working Days

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

Compliance Monitoring? Y / N

Program (SDWA, NPDES,...)

PWSID / Permit #

Chlorinated? Y / N

Sample Disposal: Lab ✓ Client

ADDITIONAL REMARKS

Samples in two separate coolers. Soil samples for Bulk Analysis and SPLP in coolers as well.

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- CHAIN OF CUSTODY RECORD -

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#WEB

Client Name	Tetra Tech/Disa
Report Address	Tetra Tech/Disa
Invoice Address	Tetra Tech
Project Identification	RAES TO33/103G5440033.03.01
Sampler (Signature/Attestation of Authenticity)	[signature]
Telephone #	307-871-7291
Contact Name	Mike Dahlquist/Andrew Halverson
Email	
Phone	510-302-6310/307-871-7291
Purchase Order #	1150922
Quote #	

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/6020	Ra 226 by 901.1	SPLP by Table A-12						REMARKS
1		08/23/22	10:03	CR-L-0-SL-01	SL	1	x	x	x						703.33 g
2		08/23/22	10:32	CR-M-0-SL-01	SL	1	x	x	x						649.85 g
3		08/23/22	10:51	CR-H-0-SL-01	SL	1	x	x	x						796.62 g
4		08/26/22	10:00	QV-L-0-SL-01	SL	1	x	x	x						659.77 g
5		08/27/22	09:25	QV-M-0-SL-01	SL	1	x	x	x						721.82 g
6		8/27/22	12:00	QV-H-0-SL-01	SL	1	x	x	x						768.26 g
7		08/30/22	10:00	CTS-L-0-SL-01	SL	1	x	x	x						590.31 g
8		08/30/22	10:00	CTS-M-0-SL-01	SL	1	x	x	x						645.78 g
9		08/30/22	10:00	CTS-H-0-SL-01	SL	1	x	x	x						773.47 g
10		09/06/22	16:00	CR-L-4-SY Combined +25/+270	SL	1			x						413.27 g
11		09/07/22	14:00	CR-L-8-SY Combined +25/+270	SL	1			x						439.49 g
12		09/08/22	08:00	CR-L-30-SY Combined +25/+270	SL	1			x						425.64 g
13		09/09/22	10:00	CR-M-4-SY Combined +25/+270	SL	1			x						507.97 g
14		09/12/22	11:00	CR-M-8-SY Combined +25/+270	SL	1			x						622.34 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/06/22	19:00			

SHIPPING INFO
- ☐ UPS
- ☐ FedEx
- ☐ USPS
- ☐ Hand Carried
- ☑ Other Lab courier secure dropoff Pace Analytical

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURN AROUND TIMES
Check desired service
- ☑ Standard turnaround
- ☐ RUSH - 5 Working Days
- ☐ URGENT - < 2 Working Days

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION
- Compliance Monitoring ? Y / N
- Program (SDWA, NPDES,...)
- PWSID / Permit #
- Chlorinated? Y / N
- Sample Disposal: Lab Client ✓

ADDITIONAL REMARKS
Please return unused sample to Disa after reporting.
Report preliminary metals before radionuclides.
Table A-12 from Work Plan attached
Samples in 2 separate coolers with SW-WT-01 and SW-WT-02 samples

Table A-12. Aqueous Metals Analytical Parameter Summary for SPLP and TCLP Extracts

Analyte	CAS Number	Analytical Method	MDL[1] (µg/L)	Reporting Limit (µg/L)	TCLP Criteria (µg/L)	USEPA RSL Tap Water[2] (µg/L)
Aluminum	7429-90-5	USEPA 6010	4.68	100	NP	20,000
Antimony	7440-36-0	USEPA 6010	34.02	50	NP	7.8
Arsenic	7440-38-2	USEPA 6010	1.54	20	5,000	0.052
Barium	7440-39-3	USEPA 6010	0.19	50	100,000	3,800
Beryllium	7440-41-7	USEPA 6010	0.13	20	NP	25
Cadmium	7440-43-9	USEPA 6010	0.08	50	1,000	9.2
Chromium	7440-47-3	USEPA 6010	0.24	10	5,000	NP
Cobalt	7440-48-4	USEPA 6010	3.88	10	NP	6
Copper	7440-50-8	USEPA 6010	0.91	10	NP	800
Iron	7439-89-6	USEPA 6010	9.33	50	NP	14,000
Lead	7439-92-1	USEPA 6010	1.59	200	5,000	15
Manganese	7439-96-5	USEPA 6010	0.19	100	NP	430
Mercury	7439-97-6	USEPA 7470	0.05	1	200	6
Molybdenum	7439-98-7	USEPA 6010	3.45	10	NP	100
Nickel	7440-02-0	USEPA 6010	2.55	20	NP	390
Selenium	7782-49-2	USEPA 6010	4.00	200	1,000	100
Silver	7440-22-4	USEPA 6010	0.58	50	5,000	94
Thallium	7440-28-0	USEPA 6010	26.68	200	NP	0.2
Vanadium	7440-62-2	USEPA 6010	1.58	5	NP	86
Uranium (natural)	7440-61-1	USEPA 6010	24.08	50	NP	NP
Zinc	7440-66-6	USEPA 6010	14.71	200	NP	6,000

Notes:

Analyte SPLP extracts
Analyte TCLP extract only
Analyte TCLP and SPLP extracts
1 MDLs are specific to the contract laboratory. As MDLs are instrument specific, MDLs may vary depending on which instrument is used.
2 TR = 1 E-6; THQ = 1

µg/L Microgram per liter
CAS Chemical Abstracts Service
MDL Method detection limit
NNEPA Navajo Nation Environmental Protection Agency
NP Not promulgated
RSL Regional screening level
SPLP Synthetic precipitation leaching procedure
TCLP Toxicity characteristic leaching procedure
THQ Target hazard quotient
TR Target cancer risk
USEPA U.S. Environmental Protection Agency

Source:
USEPA (2021). "Regional Screening Levels (RSLs) - Generic Tables." https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables

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- CHAIN OF CUSTODY RECORD -

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Client Name	Tetra Tech/Disa
Report Address	Tetra Tech/Disa
Invoice Address	Tetra Tech
Project Identification	RAES TO33/103G5440033.03.01
Sampler (Signature/Attestation of Authenticity)	Andrew Halverson
Telephone #	307-871-7291
Contact Name	Mike Dahlquist/Andrew Halverson
Email	mike.dahlquist@tetratech.com / a.halverson@disausa.com
Phone	510-302-6310/307-871-7291
Purchase Order #	1150922
Quote #	

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/602	Ra 226 by 901.1	SPLP by Table A-1	MS/MSD					REMARKS
1		09/09/22	09:00	CR-L-0-SL-01 +25	SL	1	x	x							7.30 g
2		09/09/22	09:00	CR-L-0-SL-01 +50	SL	1	x	x							21.82 g
3		09/09/22	09:00	CR-L-0-SL-01 +100	SL	1	x	x							78.60 g
4		09/09/22	09:00	CR-L-0-SL-01 +140	SL	1	x	x							60.52 g
5		09/09/22	09:00	CR-L-0-SL-01 +200	SL	1	x	x							48.25 g
6		09/09/22	09:00	CR-L-0-SL-01 +270	SL	1	x	x							19.00 g
7		09/09/22	09:00	CR-L-0-SL-01 -270	SL	1	x	x							76.85 g
8		09/06/22	16:00	CR-L-4-SY +25	SL	1	x	x							5.28 g
9		09/06/22	16:00	CR-L-4-SY +50	SL	1	x	x							23.47 g
10		09/06/22	16:00	CR-L-4-SY +100-01	SL	1	x	x							36.62 g
11		09/06/22	16:00	CR-L-4-SY +100-02	SL	1	x	x							36.63 g
12		03/30/22	10:00	CTS-L-0-+1/4-inch	SL	1	x	x		x					1014.94 g; MS/MSD for Metals
13		09/06/22	16:00	CR-L-4-SY +140	SL	1	x	x							54.00 g
14		09/06/22	16:00	CR-L-4-SY +200	SL	1	x	x							36.94 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/06/22	19:00			

SHIPPING INFO	MATRIX CODES		TURN AROUND TIMES	COMPLIANCE INFORMATION		ADDITIONAL REMARKS
☐ UPS	Water	WT	**Check desired service**	Compliance Monitoring ?	Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...)		Report preliminary metals before radionuclides.
☐ USPS	Solid	SD	☐ **RUSH - 5 Working Days**	PWSID / Permit #		~~Table A-12 from Work Plan attached~~
☐ Hand Carried	Filter	FT	☐ **URGENT - < 2 Working Days**	Chlorinated?	Y / N	
☑ Other Lab Courier Secure Dropoff	Other	OT	*Rush & Urgent Surcharges will be applied*	Sample Disposal: Lab	Client ✓	

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- CHAIN OF CUSTODY RECORD -

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Client Name	Tetra Tech/Disa
Project Identification	RAES TO33/103G5440033.03.01
Sampler (Signature/Attestation of Authenticity)	[signature]
Telephone #	307-871-7291
Report Address	Tetra Tech/Disa
Contact Name	Mike Dahlquist/Andrew Halverson
Email	mike.dahlquist@tetratech.com / a.halverson@disausa.com
Phone	510-302-6310/307-871-7291
Invoice Address	Tetra Tech
Purchase Order #	1150922
Quote #	

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/602	Ra 226 by 901.1	SPLP by Table A-1						REMARKS
1		09/06/22	16:00	CR-L-4-SY +270	SL	1	x	x							14.75 g
2		09/07/22	14:00	CR-L-8-SY +25	SL	1	x	x							4.11 g
3		09/07/22	14:00	CR-L-8-SY +50	SL	1	x	x							24.05 g
4		09/07/22	14:00	CR-L-8-SY +100	SL	1	x	x							79.07 g
5		09/07/22	14:00	CR-L-8-SY +140	SL	1	x	x							59.00 g
6		09/07/22	14:00	CR-L-8-SY +200	SL	1	x	x							38.87 g
7		09/07/22	14:00	CR-L-8-SY +270	SL	1	x	x							15.63 g
8		09/08/22	08:00	CR-L-30-SY +25	SL	1	x	x							3.71 g
9		09/08/22	08:00	CR-L-30-SY +50	SL	1	x	x							21.57 g
10		09/08/22	08:00	CR-L-30-SY +100	SL	1	x	x							74.76 g
11		09/08/22	08:00	CR-L-30-SY +140	SL	1	x	x							57.66 g
12		09/08/22	08:00	CR-L-30-SY +200	SL	1	x	x							39.60 g
13		09/08/22	08:00	CR-L-30-SY +270	SL	1	x	x							16.42 g
14		09/14/22	11:00	CR-M-0-SL-01 +25	SL	1	x	x							36.97 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/06/22	19:00			

SHIPPING INFO	MATRIX CODES		TURN AROUND TIMES	COMPLIANCE INFORMATION		ADDITIONAL REMARKS
☐ UPS	Water	WT	**Check desired service**	Compliance Monitoring ?	Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...)		Report preliminary metals before radionuclides.
☐ USPS	Solid	SD	☐ **RUSH - 5 Working Days**	PWSID / Permit #		~~Table A-12 from Work Plan attached~~
☐ Hand Carried	Filter	FT	☐ **URGENT - < 2 Working Days**	Chlorinated?	Y / N	
☑ Other Lab courier secure dropoff	Other	OT	*Rush & Urgent Surcharges will be applied*	Sample Disposal: Lab	Client ✓	

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- CHAIN OF CUSTODY RECORD -

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#WEB

Client Name	Tetra Tech/Disa
Project Identification	RAES TO33/103G5440033.03.01
Sampler (Signature/Attestation of Authenticity)	[signature]
Telephone #	307-871-7291
Report Address	Tetra Tech/Disa
Contact Name	Mike Dahlquist/Andrew Halverson
Email	mike.dahlquist@tetratech.com/a.halverson@disausa.com
Phone	510-302-6310/307-871-7291
Invoice Address	Tetra Tech
Purchase Order #	1150922
Quote #	

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/602	Ra 226 by 901.1	SPLP by Table A-1	MS/MSD					REMARKS
1		09/14/22	11:00	CR-M-0-SL-01 +50	SL	1	x	x							77.55 g
2		09/14/22	11:00	CR-M-0-SL-01 +100-01	SL	1	x	x							42.17 g
3		09/14/22	11:00	CR-M-0-SL-01 +100-02	SL	1	x	x							42.15 g
4		09/14/22	11:00	CR-M-0-SL-01 +140	SL	1	x	x							30.38 g
5		08/30/22	10:00	CTS-M-0-+1/4-inch	SL	1	x	x		x					1088.29 g, MS/MSD for Metals
6		09/14/22	11:00	CR-M-0-SL-01 +200	SL	1	x	x							20.85 g
7		09/14/22	11:00	CR-M-0-SL-01 +270	SL	1	x	x							9.44 g
8		09/14/22	11:00	CR-M-0-SL-01 -270	SL	1	x	x							56.16 g
9		09/09/22	10:00	CR-M-4-SY +25	SL	1	x	x							20.61 g
10		09/09/22	10:00	CR-M-4-SY +50	SL	1	x	x							92.38 g
11		09/09/22	10:00	CR-M-4-SY +100	SL	1	x	x							88.27 g
12		09/09/22	10:00	CR-M-4-SY +140	SL	1	x	x							28.45 g
13		09/09/22	10:00	CR-M-4-SY +200	SL	1	x	x							17.67 g
14		09/09/22	10:00	CR-M-4-SY +270	SL	1	x	x							7.86 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/06/22	19:00			

SHIPPING INFO

- ☐ UPS
- ☐ FedEx
- ☐ USPS
- ☐ Hand Carried
- ☑ Other Lab courier Severe dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURN AROUND TIMES

Check desired service

- ☑ Standard turnaround
- ☐ **RUSH - 5 Working Days**
- ☐ **URGENT - < 2 Working Days**

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

Compliance Monitoring ? Y / N
Program (SDWA, NPDES,...)
PWSID / Permit #
Chlorinated? Y / N
Sample Disposal: Lab Client ✓

ADDITIONAL REMARKS

Please return unused sample to Disa after reporting.
Report preliminary metals before radionuclides.
~~Table A-12 from Work Plan attached~~

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- CHAIN OF CUSTODY RECORD -

Page 4 of 5

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#WEB

Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES TO33/103G5440033.03.01	[signature]	307-871-7291

Report Address: Tetra Tech/Disa

Contact Name: Mike Dahlquist/Andrew Halverson

Email: mike.dahlquist@tetratech.com/ahalverson@disausa.com

Phone: 510-302-6310/307-871-7291

Invoice Address: Tetra Tech

Purchase Order #: 1150922

Quote #:

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/602	Ra 226 by 901.1	SPLP by Table A-1	MS/MSD					REMARKS
1		09/12/22	11:00	CR-M-8-SY +25	SL	1	x	x							41.31 g
2		09/12/22	11:00	CR-M-8-SY +50	SL	1	x	x							123.38 g
3		09/12/22	11:00	CR-M-8-SY +100	SL	1	x	x							102.63 g
4		09/12/22	11:00	CR-M-8-SY +140	SL	1	x	x							31.43 g
5		09/12/22	11:00	CR-M-8-SY +200	SL	1	x	x							19.17 g
6		09/12/22	11:00	CR-M-8-SY +270	SL	1	x	x							8.90 g
7		09/13/22	15:00	CR-M-30-SY +25	SL	1	x	x							25.11 g
8		09/13/22	15:00	CR-M-30-SY +50	SL	1	x	x							92.89 g
9		09/13/22	15:00	CR-M-30-SY +100-01	SL	1	x	x							46.66 g
10		09/13/22	15:00	CR-M-30-SY +100-02	SL	1	x	x							46.66 g
11		08/30/22	10:00	CTS-H-0-+1/4 inch Bulk Assay	SL	1	x	x		x					1014.94 g, MS/MSD for Metals
12		09/13/22	15:00	CR-M-30-SY +140	SL	1	x	x							30.09g
13		09/13/22	15:00	CR-M-30-SY +200	SL	1	x	x							19.87 g
14		09/13/22	15:00	CR-M-30-SY +270	SL	1	x	x							8.92 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/06/22	19:00			

SHIPPING INFO

- ☐ UPS
- ☐ FedEx
- ☐ USPS
- ☐ Hand Carried
- ☑ Other Lab courier secure dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURN AROUND TIMES

Check desired service

- ☑ Standard turnaround
- ☐ RUSH - 5 Working Days
- ☐ URGENT - < 2 Working Days

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

Compliance Monitoring ? Y / N

Program (SDWA, NPDES,...)

PWSID / Permit #

Chlorinated? Y / N

Sample Disposal: Lab Client ✓

ADDITIONAL REMARKS

Please return unused sample to Disa after reporting.

Report preliminary metals before radionuclides.

~~Table A-12 from Work Plan attached~~

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Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

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This is a legal document; any misrepresentation may be construed as fraud.

#WEB

Client Name: Tetra Tech/Disa

Project Identification: RAES TO33/103G5440033.03.01

Sampler (Signature/Attestation of Authenticity): [signature]

Telephone #: 307-871-7291

Report Address: Tetra Tech/Disa

Contact Name: Mike Dahlquist/Andrew Halverson

Email: mike.dahlquist@tetratech.com/a.halverson@disausa.com

Phone: 510-302-6310/307-871-7291

Invoice Address: Tetra Tech

Purchase Order #: 1150922

Quote #:

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/602	Ra 226 by 901.1	SPLP by Table A-12	MS/MSD					REMARKS
1		09/19/22	17:00	CR-H-0-SL-01 +25	SL	1	x	x							83.60 g
2		09/19/22	17:00	CR-H-0-SL-01 +50	SL	1	x	x							139.19 g
3		09/19/22	17:00	CR-H-0-SL-01 +100	SL	1	x	x							92.25 g
4		09/19/22	17:00	CR-H-0-SL-01 +140	SL	1	x	x							21.13 g
5		09/19/22	17:00	CR-H-0-SL-01 +200	SL	1	x	x							14.87 g
6		09/19/22	17:00	CR-H-0-SL-01 +270	SL	1	x	x							9.19 g
7		09/19/22	17:00	CR-H-0-SL-01 -270	SL	1	x	x							71.97 g
8		09/15/22	13:30	CR-H-4-SY +25	SL	1	x	x							338.14 g
9		09/15/22	13:30	CR-H-4-SY +50	SL	1	x	x							688.11 g
10		09/15/22	13:30	CR-H-4-SY +100	SL	1	x	x							394.93 g
11		09/15/22	13:30	CR-H-4-SY +140	SL	1	x	x							74.24 g
12		09/15/22	13:30	CR-H-4-SY +200	SL	1	x	x							46.31 g
13		09/15/22	13:30	CR-H-4-SY +270	SL	1	x	x							24.31 g
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/06/22	19:00			

SHIPPING INFO	MATRIX CODES		TURN AROUND TIMES	COMPLIANCE INFORMATION		ADDITIONAL REMARKS
☐ UPS	Water	WT	**Check desired service**	Compliance Monitoring ?	Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...)		Report preliminary metals before radionuclides.
☐ USPS	Solid	SD	☐ **RUSH - 5 Working Days**	PWSID / Permit #		~~Table A-12 from Work Plan attached~~
☐ Hand Carried	Filter	FT	☐ **URGENT - < 2 Working Days**	Chlorinated?	Y / N	
☑ Other Lab courier secure dropoff	Other	OT	***Rush & Urgent Surcharges will be applied***	Sample Disposal: Lab	Client ✓	

Package Survey From

Date: 10/06/2022 Time: 19:00 Surveyor Name: Andrew Halverson

Unat Specific Activity 7.1 e-7 Ci/g
Limits
Exempt: 2.7e-11 Ci/g AND 2.7e-8 Ci
Excepted: 7.1e-7 Ci/g
A1 [Ci]: Unlimited
A2 [Ci]: Unlimited
0.5 mRem/hr
~500 μR/hr
Alpha: 24 dpm/cm²
Beta: 240 dpm/cm²

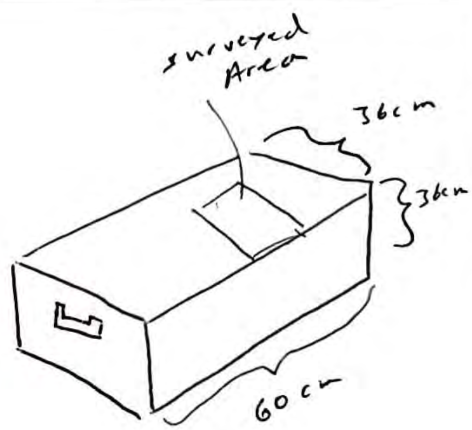
Package Description	Water samples with <10 lb of Unat soil <1500 ppm
Package Destination	Pace Analytical 1673 Terra Avenue Sheridan, WY 82801

Contents	<1500 ppm Unat Soil	Exempt (Y/N)	N
Material Specific Activity	<1.07 e-9 Ci/g	UN2910 Excepted (Y/N)	Y
Contents Mass	<10 lb		
Contents Total Activity	<4.6 e-6 Ci		

Instrument	
Manufacturer	Ludlum
Model	19
Serial No.	268865
Cal Due Date	12/19/2022
FC Passed (Y/N)	Y
Background	8 uR/hr

Location	Gross	Net
Side 1	12	4 uR/hr
Side 2	23	15 uR/hr
Side 3	20	12 uR/hr
Side 4	11	3 uR/hr
Side 5	17	9 uR/hr
Side 6	16	8 uR/hr

Package Sketch



Package Surface Area [cm²] 11,232

Meter	
Manufacturer	Ludlum
Model	2929
Serial No.	208319
Cal Due Date	06/27/2023

Detector	
Manufacturer	Ludlum
Model	43-10-1
Serial No.	PR215938
Cal Due Date	06/27/2023

FC Passed (Y/N)	Y
BKG Alpha (cpm)	1
Beta/Gamma (cpm)	63
300 cm² Surveyed (Y/N)	Y
Entire Package Surveyed (Y/N)	N

Measurement	Alpha				Beta/Gamma				Meets Limits
	Gross [cpm]	Net [cpm]	Swipe Efficiency	dpm/cm²	Gross [cpm]	Net [cpm]	Swipe Efficiency	dpm/cm²	
Swipe 1	17	16	0.1	3	95	32	0.1	13.3	AH
Swipe 2	17	16	0.1	3	85	22	0.1	9.2	AH
			0.1				0.1		
			0.1				0.1		

Labeled	Y
Surveyor Signature:	[signature]
Released	
Date: 10/07/2022	
Time: 08:40	

Note: Wiped down thoroughly prior to release

DISA

Package Survey From

Date: 10/06/2022 Time: 19:00 Surveyor Name: Andrew Halverson

Unat Specific Activity 7.1 e-7 Ci/g
Limits Exempt: 2.7e-11 Ci/g AND 2.7e-8 Ci Excepted: 7.1e-7 Ci/g A1 [Ci]: Unlimited A2 [Ci]: Unlimited 0.5 mRem/hr ~500 µR/hr Alpha: 24 dpm/cm² Beta: 240 dpm/cm²

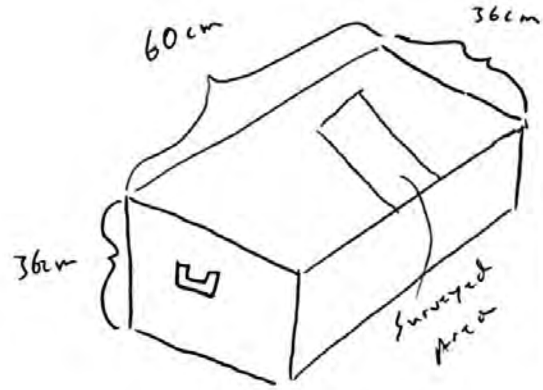
Package Description	Water Samples with <10 lb of <200 ppm Unat soil
Package Destination	Pace Analytical 1673 Terra Avenue Sheridan, WY 82801

Contents	<200 ppm Unat Soil	Exempt (Y/N)	N
Material Specific Activity	<1.42 e-10 Ci/g	UN2910 Excepted (Y/N)	Y
Contents Mass	<10 lb		
Contents Total Activity	<6.3e-7 Ci		

Instrument	
Manufacturer	Ludlum
Model	19
Serial No.	268865
Cal Due Date	12/19/2022
FC Passed (Y/N)	Y
Background	8 µR/hr

Location	Gross	Net
Side 1	10	2 µR/hr
Side 2	11	3 µR/hr
Side 3	10	2 µR/hr
Side 4	10	2 µR/hr
Side 5	10	2 µR/hr
Side 6	10	2 µR/hr

Package Sketch



Package Surface Area [cm²] 11,232

Meter	
Manufacturer	Ludlum
Model	2929
Serial No.	208319
Cal Due Date	06/27/2023

Detector	
Manufacturer	Ludlum
Model	43-10-1
Serial No.	PR215938
Cal Due Date	06/27/2023

FC Passed (Y/N)	Y
BKG Alpha (cpm)	0
Beta/Gamma (cpm)	63
300 cm² Surveyed (Y/N)	Y
Entire Package Surveyed (Y/N)	N

Measurement	Alpha				Beta/Gamma				Meets Limits
	Gross [cpm]	Net [cpm]	Swipe Efficiency	dpm/cm²	Gross [cpm]	Net [cpm]	Swipe Efficiency	dpm/cm²	
Swipe 1	43	43	0.1	8	123	60	0.1	25	AH
Swipe 2	24	24	0.1	4.5	103	40	0.1	16.7	AH
			0.1				0.1		
			0.1				0.1		

Labeled: Y

Surveyor Signature: [signature]

Released

Date: 10/07/2022

Time: 08:40

Note: Wiped down thoroughly prior to release

DISA

Package Survey From

Date: 10/06/2022 Time: 19:00 Surveyor Name: Andrew Halverson

Unat Specific Activity 7.1 e-7 Ci/g
Limits Exempt: 2.7e-11 Ci/g AND 2.7e-8 Ci Excepted: 7.1e-7 Ci/g A1 [Ci]: Unlimited A2 [Ci]: Unlimited 0.5 mRem/hr ~500 µR/hr Alpha: 24 dpm/cm² Beta: 240 dpm/cm²

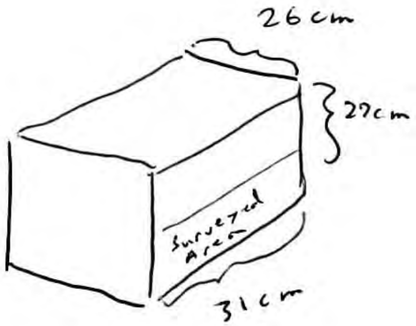
Package Description	~~<13~~ <14 lb Unat soil with < 1500 ppm U concentration
Package Destination	Pace Analytical 1673 Terra Avenue Sheridan, WY 82801

Contents	<1500 ppm U nat soil	Exempt (Y/N)	N
Material Specific Activity	<1.07 e-9 Ci/g	UN2910 Excepted (Y/N)	Y
Contents Mass	<14 lb		
Contents Total Activity	< 6.5e-6 Ci		

Instrument	
Manufacturer	Ludlum
Model	19
Serial No.	268865
Cal Due Date	12/19/2022
FC Passed (Y/N)	Y
Background	8 µR/hr

Location	Gross	Net
Side 1	20	12 µR/hr
side 2	21	13 µR/hr
Side 3	32	24 µR/hr
Side 4	24	16 µR/hr
side 5	8	—
side 6	21	13 µR/hr

Package Sketch



Package Surface Area [cm²] 4,690

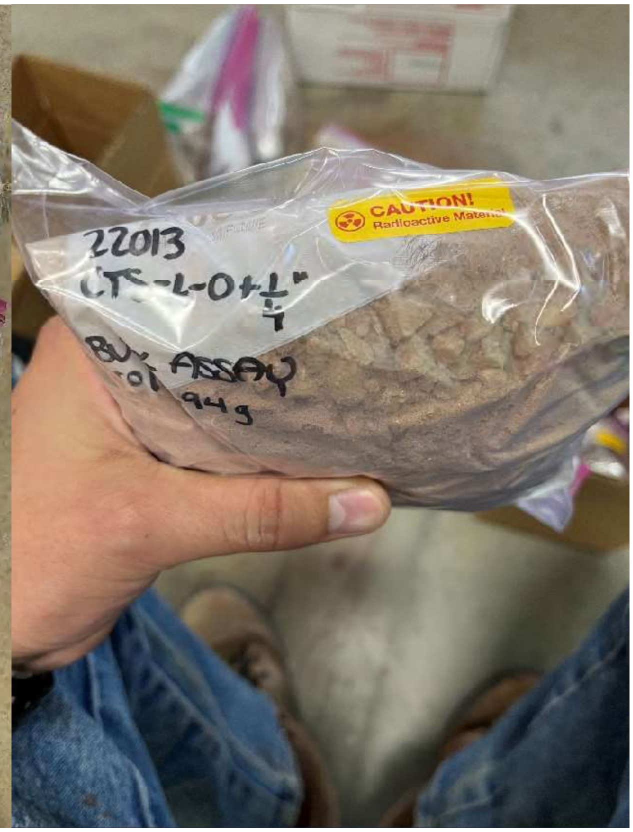
Meter	
Manufacturer	Ludlum
Model	2929
Serial No.	208319
Cal Due Date	06/27/2023

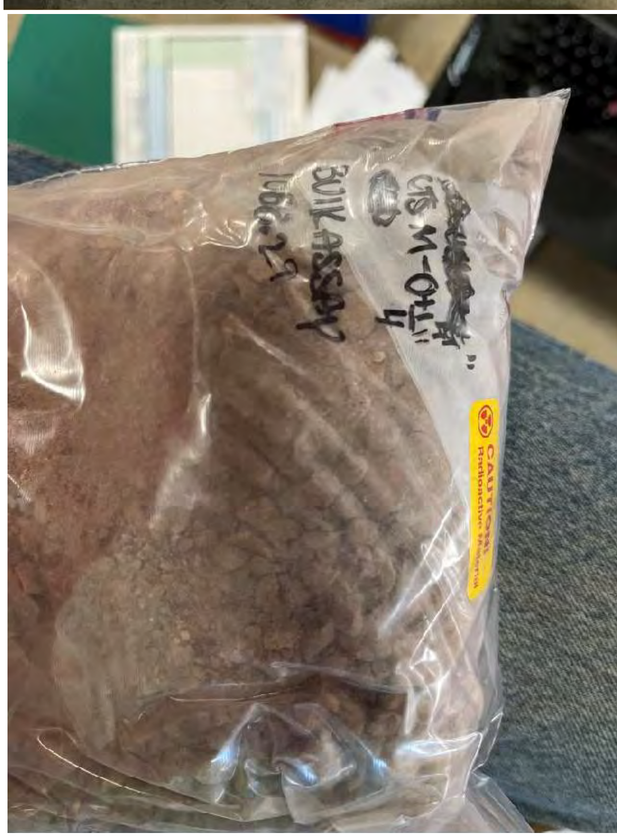
Detector	
Manufacturer	Ludlum
Model	43-10-1
Serial No.	PR215938
Cal Due Date	06/27/2023

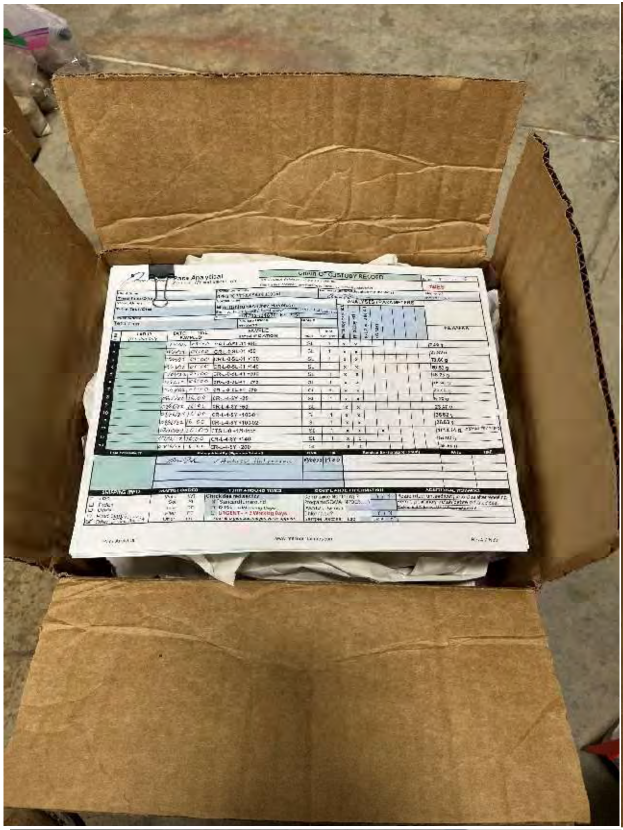
FC Passed (Y/N)	Y
BKG Alpha (cpm)	0
Beta/Gamma (cpm)	61
300 cm² Surveyed (Y/N)	Y
Entire Package Surveyed (Y/N)	N

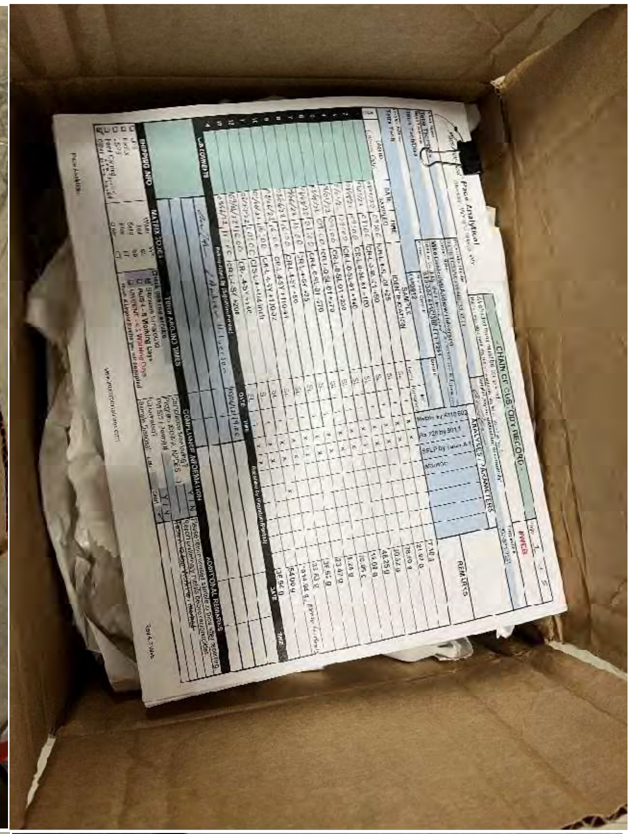
Measurement	Alpha				Beta/Gamma				Meets Limits
	Gross [cpm]	Net [cpm]	Swipe Efficiency	dpm/cm²	Gross [cpm]	Net [cpm]	Swipe Efficiency	dpm/cm²	
Swipe 1	4	4	0.1	0.8	67	6	0.1	2.5	AH
Swipe 2	3	3	0.1	0.6	52	—	0.1	—	AH
			0.1				0.1		
			0.1				0.1		

Labeled	Y
Surveyor Signature	[signature]
Released	
Date 10/07/2022	
Time 08:10	


CAUTION!
Radioactive Material
22013


CAUTION!
Radioactive Material






WPL
PEEL HERE


UN 2910


DOCUMENTS
ENCLOSED

Pace Analytical

Pace Analytical Services, LLC

Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

All shaded fields must be completed.

This is a legal document: any misrepresentation may be construed as fraud.

Page 1 of 1

196822

Client Name	Tetra Tech /Disa
Project Identification	RAESTO33/103G5440033.03.01
Sampler (Signature/Attestation of Authenticity)	[signature]
Telephone #	3078717291
Report Address	Tetra Tech/Disa
Contact Name	Mike Dahlquist /Andrew Halverson
Email	mike.dahlquist@tetratech.com/a.halverson@disausa.com
Phone	510-302-6310/307-871-7291
Invoice Address	Tetra Tech
Purchase Order #	1150922
Quote #	

Preservative Lot #
1:1 HNO_3: M-072722-2
H_2SO_4: Chem 2-71-4
NaOH: Wet-3-40-1

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Total Metals by 6010/6020	Total Ra226 by 903.1	Total Ra228 by 904.0	TDS by SM2540	TSS by SM2540	MS/MSD			REMARKS
1	52240140-001	10/05/22	17:00	SW-WT-01	WT	7	✓	✓	✓	✓	✓				Unfiltered
2	002	10/05/22	17:10	SW-WT-02	WT	21	✓	✓	✓	✓	✓	✓			Unfiltered, MS/MSD for Metals and Ra226
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
2 coolers ROI 5.1° + 5.0° Rads < 500 uR/H	[signature] / Andrew Halverson	10/06/22	19:00	[signature]	10/10/22	13:32

SHIPPING INFO

- ❑ UPS
- ❑ Fed Express
- ❑ US Mail
- ❑ Hand Carried
- ☑ Other Lab courier Secured drop off

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURNAROUND TIMES

Check desired service

- ☑ Standard turnaround
- ❑ **RUSH - 5 Working Days**
- ❑ **URGENT** - < 2 Working Days

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

Compliance Monitoring? Y / N
Program (SDWA, NPDES,...)
PWSID / Permit #
Chlorinated? Y / N
Sample Disposal: Lab ✓ Client

ADDITIONAL REMARKS

Samples in two separate coolers. Soil samples for Bulk Analysis and SPLP in coolers as well.

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Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

Page 1 of 1

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#WEB

Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES TO33/103G5440033.03.01	[signature]	307-871-7291

Report Address: Tetra Tech/Disa

Contact Name: Mike Dahlquist/Andrew Halverson

Email:

Phone: 510-302-6310/307-871-7291

Invoice Address: Tetra Tech

Purchase Order #: 1150922

Quote #:

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/6020	Ra 226 by 901.1	SPLP by Table A-12						REMARKS
1	S2210147-001	08/23/22	10:03	CR-L-0-SL-01	SL	1	x	x	x						703.33 g
2	002	08/23/22	10:32	CR-M-0-SL-01	SL	1	x	x	x						649.85 g
3	003	08/23/22	10:51	CR-H-0-SL-01	SL	1	x	x	x						796.62 g
4	004	08/26/22	10:00	QV-L-0-SL-01	SL	1	x	x	x						659.77 g
5	005	08/27/22	09:25	QV-M-0-SL-01	SL	1	x	x	x						721.82 g
6	006	8/27/22	12:00	QV-H-0-SL-01	SL	1	x	x	x						768.26 g
7	007	08/30/22	10:00	CTS-L-0-SL-01	SL	1	x	x	x						590.31 g
8	008	08/30/22	10:00	CTS-M-0-SL-01	SL	1	x	x	x						645.78 g
9	009	08/30/22	10:00	CTS-H-0-SL-01	SL	1	x	x	x						773.47 g
10	010	09/06/22	16:00	CR-L-4-SY Combined +25/+270	SL	1			x						413.27 g
11	011	09/07/22	14:00	CR-L-8-SY Combined +25/+270	SL	1			x						439.49 g
12	012	09/08/22	08:00	CR-L-30-SY Combined +25/+270	SL	1			x						425.64 g
13	013	09/09/22	10:00	CR-M-4-SY Combined +25/+270	SL	1			x						507.97 g
14	014	09/12/22	11:00	CR-M-8-SY Combined +25/+270	SL	1			x						622.34 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/06/22	19:00	[signature]	10/10/22	13:32

SHIPPING INFO	MATRIX CODES	TURN AROUND TIMES	COMPLIANCE INFORMATION	ADDITIONAL REMARKS
☐ UPS	Water WT	Check desired service	Compliance Monitoring ? Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil SL	☑ Standard turnaround	Program (SDWA, NPDES,...)	Report preliminary metals before radionuclides.
☐ USPS	Solid SD	☐ RUSH - 5 Working Days	PWSID / Permit #	Table A-12 from Work Plan attached
☐ Hand Carried	Filter FT	☐ URGENT - < 2 Working Days	Chlorinated? Y / N	Samples in 2 separate coolers with
☑ Other Lab Courier	Other OT	Rush & Urgent Surcharges will be applied	Sample Disposal: Lab Client ✓	SW-WT-01 and SW-WT-02 samples

Table A-12. Aqueous Metals Analytical Parameter Summary for SPLP and TCLP Extracts

Analyte	CAS Number	Analytical Method	MDL[1] (µg/L)	Reporting Limit (µg/L)	TCLP Criteria (µg/L)	USEPA RSL Tap Water[2] (µg/L)
Aluminum	7429-90-5	USEPA 6010	4.68	100	NP	20,000
Antimony	7440-36-0	USEPA 6010	34.02	50	NP	7.8
Arsenic	7440-38-2	USEPA 6010	1.54	20	5,000	0.052
Barium	7440-39-3	USEPA 6010	0.19	50	100,000	3,800
Beryllium	7440-41-7	USEPA 6010	0.13	20	NP	25
Cadmium	7440-43-9	USEPA 6010	0.08	50	1,000	9.2
Chromium	7440-47-3	USEPA 6010	0.24	10	5,000	NP
Cobalt	7440-48-4	USEPA 6010	3.88	10	NP	6
Copper	7440-50-8	USEPA 6010	0.91	10	NP	800
Iron	7439-89-6	USEPA 6010	9.33	50	NP	14,000
Lead	7439-92-1	USEPA 6010	1.59	200	5,000	15
Manganese	7439-96-5	USEPA 6010	0.19	100	NP	430
Mercury	7439-97-6	USEPA 7470	0.05	1	200	6
Molybdenum	7439-98-7	USEPA 6010	3.45	10	NP	100
Nickel	7440-02-0	USEPA 6010	2.55	20	NP	390
Selenium	7782-49-2	USEPA 6010	4.00	200	1,000	100
Silver	7440-22-4	USEPA 6010	0.58	50	5,000	94
Thallium	7440-28-0	USEPA 6010	26.68	200	NP	0.2
Vanadium	7440-62-2	USEPA 6010	1.58	5	NP	86
Uranium (natural)	7440-61-1	USEPA 6010	24.08	50	NP	NP
Zinc	7440-66-6	USEPA 6010	14.71	200	NP	6,000

Notes:

Analyte SPLP extracts (blue)
Analyte TCLP extract only (yellow)
Analyte TCLP and SPLP extracts (green)

1 MDLs are specific to the contract laboratory. As MDLs are instrument specific, MDLs may vary depending on which instrument is used.

2 TR = 1 E-6; THQ = 1

µg/L Microgram per liter
CAS Chemical Abstracts Service
MDL Method detection limit
NNEPA Navajo Nation Environmental Protection Agency
NP Not promulgated
RSL Regional screening level
SPLP Synthetic precipitation leaching procedure
TCLP Toxicity characteristic leaching procedure
THQ Target hazard quotient
TR Target cancer risk
USEPA U.S. Environmental Protection Agency

Source:
USEPA (2021). "Regional Screening Levels (RSLs) - Generic Tables." https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables

Table A-13. Aqueous Radionuclide Analytical Parameter Summary for SPLP Extract

Analyte	CAS Number	Analytical Method	MDC[1] (pCi/L)	Requested MDC[1] (pCi/L)	USEPA MCL[2] (pCi/L)	ORNL Ecological Screening Level (pCi/L)
Radium-226	13982-63-3	Alpha Scint USEPA 903.1	0.2	0.1	5 *	160
Radium-228	15262-20-1	GFPC USEPA 904.0	1.0	0.1	5 *	NV

Notes:

1 MDCs requested from laboratories based on the expertise of the certified health physicist and project chemist.
2 MCLs from USEPA National Primary Drinking Water Regulations (USEPA 2009).
* The MCL for radium-226 and radium-228 is defined on a combined basis. The MCL for total radium (radium-226 + radium-228) is 5 pCi/L.

CAS Chemical Abstracts Service
GFPC Gas flow proportional counting
MCL Maximum contaminant level
MDC Minimum detectable concentration
NV No value
ORNL Radiological Benchmarks for Screening Contaminants of Potential Concern for Effects on Aquatic Biota at Oak Ridge National Laboratory (Bechtel Jacobs Company 1998)
pCi/L Picocurie per liter
Scint Scintillation
SPLP Synthetic precipitation leaching procedure
USEPA U.S. Environmental Protection Agency

Sources:

Bechtel Jacobs Company. 1998. "Radiological Benchmarks for Screening Contaminants of Potential Concern for Effects on Aquatic Biota at Oak Ridge National Laboratory, Oak Ridge, Tennessee."
U.S. Environmental Protection Agency (USEPA). 2009. "National Primary Drinking Water Regulations." EPA 816-F-09-004. May.

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Report Review Checklist

COC Review Information on COC matches that on report; spelling accurate. **Initials/Date:**	Log Review WON 10/21/22
1 Original COC attached, signed and dated.	✓
2 Samples received within temperature	✓
2 Parameters requested.	✓
3 Client.	✓
4 Report recipient/address.	✓
5 Invoice recipient/address.	✓
6 Project. **Requested changes to Project must be communicated to Project Mgr.**	✓
7 Appropriate detection limits (RLs) assigned.	✓
8 Prices may need to be adjusted prior to invoicing. (circle)	Yes or No
9 P. O. number.	✓
10 Sample IDs.	✓
11 Sample dates.	✓
12 Date received.	✓
13 Date due.	✓
14 Matrix.	✓
15 PWSID included for safe drinking water compliance samples.	NA
16 Field data entered appropriately (**Log Review**); matches lab data (**Report Review**).	NA
17 Special requests indicated in "Comments" section of Work Order summary.	✓
18 All "No" responses on Condition Upon Receipt form have been resolved	Yes or No

Data Review	Report Review
1 Automated QC (Check Data button) review performed, discrepancies resolved.	✓
2 Worksheet/instrument data sheet for all requested parameters attached in LIMS or to work Order summary.	✓
3 Worksheet/instrument data compared to report results for calculation, transcription and data entry errors.	✓
4 Results compared to historical data if applicable.	NA
5 Analysis date and time.	✓
6 Analytical method.	✓
7 Appropriate detection limits (RLs) assigned.	✓
8 Appropriate units of measure.	✓
9 Analyst's initials.	✓
10 Calculations checked?	✓
11 Subcontracted analyses identified as such with qualifier or as attachment to lab report	NA
12 Subcontracted report reviewed	NA
13 Invoice parameters match those on COC.	✓

Final Review	
1 Report appears complete and appropriate.	✓
2 Condition Upon Receipt form completed, attached to packet, and related qualifiers included in report.	✓
3 All necessary qualifiers included in report.	✓
4 Qualifiers referenced in case narrative; which includes descriptions of all sample/analysis anomalies.	✓
5 Anomalies, including reason for report reissue, explained in Case Narrative.	✓
6 Copies of report sent to all recipients requested on COC. **(circle)** **Copy to Regulator** **Hard Copy**	Email
7 All special requests listed on COC, or attached parameter list, honored.	✓
8 Special report format per client request.	✓
9 Report pages signed.	✓

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Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES TO33/103G5440033.03.01	[signature]	307-871-7291

Report Address: Tetra Tech/Disa

Contact Name: Mike Dahlquist/Andrew Halverson
Email: mike.dahlquist@tetratech.com/a.halverson@disausa.com
Phone: 510-302-6310/307-871-7291

Invoice Address: Tetra Tech

Purchase Order #: 1150922
Quote #:

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/602	Ra 226 by 901.1	SPLP by Table A-12	MS/MSD					REMARKS
1		09/09/22	09:00	CR-L-0-SL-01 +25	SL	1	x	x							7.30 g
2		09/09/22	09:00	CR-L-0-SL-01 +50	SL	1	x	x							21.82 g
3		09/09/22	09:00	CR-L-0-SL-01 +100	SL	1	x	x							78.60 g
4		09/09/22	09:00	CR-L-0-SL-01 +140	SL	1	x	x							60.52 g
5		09/09/22	09:00	CR-L-0-SL-01 +200	SL	1	x	x							48.25 g
6		09/09/22	09:00	CR-L-0-SL-01 +270	SL	1	x	x							19.00 g
7		09/09/22	09:00	CR-L-0-SL-01 -270	SL	1	x	x							76.85 g
8		09/06/22	16:00	CR-L-4-SY +25	SL	1	x	x							5.28 g
9		09/06/22	16:00	CR-L-4-SY +50	SL	1	x	x							23.47 g
10		09/06/22	16:00	CR-L-4-SY +100-01	SL	1	x	x							36.62 g
11		09/06/22	16:00	CR-L-4-SY +100-02	SL	1	x	x							36.63 g
12		03/30/22	10:00	CTS-L-0-+1/4-inch	SL	1	x	x		x					1014.94 g, MS/MSD for Metals
13		09/06/22	16:00	CR-L-4-SY +140	SL	1	x	x							54.00 g
14		09/06/22	16:00	CR-L-4-SY +200	SL	1	x	x							36.94 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
Rad: < 500 uR/H	[signature] / Andrew Halverson	10/06/22	19:00	[signature]	10-10-22	13:29

SHIPPING INFO	MATRIX CODES		TURN AROUND TIMES	COMPLIANCE INFORMATION	ADDITIONAL REMARKS
☐ UPS	Water	WT	Check desired service	Compliance Monitoring ? Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...)	Report preliminary metals before radionuclides.
☐ USPS	Solid	SD	☐ RUSH - 5 Working Days	PWSID / Permit #	~~Table A-12 from Work Plan attached~~
☐ Hand Carried	Filter	FT	☐ URGENT - < 2 Working Days	Chlorinated? Y / N	
☑ Other Lab courier secure Dropoff	Other	OT	*Rush & Urgent Surcharges will be applied*	Sample Disposal: Lab Client ✓	

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Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES TO33/103G5440033.03.01	[signature]	307-871-7291

Report Address: Tetra Tech/Disa

Contact Name: Mike Dahlquist/Andrew Halverson

Email: mike.dahlquist@tetratech.com / a.halverson@disausa.com

Phone: 510-302-6310/307-871-7291

Invoice Address: Tetra Tech

Purchase Order #: 1150922

Quote #:

ANALYSES / PARAMETERS: Metals by 6010/602; Ra 226 by 901.1; SPLP by Table A-1

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/602	Ra 226 by 901.1	SPLP by Table A-1						REMARKS
1		09/06/22	16:00	CR-L-4-SY +270	SL	1	x	x							14.75 g
2		09/07/22	14:00	CR-L-8-SY +25	SL	1	x	x							4.11 g
3		09/07/22	14:00	CR-L-8-SY +50	SL	1	x	x							24.05 g
4		09/07/22	14:00	CR-L-8-SY +100	SL	1	x	x							79.07 g
5		09/07/22	14:00	CR-L-8-SY +140	SL	1	x	x							59.00 g
6		09/07/22	14:00	CR-L-8-SY +200	SL	1	x	x							38.87 g
7		09/07/22	14:00	CR-L-8-SY +270	SL	1	x	x							15.63 g
8		09/08/22	08:00	CR-L-30-SY +25	SL	1	x	x							3.71 g
9		09/08/22	08:00	CR-L-30-SY +50	SL	1	x	x							21.57 g
10		09/08/22	08:00	CR-L-30-SY +100	SL	1	x	x							74.76 g
11		09/08/22	08:00	CR-L-30-SY +140	SL	1	x	x							57.66 g
12		09/08/22	08:00	CR-L-30-SY +200	SL	1	x	x							39.60 g
13		09/08/22	08:00	CR-L-30-SY +270	SL	1	x	x							16.42 g
14		09/14/22	11:00	CR-M-0-SL-01 +25	SL	1	x	x							36.97 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/06/22	19:00	[signature]	10-10-22	13:29

SHIPPING INFO
- ☐ UPS
- ☐ FedEx
- ☐ USPS
- ☐ Hand Carried
- ☑ Other Lab courier secure dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURN AROUND TIMES

Check desired service
- ☑ Standard turnaround
- ☐ RUSH - 5 Working Days
- ☐ URGENT - < 2 Working Days

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

Compliance Monitoring ? Y / N
Program (SDWA, NPDES,...)
PWSID / Permit #
Chlorinated? Y / N
Sample Disposal: Lab Client ✓

ADDITIONAL REMARKS

Please return unused sample to Disa after reporting.
Report preliminary metals before radionuclides.
~~Table A-12 from Work Plan attached~~

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Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES TO33/103G5440033.03.01	[signature]	307-871-7291

Report Address: Tetra Tech/Disa

Contact Name: Mike Dahlquist/Andrew Halverson

Email: mike.dahlquist@tetratech.com/a.halverson@disausa.com

Phone: 510-302-6310/307-871-7291

Invoice Address: Tetra Tech

Purchase Order #: 1150922

Quote #:

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/602	Ra 226 by 901.1	SPLP by Table A-12	MS/MSD					REMARKS
1		09/14/22	11:00	CR-M-0-SL-01 +50	SL	1	x	x							77.55 g
2		09/14/22	11:00	CR-M-0-SL-01 +100-01	SL	1	x	x							42.17 g
3		09/14/22	11:00	CR-M-0-SL-01 +100-02	SL	1	x	x							42.15 g
4		09/14/22	11:00	CR-M-0-SL-01 +140	SL	1	x	x							30.38 g
5		08/30/22	10:00	CTS-M-0-+1/4-inch	SL	1	x	x		x					1088.29 g, MS/MSD for Metals
6		09/14/22	11:00	CR-M-0-SL-01 +200	SL	1	x	x							20.85 g
7		09/14/22	11:00	CR-M-0-SL-01 +270	SL	1	x	x							9.44 g
8		09/14/22	11:00	CR-M-0-SL-01 -270	SL	1	x	x							56.16 g
9		09/09/22	10:00	CR-M-4-SY +25	SL	1	x	x							20.61 g
10		09/09/22	10:00	CR-M-4-SY +50	SL	1	x	x							92.38 g
11		09/09/22	10:00	CR-M-4-SY +100	SL	1	x	x							88.27 g
12		09/09/22	10:00	CR-M-4-SY +140	SL	1	x	x							28.45 g
13		09/09/22	10:00	CR-M-4-SY +200	SL	1	x	x							17.67 g
14		09/09/22	10:00	CR-M-4-SY +270	SL	1	x	x							7.86 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/06/22	14:00	[signature]	10-10-22	13:29

SHIPPING INFO	MATRIX CODES		TURN AROUND TIMES	COMPLIANCE INFORMATION		ADDITIONAL REMARKS
☐ UPS	Water	WT	Check desired service	Compliance Monitoring ?	Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...)		Report preliminary metals before radionuclides.
☐ USPS	Solid	SD	☐ RUSH - 5 Working Days	PWSID / Permit #		~~Table A-12 from Work Plan attached~~
☐ Hand Carried	Filter	FT	☐ URGENT - < 2 Working Days	Chlorinated?	Y / N	
☑ Other Lab courier secure dropoff	Other	OT	Rush & Urgent Surcharges will be applied	Sample Disposal: Lab	Client ✓	

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Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES TO33/103G5440033.03.01	[signature]	307-871-7291

Report Address: Tetra Tech/Disa

Contact Name: Mike Dahlquist/Andrew Halverson

Email: mike.dahlquist@tetratech.com / a.halverson@disausa.com

Phone: 510-302-6310/307-871-7291

Invoice Address: Tetra Tech

Purchase Order #: 1150922

Quote #:

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/602	Ra 226 by 901.1	SPLP by Table A-1	MS/MSD					REMARKS
1		09/12/22	11:00	CR-M-8-SY +25	SL	1	x	x							41.31 g
2		09/12/22	11:00	CR-M-8-SY +50	SL	1	x	x							123.38 g
3		09/12/22	11:00	CR-M-8-SY +100	SL	1	x	x							102.63 g
4		09/12/22	11:00	CR-M-8-SY +140	SL	1	x	x							31.43 g
5		09/12/22	11:00	CR-M-8-SY +200	SL	1	x	x							19.17 g
6		09/12/22	11:00	CR-M-8-SY +270	SL	1	x	x							8.90 g
7		09/13/22	15:00	CR-M-30-SY +25	SL	1	x	x							25.11 g
8		09/13/22	15:00	CR-M-30-SY +50	SL	1	x	x							92.89 g
9		09/13/22	15:00	CR-M-30-SY +100-01	SL	1	x	x							46.66 g
10		09/13/22	15:00	CR-M-30-SY +100-02	SL	1	x	x							46.66 g
11		08/30/22	10:00	CTS-H-0-+1/4 inch Bulk Assay	SL	1	x	x		x					1014.94 g, MS/MSD for Metals
12		09/13/22	15:00	CR-M-30-SY +140	SL	1	x	x							30.09g
13		09/13/22	15:00	CR-M-30-SY +200	SL	1	x	x							19.87 g
14		09/13/22	15:00	CR-M-30-SY +270	SL	1	x	x							8.92 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/06/22	19:00	[signature]	10-10-22	13:29

SHIPPING INFO
- ☐ UPS
- ☐ FedEx
- ☐ USPS
- ☐ Hand Carried
- ☑ Other Lab courier secure dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURN AROUND TIMES

Check desired service
- ☑ Standard turnaround
- ☐ RUSH - 5 Working Days
- ☐ URGENT - < 2 Working Days

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

Compliance Monitoring ? Y / N

Program (SDWA, NPDES,...)

PWSID / Permit #

Chlorinated? Y / N

Sample Disposal: Lab Client ✓

ADDITIONAL REMARKS

Please return unused sample to Disa after reporting.

Report preliminary metals before radionuclides.

~~Table A-12 from Work Plan attached~~

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Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES TO33/103G5440033.03.01	[signature]	307-871-7291

Report Address: Tetra Tech/Disa
Contact Name: Mike Dahlquist/Andrew Halverson
Email: mike.dahlquist@tetratech.com / a.halverson@disausa.com
Phone: 510-302-6310/307-871-7291
Invoice Address: Tetra Tech
Purchase Order #: 1150922
Quote #:

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/6020	Ra 226 by 901.1	SPLP by Table A-12	MS/MSD					REMARKS
1		09/19/22	17:00	CR-H-0-SL-01 +25	SL	1	x	x							83.60 g
2		09/19/22	17:00	CR-H-0-SL-01 +50	SL	1	x	x							139.19 g
3		09/19/22	17:00	CR-H-0-SL-01 +100	SL	1	x	x							92.25 g
4		09/19/22	17:00	CR-H-0-SL-01 +140	SL	1	x	x							21.13 g
5		09/19/22	17:00	CR-H-0-SL-01 +200	SL	1	x	x							14.87 g
6		09/19/22	17:00	CR-H-0-SL-01 +270	SL	1	x	x							9.19 g
7		09/19/22	17:00	CR-H-0-SL-01 -270	SL	1	x	x							71.97 g
8		09/15/22	13:30	CR-H-4-SY +25	SL	1	x	x							84.54 g
9		09/15/22	13:30	CR-H-4-SY +50	SL	1	x	x							172.04 g
10		09/15/22	13:30	CR-H-4-SY +100	SL	1	x	x							98.72 g
11		09/15/22	13:30	CR-H-4-SY +140	SL	1	x	x							18.56 g
12		09/15/22	13:30	CR-H-4-SY +200	SL	1	x	x							11.58 g
13		09/15/22	13:30	CR-H-4-SY +270	SL	1	x	x							6.08 g
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/06/22	19:00	T. Duarte-Barraba	10-10-22	13:29

SHIPPING INFO	MATRIX CODES		TURN AROUND TIMES	COMPLIANCE INFORMATION		ADDITIONAL REMARKS
☐ UPS	Water	WT	**Check desired service**	Compliance Monitoring ?	Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...)		Report preliminary metals before radionuclides.
☐ USPS	Solid	SD	☐ **RUSH - 5 Working Days**	PWSID / Permit #		~~Table A-12 from Work Plan attached~~
☐ Hand Carried	Filter	FT	☐ **URGENT - < 2 Working Days**	Chlorinated?	Y / N	
☑ Other Lab courier secure dropoff	Other	OT	***Rush & Urgent Surcharges will be applied***	Sample Disposal: Lab	Client ✓	

Ra 226 Sample Compositing Summary

Legend
Duplicate

Note: 36 samples from the 27 (SY samples) concentrate fractions and 9 (SL samples) -270 fractions not included in this splitting sheet.
2 duplicates and 2 MSD for metals have already been indicated for those samples

Sample Count	Sample ID	Estimated Composite Mass From This Sheet	Directions
1	CR-L-0-SL-01 +25/+100 Composite	104.72	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
2	CR-L-0-SL-01 +140/+270 Composite	124.77	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
3	CR-L-4-SY +25/+100 Composite	98.00	After metals split combine fractions of +25-, +50-, and +100-mesh. Combine both metals duplicates of the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
4	CR-L-4-SY +140/+270 Composite	102.69	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
5	CR-L-8-SY +25/+100 Composite	104.23	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
6	CR-L-8-SY +140/+270 Composite	110.50	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
7	CR-L-30-SY +25/+100 Composite	97.04	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
8	CR-L-30-SY +140/+270 Composite	110.68	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
9	CR-M-0-SL-01 +25/+100 Composite	194.84	After metals split combine fractions of +25-, +50-, and +100-mesh. Combine both metals duplicates for the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
10	CR-M-0-SL-01 +140/+270 Composite	57.67	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
11	CR-M-4-SY +25/+100 Composite	198.26	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
12	CR-M-4-SY +140/+270 Composite	50.98	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
13	CR-M-8-SY +25/+100 Composite	264.32	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
14	CR-M-8-SY +140/+270 Composite	56.50	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
15	CR-M-30-SY +25/+100 Composite	207.32	After metals split combine fractions of +25-, +50-, and +100-mesh. Combine both metals duplicates of the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
16	CR-M-30-SY +140/+270 Composite	55.88	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
17	CR-H-8-SY +25	94.13	After metals split, analyze remaining mass for Ra 226
18	CR-H-8-SY +50-01	81.39	After metals split, analyze remaining mass for Ra 226. This was already submitted as a duplicate sample and should have enough remaining mass to perform Ra 226 analysis as is.
19	CR-H-8-SY +50-02	81.38	After metals split, analyze remaining mass for Ra 226. This was already submitted as a duplicate sample and should have enough remaining mass to perform Ra 226 analysis as is.
20	CR-H-8-SY +100/+270 Composite	123.61	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
1	CR-H-0-SL-01 +25	82.60	After metals split, analyze remaining mass for Ra 226
2	CR-H-0-SL-01 +50	138.19	After metals split, analyze remaining mass for Ra 226
3	CR-H-0-SL-01 +100/+270 Composite	133.44	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226

4	CR-H-4-SY +25	83.54	After metals split, analyze remaining mass for Ra 226
5	CR-H-4-SY +50	171.04	After metals split, analyze remaining mass for Ra 226
6	CR-H-4-SY +100/+270 Composite	130.94	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
7	CR-H-30-SY +25/+50 Composite	161.62	After metals splits, combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226
8	CR-H-30-SY +100/+270 Composite	128.09	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
9	QV-L-0-SL-01 +25/+50 Composite	139.97	After metals splits, combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226
10	QV-L-0-SL-01 +100/+270 Composite	153.30	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
11	QV-L-4-SY +25/+50 Composite	106.02	After metals splits, combine fractions of +25- and +50-mesh. Combine both metals duplicates for the 50-mesh fraction into this composite. Homogenize, then analyze for Ra 226
12	QV-L-4-SY +100/+270 Composite	127.89	After metals split AND the MSD/MSD metals split from the 100-mesh fraction combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
13	QV-L-8-SY +25/+50 Composite	154.88	After metals splits, combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226
14	QV-L-8-SY +100/+270 Composite	172.12	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
15	QV-L-30-SY +25/+50 Composite	133.51	After metals splits, combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226
16	QV-L-30-SY +100/+270 Composite	172.46	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
17	QV-M-0-SL-01 +25	55.49	After metals split, analyze remaining mass for Ra 226
18	QV-M-0-SL-01 +50	113.89	After metals split, analyze remaining mass for Ra 226
19	QV-M-0-SL-01 +100/+270 Composite -01	64.77	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then further split into a duplicate. Analyze for Ra 226
20	QV-M-0-SL-01 +100/+270 Composite -02	64.77	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then further split into a duplicate. Analyze for Ra 226
1	QV-M-4-SY +25	80.35	After metals split, analyze remaining mass for Ra 226
2	QV-M-4-SY +50	145.59	After metals and MS/MSD metals split, analyze remaining mass for Ra 226
3	QV-M-4-SY +100/+270 Composite	141.79	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Combine both metals duplicates for the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
4	QV-M-8-SY +25	63.92	After metals split, analyze remaining mass for Ra 226
5	QV-M-8-SY +50	156.33	After metals split, analyze remaining mass for Ra 226
6	QV-M-8-SY +100/+270 Composite	140.46	Remove extra 15 grams from the 100-mesh fraction as well as the metals split prior to adding to this composite. After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
7	QV-M-30-SY +25/+50 Composite	167.63	After metals split and MS/MSD split from the 50-mesh fraction combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226
8	QV-M-30-SY +100/+270 Composite	148.98	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Combine both metals duplicates for the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226

9	CTS-L-0-SL-01 +25/+140 Composite	82.27	After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
10	CTS-L-0-SL-01 +200/+270 Composite	78.43	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
11	CTS-L-4-SY +25/+140 Composite	100.83	After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
12	CTS-L-4-SY +200/+270 Composite	76.09	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
13	CTS-L-8-SY +25/+140 Composite	72.86	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
14	CTS-L-8-SY +200/+270 Composite	71.06	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
15	CTS-L-30-SY +25/+140 Composite	50.82	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals and MS/MSD for metals split from -140-mesh fraction combine fractions of +25-, +50-, +100-, and +140-mesh. Combine both 100-mesh duplicates into this composite. Homogenize, then analyze for Ra 226
16	CTS-L-30-SY +200/+270 Composite	66.69	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
17	QV-H-0-SL-01 +25	56.53	After metals split, analyze remaining mass for Ra 226
18	QV-H-0-SL-01 +50	108.53	After metals split, analyze remaining mass for Ra 226
19	QV-H-0-SL-01 +100/+270 Composite-01	69.25	After metals split combine +100-, +140-, +200-, and +270-mesh. Homogenize, then further split into a duplicate. Analyze for Ra 226
20	QV-H-0-SL-01 +100/+270 Composite-02	69.25	After metals split combine +100-, +140-, +200-, and +270-mesh. Homogenize, then further split into a duplicate. Analyze for Ra 226
1	CTS-M-0-SL-01 +25/+140 Composite	97.06	After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
2	CTS-M-0-SL-01 +200/+270 Composite	77.75	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
3	CTS-M-4-SY +25/+140 Composite	86.24	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
4	CTS-M-4-SY +200/+270 Composite	63.13	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
5	CTS-M-8-SY +25/+140 Composite	76.03	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals and MS/MSD for 140-mesh fraction split combine fractions of +25-, +50-, +100-, and +140-mesh. Combine both metals duplicates for 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
6	CTS-M-8-SY +200/+270 Composite	62.12	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
7	CTS-M-30-SY +25/+140 Composite	74.26	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
8	CTS-M-30-SY +200/+270 Composite	61.43	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226

9	CTS-H-0-SL-01 +25/+140 Composite	90.81	After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
10	CTS-H-0-SL-01 +200/+270 Composite	97.99	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
11	CTS-H-4-SY +25/+140 Composite	73.74	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split and MS/MSD split for 140-mesh fraction combine fractions of +25-, +50-, +100-, and +140-mesh. Combine both 100-mesh metals duplicates into this composite. Homogenize, then analyze for Ra 226
12	CTS-H-4-SY +200/+270 Composite	73.42	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
13	CTS-H-8-SY +25/+140 Composite	82.59	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
14	CTS-H-8-SY +200/+270 Composite	82.77	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
15	CTS-H-30-SY +25/+140 Composite	70.29	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split and MS/MSD metals split for 140-mesh fraction combine fractions of +25-, +50-, +100-, and +140-mesh. Combine both 100-mesh metals duplicates into this composite. Homogenize, then analyze for Ra 226
16	CTS-H-30-SY +200/+270 Composite	71.46	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
17	QV-H-4-SY +25	100.55	After metals spit, analyze remaining mass for Ra 226
18	QV-H-4-SY +50-01	111.76	After metals split, split further into a duplicate and analyze for Ra 226
19	QV-H-4-SY +50-02	111.76	After metals split, split further into a duplicate and analyze for Ra 226
20	QV-H-4-SY +100/+270 Composite	195.37	After metals split, combine +100-, +140-, +200, and +270-mesh into composite. Homogenize, then analyze for Ra 226
1	QV-H-8-SY +25	88.94	After metals split, analyze remaining mass for Ra 226
2	QV-H-8-SY +50	215.80	After metals split, analyze remaining mass for Ra 226
3	QV-H-8-SY +100/+270 Composite	201.75	After metals split, combine +100-, +140-, +200, and +270-mesh into composite. Homogenize, then analyze for Ra 226
4	QV-H-30-SY +25	60.80	After metals split, analyze remaining mass for Ra 226
5	QV-H-30-SY +50-01	80.75	After metals split and MS/MSD metals split, split into duplicate. Analyze for Ra 226
6	QV-H-30-SY +50-02	80.75	After metals split and MS/MSD metals split, split into duplicate. Analyze for Ra 227
7	QV-H-30-SY +100/+270 Composite	183.71	After metals split, combine +100-, +140-, +200, and +270-mesh into composite. Combine both 100-mesh metals duplicates into this composite. Homogenize, then analyze for Ra 226

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Report Review Checklist

		Log Review
COC Review	Information on COC matches that on report; spelling accurate. **Initials/Date:**	WN 10/31/22
1	Original COC attached, signed and dated.	✓
2	Samples received within temperature	✓
2	Parameters requested.	✓
3	Client.	✓
4	Report recipient/address.	✓
5	Invoice recipient/address.	✓
6	Project. **Requested changes to Project must be communicated to Project Mgr.**	✓
7	Appropriate detection limits (RLs) assigned.	✓
8	Prices may need to be adjusted prior to invoicing. (circle)	Yes or No
9	P. O. number.	✓
10	Sample IDs.	✓
11	Sample dates.	✓
12	Date received.	✓
13	Date due.	✓
14	Matrix.	✓
15	PWSID included for safe drinking water compliance samples.	NA
16	Field data entered appropriately (**Log Review**); matches lab data (**Report Review**).	NA
17	Special requests indicated in "Comments" section of Work Order summary.	✓
18	All "No" responses on Condition Upon Receipt form have been resolved	Yes or No

		Report Review
Data Review		
1	Automated QC (Check Data button) review performed, discrepancies resolved.	✓
2	Worksheet/instrument data sheet for all requested parameters attached in LIMS or to work Order summary.	✓
3	Worksheet/instrument data compared to report results for calculation, transcription and data entry errors.	✓
4	Results compared to historical data if applicable.	NA
5	Analysis date and time.	✓
6	Analytical method.	✓
7	Appropriate detection limits (RLs) assigned.	✓
8	Appropriate units of measure.	✓
9	Analyst's initials.	✓
10	Calculations checked?	✓
11	Subcontracted analyses identified as such with qualifier or as attachment to lab report	NA
12	Subcontracted report reviewed	NA
13	Invoice parameters match those on COC.	✓

Final Review		
1	Report appears complete and appropriate.	✓
2	Condition Upon Receipt form completed, attached to packet, and related qualifiers included in report.	✓
3	All necessary qualifiers included in report.	✓
4	Qualifiers referenced in case narrative; which includes descriptions of all sample/analysis anomalies.	✓
5	Anomalies, including reason for report reissue, explained in Case Narrative.	✓
6	Copies of report sent to all recipients requested on COC. **(circle)** **Copy to Regulator** **Hard Copy**	Email
7	All special requests listed on COC, or attached parameter list, honored.	✓
8	Special report format per client request.	✓
9	Report pages signed.	✓

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- CHAIN OF CUSTODY RECORD -

All shaded fields must be completed.

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#WEB

Client Name	Tetra Tech/Disa
Report Address	Tetra Tech/Disa
Invoice Address	Tetra Tech
Project Identification	RAES TO33/103G5440033.03.01
Sampler (Signature/Attestation of Authenticity)	[signature]
Telephone #	307-871-7291
Contact Name	Mike Dahlquist/Andrew Halverson
Email	mike.dahlquist@tetratech.com/a.halverson@disausa.com
Phone	510-302-6310/307-871-7291
Purchase Order #	1150922
Quote #	

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/6020	Ra 226 by 901.1	MS/MSD						REMARKS
1		09/17/22	16:00	CR-H-8-SY +25	SL	1	x	x							95.13 g
2		09/17/22	16:00	CR-H-8-SY +50-01	SL	1	x	x							82.39 g
3		09/17/22	16:00	CR-H-8-SY +50-02	SL	1	x	x							82.38 g
4		08/24/22	12:00	CR-H-0-KY	SL	1	x	x	x						713.58 g, MS/MSD for Metals
5		09/17/22	16:00	CR-H-8-SY +100	SL	1	x	x							92.59 g
6		09/17/22	16:00	CR-H-8-SY +140	SL	1	x	x							18.00 g
7		09/17/22	16:00	CR-H-8-SY +200	SL	1	x	x							11.00 g
8		09/17/22	16:00	CR-H-8-SY +270	SL	1	x	x							6.02 g
9		09/19/22	11:40	CR-H-30-SY +25	SL	1	x	x							37.25 g
10		09/19/22	11:40	CR-H-30-SY +50	SL	1	x	x							126.37 g
11		09/19/22	11:40	CR-H-30-SY +100	SL	1	x	x							92.15 g
12		09/19/22	11:40	CR-H-30-SY +140	SL	1	x	x							20.03 g
13		09/19/22	11:40	CR-H-30-SY +200	SL	1	x	x							12.67 g
14		09/19/22	11:40	CR-H-30-SY +270	SL	1	x	x							7.24 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/10/22	12:20			

SHIPPING INFO
- ☐ UPS
- ☐ FedEx
- ☐ USPS
- ☐ Hand Carried
- ☑ Other lab courier secure drop off

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURN AROUND TIMES

Check desired service
- ☑ Standard turnaround
- ☐ **RUSH - 5 Working Days**
- ☐ **URGENT - < 2 Working Days**

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

Compliance Monitoring ? Y / N
Program (SDWA, NPDES,...)
PWSID / Permit #
Chlorinated? Y / N
Sample Disposal: Lab Client ✓

ADDITIONAL REMARKS

Please return unused sample to Disa after reporting.
Report preliminary metals before radionuclides.

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- CHAIN OF CUSTODY RECORD -

All shaded fields must be completed.

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#WEB

Client Name	Tetra Tech/Disa
Report Address	Tetra Tech/Disa
Invoice Address	Tetra Tech
Project Identification	RAES TO33/103G5440033.03.01
Sampler (Signature/Attestation of Authenticity)	[signature]
Telephone #	307-871-7291
Contact Name	Mike Dahlquist/Andrew Halverson
Email	mike.dahlquist@tetratech.com/ a.halverson@ disausa.com
Phone	510-302-6310/307-871-7291
Purchase Order #	1150922
Quote #	

ANALYSES / PARAMETERS: Metals by 6010/6020; Ra 226 by 901.1; MS/MSD

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/6020	Ra 226 by 901.1	MS/MSD						REMARKS
1		09/29/22	18:30	QV-L-0-SL-01 +25	SL	1	x	x							52.30 g
2		09/29/22	18:30	QV-L-0-SL-01 +50	SL	1	x	x							89.67 g
3		09/29/22	18:30	QV-L-0-SL-01 +100	SL	1	x	x							102.86 g
4		09/29/22	18:30	QV-L-0-SL-01 +140	SL	1	x	x							30.44 g
5		09/29/22	18:30	QV-L-0-SL-01 +200	SL	1	x	x							15.33 g
6		09/29/22	18:30	QV-L-0-SL-01 +270	SL	1	x	x							8.67 g
7		09/29/22	18:30	QV-L-0-SL-01 -270	SL	1	x	x							68.72 g
8		09/20/22	10:00	QV-L-4-SY +25	SL	1	x	x							22.90 g
9		09/20/22	10:00	QV-L-4-SY +50-01	SL	1	x	x							43.06 g
10		09/20/22	10:00	QV-L-4-SY +50-02	SL	1	x	x							43.06 g
11		09/20/22	10:00	QV-L-4-SY +100	SL	1	x	x	x						90.47 g, MS/MSD for metals
12		09/20/22	10:00	QV-L-4-SY +140	SL	1	x	x							26.36 g
13		09/20/22	10:00	QV-L-4-SY +200	SL	1	x	x							12.40 g
14		09/20/22	10:06	QV-L-4-SY +270	SL	1	x	x							5.66 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/10/22	12:20			

SHIPPING INFO
- ☐ UPS
- ☐ FedEx
- ☐ USPS
- ☐ Hand Carried
- ☑ Other Lab courier secure dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURN AROUND TIMES

Check desired service
- ☑ Standard turnaround
- ☐ **RUSH - 5 Working Days**
- ☐ **URGENT - < 2 Working Days**

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

Compliance Monitoring ? Y / N

Program (SDWA, NPDES,...)

PWSID / Permit #

Chlorinated? Y / N

Sample Disposal: Lab Client ✓

ADDITIONAL REMARKS

Please return unused sample to Disa after reporting.

Report preliminary metals before radionuclides.

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Sheridan, WY and Gillette, WY

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All shaded fields must be completed.
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#WEB

Client Name: Tetra Tech/Disa	Project Identification: RAES TO33/103G5440033.03.01	Sampler (Signature/Attestation of Authenticity): [signature]
Report Address: Tetra Tech/Disa	Contact Name: Mike Dahlquist/Andrew Halverson	Telephone #: 307-871-7291
Invoice Address: Tetra Tech	Email: mike.dahlquist@tetratech.com/ahalverson@disausa.com	
	Phone: 510-302-6310/307-871-7291	
	Purchase Order #: 1150922	Quote #:

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/6020	Ra 226 by 901.1	MS/MSD						REMARKS
1		09/28/22	13:00	QV-L-8-SY +25	SL	1	x	x							37.62 g
2		09/28/22	13:00	QV-L-8-SY +50	SL	1	x	x							119.26 g
3		09/28/22	13:00	QV-L-8-SY +100	SL	1	x	x							119.94 g
4		09/28/22	13:00	QV-L-8-SY +140	SL	1	x	x							33.19 g
5		09/28/22	13:00	QV-L-8-SY +200	SL	1	x	x							15.46 g
6		09/28/22	13:00	QV-L-8-SY +270	SL	1	x	x							7.53 g
7		09/29/22	08:00	QV-L-30-SY +25	SL	1	x	x							30.09 g
8		09/29/22	08:00	QV-L-30-SY +50	SL	1	x	x							105.42 g
9		09/29/22	08:00	QV-L-30-SY +100	SL	1	x	x							117.69 g
10		09/29/22	08:00	QV-L-30-SY +140	SL	1	x	x							34.22 g
11		09/29/22	08:00	QV-L-30-SY +200	SL	1	x	x							16.76 g
12		09/29/22	08:00	QV-L-30-SY +270	SL	1	x	x							7.79 g
13		09/30/22	12:30	QV-M-4-SY +25	SL	1	x	x							81.35 g
14		09/30/22	12:30	QV-M-4-SY +50	SL	1	x	x	x						149.59 g, MS/MSD for Metals

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/10/22	12:20			

SHIPPING INFO	MATRIX CODES		TURN AROUND TIMES	COMPLIANCE INFORMATION		ADDITIONAL REMARKS
☐ UPS	Water	WT	Check desired service	Compliance Monitoring ?	Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...)		Report preliminary metals before radionuclides.
☐ USPS	Solid	SD	☐ RUSH - 5 Working Days	PWSID / Permit #		
☐ Hand Carried	Filter	FT	☐ URGENT - < 2 Working Days	Chlorinated?	Y / N	
☑ Other Lab courier secure dropoff	Other	OT	*Rush & Urgent Surcharges will be applied*	Sample Disposal: Lab	Client ✓	

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#WEB

Client Name	Tetra Tech/Disa
Report Address	Tetra Tech/Disa
Invoice Address	Tetra Tech
Project Identification	RAES TO33/103G5440033.03.01
Sampler (Signature/Attestation of Authenticity)	Au 7b
Telephone #	307-871-7291
Contact Name	Mike Dahlquist/Andrew Halverson
Email	mikedahlquist@tetratech.com/ahalverson@disausa.com
Phone	510-302-6310/307-871-7291
Purchase Order #	1150922
Quote #	

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/6020	Ra 226 by 901.1	MS/MSD						REMARKS
1		09/30/22	12:30	QV-M-4-SY +100-01	SL	1	x	x							53.24 g
2		09/30/22	12:30	QV-M-4-SY +100-02	SL	1	x	x							53.24 g
3		09/30/22	12:30	QV-M-4-SY +140	SL	1	x	x							23.34 g
4		09/30/22	12:30	QV-M-4-SY +200	SL	1	x	x							11.09 g
5		09/30/22	12:30	QV-M-4-SY +270	SL	1	x	x							5.88 g
6		10/02/22	12:30	QV-M-0-SL-01 +25	SL	1	x	x							56.49 g
7		10/02/22	12:30	QV-M-0-SL-01 +50	SL	1	x	x							114.89 g
8		10/02/22	12:30	QV-M-0-SL-01 +100	SL	1	x	x							87.26 g
9		10/02/22	12:30	QV-M-0-SL-01 +140	SL	1	x	x							25.76 g
10		10/02/22	12:30	QV-M-0-SL-01 +200	SL	1	x	x							12.46 g
11		10/02/22	12:30	QV-M-0-SL-01 +270	SL	1	x	x							8.06 g
12		10/02/22	12:30	QV-M-0-SL-01 -270	SL	1	x	x							74.87 g
13		09/30/22	21:00	QV-M-8-SY +25	SL	1	x	x							64.92 g
14		09/30/22	21:00	QV-M-8-SY +50	SL	1	x	x							157.33 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	Au 7b / Andrew Halverson	10/10/22	12:20			

SHIPPING INFO
- ☐ UPS
- ☐ FedEx
- ☐ USPS
- ☐ Hand Carried
- ☑ Other lab courier secure dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURN AROUND TIMES

Check desired service
- ☑ Standard turnaround
- ☐ **RUSH - 5 Working Days**
- ☐ **URGENT - < 2 Working Days**

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

Compliance Monitoring ? Y / N
Program (SDWA, NPDES,...)
PWSID / Permit #
Chlorinated? Y / N
Sample Disposal: Lab Client ✓

ADDITIONAL REMARKS

Please return unused sample to Disa after reporting.
Report preliminary metals before radionuclides.

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#WEB

Client Name: Tetra Tech/Disa	Project Identification: RAES TO33/103G5440033.03.01	Sampler (Signature/Attestation of Authenticity):	Telephone #: 307-871-7291
Report Address: Tetra Tech/Disa	Contact Name: Mike Dahlquist/Andrew Halverson		
	Email: mike.dahlquist@tetratech.com / a.halverson@disanse.com		
Invoice Address: Tetra Tech	Phone: 510-302-6310/307-871-7291		
	Purchase Order #: 1150922	Quote #:	

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/6020	Ra 226 by 901.1	MS/MSD						REMARKS
1		09/30/22	21:00	QV-M-8-SY +100	SL	1	x	x							115.67 g
2		09/30/22	21:00	QV-M-8-SY +140	SL	1	x	x							25.22 g
3		09/30/22	21:00	QV-M-8-SY +200	SL	1	x	x							12.35 g
4		09/30/22	21:00	QV-M-8-SY +270	SL	1	x	x							6.22 g
5		10/01/22	18:30	QV-M-30-SY +25	SL	1	x	x							41.91 g
6		10/01/22	18:30	QV-M-30-SY +50	SL	1	x	x	X						130.72 g, MS/MSD for Metals
7		10/01/22	18:30	QV-M-30-SY +100-01	SL	1	x	x							53.37 g
8		10/01/22	18:30	QV-M-30-SY +100-02	SL	1	x	x							53.36 g
9		10/01/22	18:30	QV-M-30-SY +140	SL	1	x	x							26.36 g
10		10/01/22	18:30	QV-M-30-SY +200	SL	1	x	x							13.68 g
11		10/01/22	18:30	QV-M-30-SY +270	SL	1	x	x							7.21 g
12		10/02/22	17:00	QV-H-4-SY +25	SL	1	x	x							101.55 g
13		10/02/22	17:00	QV-H-4-SY +50	SL	1	x	x							224.51 g
14		10/02/22	17:00	QV-H-4-SY +100	SL	1	x	x							147.85 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	/Andrew Halverson	10/10/22	12:20			

SHIPPING INFO	MATRIX CODES	TURN AROUND TIMES	COMPLIANCE INFORMATION	ADDITIONAL REMARKS
☐ UPS	Water WT	**Check desired service**	Compliance Monitoring ? Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil SL	☑ Standard turnaround	Program (SDWA, NPDES,...)	Report preliminary metals before radionuclides.
☐ USPS	Solid SD	☐ RUSH - 5 Working Days	PWSID / Permit #	
☐ Hand Carried	Filter FT	☐ URGENT - < 2 Working Days	Chlorinated? Y / N	
☑ Other Lab courier secure dropoff	Other OT	*Rush & Urgent Surcharges will be applied*	Sample Disposal: Lab Client ✓	

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#WEB

Client Name	Tetra Tech/Disa
Project Identification	RAES TO33/103G5440033.03.01
Sampler (Signature/Attestation of Authenticity)	[signature]
Telephone #	307-871-7291
Report Address	Tetra Tech/Disa
Contact Name	Mike Dahlquist/Andrew Halverson
Email	mike.dahlquist@tetratech.com / ahalverson@disausa.com
Phone	510-302-6310/307-871-7291
Invoice Address	Tetra Tech
Purchase Order #	1150922
Quote #	

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/6020	Ra 226 by 901.1	MS/MSD						REMARKS
1		10/02/22	17:00	QV-H-4-SY +140	SL	1	x	x							30.38 g
2		10/02/22	17:00	QV-H-4-SY +200	SL	1	x	x							14.50 g
3		10/02/22	17:00	QV-H-4-SY +270	SL	1	x	x							6.64 g
4		10/04/22	12:00	QV-H-0-SL-01 +25	SL	1	x	x							57.53 g
5		10/04/22	12:00	QV-H-0-SL-01 +50	SL	1	x	x							109.53 g
6		10/04/22	12:00	QV-H-0-SL-01 +100	SL	1	x	x							98.59 g
7		10/04/22	12:00	QV-H-0-SL-01 +140	SL	1	x	x							24.54 g
8		10/04/22	12:00	QV-H-0-SL-01 +200	SL	1	x	x							12.01 g
9		10/04/22	12:00	QV-H-0-SL-01 +270	SL	1	x	x							7.35 g
10		10/04/22	12:00	QV-H-0-SL-01 -270	SL	1	x	x							72.37 g
11		10/03/22	21:20	QV-H-30-SY +25	SL	1	x	x							61.80 g
12		10/03/22	21:20	QV-H-30-SY +50	SL	1	x	x	x						165.49 g, MS/MSD for metals
13		10/03/22	21:20	QV-H-30-SY +100-01	SL	1	x	x							65.97 g
14		10/03/22	21:20	QV-H-30-SY +100-02	SL	1	x	x							65.97 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/10/22	12:20			

SHIPPING INFO	MATRIX CODES		TURN AROUND TIMES	COMPLIANCE INFORMATION		ADDITIONAL REMARKS
☐ UPS	Water	WT	**Check desired service**	Compliance Monitoring ?	Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...)		Report preliminary metals before radionuclides.
☐ USPS	Solid	SD	☐ **RUSH - 5 Working Days**	PWSID / Permit #		
☐ Hand Carried	Filter	FT	☐ **URGENT - < 2 Working Days**	Chlorinated?	Y / N	
☑ Other lab courier secure dropoff	Other	OT	***Rush & Urgent Surcharges will be applied***	Sample Disposal: Lab	Client ✓	

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Page 7 of 7

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Client Name	Tetra Tech/Disa
Report Address	Tetra Tech/Disa
Invoice Address	Tetra Tech
Project Identification	RAES TO33/103G5440033.03.01
Sampler (Signature/Attestation of Authenticity)	[signature]
Telephone #	307-871-7291
Contact Name	Mike Dahlquist/Andrew Halverson
Email	mikedahlquist@tetratech.com / a.halverson@disausa.com
Phone	510-302-6310/307-871-7291
Purchase Order #	1150922
Quote #	

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/6020	Ra 226 by 901.1	MS/MSD						REMARKS
1		10/03/22	21:20	QV-H-30-SY +140	SL	1	x	x							32.71 g
2		10/03/22	21:20	QV-H-30-SY +200	SL	1	x	x							16.32 g
3		10/03/22	21:20	QV-H-30-SY +270	SL	1	x	x							7.74 g
4		10/03/22	14:40	QV-H-8-SY +25	SL	1	x	x							89.94 g
5		10/03/22	14:40	QV-H-8-SY +50	SL	1	x	x							216.80 g
6		10/03/22	14:40	QV-H-8-SY +100	SL	1	x	x							151.40 g
7		10/03/22	14:40	QV-H-8-SY +140	SL	1	x	x							32.08 g
8		10/03/22	14:40	QV-H-8-SY +200	SL	1	x	x							15.06 g
9		10/03/22	14:40	QV-H-8-SY +270	SL	1	x	x							7.21 g
10															
11															
12															
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/10/22	12:20			

SHIPPING INFO
- ☐ UPS
- ☐ FedEx
- ☐ USPS
- ☐ Hand Carried
- ☑ Other Lab courier secure dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURN AROUND TIMES
Check desired service
- ☑ Standard turnaround
- ☐ **RUSH - 5 Working Days**
- ☐ **URGENT - < 2 Working Days**

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION
Compliance Monitoring ? Y / N
Program (SDWA, NPDES,...)
PWSID / Permit #
Chlorinated? Y / N
Sample Disposal: Lab Client ✓

ADDITIONAL REMARKS
Please return unused sample to Disa after reporting.
Report preliminary metals before radionuclides.

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Client Name	Tetra Tech / Disa
Project Identification	RAES T033 / 103G544 0033.03.01
Sampler (Signature/Attestation of Authenticity)	[signature]
Telephone #	307-871-7291
Report Address	Tetra Tech / Disa
Contact Name	Mike Dahlquist / Andrew Halverson
Email	mike.dahlquist@tetratech.com / a.halverson@disausa.com
Phone	510-362-6310 / 307-871-7291
Invoice Address	Tetra Tech
Purchase Order #	1150922
Quote #	

Pace Analytical — Preservative Lot #
1:1 HNO_3: M-072722-2
H_2SO_4: Chem 2-71-4
NaOH: Wet-3-40-1

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Total Metals by 6010/6020	Dissolved Metals by 6010/6020	Total Ra226 by 903.1	Total Ra228 by 904.0	Dissolved Ra226 by 903.1	TDS by SM2540	TSS by SM2540		REMARKS
1		10/05/22	10:00	CTS-L-4-WT	WT	7	✓		✓	✓		✓	✓		Unfiltered
2		10/05/22	16:30	CTS-L-8-WT	WT	7	✓		✓	✓		✓	✓		Unfiltered
3		10/06/22	16:41	CTS-L-30-WT	WT	7	✓	✓	✓	✓	✓	✓	✓		Unfiltered
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/10/22	12:05			

SHIPPING INFO
- ☐ UPS
- ☐ Fed Express
- ☐ US Mail
- ☐ Hand Carried
- ☑ Other Lab Courier Secure dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURNAROUND TIMES

Check desired service
- ☑ Standard turnaround
- ☐ **RUSH - 5 Working Days**
- ☐ **URGENT** - < 2 Working Days

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

Compliance Monitoring? Y / N
Program (SDWA, NPDES,...)
PWSID / Permit #
Chlorinated? Y / N
Sample Disposal: Lab ✓ Client

ADDITIONAL REMARKS

In 2 separate coolers. For Unfiltered samples, filter prior to addition of preservatives on total vs dissolved analysis. Soil samples w/ CTS-L-30-WT in cooler.

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#WEB

Client Name: Tetra Tech/Disa	Project Identification: RAES TO33/103G5440033.03.01	Sampler (Signature/Attestation of Authenticity): [signature]
Report Address: Tetra Tech/Disa	Contact Name: Mike Dahlquist/Andrew Halverson	Telephone #: 307-871-7291
	Email:	
Invoice Address: Tetra Tech	Phone: 510-302-6310/307-871-7291	
	Purchase Order #: 1150922	Quote #:

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	SPLP by Table A-12	SPLP by Table A-13	MS/MSD						REMARKS
1		09/13/22	15:00	CR-M-30-SY Combined +25/+270	SL	1	x	x							537.61 g
2		09/15/22	13:30	CR-H-4-SY Combined +25/+270	SL	1	x	x	x						780.85 g
3		09/17/22	16:00	CR-H-8-SY Combined +25/+270-01	SL	1	x	x							388.24 g
4		09/17/22	16:00	CR-H-8-SY Combined +25/+270-02	SL	1	x	x							383.75 g
5		09/19/22	11:40	CR-H-30-SY Combined +25/+270	SL	1	x	x							589.73 g
6		09/20/22	10:00	QV-L-4-SY Combined +25/+270	SL	1	x	x							485.89 g
7		09/28/22	13:00	QV-L-8-SY Combined +25/+270	SL	1	x	x							662.81 g
8		09/29/22	08:00	QV-L-30-SY Combined +25/+270	SL	1	x	x							619.92 g
9		09/30/22	12:30	QV-M-4-SY Combined +25/+270	SL	1	x	x							753.70 g
10		09/30/22	21:00	QV-M-8-SY Combined +25/+270	SL	1	x	x							759.64 g
11		10/01/22	18:30	QV-M-30-SY Combined +25/+270	SL	1	x	x							650.64 g
12		10/02/22	17:00	QV-H-4-SY Combined +25/+270	SL	1	x	x							1048.37 g
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/10/22	12:05			

SHIPPING INFO

- ☐ UPS
- ☐ FedEx
- ☐ USPS
- ☐ Hand Carried
- ☑ Other Lab courier Secure dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURN AROUND TIMES

Check desired service

- ☑ Standard turnaround
- ☐ **RUSH - 5 Working Days**
- ☐ **URGENT - < 2 Working Days**

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

Compliance Monitoring ? Y / N

Program (SDWA, NPDES,...)

PWSID / Permit #

Chlorinated? Y / N

Sample Disposal: Lab Client ✓

ADDITIONAL REMARKS

Please return unused sample to Disa after reporting.

Report preliminary metals before radionuclides.

Table A-12 and A-13 from Work Plan attached

Table A-12. Aqueous Metals Analytical Parameter Summary for SPLP and TCLP Extracts

Analyte	CAS Number	Analytical Method	MDL[1] (µg/L)	Reporting Limit (µg/L)	TCLP Criteria (µg/L)	USEPA RSL Tap Water[2] (µg/L)
Aluminum	7429-90-5	USEPA 6010	4.68	100	NP	20,000
Antimony	7440-36-0	USEPA 6010	34.02	50	NP	7.8
Arsenic	7440-38-2	USEPA 6010	1.54	20	5,000	0.052
Barium	7440-39-3	USEPA 6010	0.19	50	100,000	3,800
Beryllium	7440-41-7	USEPA 6010	0.13	20	NP	25
Cadmium	7440-43-9	USEPA 6010	0.08	50	1,000	9.2
Chromium	7440-47-3	USEPA 6010	0.24	10	5,000	NP
Cobalt	7440-48-4	USEPA 6010	3.88	10	NP	6
Copper	7440-50-8	USEPA 6010	0.91	10	NP	800
Iron	7439-89-6	USEPA 6010	9.33	50	NP	14,000
Lead	7439-92-1	USEPA 6010	1.59	200	5,000	15
Manganese	7439-96-5	USEPA 6010	0.19	100	NP	430
Mercury	7439-97-6	USEPA 7470	0.05	1	200	6
Molybdenum	7439-98-7	USEPA 6010	3.45	10	NP	100
Nickel	7440-02-0	USEPA 6010	2.55	20	NP	390
Selenium	7782-49-2	USEPA 6010	4.00	200	1,000	100
Silver	7440-22-4	USEPA 6010	0.58	50	5,000	94
Thallium	7440-28-0	USEPA 6010	26.68	200	NP	0.2
Vanadium	7440-62-2	USEPA 6010	1.58	5	NP	86
Uranium (natural)	7440-61-1	USEPA 6010	24.08	50	NP	NP
Zinc	7440-66-6	USEPA 6010	14.71	200	NP	6,000

Notes:

Analyte SPLP extracts

Analyte TCLP extract only

Analyte TCLP and SPLP extracts

1 MDLs are specific to the contract laboratory. As MDLs are instrument specific, MDLs may vary depending on which instrument is used.

2 TR = 1 E-6; THQ = 1

µg/L Microgram per liter
CAS Chemical Abstracts Service
MDL Method detection limit
NNEPA Navajo Nation Environmental Protection Agency
NP Not promulgated
RSL Regional screening level
SPLP Synthetic precipitation leaching procedure
TCLP Toxicity characteristic leaching procedure
THQ Target hazard quotient
TR Target cancer risk
USEPA U.S. Environmental Protection Agency

Source:

USEPA (2021). "Regional Screening Levels (RSLs) - Generic Tables." https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables

Table A-13. Aqueous Radionuclide Analytical Parameter Summary for SPLP Extract

Analyte	CAS Number	Analytical Method	MDC[1] (pCi/L)	Requested MDC[1] (pCi/L)	USEPA MCL[2] (pCi/L)	ORNL Ecological Screening Level (pCi/L)
Radium-226	13982-63-3	Alpha Scint USEPA 903.1	0.2	0.1	5 *	160
Radium-228	15262-20-1	GFPC USEPA 904.0	1.0	0.1	5 *	NV

Notes:

1 MDCs requested from laboratories based on the expertise of the certified health physicist and project chemist.
2 MCLs from USEPA National Primary Drinking Water Regulations (USEPA 2009).
* The MCL for radium-226 and radium-228 is defined on a combined basis. The MCL for total radium (radium-226 + radium-228) is 5 pCi/L.

CAS Chemical Abstracts Service
GFPC Gas flow proportional counting
MCL Maximum contaminant level
MDC Minimum detectable concentration
NV No value
ORNL Radiological Benchmarks for Screening Contaminants of Potential Concern for Effects on Aquatic Biota at Oak Ridge National Laboratory (Bechtel Jacobs Company 1998)
pCi/L Picocurie per liter
Scint Scintillation
SPLP Synthetic precipitation leaching procedure
USEPA U.S. Environmental Protection Agency

Sources:

Bechtel Jacobs Company. 1998. "Radiological Benchmarks for Screening Contaminants of Potential Concern for Effects on Aquatic Biota at Oak Ridge National Laboratory, Oak Ridge, Tennessee."
U.S. Environmental Protection Agency (USEPA). 2009. "National Primary Drinking Water Regulations." EPA 816-F-09-004. May.

DISA

Package Survey From

Date: 10/10/22 Time: 13:00 Surveyor Name: Andrew Halverson

Unat Specific Activity 7.1 e-7 Ci/g
Limits
Exempt: 2.7e-11 Ci/g AND 2.7e-8 Ci
Excepted: 7.1e-7 Ci/g
A1 [Ci]: Unlimited
A2 [Ci]: Unlimited
0.5 mRem/hr
~500 µR/hr
Alpha: 24 dpm/cm²
Beta: 240 dpm/cm²

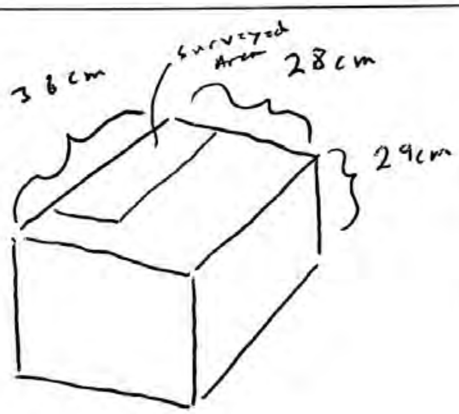
Package Description	Box with <14 lb of <1500 ppm Unat soil
Package Destination	Pace Labs 1673 Terra Avenue Sheridan, WY 82801

Contents	<1500 ppm Unat Soil	Exempt (Y/N)	N
Material Specific Activity	<1.07e-9 Ci/g	UN2910 Excepted (Y/N)	Y
Contents Mass	<14 lb		
Contents Total Activity	<6.4e-6 Ci		

Instrument	
Manufacturer	Ludlum
Model	19
Serial No.	268865
Cal Due Date	12/19/2022
FC Passed (Y/N)	Y
Background	8 µR/hr

Location	Gross	Net
Side 1	12	4 µR/hr
Side 2	12	4 µR/hr
Side 3	13	5 µR/hr
Side 4	14	6 µR/hr
Side 5	14	6 µR/hr
Bottom → Side 6	21	13 µR/hr

Package Sketch



Package Surface Area [cm²] 5728

Meter	
Manufacturer	Ludlum
Model	2929
Serial No.	208319
Cal Due Date	06/27/2023

Detector	
Manufacturer	Ludlum
Model	43-10-1
Serial No.	PR215938
Cal Due Date	06/27/2023

FC Passed (Y/N)	Y
BKG Alpha (cpm)	0
Beta/Gamma (cpm)	56
300 cm² Surveyed (Y/N)	Y
Entire Package Surveyed (Y/N)	N

Measurement	Alpha Gross [cpm]	Alpha Net [cpm]	Alpha Swipe Efficiency	Alpha dpm/cm²	Beta/Gamma Gross [cpm]	Beta/Gamma Net [cpm]	Beta/Gamma Swipe Efficiency	Beta/Gamma dpm/cm²	Meets Limits
Swipe 1	2	2	0.1	0.4	71	15	0.1	6.3	AH
Swipe 2	2	2	0.1	0.4	56	—	0.1	—	AH
			0.1				0.1		
			0.1				0.1		

Labeled: AH

Surveyor Signature: [signature]

Released

Date: 10/10/2022

Time: 13:30

DISA

Package Survey From

Date: 10/10/22 Time: 13:00 Surveyor Name: Andrew Halverson

Unat Specific Activity 7.1 e-7 Ci/g
Limits
Exempt: 2.7e-11 Ci/g AND 2.7e-8 Ci
Excepted: 7.1e-7 Ci/g
A1 [Ci]: Unlimited
A2 [Ci]: Unlimited
0.5 mRem/hr
~500 µR/hr
Alpha: 24 dpm/cm²
Beta: 240 dpm/cm²

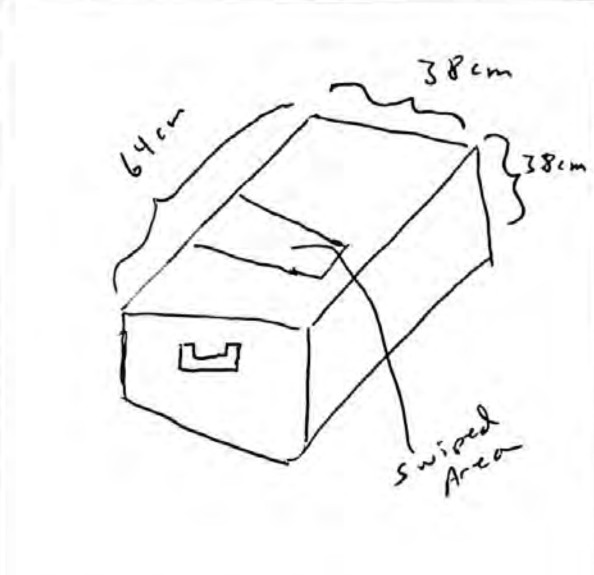
Package Description	Cooler with water and <17 lb of <1500 ppm Unat soil
Package Destination	Pace Labs 1673 Terra Avenue Sheridan, WY 82801

Contents	<1500 ppm Unat soil	Exempt (Y/N)	N
Material Specific Activity	<1.07e-9 Ci/g	UN2910 Excepted (Y/N)	Y
Contents Mass	<17 lb		
Contents Total Activity	<8.2e-6 Ci		

Instrument	
Manufacturer	Ludlum
Model	19
Serial No.	268865
Cal Due Date	12/19/2022
FC Passed (Y/N)	Y
Background	8 uR/hr

Location	Gross	Net
Side 1	11	3 uR/hr
Side 2	13	5 uR/hr
Side 3	12	4 uR/hr
Side 4	13	5 uR/hr
Side 5	10	2 uR/hr
Side 6	12	4 uR/hr

Package Sketch



Package Surface Area [cm²] 12,616

Meter	
Manufacturer	Ludlum
Model	2929
Serial No.	208319
Cal Due Date	06/27/2023

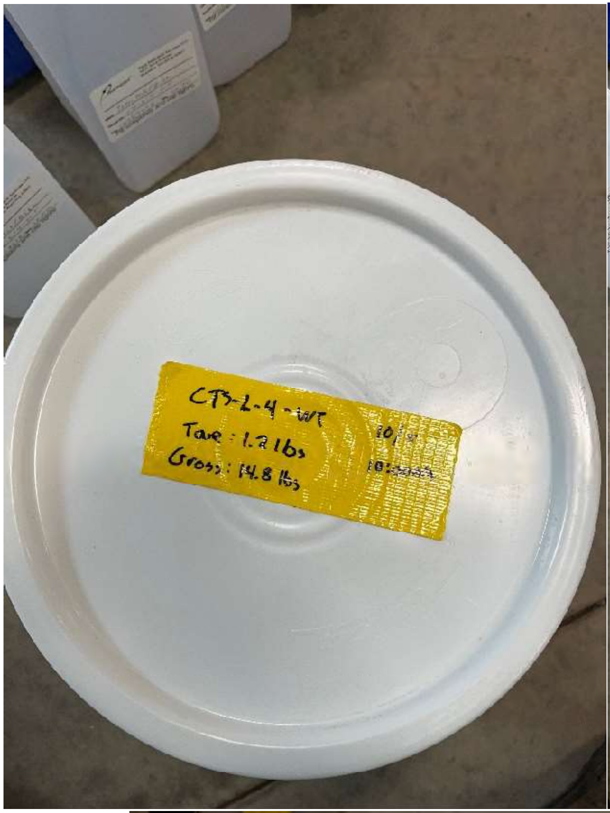
Detector	
Manufacturer	Ludlum
Model	43-10-1
Serial No.	PR215938
Cal Due Date	06/27/2023

FC Passed (Y/N)	Y
BKG Alpha (cpm)	0
Beta/Gamma (cpm)	64
300 cm² Surveyed (Y/N)	Y
Entire Package Surveyed (Y/N)	N

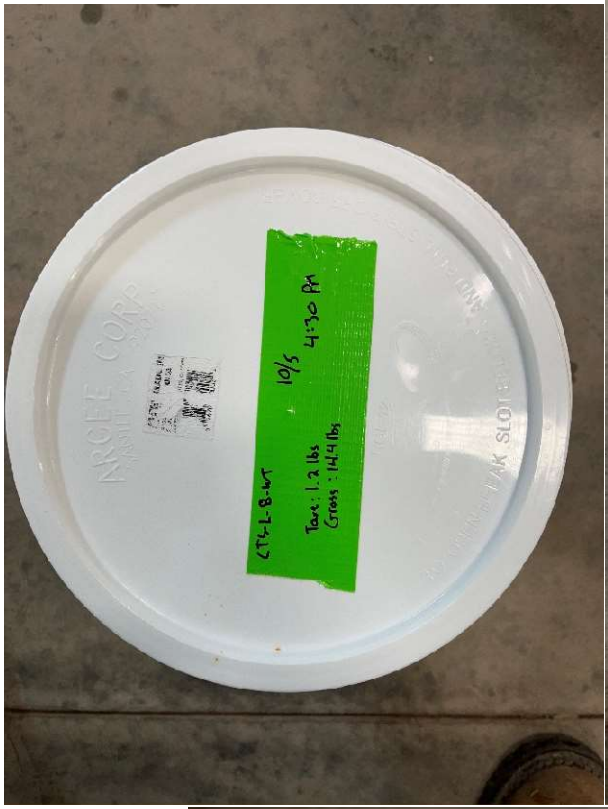
Measurement	Alpha				Beta/Gamma				Meets Limits
	Gross [cpm]	Net [cpm]	Swipe Efficiency	dpm/cm²	Gross [cpm]	Net [cpm]	Swipe Efficiency	dpm/cm²	
Swipe 1	4	4	0.1	0.8	82	18	0.1	7.5	AH
Swipe 2	9	9	0.1	1.7	81	17	0.1	7.1	AH
Swipe 3	5	5	0.1	0.94	48	—	0.1	—	AH
			0.1				0.1		

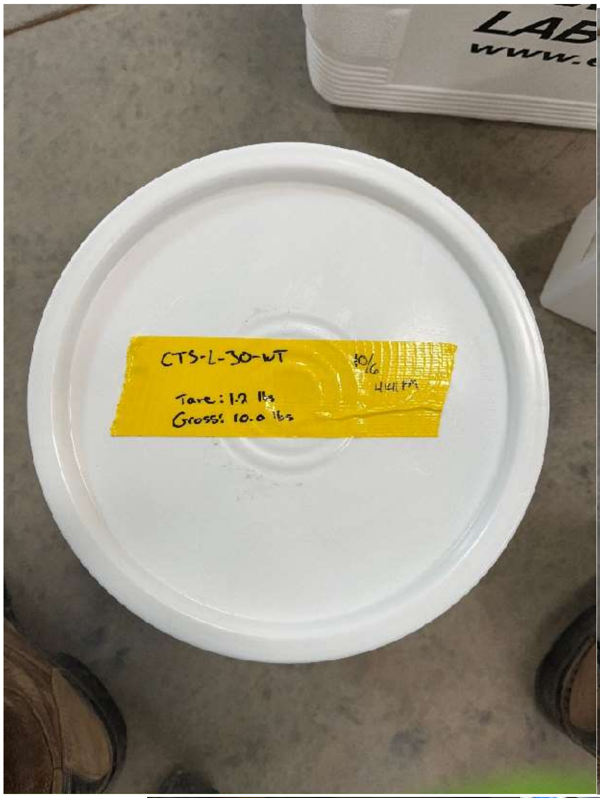
Labeled	AH
Surveyor Signature:	[signature]
Released	
Date: 10/10/2022	
Time: 13:30	

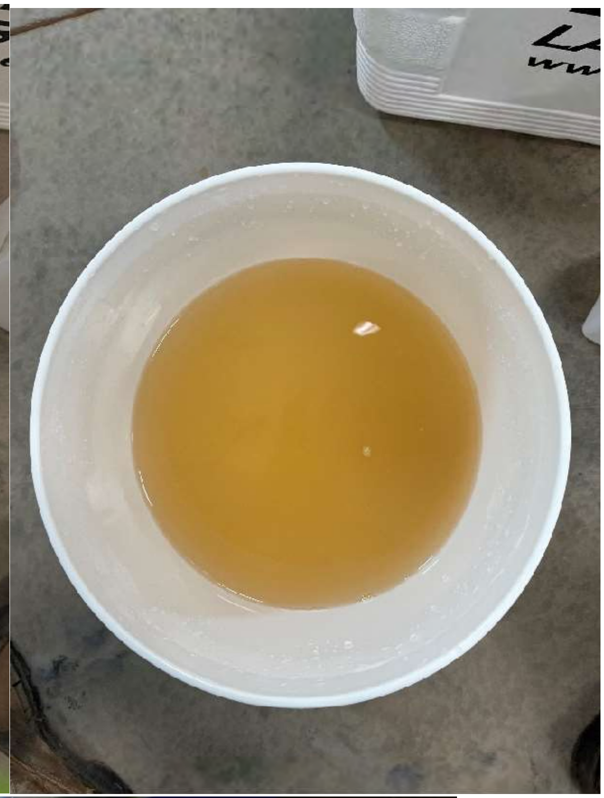
Note: Cooler wiped down and 3rd swipe taken


CTS-L-4-WT
Tare: 1.2 lbs
Gross: 14.8 lbs


Fill completely and cap tightly.
24·14·14


CT-L-B-WT
10/5
4:30 PM
Tare: 1.2 lbs
Gross: 14.4 lbs


CTS-L-30-WT
10/6
Tare: 1.2 lbs
Gross: 10.0 lbs



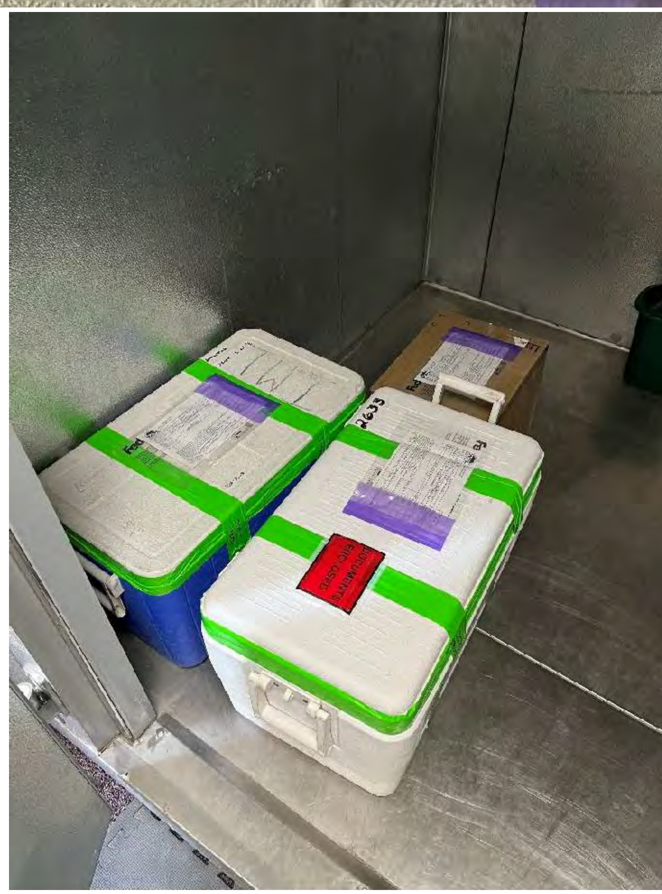

igloo
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

WPL
WESTERN PEAKS LOGISTICS
Phone: 307-266-2229
Fax: 307-266-9156
SHIPPER Dix Technologies, Inc
STREET 1653 English Ave
CITY Casper STATE WY ZIP 82601
CONSIGNEE Pace
CITY Sheridan
PIECES
DESCRIPTION OF CONTENTS
1 Cooler with water and Soil samples
SPECIAL SERVICES
Special Delivery
Signature Service
Verbal Delivery Confirmation
Exclusive Truck
Signature and Turnaround
DELIVERY DEADLINE
DECLARED VALUE
TOTAL CHARGES


DOCUMENTS
ENCLOSED
2633
2633
UN 2910

DOCUMENTS
ENCLOSED
2633
UN 2910


WPL
WESTERN PEAKS LOGISTICS
Phone: 307-266-2229
Fax: 307-266-9156
SHIPPER Disa Technologies, Inc.
STREET 1653 English Ave
CITY Casper STATE WY ZIP 82601
SHIPPER'S REF. NO.
CONTACT PHONE 307-871-7291
BILL TO: (If Other Than Shipper Or Consignee)
CONSIGNEE Pace
STREET
CITY Sheridan STATE ZIP
CONSIGNEE'S REF. NO. CONTACT PHONE
SPECIAL INSTRUCTIONS
PIECES DESCRIPTION OF CONTENTS WEIGHT
1 Cooler with water samples
Shipper certifies that the above named articles are properly classified, described, packaged, marked & labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Unless a greater value is declared herin, the Shipper agrees and declares that the value of the property is released to an amount not exceeding $50 (dollars) for any shipment of 100 pounds or less and not exceeding 50¢ (cents) per pound for any shipment weighing in excess of 100 pounds.
SPECIAL SERVICES
☐ Special Delivery
☐ Signature Service
☐ Verbal Delivery Confirmation
☐ Exclusive Truck
☐ Signature and Turnaround
☐ Intra-City Courier
DELIVERY DEADLINE
DECLARED VALUE
SHIPPER'S SIGNATURE
PICKUP DATE/TIME
RECEIVED BY ACC EMPLOYEE
COPY DISTRIBUTION
White – Delivery Receipt
Canary – Original Invoice
RECEIVED IN GOOD ORDER EXCEPT AS NOTED
DATE RCV'D
TIME RCV'D
PCS
SHIPMENT NUMBER
ORIGIN
DATE SHIPPED
SHIPPER'S C.O.D.
TOTAL CHARGES


2633


DOCUMENTS ENCLOSED





WPL
Phone: 307-266-2223
Fax: 307-266-9156
RN04
REN


2633
UN 2910


2633
2910

Pace Analytical

Pace Analytical Services, LLC

Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

All shaded fields must be completed.

This is a legal document: any misrepresentation may be construed as fraud.

196825

Field	Value
Client Name	Tetra Tech / DISA
Project Identification	RAES T0331 / 1036544 0033.03.01
Sampler (Signature/Attestation of Authenticity)	[signature]
Telephone #	307-871-7291
Report Address	Tetra Tech / DISA
Contact Name	Mike Dahlquist / Andrew Halverson
Email	mike.dahlquist@tetratech.com / a.halverson@disanse.com
Phone	510-302-6310 / 307-871-7291
Invoice Address	Tetra Tech
Purchase Order #	1150922
Quote #	

Preservative Lot #
1:1 HNO3: M-072722-2
H2SO4: Chem 2-71-4
NaOH: Wet-3-40-1

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Total Metals by 6010/6020	Dissolved Metals by 6010/6020	Total Ra226 by 903.1	Total Ra228 by 904.0	Dissolved Ra226 by 903.1	TDS by SM2540	TSS by SM2540		REMARKS
1	S2210167-001	10/05/22	10:00	CTS-L-4-WT	WT	7	✓		✓	✓		✓	✓		Unfiltered
2	002	10/05/22	16:30	CTS-L-8-WT	WT	7	✓		✓	✓		✓	✓		Unfiltered
3	003	10/06/22	16:41	CTS-L-30-WT	WT	7	✓	✓	✓	✓	✓	✓	✓		Unfiltered
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
3.1°C ROI 4.0°C ROI rad sweep OK	[signature] / Andrew Halverson	10/10/22	12:05	[signature] Daryl Slipp	10/11/22	12:17

SHIPPING INFO

- ❑ UPS
- ❑ Fed Express
- ❑ US Mail
- ❑ Hand Carried
- ☑ Other Lab Carrier Secure drop off

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURNAROUND TIMES

Check desired service
- ☑ Standard turnaround
- ❑ RUSH - 5 Working Days
- ❑ URGENT - < 2 Working Days

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

Compliance Monitoring? Y / N
Program (SDWA, NPDES,...)
PWSID / Permit #
Chlorinated? Y / N
Sample Disposal: Lab ✓ Client

ADDITIONAL REMARKS

In 2 separate coolers. For Unfiltered samples, filter prior to addition of preservatives on total vs dissolved analysis. Soil samples w/ CTS-L-30 WT in cooler.

S2210162

Pace Analytical

Work Order Summary

Client: Tetra Tech
Project: RAES TO33/103G5440033.03.01
Comments: Level IV

Work Order: S2210162
Received: 10/11/2022
Due: 11/29/2022

Tests/Analytes

☐ **EPA 1312**
Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Thallium, Uranium, Vanadium, Zinc

☐ **Radium 226 by SPLP 1312**
Dissolved Radium 226, MDC

☐ **Radium 228 by SPLP 1312**
Dissolved Radium 228, MDC

Samples

Sample ID	Client Sample ID	Collection Date	Matrix	Depths
S2210162-001	CR-M-30-SY Combined +25/+270	9/13/2022 3:00:00 PM	Soil	
S2210162-002	CR-H-4-SY Combined +25/+270	9/15/2022 3:30:00 PM	Soil	
S2210162-003	CR-H-8-SY Combined +25/+270-01	9/17/2022 4:00:00 PM	Soil	
S2210162-004	CR-H-8-SY Combined +25/+270-02	9/17/2022 4:00:00 PM	Soil	
S2210162-005	CR-H-30-SY Combined +25/+270	9/19/2022 11:40:00 AM	Soil	
S2210162-006	QV-L-4-SY Combined +25/+270	9/20/2022 10:00:00 AM	Soil	
S2210162-007	QV-L-8-SY Combined +25/+270	9/28/2022 1:00:00 PM	Soil	
S2210162-008	QV-L-30-SY Combined +25/+270	9/29/2022 8:00:00 AM	Soil	
S2210162-009	QV-M-4-SY Combined +25/+270	9/30/2022 12:30:00 PM	Soil	
S2210162-010	QV-M-8-SY Combined +25/+270	9/30/2022 9:00:00 PM	Soil	
S2210162-011	QV-M-30-SY Combined +25/+270	10/1/2022 6:30:00 PM	Soil	
S2210162-012	QV-H-4-SY Combined +25/+270	10/2/2022 5:00:00 PM	Soil	

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Pace Analytical

Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

#WEB

All shaded fields must be completed.

This is a legal document; any misrepresentation may be construed as fraud.

Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES TO33/103G5440033.03.01		307-871-7291

Report Address	Tetra Tech/Disa
Contact Name	Mike Dahlquist/Andrew Halverson
Email	
Phone	510-302-6310/307-871-7291
Invoice Address	Tetra Tech
Purchase Order #	1150922
Quote #	

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	SPLP by Table A-12	SPLP by Table A-13	MS/MSD						REMARKS
1		09/13/22	15:00	CR-M-30-SY Combined +25/+270	SL	1	x	x							537.61 g
2		09/15/22	13:30	CR-H-4-SY Combined +25/+270	SL	1	x	x	x						780.85 g
3		09/17/22	16:00	CR-H-8-SY Combined +25/+270-01	SL	1	x	x							388.24 g
4		09/17/22	16:00	CR-H-8-SY Combined +25/+270-02	SL	1	x	x							383.75 g
5		09/19/22	11:40	CR-H-30-SY Combined +25/+270	SL	1	x	x							589.73 g
6		09/20/22	10:00	QV-L-4-SY Combined +25/+270	SL	1	x	x							485.89 g
7		09/28/22	13:00	QV-L-8-SY Combined +25/+270	SL	1	x	x							662.81 g
8		09/29/22	08:00	QV-L-30-SY Combined +25/+270	SL	1	x	x							619.92 g
9		09/30/22	12:30	QV-M-4-SY Combined +25/+270	SL	1	x	x							753.70 g
10		09/30/22	21:00	QV-M-8-SY Combined +25/+270	SL	1	x	x							759.64 g
11		10/01/22	18:30	QV-M-30-SY Combined +25/+270	SL	1	x	x							650.64 g
12		10/02/22	17:00	QV-H-4-SY Combined +25/+270	SL	1	x	x							1048.37 g
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
3.1°C Rot rad Sweep OK	/ Andrew Halverson	10/10/22	12:05	Daniel Slipp	10/11/22	12:18

SHIPPING INFO	MATRIX CODES		TURN AROUND TIMES	COMPLIANCE INFORMATION		ADDITIONAL REMARKS
☐ UPS	Water	WT	**Check desired service**	Compliance Monitoring ?	Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...)		Report preliminary metals before radionuclides.
☐ USPS	Solid	SD	☐ RUSH - 5 Working Days	PWSID / Permit #		Table A-12 and A-13 from Work Plan attached
☐ Hand Carried	Filter	FT	☐ URGENT - < 2 Working Days	Chlorinated?	Y / N	
☑ Other Lab courier secure dropoff	Other	OT	*Rush & Urgent Surcharges will be applied*	Sample Disposal: Lab	Client ✓	

Table A-12. Aqueous Metals Analytical Parameter Summary for SPLP and TCLP Extracts

Analyte	CAS Number	Analytical Method	MDL[1] (µg/L)	Reporting Limit (µg/L)	TCLP Criteria (µg/L)	USEPA RSL Tap Water[2] (µg/L)
Aluminum	7429-90-5	USEPA 6010	4.68	100	NP	20,000
Antimony	7440-36-0	USEPA 6010	34.02	50	NP	7.8
Arsenic	7440-38-2	USEPA 6010	1.54	20	5,000	0.052
Barium	7440-39-3	USEPA 6010	0.19	50	100,000	3,800
Beryllium	7440-41-7	USEPA 6010	0.13	20	NP	25
Cadmium	7440-43-9	USEPA 6010	0.08	50	1,000	9.2
Chromium	7440-47-3	USEPA 6010	0.24	10	5,000	NP
Cobalt	7440-48-4	USEPA 6010	3.88	10	NP	6
Copper	7440-50-8	USEPA 6010	0.91	10	NP	800
Iron	7439-89-6	USEPA 6010	9.33	50	NP	14,000
Lead	7439-92-1	USEPA 6010	1.59	200	5,000	15
Manganese	7439-96-5	USEPA 6010	0.19	100	NP	430
Mercury	7439-97-6	USEPA 7470	0.05	1	200	6
Molybdenum	7439-98-7	USEPA 6010	3.45	10	NP	100
Nickel	7440-02-0	USEPA 6010	2.55	20	NP	390
Selenium	7782-49-2	USEPA 6010	4.00	200	1,000	100
Silver	7440-22-4	USEPA 6010	0.58	50	5,000	94
Thallium	7440-28-0	USEPA 6010	26.68	200	NP	0.2
Vanadium	7440-62-2	USEPA 6010	1.58	5	NP	86
Uranium (natural)	7440-61-1	USEPA 6010	24.08	50	NP	NP
Zinc	7440-66-6	USEPA 6010	14.71	200	NP	6,000

Notes:

Analyte SPLP extracts
Analyte TCLP extract only
Analyte TCLP and SPLP extracts

1 MDLs are specific to the contract laboratory. As MDLs are instrument specific, MDLs may vary depending on which instrument is used.

2 TR = 1 E-6; THQ = 1

µg/L Microgram per liter
CAS Chemical Abstracts Service
MDL Method detection limit
NNEPA Navajo Nation Environmental Protection Agency
NP Not promulgated
RSL Regional screening level
SPLP Synthetic precipitation leaching procedure
TCLP Toxicity characteristic leaching procedure
THQ Target hazard quotient
TR Target cancer risk
USEPA U.S. Environmental Protection Agency

Source:

USEPA (2021). "Regional Screening Levels (RSLs) - Generic Tables." https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables

DISA

Package Survey From

Date: 10/10/22 Time: 13:00 Surveyor Name: Andrew Halverson

Unat Specific Activity 7.1 e-7 Ci/g
Limits Exempt: 2.7e-11 Ci/g AND 2.7e-8 Ci Excepted: 7.1e-7 Ci/g A1 [Ci]: Unlimited A2 [Ci]: Unlimited 0.5 mRem/hr ~500 μR/hr Alpha: 24 dpm/cm² Beta: 240 dpm/cm²

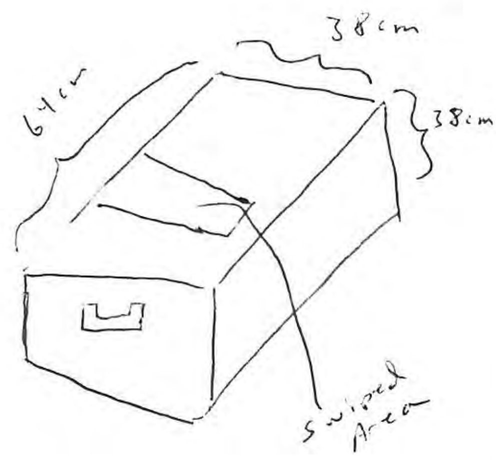
Package Description	Cooler with water and <17 lb of <1500 ppm Unat soil
Package Destination	Pace Labs 1673 Terra Avenue Sheridan, WY 82801

Contents	<1500 ppm Unat soil	Exempt (Y/N)	N
Material Specific Activity	<1.07e-9 Ci/g	UN2910 Excepted (Y/N)	Y
Contents Mass	< 17 lb		
Contents Total Activity	<8.2e-6 Ci		

Instrument	
Manufacturer	Ludlum
Model	19
Serial No.	268865
Cal Due Date	12/19/2022
FC Passed (Y/N)	Y
Background	8 uR/hr

Location	Gross	Net
Side 1	11	3 uR/hr
Side 2	13	5 uR/hr
Side 3	12	4 uR/hr
Side 4	13	5 uR/hr
Side 5	10	2 uR/hr
Side 6	12	4 uR/hr

Package Sketch



Package Surface Area [cm²] 12,616

Meter	
Manufacturer	Ludlum
Model	2929
Serial No.	208319
Cal Due Date	06/27/2023

Detector	
Manufacturer	Ludlum
Model	43-10-1
Serial No.	PR215938
Cal Due Date	06/27/2023

FC Passed (Y/N)	Y
BKG Alpha (cpm)	0
Beta/Gamma (cpm)	64
300 cm² Surveyed (Y/N)	Y
Entire Package Surveyed (Y/N)	N

Measurement	Alpha				Beta/Gamma				Meets Limits
	Gross [cpm]	Net [cpm]	Swipe Efficiency	dpm/cm²	Gross [cpm]	Net [cpm]	Swipe Efficiency	dpm/cm²	
Swipe 1	4	4	0.1	0.8	82	18	0.1	7.5	AH
Swipe 2	9	9	0.1	1.7	81	17	0.1	7.1	AH
Swipe 3	5	5	0.1	0.94	48	—	0.1	—	AH
			0.1				0.1		

Labeled AH

Surveyor Signature: [signature]

Released

Date: 10/10/2022

Time: 13:30

Note: Cooler wiped down and 3rd swipe taken

Table A-13. Aqueous Radionuclide Analytical Parameter Summary for SPLP Extract

Analyte	CAS Number	Analytical Method	MDC[1] (pCi/L)	Requested MDC[1] (pCi/L)	USEPA MCL[2] (pCi/L)	ORNL Ecological Screening Level (pCi/L)
Radium-226	13982-63-3	Alpha Scint USEPA 903.1	0.2	0.1	5 *	160
Radium-228	15262-20-1	GFPC USEPA 904.0	1.0	0.1	5 *	NV

Notes:

1 MDCs requested from laboratories based on the expertise of the certified health physicist and project chemist.
2 MCLs from USEPA National Primary Drinking Water Regulations (USEPA 2009).
* The MCL for radium-226 and radium-228 is defined on a combined basis. The MCL for total radium (radium-226 + radium-228) is 5 pCi/L.

CAS Chemical Abstracts Service
GFPC Gas flow proportional counting
MCL Maximum contaminant level
MDC Minimum detectable concentration
NV No value
ORNL Radiological Benchmarks for Screening Contaminants of Potential Concern for Effects on Aquatic Biota at Oak Ridge National Laboratory (Bechtel Jacobs Company 1998)
pCi/L Picocurie per liter
Scint Scintillation
SPLP Synthetic precipitation leaching procedure
USEPA U.S. Environmental Protection Agency

Sources:

Bechtel Jacobs Company. 1998. "Radiological Benchmarks for Screening Contaminants of Potential Concern for Effects on Aquatic Biota at Oak Ridge National Laboratory, Oak Ridge, Tennessee."

U.S. Environmental Protection Agency (USEPA). 2009. "National Primary Drinking Water Regulations." EPA 816-F-09-004. May.

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Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES TO33/103G5440033.03.01	[signature]	307-871-7291

Report Address: Tetra Tech/Disa

Contact Name: Mike Dahlquist/Andrew Halverson

Email: mike.dahlquist@tetratech.com/a.halverson@disausa.com

Phone: 510-302-6310/307-871-7291

Invoice Address: Tetra Tech

Purchase Order #: 1150922

Quote #:

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/6020	Ra 226 by 901.1	MS/MSD						REMARKS
1		09/17/22	16:00	CR-H-8-SY +25	SL	1	x	x							95.13 g
2		09/17/22	16:00	CR-H-8-SY +50-01	SL	1	x	x							82.39 g
3		09/17/22	16:00	CR-H-8-SY +50-02	SL	1	x	x							82.38 g
4		08/24/22	12:00	CR-H-0-KY	SL	1	x	x	x						713.58 g, MS/MSD for Metals
5		09/17/22	16:00	CR-H-8-SY +100	SL	1	x	x							92.59 g
6		09/17/22	16:00	CR-H-8-SY +140	SL	1	x	x							18.00 g
7		09/17/22	16:00	CR-H-8-SY +200	SL	1	x	x							11.00 g
8		09/17/22	16:00	CR-H-8-SY +270	SL	1	x	x							6.02 g
9		09/19/22	11:40	CR-H-30-SY +25	SL	1	x	x							37.25 g
10		09/19/22	11:40	CR-H-30-SY +50	SL	1	x	x							126.37 g
11		09/19/22	11:40	CR-H-30-SY +100	SL	1	x	x							92.15 g
12		09/19/22	11:40	CR-H-30-SY +140	SL	1	x	x							20.03 g
13		09/19/22	11:40	CR-H-30-SY +200	SL	1	x	x							12.67 g
14		09/19/22	11:40	CR-H-30-SY +270	SL	1	x	x							7.24 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
rad sweep OK	[signature] / Andrew Halverson	10/10/22	12:20	[signature] Daniel Slipp	10/11/22	12:22

SHIPPING INFO
- ☐ UPS
- ☐ FedEx
- ☐ USPS
- ☐ Hand Carried
- ☑ Other

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURN AROUND TIMES

Check desired service
- ☑ Standard turnaround
- ☐ **RUSH - 5 Working Days**
- ☐ **URGENT - < 2 Working Days**

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

Compliance Monitoring ? Y / N
Program (SDWA, NPDES,...)
PWSID / Permit #
Chlorinated? Y / N
Sample Disposal: Lab Client ✓

ADDITIONAL REMARKS

Please return unused sample to Disa after reporting.
Report preliminary metals before radionuclides.

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- CHAIN OF COSTODY RECORD -

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Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES TO33/103G5440033.03.01	[signature]	307-871-7291

Report Address: Tetra Tech/Disa

Contact Name: Mike Dahlquist/Andrew Halverson

Email: mike.dahlquist@tetratech.com/ a.halverson@discusa.com

Phone: 510-302-6310/307-871-7291

Invoice Address: Tetra Tech

Purchase Order #: 1150922

Quote #:

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/6020	Ra 226 by 901.1	MS/MSD						REMARKS
1		09/29/22	18:30	QV-L-0-SL-01 +25	SL	1	x	x							52.30 g
2		09/29/22	18:30	QV-L-0-SL-01 +50	SL	1	x	x							89.67 g
3		09/29/22	18:30	QV-L-0-SL-01 +100	SL	1	x	x							102.86 g
4		09/29/22	18:30	QV-L-0-SL-01 +140	SL	1	x	x							30.44 g
5		09/29/22	18:30	QV-L-0-SL-01 +200	SL	1	x	x							15.33 g
6		09/29/22	18:30	QV-L-0-SL-01 +270	SL	1	x	x							8.67 g
7		09/29/22	18:30	QV-L-0-SL-01 -270	SL	1	x	x							68.72 g
8		09/20/22	10:00	QV-L-4-SY +25	SL	1	x	x							22.90 g
9		09/20/22	10:00	QV-L-4-SY +50-01	SL	1	x	x							43.06 g
10		09/20/22	10:00	QV-L-4-SY +50-02	SL	1	x	x							43.06 g
11		09/20/22	10:00	QV-L-4-SY +100	SL	1	x	x	x						90.47 g, MS/MSD for metals
12		09/20/22	10:00	QV-L-4-SY +140	SL	1	x	x							26.36 g
13		09/20/22	10:00	QV-L-4-SY +200	SL	1	x	x							12.40 g
14		09/20/22	10:06	QV-L-4-SY +270	SL	1	x	x							5.66 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/10/22	12:20			

SHIPPING INFO	MATRIX CODES		TURN AROUND TIMES	COMPLIANCE INFORMATION		ADDITIONAL REMARKS
☐ UPS	Water	WT	**Check desired service**	Compliance Monitoring ?	Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...)		Report preliminary metals before radionuclides.
☐ USPS	Solid	SD	☐ **RUSH - 5 Working Days**	PWSID / Permit #		
☐ Hand Carried	Filter	FT	☐ **URGENT - < 2 Working Days**	Chlorinated?	Y / N	
☑ Other Lab to Lab	Other	OT	*Rush & Urgent Surcharges will be applied*	Sample Disposal: Lab	Client ✓	S2211015001

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Client Name	Tetra Tech/Disa
Project Identification	RAES TO33/103G5440033.03.01
Sampler (Signature/Attestation of Authenticity)	[signature]
Telephone #	307-871-7291
Report Address	Tetra Tech/Disa
Contact Name	Mike Dahlquist/Andrew Halverson
Email	mike.dahlquist@tetratech.com / a.halverson@disausa.com
Phone	510-302-6310/307-871-7291
Invoice Address	Tetra Tech
Purchase Order #	1150922
Quote #	

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/6020	Ra 226 by 901.1	MS/MSD						REMARKS
1		09/28/22	13:00	QV-L-8-SY +25	SL	1	x	x							37.62 g
2		09/28/22	13:00	QV-L-8-SY +50	SL	1	x	x							119.26 g
3		09/28/22	13:00	QV-L-8-SY +100	SL	1	x	x							119.94 g
4		09/28/22	13:00	QV-L-8-SY +140	SL	1	x	x							33.19 g
5		09/28/22	13:00	QV-L-8-SY +200	SL	1	x	x							15.46 g
6		09/28/22	13:00	QV-L-8-SY +270	SL	1	x	x							7.53 g
7		09/29/22	08:00	QV-L-30-SY +25	SL	1	x	x							30.09 g
8		09/29/22	08:00	QV-L-30-SY +50	SL	1	x	x							105.42 g
9		09/29/22	08:00	QV-L-30-SY +100	SL	1	x	x							117.69 g
10		09/29/22	08:00	QV-L-30-SY +140	SL	1	x	x							34.22 g
11		09/29/22	08:00	QV-L-30-SY +200	SL	1	x	x							16.76 g
12		09/29/22	08:00	QV-L-30-SY +270	SL	1	x	x							7.79 g
13		09/30/22	12:30	QV-M-4-SY +25	SL	1	x	x							81.35 g
14		09/30/22	12:30	QV-M-4-SY +50	SL	1	x	x	x						149.59 g, MS/MSD for Metals

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/10/22	12:20			

SHIPPING INFO
- ☐ UPS
- ☐ FedEx
- ☐ USPS
- ☐ Hand Carried
- ☑ Other Lab courier

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURN AROUND TIMES

Check desired service
- ☑ Standard turnaround
- ☐ **RUSH - 5 Working Days**
- ☐ **URGENT - < 2 Working Days**

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

Compliance Monitoring ? Y / N
Program (SDWA, NPDES,...)
PWSID / Permit #
Chlorinated? Y / N
Sample Disposal: Lab Client ✓

ADDITIONAL REMARKS

Please return unused sample to Disa after reporting.
Report preliminary metals before radionuclides.

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Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES TO33/103G5440033.03.01	[signature]	307-871-7291

Report Address: Tetra Tech/Disa

Contact Name: Mike Dahlquist/Andrew Halverson

Email: mikedahlquist@tetratech.com/ahalverson@disausa.com

Phone: 510-302-6310/307-871-7291

Invoice Address: Tetra Tech

Purchase Order #: 1150922

Quote #:

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/6020	Ra 226 by 901.1	MS/MSD						REMARKS
1		09/30/22	12:30	QV-M-4-SY +100-01	SL	1	x	x							53.24 g
2		09/30/22	12:30	QV-M-4-SY +100-02	SL	1	x	x							53.24 g
3		09/30/22	12:30	QV-M-4-SY +140	SL	1	x	x							23.34 g
4		09/30/22	12:30	QV-M-4-SY +200	SL	1	x	x							11.09 g
5		09/30/22	12:30	QV-M-4-SY +270	SL	1	x	x							5.88 g
6		10/02/22	12:30	QV-M-0-SL-01 +25	SL	1	x	x							56.49 g
7		10/02/22	12:30	QV-M-0-SL-01 +50	SL	1	x	x							114.89 g
8		10/02/22	12:30	QV-M-0-SL-01 +100	SL	1	x	x							87.26 g
9		10/02/22	12:30	QV-M-0-SL-01 +140	SL	1	x	x							25.76 g
10		10/02/22	12:30	QV-M-0-SL-01 +200	SL	1	x	x							12.46 g
11		10/02/22	12:30	QV-M-0-SL-01 +270	SL	1	x	x							8.06 g
12		10/02/22	12:30	QV-M-0-SL-01 -270	SL	1	x	x							74.87 g
13		09/30/22	21:00	QV-M-8-SY +25	SL	1	x	x							64.92 g
14		09/30/22	21:00	QV-M-8-SY +50	SL	1	x	x							157.33 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/10/22	12:20			

SHIPPING INFO	MATRIX CODES		TURN AROUND TIMES	COMPLIANCE INFORMATION		ADDITIONAL REMARKS
☐ UPS	Water	WT	**Check desired service**	Compliance Monitoring ?	Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...)		Report preliminary metals before radionuclides.
☐ USPS	Solid	SD	☐ **RUSH - 5 Working Days**	PWSID / Permit #		
☐ Hand Carried	Filter	FT	☐ **URGENT - < 2 Working Days**	Chlorinated?	Y / N	
☑ Other Lab courier	Other	OT	***Rush & Urgent Surcharges will be applied***	Sample Disposal: Lab	Client ✓	

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Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES TO33/103G5440033.03.01		307-871-7291

Report Address: Tetra Tech/Disa

Contact Name: Mike Dahlquist/Andrew Halverson

Email: mike.dahlquist@tetratech.com / a.halverson@disausa.com

Phone: 510-302-6310/307-871-7291

Invoice Address: Tetra Tech

Purchase Order #: 1150922

Quote #:

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/6020	Ra 226 by 901.1	MS/MSD						REMARKS
1		09/30/22	21:00	QV-M-8-SY +100	SL	1	x	x							115.67 g
2		09/30/22	21:00	QV-M-8-SY +140	SL	1	x	x							25.22 g
3		09/30/22	21:00	QV-M-8-SY +200	SL	1	x	x							12.35 g
4		09/30/22	21:00	QV-M-8-SY +270	SL	1	x	x							6.22 g
5		10/01/22	18:30	QV-M-30-SY +25	SL	1	x	x							41.91 g
6		10/01/22	18:30	QV-M-30-SY +50	SL	1	x	x	X						130.72 g, MS/MSD for Metals
7		10/01/22	18:30	QV-M-30-SY +100-01	SL	1	x	x							53.37 g
8		10/01/22	18:30	QV-M-30-SY +100-02	SL	1	x	x							53.36 g
9		10/01/22	18:30	QV-M-30-SY +140	SL	1	x	x							26.36 g
10		10/01/22	18:30	QV-M-30-SY +200	SL	1	x	x							13.68 g
11		10/01/22	18:30	QV-M-30-SY +270	SL	1	x	x							7.21 g
12		10/02/22	17:00	QV-H-4-SY +25	SL	1	x	x							101.55 g
13		10/02/22	17:00	QV-H-4-SY +50	SL	1	x	x							224.51 g
14		10/02/22	17:00	QV-H-4-SY +100	SL	1	x	x							147.85 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	/ Andrew Halverson	10/10/22	12:20			

SHIPPING INFO	MATRIX CODES	TURN AROUND TIMES	COMPLIANCE INFORMATION	ADDITIONAL REMARKS
☐ UPS	Water WT	**Check desired service**	Compliance Monitoring ? Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil SL	☑ Standard turnaround	Program (SDWA, NPDES,...)	Report preliminary metals before radionuclides.
☐ USPS	Solid SD	☐ RUSH - 5 Working Days	PWSID / Permit #	
☐ Hand Carried	Filter FT	☐ URGENT - < 2 Working Days	Chlorinated? Y / N	
☑ Other Lab courier	Other OT	*Rush & Urgent Surcharges will be applied*	Sample Disposal: Lab Client ✓	S2211015001

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Client Name	Tetra Tech/Disa
Project Identification	RAES TO33/103G5440033.03.01
Sampler (Signature/Attestation of Authenticity)	[signature]
Telephone #	307-871-7291
Report Address	Tetra Tech/Disa
Contact Name	Mike Dahlquist/Andrew Halverson
Email	mike.dahlquist@tetratech.com / ahalverson@disausa.com
Phone	510-302-6310/307-871-7291
Invoice Address	Tetra Tech
Purchase Order #	1150922
Quote #	

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/6020	Ra 226 by 901.1	MS/MSD						REMARKS
1		10/02/22	17:00	QV-H-4-SY +140	SL	1	x	x							30.38 g
2		10/02/22	17:00	QV-H-4-SY +200	SL	1	x	x							14.50 g
3		10/02/22	17:00	QV-H-4-SY +270	SL	1	x	x							6.64 g
4		10/04/22	12:00	QV-H-0-SL-01 +25	SL	1	x	x							57.53 g
5		10/04/22	12:00	QV-H-0-SL-01 +50	SL	1	x	x							109.53 g
6		10/04/22	12:00	QV-H-0-SL-01 +100	SL	1	x	x							98.59 g
7		10/04/22	12:00	QV-H-0-SL-01 +140	SL	1	x	x							24.54 g
8		10/04/22	12:00	QV-H-0-SL-01 +200	SL	1	x	x							12.01 g
9		10/04/22	12:00	QV-H-0-SL-01 +270	SL	1	x	x							7.35 g
10		10/04/22	12:00	QV-H-0-SL-01 -270	SL	1	x	x							72.37 g
11		10/03/22	21:20	QV-H-30-SY +25	SL	1	x	x							61.80 g
12		10/03/22	21:20	QV-H-30-SY +50	SL	1	x	x	x						165.49 g, MS/MSD for metals
13		10/03/22	21:20	QV-H-30-SY +100-01	SL	1	x	x							65.97 g
14		10/03/22	21:20	QV-H-30-SY +100-02	SL	1	x	x							65.97 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/10/22	12:20			

SHIPPING INFO	MATRIX CODES		TURN AROUND TIMES	COMPLIANCE INFORMATION		ADDITIONAL REMARKS
☐ UPS	Water	WT	**Check desired service**	Compliance Monitoring ?	Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,…)		Report preliminary metals before radionuclides.
☐ USPS	Solid	SD	☐ **RUSH - 5 Working Days**	PWSID / Permit #		
☐ Hand Carried	Filter	FT	☐ **URGENT - < 2 Working Days**	Chlorinated?	Y / N	
☑ Other Lab courier service	Other	OT	*Rush & Urgent Surcharges will be applied*	Sample Disposal: Lab	Client ✓	

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Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES TO33/103G5440033.03.01	[signature]	307-871-7291

Report Address: Tetra Tech/Disa
Contact Name: Mike Dahlquist/Andrew Halverson
Email: mikedahlquist@tetratech.com / ahalverson@disausa.com
Phone: 510-302-6310/307-871-7291
Invoice Address: Tetra Tech
Purchase Order #: 1150922
Quote #:

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/6020	Ra 226 by 901.1	MS/MSD						REMARKS
1		10/03/22	21:20	QV-H-30-SY +140	SL	1	x	x							32.71 g
2		10/03/22	21:20	QV-H-30-SY +200	SL	1	x	x							16.32 g
3		10/03/22	21:20	QV-H-30-SY +270	SL	1	x	x							7.74 g
4		10/03/22	14:40	QV-H-8-SY +25	SL	1	x	x							89.94 g
5		10/03/22	14:40	QV-H-8-SY +50	SL	1	x	x							216.80 g
6		10/03/22	14:40	QV-H-8-SY +100	SL	1	x	x							151.40 g
7		10/03/22	14:40	QV-H-8-SY +140	SL	1	x	x							32.08 g
8		10/03/22	14:40	QV-H-8-SY +200	SL	1	x	x							15.06 g
9		10/03/22	14:40	QV-H-8-SY +270	SL	1	x	x							7.21 g
10															
11															
12															
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/10/22	12:20			

SHIPPING INFO
- ☐ UPS
- ☐ FedEx
- ☐ USPS
- ☐ Hand Carried
- ☑ Other Lab courier

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURN AROUND TIMES
Check desired service
- ☑ Standard turnaround
- ☐ **RUSH - 5 Working Days**
- ☐ **URGENT - < 2 Working Days**

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION
Compliance Monitoring ? Y / N
Program (SDWA, NPDES,...)
PWSID / Permit #
Chlorinated? Y / N
Sample Disposal: Lab Client ✓

ADDITIONAL REMARKS
Please return unused sample to Disa after reporting.
Report preliminary metals before radionuclides.

S2211015001

Ra 226 Sample Compositing Summary

Legend
Duplicate

Note: 36 samples from the 27 (SY samples) concentrate fractions and 9 (SL samples) -270 fractions not included in this splitting sheet.
2 duplicates and 2 MSD for metals have already been indicated for those samples.

Sample Count	Sample ID	Estimated Composite Mass From This Sheet	Directions
1	CR-L-0-SL-01 +25/+100 Composite	104.72	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
2	CR-L-0-SL-01 +140/+270 Composite	124.77	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
3	CR-L-4-SY +25/+100 Composite	98.00	After metals split combine fractions of +25-, +50-, and +100-mesh. Combine both metals duplicates of the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
4	CR-L-4-SY +140/+270 Composite	102.69	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
5	CR-L-8-SY +25/+100 Composite	104.23	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
6	CR-L-8-SY +140/+270 Composite	110.50	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
7	CR-L-30-SY +25/+100 Composite	97.04	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
8	CR-L-30-SY +140/+270 Composite	110.68	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
9	CR-M-0-SL-01 +25/+100 Composite	194.84	After metals split combine fractions of +25-, +50-, and +100-mesh. Combine both metals duplicates for the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
10	CR-M-0-SL-01 +140/+270 Composite	57.67	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
11	CR-M-4-SY +25/+100 Composite	198.26	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
12	CR-M-4-SY +140/+270 Composite	50.98	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
13	CR-M-8-SY +25/+100 Composite	264.32	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
14	CR-M-8-SY +140/+270 Composite	56.50	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
15	CR-M-30-SY +25/+100 Composite	207.32	After metals split combine fractions of +25-, +50-, and +100-mesh. Combine both metals duplicates of the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
16	CR-M-30-SY +140/+270 Composite	55.88	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
17	CR-H-8-SY +25	94.13	After metals split, analyze remaining mass for Ra 226
18	CR-H-8-SY +50-01	81.39	After metals split, analyze remaining mass for Ra 226. This was already submitted as a duplicate sample and should have enough remaining mass to perform Ra 226 analysis as is.
19	CR-H-8-SY +50-02	81.38	After metals split, analyze remaining mass for Ra 226. This was already submitted as a duplicate sample and should have enough remaining mass to perform Ra 226 analysis as is.
20	CR-H-8-SY +100/+270 Composite	123.61	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
1	CR-H-0-SL-01 +25	82.60	After metals split, analyze remaining mass for Ra 226
2	CR-H-0-SL-01 +50	138.19	After metals split, analyze remaining mass for Ra 226

3	CR-H-0-SL-01 +100/+270 Composite	133.44	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
4	CR-H-4-SY +25	83.54	After metals split, analyze remaining mass for Ra 226
5	CR-H-4-SY +50	171.04	After metals split, analyze remaining mass for Ra 226
6	CR-H-4-SY +100/+270 Composite	130.94	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
7	CR-H-30-SY +25/+50 Composite	161.62	After metals splits, combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226
8	CR-H-30-SY +100/+270 Composite	128.09	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
9	QV-L-0-SL-01 +25/+50 Composite	139.97	After metals splits, combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226
10	QV-L-0-SL-01 +100/+270 Composite	153.30	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
11	QV-L-4-SY +25/+50 Composite	106.02	After metals splits, combine fractions of +25- and +50-mesh. Combine both metals duplicates for the 50-mesh fraction into this composite. Homogenize, then analyze for Ra 226
12	QV-L-4-SY +100/+270 Composite	127.89	After metals split AND the MSD/MSD metals split from the 100-mesh fraction combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
13	QV-L-8-SY +25/+50 Composite	154.88	After metals splits, combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226
14	QV-L-8-SY +100/+270 Composite	172.12	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
15	QV-L-30-SY +25/+50 Composite	133.51	After metals splits, combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226
16	QV-L-30-SY +100/+270 Composite	172.46	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
17	QV-M-0-SL-01 +25	55.49	After metals split, analyze remaining mass for Ra 226
18	QV-M-0-SL-01 +50	113.89	After metals split, analyze remaining mass for Ra 226
19	QV-M-0-SL-01 +100/+270 Composite -01	64.77	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then further split into a duplicate. Analyze for Ra 226
20	QV-M-0-SL-01 +100/+270 Composite -02	64.77	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then further split into a duplicate. Analyze for Ra 226
1	QV-M-4-SY +25	80.35	After metals split, analyze remaining mass for Ra 226
2	QV-M-4-SY +50	145.59	After metals and MS/MSD metals split, analyze remaining mass for Ra 226
3	QV-M-4-SY +100/+270 Composite	141.79	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Combine both metals duplicates for the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
4	QV-M-8-SY +25	63.92	After metals split, analyze remaining mass for Ra 226
5	QV-M-8-SY +50	156.33	After metals split, analyze remaining mass for Ra 226
6	QV-M-8-SY +100/+270 Composite	140.46	Remove extra 15 grams from the 100-mesh fraction as well as the metals split prior to adding to this composite. After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
7	QV-M-30-SY +25/+50 Composite	167.63	After metals split and MS/MSD split from the 50-mesh fraction combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226

8	QV-M-30-SY +100/+270 Composite	148.98	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Combine both metals duplicates for the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
9	CTS-L-0-SL-01 +25/+140 Composite	82.27	After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
10	CTS-L-0-SL-01 +200/+270 Composite	78.43	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
11	CTS-L-4-SY +25/+140 Composite	100.83	After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
12	CTS-L-4-SY +200/+270 Composite	76.09	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
13	CTS-L-8-SY +25/+140 Composite	72.86	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
14	CTS-L-8-SY +200/+270 Composite	71.06	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
15	CTS-L-30-SY +25/+140 Composite	50.82	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals and MS/MSD for metals split from -140-mesh fraction combine fractions of +25-, +50-, +100-, and +140-mesh. Combine both 100-mesh duplicates into this composite. Homogenize, then analyze for Ra 226
16	CTS-L-30-SY +200/+270 Composite	66.69	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
17	QV-H-0-SL-01 +25	56.53	After metals split, analyze remaining mass for Ra 226
18	QV-H-0-SL-01 +50	108.53	After metals split, analyze remaining mass for Ra 226
19	QV-H-0-SL-01 +100/+270 Composite-01	69.25	After metals split combine +100-, +140-, +200-, and +270-mesh. Homogenize, then further split into a duplicate. Analyze for Ra 226
20	QV-H-0-SL-01 +100/+270 Composite-02	69.25	After metals split combine +100-, +140-, +200-, and +270-mesh. Homogenize, then further split into a duplicate. Analyze for Ra 226
1	CTS-M-0-SL-01 +25/+140 Composite	97.06	After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
2	CTS-M-0-SL-01 +200/+270 Composite	77.75	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
3	CTS-M-4-SY +25/+140 Composite	86.24	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
4	CTS-M-4-SY +200/+270 Composite	63.13	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
5	CTS-M-8-SY +25/+140 Composite	76.03	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals and MS/MSD for 140-mesh fraction split combine fractions of +25-, +50-, +100-, and +140-mesh. Combine both metals duplicates for 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
6	CTS-M-8-SY +200/+270 Composite	62.12	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
7	CTS-M-30-SY +25/+140 Composite	74.26	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226

8	CTS-M-30-SY +200/+270 Composite	61.43	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
9	CTS-H-0-SL-01 +25/+140 Composite	90.81	After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
10	CTS-H-0-SL-01 +200/+270 Composite	97.99	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
11	CTS-H-4-SY +25/+140 Composite	73.74	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split and MS/MSD split for 140-mesh fraction combine fractions of +25-, +50-, +100-, and +140-mesh. Combine both 100-mesh metals duplicates into this composite. Homogenize, then analyze for Ra 226
12	CTS-H-4-SY +200/+270 Composite	73.42	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
13	CTS-H-8-SY +25/+140 Composite	82.59	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
14	CTS-H-8-SY +200/+270 Composite	82.77	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
15	CTS-H-30-SY +25/+140 Composite	70.29	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split and MS/MSD metals split for 140-mesh fraction combine fractions of +25-, +50-, +100-, and +140-mesh. Combine both 100-mesh metals duplicates into this composite. Homogenize, then analyze for Ra 226
16	CTS-H-30-SY +200/+270 Composite	71.46	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
17	QV-H-4-SY +25	100.55	After metals spit, analyze remaining mass for Ra 226
18	QV-H-4-SY +50-01	111.76	After metals split, split further into a duplicate and analyze for Ra 226
19	QV-H-4-SY +50-02	111.76	After metals split, split further into a duplicate and analyze for Ra 226
20	QV-H-4-SY +100/+270 Composite	195.37	After metals split, combine +100-, +140-, +200, and +270-mesh into composite. Homogenize, then analyze for Ra 226
1	QV-H-8-SY +25	88.94	After metals split, analyze remaining mass for Ra 226
2	QV-H-8-SY +50	215.80	After metals split, analyze remaining mass for Ra 226
3	QV-H-8-SY +100/+270 Composite	201.75	After metals split, combine +100-, +140-, +200, and +270-mesh into composite. Homogenize, then analyze for Ra 226
4	QV-H-30-SY +25	60.80	After metals split, analyze remaining mass for Ra 226
5	QV-H-30-SY +50-01	80.75	After metals split and MS/MSD metals split, split into duplicate. Analyze for Ra 226
6	QV-H-30-SY +50-02	80.75	After metals split and MS/MSD metals split, split into duplicate. Analyze for Ra 227
7	QV-H-30-SY +100/+270 Composite	183.71	After metals split, combine +100-, +140-, +200, and +270-mesh into composite. Combine both 100-mesh metals duplicates into this composite. Homogenize, then analyze for Ra 226

8	CTS-M-30-SY +200/+270 Composite	61.43	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
9	CTS-H-0-SL-01 +25/+140 Composite	90.81	After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
10	CTS-H-0-SL-01 +200/+270 Composite	97.99	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
11	CTS-H-4-SY +25/+140 Composite	73.74	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split and MS/MSD split for 140-mesh fraction combine fractions of +25-, +50-, +100-, and +140-mesh. Combine both 100-mesh metals duplicates into this composite. Homogenize, then analyze for Ra 226
12	CTS-H-4-SY +200/+270 Composite	73.42	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
13	CTS-H-8-SY +25/+140 Composite	82.59	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
14	CTS-H-8-SY +200/+270 Composite	82.77	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
15	CTS-H-30-SY +25/+140 Composite	70.29	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split and MS/MSD metals split for 140-mesh fraction combine fractions of +25-, +50-, +100-, and +140-mesh. Combine both 100-mesh metals duplicates into this composite. Homogenize, then analyze for Ra 226
16	CTS-H-30-SY +200/+270 Composite	71.46	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
17	QV-H-4-SY +25	100.55	After metals spit, analyze remaining mass for Ra 226
18	QV-H-4-SY +50-01	111.76	After metals split, split further into a duplicate and analyze for Ra 226
19	QV-H-4-SY +50-02	111.76	After metals split, split further into a duplicate and analyze for Ra 226
20	QV-H-4-SY +100/+270 Composite	195.37	After metals split, combine +100-, +140-, +200, and +270-mesh into composite. Homogenize, then analyze for Ra 226
1	QV-H-8-SY +25	88.94	After metals split, analyze remaining mass for Ra 226
2	QV-H-8-SY +50	215.80	After metals split, analyze remaining mass for Ra 226
3	QV-H-8-SY +100/+270 Composite	201.75	After metals split, combine +100-, +140-, +200, and +270-mesh into composite. Homogenize, then analyze for Ra 226
4	QV-H-30-SY +25	60.80	After metals split, analyze remaining mass for Ra 226
5	QV-H-30-SY +50-01	80.75	After metals split and MS/MSD metals split, split into duplicate. Analyze for Ra 226
6	QV-H-30-SY +50-02	80.75	After metals split and MS/MSD metals split, split into duplicate. Analyze for Ra 227
7	QV-H-30-SY +100/+270 Composite	183.71	After metals split, combine +100-, +140-, +200, and +270-mesh into composite. Combine both 100-mesh metals duplicates into this composite. Homogenize, then analyze for Ra 226

8	QV-M-30-SY +100/+270 Composite	148.98	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Combine both metals duplicates for the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
9	CTS-L-0-SL-01 +25/+140 Composite	82.27	After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
10	CTS-L-0-SL-01 +200/+270 Composite	78.43	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
11	CTS-L-4-SY +25/+140 Composite	100.83	After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
12	CTS-L-4-SY +200/+270 Composite	76.09	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
13	CTS-L-8-SY +25/+140 Composite	72.86	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
14	CTS-L-8-SY +200/+270 Composite	71.06	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
15	CTS-L-30-SY +25/+140 Composite	50.82	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals and MS/MSD for metals split from -140-mesh fraction combine fractions of +25-, +50-, +100-, and +140-mesh. Combine both 100-mesh duplicates into this composite. Homogenize, then analyze for Ra 226
16	CTS-L-30-SY +200/+270 Composite	66.69	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
17	QV-H-0-SL-01 +25	56.53	After metals split, analyze remaining mass for Ra 226
18	QV-H-0-SL-01 +50	108.53	After metals split, analyze remaining mass for Ra 226
19	QV-H-0-SL-01 +100/+270 Composite-01	69.25	After metals split combine +100-, +140-, +200-, and +270-mesh. Homogenize, then further split into a duplicate. Analyze for Ra 226
20	QV-H-0-SL-01 +100/+270 Composite-02	69.25	After metals split combine +100-, +140-, +200-, and +270-mesh. Homogenize, then further split into a duplicate. Analyze for Ra 226
1	CTS-M-0-SL-01 +25/+140 Composite	97.06	After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
2	CTS-M-0-SL-01 +200/+270 Composite	77.75	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
3	CTS-M-4-SY +25/+140 Composite	86.24	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
4	CTS-M-4-SY +200/+270 Composite	63.13	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
5	CTS-M-8-SY +25/+140 Composite	76.03	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals and MS/MSD for 140-mesh fraction split combine fractions of +25-, +50-, +100-, and +140-mesh. Combine both metals duplicates for 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
6	CTS-M-8-SY +200/+270 Composite	62.12	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
7	CTS-M-30-SY +25/+140 Composite	74.26	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226

Ra 226 Sample Compositing Summary

Legend	
	Duplicate

Note: 36 samples from the 27 (SY samples) concentrate fractions and 9 (SL samples) -270 fractions not included in this splitting sheet.
2 duplicates and 2 MSD for metals have already been indicated for those samples

Sample Count	Sample ID	Estimated Composite Mass From This Sheet	Directions
1	CR-L-0-SL-01 +25/+100 Composite	104.72	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
2	CR-L-0-SL-01 +140/+270 Composite	124.77	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
3	CR-L-4-SY +25/+100 Composite	98.00	After metals split combine fractions of +25-, +50-, and +100-mesh. Combine both metals duplicates of the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
4	CR-L-4-SY +140/+270 Composite	102.69	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
5	CR-L-8-SY +25/+100 Composite	104.23	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
6	CR-L-8-SY +140/+270 Composite	110.50	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
7	CR-L-30-SY +25/+100 Composite	97.04	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
8	CR-L-30-SY +140/+270 Composite	110.68	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
9	CR-M-0-SL-01 +25/+100 Composite	194.84	After metals split combine fractions of +25-, +50-, and +100-mesh. Combine both metals duplicates for the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
10	CR-M-0-SL-01 +140/+270 Composite	57.67	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
11	CR-M-4-SY +25/+100 Composite	198.26	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
12	CR-M-4-SY +140/+270 Composite	50.98	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
13	CR-M-8-SY +25/+100 Composite	264.32	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
14	CR-M-8-SY +140/+270 Composite	56.50	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
15	CR-M-30-SY +25/+100 Composite	207.32	After metals split combine fractions of +25-, +50-, and +100-mesh. Combine both metals duplicates of the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
16	CR-M-30-SY +140/+270 Composite	55.88	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
17	CR-H-8-SY +25	94.13	After metals split, analyze remaining mass for Ra 226
18	CR-H-8-SY +50-01	81.39	After metals split, analyze remaining mass for Ra 226. This was already submitted as a duplicate sample and should have enough remaining mass to perform Ra 226 analysis as is.
19	CR-H-8-SY +50-02	81.38	After metals split, analyze remaining mass for Ra 226. This was already submitted as a duplicate sample and should have enough remaining mass to perform Ra 226 analysis as is.
20	CR-H-8-SY +100/+270 Composite	123.61	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
1	CR-H-0-SL-01 +25	82.60	After metals split, analyze remaining mass for Ra 226
2	CR-H-0-SL-01 +50	138.19	After metals split, analyze remaining mass for Ra 226

3	CR-H-0-SL-01 +100/+270 Composite	133.44	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
4	CR-H-4-SY +25	83.54	After metals split, analyze remaining mass for Ra 226
5	CR-H-4-SY +50	171.04	After metals split, analyze remaining mass for Ra 226
6	CR-H-4-SY +100/+270 Composite	130.94	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
7	CR-H-30-SY +25/+50 Composite	161.62	After metals splits, combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226
8	CR-H-30-SY +100/+270 Composite	128.09	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
9	QV-L-0-SL-01 +25/+50 Composite	139.97	After metals splits, combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226
10	QV-L-0-SL-01 +100/+270 Composite	153.30	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
11	QV-L-4-SY +25/+50 Composite	106.02	After metals splits, combine fractions of +25- and +50-mesh. Combine both metals duplicates for the 50-mesh fraction into this composite. Homogenize, then analyze for Ra 226
12	QV-L-4-SY +100/+270 Composite	127.89	After metals split AND the MSD/MSD metals split from the 100-mesh fraction combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
13	QV-L-8-SY +25/+50 Composite	154.88	After metals splits, combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226
14	QV-L-8-SY +100/+270 Composite	172.12	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
15	QV-L-30-SY +25/+50 Composite	133.51	After metals splits, combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226
16	QV-L-30-SY +100/+270 Composite	172.46	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
17	QV-M-0-SL-01 +25	55.49	After metals split, analyze remaining mass for Ra 226
18	QV-M-0-SL-01 +50	113.89	After metals split, analyze remaining mass for Ra 226
19	QV-M-0-SL-01 +100/+270 Composite -01	64.77	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then further split into a duplicate. Analyze for Ra 226
20	QV-M-0-SL-01 +100/+270 Composite -02	64.77	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then further split into a duplicate. Analyze for Ra 226
1	QV-M-4-SY +25	80.35	After metals split, analyze remaining mass for Ra 226
2	QV-M-4-SY +50	145.59	After metals and MS/MSD metals split, analyze remaining mass for Ra 226
3	QV-M-4-SY +100/+270 Composite	141.79	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Combine both metals duplicates for the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
4	QV-M-8-SY +25	63.92	After metals split, analyze remaining mass for Ra 226
5	QV-M-8-SY +50	156.33	After metals split, analyze remaining mass for Ra 226
6	QV-M-8-SY +100/+270 Composite	140.46	Remove extra 15 grams from the 100-mesh fraction as well as the metals split prior to adding to this composite. After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
7	QV-M-30-SY +25/+50 Composite	167.63	After metals split and MS/MSD split from the 50-mesh fraction combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226

Pace Analytical Services, LLC
Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

Page 1 of 1

All shaded fields must be completed.
This is a legal document: any misrepresentation may be construed as fraud.

196826

Client Name	Tetra Tech / Disa
Project Identification	RAES T033/103G5440033.03.01
Sampler (Signature/Attestation of Authenticity)	[signature]
Telephone #	307-871-7291
Report Address	Tetra Tech/Disa
Contact Name	Mike Dahlquist / Andrew Halverson
Email	mike.dahlquist@tetratech.com / a.halverson@disausa.com
Phone	510-302-6310 / 307-871-7291
Invoice Address	Tetra Tech
Purchase Order #	1150922
Quote #	

Preservative Lot #
1:1 HNO3: M-072722-2
H2SO4: Chem 2-71-4
NaOH: Wet-3-40-1

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Total Metals by 6010/6020	Dissolved Metals by 6010/6020	Total Ra-226 by 903.1	Total Ra-228 by 904.0	Dissolved Ra-226 by 903.1	TDS by SM2540	TSS by SM2540		REMARKS
1		10/11/22	09:24	CTS-M-4-WT	WT	7	✓		✓	✓		✓	✓		unfiltered, no preservatives
2		10/12/22	14:06	CTS-M-8-WT	WT	7	✓		✓	✓		✓	✓		unfiltered, no preservatives
3		10/13/22	08:00	CTS-M-30-WT	WT	7	✓	✓	✓	✓	✓	✓	✓		unfiltered, no preservatives
4		10/13/22	07:40	CTS-H-4-WT	WT	7	✓		✓	✓		✓	✓		unfiltered, no preservatives
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/13/22	14:50			

SHIPPING INFO
- ☐ UPS
- ☐ Fed Express
- ☐ US Mail
- ☐ Hand Carried
- ☑ Other Lab courier secure dropoff

MATRIX CODES

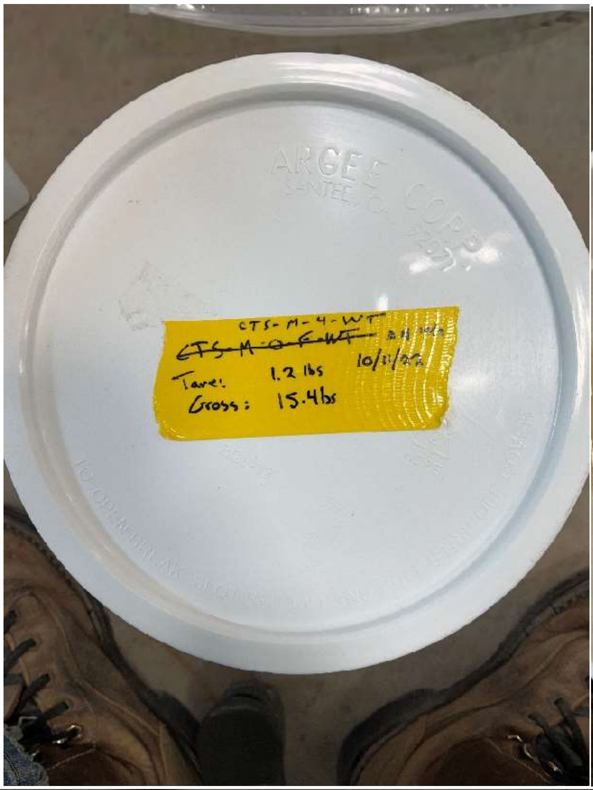
Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURNAROUND TIMES
Check desired service
- ☑ Standard turnaround
- ☐ **RUSH - 5 Working Days**
- ☐ **URGENT** - < 2 Working Days

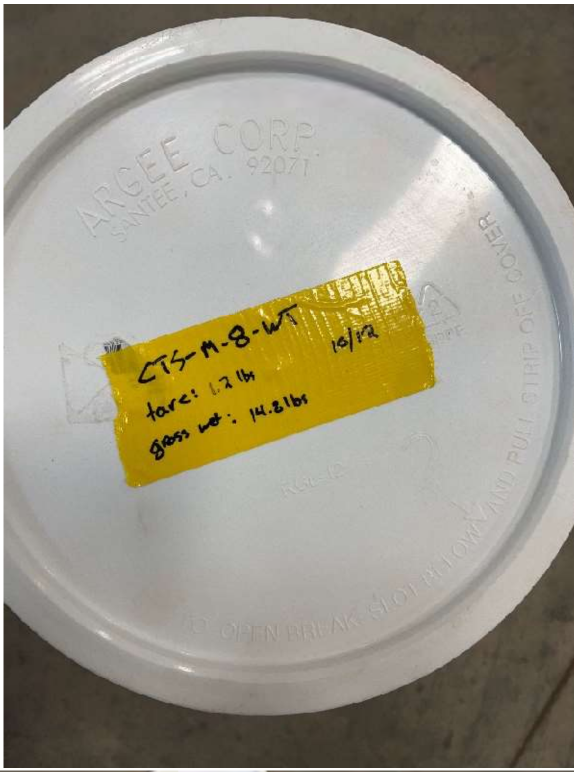
Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION
Compliance Monitoring? Y / N
Program (SDWA, NPDES,...)
PWSID / Permit #
Chlorinated? Y / N
Sample Disposal: Lab ✓ Client

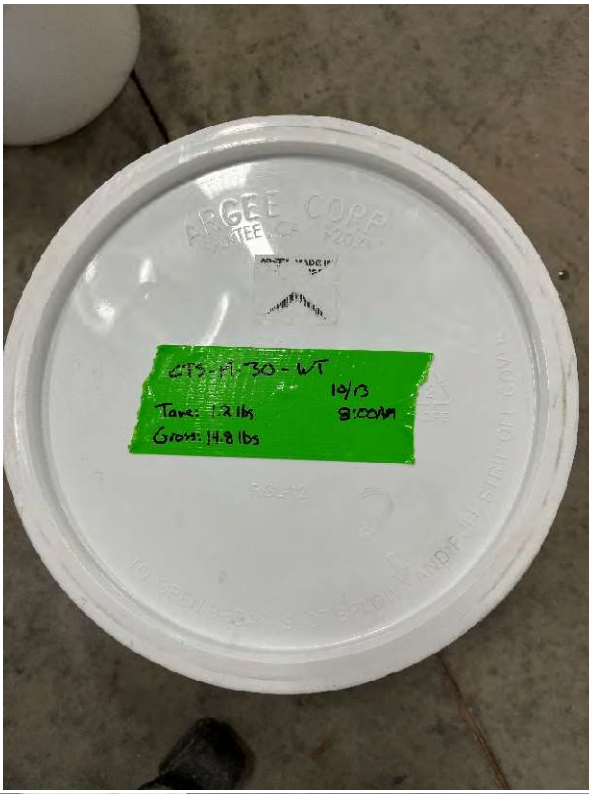
ADDITIONAL REMARKS
In 2 separate coolers. For unfiltered samples, filter prior to addition of preservatives on total vs dissolved Analysis.


CTS-M-4-WT
Tare: 1.2 lbs
Gross: 15.4 lbs

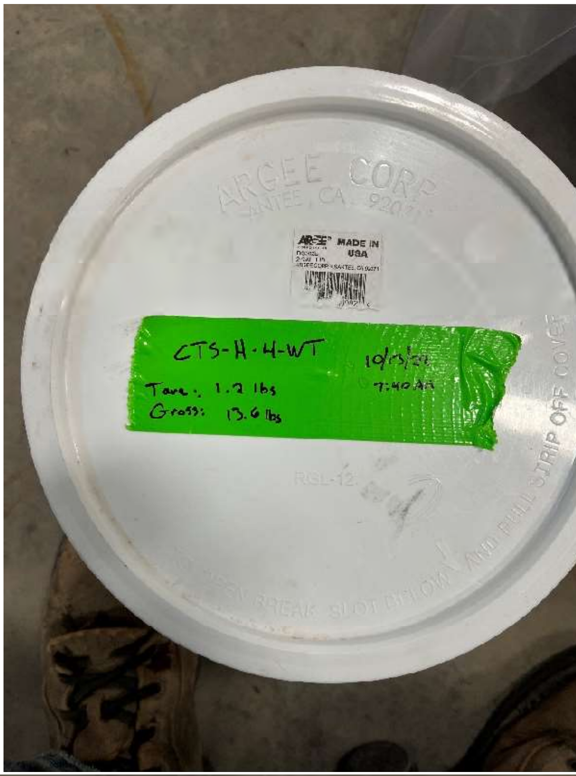

Fill completely and cap tightly.
Coleman


ARGEE CORP
SANTEE, CA. 92071
CTS-M-8-WT
10/12
tare: 1.2 lbs
gross wt: 14.81 lbs
TO OPEN BREAK SLOT BELOW AND PULL STRIP OFF COVER


Fill completely and cap tightly.


ARGEE CORP
CTS-M-30-WT
10/13
Tare: 1.2 lbs
8:00AM
Gross: 14.8 lbs


Fill completely and cap tightly.


ARGEE CORP
MADE IN USA
CTS-H-4-WT
Tare: 1.2 lbs
Gross: 13.6 lbs
7:40 AM
RGL-12


½ gal
Fill completely and cap tightly.


Pace Analytical Services, LLC
CHAIN OF CUSTODY RECORD


10/13/2022
10/13/2022


PEEL HERE
Phone: 307-266-2229
Fax: 307-266-9156
WPL
WESTERN PEAKS LOGISTICS
SHIPPER Disa Technologies, Inc.
STREET 1653 English Ave
CITY Casper STATE WY ZIP 82601
SHIPPER'S REF. NO. CONTACT PHONE 307-871-7241
BILL TO: (If Other Than Shipper Or Consignee)
CONSIGNEE Pace
STREET
CITY Sheridan STATE WY ZIP
CONSIGNEE'S REF. NO. CONTACT PHONE
SPECIAL INSTRUCTIONS
PIECES DESCRIPTION OF CONTENTS WEIGHT
1 Cooler with Water Samples
SPECIAL SERVICES
☐ Special Delivery
☐ Signature Service
☐ Verbal Delivery Confirmation
☐ Exclusive Truck
☐ Signature and Turnaround
☐ Intra-City Courier
DELIVERY DEADLINE
DECLARED VALUE
SHIPPER'S SIGNATURE
PICKUP DATE/TIME
RECEIVED BY ACC EMPLOYEE
COPY DISTRIBUTION
White - Delivery Receipt
Canary - Original Invoice
RECEIVED IN GOOD ORDER EXCEPT AS NOTED
DATE RCV'D TIME RCV'D PCS
SHIPPER'S C.O.D.
TOTAL CHARGES
Put a copy of your documentation and write the details on an steps 1-4 to the package.
© 2021 FedEx

Phone: 307-266-2229
Fax: 307-266-9156
WPL
WESTERN PEAKS LOGISTICS
SHIPMENT NUMBER
ORIGIN
№ C 2343
DATE SHIPPED
10/13/2022
FREIGHT TERMS
☐ PREPAID ☐ COLLECT
☐ OTHER
SHIPPER Disa Technologies, Inc.
STREET 1653 English Ave
CITY Casper STATE WY ZIP 82601
SHIPPER'S REF. NO. CONTACT PHONE 307-871-7241
BILL TO: (If Other Than Shipper Or Consignee)
CONSIGNEE Pace
STREET
CITY Sheridan STATE ZIP
CONSIGNEE'S REF. NO. CONTACT PHONE
SPECIAL INSTRUCTIONS
PIECES DESCRIPTION OF CONTENTS WEIGHT
1 Cooler with Water Samples
FREIGHT CHARGE
SPECIAL SERVICE
SIGNATURE SERVICE
OTHER CHARGE
EXCESS VALUATION
SHIPPER'S C.O.D.
TOTAL CHARGE
Shipper certifies that the above named articles are properly classified, described, packaged, marked & labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Unless a greater value is declared herin, the Shipper agrees and declares that the value of the property is released to an amount not exceeding $50 (dollars) for any shipment of 100 pounds or less and not exceeding 50¢ (cents) per pound for any shipment weighing in excess of 100 pounds.
SPECIAL SERVICES
☐ Special Delivery
☐ Signature Service
☐ Verbal Delivery Confirmation
☐ Exclusive Truck
☐ Signature and Turnaround
☐ Intra-City Courier
DELIVERY DEADLINE
DECLARED VALUE
SHIPPER'S SIGNATURE
PICKUP DATE/TIME
RECEIVED BY ACC EMPLOYEE
COPY DISTRIBUTION
White - Delivery Receipt
Canary - Original Invoice
RECEIVED IN GOOD ORDER EXCEPT AS NOTED
DATE RCV'D TIME RCV'D PCS
Coleman

Pace Analytical

Pace Analytical Services, LLC

Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

Page 1 of 2

All shaded fields must be completed.
This is a legal document: any misrepresentation may be construed as fraud.

\# 196826

Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech / Disa	RAES T033/103G5440033.03.01	[signature]	307-871-7291

Report Address: Tetra Tech / Disa

Contact Name: Mike Dahlquist / Andrew Halverson

Email: mike.dahlquist@tetratech.com / a.halverson@disausa.com

Phone: 510-302-6310 / 307-871-7291

Invoice Address: Tetra Tech

Purchase Order #: 1150922

Quote #:

Preservative Lot #
1:1 HNO3: M-072722-2
H2SO4: Chem 2-71-4
NaOH: Wet-3-40-1

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Total Metals by 6010/6020	Dissolved Metals by 6010/6020	Total Ra 226 by 903.1	Total Ra 228 by 904.0	Dissolved Ra 226 by 903.1	TDS by SM2540	TSS by SM2540		REMARKS
1	S2210225-001	10/11/22	09:24	CTS-M-4-WT	WT	7	✓		✓	✓		✓	✓		unfiltered, no preservatives
2	-002	10/12/22	14:06	CTS-M-8-WT	WT	7	✓		✓	✓		✓	✓		unfiltered, no preservatives
3	-003	10/13/22	08:00	CTS-M-30-WT	WT	7	✓	✓	✓	✓	✓	✓	✓		unfiltered, no preservatives
4	-004	10/13/22	07:40	CTS-H-4-WT	WT	7	✓		✓	✓		✓	✓		unfiltered, no preservatives
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
5.7°C RoI	[signature] / Andrew Halverson	10/13/22	14:50	[signature] Daniel Slipp	10/14/22	12:10
5.4°C RoI OK						
rad ~~sweeps~~ sweeps						

SHIPPING INFO
- ☐ UPS ds 10/14/22
- ☐ Fed Express
- ☐ US Mail
- ☐ Hand Carried
- ☑ Other Lab courier secure dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURNAROUND TIMES

Check desired service
- ☑ Standard turnaround
- ☐ **RUSH - 5 Working Days**
- ☐ **URGENT - < 2 Working Days**

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

Compliance Monitoring? Y / N
Program (SDWA, NPDES,...)
PWSID / Permit #
Chlorinated? Y / N
Sample Disposal: Lab ✓ Client

ADDITIONAL REMARKS

In 2 separate coolers. For unfiltered samples, filter prior to addition of preservatives on total vs dissolved Analysis.

Pace Analytical | **Pace Analytical Services, LLC**
Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

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Page 1 of 1

196920

Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech / DiSA	RAEST033/20365440033.03.01	Madeline Orrell	406-599-0225

Report Address: Tetra Tech / DiSA

Contact Name: Mike Dahlquist / Andrew Halverson a.halverson@disausa.com

Email: mike.dahlquist@tetratech.com

Phone: 510-302-6310 / 307-871-7291

Invoice Address: Tetra Tech

Purchase Order #: 1150922

Quote #:

Preservative Lot #: 1:1 HNO3: M-072722-2; H2SO4: Chem 2-71-3; NaOH: Wet-3-40-1

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Total Metals by 6010/6020	Dissolved Metals by 6010/6020	Total Ra 226 by 903.1	Total Ra 228 by 904.0	Dissolved Ra226 by 903.1	TDS by SM 2540	TSS by SM 2540		REMARKS
1		10/13/22	13:14	CTS-H-8-SWT	WT	7	✓		✓	✓		✓	✓		unfiltered
2				CTS-H-30-WT	WT	7	✓	✓	✓	✓	✓	✓	✓		unfiltered
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	Madeline Orrell, Madeline Orrell	10/19	17:00			

SHIPPING INFO
- ☐ UPS
- ☐ Fed Express
- ☐ US Mail
- ☐ Hand Carried
- ☒ Other Lab courier secure DROPOFF

MATRIX CODES

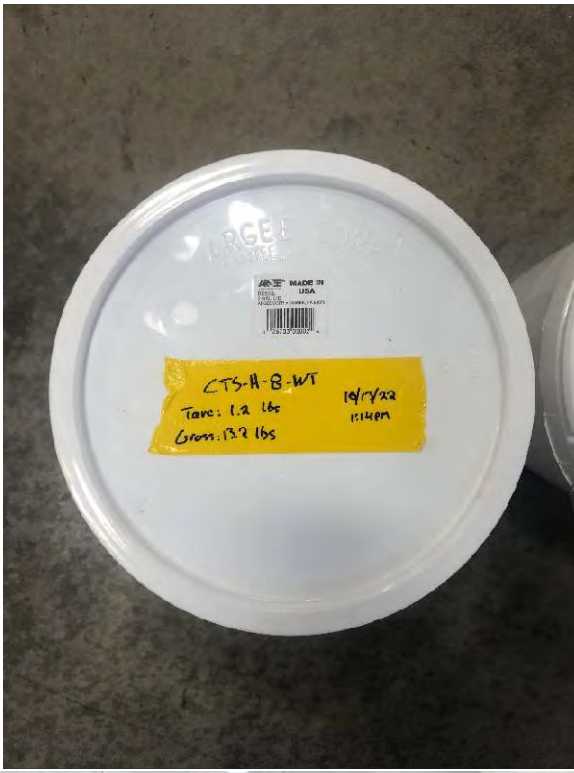
Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

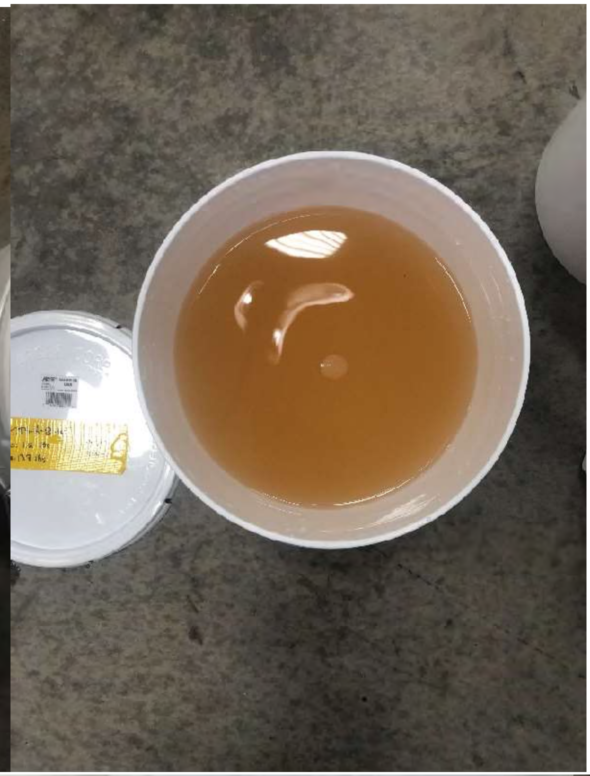
TURNAROUND TIMES
Check desired service
- ☒ Standard turnaround
- ☐ **RUSH - 5 Working Days**
- ☐ **URGENT** - < 2 Working Days

Rush & Urgent Surcharges will be applied

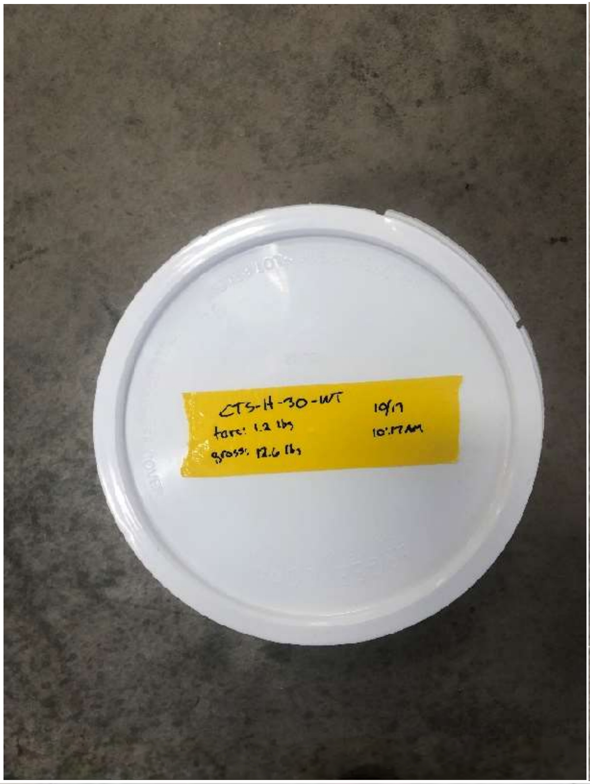
COMPLIANCE INFORMATION
Compliance Monitoring? Y / N
Program (SDWA, NPDES,...)
PWSID / Permit #
Chlorinated? Y / N
Sample Disposal: Lab ✓ Client

ADDITIONAL REMARKS
In cooler For unfiltered samples, filter prior to addition of preservatives on total vs. dissolved analysis

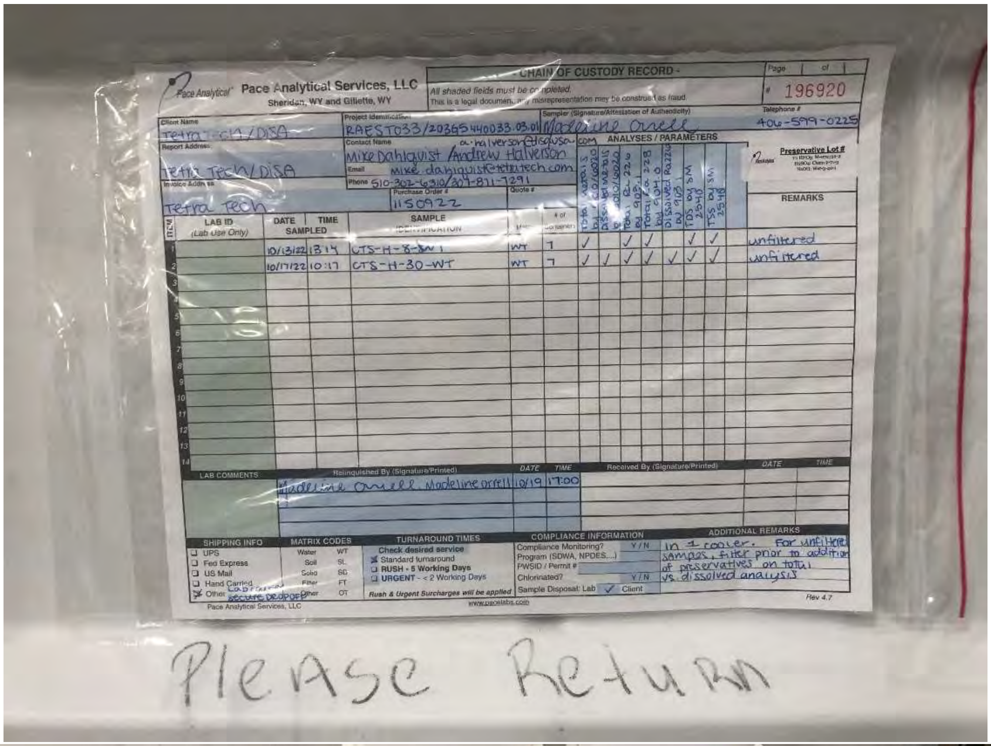

CTS-H-8-WT
Tare: 1.2 lbs
Gross: 13.7 lbs
10/13/22
1:14pm
MADE IN
USA



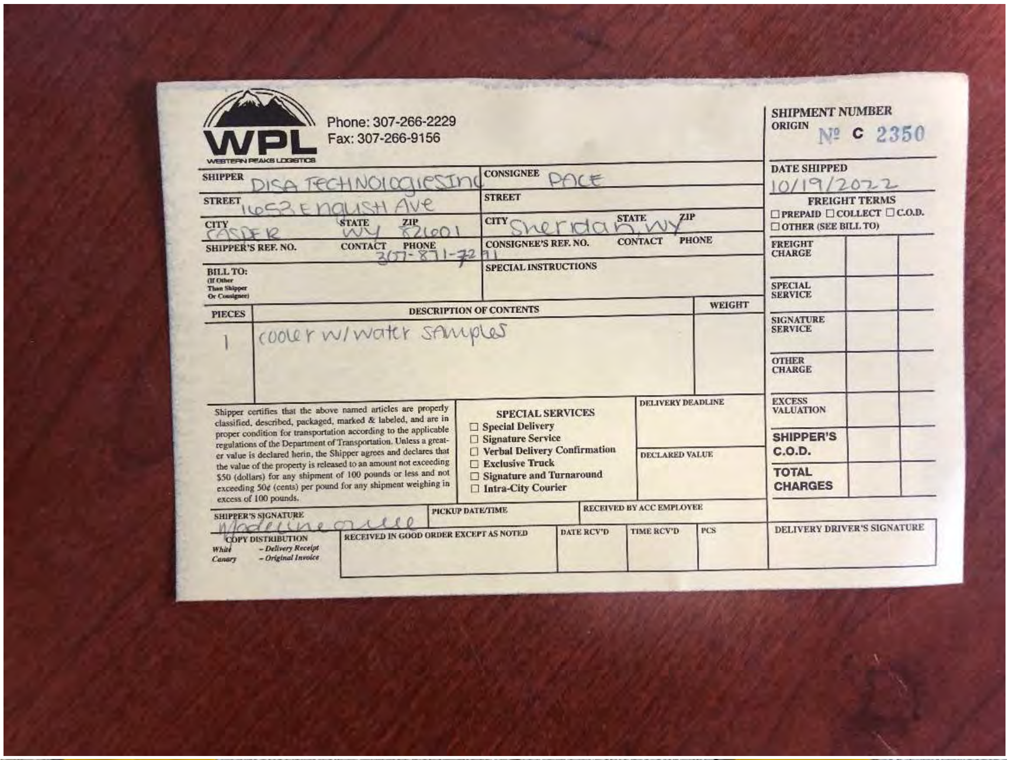

Pace Analytical Services LLC
1673 Terra Avenue
Sheridan, Wyoming 82801
DISA/Tetra Tech
CTS-H-8-WT
10/13/2022
13:14
Fill completely and cap tightly.


CTS-H-30-WT
10/17
tare: 1.2 lbs
10:17AM
gross: 12.6 lbs


Pace Analytical Services LLC
1673 Terra Avenue
Sheridan, Wyoming 82801
DISA / Tetra Tech
CTS-H-30-WT
10/17/22
10:17
Fill completely and cap tightly.


Pace Analytical Services, LLC
Sheridan, WY and Gillette, WY
- CHAIN OF CUSTODY RECORD -
196920
Client Name: Tetra Tech/DISA
Project Identification: RAEST033/20365440033.03.01
Sampler: Madeline Orrell
Telephone #: 406-599-0225
Report Address: Tetra Tech/DISA
Contact Name: Mike Dahlquist Andrew Halverson
Email: mike.dahlquist@tetratech.com a.halverson@disausa.com
Phone: 510-302-6310/307-811-7291
Invoice Address: Tetra Tech
Purchase Order #: 1150922
ANALYSES / PARAMETERS
REMARKS
10/13/22 13:14 CTS-H-8-SW WT 7 unfiltered
10/17/22 10:17 CTS-H-30-WT WT 7 unfiltered
Relinquished By: Madeline Orrell Madeline Orrell 10/19 17:00
Please Return


Coleman
Madeline Orrell


WPL
WESTERN PEAKS LOGISTICS
Phone: 307-266-2229
Fax: 307-266-9156
SHIPMENT NUMBER
ORIGIN
№ C 2350
SHIPPER DISA Technologies Inc
STREET 1652 English Ave
CITY Casper
STATE WY
ZIP 82601
SHIPPER'S REF. NO.
CONTACT
PHONE 307-871-7291
CONSIGNEE PACE
STREET
CITY Sheridan, WY
STATE
ZIP
CONSIGNEE'S REF. NO.
CONTACT
PHONE
SPECIAL INSTRUCTIONS
BILL TO: (If Other Than Shipper Or Consignee)
DATE SHIPPED 10/19/2022
FREIGHT TERMS
PREPAID COLLECT C.O.D.
OTHER (SEE BILL TO)
FREIGHT CHARGE
SPECIAL SERVICE
SIGNATURE SERVICE
OTHER CHARGE
EXCESS VALUATION
SHIPPER'S C.O.D.
TOTAL CHARGES
PIECES
DESCRIPTION OF CONTENTS
WEIGHT
1
cooler w/ water samples
Shipper certifies that the above named articles are properly classified, described, packaged, marked & labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Unless a greater value is declared herein, the Shipper agrees and declares that the value of the property is released to an amount not exceeding $50 (dollars) for any shipment of 100 pounds or less and not exceeding 50¢ (cents) per pound for any shipment weighing in excess of 100 pounds.
SPECIAL SERVICES
Special Delivery
Signature Service
Verbal Delivery Confirmation
Exclusive Truck
Signature and Turnaround
Intra-City Courier
DELIVERY DEADLINE
DECLARED VALUE
SHIPPER'S SIGNATURE
Madeline
PICKUP DATE/TIME
RECEIVED BY ACC EMPLOYEE
COPY DISTRIBUTION
White – Delivery Receipt
Canary – Original Invoice
RECEIVED IN GOOD ORDER EXCEPT AS NOTED
DATE RCV'D
TIME RCV'D
PCS
DELIVERY DRIVER'S SIGNATURE

PEEL HERE
WPL
Phone: 307-266-2229
Fax: 307-266-9156
SHIPMENT NUMBER
ORIGIN
№ C 23
SHIPPER DISA Technologies Inc
STREET 1652 English Ave
CITY Casper
STATE WY
ZIP 82601
PHONE 307-871-7291
CONSIGNEE PACE
CITY Sheridan, WY
DATE SHIPPED 10/19/2022
PIECES
DESCRIPTION OF CONTENTS
1
cooler w/ water samples
SPECIAL SERVICES
SHIPPER'S SIGNATURE
Madeline

Pace Analytical® **Pace Analytical Services, LLC**
Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

All shaded fields must be completed.
This is a legal document: any misrepresentation may be construed as fraud.

Page 1 of 1
196920

Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech / DISA	RAEST033/20395440033.03.01	Madeline Orrell	406-599-0225

Report Address: Tetra Tech / DISA
Contact Name: Mike Dahlquist / Andrew Halverson a.halverson@disausa.com
Email: mike.dahlquist@tetratech.com
Phone: 510-302-6310 / 307-871-7291
Invoice Address: Tetra Tech
Purchase Order #: 1150922
Quote #:

Preservative Lot #
1:1 HNO3: M-072722-2
H2SO4: Chem 2-71-3
NaOH: Wet-3-40-1

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Total Metals by 6010/6020	Dissolved Metals by 6010/6020	Total Ra 226 by 903.1	Total Ra 228 by 904.0	Dissolved Ra226 by 903.1	TDS by SM 2540	TSS by SM 2540		REMARKS
1	S2210327-001	10/13/22	13:14	CTS-H-8-WT	WT	7	✓		✓	✓		✓	✓		unfiltered
2	-002	10/17/22	10:17	CTS-H-30-WT	WT	7	✓	✓	✓	✓	✓	✓	✓		unfiltered
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
11.2°C No ice	Madeline Orrell Madeline Orrell	10/19	17:00	[signature]	10/20/22	12:44

SHIPPING INFO
- ☐ UPS
- ☐ Fed Express
- ☐ US Mail
- ☐ Hand Carried
- ☒ Other Lab courier secure DROPOFF

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURNAROUND TIMES
Check desired service
- ☒ Standard turnaround
- ☐ **RUSH - 5 Working Days**
- ☐ **URGENT** - < 2 Working Days

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION
Compliance Monitoring? Y / N
Program (SDWA, NPDES,...)
PWSID / Permit #
Chlorinated? Y / N
Sample Disposal: Lab ✓ Client

ADDITIONAL REMARKS
In 1 cooler. For unfiltered samples, filter prior to addition of preservatives on total vs. dissolved analysis

Pace Analytical®

Pace Analytical Services, LLC

Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

Page 1 of 11

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196921

Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
TetraTech/Disa	RAEST033/20365440033.03.01	[signature]	307-871-7291

Report Address: TetraTech/Disa

Contact Name: Mike Dahlquist / Andrew Halverson

Email: mike.dahlquist@tetratech.com / a.halverson@disausa...

Phone: 510-302-6310 / 307-871-7291

Invoice Address: Tetra Tech

Purchase Order #: 1150922

Quote #:

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Total Metals by 6010/6020	Ra 226 Total	Th 230 Total						REMARKS
1		10/13/22	NO TIME	CR Fractionation Water	WT	5	✓	✓	✓						Unfiltered, Not preserved
2		10/11/22	NO TIME	QV Fractionation Water	WT	5	✓	✓	✓						Unfiltered, Not preserved
3		10/18/22	NO TIME	CTS Fractionation Water	WT	5	✓	✓	✓						Unfiltered, Not preserved
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/26/22	15:40			

SHIPPING INFO

- ☐ UPS
- ☐ Fed Express
- ☐ US Mail
- ☐ Hand Carried
- ☑ Other Lab courier Secure dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURNAROUND TIMES

Check desired service

- ☑ Standard turnaround
- ☐ **RUSH - 5 Working Days**
- ☐ **URGENT** - < 2 Working Days

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

Compliance Monitoring? Y / N

Program (SDWA, NPDES,...)

PWSID / Permit #

Chlorinated? Y / N

Sample Disposal: Lab ✓ Client

ADDITIONAL REMARKS

Water Samples in 2 separate coolers.

Soil Samples divided into 3 coolers.

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Client Name	Tetra Tech/Disa
Project Identification	RAES TO33/103G5440033.03.01
Sampler (Signature/Attestation of Authenticity)	[signature]
Telephone #	307-871-7291
Report Address	Tetra Tech/Disa
Contact Name	Mike Dahlquist/Andrew Halverson
Email	mike.dahlquist@tetratech.com/a.halverson@disausa.com
Phone	510-302-6310/307-871-7291
Invoice Address	Tetra Tech
Purchase Order #	1150922
Quote #	

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME	SAMPLE IDENTIFICATION	Matrix	# of Containers	SPLP by Table A-12	SPLP by Table A-13	MS/MSD						REMARKS
1		10/05/22	10:32	CTS-L-4-SY Combined +25/270	SL	1	x	x							363.88 g
2		10/06/22	9:45	CTS-L-8-SY Combined +25/270	SL	1	x	x							297.88 g
3		10/06/22	13:25	CTS-L-30-SY Combined +25/270	SL	1	x	x							253.43 g
4		10/11/22	9:30	CTS-M-4-SY Combined +25/270	SL	1	x	x							308.72 g
5		10/11/22	NO TIME	CTS-M-8-SY Combined +25/270	SL	1	x	x							294.18 g
6		10/13/22	8:00	CTS-M-30-SY Combined +25/270	SL	1	x	x							281.39 g
7		10/13/22	11:30	CTS-H-4-SY Combined +25/270	SL	1	x	x							311.15 g
8		10/13/22	10:00	CTS-H-8-SY Combined +25/270	SL	1	x	x							338.53 g
9		10/17/22	9:53	CTS-H-30-SY Combined +25/270	SL	1	x	x							298.63 g
10		10/03/22	14:40	QV-H-8-SY Combined +25/+270	SL	1	x	x	x						1012.12 g, MS/MSD for SPLP
11		10/03/22	21:20	QV-H-30-SY Combined +25/+270-01	SL	1	x	x							414.54 g
12		10/03/22	21:20	QV-H-30-SY Combined +25/+270-02	SL	1	x	x							413.32 g
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/26/22	15:40			

SHIPPING INFO	MATRIX CODES	TURN AROUND TIMES	COMPLIANCE INFORMATION	ADDITIONAL REMARKS
☐ UPS	Water WT	**Check desired service**	Compliance Monitoring ? Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil SL	☑ Standard turnaround	Program (SDWA, NPDES,...)	Report preliminary metals before radionuclides.
☐ USPS	Solid SD	☐ **RUSH - 5 Working Days**	PWSID / Permit #	Table A-12 and A-13 from Work Plan attached
☐ Hand Carried	Filter FT	☐ **URGENT - < 2 Working Days**	Chlorinated? Y / N	
☑ Other Lab Courier service dropoff	Other OT	***Rush & Urgent Surcharges will be applied***	Sample Disposal: Lab Client ✓	

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Client Name	Tetra Tech/Disa
Project Identification	RAES TO33/103G5440033.03.01
Sampler (Signature/Attestation of Authenticity)	[signature]
Telephone #	307-871-7291
Report Address	Tetra Tech/Disa
Contact Name	Mike Dahlquist/Andrew Halverson
Email	mike.dahlquist@tetratech.com/a.halverson@disausa.com
Phone	510-302-6310/307-871-7291
Invoice Address	Tetra Tech
Purchase Order #	1150922
Quote #	

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/602	Ra 226 by 901.1	TCLP by Table A-12						REMARKS
1		10/24/22	18:35	QV-L-4-SY -270 Concentrate	SL	1	x	x	x						280.73 g
2		10/24/22	18:45	QV-L-8-SY -270 Concentrate	SL	1	x	x	x						362.72 g
3		10/24/22	18:55	QV-L-30-SY -270 Concentrate	SL	1	x	x	x						394.32 g
4		10/24/22	19:04	QV-M-4-SY -270 Concentrate	SL	1	x	x	x						375.01 g
5		10/24/22	19:08	QV-M-8-SY -270 Concentrate	SL	1	x	x	x						393.39 g
6		10/24/22	19:10	QV-M-30-SY -270 Concentrate	SL	1	x	x	x						404.61 g
7		10/24/22	19:21	QV-H-4-SY -270 Concentrate	SL	1	x	x	x						470.18 g
8		10/24/22	19:26	QV-H-8-SY -270 Concentrate	SL	1	x	x	x						470.56 g
9		10/24/22	19:30	QV-H-30-SY -270 Concentrate	SL	1	x	x	x						459.77 g
10		10/24/22	19:38	CR-L-4-SY -270 Concentrate	SL	1	x	x	x						298.92 g
11		10/24/22	19:43	CR-L-8-SY -270 Concentrate	SL	1	x	x	x						309.37 g
12		10/24/22	19:46	CR-L-30-SY -270 Concentrate	SL	1	x	x	x						333.14 g
13		10/24/22	19:57	CR-M-4-SY -270 Concentrate	SL	1	x	x	x						271.70 g
14		10/24/22	20:02	CR-M-8-SY -270 Concentrate	SL	1	x	x	x						334.43 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/24/22	15:40			

SHIPPING INFO	MATRIX CODES		TURN AROUND TIMES	COMPLIANCE INFORMATION		ADDITIONAL REMARKS
☐ UPS	Water	WT	Check desired service	Compliance Monitoring ?	Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...)		Report preliminary metals before radionuclides.
☐ USPS	Solid	SD	☐ RUSH - 5 Working Days	PWSID / Permit #		Table A-12 from Work Plan attached
☐ Hand Carried	Filter	FT	☐ URGENT - < 2 Working Days	Chlorinated?	Y / N	
☑ Other Lab courier secured dropoff	Other	OT	*Rush & Urgent Surcharges will be applied*	Sample Disposal: Lab	Client ✓	

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Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES TO33/103G5440033.03.01		307-871-7291

Report Address: Tetra Tech/Disa

Contact Name: Mike Dahlquist/Andrew Halverson

Email: mike.dahlquist@tetratech.com/a.halverson@disausa.com

Phone: 510-302-6310/307-871-7291

Invoice Address: Tetra Tech

Purchase Order #: 1150922

Quote #:

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/602	Ra 226 by 901.1	TCLP by Table A-12	MS/MSD					REMARKS
1		10/24/22	20:05	CR-M-30-SY -270 Concentrate	SL	1	x	x	x						350.94 g
2		10/13/22	11:30	CTS-H-4-SY -270-01	SL	1	x	x	x						304.81 g
3		10/13/22	11:30	CTS-H-4-SY -270-02	SL	1	x	x	x						301.03 g
4		10/13/22	10:00	CTS-H-8-SY -270	SL	1	x	x	x						659.54 g
5		10/17/22	9:53	CTS-H-30-SY -270	SL	1	x	x	x	x					699.81 g, MS/MSD for metals and TCLP
6		10/24/22	20:14	CR-H-4-SY -270 Concentrate	SL	1	x	x	x						241.01 g
7		10/24/22	20:17	CR-H-8-SY -270 Concentrate	SL	1	x	x	x						343.28 g
8		10/24/22	20:22	CR-H-30-SY -270 Concentrate	SL	1	x	x	x						358.80 g
9		10/11/22	9:30	CTS-M-4-SY -270	SL	1	x	x	x						546.55 g
10		10/11/22	NO TIME	CTS-M-8-SY -270	SL	1	x	x	x						571.44 g
11		10/13/22	8:00	CTS-M-30-SY -270	SL	1	x	x	x						596.81 g
12		10/05/22	10:32	CTS-L-4-SY -270	SL	1	x	x	x						591.53 g
13		10/06/22	8:45	CTS-L-8-SY -270-01	SL	1	x	x	x						303.14 g
14		10/06/22	8:45	CTS-L-8-SY -270-02	SL	1	x	x	x						297.70 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	/ Andrew Halverson	10/26/22	15:40			

SHIPPING INFO
- ☐ UPS
- ☐ FedEx
- ☐ USPS
- ☐ Hand Carried
- ☑ Other Lab courier secure dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURN AROUND TIMES
Check desired service
- ☑ Standard turnaround
- ☐ RUSH - 5 Working Days
- ☐ URGENT - < 2 Working Days

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION
- Compliance Monitoring ? Y / N
- Program (SDWA, NPDES,...)
- PWSID / Permit #
- Chlorinated? Y / N
- Sample Disposal: Lab Client ✓

ADDITIONAL REMARKS
Please return unused sample to Disa after reporting.
Report preliminary metals before radionuclides.
Table A-12 from Work Plan attached

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Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES TO33/103G5440033.03.01	[signature]	307-871-7291

Report Address	Tetra Tech/Disa
Contact Name	Mike Dahlquist/Andrew Halverson
Email	mike.dahlquist@tetratech.com / a.halverson@disausa.com
Phone	510-302-6310/307-871-7291
Invoice Address	Tetra Tech
Purchase Order #	1150922
Quote #	

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/602	Ra 226 by 901.1	TCLP by Table A-12	MS/MSD					REMARKS
1		10/06/22	13:25	CTS-L-30-SY -270	SL	1	x	x	x	x					667.67 g, MS/MSD for Metals and TCLP
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/21/22	15:40			

SHIPPING INFO	MATRIX CODES		TURN AROUND TIMES	COMPLIANCE INFORMATION		ADDITIONAL REMARKS
☐ UPS	Water	WT	Check desired service	Compliance Monitoring ?	Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...)		Report preliminary metals before radionuclides.
☐ USPS	Solid	SD	☐ RUSH - 5 Working Days	PWSID / Permit #		Table A-12 from Work Plan attached
☐ Hand Carried	Filter	FT	☐ URGENT - < 2 Working Days	Chlorinated?	Y / N	
☑ Other Lab Courier Secure dropoff	Other	OT	*Rush & Urgent Surcharges will be applied*	Sample Disposal: Lab	Client ✓	

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Client Name	Tetra Tech/Disa
Project Identification	RAES TO33/103G5440033.03.01
Sampler (Signature/Attestation of Authenticity)	[signature]
Telephone #	307-871-7291
Report Address	Tetra Tech/Disa
Contact Name	Mike Dahlquist/Andrew Halverson
Email	Mike.Dahlquist@tetratech.com/ahalverson@disausa.com
Phone	510-302-6310/307-871-7291
Invoice Address	Tetra Tech
Purchase Order #	1150922
Quote #	

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/6020	Ra 226 by 901.1	MS/MSD						REMARKS
1		10/05/22	10:32	CTS-L-4-SY +25	SL	1	x	x							7.60 g
2		10/05/22	10:32	CTS-L-4-SY +50	SL	1	x	x							22.83 g
3		10/05/22	10:32	CTS-L-4-SY +100	SL	1	x	x							42.21 g
4		10/05/22	10:32	CTS-L-4-SY +140	SL	1	x	x							32.19 g
5		10/05/22	10:32	CTS-L-4-SY +200	SL	1	x	x							41.97 g
6		10/05/22	10:32	CTS-L-4-SY +270	SL	1	x	x							36.12 g
7		10/06/22	8:45	CTS-L-8-SY +25	SL	1	x	x							2.06 g
8		10/06/22	8:45	CTS-L-8-SY +50	SL	1	x	x							13.37 g
9		10/06/22	8:45	CTS-L-8-SY +100	SL	1	x	x							32.59 g
10		10/06/22	8:45	CTS-L-8-SY +140	SL	1	x	x							28.84 g
11		10/06/22	8:45	CTS-L-8-SY +200	SL	1	x	x							48.94 g
12		10/06/22	8:45	CTS-L-8-SY +270	SL	1	x	x							25.12 g
13		10/06/22	13:25	CTS-L-30-SY +25	SL	1	x	x							1.40 g
14		10/06/22	13:25	CTS-L-30-SY +50	SL	1	x	x							8.52 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/26/22	15:40			

SHIPPING INFO
- ☐ UPS
- ☐ FedEx
- ☐ USPS
- ☐ Hand Carried
- ☑ Other Lab courier secure dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURN AROUND TIMES

Check desired service
- ☑ Standard turnaround
- ☐ **RUSH - 5 Working Days**
- ☐ **URGENT - < 2 Working Days**

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

Compliance Monitoring ? Y / N
Program (SDWA, NPDES,...)
PWSID / Permit #
Chlorinated? Y / N
Sample Disposal: Lab Client ✓

ADDITIONAL REMARKS

Please return unused sample to Disa after reporting.
Report preliminary metals before radionuclides.
Radium compositing sheet attached

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Field	Value
Client Name	Tetra Tech/Disa
Project Identification	RAES TO33/103G5440033.03.01
Sampler (Signature/Attestation of Authenticity)	[signature]
Telephone #	307-871-7291
Report Address	Tetra Tech/Disa
Contact Name	Mike Dahlquist/Andrew Halverson
Email	mike.dahlquist@tetratech.com/a.halverson@disausa.com
Phone	510-302-6310/307-871-7291
Invoice Address	Tetra Tech
Purchase Order #	1150922
Quote #	

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/602	Ra 226 by 901.1	MS/MSD						REMARKS
1		10/06/22	13:25	CTS-L-30-SY +100-01	SL	1	x	x							12.34 g
2		10/06/22	13:25	CTS-L-30-SY +100-02	SL	1	x	x							12.34 g
3		10/06/22	13:25	CTS-L-30-SY +140	SL	1	x	x	x						24.22 g, MS/MSD for metals
4		10/06/22	13:25	CTS-L-30-SY +200	SL	1	x	x							44.76 g
5		10/06/22	13:25	CTS-L-30-SY +270	SL	1	x	x							22.93 g
6		10/04/22	15:31	CTS-0-SL-01 +25	SL	1	x	x							6.88 g
7		10/04/22	15:31	CTS-0-SL-01 +50	SL	1	x	x							11.73 g
8		10/04/22	15:31	CTS-0-SL-01 +100	SL	1	x	x							32.09 g
9		10/04/22	15:31	CTS-0-SL-01 +140	SL	1	x	x							35.57 g
10		10/04/22	15:31	CTS-0-SL-01 +200	SL	1	x	x							43.80 g
11		10/04/22	15:31	CTS-0-SL-01 +270	SL	1	x	x							36.63 g
12		10/04/22	15:31	CTS-0-SL-01 -270	SL	1	x	x							143.58 g
13		10/11/22	9:30	CTS-M-4-SY +25	SL	1	x	x							3.16 g
14		10/11/22	9:30	CTS-M-4-SY +50	SL	1	x	x							17.48 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/26/22	15:40			

SHIPPING INFO	MATRIX CODES		TURN AROUND TIMES	COMPLIANCE INFORMATION		ADDITIONAL REMARKS
☐ UPS	Water	WT	Check desired service	Compliance Monitoring ?	Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...)		Report preliminary metals before radionuclides.
☐ USPS	Solid	SD	☐ RUSH - 5 Working Days	PWSID / Permit #		Radium compositing sheet attached
☐ Hand Carried	Filter	FT	☐ URGENT - < 2 Working Days	Chlorinated?	Y / N	
☑ Other Lab courier Secure dropoff	Other	OT	*Rush & Urgent Surcharges will be applied*	Sample Disposal: Lab	Client ✓	

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Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

#WEB

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This is a legal document; any misrepresentation may be construed as fraud.

Client Name: Tetra Tech/Disa	Project Identification: RAES TO33/103G5440033.03.01	Sampler (Signature/Attestation of Authenticity): [signature]	Telephone #: 307-871-7291
Report Address: Tetra Tech/Disa	Contact Name: Mike Dahlquist/Andrew Halverson		
	Email: mike.dahlquist@tetratech.com / a.halverson@disausa.com		
Invoice Address: Tetra Tech	Phone: 510-302-6310/307-871-7291		
	Purchase Order #: 1150922	Quote #:	

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/6020	Ra 226 by 901.1	MS/MSD						REMARKS
1		10/11/22	9:30	CTS-M-4-SY +100	SL	1	x	x							38.16 g
2		10/11/22	9:30	CTS-M-4-SY +140	SL	1	x	x							31.44 g
3		10/11/22	9:30	CTS-M-4-SY +200	SL	1	x	x							41.30 g
4		10/11/22	9:30	CTS-M-4-SY +270	SL	1	x	x							23.83 g
5		10/11/22	NO TIME	CTS-M-8-SY +25	SL	1	x	x							3.02 g
6		10/11/22	NO TIME	CTS-M-8-SY +50	SL	1	x	x							14.55 g
7		10/11/22	NO TIME	CTS-M-8-SY +100-01	SL	1	x	x							18.58 g
8		10/11/22	NO TIME	CTS-M-8-SY +100-02	SL	1	x	x							18.57 g
9		10/11/22	NO TIME	CTS-M-8-SY +140	SL	1	x	x	x						29.31 g, MS/MSD for metals
10		10/11/22	NO TIME	CTS-M-8-SY +200	SL	1	x	x							40.04 g
11		10/11/22	NO TIME	CTS-M-8-SY +270	SL	1	x	x							24.08 g
12		10/13/22	8:00	CTS-M-30-SY +25	SL	1	x	x							2.01 g
13		10/13/22	8:00	CTS-M-30-SY +50	SL	1	x	x							13.28 g
14		10/13/22	8:00	CTS-M-30-SY +100	SL	1	x	x							35.74 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/26/22	15:40			

SHIPPING INFO	MATRIX CODES		TURN AROUND TIMES	COMPLIANCE INFORMATION		ADDITIONAL REMARKS
☐ UPS	Water	WT	**Check desired service**	Compliance Monitoring ?	Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...)		Report preliminary metals before radionuclides.
☐ USPS	Solid	SD	☐ **RUSH - 5 Working Days**	PWSID / Permit #		Radium compositing sheet attached
☐ Hand Carried	Filter	FT	☐ **URGENT - < 2 Working Days**	Chlorinated?	Y / N	
☑ Other Lab Courier secure dropoff	Other	OT	***Rush & Urgent Surcharges will be applied***	Sample Disposal: Lab	Client ✓	

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- CHAIN OF CUSTODY RECORD -

All shaded fields must be completed.
This is a legal document; any misrepresentation may be construed as fraud.

Page 9 of 11

#WEB

Client Name: Tetra Tech/Disa	Project Identification: RAES TO33/103G5440033.03.01	Sampler (Signature/Attestation of Authenticity): [signature]	Telephone #: 307-871-7291
Report Address: Tetra Tech/Disa	Contact Name: Mike Dahlquist/Andrew Halverson		
	Email: mike.dahlquist@tetratech.com/a.halverson@disausa.com		
Invoice Address: Tetra Tech	Phone: 510-302-6310/307-871-7291		
	Purchase Order #: 1150922	Quote #:	

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/602	Ra 226 by 901.1	MS/MSD						REMARKS
1		10/13/22	8:00	CTS-M-30-SY +140	SL	1	x	x							27.23 g
2		10/13/22	8:00	CTS-M-30-SY +200	SL	1	x	x							42.68 g
3		10/13/22	8:00	CTS-M-30-SY +270	SL	1	x	x							20.75 g
4		10/11/22	8:00	CTS-M-0-SL-01 +25	SL	1	x	x							8.34 g
5		10/11/22	8:00	CTS-M-0-SL-01 +50	SL	1	x	x							17.33 g
6		10/11/22	8:00	CTS-M-0-SL-01 +100	SL	1	x	x							38.48 g
7		10/11/22	8:00	CTS-M-0-SL-01 +140	SL	1	x	x							36.91 g
8		10/11/22	8:00	CTS-M-0-SL-01 +200	SL	1	x	x							48.80 g
9		10/11/22	8:00	CTS-M-0-SL-01 +270	SL	1	x	x							30.95 g
10		10/11/22	8:00	CTS-M-0-SL-01 -270	SL	1	x	x							155.64 g
11		10/13/22	11:30	CTS-H-4-SY +25	SL	1	x	x							2.07 g
12		10/13/22	11:30	CTS-H-4-SY +50	SL	1	x	x							11.82 g
13		10/13/22	11:30	CTS-H-4-SY +100-01	SL	1	x	x							17.87 g
14		10/13/22	11:30	CTS-H-4-SY +100-02	SL	1	x	x							17.88 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/26/22	15:40			

SHIPPING INFO	MATRIX CODES		TURN AROUND TIMES	COMPLIANCE INFORMATION		ADDITIONAL REMARKS
☐ UPS	Water	WT	Check desired service	Compliance Monitoring ?	Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...)		Report preliminary metals before radionuclides.
☐ USPS	Solid	SD	☐ RUSH - 5 Working Days	PWSID / Permit #		Radium Compositing sheet attached
☐ Hand Carried	Filter	FT	☐ URGENT - < 2 Working Days	Chlorinated?	Y / N	
☑ Other Lab courier secure dropoff	Other	OT	*Rush & Urgent Surcharges will be applied*	Sample Disposal: Lab	Client ✓	

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- CHAIN OF CUSTODY RECORD -

All shaded fields must be completed.

This is a legal document; any misrepresentation may be construed as fraud.

#WEB

Client Name	Tetra Tech/Disa
Project Identification	RAES TO33/103G5440033.03.01
Sampler (Signature/Attestation of Authenticity)	[signature]
Telephone #	307-871-7291
Report Address	Tetra Tech/Disa
Contact Name	Mike Dahlquist/Andrew Halverson
Email	mike.dahlquist@tetratech.com/a.halverson@disausa.com
Phone	510-302-6310/307-871-7291
Invoice Address	Tetra Tech
Purchase Order #	1150922
Quote #	

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/6020	Ra 226 by 901.1	MS/MSD						REMARKS
1		10/13/22	11:30	CTS-H-4-SY +140	SL	1	x	x	x						32.10 g, MS/MSD for metals
2		10/13/22	11:30	CTS-H-4-SY +200	SL	1	x	x							53.85 g
3		10/13/22	11:30	CTS-H-4-SY +270	SL	1	x	x							21.57 g
4		10/13/22	10:00	CTS-H-8-SY +25	SL	1	x	x							2.32 g
5		10/13/22	10:00	CTS-H-8-SY +50	SL	1	x	x							13.89 g
6		10/13/22	10:00	CTS-H-8-SY +100	SL	1	x	x							36.49 g
7		10/13/22	10:00	CTS-H-8-SY +140	SL	1	x	x							33.89 g
8		10/13/22	10:00	CTS-H-8-SY +200	SL	1	x	x							58.84 g
9		10/13/22	10:00	CTS-H-8-SY +270	SL	1	x	x							25.93 g
10		10/12/22	8:40	CTS-H-0-SL-01 +25	SL	1	x	x							8.76 g
11		10/12/22	8:40	CTS-H-0-SL-01 +50	SL	1	x	x							13.34 g
12		10/12/22	8:40	CTS-H-0-SL-01 +100	SL	1	x	x							36.25 g
13		10/12/22	8:40	CTS-H-0-SL-01 +140	SL	1	x	x							36.46 g
14		10/12/22	8:40	CTS-H-0-SL-01 +200	SL	1	x	x							59.96 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/26/22	15:40			

SHIPPING INFO
- ☐ UPS
- ☐ FedEx
- ☐ USPS
- ☐ Hand Carried
- ☑ Other Lab courier secure dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURN AROUND TIMES

Check desired service
- ☑ Standard turnaround
- ☐ RUSH - 5 Working Days
- ☐ URGENT - < 2 Working Days

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION
- Compliance Monitoring ? Y / N
- Program (SDWA, NPDES,...)
- PWSID / Permit #
- Chlorinated? Y / N
- Sample Disposal: Lab Client ✓

ADDITIONAL REMARKS
- Please return unused sample to Disa after reporting.
- Report preliminary metals before radionuclides.
- Radium compositing sheet attached

Pace Analytical
Pace Analytical
Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

All shaded fields must be completed.

This is a legal document; any misrepresentation may be construed as fraud.

#WEB

Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES TO33/103G5440033.03.01	[signature]	307-871-7291

Report Address: Tetra Tech/Disa

Contact Name: Mike Dahlquist/Andrew Halverson

Email: mike.dahlquist@tetratech.com/a.halverson@disausa.com

Phone: 510-302-6310/307-871-7291

Invoice Address: Tetra Tech

Purchase Order #: 1150922

Quote #:

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/602	Ra 226 by 901.1	MS/MSD						REMARKS
1		10/12/22	8:40	CTS-H-0-SL-01 +270	SL	1	x	x							40.03 g
2		10/12/22	8:40	CTS-H-0-SL-01 -270	SL	1	x	x							199.00 g
3		10/17/22	9:53	CTS-H-30-SY +25	SL	1	x	x							1.34 g
4		10/17/22	9:53	CTS-H-30-SY +50	SL	1	x	x							12.84 g
5		10/17/22	9:53	CTS-H-30-SY +100-01	SL	1	x	x							16.53 g
6		10/17/22	9:53	CTS-H-30-SY +100-02	SL	1	x	x							16.52 g
7		10/17/22	9:53	CTS-H-30-SY +140	SL	1	x	x	x						31.06 g, MS/MSD for metals
8		10/17/22	9:53	CTS-H-30-SY +200	SL	1	x	x							35.64 g
9		10/17/22	9:53	CTS-H-30-SY +270	SL	1	x	x							37.82 g
10															
11															
12															
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/26/22	15:40			

SHIPPING INFO
- ☐ UPS
- ☐ FedEx
- ☐ USPS
- ☐ Hand Carried
- ☑ Other Lab Courier Secure dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURN AROUND TIMES

Check desired service
- ☑ Standard turnaround
- ☐ **RUSH - 5 Working Days**
- ☐ **URGENT - < 2 Working Days**

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION
- Compliance Monitoring ? Y / N
- Program (SDWA, NPDES,....)
- PWSID / Permit #
- Chlorinated? Y / N
- Sample Disposal: Lab Client ✓

ADDITIONAL REMARKS
- Please return unused sample to Disa after reporting.
- Report preliminary metals before radionuclides.
- Radium compositing sheet attached

Table A-12. Aqueous Metals Analytical Parameter Summary for SPLP and TCLP Extracts

Analyte	CAS Number	Analytical Method	MDL[1] (µg/L)	Reporting Limit (µg/L)	TCLP Criteria (µg/L)	USEPA RSL Tap Water[2] (µg/L)
Aluminum	7429-90-5	USEPA 6010	4.68	100	NP	20,000
Antimony	7440-36-0	USEPA 6010	34.02	50	NP	7.8
Arsenic	7440-38-2	USEPA 6010	1.54	20	5,000	0.052
Barium	7440-39-3	USEPA 6010	0.19	50	100,000	3,800
Beryllium	7440-41-7	USEPA 6010	0.13	20	NP	25
Cadmium	7440-43-9	USEPA 6010	0.08	50	1,000	9.2
Chromium	7440-47-3	USEPA 6010	0.24	10	5,000	NP
Cobalt	7440-48-4	USEPA 6010	3.88	10	NP	6
Copper	7440-50-8	USEPA 6010	0.91	10	NP	800
Iron	7439-89-6	USEPA 6010	9.33	50	NP	14,000
Lead	7439-92-1	USEPA 6010	1.59	200	5,000	15
Manganese	7439-96-5	USEPA 6010	0.19	100	NP	430
Mercury	7439-97-6	USEPA 7470	0.05	1	200	6
Molybdenum	7439-98-7	USEPA 6010	3.45	10	NP	100
Nickel	7440-02-0	USEPA 6010	2.55	20	NP	390
Selenium	7782-49-2	USEPA 6010	4.00	200	1,000	100
Silver	7440-22-4	USEPA 6010	0.58	50	5,000	94
Thallium	7440-28-0	USEPA 6010	26.68	200	NP	0.2
Vanadium	7440-62-2	USEPA 6010	1.58	5	NP	86
Uranium (natural)	7440-61-1	USEPA 6010	24.08	50	NP	NP
Zinc	7440-66-6	USEPA 6010	14.71	200	NP	6,000

Notes:

Analyte SPLP extracts
Analyte TCLP extract only
Analyte TCLP and SPLP extracts

1 MDLs are specific to the contract laboratory. As MDLs are instrument specific, MDLs may vary depending on which instrument is used.

2 TR = 1 E-6; THQ = 1

µg/L Microgram per liter
CAS Chemical Abstracts Service
MDL Method detection limit
NNEPA Navajo Nation Environmental Protection Agency
NP Not promulgated
RSL Regional screening level
SPLP Synthetic precipitation leaching procedure
TCLP Toxicity characteristic leaching procedure
THQ Target hazard quotient
TR Target cancer risk
USEPA U.S. Environmental Protection Agency

Source:

USEPA (2021). "Regional Screening Levels (RSLs) - Generic Tables." https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables

Table A-13. Aqueous Radionuclide Analytical Parameter Summary for SPLP Extract

Analyte	CAS Number	Analytical Method	MDC[1] (pCi/L)	Requested MDC[1] (pCi/L)	USEPA MCL[2] (pCi/L)	ORNL Ecological Screening Level (pCi/L)
Radium-226	13982-63-3	Alpha Scint USEPA 903.1	0.2	0.1	5 *	160
Radium-228	15262-20-1	GFPC USEPA 904.0	1.0	0.1	5 *	NV

Notes:

1 MDCs requested from laboratories based on the expertise of the certified health physicist and project chemist.
2 MCLs from USEPA National Primary Drinking Water Regulations (USEPA 2009).
* The MCL for radium-226 and radium-228 is defined on a combined basis. The MCL for total radium (radium-226 + radium-228) is 5 pCi/L.

CAS Chemical Abstracts Service
GFPC Gas flow proportional counting
MCL Maximum contaminant level
MDC Minimum detectable concentration
NV No value
ORNL Radiological Benchmarks for Screening Contaminants of Potential Concern for Effects on Aquatic Biota at Oak Ridge National Laboratory (Bechtel Jacobs Company 1998)
pCi/L Picocurie per liter
Scint Scintillation
SPLP Synthetic precipitation leaching procedure
USEPA U.S. Environmental Protection Agency

Sources:

Bechtel Jacobs Company. 1998. "Radiological Benchmarks for Screening Contaminants of Potential Concern for Effects on Aquatic Biota at Oak Ridge National Laboratory, Oak Ridge, Tennessee."
U.S. Environmental Protection Agency (USEPA). 2009. "National Primary Drinking Water Regulations." EPA 816-F-09-004. May.

Ra 226 Sample Compositing Summary

Legend	
	Duplicate

Note: 36 samples from the 27 (SY samples) concentrate fractions and 9 (SL samples) -270 fractions not included in this splitting sheet.
2 duplicates and 2 MSD for metals have already been indicated for those samples

Sample Count	Sample ID	Estimated Composite Mass From This Sheet	Directions
1	CR-L-0-SL-01 +25/+100 Composite	104.72	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
2	CR-L-0-SL-01 +140/+270 Composite	124.77	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
3	CR-L-4-SY +25/+100 Composite	98.00	After metals split combine fractions of +25-, +50-, and +100-mesh. Combine both metals duplicates of the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
4	CR-L-4-SY +140/+270 Composite	102.69	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
5	CR-L-8-SY +25/+100 Composite	104.23	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
6	CR-L-8-SY +140/+270 Composite	110.50	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
7	CR-L-30-SY +25/+100 Composite	97.04	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
8	CR-L-30-SY +140/+270 Composite	110.68	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
9	CR-M-0-SL-01 +25/+100 Composite	194.84	After metals split combine fractions of +25-, +50-, and +100-mesh. Combine both metals duplicates for the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
10	CR-M-0-SL-01 +140/+270 Composite	57.67	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
11	CR-M-4-SY +25/+100 Composite	198.26	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
12	CR-M-4-SY +140/+270 Composite	50.98	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
13	CR-M-8-SY +25/+100 Composite	264.32	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
14	CR-M-8-SY +140/+270 Composite	56.50	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
15	CR-M-30-SY +25/+100 Composite	207.32	After metals split combine fractions of +25-, +50-, and +100-mesh. Combine both metals duplicates of the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
16	CR-M-30-SY +140/+270 Composite	55.88	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
17	CR-H-8-SY +25	94.13	After metals split, analyze remaining mass for Ra 226
18	CR-H-8-SY +50-01	81.39	After metals split, analyze remaining mass for Ra 226. This was already submitted as a duplicate sample and should have enough remaining mass to perform Ra 226 analysis as is.
19	CR-H-8-SY +50-02	81.38	After metals split, analyze remaining mass for Ra 226. This was already submitted as a duplicate sample and should have enough remaining mass to perform Ra 226 analysis as is.
20	CR-H-8-SY +100/+270 Composite	123.61	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
1	CR-H-0-SL-01 +25	82.60	After metals split, analyze remaining mass for Ra 226
2	CR-H-0-SL-01 +50	138.19	After metals split, analyze remaining mass for Ra 226

3	CR-H-0-SL-01 +100/+270 Composite	133.44	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
4	CR-H-4-SY +25	83.54	After metals split, analyze remaining mass for Ra 226
5	CR-H-4-SY +50	171.04	After metals split, analyze remaining mass for Ra 226
6	CR-H-4-SY +100/+270 Composite	130.94	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
7	CR-H-30-SY +25/+50 Composite	161.62	After metals splits, combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226
8	CR-H-30-SY +100/+270 Composite	128.09	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
9	QV-L-0-SL-01 +25/+50 Composite	139.97	After metals splits, combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226
10	QV-L-0-SL-01 +100/+270 Composite	153.30	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
11	QV-L-4-SY +25/+50 Composite	106.02	After metals splits, combine fractions of +25- and +50-mesh. Combine both metals duplicates for the 50-mesh fraction into this composite. Homogenize, then analyze for Ra 226
12	QV-L-4-SY +100/+270 Composite	127.89	After metals split AND the MSD/MSD metals split from the 100-mesh fraction combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
13	QV-L-8-SY +25/+50 Composite	154.88	After metals splits, combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226
14	QV-L-8-SY +100/+270 Composite	172.12	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
15	QV-L-30-SY +25/+50 Composite	133.51	After metals splits, combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226
16	QV-L-30-SY +100/+270 Composite	172.46	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
17	QV-M-0-SL-01 +25	55.49	After metals split, analyze remaining mass for Ra 226
18	QV-M-0-SL-01 +50	113.89	After metals split, analyze remaining mass for Ra 226
19	QV-M-0-SL-01 +100/+270 Composite -01	64.77	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then further split into a duplicate. Analyze for Ra 226
20	QV-M-0-SL-01 +100/+270 Composite -02	64.77	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then further split into a duplicate. Analyze for Ra 226
1	QV-M-4-SY +25	80.35	After metals split, analyze remaining mass for Ra 226
2	QV-M-4-SY +50	145.59	After metals and MS/MSD metals split, analyze remaining mass for Ra 226
3	QV-M-4-SY +100/+270 Composite	141.79	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Combine both metals duplicates for the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
4	QV-M-8-SY +25	63.92	After metals split, analyze remaining mass for Ra 226
5	QV-M-8-SY +50	156.33	After metals split, analyze remaining mass for Ra 226
6	QV-M-8-SY +100/+270 Composite	140.46	Remove extra 15 grams from the 100-mesh fraction as well as the metals split prior to adding to this composite. After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
7	QV-M-30-SY +25/+50 Composite	167.63	After metals split and MS/MSD split from the 50-mesh fraction combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226

8	QV-M-30-SY +100/+270 Composite	148.98	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Combine both metals duplicates for the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
9	CTS-L-0-SL-01 +25/+140 Composite	82.27	After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
10	CTS-L-0-SL-01 +200/+270 Composite	78.43	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
11	CTS-L-4-SY +25/+140 Composite	100.83	After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
12	CTS-L-4-SY +200/+270 Composite	76.09	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
13	CTS-L-8-SY +25/+140 Composite	72.86	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
14	CTS-L-8-SY +200/+270 Composite	71.06	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
15	CTS-L-30-SY +25/+140 Composite	50.82	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals and MS/MSD for metals split from -140-mesh fraction combine fractions of +25-, +50-, +100-, and +140-mesh. Combine both 100-mesh duplicates into this composite. Homogenize, then analyze for Ra 226
16	CTS-L-30-SY +200/+270 Composite	66.69	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
17	QV-H-0-SL-01 +25	56.53	After metals split, analyze remaining mass for Ra 226
18	QV-H-0-SL-01 +50	108.53	After metals split, analyze remaining mass for Ra 226
19	QV-H-0-SL-01 +100/+270 Composite-01	69.25	After metals split combine +100-, +140-, +200-, and +270-mesh. Homogenize, then further split into a duplicate. Analyze for Ra 226
20	QV-H-0-SL-01 +100/+270 Composite-02	69.25	After metals split combine +100-, +140-, +200-, and +270-mesh. Homogenize, then further split into a duplicate. Analyze for Ra 226
1	CTS-M-0-SL-01 +25/+140 Composite	97.06	After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
2	CTS-M-0-SL-01 +200/+270 Composite	77.75	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
3	CTS-M-4-SY +25/+140 Composite	86.24	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
4	CTS-M-4-SY +200/+270 Composite	63.13	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
5	CTS-M-8-SY +25/+140 Composite	76.03	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals and MS/MSD for 140-mesh fraction split combine fractions of +25-, +50-, +100-, and +140-mesh. Combine both metals duplicates for 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
6	CTS-M-8-SY +200/+270 Composite	62.12	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
7	CTS-M-30-SY +25/+140 Composite	74.26	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226

8	CTS-M-30-SY +200/+270 Composite	61.43	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
9	CTS-H-0-SL-01 +25/+140 Composite	90.81	After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
10	CTS-H-0-SL-01 +200/+270 Composite	97.99	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
11	CTS-H-4-SY +25/+140 Composite	73.74	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split and MS/MSD split for 140-mesh fraction combine fractions of +25-, +50-, +100-, and +140-mesh. Combine both 100-mesh metals duplicates into this composite. Homogenize, then analyze for Ra 226
12	CTS-H-4-SY +200/+270 Composite	73.42	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
13	CTS-H-8-SY +25/+140 Composite	82.59	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
14	CTS-H-8-SY +200/+270 Composite	82.77	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
15	CTS-H-30-SY +25/+140 Composite	70.29	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split and MS/MSD metals split for 140-mesh fraction combine fractions of +25-, +50-, +100-, and +140-mesh. Combine both 100-mesh metals duplicates into this composite. Homogenize, then analyze for Ra 226
16	CTS-H-30-SY +200/+270 Composite	71.46	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
17	QV-H-4-SY +25	100.55	After metals spit, analyze remaining mass for Ra 226
18	QV-H-4-SY +50-01	111.76	After metals split, split further into a duplicate and analyze for Ra 226
19	QV-H-4-SY +50-02	111.76	After metals split, split further into a duplicate and analyze for Ra 226
20	QV-H-4-SY +100/+270 Composite	195.37	After metals split, combine +100-, +140-, +200, and +270-mesh into composite. Homogenize, then analyze for Ra 226
1	QV-H-8-SY +25	88.94	After metals split, analyze remaining mass for Ra 226
2	QV-H-8-SY +50	215.80	After metals split, analyze remaining mass for Ra 226
3	QV-H-8-SY +100/+270 Composite	201.75	After metals split, combine +100-, +140-, +200, and +270-mesh into composite. Homogenize, then analyze for Ra 226
4	QV-H-30-SY +25	60.80	After metals split, analyze remaining mass for Ra 226
5	QV-H-30-SY +50-01	80.75	After metals split and MS/MSD metals split, split into duplicate. Analyze for Ra 226
6	QV-H-30-SY +50-02	80.75	After metals split and MS/MSD metals split, split into duplicate. Analyze for Ra 227
7	QV-H-30-SY +100/+270 Composite	183.71	After metals split, combine +100-, +140-, +200, and +270-mesh into composite. Combine both 100-mesh metals duplicates into this composite. Homogenize, then analyze for Ra 226

DISA

Package Survey From

Date: 10/26/2022 Time: 16:40 Surveyor Name: Andrew Halverson

Package Description	Cooler with <18 lb of <200 ppm Unat Soil
Package Destination	Pace Labs 1673 Terra Avenue Sheridan, WY 82801

Unat Specific Activity
7.1 e-7 Ci/g
Limits Exempt: 2.7e-11 Ci/g AND 2.7e-8 Ci Excepted: 7.1e-7 Ci/g A1 [Ci]: Unlimited A2 [Ci]: Unlimited 0.5 mRem/hr ~500 μR/hr Alpha: 24 dpm/cm² Beta: 240 dpm/cm²

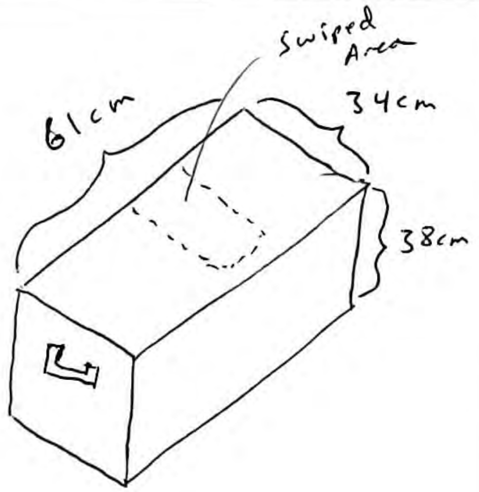
Contents	<200 ppm Unat Soil
Material Specific Activity	<1.42e-10 Ci/g
Contents Mass	<18 lb
Contents Total Activity	<1.2e-6 Ci

Exempt (Y/N)	N
UN2910 Excepted (Y/N)	Y

Instrument	
Manufacturer	Ludlum
Model	19
Serial No.	268865
Cal Due Date	12/19/2022
FC Passed (Y/N)	Y
Background	9 μR/hr

Location	Gross	Net
Top	13	4
Bottom	14	5
Side 1	16	7
Side 2	15	6
Side 3	9	—
Side 4	15	6

Package Sketch



Package Surface Area [cm²] 11,368

Meter	
Manufacturer	Ludlum
Model	2929
Serial No.	208319
Cal Due Date	06/27/2023

Detector	
Manufacturer	Ludlum
Model	43-10-1
Serial No.	PR215938
Cal Due Date	06/27/2023

FC Passed (Y/N)	Y
BKG Alpha (cpm)	0
Beta/Gamma (cpm)	55
300 cm² Surveyed (Y/N)	Y
Entire Package Surveyed (Y/N)	N

Measurement	Alpha				Beta/Gamma				Meets Limits
	Gross [cpm]	Net [cpm]	Swipe Efficiency	dpm/cm²	Gross [cpm]	Net [cpm]	Swipe Efficiency	dpm/cm²	
Swipe 1	6	6	0.1	1.1	85	30	0.1	12.5	AH
Swipe 2	6	6	0.1	1.1	69	14	0.1	5.8	AH
Swipe 3	6	6	0.1	1.1	69	14	0.1	5.8	AH
			0.1				0.1		

Labeled: AH

Surveyor Signature: [signature]

Released

Date: 10/26/22

Time: 17:50

Note: Wiped down and 3rd swipe taken

Package Survey From

Date: 10/26/2022 Time: 16:40 Surveyor Name: Andrew Halverson

Unat Specific Activity 7.1 e-7 Ci/g
Limits
Exempt: 2.7e-11 Ci/g AND 2.7e-8 Ci
Excepted: 7.1e-7 Ci/g
A1 [Ci]: Unlimited
A2 [Ci]: Unlimited
0.5 mRem/hr
~500 μR/hr
Alpha: 24 dpm/cm²
Beta: 240 dpm/cm²

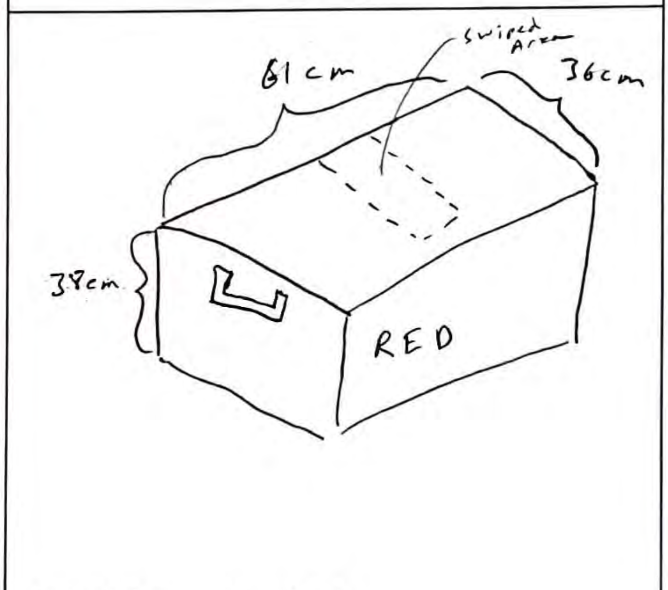
Package Description	Cooler with water and < 16 lb of < 2000 ppm Unat Soil
Package Destination	Pace Labs 1673 Terra Avenue Sheridan, WY 82801

Contents	< 2000 ppm Unat Soil	Exempt (Y/N)	N
Material Specific Activity	< 1.5e-9 Ci/g	UN2910 Excepted (Y/N)	Y
Contents Mass	< 16 lb		
Contents Total Activity	< 1e-5 Ci		

Instrument	
Manufacturer	Ludlum
Model	19
Serial No.	268865
Cal Due Date	12/19/2022
FC Passed (Y/N)	Y
Background	9 μR/hr

Location	Gross	Net
Top	16	7
Bottom	42	33
Side 1	17	8
Side 2	15	6
Side 3	50	41
Side 4	24	15

Package Sketch



Package Surface Area [cm²] 11,460

Meter	
Manufacturer	Ludlum
Model	2929
Serial No.	208319
Cal Due Date	06/27/2023

Detector	
Manufacturer	Ludlum
Model	43-10-1
Serial No.	PR215938
Cal Due Date	06/27/2023

FC Passed (Y/N)	Y
BKG Alpha (cpm)	0
BKG Beta/Gamma	53
300 cm² Surveyed (Y/N)	Y
Entire Package Surveyed (Y/N)	N

Measurement	Alpha				Beta/Gamma				Meets Limits
	Gross [cpm]	Net [cpm]	Swipe Efficiency	dpm/cm²	Gross [cpm]	Net [cpm]	Swipe Efficiency	dpm/cm²	
Swipe 1	19	19	0.1	3.6	87	34	0.1	14.2	AH
Swipe 2	16	16	0.1	3	96	43	0.1	17.9	AH
			0.1				0.1		
			0.1				0.1		

Labeled	AH
Surveyor Signature:	[signature]
Released	
Date:	10/26/22
Time:	17:50

DISA

Package Survey From

Date: 10/26/2022 Time: 16:40 Surveyor Name: Andrew Halverson

Unat Specific Activity 7.1 e-7 Ci/g
Limits Exempt: 2.7e-11 Ci/g AND 2.7e-8 Ci Excepted: 7.1e-7 Ci/g A1 [Ci]: Unlimited A2 [Ci]: Unlimited 0.5 mRem/hr ~500 µR/hr Alpha: 24 dpm/cm² Beta: 240 dpm/cm²

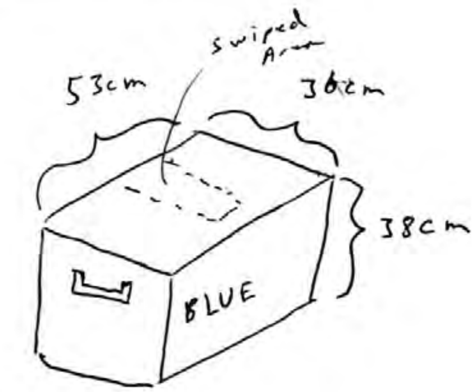
Package Description	Cooler with water and <9 lb of <6000 ppm Unat soil
Package Destination	Pace Labs 1673 ~~English~~ Terra Avenue Sheridan, WY 82801

Contents	<6000 ppm Unat Soil	Exempt (Y/N)	N
Material Specific Activity	<4.3e-9 Ci/g	UN2910 Excepted (Y/N)	Y
Contents Mass	<9 lb		
Contents Total Activity	<1.8e-5 Ci		

Instrument	
Manufacturer	Ludlum
Model	19
Serial No.	268865
Cal Due Date	12/19/2022
FC Passed (Y/N)	Y
Background	9 µR/hr

Location	Gross	Net
Top	46	37
Bottom	32	23
Side 1	48	39
Side 2	30	21
Side 3	24	15
Side 4	24	15

Package Sketch



Package Surface Area [cm²] 10,580

Meter	
Manufacturer	Ludlum
Model	2929
Serial No.	208319
Cal Due Date	06/27/2023

Detector	
Manufacturer	Ludlum
Model	43-10-1
Serial No.	PR215938
Cal Due Date	06/27/2023

FC Passed (Y/N)	Y
BKG Alpha (cpm)	1
BKG Beta/Gamma	56
300 cm² Surveyed (Y/N)	Y
Entire Package Surveyed (Y/N)	N

Measurement	Alpha				Beta/Gamma				Meets Limits
	Gross [cpm]	Net [cpm]	Swipe Efficiency	dpm/cm²	Gross [cpm]	Net [cpm]	Swipe Efficiency	dpm/cm²	
Swipe 1	1	—	0.1	—	76	20	0.1	8.3	AH
Swipe 2	10	9	0.1	1.7	88	32	0.1	13.3	AH
			0.1				0.1		
			0.1				0.1		

Labeled: AH

Surveyor Signature: [signature]

Released

Date: 10/26/22

Time: 17:50


Pace Analytical Services LLC
Fill completely and cap tightly.


Pace Analytical Services LLC
Fill completely and cap tightly.


Fill completely and cap tightly.

Ziploc
CTS-H-8-SY


Ziploc®
QV-M-30-SY
Metal Concentrate
Ra226
TCLP


Ziploc®
QV-H-SY
-270
Concentrates
Metals
Ra226
TCLP
CAUTION!
Ziploc®
-270
Concentrates
Metals
Ra226
TCLP
CAUTION!
Ziploc®
QV-M
-270
Metals
Ra226
TCLP
CAUTION!


Ziploc
CAUTION!
-270
Concentrates
Metals
TCLP

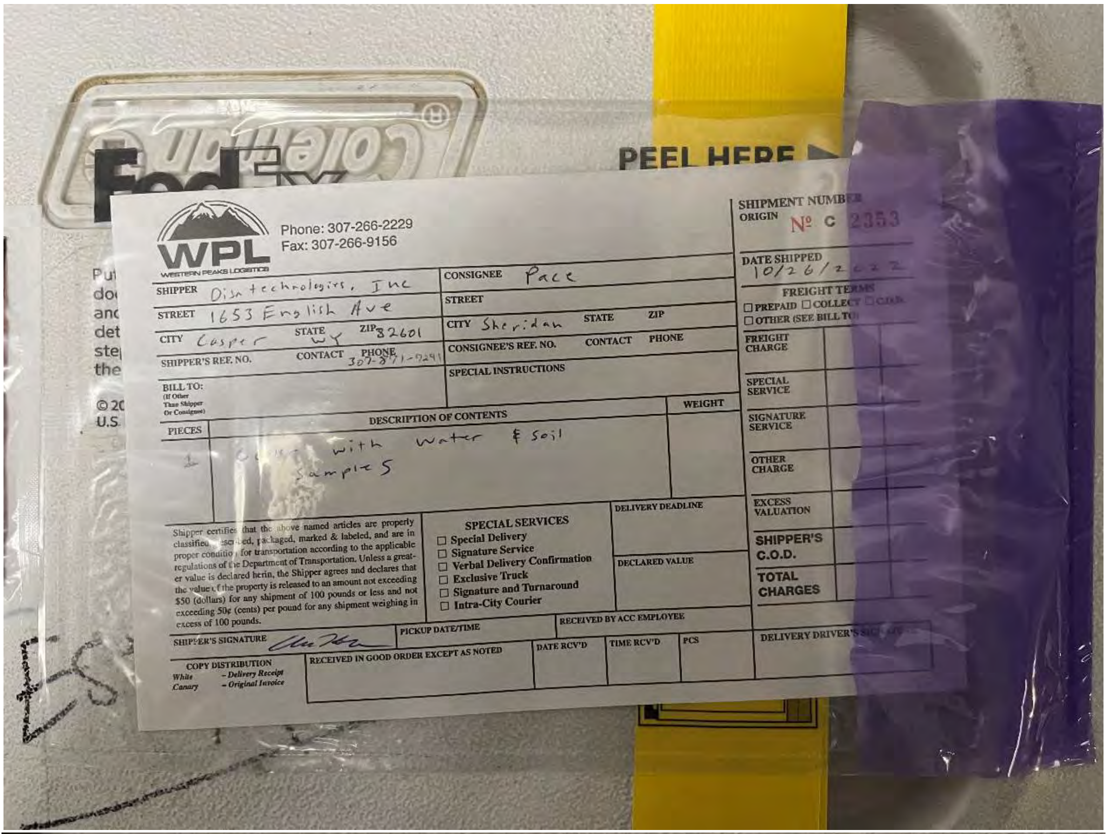

Ziploc
CAUTION!
+25/+270
Samples
SPLP



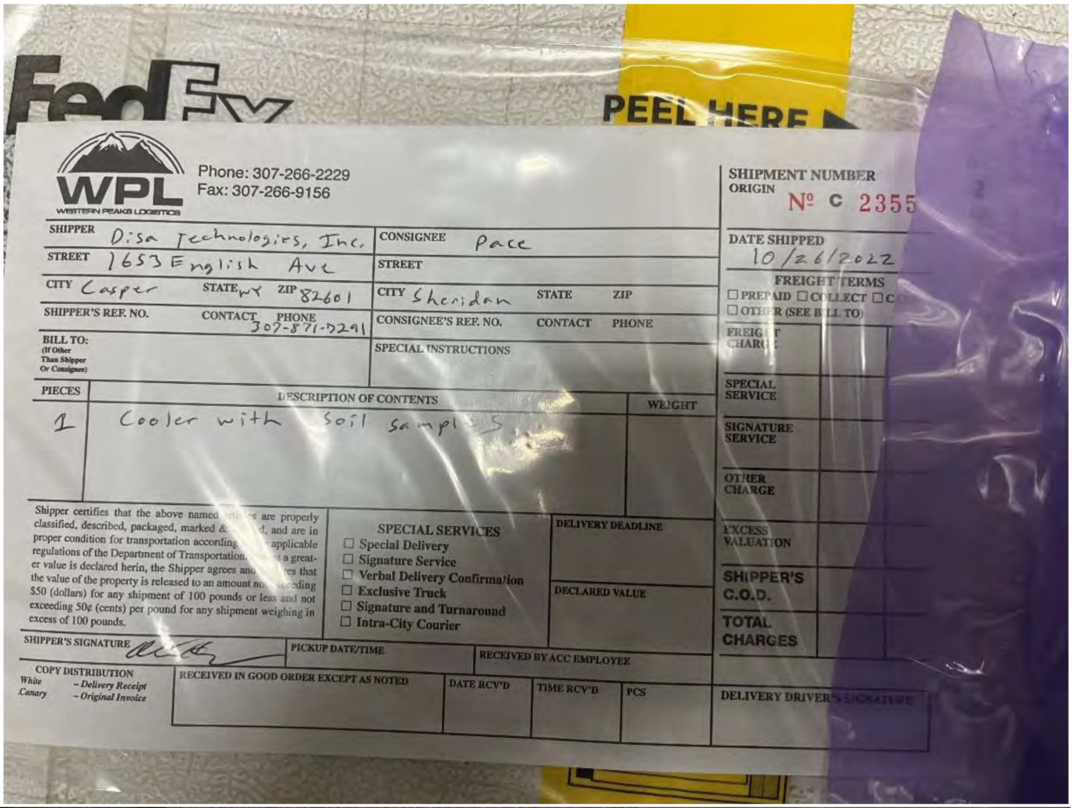


CAUTION
Common Cents
FOOD STORES


Metals
Ra-226
TCLP
Concentrates
-270
Ziploc
BRAND/MARQUE


PEEL HERE
WPL
WESTERN PEAKS LOGISTICS
Phone: 307-266-2229
Fax: 307-266-9156
SHIPMENT NUMBER
ORIGIN Nº C 2353
DATE SHIPPED 10/26/2022
SHIPPER Disn technologies, Inc
STREET 1653 English Ave
CITY Casper STATE WY ZIP 82601
SHIPPER'S REF. NO.
CONTACT
PHONE 307-871-9291
CONSIGNEE Pace
STREET
CITY Sheridan STATE ZIP
CONSIGNEE'S REF. NO. CONTACT PHONE
SPECIAL INSTRUCTIONS
BILL TO: (If Other Than Shipper Or Consignee)
FREIGHT TERMS
PREPAID COLLECT
OTHER (SEE BILL TO)
FREIGHT CHARGE
SPECIAL SERVICE
SIGNATURE SERVICE
OTHER CHARGE
EXCESS VALUATION
SHIPPER'S C.O.D.
TOTAL CHARGES
PIECES
DESCRIPTION OF CONTENTS
WEIGHT
1 Cooler with water & soil samples
SPECIAL SERVICES
Special Delivery
Signature Service
Verbal Delivery Confirmation
Exclusive Truck
Signature and Turnaround
Intra-City Courier
DELIVERY DEADLINE
DECLARED VALUE
SHIPPER'S SIGNATURE
PICKUP DATE/TIME
RECEIVED BY ACC EMPLOYEE
DATE RCV'D
TIME RCV'D
PCS
DELIVERY DRIVER'S SIGNATURE
COPY DISTRIBUTION
White – Delivery Receipt
Canary – Original Invoice
RECEIVED IN GOOD ORDER EXCEPT AS NOTED

DOCUMENTS ENCLOSED
UN 2910


FedEx
PEEL HERE
WPL
WESTERN PEAKS LOGISTICS
Phone: 307-266-2229
Fax: 307-266-9156
SHIPMENT NUMBER
ORIGIN
Nº C 2355
SHIPPER Disa Technologies, Inc.
STREET 1653 English Ave
CITY Casper STATE WY ZIP 82601
SHIPPER'S REF. NO. CONTACT PHONE 307-871-7291
BILL TO: (If Other Than Shipper Or Consignee)
CONSIGNEE Pace
STREET
CITY Sheridan STATE ZIP
CONSIGNEE'S REF. NO. CONTACT PHONE
SPECIAL INSTRUCTIONS
DATE SHIPPED 10/26/2022
FREIGHT TERMS
☐ PREPAID ☐ COLLECT
☐ OTHER (SEE BILL TO)
FREIGHT CHARGE
PIECES
DESCRIPTION OF CONTENTS
WEIGHT
1 Cooler with soil samples
SPECIAL SERVICE
SIGNATURE SERVICE
OTHER CHARGE
EXCESS VALUATION
SHIPPER'S C.O.D.
TOTAL CHARGES
SPECIAL SERVICES
☐ Special Delivery
☐ Signature Service
☐ Verbal Delivery Confirmation
☐ Exclusive Truck
☐ Signature and Turnaround
☐ Intra-City Courier
DELIVERY DEADLINE
DECLARED VALUE
SHIPPER'S SIGNATURE
PICKUP DATE/TIME
RECEIVED BY ACC EMPLOYEE
COPY DISTRIBUTION
White – Delivery Receipt
Canary – Original Invoice
RECEIVED IN GOOD ORDER EXCEPT AS NOTED
DATE RCV'D
TIME RCV'D
PCS
DELIVERY DRIVER'S SIGNATURE


DOCUMENTS ENCLOSED
24X13X14
SVL 12


WPL
WESTERN PEAKS LOGISTICS
Phone: 307-266-2229
Fax: 307-266-9156

SHIPMENT NUMBER
ORIGIN Nº C 2354 22

SHIPPER Disa Technologies Inc.	CONSIGNEE Pace
STREET 1653 English Ave.	STREET
CITY Casper STATE WY ZIP 82601	CITY Sheridan STATE ZIP
SHIPPER'S REF. NO. CONTACT PHONE 307-871-7291	CONSIGNEE'S REF. NO. CONTACT PHONE
BILL TO: (If Other Than Shipper Or Consignee)	SPECIAL INSTRUCTIONS

DATE SHIPPED 10/26/2022

FREIGHT TERMS
☐ PREPAID ☐ COLLECT ☐ C.O.A.
☐ OTHER (SEE BILL TO)

PIECES	DESCRIPTION OF CONTENTS	WEIGHT
1	Cooler with water and soil samples	

FREIGHT CHARGE
SPECIAL SERVICE
SIGNATURE SERVICE
OTHER CHARGE
EXCESS VALUATION
SHIPPER'S C.O.D.
TOTAL CHARGES

Shipper certifies that the above named articles are properly classified, described, packaged, marked & labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Unless a greater value is declared herin, the Shipper agrees and declares that the value of the property is released to an amount not exceeding $50 (dollars) for any shipment of 100 pounds or less and not exceeding 50¢ (cents) per pound for any shipment weighing in excess of 100 pounds.

SPECIAL SERVICES
☐ Special Delivery
☐ Signature Service
☐ Verbal Delivery Confirmation
☐ Exclusive Truck
☐ Signature and Turnaround
☐ Intra-City Courier

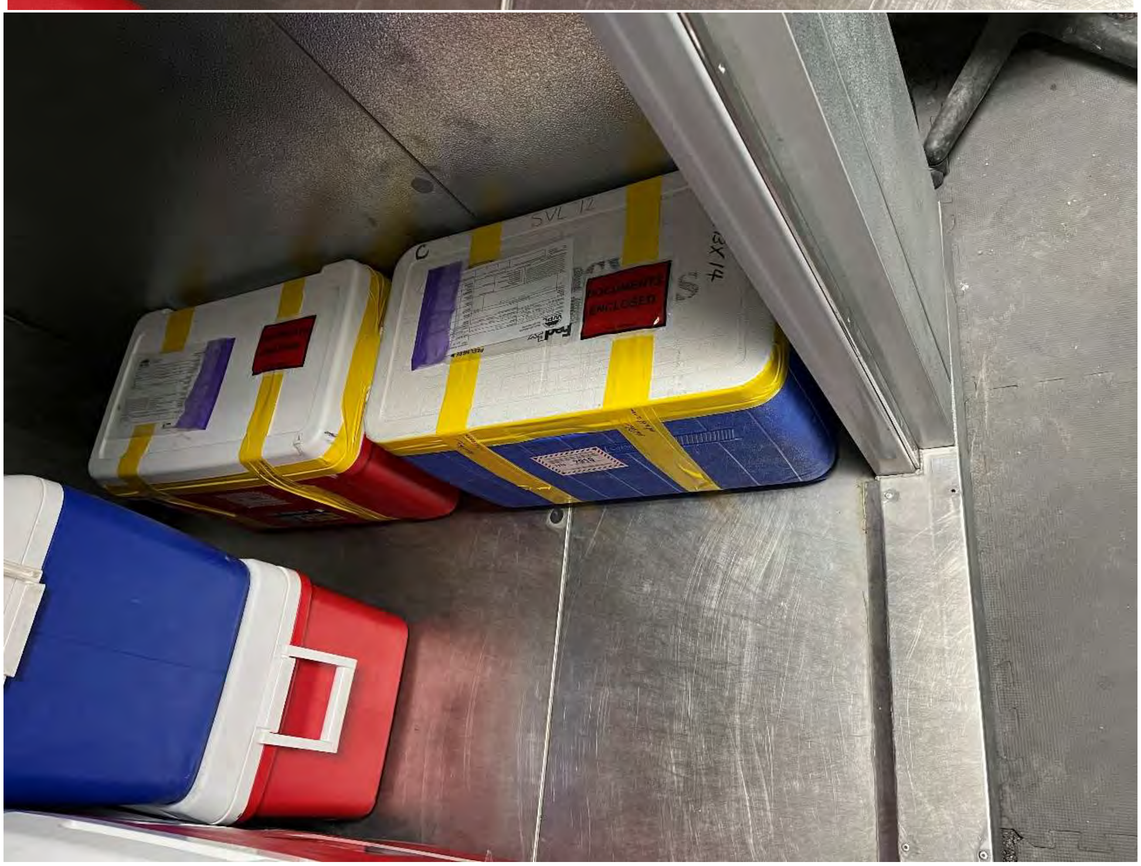
DELIVERY DEADLINE
DECLARED VALUE

SHIPPER'S SIGNATURE
PICKUP DATE/TIME
RECEIVED BY ACC EMPLOYEE

COPY DISTRIBUTION
White – Delivery Receipt
Canary – Original Invoice

RECEIVED IN GOOD ORDER EXCEPT AS NOTED | DATE RCV'D | TIME RCV'D | PCS
DELIVERY DRIVER'S SIGNATURE


DOCUMENTS ENCLOSED
UN 2910


DOCUMENTS ENCLOSED
UN 2910
IGLOO
48
45
10/26/2022

DOCUMENTS ENCLOSED
SVL 12


DOCUMENTS ENCLOSED

Pace Analytical

Pace Analytical Services, LLC

Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

All shaded fields must be completed.

This is a legal document: any misrepresentation may be construed as fraud.

196921

Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech / Disa	RAEST033/203G5440033.03.01	[signature]	307-871-7291

Report Address: Tetra Tech / Disa

Contact Name: Mike Dahlquist / Andrew Halverson

Email: mike.dahlquist@tetratech.com / a.halverson@disausa.com

Phone: 510-302-6310 / 307-871-7291

Invoice Address: Tetra Tech

Purchase Order #: 1150922

Quote #:

ANALYSES / PARAMETERS: Total Metals by 6010/6020; Ra 226 Total; Th 230 Total

Water Only

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Total Metals by 6010/6020	Ra 226 Total	Th 230 Total						REMARKS
1	S2210450-001	10/13/22	NO TIME	CR Fractionation Water	WT	5	✓	✓	✓						Unfiltered, Not preserved
2	-002	10/11/22	NO TIME	QV Fractionation Water	WT	5	✓	✓	✓						Unfiltered, Not preserved
3	-003	10/18/22	NO TIME	CTS Fractionation Water	WT	5	✓	✓	✓						Unfiltered, Not preserved
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															DJ 10/27/22

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
Rad Swell OK 5.8°C ROI 5.1°C ROT 2.8°C ROT	[signature] / Andrew Halverson	10/26/22	15:40	[signature] Daniel Slyp	10/27/22	~~11:57~~ 12:01

SHIPPING INFO

- ❑ UPS
- ❑ Fed Express
- ❑ US Mail
- ❑ Hand Carried
- ☑ Other Lab courier Secure dropoff

MATRIX CODES

Matrix	Code
Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURNAROUND TIMES

Check desired service

- ☑ Standard turnaround
- ❑ **RUSH - 5 Working Days**
- ❑ **URGENT** - < 2 Working Days

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

Compliance Monitoring? Y / N

Program (SDWA, NPDES,...)

PWSID / Permit #

Chlorinated? Y / N

Sample Disposal: Lab ✓ Client

ADDITIONAL REMARKS

Water Samples in 2 separate coolers.

Soil Samples divided into 3 coolers.

S2210450001

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-SHRT-0033 v00_Condition Upon Receipt Form Terra Lab
	Effective Date: 05/13/2022

Survey Meter # Model 2241-2; SN 182115
pH strip lot # HC293085
Thermometer SN# 27130475

Condition Upon Receipt (Attach to COC)

Sample Receipt

1 Number of ice chests/packages received: ~~2~~ 3 JS ROI? Yes No

Note as "OTC" if samples are received over the counter, unpackaged

2 Temperature of cooler/samples. *(If more than 8 coolers, please write on back)*

Temps Observed (°C):	5.8	5.1	2.0					
Temps Corrected (°C):	5.7	5.0	1.9					

***Acceptable is: 0.1° to 10°C** for Bacteria; and 0.1° to 6°C for most other water parameters. Samples may not have had adequate time to cool following collection. Indicate ROI (Received on Ice) for iced samples received on the same day as sampled, in addition to temperature at receipt.*

Client contact for temperatures outside method criteria must be documented below.

3 Emission rate of samples for radiochemical analyses < 0.5mR/hr? Yes No N/A

4 COC Number (If applicable): 196921

5 Do the number of bottles agree with the COC? Yes No N/A

6 Were the samples received intact? *(no broken bottles, leaks, etc.)* Yes No N/A

7 Were the sample custody seals intact? Yes No N/A

8 Is the COC properly completed, legible, and signed? Yes No

Sample Verification, Labeling & Distribution

1 Were all requested analyses understood and appropriate? Yes No

2 Did the bottle labels correspond with the COC information? Yes No

3 Samples collected in method-prescribed containers? Yes No

4 Sample Preservation:

pH at Receipt:	Final pH (if added in lab):	Preservative/Lot#	Date/Time Added:
<7 Total Metals	1 Total Metals	HNO_3	10/27/22 15:00
Diss Metals	Diss Metals	HNO_3	*Filtered and preserved in metals*
Nutrient	Nutrient	H_2SO_4	
Cyanide	Cyanide	NaOH	Preservative Lot # HNO_3: M-072722-2 H_2SO_4: Chem 2-71-3 NaOH: Wet-3-40-1
Sulfide	Sulfide	ZnAcet	
Phenol	Phenol	H_2SO_4	
SDWA Rads	SDWA Rads	HNO_3	

5 VOA vials have <6mm headspace? Yes No N/A

6 Were all analyses within holding time at the time of receipt? Yes No

7 Have rush or project due dates been checked and accepted? Yes No N/A

8 Do samples require subcontracted analyses? Yes No

If "Yes", which type of subcontracting is required? **General Customer-Specified Certified**

Sample Receipt, Verification, Login, Labeling & Distribution completed by *(initials)*: JS

Set ID: S2210450

Discrepancy Documentation ***(use back of sheet for notes on discrepancies)***

Any items listed above with a response of "No" or do not meet specifications must be resolved.

Person Contacted: ______ Method of Contact: __ Phone: ______

Initiated By: ______ Date/Time: ______ __ Email: ______

Problem:

Resolution:

Qualtrax ID: 70962

Page 1 of 1

COC Review Initials/Date: WN 11/2/22

Log Review

#	Item	Yes	No	N/A
1	Original COC attached, signed and dated COC #: 196921	✓		
2	Sample(s) received within temperature	✓		
3	Parameter(s) requested	✓		
4	Client	✓		
5	Report recipient/address	✓		
6	Invoice recipient/address	✓		
7	Project and RLs **Requested changes to Project must be communicated to Project Mgr.**			✓
8	Prices may need to be adjusted prior to invoicing		✓	
9	P. O. number	✓		
10	Sample IDs	✓		
11	Sample dates	✓		
12	Date received	✓		
13	Date due	✓		
14	Matrix	✓		
15	PWSID included for safe drinking water compliance samples			✓
16	Field data entered appropriately			✓
17	Special requests indicated in "Comments" section of Work Order summary	✓		
18	All "No" responses on Condition Upon Receipt form have been resolved	✓		

Data Review

Report Review

#	Item	Yes	No	N/A
1	Automated QC (Check Data button) review performed, discrepancies resolved.	✓		
2	Worksheet/instrument data sheet for all requested parameters attached in LIMS or to work Order summary.	✓		
3	Results compared to historical data if applicable	✓		
4	Analysis date and time	✓		
5	Analytical method	✓		
6	Appropriate units of measure	✓		
7	Analyst's initials	✓		
8	Field data entered matches lab data			✓
9	Subcontracted analyses identified as such with qualifier or as attachment to lab report			✓
10	Subcontracted report reviewed			✓
11	Invoice parameters match those on COC	✓		

Final Review

#	Item	Yes	No	N/A
1	Report appears complete and appropriate	✓		
2	Condition Upon Receipt form completed, attached to packet, and related qualifiers included in report	✓		
3	All necessary analytical qualifiers included in report	✓		
4	Copies of report sent to all recipients requested on COC **(circle)** **Email** **Hard Copy**	✓		
5	Copies of report sent to Regulator (ex. PWS ID)			✓
6	All special requests listed on COC, or attached parameter list, honored.	✓		
7	Special report format per client request	✓		
8	Case Narrative signed and includes completion date	✓		

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- CHAIN OF CUSTODY RECORD -

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This is a legal document; any misrepresentation may be construed as fraud.

Field	Value
Client Name	Tetra Tech/Disa
Project Identification	RAES TO33/103G5440033.03.01
Sampler (Signature/Attestation of Authenticity)	[signature]
Telephone #	307-871-7291
Report Address	Tetra Tech/Disa
Contact Name	Mike Dahlquist/Andrew Halverson
Email	mike.dahlquist@tetratech.com/a.halverson@disausa.com
Phone	510-302-6310/307-871-7291
Invoice Address	Tetra Tech
Purchase Order #	1150922
Quote #	

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	SPLP by Table A-12	SPLP by Table A-13	MS/MSD						REMARKS
1	S2210474-001	10/05/22	10:32	CTS-L-4-SY Combined +25/270	SL	1	x	x							363.88 g
2	002	10/06/22	9:45	CTS-L-8-SY Combined +25/270	SL	1	x	x							297.88 g
3	003	10/06/22	13:25	CTS-L-30-SY Combined +25/270	SL	1	x	x							253.43 g
4	004	10/11/22	9:30	CTS-M-4-SY Combined +25/270	SL	1	x	x							308.72 g
5	005	10/11/22	NO TIME	CTS-M-8-SY Combined +25/270	SL	1	x	x							294.18 g
6	006	10/13/22	8:00	CTS-M-30-SY Combined +25/270	SL	1	x	x							281.39 g
7	007	10/13/22	11:30	CTS-H-4-SY Combined +25/270	SL	1	x	x							311.15 g
8	008	10/13/22	10:00	CTS-H-8-SY Combined +25/270	SL	1	x	x							338.53 g
9	009	10/17/22	9:53	CTS-H-30-SY Combined +25/270	SL	1	x	x							298.63 g
10	010	10/03/22	14:40	QV-H-8-SY Combined +25/+270	SL	1	x	x	x						1012.12 g, MS/MSD for SPLP
11	011	10/03/22	21:20	QV-H-30-SY Combined +25/+270-01	SL	1	x	x							414.54 g
12	012	10/03/22	21:20	QV-H-30-SY Combined +25/+270-02	SL	1	x	x							413.32 g
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
Rad < 500 mR/H	[signature] / Andrew Halverson	10/26/22	15:40	[signature] Daniel Sheo	10/27/22	10:21

SHIPPING INFO
- ☐ UPS
- ☐ FedEx
- ☐ USPS
- ☐ Hand Carried
- ☑ Other Lab Courier, secure dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURN AROUND TIMES
Check desired service
- ☑ Standard turnaround
- ☐ RUSH - 5 Working Days
- ☐ URGENT - < 2 Working Days

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION
Compliance Monitoring ? Y / N
Program (SDWA, NPDES,...)
PWSID / Permit #
Chlorinated? Y / N
Sample Disposal: Lab Client ✓

ADDITIONAL REMARKS
Please return unused sample to Disa after reporting.
Report preliminary metals before radionuclides.
Table A-12 and A-13 from Work Plan attached

Table A-12. Aqueous Metals Analytical Parameter Summary for SPLP and TCLP Extracts

Analyte	CAS Number	Analytical Method	MDL[1] (µg/L)	Reporting Limit (µg/L)	TCLP Criteria (µg/L)	USEPA RSL Tap Water[2] (µg/L)
Aluminum	7429-90-5	USEPA 6010	4.68	100	NP	20,000
Antimony	7440-36-0	USEPA 6010	34.02	50	NP	7.8
Arsenic	7440-38-2	USEPA 6010	1.54	20	5,000	0.052
Barium	7440-39-3	USEPA 6010	0.19	50	100,000	3,800
Beryllium	7440-41-7	USEPA 6010	0.13	20	NP	25
Cadmium	7440-43-9	USEPA 6010	0.08	50	1,000	9.2
Chromium	7440-47-3	USEPA 6010	0.24	10	5,000	NP
Cobalt	7440-48-4	USEPA 6010	3.88	10	NP	6
Copper	7440-50-8	USEPA 6010	0.91	10	NP	800
Iron	7439-89-6	USEPA 6010	9.33	50	NP	14,000
Lead	7439-92-1	USEPA 6010	1.59	200	5,000	15
Manganese	7439-96-5	USEPA 6010	0.19	100	NP	430
Mercury	7439-97-6	USEPA 7470	0.05	1	200	6
Molybdenum	7439-98-7	USEPA 6010	3.45	10	NP	100
Nickel	7440-02-0	USEPA 6010	2.55	20	NP	390
Selenium	7782-49-2	USEPA 6010	4.00	200	1,000	100
Silver	7440-22-4	USEPA 6010	0.58	50	5,000	94
Thallium	7440-28-0	USEPA 6010	26.68	200	NP	0.2
Vanadium	7440-62-2	USEPA 6010	1.58	5	NP	86
Uranium (natural)	7440-61-1	USEPA 6010	24.08	50	NP	NP
Zinc	7440-66-6	USEPA 6010	14.71	200	NP	6,000

Notes:

Analyte SPLP extracts
Analyte TCLP extract only
Analyte TCLP and SPLP extracts

1 MDLs are specific to the contract laboratory. As MDLs are instrument specific, MDLs may vary depending on which instrument is used.

2 TR = 1 E-6; THQ = 1

µg/L Microgram per liter
CAS Chemical Abstracts Service
MDL Method detection limit
NNEPA Navajo Nation Environmental Protection Agency
NP Not promulgated
RSL Regional screening level
SPLP Synthetic precipitation leaching procedure
TCLP Toxicity characteristic leaching procedure
THQ Target hazard quotient
TR Target cancer risk
USEPA U.S. Environmental Protection Agency

Source:
USEPA (2021). "Regional Screening Levels (RSLs) - Generic Tables." https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables

COC Review — Initials/Date: WN 9/28/22

		Log Review Yes	No	N/A
1	Original COC attached, signed and dated — COC #: WEB	✓		
2	Sample(s) received within temperature			✓
3	Parameter(s) requested	✓		
4	Client	✓		
5	Report recipient/address	✓		
6	Invoice recipient/address	✓		
7	Project and RLs **Requested changes to Project must be communicated to Project Mgr.**			✓
8	Prices may need to be adjusted prior to invoicing	✓		
9	P. O. number	✓		
10	Sample IDs	✓		
11	Sample dates	✓		
12	Date received	✓		
13	Date due	✓		
14	Matrix	✓		
15	PWSID included for safe drinking water compliance samples			✓
16	Field data entered appropriately			✓
17	Special requests indicated in "Comments" section of Work Order summary	✓		
18	All "No" responses on Condition Upon Receipt form have been resolved	✓		

Data Review

		Report Review Yes	No	N/A
1	Automated QC (Check Data button) review performed, discrepancies resolved.	✓		
2	Worksheet/instrument data sheet for all requested parameters attached in LIMS or to work Order summary.	✓		
3	Results compared to historical data if applicable			✓
4	Analysis date and time	✓		
5	Analytical method	✓		
6	Appropriate units of measure	✓		
7	Analyst's initials	✓		
8	Field data entered matches lab data			✓
9	Subcontracted analyses identified as such with qualifier or as attachment to lab report			✓
10	Subcontracted report reviewed			✓
11	Invoice parameters match those on COC	✓		

Final Review

		Yes	No	N/A
1	Report appears complete and appropriate	✓		
2	Condition Upon Receipt form completed, attached to packet, and related qualifiers included in report			✓
3	All necessary analytical qualifiers included in report	✓		
4	Copies of report sent to all recipients requested on COC **(circle)** Email **Hard Copy**	✓		
5	Copies of report sent to Regulator (ex. PWS ID)			✓
6	All special requests listed on COC, or attached parameter list, honored.	✓		
7	Special report format per client request	✓		
8	Case Narrative signed and includes completion date	✓		

Table A-13. Aqueous Radionuclide Analytical Parameter Summary for SPLP Extract

Analyte	CAS Number	Analytical Method	MDC[1] (pCi/L)	Requested MDC[1] (pCi/L)	USEPA MCL[2] (pCi/L)	ORNL Ecological Screening Level (pCi/L)
Radium-226	13982-63-3	Alpha Scint USEPA 903.1	0.2	0.1	5 *	160
Radium-228	15262-20-1	GFPC USEPA 904.0	1.0	0.1	5 *	NV

Notes:

1 MDCs requested from laboratories based on the expertise of the certified health physicist and project chemist.
2 MCLs from USEPA National Primary Drinking Water Regulations (USEPA 2009).
* The MCL for radium-226 and radium-228 is defined on a combined basis. The MCL for total radium (radium-226 + radium-228) is 5 pCi/L.

CAS Chemical Abstracts Service
GFPC Gas flow proportional counting
MCL Maximum contaminant level
MDC Minimum detectable concentration
NV No value
ORNL Radiological Benchmarks for Screening Contaminants of Potential Concern for Effects on Aquatic Biota at Oak Ridge National Laboratory (Bechtel Jacobs Company 1998)
pCi/L Picocurie per liter
Scint Scintillation
SPLP Synthetic precipitation leaching procedure
USEPA U.S. Environmental Protection Agency

Sources:

Bechtel Jacobs Company. 1998. "Radiological Benchmarks for Screening Contaminants of Potential Concern for Effects on Aquatic Biota at Oak Ridge National Laboratory, Oak Ridge, Tennessee."
U.S. Environmental Protection Agency (USEPA). 2009. "National Primary Drinking Water Regulations." EPA 816-F-09-004. May.

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Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES TO33/103G5440033.03.01	[signature]	307-871-7291

Report Address: Tetra Tech/Disa

Contact Name: Mike Dahlquist/Andrew Halverson

Email: mike.dahlquist@tetratech.com/a.halverson@disausa.com

Phone: 510-302-6310/307-871-7291

Invoice Address: Tetra Tech

Purchase Order #: 1150922

Quote #:

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/602	Ra 226 by 901.1	TCLP by Table A-12						REMARKS
1	S2210480-001	10/24/22	18:35	QV-L-4-SY -270 Concentrate	SL	1	x	x	x						280.73 g
2	002	10/24/22	18:45	QV-L-8-SY -270 Concentrate	SL	1	x	x	x						362.72 g
3	003	10/24/22	18:55	QV-L-30-SY -270 Concentrate	SL	1	x	x	x						394.32 g
4	004	10/24/22	19:04	QV-M-4-SY -270 Concentrate	SL	1	x	x	x						375.01 g
5	005	10/24/22	19:08	QV-M-8-SY -270 Concentrate	SL	1	x	x	x						393.39 g
6	006	10/24/22	19:10	QV-M-30-SY -270 Concentrate	SL	1	x	x	x						404.61 g
7	007	10/24/22	19:21	QV-H-4-SY -270 Concentrate	SL	1	x	x	x						470.18 g
8	008	10/24/22	19:26	QV-H-8-SY -270 Concentrate	SL	1	x	x	x						470.56 g
9	009	10/24/22	19:30	QV-H-30-SY -270 Concentrate	SL	1	x	x	x						459.77 g
10	010	10/24/22	19:38	CR-L-4-SY -270 Concentrate	SL	1	x	x	x						298.92 g
11	011	10/24/22	19:43	CR-L-8-SY -270 Concentrate	SL	1	x	x	x						309.37 g
12	012	10/24/22	19:46	CR-L-30-SY -270 Concentrate	SL	1	x	x	x						333.14 g
13	013	10/24/22	19:57	CR-M-4-SY -270 Concentrate	SL	1	x	x	x						271.70 g
14	014	10/24/22	20:02	CR-M-8-SY -270 Concentrate	SL	1	x	x	x						334.43 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/24/22	15:40	[signature]	10/28/22	15:42

SHIPPING INFO
- ☐ UPS
- ☐ FedEx
- ☐ USPS
- ☐ Hand Carried
- ☑ Other Lab courier Secured dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURN AROUND TIMES

Check desired service
- ☑ Standard turnaround
- ☐ RUSH - 5 Working Days
- ☐ URGENT - < 2 Working Days

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

Compliance Monitoring ?	Y / N
Program (SDWA, NPDES,...)	
PWSID / Permit #	
Chlorinated?	Y / N
Sample Disposal: Lab	Client ✓

ADDITIONAL REMARKS

Please return unused sample to Disa after reporting.
Report preliminary metals before radionuclides.
Table A-12 from Work Plan attached

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Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES TO33/103G5440033.03.01		307-871-7291

Report Address: Tetra Tech/Disa

Contact Name: Mike Dahlquist/Andrew Halverson

Email: mike.dahlquist@tetratech.com/a.halverson@disausa.com

Phone: 510-302-6310/307-871-7291

Invoice Address: Tetra Tech

Purchase Order #: 1150922

Quote #:

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/602	Ra 226 by 901.1	TCLP by Table A-12	MS/MSD					REMARKS
1	S2210480-015	10/24/22	20:05	CR-M-30-SY -270 Concentrate	SL	1	x	x	x						350.94 g
2	016	10/13/22	11:30	CTS-H-4-SY -270-01	SL	1	x	x	x						304.81 g
3	017	10/13/22	11:30	CTS-H-4-SY -270-02	SL	1	x	x	x						301.03 g
4	018	10/13/22	10:00	CTS-H-8-SY -270	SL	1	x	x	x						659.54 g
5	019	10/17/22	9:53	CTS-H-30-SY -270	SL	1	x	x	x	x					699.81 g, MS/MSD for metals and TCLP
6	020	10/24/22	20:14	CR-H-4-SY -270 Concentrate	SL	1	x	x	x						241.01 g
7	021	10/24/22	20:17	CR-H-8-SY -270 Concentrate	SL	1	x	x	x						343.28 g
8	022	10/24/22	20:22	CR-H-30-SY -270 Concentrate	SL	1	x	x	x						358.80 g
9	023	10/11/22	9:30	CTS-M-4-SY -270	SL	1	x	x	x						546.55 g
10	024	10/11/22	NO TIME	CTS-M-8-SY -270	SL	1	x	x	x						571.44 g
11	025	10/13/22	8:00	CTS-M-30-SY -270	SL	1	x	x	x						596.81 g
12	026	10/05/22	10:32	CTS-L-4-SY -270	SL	1	x	x	x						591.53 g
13	027	10/06/22	8:45	CTS-L-8-SY -270-01	SL	1	x	x	x						303.14 g
14	028	10/06/22	8:45	CTS-L-8-SY -270-02	SL	1	x	x	x						297.70 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	/ Andrew Halverson	10/26/22	15:40		10/28/	1542

SHIPPING INFO	MATRIX CODES		TURN AROUND TIMES	COMPLIANCE INFORMATION		ADDITIONAL REMARKS
☐ UPS	Water	WT	**Check desired service**	Compliance Monitoring ?	Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...)		Report preliminary metals before radionuclides.
☐ USPS	Solid	SD	☐ **RUSH - 5 Working Days**	PWSID / Permit #		Table A-12 from Work Plan attached
☐ Hand Carried	Filter	FT	☐ **URGENT - < 2 Working Days**	Chlorinated?	Y / N	
☑ Other Lab courier secure dropoff	Other	OT	***Rush & Urgent Surcharges will be applied***	Sample Disposal: Lab	Client ✓	

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Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES TO33/103G5440033.03.01		307-871-7291

Report Address: Tetra Tech/Disa
Contact Name: Mike Dahlquist/Andrew Halverson
Email: mike.dahlquist@tetratech.com / a.halverson@disausa.com
Phone: 510-302-6310/307-871-7291
Invoice Address: Tetra Tech
Purchase Order #: 1150922
Quote #:

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/602	Ra 226 by 901.1	TCLP by Table A-12	MS/MSD					REMARKS
1	S2210480-029	10/06/22	13:25	CTS-L-30-SY -270	SL	1	x	x	x	x					667.67 g, MS/MSD for Metals and TCLP
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	/ Andrew Halverson	10/26/22	15:40		10/28/22	15:42

SHIPPING INFO	MATRIX CODES		TURN AROUND TIMES	COMPLIANCE INFORMATION		ADDITIONAL REMARKS
☐ UPS	Water	WT	**Check desired service**	Compliance Monitoring ?	Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...)		Report preliminary metals before radionuclides.
☐ USPS	Solid	SD	☐ **RUSH - 5 Working Days**	PWSID / Permit #		Table A-12 from Work Plan attached
☐ Hand Carried	Filter	FT	☐ **URGENT - < 2 Working Days**	Chlorinated?	Y / N	
☑ Other Lab Courier Secure dropoff	Other	OT	***Rush & Urgent Surcharges will be applied***	Sample Disposal: Lab	Client ✓	

Table A-12. Aqueous Metals Analytical Parameter Summary for SPLP and TCLP Extracts

Analyte	CAS Number	Analytical Method	MDL[1] (µg/L)	Reporting Limit (µg/L)	TCLP Criteria (µg/L)	USEPA RSL Tap Water[2] (µg/L)
Aluminum	7429-90-5	USEPA 6010	4.68	100	NP	20,000
Antimony	7440-36-0	USEPA 6010	34.02	50	NP	7.8
Arsenic	7440-38-2	USEPA 6010	1.54	20	5,000	0.052
Barium	7440-39-3	USEPA 6010	0.19	50	100,000	3,800
Beryllium	7440-41-7	USEPA 6010	0.13	20	NP	25
Cadmium	7440-43-9	USEPA 6010	0.08	50	1,000	9.2
Chromium	7440-47-3	USEPA 6010	0.24	10	5,000	NP
Cobalt	7440-48-4	USEPA 6010	3.88	10	NP	6
Copper	7440-50-8	USEPA 6010	0.91	10	NP	800
Iron	7439-89-6	USEPA 6010	9.33	50	NP	14,000
Lead	7439-92-1	USEPA 6010	1.59	200	5,000	15
Manganese	7439-96-5	USEPA 6010	0.19	100	NP	430
Mercury	7439-97-6	USEPA 7470	0.05	1	200	6
Molybdenum	7439-98-7	USEPA 6010	3.45	10	NP	100
Nickel	7440-02-0	USEPA 6010	2.55	20	NP	390
Selenium	7782-49-2	USEPA 6010	4.00	200	1,000	100
Silver	7440-22-4	USEPA 6010	0.58	50	5,000	94
Thallium	7440-28-0	USEPA 6010	26.68	200	NP	0.2
Vanadium	7440-62-2	USEPA 6010	1.58	5	NP	86
Uranium (natural)	7440-61-1	USEPA 6010	24.08	50	NP	NP
Zinc	7440-66-6	USEPA 6010	14.71	200	NP	6,000

Notes:

Analyte SPLP extracts

Analyte TCLP extract only

Analyte TCLP and SPLP extracts

1 MDLs are specific to the contract laboratory. As MDLs are instrument specific, MDLs may vary depending on which instrument is used.

2 TR = 1 E-6; THQ = 1

µg/L Microgram per liter
CAS Chemical Abstracts Service
MDL Method detection limit
NNEPA Navajo Nation Environmental Protection Agency
NP Not promulgated
RSL Regional screening level
SPLP Synthetic precipitation leaching procedure
TCLP Toxicity characteristic leaching procedure
THQ Target hazard quotient
TR Target cancer risk
USEPA U.S. Environmental Protection Agency

Source:
USEPA (2021). "Regional Screening Levels (RSLs) - Generic Tables." https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables

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Report Review Checklist

		Log Review
COC Review	Information on COC matches that on report; spelling accurate. **Initials/Date:**	WN 11/2/22
1	Original COC attached, signed and dated.	✓
2	Samples received within temperature	✓
2	Parameters requested.	✓
3	Client.	✓
4	Report recipient/address.	✓
5	Invoice recipient/address.	✓
6	Project. **Requested changes to Project must be communicated to Project Mgr.**	NA
7	Appropriate detection limits (RLs) assigned.	✓
8	Prices may need to be adjusted prior to invoicing. (circle)	Yes or No
9	P. O. number.	✓
10	Sample IDs.	✓
11	Sample dates.	✓
12	Date received.	✓
13	Date due.	✓
14	Matrix.	✓
15	PWSID included for safe drinking water compliance samples.	NA
16	Field data entered appropriately (**Log Review**); matches lab data (**Report Review**).	NA
17	Special requests indicated in "Comments" section of Work Order summary.	✓
18	All "No" responses on Condition Upon Receipt form have been resolved	Yes or No

	Data Review	Report Review
1	Automated QC (Check Data button) review performed, discrepancies resolved.	✓
2	Worksheet/instrument data sheet for all requested parameters attached in LIMS or to work Order summary.	✓
3	Worksheet/instrument data compared to report results for calculation, transcription and data entry errors.	✓
4	Results compared to historical data if applicable.	NA
5	Analysis date and time.	✓
6	Analytical method.	✓
7	Appropriate detection limits (RLs) assigned.	✓
8	Appropriate units of measure.	✓
9	Analyst's initials.	✓
10	Calculations checked?	✓
11	Subcontracted analyses identified as such with qualifier or as attachment to lab report	NA
12	Subcontracted report reviewed	NA
13	Invoice parameters match those on COC.	✓

	Final Review	
1	Report appears complete and appropriate.	✓
2	Condition Upon Receipt form completed, attached to packet, and related qualifiers included in report.	✓
3	All necessary qualifiers included in report.	✓
4	Qualifiers referenced in case narrative; which includes descriptions of all sample/analysis anomalies.	✓
5	Anomalies, including reason for report reissue, explained in Case Narrative.	✓
6	Copies of report sent to all recipients requested on COC. **(circle)** **Copy to Regulator** **Hard Copy**	Email
7	All special requests listed on COC, or attached parameter list, honored.	✓
8	Special report format per client request.	✓
9	Report pages signed.	✓

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Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES TO33/103G5440033.03.01	[signature]	307-871-7291

Report Address: Tetra Tech/Disa
Contact Name: Mike Dahlquist/Andrew Halverson
Email: Mike.Dahlquist@tetratech.com/a.halverson@disausa.com
Phone: 510-302-6310/307-871-7291
Invoice Address: Tetra Tech
Purchase Order #: 1150922
Quote #:

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/602	Ra 226 by 901.1	MS/MSD						REMARKS
1		10/05/22	10:32	CTS-L-4-SY +25	SL	1	x	x							7.60 g
2		10/05/22	10:32	CTS-L-4-SY +50	SL	1	x	x							22.83 g
3		10/05/22	10:32	CTS-L-4-SY +100	SL	1	x	x							42.21 g
4		10/05/22	10:32	CTS-L-4-SY +140	SL	1	x	x							32.19 g
5		10/05/22	10:32	CTS-L-4-SY +200	SL	1	x	x							41.97 g
6		10/05/22	10:32	CTS-L-4-SY +270	SL	1	x	x							36.12 g
7		10/06/22	8:45	CTS-L-8-SY +25	SL	1	x	x							2.06 g
8		10/06/22	8:45	CTS-L-8-SY +50	SL	1	x	x							13.37 g
9		10/06/22	8:45	CTS-L-8-SY +100	SL	1	x	x							32.59 g
10		10/06/22	8:45	CTS-L-8-SY +140	SL	1	x	x							28.84 g
11		10/06/22	8:45	CTS-L-8-SY +200	SL	1	x	x							48.94 g
12		10/06/22	8:45	CTS-L-8-SY +270	SL	1	x	x							25.12 g
13		10/06/22	13:25	CTS-L-30-SY +25	SL	1	x	x							1.40 g
14		10/06/22	13:25	CTS-L-30-SY +50	SL	1	x	x							8.52 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/26/22	15:40	[signature]	10/28/22	13:00

SHIPPING INFO	MATRIX CODES		TURN AROUND TIMES	COMPLIANCE INFORMATION		ADDITIONAL REMARKS
☐ UPS	Water	WT	Check desired service	Compliance Monitoring ?	Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...)		Report preliminary metals before radionuclides.
☐ USPS	Solid	SD	☐ RUSH - 5 Working Days	PWSID / Permit #		Radium compositing sheet attached
☐ Hand Carried Lab courier	Filter	FT	☐ URGENT - < 2 Working Days	Chlorinated?	Y / N	
☑ Other secure dropoff	Other	OT	*Rush & Urgent Surcharges will be applied*	Sample Disposal: Lab	Client ✓	

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- CHAIN OF CUSTODY RECORD -

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Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES TO33/103G5440033.03.01		307-871-7291

Report Address: Tetra Tech/Disa

Contact Name: Mike Dahlquist/Andrew Halverson

Email: mike.dahlquist@tetratech.com/a.halverson@disausa.com

Phone: 510-302-6310/307-871-7291

Invoice Address: Tetra Tech

Purchase Order #: 1150922

Quote #:

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/602	Ra 226 by 901.1	MS/MSD						REMARKS
1		10/06/22	13:25	CTS-L-30-SY +100-01	SL	1	x	x							12.34 g
2		10/06/22	13:25	CTS-L-30-SY +100-02	SL	1	x	x							12.34 g
3		10/06/22	13:25	CTS-L-30-SY +140	SL	1	x	x	x						24.22 g, MS/MSD for Metals
4		10/06/22	13:25	CTS-L-30-SY +200	SL	1	x	x							44.76 g
5		10/06/22	13:25	CTS-L-30-SY +270	SL	1	x	x							22.93 g
6		10/04/22	15:31	CTS-0-SL-01 +25	SL	1	x	x							6.88 g
7		10/04/22	15:31	CTS-0-SL-01 +50	SL	1	x	x							11.73 g
8		10/04/22	15:31	CTS-0-SL-01 +100	SL	1	x	x							32.09 g
9		10/04/22	15:31	CTS-0-SL-01 +140	SL	1	x	x							35.57 g
10		10/04/22	15:31	CTS-0-SL-01 +200	SL	1	x	x							43.80 g
11		10/04/22	15:31	CTS-0-SL-01 +270	SL	1	x	x							36.63 g
12		10/04/22	15:31	CTS-0-SL-01 -270	SL	1	x	x							143.58 g
13		10/11/22	9:30	CTS-M-4-SY +25	SL	1	x	x							3.16 g
14		10/11/22	9:30	CTS-M-4-SY +50	SL	1	x	x							17.48 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	/ Andrew Halverson	10/26/22	15:40		10/28/22	13:00

SHIPPING INFO	MATRIX CODES	TURN AROUND TIMES	COMPLIANCE INFORMATION	ADDITIONAL REMARKS
☐ UPS	Water WT	Check desired service	Compliance Monitoring ? Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil SL	☑ Standard turnaround	Program (SDWA, NPDES,...)	Report preliminary metals before radionuclides.
☐ USPS	Solid SD	☐ RUSH - 5 Working Days	PWSID / Permit #	Radium compositing sheet attached
☐ Hand Carried	Filter FT	☐ URGENT - < 2 Working Days	Chlorinated? Y / N	
☑ Other Lab Courier Secure dropoff	Other OT	*Rush & Urgent Surcharges will be applied*	Sample Disposal: Lab Client ✓	

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- CHAIN OF CUSTODY RECORD -

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Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES TO33/103G5440033.03.01		307-871-7291

Report Address: Tetra Tech/Disa
Invoice Address: Tetra Tech
Contact Name: Mike Dahlquist/Andrew Halverson
Email: mike.dahlquist@tetratech.com / a.halverson@disausa.com
Phone: 510-302-6310/307-871-7291
Purchase Order #: 1150922
Quote #:

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/602	Ra 226 by 901.1	MS/MSD						REMARKS
1		10/11/22	9:30	CTS-M-4-SY +100	SL	1	x	x							38.16 g
2		10/11/22	9:30	CTS-M-4-SY +140	SL	1	x	x							31.44 g
3		10/11/22	9:30	CTS-M-4-SY +200	SL	1	x	x							41.30 g
4		10/11/22	9:30	CTS-M-4-SY +270	SL	1	x	x							23.83 g
5		10/11/22	NO TIME	CTS-M-8-SY +25	SL	1	x	x							3.02 g
6		10/11/22	NO TIME	CTS-M-8-SY +50	SL	1	x	x							14.55 g
7		10/11/22	NO TIME	CTS-M-8-SY +100-01	SL	1	x	x							18.58 g
8		10/11/22	NO TIME	CTS-M-8-SY +100-02	SL	1	x	x							18.57 g
9		10/11/22	NO TIME	CTS-M-8-SY +140	SL	1	x	x	x						29.31 g, MS/MSD for Metals
10		10/11/22	NO TIME	CTS-M-8-SY +200	SL	1	x	x							40.04 g
11		10/11/22	NO TIME	CTS-M-8-SY +270	SL	1	x	x							24.08 g
12		10/13/22	8:00	CTS-M-30-SY +25	SL	1	x	x							2.01 g
13		10/13/22	8:00	CTS-M-30-SY +50	SL	1	x	x							13.28 g
14		10/13/22	8:00	CTS-M-30-SY +100	SL	1	x	x							35.74 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	Andrew Halverson	10/26/22	15:40		10/28/22	13:00

SHIPPING INFO	MATRIX CODES		TURN AROUND TIMES	COMPLIANCE INFORMATION		ADDITIONAL REMARKS
☐ UPS	Water	WT	**Check desired service**	Compliance Monitoring ?	Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...)		Report preliminary metals before radionuclides.
☐ USPS	Solid	SD	☐ **RUSH - 5 Working Days**	PWSID / Permit #		Radium compositing sheet attached
☐ Hand Carried	Filter	FT	☐ **URGENT - < 2 Working Days**	Chlorinated?	Y / N	
☑ Other Lab Courier Secure Dropoff	Other	OT	***Rush & Urgent Surcharges will be applied***	Sample Disposal: Lab	Client ✓	

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- CHAIN OF COUNTERPARTY RECORD -

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Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES TO33/103G5440033.03.01	[signature]	307-871-7291

Report Address: Tetra Tech/Disa
Contact Name: Mike Dahlquist/Andrew Halverson
Email: mike.dahlquist@tetratech.com/a.halverson@disausa.com
Phone: 510-302-6310/307-871-7291
Invoice Address: Tetra Tech
Purchase Order #: 1150922
Quote #:

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/602	Ra 226 by 901.1	MS/MSD						REMARKS
1		10/13/22	8:00	CTS-M-30-SY +140	SL	1	x	x							27.23 g
2		10/13/22	8:00	CTS-M-30-SY +200	SL	1	x	x							42.68 g
3		10/13/22	8:00	CTS-M-30-SY +270	SL	1	x	x							20.75 g
4		10/11/22	8:00	CTS-M-0-SL-01 +25	SL	1	x	x							8.34 g
5		10/11/22	8:00	CTS-M-0-SL-01 +50	SL	1	x	x							17.33 g
6		10/11/22	8:00	CTS-M-0-SL-01 +100	SL	1	x	x							38.48 g
7		10/11/22	8:00	CTS-M-0-SL-01 +140	SL	1	x	x							36.91 g
8		10/11/22	8:00	CTS-M-0-SL-01 +200	SL	1	x	x							48.80 g
9		10/11/22	8:00	CTS-M-0-SL-01 +270	SL	1	x	x							30.95 g
10		10/11/22	8:00	CTS-M-0-SL-01 -270	SL	1	x	x							155.64 g
11		10/13/22	11:30	CTS-H-4-SY +25	SL	1	x	x							2.07 g
12		10/13/22	11:30	CTS-H-4-SY +50	SL	1	x	x							11.82 g
13		10/13/22	11:30	CTS-H-4-SY +100-01	SL	1	x	x							17.87 g
14		10/13/22	11:30	CTS-H-4-SY +100-02	SL	1	x	x							17.88 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/26/22	15:40	[signature]	10/28/22	13:00

SHIPPING INFO
- ❑ UPS
- ❑ FedEx
- ❑ USPS
- ❑ Hand Carried
- ☑ Other Lab courier secure dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURN AROUND TIMES
Check desired service
- ☑ Standard turnaround
- ❑ RUSH - 5 Working Days
- ❑ URGENT - < 2 Working Days

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION
Compliance Monitoring ? Y / N
Program (SDWA, NPDES,...)
PWSID / Permit #
Chlorinated? Y / N
Sample Disposal: Lab Client ✓

ADDITIONAL REMARKS
Please return unused sample to Disa after reporting.
Report preliminary metals before radionuclides.
Radium Compositing sheet attached

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- CHAIN OF CUSTODY RECORD -

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Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES TO33/103G5440033.03.01	[signature]	307-871-7291

Report Address: Tetra Tech/Disa

Contact Name: Mike Dahlquist/Andrew Halverson

Email: mike.dahlquist@tetratech.com / a.halverson@disausa.com

Phone: 510-302-6310/307-871-7291

Invoice Address: Tetra Tech

Purchase Order #: 1150922

Quote #:

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/6020	Ra 226 by 901.1	MS/MSD						REMARKS
1		10/13/22	11:30	CTS-H-4-SY +140	SL	1	x	x	x						32.10 g, MS/MSD for metals
2		10/13/22	11:30	CTS-H-4-SY +200	SL	1	x	x							53.85 g
3		10/13/22	11:30	CTS-H-4-SY +270	SL	1	x	x							21.57 g
4		10/13/22	10:00	CTS-H-8-SY +25	SL	1	x	x							2.32 g
5		10/13/22	10:00	CTS-H-8-SY +50	SL	1	x	x							13.89 g
6		10/13/22	10:00	CTS-H-8-SY +100	SL	1	x	x							36.49 g
7		10/13/22	10:00	CTS-H-8-SY +140	SL	1	x	x							33.89 g
8		10/13/22	10:00	CTS-H-8-SY +200	SL	1	x	x							58.84 g
9		10/13/22	10:00	CTS-H-8-SY +270	SL	1	x	x							25.93 g
10		10/12/22	8:40	CTS-H-0-SL-01 +25	SL	1	x	x							8.76 g
11		10/12/22	8:40	CTS-H-0-SL-01 +50	SL	1	x	x							13.34 g
12		10/12/22	8:40	CTS-H-0-SL-01 +100	SL	1	x	x							36.25 g
13		10/12/22	8:40	CTS-H-0-SL-01 +140	SL	1	x	x							36.46 g
14		10/12/22	8:40	CTS-H-0-SL-01 +200	SL	1	x	x							59.96 g

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	[signature] / Andrew Halverson	10/26/22	15:40	[signature]	10/28/22	13:00

SHIPPING INFO

- ☐ UPS
- ☐ FedEx
- ☐ USPS
- ☐ Hand Carried
- ☑ Other Lab courier Secure dropoff

MATRIX CODES

Water	WT
Soil	SL
Solid	SD
Filter	FT
Other	OT

TURN AROUND TIMES

Check desired service

- ☑ Standard turnaround
- ☐ RUSH - 5 Working Days
- ☐ URGENT - < 2 Working Days

Rush & Urgent Surcharges will be applied

COMPLIANCE INFORMATION

Compliance Monitoring ? Y / N

Program (SDWA, NPDES,...)

PWSID / Permit #

Chlorinated? Y / N

Sample Disposal: Lab Client ✓

ADDITIONAL REMARKS

Please return unused sample to Disa after reporting.

Report preliminary metals before radionuclides.

Radium compositing sheet attached

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- CHAIN OF CUSTODY RECORD -

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Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Tetra Tech/Disa	RAES TO33/103G5440033.03.01		307-871-7291

Report Address: Tetra Tech/Disa

Contact Name: Mike Dahlquist/Andrew Halverson

Email: mike.dahlquist@tetratech.com/a.halverson@disausa.com

Phone: 510-302-6310/307-871-7291

Invoice Address: Tetra Tech

Purchase Order #: 1150922

Quote #:

ANALYSES / PARAMETERS

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	Metals by 6010/6020	Ra 226 by 901.1	MS/MSD						REMARKS
1		10/12/22	8:40	CTS-H-0-SL-01 +270	SL	1	x	x							40.03 g
2		10/12/22	8:40	CTS-H-0-SL-01 -270	SL	1	x	x							199.00 g
3		10/17/22	9:53	CTS-H-30-SY +25	SL	1	x	x							1.34 g
4		10/17/22	9:53	CTS-H-30-SY +50	SL	1	x	x							12.84 g
5		10/17/22	9:53	CTS-H-30-SY +100-01	SL	1	x	x							16.53 g
6		10/17/22	9:53	CTS-H-30-SY +100-02	SL	1	x	x							16.52 g
7		10/17/22	9:53	CTS-H-30-SY +140	SL	1	x	x	x						31.06 g, MS/MSD for metals
8		10/17/22	9:53	CTS-H-30-SY +200	SL	1	x	x							35.64 g
9		10/17/22	9:53	CTS-H-30-SY +270	SL	1	x	x							37.82 g
10															
11															
12															
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	/ Andrew Halverson	10/26/22	15:40		10/28/22	13:00

SHIPPING INFO	MATRIX CODES		TURN AROUND TIMES	COMPLIANCE INFORMATION		ADDITIONAL REMARKS
☐ UPS	Water	WT	Check desired service	Compliance Monitoring ?	Y / N	Please return unused sample to Disa after reporting.
☐ FedEx	Soil	SL	☑ Standard turnaround	Program (SDWA, NPDES,...)		Report preliminary metals before radionuclides.
☐ USPS	Solid	SD	☐ RUSH - 5 Working Days	PWSID / Permit #		Radium compositing sheet attached
☐ Hand Carried	Filter	FT	☐ URGENT - < 2 Working Days	Chlorinated?	Y / N	
☑ Other Lab courier, Secure dropoff	Other	OT	*Rush & Urgent Surcharges will be applied*	Sample Disposal: Lab	Client ✓	

Ra 226 Sample Compositing Summary

Note: 36 samples from the 27 (SY samples) concentrate fractions and 9 (SL samples) -270 fractions not included in this splitting sheet.
2 duplicates and 2 MSD for metals have already been indicated for those samples

Legend	
	Duplicate

Sample Count	Sample ID	Estimated Composite Mass From This Sheet	Directions
1	CR-L-0-SL-01 +25/+100 Composite	104.72	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
2	CR-L-0-SL-01 +140/+270 Composite	124.77	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
3	CR-L-4-SY +25/+100 Composite	98.00	After metals split combine fractions of +25-, +50-, and +100-mesh. Combine both metals duplicates of the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
4	CR-L-4-SY +140/+270 Composite	102.69	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
5	CR-L-8-SY +25/+100 Composite	104.23	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
6	CR-L-8-SY +140/+270 Composite	110.50	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
7	CR-L-30-SY +25/+100 Composite	97.04	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
8	CR-L-30-SY +140/+270 Composite	110.68	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
9	CR-M-0-SL-01 +25/+100 Composite	194.84	After metals split combine fractions of +25-, +50-, and +100-mesh. Combine both metals duplicates for the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
10	CR-M-0-SL-01 +140/+270 Composite	57.67	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
11	CR-M-4-SY +25/+100 Composite	198.26	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
12	CR-M-4-SY +140/+270 Composite	50.98	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
13	CR-M-8-SY +25/+100 Composite	264.32	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
14	CR-M-8-SY +140/+270 Composite	56.50	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
15	CR-M-30-SY +25/+100 Composite	207.32	After metals split combine fractions of +25-, +50-, and +100-mesh. Combine both metals duplicates of the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
16	CR-M-30-SY +140/+270 Composite	55.88	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
17	CR-H-8-SY +25	94.13	After metals split, analyze remaining mass for Ra 226
18	CR-H-8-SY +50-01	81.39	After metals split, analyze remaining mass for Ra 226. This was already submitted as a duplicate sample and should have enough remaining mass to perform Ra 226 analysis as is.
19	CR-H-8-SY +50-02	81.38	After metals split, analyze remaining mass for Ra 226. This was already submitted as a duplicate sample and should have enough remaining mass to perform Ra 226 analysis as is.
20	CR-H-8-SY +100/+270 Composite	123.61	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
1	CR-H-0-SL-01 +25	82.60	After metals split, analyze remaining mass for Ra 226
2	CR-H-0-SL-01 +50	138.19	After metals split, analyze remaining mass for Ra 226

3	CR-H-0-SL-01 +100/+270 Composite	133.44	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
4	CR-H-4-SY +25	83.54	After metals split, analyze remaining mass for Ra 226
5	CR-H-4-SY +50	171.04	After metals split, analyze remaining mass for Ra 226
6	CR-H-4-SY +100/+270 Composite	130.94	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
7	CR-H-30-SY +25/+50 Composite	161.62	After metals splits, combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226
8	CR-H-30-SY +100/+270 Composite	128.09	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
9	QV-L-0-SL-01 +25/+50 Composite	139.97	After metals splits, combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226
10	QV-L-0-SL-01 +100/+270 Composite	153.30	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
11	QV-L-4-SY +25/+50 Composite	106.02	After metals splits, combine fractions of +25- and +50-mesh. Combine both metals duplicates for the 50-mesh fraction into this composite. Homogenize, then analyze for Ra 226
12	QV-L-4-SY +100/+270 Composite	127.89	After metals split AND the MSD/MSD metals split from the 100-mesh fraction combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
13	QV-L-8-SY +25/+50 Composite	154.88	After metals splits, combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226
14	QV-L-8-SY +100/+270 Composite	172.12	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
15	QV-L-30-SY +25/+50 Composite	133.51	After metals splits, combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226
16	QV-L-30-SY +100/+270 Composite	172.46	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
17	QV-M-0-SL-01 +25	55.49	After metals split, analyze remaining mass for Ra 226
18	QV-M-0-SL-01 +50	113.89	After metals split, analyze remaining mass for Ra 226
19	QV-M-0-SL-01 +100/+270 Composite -01	64.77	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then further split into a duplicate. Analyze for Ra 226
20	QV-M-0-SL-01 +100/+270 Composite -02	64.77	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then further split into a duplicate. Analyze for Ra 226
1	QV-M-4-SY +25	80.35	After metals split, analyze remaining mass for Ra 226
2	QV-M-4-SY +50	145.59	After metals and MS/MSD metals split, analyze remaining mass for Ra 226
3	QV-M-4-SY +100/+270 Composite	141.79	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Combine both metals duplicates for the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
4	QV-M-8-SY +25	63.92	After metals split, analyze remaining mass for Ra 226
5	QV-M-8-SY +50	156.33	After metals split, analyze remaining mass for Ra 226
6	QV-M-8-SY +100/+270 Composite	140.46	Remove extra 15 grams from the 100-mesh fraction as well as the metals split prior to adding to this composite. After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
7	QV-M-30-SY +25/+50 Composite	167.63	After metals split and MS/MSD split from the 50-mesh fraction combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226

8	QV-M-30-SY +100/+270 Composite	148.98	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Combine both metals duplicates for the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
9	CTS-L-0-SL-01 +25/+140 Composite	82.27	After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
10	CTS-L-0-SL-01 +200/+270 Composite	78.43	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
11	CTS-L-4-SY +25/+140 Composite	100.83	After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
12	CTS-L-4-SY +200/+270 Composite	76.09	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
13	CTS-L-8-SY +25/+140 Composite	72.86	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
14	CTS-L-8-SY +200/+270 Composite	71.06	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
15	CTS-L-30-SY +25/+140 Composite	50.82	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals and MS/MSD for metals split from -140-mesh fraction combine fractions of +25-, +50-, +100-, and +140-mesh. Combine both 100-mesh duplicates into this composite. Homogenize, then analyze for Ra 226
16	CTS-L-30-SY +200/+270 Composite	66.69	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
17	QV-H-0-SL-01 +25	56.53	After metals split, analyze remaining mass for Ra 226
18	QV-H-0-SL-01 +50	108.53	After metals split, analyze remaining mass for Ra 226
19	QV-H-0-SL-01 +100/+270 Composite-01	69.25	After metals split combine +100-, +140-, +200-, and +270-mesh. Homogenize, then further split into a duplicate. Analyze for Ra 226
20	QV-H-0-SL-01 +100/+270 Composite-02	69.25	After metals split combine +100-, +140-, +200-, and +270-mesh. Homogenize, then further split into a duplicate. Analyze for Ra 226
1	CTS-M-0-SL-01 +25/+140 Composite	97.06	After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
2	CTS-M-0-SL-01 +200/+270 Composite	77.75	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
3	CTS-M-4-SY +25/+140 Composite	86.24	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
4	CTS-M-4-SY +200/+270 Composite	63.13	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
5	CTS-M-8-SY +25/+140 Composite	76.03	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals and MS/MSD for 140-mesh fraction split combine fractions of +25-, +50-, +100-, and +140-mesh. Combine both metals duplicates for 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
6	CTS-M-8-SY +200/+270 Composite	62.12	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
7	CTS-M-30-SY +25/+140 Composite	74.26	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226

8	CTS-M-30-SY +200/+270 Composite	61.43	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
9	CTS-H-0-SL-01 +25/+140 Composite	90.81	After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
10	CTS-H-0-SL-01 +200/+270 Composite	97.99	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
11	CTS-H-4-SY +25/+140 Composite	73.74	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split and MS/MSD split for 140-mesh fraction combine fractions of +25-, +50-, +100-, and +140-mesh. Combine both 100-mesh metals duplicates into this composite. Homogenize, then analyze for Ra 226
12	CTS-H-4-SY +200/+270 Composite	73.42	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
13	CTS-H-8-SY +25/+140 Composite	82.59	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
14	CTS-H-8-SY +200/+270 Composite	82.77	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
15	CTS-H-30-SY +25/+140 Composite	70.29	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split and MS/MSD metals split for 140-mesh fraction combine fractions of +25-, +50-, +100-, and +140-mesh. Combine both 100-mesh metals duplicates into this composite. Homogenize, then analyze for Ra 226
16	CTS-H-30-SY +200/+270 Composite	71.46	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
17	QV-H-4-SY +25	100.55	After metals spit, analyze remaining mass for Ra 226
18	QV-H-4-SY +50-01	111.76	After metals split, split further into a duplicate and analyze for Ra 226
19	QV-H-4-SY +50-02	111.76	After metals split, split further into a duplicate and analyze for Ra 226
20	QV-H-4-SY +100/+270 Composite	195.37	After metals split, combine +100-, +140-, +200, and +270-mesh into composite. Homogenize, then analyze for Ra 226
1	QV-H-8-SY +25	88.94	After metals split, analyze remaining mass for Ra 226
2	QV-H-8-SY +50	215.80	After metals split, analyze remaining mass for Ra 226
3	QV-H-8-SY +100/+270 Composite	201.75	After metals split, combine +100-, +140-, +200, and +270-mesh into composite. Homogenize, then analyze for Ra 226
4	QV-H-30-SY +25	60.80	After metals split, analyze remaining mass for Ra 226
5	QV-H-30-SY +50-01	80.75	After metals split and MS/MSD metals split, split into duplicate. Analyze for Ra 226
6	QV-H-30-SY +50-02	80.75	After metals split and MS/MSD metals split, split into duplicate. Analyze for Ra 227
7	QV-H-30-SY +100/+270 Composite	183.71	After metals split, combine +100-, +140-, +200, and +270-mesh into composite. Combine both 100-mesh metals duplicates into this composite. Homogenize, then analyze for Ra 226

8	CTS-M-30-SY +200/+270 Composite	61.43	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
9	CTS-H-0-SL-01 +25/+140 Composite	90.81	After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
10	CTS-H-0-SL-01 +200/+270 Composite	97.99	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
11	CTS-H-4-SY +25/+140 Composite	73.74	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split and MS/MSD split for 140-mesh fraction combine fractions of +25-, +50-, +100-, and +140-mesh. Combine both 100-mesh metals duplicates into this composite. Homogenize, then analyze for Ra 226
12	CTS-H-4-SY +200/+270 Composite	73.42	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
13	CTS-H-8-SY +25/+140 Composite	82.59	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
14	CTS-H-8-SY +200/+270 Composite	82.77	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
15	CTS-H-30-SY +25/+140 Composite	70.29	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split and MS/MSD metals split for 140-mesh fraction combine fractions of +25-, +50-, +100-, and +140-mesh. Combine both 100-mesh metals duplicates into this composite. Homogenize, then analyze for Ra 226
16	CTS-H-30-SY +200/+270 Composite	71.46	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
17	QV-H-4-SY +25	100.55	After metals spit, analyze remaining mass for Ra 226
18	QV-H-4-SY +50-01	111.76	After metals split, split further into a duplicate and analyze for Ra 226
19	QV-H-4-SY +50-02	111.76	After metals split, split further into a duplicate and analyze for Ra 226
20	QV-H-4-SY +100/+270 Composite	195.37	After metals split, combine +100-, +140-, +200, and +270-mesh into composite. Homogenize, then analyze for Ra 226
1	QV-H-8-SY +25	88.94	After metals split, analyze remaining mass for Ra 226
2	QV-H-8-SY +50	215.80	After metals split, analyze remaining mass for Ra 226
3	QV-H-8-SY +100/+270 Composite	201.75	After metals split, combine +100-, +140-, +200, and +270-mesh into composite. Homogenize, then analyze for Ra 226
4	QV-H-30-SY +25	60.80	After metals split, analyze remaining mass for Ra 226
5	QV-H-30-SY +50-01	80.75	After metals split and MS/MSD metals split, split into duplicate. Analyze for Ra 226
6	QV-H-30-SY +50-02	80.75	After metals split and MS/MSD metals split, split into duplicate. Analyze for Ra 227
7	QV-H-30-SY +100/+270 Composite	183.71	After metals split, combine +100-, +140-, +200, and +270-mesh into composite. Combine both 100-mesh metals duplicates into this composite. Homogenize, then analyze for Ra 226

8	QV-M-30-SY +100/+270 Composite	148.98	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Combine both metals duplicates for the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
9	CTS-L-0-SL-01 +25/+140 Composite	82.27	After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
10	CTS-L-0-SL-01 +200/+270 Composite	78.43	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
11	CTS-L-4-SY +25/+140 Composite	100.83	After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
12	CTS-L-4-SY +200/+270 Composite	76.09	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
13	CTS-L-8-SY +25/+140 Composite	72.86	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
14	CTS-L-8-SY +200/+270 Composite	71.06	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
15	CTS-L-30-SY +25/+140 Composite	50.82	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals and MS/MSD for metals split from -140-mesh fraction combine fractions of +25-, +50-, +100-, and +140-mesh. Combine both 100-mesh duplicates into this composite. Homogenize, then analyze for Ra 226
16	CTS-L-30-SY +200/+270 Composite	66.69	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
17	QV-H-0-SL-01 +25	56.53	After metals split, analyze remaining mass for Ra 226
18	QV-H-0-SL-01 +50	108.53	After metals split, analyze remaining mass for Ra 226
19	QV-H-0-SL-01 +100/+270 Composite-01	69.25	After metals split combine +100-, +140-, +200-, and +270-mesh. Homogenize, then further split into a duplicate. Analyze for Ra 226
20	QV-H-0-SL-01 +100/+270 Composite-02	69.25	After metals split combine +100-, +140-, +200-, and +270-mesh. Homogenize, then further split into a duplicate. Analyze for Ra 226
1	CTS-M-0-SL-01 +25/+140 Composite	97.06	After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
2	CTS-M-0-SL-01 +200/+270 Composite	77.75	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
3	CTS-M-4-SY +25/+140 Composite	86.24	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226
4	CTS-M-4-SY +200/+270 Composite	63.13	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
5	CTS-M-8-SY +25/+140 Composite	76.03	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals and MS/MSD for 140-mesh fraction split combine fractions of +25-, +50-, +100-, and +140-mesh. Combine both metals duplicates for 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
6	CTS-M-8-SY +200/+270 Composite	62.12	After metals split combine fractions of +200- and +270-mesh. Homogenize, then analyze for Ra 226
7	CTS-M-30-SY +25/+140 Composite	74.26	There may be no remaining mass in the +25-mesh fraction after metals subsampling. Note if no mass remaining. After metals split combine fractions of +25-, +50-, +100-, and +140-mesh. Homogenize, then analyze for Ra 226

Ra 226 Sample Compositing Summary

Legend	
	Duplicate

Note: 36 samples from the 27 (SY samples) concentrate fractions and 9 (SL samples) -270 fractions not included in this splitting sheet.
2 duplicates and 2 MSD for metals have already been indicated for those samples

Sample Count	Sample ID	Estimated Composite Mass From This Sheet	Directions
1	CR-L-0-SL-01 +25/+100 Composite	104.72	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
2	CR-L-0-SL-01 +140/+270 Composite	124.77	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
3	CR-L-4-SY +25/+100 Composite	98.00	After metals split combine fractions of +25-, +50-, and +100-mesh. Combine both metals duplicates of the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
4	CR-L-4-SY +140/+270 Composite	102.69	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
5	CR-L-8-SY +25/+100 Composite	104.23	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
6	CR-L-8-SY +140/+270 Composite	110.50	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
7	CR-L-30-SY +25/+100 Composite	97.04	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
8	CR-L-30-SY +140/+270 Composite	110.68	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
9	CR-M-0-SL-01 +25/+100 Composite	194.84	After metals split combine fractions of +25-, +50-, and +100-mesh. Combine both metals duplicates for the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
10	CR-M-0-SL-01 +140/+270 Composite	57.67	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
11	CR-M-4-SY +25/+100 Composite	198.26	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
12	CR-M-4-SY +140/+270 Composite	50.98	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
13	CR-M-8-SY +25/+100 Composite	264.32	After metals split combine fractions of +25-, +50-, and +100-mesh. Homogenize, then analyze for Ra 226
14	CR-M-8-SY +140/+270 Composite	56.50	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
15	CR-M-30-SY +25/+100 Composite	207.32	After metals split combine fractions of +25-, +50-, and +100-mesh. Combine both metals duplicates of the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
16	CR-M-30-SY +140/+270 Composite	55.88	After metals split combine fractions of +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
17	CR-H-8-SY +25	94.13	After metals split, analyze remaining mass for Ra 226
18	CR-H-8-SY +50-01	81.39	After metals split, analyze remaining mass for Ra 226. This was already submitted as a duplicate sample and should have enough remaining mass to perform Ra 226 analysis as is.
19	CR-H-8-SY +50-02	81.38	After metals split, analyze remaining mass for Ra 226. This was already submitted as a duplicate sample and should have enough remaining mass to perform Ra 226 analysis as is.
20	CR-H-8-SY +100/+270 Composite	123.61	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
1	CR-H-0-SL-01 +25	82.60	After metals split, analyze remaining mass for Ra 226
2	CR-H-0-SL-01 +50	138.19	After metals split, analyze remaining mass for Ra 226

3	CR-H-0-SL-01 +100/+270 Composite	133.44	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
4	CR-H-4-SY +25	83.54	After metals split, analyze remaining mass for Ra 226
5	CR-H-4-SY +50	171.04	After metals split, analyze remaining mass for Ra 226
6	CR-H-4-SY +100/+270 Composite	130.94	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
7	CR-H-30-SY +25/+50 Composite	161.62	After metals splits, combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226
8	CR-H-30-SY +100/+270 Composite	128.09	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
9	QV-L-0-SL-01 +25/+50 Composite	139.97	After metals splits, combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226
10	QV-L-0-SL-01 +100/+270 Composite	153.30	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
11	QV-L-4-SY +25/+50 Composite	106.02	After metals splits, combine fractions of +25- and +50-mesh. Combine both metals duplicates for the 50-mesh fraction into this composite. Homogenize, then analyze for Ra 226
12	QV-L-4-SY +100/+270 Composite	127.89	After metals split AND the MSD/MSD metals split from the 100-mesh fraction combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
13	QV-L-8-SY +25/+50 Composite	154.88	After metals splits, combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226
14	QV-L-8-SY +100/+270 Composite	172.12	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
15	QV-L-30-SY +25/+50 Composite	133.51	After metals splits, combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226
16	QV-L-30-SY +100/+270 Composite	172.46	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
17	QV-M-0-SL-01 +25	55.49	After metals split, analyze remaining mass for Ra 226
18	QV-M-0-SL-01 +50	113.89	After metals split, analyze remaining mass for Ra 226
19	QV-M-0-SL-01 +100/+270 Composite -01	64.77	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then further split into a duplicate. Analyze for Ra 226
20	QV-M-0-SL-01 +100/+270 Composite -02	64.77	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then further split into a duplicate. Analyze for Ra 226
1	QV-M-4-SY +25	80.35	After metals split, analyze remaining mass for Ra 226
2	QV-M-4-SY +50	145.59	After metals and MS/MSD metals split, analyze remaining mass for Ra 226
3	QV-M-4-SY +100/+270 Composite	141.79	After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Combine both metals duplicates for the 100-mesh fraction into this composite. Homogenize, then analyze for Ra 226
4	QV-M-8-SY +25	63.92	After metals split, analyze remaining mass for Ra 226
5	QV-M-8-SY +50	156.33	After metals split, analyze remaining mass for Ra 226
6	QV-M-8-SY +100/+270 Composite	140.46	Remove extra 15 grams from the 100-mesh fraction as well as the metals split prior to adding to this composite. After metals split combine fractions of +100-, +140-, +200-, and +270-mesh. Homogenize, then analyze for Ra 226
7	QV-M-30-SY +25/+50 Composite	167.63	After metals split and MS/MSD split from the 50-mesh fraction combine fractions of +25- and +50-mesh. Homogenize, then analyze for Ra 226

Pace

Report Review Checklist

		Log Review
COC Review Information on COC matches that on report; spelling accurate.	**Initials/Date:**	WN 11/2/22
1	Original COC attached, signed and dated.	✓
2	Samples received within temperature	✓
2	Parameters requested.	✓
3	Client.	✓
4	Report recipient/address.	✓
5	Invoice recipient/address.	✓
6	Project. **Requested changes to Project must be communicated to Project Mgr.**	NA
7	Appropriate detection limits (RLs) assigned.	✓
8	Prices may need to be adjusted prior to invoicing. (circle)	Yes or No
9	P. O. number.	✓
10	Sample IDs.	✓
11	Sample dates.	✓
12	Date received.	✓
13	Date due.	✓
14	Matrix.	✓
15	PWSID included for safe drinking water compliance samples.	NA
16	Field data entered appropriately (**Log Review**); matches lab data (**Report Review**).	NA
17	Special requests indicated in "Comments" section of Work Order summary.	NA
18	All "No" responses on Condition Upon Receipt form have been resolved	Yes or No

Data Review		Report Review
1	Automated QC (Check Data button) review performed, discrepancies resolved.	✓
2	Worksheet/instrument data sheet for all requested parameters attached in LIMS or to work Order summary.	✓
3	Worksheet/instrument data compared to report results for calculation, transcription and data entry errors.	✓
4	Results compared to historical data if applicable.	✓
5	Analysis date and time.	✓
6	Analytical method.	✓
7	Appropriate detection limits (RLs) assigned.	✓
8	Appropriate units of measure.	✓
9	Analyst's initials.	✓
10	Calculations checked?	✓
11	Subcontracted analyses identified as such with qualifier or as attachment to lab report	NA
12	Subcontracted report reviewed	NA
13	Invoice parameters match those on COC.	✓

Final Review		
1	Report appears complete and appropriate.	✓
2	Condition Upon Receipt form completed, attached to packet, and related qualifiers included in report.	✓
3	All necessary qualifiers included in report.	✓
4	Qualifiers referenced in case narrative; which includes descriptions of all sample/analysis anomalies.	✓
5	Anomalies, including reason for report reissue, explained in Case Narrative.	✓
6	Copies of report sent to all recipients requested on COC. **(circle)** **Copy to Regulator** **Hard Copy**	Email
7	All special requests listed on COC, or attached parameter list, honored.	✓
8	Special report format per client request.	✓
9	Report pages signed.	✓

APPENDIX B-2C
EAGLE ENGINEERING CHAINS OF CUSTODY

DISA®

SAMPLE SUBMISSION

Client-Project #:	22013-001
Quote #:	N/A

Company:	Disa Technologies, Inc.	**ATTN:**	Andrew Halverson
Submitted by:	Andrew Halverson		
Address:	1653 English Ave		
City:	Casper	**State:**	WY
Zip:	82601		
Phone:	307-871-7291	**Email:**	a.halverson@disausa.com
Report to:	1. Andrew Halverson	**Email:**	a.halverson@disausa.com
	2. John Lee		john@disausa.com
Bill to:		or	☒ Same as above
Address:			
City:		**State:**	
Zip:			
Phone:		**Email:**	

Testing Priority:	☒ **Standard**	☐ **Rush**			
Sample Characteristics:	☒**Radioactive**	☐**High Org. Carbon**	☒**High Silica**	☐**Hydrocarbons**	☐**Other** specify: ________
Storage:	☒ **Return**	☐ **Dispose**	☐ **Store**		
	Return after final reporting				

CHAIN OF CUSTODY

Relinquished by: Print:	Sign:	Date/Time:	Received by: Print:	Sign:	Date/Time:
Andrew Halverson	[signature]	10/10/22, 16:50			

SAMPLE INFORMATION

Sample ID:	Sample Type*:	Weight/Core Length:	Testing/Analyses Requested:
CR-L-0-SL-01	BS	380.16 g	Bulk XRD, MLA, Mineral Lineup
CR-M-0-SL-01	BS	333.71 g	Bulk XRD, MLA, Mineral Lineup
CR-H-0-SL-01	BS	448.77 g	Bulk XRD, MLA, Mineral Lineup
QV-L-0-SL-01	BS	321.64 g	Bulk XRD, MLA, Mineral Lineup
QV-M-0-SL-01	BS	367.59 g	Bulk XRD, MLA, Mineral Lineup
QV-H-0-SL-01	BS	380.54 g	Bulk XRD, MLA, Mineral Lineup
CTS-L-0-SL-01	BS	311.80 g	Bulk XRD, MLA, Mineral Lineup
CTS-M-0-SL-01	BS	331.80 g	Bulk XRD, MLA, Mineral Lineup
CTS-H-0-SL-01	BS	362.39 g	Bulk XRD, MLA, Mineral Lineup

*: **DC:** Drill Core, **BS:** Bulk Solids, **S:** Slurry

SAMPLE INFORMATION

Sample ID:	Sample Type*:	Weight/Core Length:	Testing/Analyses Requested:
CR-L-4-SY +25/+270	BS	207.65 g	Bulk XRD, MLA, Mineral Lineup
CR-L-8-SY +25/+270	BS	220.75 g	Bulk XRD, MLA, Mineral Lineup
CR-L-30-SY +25/+270	BS	213.73 g	Bulk XRD, MLA, Mineral Lineup
CR-M-8-SY +25/+270	BS	255.64 g	Bulk XRD, MLA, Mineral Lineup
CR-M-30-SY +25/+270	BS	326.94 g	Bulk XRD, MLA, Mineral Lineup
CR-M-30-SY +25/+270	BS	270.24 g	Bulk XRD, MLA, Mineral Lineup
CR-H-4-SY +25/+270	BS	391.55 g	Bulk XRD, MLA, Mineral Lineup
CR-H-8-SY +25/+270	BS	387.45 g	Bulk XRD, MLA, Mineral Lineup
CR-H-30-SY +25/+270	BS	295.77 g	Bulk XRD, MLA, Mineral Lineup
QV-L-4-SY +25/+270	BS	243.92 g	Bulk XRD, MLA, Mineral Lineup
QV-L-8-SY +25/+270	BS	332.96 g	Bulk XRD, MLA, Mineral Lineup
QV-L-30-SY +25/+270	BS	311.81 g	Bulk XRD, MLA, Mineral Lineup
QV-M-4-SY +25/+270	BS	377.81 g	Bulk XRD, MLA, Mineral Lineup
QV-M-8-SY +25/+270	BS	381.69 g	Bulk XRD, MLA, Mineral Lineup
QV-M-30-SY +25/+270	BS	326.81 g	Bulk XRD, MLA, Mineral Lineup
QV-H-4-SY +25/+270	BS	525.48 g	Bulk XRD, MLA, Mineral Lineup
QV-H-8-SY +25/+270	BS	507.44 g	Bulk XRD, MLA, Mineral Lineup
QV-H-30-SY +25/+270	BS	415.85 g	Bulk XRD, MLA, Mineral Lineup

*: **DC:** Drill Core, **BS:** Bulk Solids, **S:** Slurry

DISA

Package Survey From

Date: 10/10/2022 Time: 17:00 Surveyor Name: Andrew Halverson

Unat Specific Activity 7.1 e-7 Ci/g
Limits Exempt: 2.7e-11 Ci/g AND 2.7e-8 Ci Excepted: 7.1e-7 Ci/g A1 [Ci]: Unlimited A2 [Ci]: Unlimited 0.5 mRem/hr ~500 µR/hr Alpha: 24 dpm/cm² Beta: 240 dpm/cm²

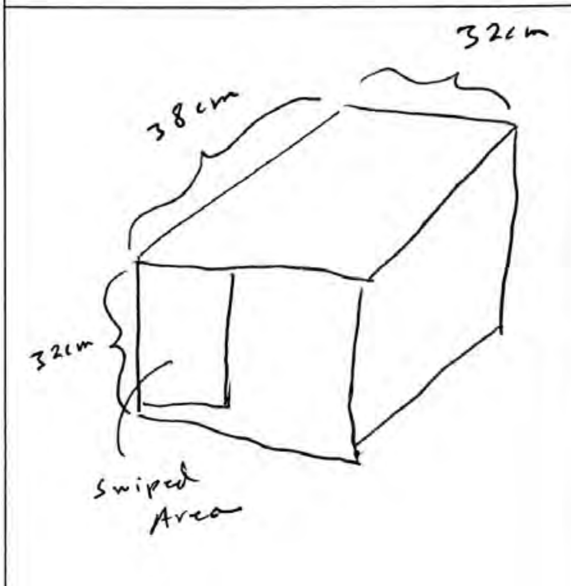
Package Description	Box with <21 lb of <1500 ppm Unat soil
Package Destination	Eagle Engineering 3341 Harrison Avenue Butte, MT 59701

Contents	<1500 ppm Unat Soil	Exempt (Y/N)	N
Material Specific Activity	<1.07e-9 Ci/g	UN2910 Excepted (Y/N)	Y
Contents Mass	<21 lb		
Contents Total Activity	<10e-6 Ci		

Instrument	
Manufacturer	Ludlum
Model	19
Serial No.	268865
Cal Due Date	12/19/2022
FC Passed (Y/N)	Y
Background	7 uR/hr

Location	Gross	Net
Side 1	11	4 uR/hr
Side 2	11	4 uR/hr
Side 3	16	9 uR/hr
Side 4	16	9 uR/hr
Side 5	23	16 uR/hr
Side 6	24	17 uR/hr

Package Sketch



Package Surface Area [cm²] 6,912

Meter	
Manufacturer	Ludlum
Model	2929
Serial No.	208319
Cal Due Date	06/27/2023

Detector	
Manufacturer	Ludlum
Model	4340-1
Serial No.	PR215938
Cal Due Date	06/27/2023

FC Passed (Y/N)	Y
BKG Alpha (cpm)	0
Beta/Gamma (cpm)	61
300 cm² Surveyed (Y/N)	Y
Entire Package Surveyed (Y/N)	N

Measurement	Alpha				Beta/Gamma				Meets Limits
	Gross [cpm]	Net [cpm]	Swipe Efficiency	dpm/cm²	Gross [cpm]	Net [cpm]	Swipe Efficiency	dpm/cm²	
Swipe 1	2	2	0.1	0.4	63	2	0.1	0.83	AH
Swipe 2	1	1	0.1	0.2	57	–	0.1	—	AH
			0.1				0.1		
			0.1				0.1		

Labeled	AH
Surveyor Signature:	[signature]
Released	
Date:	~~17~~ 10/10/22
Time:	17:12








DISA


FedEx
Address:
364 CIRCLE DRIVE
CASPER
WY 82601
Location:
FedEx Ground
Tracking Number:
278977449573
Declared Value 0
Recipient Address:
Scheduled Delivery Date 10/13/2022
Pricing option:
STANDARD RATE
Package Information:
Your Packaging
15 x 13 x 15
Shipment subtotal: $24.95
Total Due: $24.95
We value your feedback!
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FedEx

Address: 364 CIRCLE DRIVE
CASPER
WY 82601
Location: CPRA
Device ID: -BTC01
Transaction: 940347776200

FedEx Ground
Tracking Number:
278977449673 22.35 lb (S) 24.95
Declared Value 0
Recipient Address:
eagle engineering
3341 harrison ave
Butte, MT 59701
4065339460

Scheduled Delivery Date 10/13/2022

Pricing option:
STANDARD RATE

Package Information:
Your Packaging
15 x 13 x 13

Shipment subtotal: $24.95

Total Due: $24.95

M = Weight entered manually
S = Weight read from scale
T = Taxable item

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Oct 10, 2022 5:45:56 PM


Ziploc
Ziploc
MLA
Samples


DISA
SAMPLE SUBMISSION
CHAIN OF CUSTODY
SAMPLE INFORMATION


DOCUMENTS
ENCLOSED
$18.00
$4.50

DISA

Package Survey From

Date: 10/26/2022 Time: 16:40 Surveyor Name: Andrew Halverson

Unat Specific Activity 7.1 e-7 Ci/g
Limits
Exempt: 2.7e-11 Ci/g AND 2.7e-8 Ci
Excepted: 7.1e-7 Ci/g
A1 [Ci]: Unlimited
A2 [Ci]: Unlimited
0.5 mRem/hr
~500 µR/hr
Alpha: 24 dpm/cm²
Beta: 240 dpm/cm²

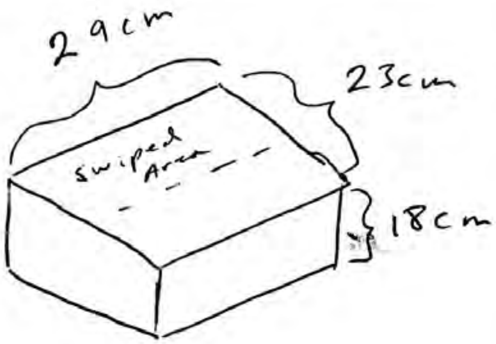
Package Description	< 3.5 lb of <200 ppm Unat soil
Package Destination	Eagle Engineering 3341 Harrison Avenue Butte, MT 59701

Contents	<200 ppm Unat Soil	Exempt (Y/N)	N
Material Specific Activity	<1.5e-10 Ci/g	UN2910 Excepted (Y/N)	Y
Contents Mass	<3.5 lb		
Contents Total Activity	< 2e-7 Ci		

Instrument	
Manufacturer	Ludlum
Model	19
Serial No.	268865
Cal Due Date	12/19/2022
FC Passed (Y/N)	Y
Background	9 µR/hr

Location	Gross	Net
Top	10	1 µR/hr
Bottom	9	—
Side 1	10	1µR/hr
Side 2	10	1µR/hr
Side 3	9	—
Side 4	11	2 µR/hr

Package Sketch



Package Surface Area [cm²] 3,206

Meter	
Manufacturer	Ludlum
Model	2929
Serial No.	208319
Cal Due Date	06/27/2023

Detector	
Manufacturer	Ludlum
Model	43-10-1
Serial No.	PR215938
Cal Due Date	06/27/2023

FC Passed (Y/N)	Y
BKG Alpha (cpm)	1
BKG Beta/Gamma	51
300 cm² Surveyed (Y/N)	Y
Entire Package Surveyed (Y/N)	N

Measurement	Alpha				Beta/Gamma				Meets Limits
	Gross [cpm]	Net [cpm]	Swipe Efficiency	dpm/cm²	Gross [cpm]	Net [cpm]	Swipe Efficiency	dpm/cm²	
Swipe 1	4	3	0.1	0.6	61	10	0.1	4.2	AH
Swipe 2	7	6	0.1	1.3	48	—	0.1	—	AH
			0.1				0.1		
			0.1				0.1		

Labeled	AH
Surveyor Signature: [signature]	
Released	
Date: 10/27/2022	
Time: 07:21	

FedEx

Address: 364 CIRCLE DRIVE
CASPER
WY 82601
Location: CPRA
Device ID: -BTC01
Transaction: 940349215667

FedEx Ground
Tracking Number:
279654595146   3.90 lb (S)   12.93
Declared Value 0
Recipient Address:
eagle
3341 harrison ave
Butte, MT 59701
8888888888

Scheduled Delivery Date 10/31/2022

Pricing option:
STANDARD RATE

Package Information:
Your Packaging
12 x 9 x 6

Shipment subtotal: $12.93

Total Due: $12.93

M = Weight entered manually
S = Weight read from scale
T = Taxable item

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Oct 27, 2022 9:19:16 AM

APPENDIX B-3
DISA LABORATORY PARTICLE SIZE DISTRIBUTION FORMS

DATA ENTERED

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-L-O-SL-01		
Date Analyzed:	09/09/2022		
Time Analyzed:	9 AM	Sampler Signature	
Original Dry Mass [g]	313.76		
Original Slurry Mass [lb]	N/A		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure: Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist: Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.65	16.95	7.30	03:38	5:01	✓	✓	CR-L-O-SL-01 +#25
50	297	9.42	31.24	78.60	07:18	5:02	✓	✓	CR-L-O-SL-01 +#50
100	149	9.65	88.25	60.52	06:54	5:03	✓	✓	CR-L-O-SL-01 +#100
140	105	9.76	70.28	48.25	10:41	5:05	✓	✓	CR-L-O-SL-01 +#140
200	74	9.87	58.12	19.00	04:14	5:06	✓	✓	CR-L-O-SL-01 +#200
270	53	9.71	28.71	76.85	07:10	5:09	✓	✓	CR-L-O-SL-01 +#270
-270	-53	2.10	78.95		N/A	5:10	✓	✓	CR-L-O-SL-01 -#270
Totals:						9/14			

MO

#50M Net mass total = 21.82

DATA Entered

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001:RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-L-4-SY PSD 1 of 3		
Date Analyzed:	09/06/2022	Sampler Signature	
Time Analyzed:	4 PM		
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	~~17.6~~ 16.4		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure: Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist: Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	4.28	19.68	5.40	03:10	8:52	✓	✓	~~CFS~~ CR-L-4-SY +# 25
50	297	9.90	39.29	29.39	06:40	8:50	✓	✓	CR-L-4-SY #50
100	149	9.29	113.50	104.21	07:20	8:50	✓	✓	CR-L-4-SY +#100
140	105	9.55	87.46	77.91	12:23	8:49	✓	✓	CR-L-4-SY +#140
200	74	9.47	61.21	51.74	04:42	8:47	✓	✓	CR-L-4-SY +#200
270	53	9.80	29.73	19.93	06:17	8:45	✓	✓	CR-L-4-SY +#270
-270	-53	2.13	31.98	29.85	N/A	9:01	✓	✓	CR-L-4-SY -#270
Totals:						9/18 mo			

organics in +25M

-270M paper weight not recorded - 2.13 considered Average wt.

2.27
219.76

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-L-4-SY PSO 2 of 3		
Date Analyzed:	09/06/2022		
Time Analyzed:	4 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	16.4		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.78	20.51	10.73	02:36	8:52	✓	✓	CR-L-4-SY +#25
50	297	9.37	53.71	44.34	05:53	8:50	✓	✓	CR-L-4-SY +#50
100	149	9.70		113.40	06:38	8:50	✓	✓	CR-L-4-SY +#100
140	105	9.67	123.10	71.78	09:59	8:49	✓	✓	CR-L-4-SY +#~~200~~140
200	74	9.57	81.45	43.19	05:29	8:47	✓	✓	CR-L-4-SY +#200
270	53	9.72	52.76	13.70	07:35	8:45	✓	✓	CR-L-4-SY +#270
-270	-53	2.14	23.42	16.53	N/A	9:01	✓	✓	CR-L-4-SY -#270
Totals:			18.67			9/8			

mo

organics in +25M

mo

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001: RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-L-4-SY PSD 3 of 3		
Date Analyzed:	09/07/2022	Sampler Signature	
Time Analyzed:	10 AM		
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	16.4		

		Wet RO-TAP Procedure				Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.88	14.85	4.97	09:53	8:52	✓	✓	CR-L-4-SY +#25
50	297	9.34	29.50	~~20.67~~ 16 mo	12:57	8:50	✓	✓	CR-L-4-SY +#50
100	149	9.41	84.79	75.38	05:56	8:50	✓	✓	CR-L-4-SY +#100
140	105	10.01	76.33	66.32	09:34	8:49	✓	✓	CR-L-4-SY +#140
200	74	9.88	62.70	52.82	04:35	8:47	✓	✓	CR-L-4-SY +#200
270	53	9.48	34.82	25.34	06:44	8:45	✓	✓	CR-L-4-SY +#270
-270	-53	2.07 mo	~~31.98~~	66.89	N/A	9:01	✓	✓	CR-L-4-SY #270
Totals:						9/8 mo			

organics in +25M & +50M

-270 wt Net MASS = 64.82

DATA ENTERED

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	R 22013-001 : RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-L-8-SY PSD 1 of 3		
Date Analyzed:	09/07/2022		
Time Analyzed:	2 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 17.0		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample ~~XRF~~	
25	707	9.55	16.58	7.03	02:25	1:56	✓	✓	CR-L-8-SY + #25
50	297	9.82	45.69	35.85	05:51	1:54	✓	✓	CR-L-8-SY + #50
100	149	9.95	125.31	115.36	05:02	1:~~49~~52	✓	✓	CR-L-8-SY + #100
140	105	9.84	95.52	85.68	08:04	1:~~49~~52	✓	✓	CR-L-8-SY + #140
200	74	10.02	64.25	54.23	06:32	1:~~48~~50	✓	✓	CR-L-8-SY + #200
270	53	9.81	32.25	22.44	09:01	1:48	✓	✓	CR-L-8-SY + #270
-270	-53	2.14	44.09	41.95	N/A	2:00	✓	✓	CR-L-8-SY - #270
Totals:						9/8 mo	~~[illegible]~~		

organics in +25M

DATA ENTERED

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-L-8-SY PSD 2of3		
Date Analyzed:	09/07/2022		
Time Analyzed:	4 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 17.0		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.53	14.24	4.71	01:30	1:56	✓	✓	CR-L-8-SY +#25
50	297	9.77	42.09	32.32	04:10	1:54	✓	✓	CR-L-8-SY + #50
100	149	9.16	119.99	110.83	06:36	1:52	✓	✓	CR-L-8-SY + #100
140	105	9.51	92.85	83.34	09:35	1:52	✓	✓	CR-L-8-SY + #140
200	74	9.47	66.22	56.75	04:06	1:50	✓	✓	CR-L-8-SY + #200
270	53	9.63	32.06	22.43	06:43	1:48	✓	✓	CR-L-8-SY + #270
-270	-53	2.05	44.84	42.79	N/A	2:00	✓	✓	CR-L-8-SY - #270
Totals:						9/8 MO			

organics in +25M

DATA ENTERED

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001: RAES TO23	Sampler Name Print	Andrew Halverson
Sample Analyzed:	GR-L-8-S4 PSD 3 of 3		
Date Analyzed:	09/07/2022		
Time Analyzed:	5 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 17.0		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.31	13.99	4.68	02:29	1:56	✓	✓	CR-L-8-S4 + #25
50	297	9.62	37.68	28.06	06:03	1:54	✓	✓	CR-L-8-S4 + #50
100	149	9.67	99.81	90.14	05:40	1:52	✓	✓	CR-L-8-S4 + #100
140	105	9.47	76.20	66.73	08:27	1:52	✓	✓	CR-L-8-S4 + #140
200	74	9.53	54.06	44.53	04:34	1:50	✓	✓	CR-L-8-S4 + #200
270	53	9.69	27.35	17.66	07:28	1:48	✓	✓	CR-L-8-S4 + #270
-270	-53	2.13	29.46	27.33	N/A	2:00	✓	✓	CR-L-8-S4 - #270
Totals:						9/8 MO			

DATA Entered

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAGS,TO33	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-L-30-SY PSD 1 of 3		
Date Analyzed:	09/08/2022		
Time Analyzed:	8 AM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 17.0		

Wet RO-TAP Procedure						Checklist			
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample ~~XRF~~	Sample Bag Label
25	707	9.69	15.08	5.39	02:35	2:15	✓	✓	CR-L-30-SY
50	297	9.43	37.88	28.45	06:48	2:16	✓	✓	CR-L-30-SY
100	149	9.65	112.02	102.37	06:07	2:18	✓	✓	CR-L-30-SY
140	105	10.40	95.80	85.40	08:35	2:19	✓	✓	CR-L-30-SY
200	74	9.79	72.50	62.71	06:13	2:22	✓	✓	CR-L-30-SY
270	53	9.81	37.48	27.67	08:42	2:23	✓	✓	CR-L-30-SY
-270	-53	2.11	76.79	+0.25	N/A	2:30	✓	✓	CR-L-30-SY
Totals:						9/12			

MO

Additional -270 Matl from CR-L-30-WT

PAN + solids 9.71

PAN = 9.46

-270 Net mass total = 74.71

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-L-30-SY PSD 2 of 3		
Date Analyzed:	09/08/2022		
Time Analyzed:	11 AM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 17.0		

Wet RO-TAP Procedure						Checklist			
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.96	14.41	4.45	01:57	2:15	✓	✓	CR-L-30-SY + #25
50	297	10.08	37.65	27.57	05:08	2:16	✓	✓	CR-L-30-SY + #50
100	149	9.35	104.51	95.16	04:27	2:18	✓	✓	CR-L-30-SY + #100
140	105	9.50	78.57	69.07	07:51	2:19	✓	✓	CR-L-30-SY + #140
200	74	9.46	55.31	45.85	05:52	2:22	✓	✓	CR-L-30-SY + #200
270	53	9.72	28.46	18.74	08:07	2:23	✓	✓	CR-L-30-SY + #270
-270	-53	2.08	mo ~~[illegible] 79~~	32.96	N/A	2:30	✓	✓	CR-L-30-SY - #270
Totals:						9/12 mo			

-270 M Net mass total = 30.88

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001: RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-L-30-SY PSD 3of3		
Date Analyzed:	09/08/2022		
Time Analyzed:	1 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Nct 17.0		

Wet RO-TAP Procedure						Checklist			
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.42	14.41	4.99	02:20	2:15	✓	✓	CR-L-30-SY + #25
50	297	9.32	39.53	30.21	06:08	2:16	✓	✓	CR-L-30-SY + #50
100	149	9.57	111.09	101.52	05:54	2:18	✓	✓	CR-L-30-SY + #100
140	105	9.39	85.47	76.08	09:20	2:19	✓	✓	CR-L-30-SY + #140
200	74	9.65	59.43	49.78	05:58	2:22	✓	✓	CR-L-30-SY + #200
270	53	9.78	29.00	19.22	07:27	2:23	✓	✓	CR-L-30-SY + #270
-270	-53	2.13	33.58	31.45	N/A	4:16 9/12	✓	✓	CR-L-30-SY - #270
Totals:						9/12			

MO

DATA ENTERED

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES T033 / 22013-001	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-M-0-SL-01		
Date Analyzed:	09/14/2022		
Time Analyzed:	11 AM	Sampler Signature	
Original Dry Mass [g]	314.55		
Original Slurry Mass [lb]	N/A		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure: Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist: Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.36	46.33	36.97	05:17	2:10	✓	✓	CR-M-0-SL-01 +#25
50	297	9.66	87.21	77.55	08:15	2:11	✓	✓	CR-M-0-SL-01 +#50
100	149	9.26	93.58	84.32	05:03	2:12	✓	✓	CR-M-0-SL-01 +#100
140	105	9.42	39.80	30.38	08:02	2:12	✓	✓	CR-M-0-SL-01 +#140
200	74	9.60	30.45	20.85	03:37	2:14	✓	✓	CR-M-0-SL-01 +#200
270	53	9.14	18.58	9.44	06:13	2:16	✓	✓	CR-M-0-SL-01 +#270
-270	-53	2.19	58.35	56.16	N/A	2:21	✓	✓	CR-M-0-SL-01 -#270
Totals:						09/19			

MD

		Tare:	Gross:	Net:
Water Buckets: (-270)	1 of 2	2.0	39.2	37.2
	2 of 2	2.0	39.2	37.2

0.45µm syringe filters

tare wt: g	wet wt g	dry wt g	
1. 2.8090	3.2037	2.8131	09/19 6AM
2. 2.8096	3.1905	2.8109	09/19 6AM
3. 2.8182	3.0602	2.8182	09/20 150pm
4. 2.8071	Not Used		
5. 2.7957	Not used		

		Tare:	Gross:	Net:
Water Buckets Post 1st filter, Pre-Recycle through pressure filter:	1 of 2	2.0	39.0	37.0
	2 of 2	2.0	39.0	37.0

		Tare:	Gross:	Net:
Water Buckets Post-Recycle:	1 of 2	2.0	40.2	38.2
	2 of 2	2.0	36.8	34.8

DATA ENTERED

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-M-4-ST PSD 1 of 3		
Date Analyzed:	09/09/2022	Sampler Signature	[signature]
Time Analyzed:	10 AM		
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 17.4		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure: Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist: Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.74	39.43	29.69	04:15	3:00	✓	✓	CR-M-4-SU +#25
50	297	9.84	133.41	123.57	07:20	3:02	✓	✓	CR-M-4-SU +#50
100	149	9.86	118.98	109.12	04:25	3:03	✓	✓	CR-M-4-SU +#100
140	105	9.73	45.45	35.72	07:31	3:10	✓	✓	CR-M-4-SU +#140
200	74	9.51	32.70	23.19	02:59	3:12	✓	✓	CR-M-4-SU +#200
270	53	9.82	20.29	10.47	05:36	3:14	✓	✓	CR-M-4-SU +#270
-270	-53	2.02	44.64	42.62	N/A	3:18	✓	✓	CR-M-4-SU -#270
Totals:						9/14 MO	~~MO~~		

DATA ENTERED

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001: RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-M-4-SY PSD 2of3		
Date Analyzed:	09/09/2022	Sampler Signature	[signature]
Time Analyzed:	12 PM		
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 17.4		

Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
		Wet RO-TAP Procedure				Checklist			
25	707	9.74	36.96	27.22	04:31	3:00	✓	✓	CR-M-4-SY +#25
50	297	9.31	131.03	121.72	07:45	3:02	✓	✓	CR-M-4-SY +#50
100	149	9.50	127.78	118.28	05:27	3:03	✓	✓	CR-M-4-SY +#100
140	105	9.54	45.67	36.13	08:57	3:10	✓	✓	CR-M-4-SY +#140
200	74	9.64	32.28	22.64	02:59	3:12	✓	✓	CR-M-4-SY +#200
270	53	9.72	20.03	10.31	05:52	3:14	✓	✓	CR-M-4-SY +#270
-270	-53	2.17	35.48	33.31	N/A	3:18	✓	✓	CR-M-4-SY -#270
Totals:						9/14			

MO

DATA Entered

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	KAES TE33 / 22013-001	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-M-4-SY PSD 3 of 3		
Date Analyzed:	09/12/2022	Sampler Signature	[signature]
Time Analyzed:	8 AM		
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 17.4		

Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
		Wet RO-TAP Procedure				Checklist			
25	707	9.77	35.34	25.57	05:27	3:00	✓	✓	CR-M-4-SY +#25
50	297	9.54	133.82	124.28	08:42	3:02	✓	✓	CR-M-4-SY +#50
100	149	9.58	MO ~~137.23~~	~~136.19~~ 135.3*	04:43	3:03	✓	✓	CR-M-4-SY +#100
140	105	9.57	51.50	41.93	07:56	3:10	✓	✓	CR-M-4-SY +#140
200	74	9.60	34.44	24.84	03:27	3:12	✓	✓	CR-M-4-SY +#200
270	53	9.58	20.23	10.65	06:05	3:14	✓	✓	CR-M-4-SY +#270
-270	-53	2.11	35.35	33.24	N/A	3:18	✓	✓	CR-M-4-SY -#270
Totals:						9/14 MO			

* by BACKCALC → DRY MASS TOTAL

Sample wet when removed initially from oven

↳ total 100M recovered = 353.13g

bag wt 2.43g

bag + sample 355.56g

100M Net mass total = 125.73g

DATA ENTERED

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-M-8-SY PSD 2 of 4		
Date Analyzed:	09/12/2022		
Time Analyzed:	11 AM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 18.8		

Wet RO-TAP Procedure						Checklist			Sample Bag Label	
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF		
25	707	9.80	42.21	32.41	03:39	5:09	✓	✓	CR-M-8-SY	+#25
50	297	9.69	114.25	~~124.56~~	06:09	5:10	✓	✓	CR-M-8-SY	+#50
100	149	9.89	136.16	126.27	04:40	5:12	✓	✓	CR-M-8-SY	+#100
140	105	9.79	52.50	42.71	07:18	5:11	✓	✓	CR-M-8-SY	+#140
200	74	9.51	31.29	21.78	03:10	5:14	✓	✓	CR-M-8-SY	+#200
270	53	9.82	19.56	9.74	05:35	5:15	✓	✓	CR-M-8-SY	+#270
-270	-53	2.08	40.26	38.18	N/A	4:45	✓	✓	CR-M-8-SY	-#270
Totals:						9/14				

#50 Net MASS total = 104.56 MD

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001: RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-M-8-SY PCO 2 of 4		
Date Analyzed:	09/12/2022		
Time Analyzed:	2 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 18.8		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.32	70.71	61.39	03:36	5:09	✓	✓	CR-M-8-SY + #25
50	297	9.68	123.53	113.85	06:24	5:10	✓	✓	CR-M-8-SY + #50
100	149	9.69	79.88	70.19	03:37	5:12	✓	✓	CR-M-8-SY + #100
140	105	9.78	28.34	18.56	05:59	5:11	✓	✓	CR-M-8-SY + #140
200	74	9.83	23.65	13.82	02:10	5:14	✓	✓	CR-M-8-SY + #200
270	53	9.81	16.87	7.06	03:40	5:15	✓	✓	CR-M-8-SY + #270
-270	-53	2.11	26.97	24.86	N/A	4:45	✓	✓	CR-M-8-SY - #270
Totals:						9/14			

MO

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001: RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-M-8-SY PSD 3 of 4		
Date Analyzed:	09/12/2022		
Time Analyzed:	2:40 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 18.8		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure: Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist: Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.35	54.07	44.72	03:34	5:09	✓	✓	CR-M-8-SY +#25
50	297	9.67	151.16	141.49	07:25	5:10	✓	✓	CR-M-8-SY +#50
100	149	9.53	113.37	103.84	04:28	5:12	✓	✓	CR-M-8-SY +#100
140	105	9.55	34.91	25.36	07:37	5::11	✓	✓	CR-M-8-SY +#140
200	74	9.71	25.22	15.51	02:24	5:14	✓	✓	CR-M-8-SY +#200
270	53	9.58	17.25	7.67	04:23	5:15	✓	✓	CR-M-8-SY +#270
-270	-53	2.09	28.01	25.92	N/A	4:45	✓	✓	CR-M-8-SY -#270
Totals:						9/14 MO			

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-M-8-SY PSD 4 of 4		
Date Analyzed:	09/13/2022		
Time Analyzed:	8 AM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 18.8		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure: Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist: Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.77	36.47	26.70	04:02	5:09	✓	✓	CR-M-8-SY +#25
50	297	9.33	112.96	103.63	07:04	5:10	✓	✓	CR-M-8-SY +#50
100	149	9.57	119.78	110.21	04:43	5:12	✓	✓	CR-M-8-SY +#100
140	105	9.36	48.40	39.04	08:29	5:11	✓	✓	CR-M-8-SY +#140
200	74	9.78	35.38	25.60	03:38	5:14	✓	✓	CR-M-8-SY +#200
270	53	9.41	20.52	11.11	05:30	5:15	✓	✓	CR-M-8-SY +#270
-270	-53	2.06	44.35	42.29	N/A	4:45	✓	✓	CR-M-8-SY -#270
Totals:						9/14 MO			

DATA ENTERED

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-M-30-SY PSD 1of4		
Date Analyzed:	09/13/2022		
Time Analyzed:	3 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 18.2		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure: Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist: Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.27	30.96	21.69	09:30	10:23	✓	✓	CR-M-30-SY +#25
50	297	9.70	95.34	85.64	12:03	10:26	✓	✓	CR-M-30-SY +#50
100	149	9.79	99.18	89.39	04:04	10:27	✓	✓	CR-M-30-SY +#100
140	105	9.55	36.74	27.19	07:13	10:28	✓	✓	CR-M-30-SY +#140
200	74	9.15	27.19	18.04	02:34	10:30	✓	✓	CR-M-30-SY +#200
270	53	9.51	18.30	8.79	04:52	10:31	✓	✓	CR-M-30-SY +#270
-270	-53	2.07	90.19	88.12	N/A	11:50	✓	✓	CR-M-30-SY -#270
Totals:						9/15	9/19		

MD

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-M-30-ST PSD 2 of 4		
Date Analyzed:	~~09/14/2022~~ 09/14/2022		
Time Analyzed:	7 AM	Sampler Signature	
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 18.2		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.48	42.90	33.42	03:24	10:23	✓	✓	CR-M-30-SY +#25
50	297	9.20	129.41	120.21	06:08	10:26	✓	✓	CR-M-30-SY +#50
100	149	9.52	123.86	114.34	05:27	10:27	✓	✓	CR-M-30-SY +#100
140	105	9.49	48.18	38.69	08:06	10:28	✓	✓	CR-M-30-SY +#140
200	74	9.57	34.52	24.95	02:44	10:30	✓	✓	CR-M-30-SY +#200
270	53	9.74	20.92	11.18	04:52	10:31	✓	✓	CR-M-30-SY +#270
-270	-53	2.12	35.18	33.06	N/A	11:50	✓	✓	CR-M-30-SY -#270
Totals:						9/15	9/19		

MO

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 ! AAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-M-30-SY PSD 3 of 4		
Date Analyzed:	09/14/2022		
Time Analyzed:	7:30 AM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 18.2		

Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
		Wet RO-TAP Procedure				Checklist			
25	707	9.60	39.82	30.22	03:43	10:23	✓	✓	CR-M-30-SY +#25
50	297	9.19	101.41	92.22	07:00	10:26	✓	✓	CR-M-30-SY +#50
100	149	9.23	94.76	85.53	03:22	10:27	✓	✓	CR-M-30-SY +#100
140	105	9.31	35.77	26.46	05:57	10:28	✓	✓	CR-M-30-SY +#140
200	74	9.66	27.58	17.92	02:27	10:30	✓	✓	CR-M-30-SY +#200
270	53	9.24	16.67	7.43	04:41	10:31	✓	✓	CR-M-30-SY +#270
-270	-53	2.14	20.66	18.52	N/A	11:50 9/19	✓	✓	CR-M-30-SY -#270
Totals:						9/15			

MO

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001: RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-M-30-SY PSD 4 of 4		
Date Analyzed:	09/14/2022		
Time Analyzed:	8:30 AM	Sampler Signature	[illegible]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 18.2		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.53	24.64	15.11	03:06	10:23	✓	✓	CR-M-30-SY
50	297	9.73	83.19	73.46	06:08	10:26	✓	✓	CR-M-30-SY
100	149	9.74	93.74	84.00	04:24	10:27	✓	✓	CR-M-30-SY
140	105	10.06	38.06	28.00	07:15	10:28	✓	✓	CR-M-30-SY
200	74	9.82	28.38	18.56	02:54	10:30	✓	✓	CR-M-30-SY
270	53	9.35	17.61	8.26	05:43	10:31	✓	✓	CR-M-30-SY
-270	-53	2.06	MO ~~34.27~~	31.54	N/A	11:50 9/19	✓	✓	CR-M-30-SY
Totals:			33.60			9/15 MO			

DATA ENTERED

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	220013-001: RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-H-0-SL-01		
Date Analyzed:	09/19/2022		
Time Analyzed:	5 PM	Sampler Signature	[signature]
Original Dry Mass [g]	434.58		
Original Slurry Mass [lb]	N/A		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.72	93.32	83.60	See Note	2:50	✓	✓	CR-H-0-SL-01 + #25
50	297	9.19	148.38	139.19	See Note	2:54	✓	✓	CR-H-0-SL-01 + #50
100	149	9.46	101.71	92.25	03:47	2:55	✓	✓	CR-H-0-SL-01 + #100
140	105	9.31	30.44	21.13	06:27	2:56	✓	✓	CR-H-0-SL-01 + #140
200	74	9.65	24.52	14.87	03:01	2:57	✓	✓	CR-H-0-SL-01 + #200
270	53	9.37	18.56	9.19	04:28	2:57	✓	✓	CR-H-0-SL-01 + #270
-270	-53	2.19	74.16	71.97	N/A	3:04	✓	✓	CR-H-0-SL-01 - #270
Totals:						09/20			

Note: Breaker tripped. No accurate time recorded for +25 & +50 mesh MQ

DATA ENTERED

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-H-4-SY ISD 2 of 5		
Date Analyzed:	09/15/2022		
Time Analyzed:	1:30 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 19.8		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.65	87.46	77.81	02:59	2:53	✓	✓	CR-H-4-SY +#25
50	297	9.60	146.66	137.06	06:41	2:54	✓	✓	CR-H-4-SY +#50
100	149	9.48	97.07	87.~~059~~	04:12	2:55	✓	✓	CR-H-4-SY +#100
140	105	9.42	25.84	16.42	06:18	2:56	✓	✓	CR-H-4-SY +#140
200	74	9.55	21.12	11.57	02:21	2:57	✓	✓	CR-H-4-SY +#200
270	53	9.88	16.05	6.17	04:42	2:59	✓	✓	CR-H-4-SY +#270
-270	-53	2.05	31.63	29.58	N/A	12:09	✓	✓	CR-H-4-SY -#270
Totals:						09/19			

MO

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-H-4-SY PSD 2 of 5		
Date Analyzed:	09/16/2022		
Time Analyzed:	11 AM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 19.8		

Wet RO-TAP Procedure						Checklist			
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.51	65.40	55.89	03:32	2:53	✓	✓	CR-H-4-SY + #25
50	297	9.48	132.54	123.06	06:34	2:54	✓	✓	CR-H-4-SY + #50
100	149	9.60	70.13	60.53	03:17	2:55	✓	✓	CR-H-4-SY + #100
140	105	9.38	20.78	11.40	05:08	2:56	✓	✓	CR-H-4-SY + #140
200	74	9.53	17.77	8.24	02:01	2:57	✓	✓	CR-H-4-SY + #200
270	53	9.75	14.62	4.87	03:25	2:59	✓	✓	CR-H-4-SY + #270
-270	-53	2.17	21.61	19.44	N/A	12:09	✓	✓	CR-H-4-SY - #270
Totals:						09/19			

MO

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-0018 RAEST033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-H-4-SY PSD 3 of 5		
Date Analyzed:	09/16/2022		
Time Analyzed:	3:40 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 19.8		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure: Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist: Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.55	96.59	87.04	04:48	2:53	✓	✓	CR-H-4-SY +#25
50	297	9.36	211.30	201.94	07:45	2:54	✓	✓	CR-H-4-SY +#50
100	149	9.65	110.38	100.73	04:14	2:55	✓	✓	CR-H-4-SY +#100
140	105	9.24	28.10	18.86	06:43	2:56	✓	✓	CR-H-4-SY +#140
200	74	9.26	21.01	11.75	02:10	2:57	✓	✓	CR-H-4-SY +#200
270	53	9.84	15.96	6.12	03:52	2:59	✓	✓	CR-H-4-SY +#270
-270	-53	2.10	28.84	26.74	N/A	12:09	✓	✓	CR-H-4-SY -#270
Totals:						09/19			

MO

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001: RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-H-4-SY PSD 4 of 5		
Date Analyzed:	09/16/2022		
Time Analyzed:	4:40 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 19.8		

Wet RO-TAP Procedure						Checklist			
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.61	66.59	56.98	03:40	2:53	✓	✓	CR-H-4-SY
50	297	9.92	110.33	100.41	06:57	2:54	✓	✓	CR-H-4-SY
100	149	9.34	87.17	77.83	03:50	2:55	✓	✓	CR-H-4-SY
140	105	9.42	25.08	15.66	05:50	2:56	✓	✓	CR-H-4-SY
200	74	9.50	17.78	8.28	01:42	2:57	✓	✓	CR-H-4-SY
270	53	9.30	13.51	4.21	03:36	2:59	✓	✓	CR-H-4-SY
-270	-53	2.17	15.72	13.55	N/A	12:09	✓	✓	CR-H-4-SY
Totals:						09/19			

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DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001: RAES TO33	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-H-4-SY PSD 5 of 5		
Date Analyzed:	09/16/2022		
Time Analyzed:	5:30 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 19.8		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure: Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist: Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.65	70.07	60.42	03:32	2:53	✓	✓	CR-H-4-SY + #25
50	297	9.44	135.08	125.64	07:22	2:54	✓	✓	CR-H-4-SY + #50
100	149	9.66	77.91	68.25	03:22	2:55	✓	✓	CR-H-4-SY + #100
140	105	9.92	21.82	11.90	06:20	2:56	✓	✓	CR-H-4-SY + #140
200	74	9.73	16.20	6.47	02:35	2:57	✓	✓	CR-H-4-SY + #200
270	53	9.46	12.40	2.94	04:58	2:59	✓	✓	CR-H-4-SY + #270
-270	-53	2.14	10.75	8.61	N/A	12:09	✓	✓	CR-H-4-SY - #270
Totals:						9/19			

MO

DATA ENTERED

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-H-8-SY PSD 1 of 5		
Date Analyzed:	09/17/2022		
Time Analyzed:	4 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 18.8		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.51	76.08	66.57	02:31	1:49	✓	✓	CR-H-8-SY +#25
50	297	9.24	136.05	126.81	05:34	1:47	✓	✓	CR-H-8-SY +#50
100	149	9.78	84.88	75.10	03:12	1:47	✓	✓	CR-H-8-SY +#100
140	105	9.69	25.02	15.33	05:24	1:40	✓	✓	CR-H-8-SY +#140
200	74	9.13	18.75	9.62	01:49	1:39	✓	✓	CR-H-8-SY +#200
270	53	9.50	14.80	5.30	03:15	1:38	✓	✓	CR-H-8-SY +#270
-270	-53	2.14	46.73	44.59	N/A	1:36	✓	✓	CR-H-8-SY -#270
Totals:						9/20			

MO

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001: RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-H-8-SY PSP 2 of 5		
Date Analyzed:	09/17/2022		
Time Analyzed:	4:30 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 18.8		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.29	107.62	98.33	04:09	1:49	✓	✓	CR-H-8-SY +#25
50	297	9.72	202.26	192.54	07:06	1:47	✓	✓	CR-H-8-SY +#50
100	149	9.58	111.90	102.32	03:03	1:47	✓	✓	CR-H-8-SY +#100
140	105	9.44	27.51	18.07	05:09	1:40	✓	✓	CR-H-8-SY +#140
200	74	9.86	19.81	9.95	01:54	1:39	✓	✓	CR-H-8-SY +#200
270	53	9.37	14.76	5.39	03:33	1:38	✓	✓	CR-H-8-SY +#270
-270	-53	2.18	21.10	18.92	N/A	1:56	✓	✓	CR-H-8-SY -#270
Totals:						9/20			

MO

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001: RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-H-8-SY PSD 30±5		
Date Analyzed:	09/17/2022		
Time Analyzed:	5 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 18.8		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.40	88.53	79.13	03:19	1:49	✓	✓	CR-H-8-SY
50	297	9.59	142.12	132.53	06:10	1:41	✓	✓	CR-H-8-SY
100	149	9.16	81.58	72.42	03:25	1:41	✓	✓	CR-H-8-SY
140	105	9.52	23.63	14.11	05:19	1:40	✓	✓	CR-H-8-SY
200	74	9.64	18.78	9.14	02:03	1:39	✓	✓	CR-H-8-SY
270	53	9.33	14.22	4.89	03:36	1:38	✓	✓	CR-H-8-SY
-270	-53	2.12	17.33	15.21	N/A	1:86	✓	✓	CR-H-8-SY
Totals:						9/20			

MO

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001; RAES To33	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-H-8-SY PSD 4of5		
Date Analyzed:	09/17/2022		
Time Analyzed:	5:30 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 18.8		

Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
	Wet RO-TAP Procedure					Checklist			
25	707	9.50	70.17	60.67	02:46	1:49	✓	✓	CR-H-8-SY +#25
50	297	9.27	103.36	94.09	05:56	1:47	✓	✓	CR-H-8-SY +#50
100	149	9.35	64.89	55.54	02:57	1:47	✓	✓	CR-H-8-SY +#100
140	105	9.51	20.68	11.17	04:34	1:40	✓	✓	CR-H-8-SY +#140
200	74	9.27	16.98	7.63	01:41	1:39	✓	✓	CR-H-8-SY +#200
270	53	9.30	13.36	4.06	03:04	1:38	✓	✓	CR-H-8-SY +#270
-270	-53	2.09	16.78	14.69	N/A	1:56	✓	✓	CR-H-8-SY -#270
Totals:						9/20			

MO

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	~~00~~ CR-H-8-SY PSO 5of5		
Date Analyzed:	09/19/2022		
Time Analyzed:	8:30 AM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 18.8		

Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
		Wet RO-TAP Procedure				Checklist			
25	707	9.38	85.14	75.76	02:52	1:49	✓	✓	CR-H-8-SY + #25
50	297	9.43	122.56	113.13	05:35	1:47	✓	✓	CR-H-8-SY + #50
100	149	9.92 MO	~~75.53~~	~~74.80~~	02:58	1:47	✓	✓	CR-H-8-SY + #100
140	105	9.67	22.96	13.29	05:08	1:40	✓	✓	CR-H-8-SY + #140
200	74	9.55 MO	~~22.96~~	7.62	02:03	1:39	✓	✓	CR-H-8-SY + #200
270	53	9.98	14.43	4.45	03:12	1:38	✓	✓	CR-H-8-SY + #270
-270	-53	2.15	14.16	12.01	N/A	1:56	✓	✓	CR-H-8-SY - #270
Totals:						~~5/2~~ 09/20 MO			

100M TAKEN out before DRY - HAD TO BACK calc

PAN wt : 9.92g

TOTAL wt : 380.18

100M Dry MASS total = ~~84.72~~ MO 74.80

200M Dry MASS total = 17.17

100M Net MASS total = 64.88

DATA ENTERED

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-H-30-SY ISP 2of4		
Date Analyzed:	09/19/2022		
Time Analyzed:	11:40	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 18.8		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.46	34.53	25.07	03:07	5:05	✓	✓	CR-H-30-SY + #25
50	297	9.75	115.41	105.66	06:33	5:06	✓	✓	CR-H-30-SY + #50
100	149	9.54	101.11	91.57	02:31	5:07	✓	✓	CR-H-30-SY + #100
140	105	9.38	29.43	20.05	04:45	5:08	✓	✓	CR-H-30-SY + #140
200	74	9.42	22.74	13.32	01:48	5:10	✓	✓	CR-H-30-SY + #200
270	53	9.12	16.55	7.43	03:18	5:11	✓	✓	CR-H-30-SY + #270
-270	-53	2.12	88.36	86.24	N/A	3:16	9/20 ✓	✓	CR-H-30-SY - #270
Totals:						9/27			

MO

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 – DAES TO33	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-H-30-SY PSD 2 of 4		
Date Analyzed:	09/19/2022		
Time Analyzed:	2 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 18.8		

		Wet RO-TAP Procedure				Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.58	44.12	34.54	02:39	4:59	✓	–	CR-H-30-SY + #25
50	297	9.23	150.58	141.35	05:17	5:00	✓	–	CR-H-30-SY + #50
100	149	9.49	113.86	104.37	05:23	5:01	✓	–	CR-H-30-SY + #100
140	105	9.66	33.58	23.92	05:45	5:02	✓	–	CR-H-30-SY + #140
200	74	9.75	22.98	13.23	02:43	5:04	✓	–	CR-H-30-SY + #200
270	53	9.71	17.28	7.57	04:30	5:04	✓	–	CR-H-30-SY + #270
-270	-53	2.15	40.35	38.20	N/A	3:16 9/20	✓	–	CR-H-30-SY - #270
Totals:									

MO

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001: RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-H-30-SY PSD 3 of 4		
Date Analyzed:	09/19/2022	Sampler Signature	[signature]
Time Analyzed:	2:30 PM		
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 18.8		

Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
		Wet RO-TAP Procedure				Checklist			
25	707	9.17	45.84	36.67	03:35	4:44	✓	✓	CR-H-30-SY +#25
50	297	9.49	120.88	111.39	07:03	4:44	✓	✓	CR-H-30-SY +#50
100	149	9.25	88.60	79.35	03:02	4:46	✓	✓	CR-H-30-SY +#100
140	105	9.40	24.69	15.29	05:08	4:47	✓	✓	CR-H-30-SY +#140
200	74	9.61	20.84	11.23	02:02	4:48	✓	✓	CR-H-30-SY +#200
270	53	9.60	16.04	6.44	04:02	4:49	✓	✓	CR-H-30-SY +#270
-270	-53	2.03	21.20	19.17	N/A	3:16 9/20	✓	✓	CR-H-30-SY -#270
Totals:									

MO

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001: RAES T023	Sampler Name Print	Andrew Halverson
Sample Analyzed:	CR-H-30-SY PSD 4 of 4		
Date Analyzed:	09/19/2022	Sampler Signature	[signature]
Time Analyzed:	3 PM		
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 18.8		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.39	62.10	52.71	02:49	4:31	✓	✓	CR-H-30-SY +#25
50	297	9.81	156.90	147.09	06:35	4:32	✓	✓	CR-H-30-SY +#50
100	149	9.11	102.43	93.32	04:01	4:33	✓	✓	CR-H-30-SY +#100
140	105	9.38	30.22	20.84	06:10	4:34	✓	✓	CR-H-30-SY +#140
200	74	9.39	22.29	12.90	03:07	4:35	✓	✓	CR-H-30-SY +#200
270	53	9.71	17.21	7.50	05:17	4:35	✓	✓	CR-H-30-SY +#270
-270	-53	2.17	26.03	23.86	N/A	2:16 9/20	✓	✓	CR-H-30-SY -#270
Totals:									

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DATA ENTERED

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001:RAESTO33	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-L-0-SL-01		
Date Analyzed:	09/29/2022		
Time Analyzed:	6:30 PM	Sampler Signature	[signature]
Original Dry Mass [g]	369.19		
Original Slurry Mass [lb]	N/A		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.39	61.69	52.30	04:37	2:24 PM	✓	✓	QV-L-0-SL-01 +#25
50	297	9.71	99.38	89.67	07:52	2:26	✓	✓	QV-L-0-SL-01 +#50
100	149	9.59	112.45	102.86	04:25	2:27	✓	✓	QV-L-0-SL-01 +#100
140	105	9.12	39.56	30.44	07:30	2:29	✓	✓	QV-L-0-SL-01 +#140
200	74	9.50	24.85	15.33	02:57	2:31	✓	✓	QV-L-0-SL-01 +#200
270	53	9.64	18.31	8.67	05:07	2:32	✓	✓	QV-L-0-SL-01 +#270
-270	-53	2.09	70.81	68.72	N/A	2:34	✓	✓	QV-L-0-SL-01 -#270
Totals:						10/02			

AH

DATA ENTERED

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001: RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-L-4-SY PSD 1 of 3		
Date Analyzed:	09/20/2022	Sampler Signature	
Time Analyzed:	10 AM		
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	NCT 17.0		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	8.92	33.65	24.73	02:53	5:14	✓	✓	QV-L-4-SY +#25
50	297	8.58	115.29	106.71	05:55	5:15	✓	✓	QV-L-4-SY +#50
100	149	9.00	122.68	113.68	04:49	5:30	✓	✓	QV-L-4-SY +#100
140	105	9.25	43.23	33.98	07:28	5:31	✓	✓	QV-L-4-SY +#140
200	74	8.50	26.03	17.53	03:01	5:33	✓	✓	QV-L-4-SY +#200
270	53	8.73	17.46	8.73	04:43	5:36	✓	✓	QV-L-4-SY +#270
-270	-53	2.14	38.48	36.34	N/A	12:56 PM	✓	✓	QV-L-4-SY -#270
Totals:						09/29 MO			

10/01 AH

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES TO33	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-L- 4-SY PSD 2 of 3		
Date Analyzed:	09/20/2022		
Time Analyzed:	11 AM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 17.0		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.28	58.07	48.79	03:49	5:14	✓	✓	QV-L-4-SY +#25
50	297	9.77	161.98	152.21	07:35	5:15	✓	✓	QV-L-4-SY +#50
100	149	9.21	154.15	14494	03:58	5:30	✓	✓	QV-L-4-SY +#100
140	105	9.38	49.79	40.41	07:35	5:31	✓	✓	QV-L-4-SY +#140
200	74	9.36	28.72	19.36	03:01	5:33	✓	✓	QV-L-4-SY +#200
270	53	9.67	19.31	9.64	05:12	5:36	✓	✓	QV-L-4-SY +#270
-270	-53	2.08	25.11	23.03	N/A	12:41m	✓	✓	QV-L-4-SY -#270
Totals:						9/27 MO			

10/01 AM

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001: RA ES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-L-4-SY PSD 3 of 3		
Date Analyzed:	09/22/2022	Sampler Signature	[signature]
Time Analyzed:	8:30 AM		
Original Dry Mass [g]	NCH		
Original Slurry Mass [lb]	Net 17.6		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.74	27.78	18.04	05:36	S:14	✓	✓	QV-L-4-SY +#25
50	297	9.51	95.05	85.54	09:11	S:15	✓	✓	QV-L-4-SY +#50
100	149	9.17	112.45	103.28	06:51	S:30	✓	✓	QV-L-4-SY +#100
140	105	9.65	40.69	31.04	10:07	S:31	✓	✓	QV-L-4-SY +#140
200	74	9.70	22.41	12.71	02:51	5:33	✓	✓	QV-L-4-SY +#200
270	53	9.59	13.85	4.26	05:23	5:36	✓	✓	QV-L-4-SY +#270
-270	-53	2.15	59.95	57.80	N/A	12:36PM	✓	✓	QV-L-4-SY -#270
Totals:									

MO

10/01 AM

DATA ENTERED

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001: RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-L-8-SY PSD 1 of 4		
Date Analyzed:	09/28/2022		
Time Analyzed:	1 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 19.8		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure: Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist: Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	8.36	48.47	40.11	03:35	7:30 PM	✓	✓	QV-L-8-SY +#25
50	297	9.13	115.14	106.01	06:32	7:31	✓	✓	QV-L-8-SY +#50
100	149	8.78	125.48	116.70	05:36	7:33	✓	✓	QV-L-8-SY +#100
140	105	8.63	41.94	33.81	07:42	7:35	✓	✓	QV-L-8-SY +#140
200	74	9.16	23.03	~~7.77~~ 13.87	02:21	7:36	✓	✓	QV-L-8-SY +#200
270	53	8.41	16.18	7.77	04:30	7:38	✓	✓	QV-L-8-SY +#270
-270	-53	2.08	74.40	72.32	N/A	9:26	✓	✓	QV-L-8-SY -#270
Totals:						10/03 MO			

10/01
AH

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001; RAES7033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-L-8-SY PSD 2of4		
Date Analyzed:	09/28/2022		
Time Analyzed:	4:30 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	wet 14.8		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure: Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist: Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	8.94	41.81	32.87	03:19	7:42pm	✓	✓	QV-L-8-SY +#25
50	297	8.92	108.90	99.98	06:51	7:43	✓	✓	QV-L-8-SY +#50
100	149	8.28	115.66	107.38	04:49	7:45	✓	✓	QV-L-8-SY +#100
140	105	8.62	37.78	29.16	06:38	7:46	✓	✓	QV-L-8-SY +#140
200	74	8.50	22.76	14.26	~~05:48~~ 02:48	7:48	✓	✓	QV-L-8-SY +#200
270	53	8.85	16.22	7.37	04:21	7:50	✓	✓	QV-L-8-SY +#270
-270	-53	2.09	30.92	28.83	N/A	1:52pm	✓	✓	QV-L-8-SY -#270
Totals:									

10/02 AH

10/02 AH

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES to33	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-L-8-SY PSD 3 of 4		
Date Analyzed:	09/28/2022		
Time Analyzed:	5:15 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	net 19.8		

Wet RO-TAP Procedure						Checklist			Sample Bag Label	
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF		
25	707	8.89	46.01	37.12	07:37	7:54 PM	✓	✓	QV-L-8-SY	+ #25
50	297	8.57	143.65	135.08	06:47	7:55	✓	✓	QV-L-8-SY	+ #50
100	149	8.79	135.65	126.86	05:16	7:57	✓	✓	QV-L-8-SY	+ #100
140	105	9.18	43.89	34.71	07:42	7:59	✓	✓	QV-L-8-SY	+ #140
200	74	8.80	25.69	16.89	02:33	8:01	✓	✓	QV-L-8-SY	+ #200
270	53	9.15	16.48	7.33	03:59	8:03	✓	✓	QV-L-8-SY	+ #270
-270	-53	2.13	20.06	17.93	N/A	1:54 PM	✓	✓	QV-L-8-SY	- #270
Totals:										

10/02 AH

10/02 AH

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAEST033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-L-8-SY PSD 4 of 4		
Date Analyzed:	09/28/2022		
Time Analyzed:	6:15 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 19.8		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.19	49.58	40.39	04:15	8:06 PM	✓	✓	QV-L-8-SY +#25
50	297	9.83	144.81	135.98	07:23	8:07	✓	✓	QV-L-8-SY +#50
100	149	8.86	137.66	128.80	04:19	8:09	✓	✓	QV-L-8-SY +#100
140	105	8.78	44.36	35.58	06:49	8:11	✓	✓	QV-L-8-SY +#140
200	74	9.08	25.90	16.82	01:59	8:16	✓	✓	QV-L-8-SY +#200
270	53	9.11	16.79	7.63	03:31	8:18	✓	✓	QV-L-8-SY +#270
-270	-53	2.06	24.62	22.56	N/A	1:57	✓	✓	QV-L-8-SY -#270
Totals:									

10/02 AH

10/02 AH

DATA ENTERED

DISA

Exibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAEST033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-L-30-SY PSD 1 of 4		
Date Analyzed:	09/29/2022	Sampler Signature	[signature]
Time Analyzed:	? AM		
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Wet 186		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure: Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist: Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	8.00	30.07	~~80~~22.07	03:19	8:32PM	✓	✓	QV-L-30-SY +#25
50	297	8.47	108.90	100.43	06:50	8:34	✓	✓	QV-L-30-SY +#50
100	149	8.41	113.86	105.45	03:18	8:35	✓	✓	QV-L-30-SY +#100
140	105	8.38	37.09	28.71	05:33	8:37	✓	✓	QV-L-30-SY +#140
200	74	9.34	23.25	13.91	02:27	8:39	✓	✓	QV-L-30-SY +#200
270	53	9.69	16.26	6.57	04:01	8:41	✓	✓	QV-L-30-SY +#270
-270	-53	2.16	108.72	106.56	N/A	9:00	✓	✓	QV-L-30-SY -#270
Totals:						MD			

10/02 AH

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001:RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-L-30-SY PSD 2 of 4		
Date Analyzed:	09/29/2022	Sampler Signature	[signature]
Time Analyzed:	9 AM		
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 18.6		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	8.71	55.24	46.53	02:37	8:45 PM	✓	—	QV-L-30-SY +#25
50	297	8.39	121.15	112.76	05:41	8:46	✓	—	QV-L-30-SY +#50
100	149	8.79	131.14	122.35	04:12	8:48	✓	✓	QV-L-30-SY +#100
140	105	8.42	47.45	39.03	06:51	8:50	✓	—	QV-L-30-SY +#140
200	74	8.62	27.50	18.88	02:08	8:53	✓	—	QV-L-30-SY +#200
270	53	8.76	17.36	8.60	04:13	8:55	✓	—	QV-L-30-SY +#270
-270	-53	2.10	28.69	26.59	N/A	2:05 PM	✓	—	QV-L-30-SY -#270
Totals:									

10/02 AM

10/02 AM

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAEST053/22013-001	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-L-30-SY PSD 3of4		
Date Analyzed:	09/29/2022		
Time Analyzed:	2 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 18.6		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	8.94	32.12	23.18	02:29	9 PM	✓	✓	QV-L-30-SY +#25
50	297	9.58	132.06	122.48	05:05	9:01	✓	✓	QV-L-30-SY +#50
100	149	8.45	144.29	135.84	03:28	9:03	✓	✓	QV-L-30-SY +#100
140	105	8.58	44.78	36.20	05:59	9:06	✓	✓	QV-L-30-SY +#140
200	74	9.17	26.99	17.82	02:04	9:09	✓	✓	QV-L-30-SY +#200
270	53	8.42	16.87	8.45	04:04	9:10	✓	✓	QV-L-30-SY +#270
-270	-53	2.14	24.67	22.53	N/A	2:08PM	✓	✓	QV-L-30-SY -#270
Totals:									

10/02 AM

10/02 AM

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES TO33	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-L-30-SY 1504 of 4		
Date Analyzed:	09/29/2022		
Time Analyzed:	2:30 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 18.6		

Wet RO-TAP Procedure						Checklist			Sample Bag Label	
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF		
25	707	8.84	37.32	28.48	03:01	9:14PM	✓	✓	QV-L-30-SY	+#25
50	297	8.91	94.36	85.45	05:36	9:15	✓	✓	QV-L-30-SY	+#50
100	149	8.86	113.96	107.10	04:10	9:17	✓	✓	QV-L-30-SY	+#100
140	105	8.95	41.50	32.55	06:33	9:19	✓	✓	QV-L-30-SY	+#140
200	74	8.97	25.38	16.41	02:08	9:21	✓	✓	QV-L-30-SY	+#200
270	53	9.21	16.74	7.53	04:06	9:22	✓	✓	QV-L-30-SY	+#270
-270	-53	2.06	27.63	25.57	N/A	2:11PM	✓	✓	QV-L-30-SY	-#270
Totals:										

10/02 AH

10/01 AH

DATA ENtereD

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-M-0-SL-01		
Date Analyzed:	10/02/2022		
Time Analyzed:	12 PM	Sampler Signature	[signature]
Original Dry Mass [g]	382.11		
Original Slurry Mass [lb]	N/A		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure: Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist: Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	8.87	105.36	56.49	04:05	10:19	✓	✓	QV-M-0-SL-01 +#25
50	297	8.67	123.56	114.89	07:17	10:21	✓	✓	QV-M-0-SL-01 +#50
100	149	8.66	95.92	87.26	03:54	10:22	✓	✓	QV-M-0-SL-01 +#100
140	105	8.86	34.62	25.76	05:59	10:24	✓	✓	QV-M-0-SL-01 +#140
200	74	8.75	21.21	12.46	04:05	10:25	✓	✓	QV-M-0-SL-01 +#200
270	53	8.98	17.04	8.06	06:31	10:26	✓	✓	QV-M-0-SL-01 +#270
-270	-53	2.11	76.98	74.87	N/A	9:27 10/04	✓	✓	QV-M-0-SL-01 -#270
Totals:						10/03			

MO

DATA ENTERED

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 :RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-M-4-SY PSD 1 of 4		
Date Analyzed:	09/30/2022		
Time Analyzed:	12:30 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 20.0		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	8.91	113.04	104.13	04:37	2:47PM	✓	✓	QV-M-4-Sy +#25
50	297	8.81	163.01	154.20	07:51	2:49	✓	✓	QV-M-4-Sy +#50
100	149	8.56	120.19	111.63	03:05	2:50	✓	✓	QV-M-4-Sy +#100
140	105	8.79	32.85	24.06	04:38	2:51	✓	✓	QV-M-4-Sy +#140
200	74	8.60	20.35	11.75	01:35	2:53	✓	✓	QV-M-4-Sy +#200
270	53	8.81	15.27	6.46	07:28	2:54	✓	✓	QV-M-4-Sy +#270
-270	-53	2.18	28.41	26.23	N/A	8:27 10/3 MO	✓	✓	QV-M-4-Sy -#270
Totals:									

10/02 AM

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001: RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-M-4-SY PSP 2 of 4		
Date Analyzed:	09/30/2022		
Time Analyzed:	~~3 PM~~ 4 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 20.0		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	8.84	67.85	59.01	03:15	2:58 PM	✓	✓	QV-M-4-SY +#25
50	297	9.28	152.04	142.76	05:48	2:59	✓	✓	QV-M-4-SY +#50
100	149	8.87	124.83	115.96	03:35	3:00	✓	✓	QV-M-4-SY +#100
140	105	8.87	36.61	27.74	05:35	3:02	✓	✓	QV-M-4-SY +#140
200	74	8.74	22.18	13.44	01:51	3:03	✓	✓	QV-M-4-SY +#200
270	53	8.92	16.65	7.73	03:46	3:05	✓	✓	QV-M-4-SY +#270
-270	-53	2.12	22.78	20.66	N/A	8:23 10/3	✓	✓	QV-M-4-SY -#270
Totals:						MO			

10/02 AH

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001: RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-M-4-SY PSD 3 of 4		
Date Analyzed:	09/30/2022		
Time Analyzed:	7 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 20.0		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	8.47	90.24	81.77	03:39	3:08 PM	✓	✓	QV-M-4-SY +#25
50	297	8.79	161.49	152.70	06:59	3:10	✓	✓	QV-M-4-SY +#50
100	149	9.08	110.22	101.14	04:15	3:11	✓	✓	QV-M-4-SY +#100
140	105	8.71	31.39	22.68	05:54	3:12	✓	✓	QV-M-4-SY +#140
200	74	8.63	19.12	10.49	01:59	3:14	✓	✓	QV-M-4-SY +#200
270	53	9.20	14.53	5.33	03:34	3:15	✓	✓	QV-M-4-SY +#270
-270	-53	2.18	13.36	11.18	N/A	8:33 10/3	✓	✓	QV-M-4-SY -#270
Totals:						MO			

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Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001; RAFS TO 33	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-M-4-SY PID 4 of 4		
Date Analyzed:	09/30/2022		
Time Analyzed:	7:30 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 20.0		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	8.68	89.20	80.52	04:19	3:19PM	✓	✓	QV-M-4-SY +#25
50	297	8.78	157.46	148.68	07:04	3:20	✓	✓	QV-M-4-SY +#50
100	149	8.83	106.02	97.19	02:21	3:22	✓	✓	QV-M-4-SY +#100
140	105	8.82	27.71	18.89	04:43	3:24	✓	✓	QV-M-4-SY +#140
200	74	8.77	17.43	8.66	01:57	3:25	✓	✓	QV-M-4-SY +#200
270	53	8.95	12.98	4.03	03:21	3:27	✓	✓	QV-M-4-SY +#270
-270	-53	2.16	10.49	8.33	N/A	9:07 10/3 MO	✓	✓	QV-M-4-SY -#270
Totals:									

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Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 SRAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-M-8-SY PSD 1of4		
Date Analyzed:	09/30/2022		
Time Analyzed:	9 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 19.8		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	8.68	72.37	63.69	05:17	10:09	✓	✓	QV-M-8-SY +#25
50	297	8.50	194.42	185.92	09:16	10:09	✓	✓	QV-M-8-SY +#50
100	149	9.20	150.99	141.79	04:21	10:10	✓	✓	QV-M-8-SY +#100
140	105	8.68	40.07	31.39	06:35	10:11	✓	✓	QV-M-8-SY +#140
200	74	8.73	23.74	15.01	02:23	10:13	✓	✓	QV-M-8-SY +#200
270	53	8.75	16.42	7.67	04:16	10:14	✓	✓	QV-M-8-SY +#270
-270	-53	2.07	40.67	38.60	N/A	8:52	✓	✓	QV-M-8-SY -#270
Totals:									

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Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	32013-001 : RAES TO33	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-M-8-SY PSD 2of4		
Date Analyzed:	10/01/2022		
Time Analyzed:	1:45 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 19.8		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure: Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist: Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	8.85	84.01	75.16	03:01	7:55	✓	✓	QV-M-8-8Y +#25
50	297	9.06	228.41	219.35	06:05	7:56	✓	✓	QV-M-8-SY +#50
100	149	9.30	162.99	153.49	03:15	7:57	✓	✓	QV-M-8-SY +#100
140	105	9.00	41.45	32.45	05:21	7:59	✓	✓	QV-M-8-SY +#140
200	74	8.48	24.28	15.80	01:53	8:00	✓	✓	QV-M-8-SY +#200
270	53	7.88	15.40	7.52	03:08	8:19	✓	✓	QV-M-8-SY +#270
-270	-53	2.15	20.92	18.77	N/A	8:40	✓	✓	QV-M-8-SY -#270
Totals:									

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Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES TO33	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-M-8-SY PSD 3of4		
Date Analyzed:	10/01/2022		
Time Analyzed:	4:15 PM	Sampler Signature	
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 19.8		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	7.91	58.44	50.53	03:14	8:22	✓	✓	QV-M-8-SY +#25
50	297	8.32	107.40	99.08	05:16	8:23	✓	✓	QV-M-8-SY +#50
100	149	8.12	80.74	72.62	02:43	8:23	✓	✓	QV-M-8-SY +#100
140	105	8.17	24.185	15.98	04:25	8:27	✓	✓	QV-M-8-SY +#140
200	74	8.87	17.20	8.33	01:37	8:28	✓	✓	QV-M-8-SY +#200
270	53	8.77	13.03	4.26	03:08	8:30	✓	✓	QV-M-8-SY +#270
-270	-53	2.10	10.71	8.61	N/A	8:42	✓	✓	QV-M-8-SY -#270
Totals:									

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Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAEST033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-M-8-SY PSD 4 of 4		
Date Analyzed:	10/01/2022	Sampler Signature	[signature]
Time Analyzed:	4:45 PM		
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 19.8		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	8.99	79.32	70.33	04:22	8:32	✓	✓	QV-M-8-SU +#25
50	297	8.97	133.92	124.95	06:57	8:33	✓	✓	QV-M-8-SU +#50
100	149	8.65	103.28	94.63	02:57	8:34	✓	✓	QV-M-8-SU +#100
140	105	8.51	29.60	21.09	05:18	8:34	✓	✓	QV-M-8-SU +#140
200	74	8.54	18.79	10.25	02:18	8:35	✓	✓	QV-M-8-SU +#200
270	53	9.12	14.52	5.40	04:14	8:37	✓	✓	QV-M-8-SU +#270
-270	-53	2.11	14.73	12.62	N/A	8:45	✓	✓	QV-M-8-SU -#270
Totals:									

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Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-M-30-ST PSD 1 of 4		
Date Analyzed:	10/01/2022		
Time Analyzed:	6:30 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 19.8		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	8.62	26.18	17.56	02:46	9:46	✓	✓	QV-M-30-SU +#25
50	297	8.68	87.57	78.89	05:34	9:46	✓	✓	QV-M-30-SU +#50
100	149	8.70	88.60	79.90	03:57	9:47	✓	✓	QV-M-30-SU +#100
140	105	8.86	31.70	22.84	06:14	9:48	✓	✓	QV-M-30-SU +#140
200	74	8.84	21.46	12.62	02:04	9:49	✓	✓	QV-M-30-SU +#200
270	53	8.78	16.19	7.41	03:47	9:49	✓	✓	QV-M-30-SU +#270
-270	-53	2.12	~~26.11~~	60.09	N/A	~~9:03~~	✓	✓	QV-M-30-SU -#270
Totals:			62.21			9:23			

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Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 ; RAES 7033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-M-30-SY PSD 2 of 4		
Date Analyzed:	10/02/2022		
Time Analyzed:	8:30 AM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 19.8		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	8.14	62.08	53.94	03:31	9:36	✓	✓	QV-M-30-SY +#25
50	297	8.08	149.19	141.11	06:18	9:36	✓	✓	QV-M-30-SY +#50
100	149	8.98	117.79	108.81	03:15	9:37	✓	✓	QV-M-30-SY +#100
140	105	9.14	35.53	26.39	05:35	9:37	✓	✓	QV-M-30-SY +#140
200	74	9.15	23.06	13.91	02:10	9:38	✓	✓	QV-M-30-SY +#200
270	53	9.11	17.11	8.00	03:58	9:39	✓	✓	QV-M-30-SY +#270
-270	-53	2.08	~~62.21~~	24.03	N/A	9:02	✓	✓	QV-M-30-SY -#270
Totals:			26.11			10/04			

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Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013 - 001 : RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-M-30 - SY PSD 3 of 4		
Date Analyzed:	10/02/2022		
Time Analyzed:	9:30 AM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 19.8		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	8.87	53.80	44.93	03:17	9:59	✓	✓	QV-M-30-SY +#25
50	297	9.44	145.56	136.12	05:33	10:00	✓	✓	QV-M-30-SY +#50
100	149	9.58	111.04	101.46	03:29	10:01	✓	✓	QV-M-30-SY +#100
140	105	9.17	35.25	26.08	05:20	10:02	✓	✓	QV-M-30-SY +#140
200	74	9.60	23.40	13.80	01:48	10:03	✓	✓	QV-M-30-SY +#200
270	53	9.81	16.07	6.26	05:14	10:04	✓	✓	QV-M-30-SY +#270
-270	-53	2.16	22.81	20.65	N/A	~~8:56~~ 10:04 MO	✓	✓	QV-M-30-SY -#270
Totals:									

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Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES TC33	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-M-30-SY PSD 4 of 4		
Date Analyzed:	10/02/2022		
Time Analyzed:	10 AM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 19.8		

Wet RO-TAP Procedure						Checklist			
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	8.72	59.98	51.26	04:14	9:51	✓	✓	QV-M-30-SY +#25
50	297	8.63	175.44	166.81	07:47	9:52	✓	✓	QV-M-30-SY +#50
100	149	8.91	145.59	136.68	03:03	9:53	✓	✓	QV-M-30-SY +#100
140	105	8.58	38.70	30.12	05:20	9:54	✓	✓	QV-M-30-SY +#140
200	74	8.66	23.03	14.37	01:51	9:56	✓	✓	QV-M-30-SY +#200
270	53	8.73	15.68	6.95	03:16	9:57	✓	✓	QV-M-30-SY +#270
-270	-53	2.19	21.92	19.73	N/A	8:59	✓	✓	QV-M-30-SY -#270
Totals:						10/04			

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Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-H-0-SL-01		
Date Analyzed:	10/04/2022	Sampler Signature	[signature]
Time Analyzed:	12 PM		
Original Dry Mass [g]	384.51		
Original Slurry Mass [lb]	N/A		

Wet RO-TAP Procedure						Checklist			
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.21	66.74	57.53	05:03	3:39	✓	✓	QV-H-0-SL-01
50	297	9.05	118.58	109.53	07:44	3:41	✓	✓	QV-H-0-SL-01
100	149	9.11	107.70	98.59	03:14	3:42	✓	✓	QV-H-0-SL-01
140	105	9.16	33.70	24.54	04:55	3:43	✓	✓	QV-H-0-SL-01
200	74	9.35	21.36	12.01	04:28	3:45	✓	✓	QV-H-0-SL-01
270	53	8.92	16.27	7.35	07:12	3:46	✓	✓	QV-H-0-SL-01
-270	-53	2.12	74.79	72.31	N/A	8:21	✓	✓	QV-H-0-SL-01
Totals:						10/05			

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Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-H-4-SY PSD 2 of 6		
Date Analyzed:	10/02/2022		
Time Analyzed:	5 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 21.2		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.19	71.57	62.38	02:51	8:51	✓	✓	QV-H-4-SY +#25
50	297	9.17	172.11	162.94	05:57	8:52	✓	✓	QV-H-4-SY +#50
100	149	9.47	117.61	108.14	03:15	8:53	✓	✓	QV-H-4-SY +#100
140	105	9.08	31.75	22.67	04:49	8:54	✓	✓	QV-H-4-SY +#140
200	74	9.39	19.94	10.55	01:56	8:55	✓	✓	QV-H-4-SY +#200
270	53	9.05	14.18	5.13	03:16	8:56	✓	✓	QV-H-4-SY +#270
-270	-53	2.10	33.98	31.88	N/A	9:38	✓	✓	QV-H-4-SY -#270
Totals:						10/04			

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Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES T0 33	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-H-4-SY PSD 2 of 6		
Date Analyzed:	10/02/2022 ~~5:30 PM~~		
Time Analyzed:	5:30 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 21.2		

Wet RO-TAP Procedure						Checklist			Sample Bag Label	
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF		
25	707	9.01	50.95	41.94	02:51	7:46	✓	✓	QV-H-4-SY	+#25
50	297	9.00	115.40	106.40	05:38	7:47	✓	✓	QV-H-4-SY	+#50
100	149	8.98	81.65	72.67	02:38	7:49	✓	✓	QV-H-4-SY	+#100
140	105	9.32	24.97	15.65	04:02	7:50	✓	✓	QV-H-4-SY	+#140
200	74	9.59	17.13	7.54	01:36	7:51	✓	✓	QV-H-4-SY	+#200
270	53	9.04	12.64	3.60	02:50	7:52	✓	✓	QV-H-4-SY	+#270
-270	-53	2.17	9.31	7.14	N/A	9:29	✓	✓	QV-H-4-SY	-#270
Totals:						10/4				

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Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAEST033/22013-08	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-H-4-SY PSD 3 of 6		
Date Analyzed:	10/03/2022		
Time Analyzed:	9:15 AM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 21.2		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure: Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist: Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	~~8.49~~ 7.88	117.26	109.38	02:46	9:06	✓	✓	QV-H-4-SY +#25
50	297	8.24	225.29	217.05	06:24	9:07	✓	✓	QV-H-4-SY +#50
100	149	8.41	146.17	137.76	05:43	9:08	✓	✓	QV-H-4-SY +#100
140	105	8.17	35.66	27.49	04:35	9:10	✓	✓	QV-H-4-SY +#140
200	74	8.87	22.14	13.27	01:47	9:11	✓	✓	QV-H-4-SY +#200
270	53	9.51	15.71	6.20	03:18	9:12	✓	✓	QV-H-4-SY +#270
-270	-53	2.16	18.62	16.46	N/A	9:42	✓	✓	QV-H-4-SY -#270
Totals:						10/04			

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Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAEST033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QU-H-4-SY PSD 4 of 6		
Date Analyzed:	10/03/2022		
Time Analyzed:	9:40 AM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 27.2		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure: Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist: Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	8.56	59.22	50.66	02:58	8:59	✓	✓	QV-H-4-SY +#25
50	297	8.51	139.76	131.25	05:44	9:00	✓	✓	QV-H-4-SY +#50
100	149	9.11	101.03	91.92	02:25	9:01	✓	✓	QV-H-4-SY +#100
140	105	8.38	26.51	18.13	03:57	9:02	✓	✓	QV-H-4-SY +#140
200	74	8.23	16.89	8.66	01:30	9:03	✓	✓	QV-H-4-SY +#200
270	53	8.49	12.26	3.77	03:02	9:04	✓	✓	QV-H-4-SY +#270
-270	-53	2.10	10.88	8.78	N/A	9:46	✓	✓	QV-H-4-SY -#270
Totals:						10/04			

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Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES 5033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-H-4-SY PSD 5 of 6		
Date Analyzed:	10/03/2022		
Time Analyzed:	10:30 AM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	NET 21.2		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure: Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist: Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	8.60	72.57	63.97	02:48	8:42	✓	✓	QV-H-4-SY +#25
50	297	8.88	124.87	115.99	05:22	8:44	✓	✓	QV-H-4-SY +#50
100	149	9.06	86.05	76.99	02:37	8:45	✓	✓	QV-H-4-SY +#100
140	105	8.64	25.01	16.37	04:27	8:46	✓	✓	QV-H-4-SY +#140
200	74	8.96	16.81	7.85	01:31	8:47	✓	✓	QV-H-4-SY +#200
270	53	9.16	12.80	3.64	03:12	8:48	✓	✓	QV-H-4-SY +#270
-270	-53	~~2.16~~ 2.08	11.04	8.96	N/A	9:49	✓	✓	QV-H-4-SY -#270
Totals:						10/04			

mo

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001: RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-H-4-SY PSD 6 of 6		
Date Analyzed:	10/03/2022		
Time Analyzed:	12:30 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 21.2		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.09	86.41	63.97	03:03	9:14	✓	✓	QV-H-4-SY +#25
50	297	7.99	172.43	115.99	05:53	9:14	✓	✓	QV-H-4-SY +#50
100	149	8.80	112.75	76.99	02:27	9:15	✓	✓	QV-H-4-SY +#100
140	105	8.49	29.75	16.37	04:31	9:17	✓	✓	QV-H-4-SY +#140
200	74	9.04	19.17	7.85	01:48	9:17	✓	✓	QV-H-4-SY +#200
270	53	8.65	12.91	3.64	02:58	9:19	✓	✓	QV-H-4-SY +#270
-270	-53	2.12	13.12	8.96	N/A	9:56	✓	✓	QV-H-4-SY -#270
Totals:						10/04			

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DATA ENTERED

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 ;12AES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-H-8-SY PSD 1 of 6		
Date Analyzed:	10/03/2022		
Time Analyzed:	2:40 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 20.2		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.45	58.85	49.40	03:13	10:35	✓	✓	QV-H-8-SY +#25
50	297	9.69	153.48	143.79	05:43	10:36	✓	✓	QV-H-8-SY +#50
100	149	9.35	120.37	111.02	02:22	10:37	✓	✓	QV-H-8-SY +#100
140	105	9.97	33.57	23.60	03:57	10:38	✓	✓	QV-H-8-SY +#140
200	74	9.67	19.25	9.58	01:40	10:39	✓	✓	QV-H-8-SY +#200
270	53	9.54	14.30	4.76	02:50	10:40	✓	✓	QV-H-8-SY +#270
-270	-53	2.09	44.18	42.09	N/A	3:11	✓	✓	QV-H-8-SY -#270
Totals:						10/04			

MO 10/05

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001: RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-H-8-SY PSD 2of6		
Date Analyzed:	10/03/2022		
Time Analyzed:	3:10 PM	Sampler Signature	
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 20.2		

Wet RO-TAP Procedure						Checklist			Sample Bag Label	
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF		
25	707	9.24	109.44	100.20	03:09	11:20	✓	✓	QV-H-8-SY	+#25
50	297	9.14	149.19	140.05	06:14	11:21	✓	✓	QV-H-8-SY	+ #50
100	149	9.14	99.35	90.21	02:49	11:22	✓	✓	QV-H-8-SY	+ #100
140	105	9.23	27.53	18.30	04:44	11:24	✓	✓	QV-H-8-SY	+ #140
200	74	9.43	18.00	8.57	01:42	11:25	✓	✓	QV-H-8-SY	+ #200
270	53	9.27	13.18	3.91	02:57	11:26	✓	✓	QV-H-8-SY	+ #270
-270	-53	2.14	12.07	9.93	N/A	10:22	✓	✓	QV-H-8-SY	- #270
Totals:						10/04				

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Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : AAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-H-8-SY PSD 5 of 6		
Date Analyzed:	10/03/2022		
Time Analyzed:	3:40 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 20.2		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.61	99.85	90.24	03:49	11:04	✓	✓	QV-H-8-SY + #25
50	297	9.37	204.45	195.08	07:02	11:14	✓	✓	QV-H-8-SY + #50
100	149	8.62	128.43	119.81	02:59	11:15	✓	✓	QV-H-8-SY + #100
140	105	8.89	34.02	25.13	04:55	11:17	✓	✓	QV-H-8-SY + #140
200	74	9.19	21.27	12.08	02:06	11:17	✓	✓	QV-H-8-SY + #200
270	53	9.25	15.08	5.83	03:28	11:18	✓	✓	QV-H-8-SY + #270
-270	-53	2.10	14.01	11.91	N/A	10:25	✓	✓	QV-H-8-SY - #270
Totals:						10/04			

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Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001: RAES TOSS	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-H-8-SY PSD 4 of 6		
Date Analyzed:	10/03/2022		
Time Analyzed:	4:30 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 20.2		

		Wet RO-TAP Procedure				Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.09	67.20	58.11	03:16	10:50	✓	✓	QV-H-8-SY +#25
50	297	9.05	139.77	130.72	05:43	10:51	✓	✓	QV-H-8-SY +#80
100	149	8.95	100.99	92.04	02:43	10:51	✓	✓	QV-H-8-SY +#100
140	105	9.07	27.47	18.40	04:32	10:52	✓	✓	QV-H-8-SY +#140
200	74	8.98	17.80	8.82	01:48	10:54	✓	✓	QV-H-8-SY +#200
270	53	9.37	14.62	5.25	03:17	10:55	✓	✓	QV-H-8-SY +#270
-270	-53	2.16	14.74	12.58	N/A	10:28 10/04 MO	✓	✓	QV-H-8-SY -#270
Totals:									

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-H-8-SY PSD 5 of 6		
Date Analyzed:	10/03/2022	Sampler Signature	[signature]
Time Analyzed:	5 PM		
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Wet 20.2		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.02	42.98	33.96	03:16	10:57	✓	✓	QV-H-8-SY +#25
50	297	9.31	104.86	95.55	05:36	10:58	✓	✓	QV-H-8-SY +#50
100	149	9.05	75.55	66.50	02:54	10:59	✓	✓	QV-H-8-SY +#100
140	105	9.36	25.88	16.52	04:27	11:00	✓	✓	QV-H-8-SY +#140
200	74	9.33	17.43	8.10	01:52	11:01	✓	✓	QV-H-8-SY +#200
270	53	9.09	12.61	3.52	02:57	11:02	✓	✓	QV-H-8-SY +#270
-270	-53	2.08	9.66	7.58	N/A	10:30	✓	✓	QV-H-8-SY -#270
Totals:						10/04			

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Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001: RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-H-8-SY PSD 6 of 6		
Date Analyzed:	10/03/2022		
Time Analyzed:	7:45 PM	Sampler Signature	
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 20.2		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.23	57.05	47.82	03:26	10:42	✓	✓	QV-H-8-SY +#25
50	297	8.81	170.85	162.04	06:18	10:43	✓	✓	QV-H-8-SY +#50
100	149	9.22	135.24	126.02	03:09	10:44	✓	✓	QV-H-8-SY +#100
140	105	9.00	35.21	26.21	05:06	10:46	✓	✓	QV-H-8-SY +#140
200	74	9.06	22.13	13.07	01:44	10:47	✓	✓	QV-H-8-SY +#200
270	53	9.35	14.91	5.56	02:52	10:48	✓	✓	QV-H-8-SY +#270
-270	-53	2.12	14.06	11.94	N/A	2:53	✓	✓	QV-H-8-SY -#270
Totals:						10/04			

MO 10/05

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DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-H-30-SY PSD 1 of 5		
Date Analyzed:	10/03/2022		
Time Analyzed:	9:20 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 19.8		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	8.83	48.66	39.83	03:38	11:31	✓	✓	QV-H-30-SY +#25
50	297	8.59	142.15	133.56	06:45	11:31	✓	✓	QV-H-30-SY +#50
100	149	8.84	121.66	112.82	03:53	11:55	✓	✓	QV-H-30-SY +#100
140	105	9.49	39.49	30.00	06:04	11:56	✓	✓	QV-H-30-SY +#140
200	74	8.83	23.65	14.82	01:59	11:57	✓	✓	QV-H-30-SY +#200
270	53	8.98	16.02	7.04	03:44	11:58	✓	✓	QV-H-30-SY +#270
-270	-53	2.12	~~[illegible]~~	~~[illegible]~~	N/A	3:34	✓	✓	QV-H-30-SY -#270
Totals:			75.35	73.23		10/04			
			MO	MO		MO			

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-H-30-SY PSD 2 of 5		
Date Analyzed:	10/03/2022		
Time Analyzed:	10 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 19.8		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure: Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist: Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.08	57.30	48.22	03:45	12:01	✓	✓	QV-H-30-SY +#25
50	297	9.22	152.91	143.69	06:22	12:02	✓	✓	QV-H-30-SY +#50
100	149	8.61	126.64	118.03	03:03	12:03	✓	✓	QV-H-30-SY +#100
140	105	9.01	41.27	32.26	05:09	12:04	✓	✓	QV-H-30-SY +#140
200	74	8.86	26.50	17.64	01:51	12:05	✓	✓	QV-H-30-SY +#200
270	53	8.60	17.75	9.15	03:22	12:06	✓	✓	QV-H-30-SY +#270
-270	-53	2.08	27.51	25.43	N/A	2:50	✓	✓	QV-H-30-SY -#270
Totals:						10/04			

MD 10/05

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-H-30-SY PSD 3 of 5		
Date Analyzed:	10/03/2022		
Time Analyzed:	10:40 PM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 19.8		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	8.96	68.54	59.58	02:50	12:08	✓	✓	QV-H-30-SY +#25
50	297	9.03	156.32	147.29	05:56	12:09	✓	✓	QV-H-30-SY +#50
100	149	9.28	116.70	107.42	02:42	12:10	✓	✓	QV-H-30-SY +#100
140	105	9.27	34.40	25.13	04:05	12:11	✓	✓	QV-H-30-SY +#140
200	74	9.05	20.35	11.30	01:35	12:12	✓	✓	QV-H-30-SY +#200
270	53	9.14	13.84	4.70	02:44	12:13	✓	✓	QV-H-30-SY +#270
-270	-53	2.16	18.27	16.11	N/A	2:59 10/04	✓	✓	QV-H-30-SY -#270
Totals:									

MD 10/05

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001 : RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-H-30-SY PSD 4 of 5		
Date Analyzed:	10/04/2022		
Time Analyzed:	9:40 AM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 19.8		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	8,92	57.43	48.51	03:22	3:21	✓	✓	QV-H-30-SY +#25
50	297	9,10	119.70	110.60	05:48	3:23	✓	✓	QV-H-30-SY +#50
100	149	9,38	98.50	89.12	02:52	3:23	✓	✓	QV-H-30-SY +#100
140	105	8,87	28.75	19.88	04:34	3:24	✓	✓	QV-H-30-SY +#140
200	74	9,20	19.09	9.89	01:48	3:25	✓	✓	QV-H-30-SY +#200
270	53	9.17	14.19	5.02	02:56	3:26	✓	✓	QV-H-30-SY +#270
-270	-53	2,15	16.40	14.25	N/A	3:07	✓	✓	QV-H-30-SY -#270
Totals:						10/05			

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DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	22013-001: RAES T033	Sampler Name Print	Andrew Halverson
Sample Analyzed:	QV-H-30-SY PSD 5of5		
Date Analyzed:	10/04/2022		
Time Analyzed:	10:15 AM	Sampler Signature	[signature]
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	Net 19.8		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	8.96	59.94	50.98	02:54	3:28	✓	✓	QV-H-30-SY + #25
50	297	9.08	135.88	126.80	05:53	3:29	✓	✓	QV-H-30-SY + #50
100	149	8.84	108.78	99.94	02:56	3:30	✓	✓	QV-H-30-SY + #100
140	105	9.04	32.62	23.58	04:45	3:31	✓	✓	QV-H-30-SY + #140
200	74	9.33	20.92	11.59	02:04	3:32	✓	✓	QV-H-30-SY + #200
270	53	9.59	14.63	5.04	03:28	3:33	✓	✓	QV-H-30-SY + #270
-270	-53	2.10	18.04	15.94	N/A	3:34	✓	✓	QV-H-30-SY - #270
Totals:						10/05			

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DATA ENTERED

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES MO	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-L-0-~~5~~SL-01 1 of 1		
Date Analyzed:	10/4/22	Sampler Signature	[signature]
Time Analyzed:	3:31 PM		
Original Dry Mass [g]	315.40g		
Original Slurry Mass [lb]	NA		

Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
		Wet RO-TAP Procedure				Checklist			
25	707	* 9.15	16.03	6.88	4:05	10:16	✓	✓	CTS-L-0-SL-01 +#25
50	297	* 9.15	20.88	11.73	7:32	10:17	✓	✓	CTS-L-0-SL-01 +#50
100	149	* 9.15	41.24	32.09	5:36	10:18	✓	✓	CTS-L-0-SL-01 +#100
140	105	* 9.15	44.72	35.57	8:21	10:19	✓	✓	CTS-L-0-SL-01 +#140
200	74	* 9.15	52.95	43.80	4:42	10:20	✓	✓	CTS-L-0-SL-01 +#200
270	53	* 9.13	45.78	36.63	7:27	10:21	✓	✓	CTS-L-0-SL-01 +#270
-270	-53	3.11	148.69	143.58		10:35	✓	✓	CTS-L-0-SL-01 -#270
Totals:						JD			

* Breaker tripped on 50 mesh screen

* no tare on cup.
Took Average of
12 cups as base.

DATA ENTERED

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordon Dick
Sample Analyzed:	CTS-L-4-SY 1 of 5		
Date Analyzed:	10/5/22	Sampler Signature	[signature]
Time Analyzed:	10:32 AM		
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.2 lbs		

Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
		Wet RO-TAP Procedure				Checklist			
25	707	8.55	8.83	0.28	5:22	3:50	✓	✓	CTS-L-4-SY +#25
50	297	9.03	9.72	0.69	7:46	3:50	✓	✓	CTS-L-4-SY +#50
100	149	9.4	12.00	2.60	4:23	3:51	✓	✓	CTS-L-4-SY +#100
140	105	9.03	13.46	4.43	6:57	3:51	✓	✓	CTS-L-4-SY +#140
200	74	9.53	20.97	11.44	5:03	3:52	✓	✓	CTS-L-4-SY +#200
270	53	9.07	23.91	14.84	7:32	3:52	✓	✓	CTS-L-4-SY +#270
-270	-53	2.13	383.63	383.06	NA	3 PM	✓	✓	CTS-L-4-SY -#270
Totals:						10/7/22 TF			

10/11 AM

Split into A & B pressure filters, This one was B 10/13

-270 A

Tare: 2.13 g

Gross: 303.67 g

10/13 9:12 AM

Bagged ✓

10/21 Re-screened +200 & +270 material

	Tare wt	Dry mass total	Net mass total
+200M	8.84	176.12	167.28
+270M	2.13	146.89	144.76

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordon Dick
Sample Analyzed:	CTS-L-4-SY 2 of 5		
Date Analyzed:	10/5/22	Sampler Signature	J Dick
Time Analyzed:	11:22AM		
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.2 lbs		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.9	10.04	0.14	4:23	9:16	✓	✓	CTS-L-4-SY +#25
50	297	8.95	15.08	6.13	6:47	9:17	✓	✓	CTS-L-4-SY +#50
100	149	9.11	42.15	33.04	5:37	9:18	✓	✓	CTS-L-4-SY +#100
140	105	9.1	49.29	40.19	6:58	9:19	✓	✓	CTS-L-4-SY +#140
200	74	8.98	81.30	72.32	5:37	9:21	✓	✓	CTS-L-4-SY +#200
270	53	9.26	58.46	49.20	7:38	9:24	✓	✓	CTS-L-4-SY +#270
-270	-53	2.17	134.21	132.04		8:50	✓	✓	CTS-L-4-SY -#270
Totals:									

10/07MO ZF

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-L-4-SY 3 of 5		
Date Analyzed:	10/5/22	Sampler Signature	J Dick
Time Analyzed:	1:00PM		
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.2 lbs		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure: Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist: Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	8.68	17.15	8.47	5:06	8:30	✓	✓	CTS-L-4-SY +#25
50	297	9.03	38.28	29.25	6:27	8:30	✓	✓	CTS-L-4-SY +#50
100	149	8.67	62.60	53.93	5:43	8:31	✓	✓	CTS-L-4-SY +#100
140	105	9.14	48.32	39.18	7:51	8:32	✓	✓	CTS-L-4-SY +#140
200	74	9.11	62.40	53.29	5:13	8:33	✓	✓	CTS-L-4-SY +#200
270	53	8.70	42.82	34.12	6:48	8:34	✓	✓	CTS-L-4-SY +#270
-270	-53	2.13	52.01	49.88	NA	9:07	✓	✓	CTS-L-4-SY -#270
Totals:						10/07 MO			

~~CHECK IN AM 200 62.27~~

~~270 42.92~~

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordon Dick
Sample Analyzed:	CTS-~~L~~-4-SY 4 of 5		
Date Analyzed:	10/5/22	Sampler Signature	J Dick
Time Analyzed:	11:45 AM		
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.2 lbs		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure: Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist: Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.63	27.26	17.97	5:23	3:44	✓	✓	CTS-L-4-SY +#25
50	297	9.64	53.78	44.14	7:06	3:44	✓	✓	CTS-L-4-SY +#50
100	149	8.87	69.81	60.94	5:56	3:45	✓	✓	CTS-L-4-SY +#100
140	105	~~41.29~~ 8.84	41.28	32.44	8:24	3:46	✓	✓	CTS-L-4-SY +#140
200	74	9.08	51.21	42.13	5:37	3:46	✓	✓	CTS-L-4-SY +#200
270	53	8.58	23.02	14.44	6:52	3:47	✓	✓	CTS-L-4-SY +#270
-270	-53	2.14	30.04	17.90	NA	10/6	✓	✓	CTS-L-4-SY -#270
Totals:						10/6 MO LF			

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordon Dick
Sample Analyzed:	CTS-L-4-SY 5 of 5		
Date Analyzed:	10/6/22		
Time Analyzed:	8:00 AM	Sampler Signature	Jordan Dick
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.2 lbs		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.41	12.90	3.49	5:29	9:33	✓	✓	CTS-L-4-SY +# 25
50	297	9.61	20.74	11.13	6:47	9:34	✓	✓	CTS-L-4-SY +# 50
100	149	9.26	27.55	18.29	6:14	9:35	✓	✓	CTS-L-4-SY +# 100
140	105	9.49	22.01	12.52	7:58	9:36	✓	✓	CTS-L-4-SY +# 140
200	74	9.62	28.42	18.80	5:49	9:37	✓	✓	CTS-L-4-SY +# 200
270	53	9.58	18.14	8.56	6:57	9:38	✓	✓	CTS-L-4-SY +# 270
-270	-53	2.11	15.57	13.46	NA	8:57	✓	✓	CTS-L-4-SY -# 270
Totals:						C 10/07 MO JF			

DATA ENTERED

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	BAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-L-8-SY 1 of 4		
Date Analyzed:	10/6/22	Sampler Signature	[signature]
Time Analyzed:	8:45 AM		
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	10.0 lbs		

Wet RO-TAP Procedure						Checklist			Sample Bag Label	
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF		
25	707	8.72	13.61	4.89	6:23	11:19	✓	✓	CTS-L-8-SY	+#25
50	297	8.67	37.37	28.70	7:45	11:20	✓	✓	CTS-L-8-SY	+#50
100	149	9.1	71.08	61.98	6:32	11:21	✓	✓	CTS-L-8-SY	+#100
140	105	9.06	62.58	53.52	8:01	11:22	✓	✓	CTS-L-8-SY	+#140
200	74	8.84	89.44	80.60	7:21	11:23	✓	✓	CTS-L-8-SY	+#200
270	53	9.11	45.27	36.16	8:49	11:24	✓	✓	CTS-L-8-SY	+#270
-270	-53	~~5.15~~	~~48.44~~	473.74	NA	~~3:12PM~~	✓	✓	CTS-L-8-SY	-#270
Totals:						10/7/22 JF		10/17 JF		

error 10/11 AH

Actual Tare (g) 2.19

Gross dry (g) 475.93

error 10/11 AH

10/14 MO

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS L-8-SY 2 of 4		
Date Analyzed:	10/6/22	Sampler Signature	[signature]
Time Analyzed:	9:30		
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.0 lbs		

Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label	
		Wet RO-TAP Procedure				Checklist				
25	707	8.76	10.59	1.83	5:24	11:02	✓	✓	CTS-L-8-SY	+#25
50	297	9.08	22.18	13.10	7:37	11:03	✓	✓	CTS-L-8-SY	+#50
100	149	8.93	45.24	36.31	6:48	11:04	✓	✓	CTS-L-8-SY	+#100
140	105	9.01	38.91	29.90	8:01	11:05	✓	✓	CTS-L-8-SY	+#140
200	74	8.64	61.13	52.49	6:09	11:06	✓	✓	CTS-L-8-SY	+#200
270	53	9.08	28.30	19.22	7:23	11:07	✓	✓	CTS-L-8-SY	+#270
-270	-53	2.18	60.90	58.72	NA	11:?7	✓	✓	CTS-L-8-SY	-#270
Totals:						10/7/22		10/17/22		

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-L-8-SU 3 of 21		
Date Analyzed:	10/6/22	Sampler Signature	Jordan Dick
Time Analyzed:	10:25 AM		
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.0 lbs		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure: Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist: Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	8.47	10.36	0.89	5:24	11:52	✓	✓	CTS-L-8-SU +#25
50	297	9.38	15.86	6.48	6:42	11:53	✓	✓	CTS-L-8-SU +#50
100	149	9.31	28.48	19.17	5:46	11:54	✓	✓	CTS-L-8-SU +#100
140	105	9.01	25.51	16.50	7:21	11:55	✓	✓	CTS-L-8-SU +#140
200	74	9.1	33.34	24.24	5:52	11:56	✓	✓	CTS-L-8-SU +#200
270	53	8.92	21.18	12.26	6:56	11:57	✓	✓	CTS-L-8-SU +#270
-270	-53	2.15	48.14	45.99	NA	3:12PM	✓	✓	CTS-L-8-SU -#270
Totals:									

10/7/22 10/17 JF

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordon Dick
Sample Analyzed:	CTS-L-8-SY 4 of 4		
Date Analyzed:	10/6/22	Sampler Signature	[signature]
Time Analyzed:	11:00AM		
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.0 lbs		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure: Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist: Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label	
25	707	9.75	10.45	0.70	5:24	10:49	✓	✓	CTS-L-8-SY	+#25
50	297	8.43	13.66	5.23	6:49	10:56	✓	✓	CTS-L-8-SY	+#50
100	149	8.83	21.72	12.89	6:04	10:51	✓	✓	CTS-L-8-SY	+#100
140	105	8.75	24.38	15.63	7:23	10:52	✓	✓	CTS-L-8-SY	+#140
200	74	8.63	43.05	34.42	5:47	10:53	✓	✓	CTS-L-8-SY	+#200
270	53	9.01	41.86	32.84	7:02	10:54	✓	✓	CTS-L-8-SY	+#270
-270	-53	2.14	29.78	27.64	NA	3:04PM	✓	✓	CTS-L-8-SY	-#270
Totals:							10/7/22	10/17		

* Motor Failed while on the 270 Mesh screen

10/11
AH

DATA ENTERED

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-L-30-S4 1 of 5		
Date Analyzed:	10/6/22		
Time Analyzed:	1:25 PM	Sampler Signature	[signature]
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	12.8 lbs		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.22	9.28	0.06	5:21	12:52	✓	✓	CTS-L-30-S4 +#25
50	297	8.71	9.04	0.33	6:41	12:53	✓	✓	CTS-L-30-S4 +#50
100	149	8.89	9.73	0.84	6:27	12:54	✓	✓	CTS-L-30-S4 +#100
140	105	9.23	9.96	0.73	7:51	12:55	✓	✓	CTS-L-30-S4 +#170
200	74	9.24	23.90	14.66	6:40	12:56	✓	✓	CTS-L-30-S4 +#200
270	53	8.85	13.35	4.50	2:01	12:57	✓	✓	CTS-L-30-S4 +#270
-270	-53	2.16	512.80	510.64	NA	11:11	✓	✓	CTS-L-30-S4 -#270
Totals:						10/7/22 FF		10/17 FF	

10/14 MO

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-L-30-SY 2 of 5		
Date Analyzed:	10/6/22		
Time Analyzed:	2:00 PM	Sampler Signature	JDick
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.8 lbs		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	8.92	10.09	1.17	5:49	12:40	✓	✓	CTS-L-30-SY +#25
50	297	9.07	20.04	10.97	7:01	12:41	✓	✓	CTS-L-30-SY +#50
100	149	9.26	44.46	35.20	5:37	12:42	✓	✓	CTS-L-30-SY +#100
140	105	9.12	45.69	36.57	7:27	12:43	✓	✓	CTS-L-30-SY +#140
200	74	9.37	81.36	71.99	6:51	12:44	✓	✓	CTS-L-30-SY +#200
270	53	9.09	49:75	40.66	8:27	12:45	✓	✓	CTS-L-30-SY +#270
-270	-53	2.10	96.12	94.02	NA	2:49 PM	✓	✓	CTS-L-30-SY -#270
Totals:						10/7/22	10/17 JF		

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	BAES
Sample Analyzed:	CTS-L-30-S4 3 of 5
Date Analyzed:	10/6/22
Time Analyzed:	2:45PM
Original Dry Mass [g]	NA
Original Slurry Mass [lb]	18.5 lbs
Sampler Name Print	Jordan Dick
Sampler Signature	Jordan Dick

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.03	11.83	2.80	5:09	12:21	✓	✓	CTS-B-30-SU +#25
50	297	9.56	23.69	14.13	6:26	12:22	✓	✓	CTS-L-30-SU +#50
100	149	8.72	41.49	32.76	6:40	12:23	✓	✓	CTS-L-30-SU +#100
140	105	9.38	40.00	30.62	8:20	12:24	✓	✓	CTS-L-30-SU +#140
200	74	9.38	50.86	41.48	5:52	12:25	✓	✓	CTS-L-30-SU +#200
270	53	9.55	31.09	21.54	7:09	12:26	✓	✓	CTS-L-30-SU +#270
-270	-53	2.11	29.16	27.05	NA	2:45PM	✓	✓	CTS-L-30-SU -#270
Totals:							10/7/22	10/17 IF	

10/11

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordon Dick
Sample Analyzed:	CTS-L-30-SU 4 of 5		
Date Analyzed:	10/6/22		
Time Analyzed:	3:45 PM	Sampler Signature	[signature] Dick
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.8 lbs		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure: Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist: Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.47	10.02	0.55	5:37	12:12	✓	✓	CTS-L-30-SU +#25
50	297	9.82	13.36	3.54	7:51	12:13	✓	✓	CTS-L-30-SU +#50
100	149	9.49	26.45	16.96	6:21	12:14	✓	✓	CTS-L-30-SU +#100
140	105	9.64	25.91	~~[illegible]~~	9:01	12:15	✓	✓	CTS-L-30-SU +#140
200	74	9.23	38.61	~~[illegible]~~	5:21	12:16	✓	✓	CTS-L-30-SU +#200
270	53	9.18	26.35	~~[illegible]~~	7:15	12:17	✓	✓	CTS-L-30-SU +#270
-270	-53	2.14	27.59	25.45	NA	2:36 PM	✓	✓	CTS-L-30-SU -#270
Totals:							10/7/22	10/17 FT	

NetMASS #140 = 16.27
#200 = 29.38
#270 = 17.17

10/12
AH

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-L-30-SY 5 of 5		
Date Analyzed:	10/6/22		
Time Analyzed:	4:45PM	Sampler Signature	[signature]
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.8 lbs		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure: Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist: Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.28	9.77	0.49	5:48	12:31	✓	✓	CTS-L-30-SY +#25
50	297	9.62	13.74	4.12	7:37	12:32	✓	✓	CTS-L-30-SY +#50
100	149	9.47	22.42	12.95	6:45	12:33	✓	✓	CTS-L-30-SY +#100
140	105	9.69	22.39	12.70	8:21	12:34	✓	✓	CTS-L-30-SY +#140
200	74	8.91	30.45	21.54	5:27	12:35	✓	✓	CTS-L-30-SY +#200
270	53	9.08	20.91	11.83	7:16	12:36	✓	✓	CTS-L-30-SY +#270
-270	-53	2.13	19.89	17.76	NA	2:40PM	✓	✓	CTS-L-30-SY -#270
Totals:						10/17/22			

10/22
AH

DATA ENTERED

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-M-O-~~X~~ SL-01 mo		
Date Analyzed:	10/11/22		
Time Analyzed:	8:00 AM	Sampler Signature	J Dick
Original Dry Mass [g]	337.14g		
Original Slurry Mass [lb]	NA		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	8.40	16.74	8.34	10:21	10:31	✓	✓	CTS-M-O-SL-01 +#25
50	297	8.56	25.89	17.33	12:08	10:32	✓	✓	CTS-M-O-SL-01 +#50
100	149	8.70	47.18	38.48	6:32	10:34	✓	✓	CTS-M-O-SL-01 +#100
140	105	8.91	45.82	36.91	8:21	10:35	✓	✓	CTS-M-O-SL-01 +#140
200	74	8.69	57.49	48.80	5:40	10:37	✓	✓	CTS-M-O-SL-01 +#200
270	53	8.24	39.19	30.95	6:37	10:39	✓	✓	CTS-M-O-SL-01 +#270
-270	-53	2.16	157.80	155.64	NA	9:36	✓	✓	CTS-M-O-SL-01 -#270
Totals:						10/13 MO			

DATA Entered

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-M-4-S4 1 of 3		
Date Analyzed:	10/11/22		
Time Analyzed:	9:50AM	Sampler Signature	J Dick
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.6 lbs		

Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g] (Wet RO-TAP Procedure)	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged (Checklist)	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.18	9.23	0.05	5:24	10:00	✓	✓	CTS-M-4-S4 +#25
50	297	8.83	9.52	0.69	6:39	10:01	✓	✓	CTS-M-4-S4 +#50
100	149	9.09	11.76	2.67	6:18	10:03	✓	✓	CTS-M-4-S4 +#100
140	105	9.30	13.79	4.49	7:39	10:05	✓	✓	CTS-M-4-S4 +#140
200	74	8.97	22.36	13.39	6:26	10:06	✓	✓	CTS-M-4-S4 +#200
270	53	8.84	25.43	16.59	7:58	10:08	✓	✓	CTS-M-4-S4 +#270
-270	-53	2.09	419.94	417.85	NA	9:04	✓	✓	CTS-M-4-S4 -#270
Totals:						10/13MO		10/18 JF	

10/17MO

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-M-4-SY 2 of 3		
Date Analyzed:	10/11/22	Sampler Signature	[signature]
Time Analyzed:	mistake -JD		
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.6 lbs		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.51	15.91	6.40	6:52	10:11	✓	✓	CTS-M-4-SY +#25
50	297	8.88	47.75	38.87	8:14	10:14	✓	✓	CTS-M-4-SY +#50
100	149	9.05	97.76	88.71	8:24	10:15	✓	✓	CTS-M-4-SY +#100
140	105	9.58	83.49	73.91	9:46	10:18	✓	✓	CTS-M-4-SY +#140
200	74	9.17	103.86	94.69	7:04	10:20	✓	✓	CTS-M-4-SY +#200
270	53	8.85	54.22	45.37	8:37	10:21	✓	✓	CTS-M-4-SY +#270
-270	-53	2.03	90.35	88.32	NA	9:32AM	✓	✓	CTS-M-4-SY -#270
Totals:						10/13 MD		10/18 FF	

10/12 AM

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES
Sample Analyzed:	CTS-M-4-SY 3 of 3
Date Analyzed:	10/11/22
Time Analyzed:	mistake -JD
Original Dry Mass [g]	NA
Original Slurry Mass [lb]	18.6 lbs
Sampler Name Print	Jordan Dick
Sampler Signature	Jordan Dill

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.01	15.21	6.20	7:42	9:46	✓	✓	CTS-M-4-SY +#25
50	297	8.67	39.01	30.34	9:23	9:48	✓	✓	CTS-M-4-SY +#50
100	149	8.53	69.83	61.30	6:22	9:51	✓	✓	CTS-M-4-SY +#100
140	105	8.64	56.01	47.37	7:53	9:53	✓	✓	CTS-M-4-SY +#140
200	74	9.46	66.56	57.10	6:33	9:55	✓	✓	CTS-M-4-SY +#200
270	53	9.32	42.64	33.32	8:14	9:57	✓	✓	CTS-M-4-SY +#270
-270	-53	2.08	44.38	42.30	NA	10:25	✓	✓	CTS-M-4-SY -#270
Totals:						10/13 MO		10/18 JF	

DATA ENTERED

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-M-8-SY 1 of 3		
Date Analyzed:	10/11/22		
Time Analyzed:	mistake - JD	Sampler Signature	JD Dick
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.6 lbs		

Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.25	10.06	0.81	6:49	10:48	✓	✓	CTS-M-8-SY +#25
50	297	9.45	15.42	5.97	8:04	10:50	✓	✓	CTS-M-8-SY +#50
100	149	9.55	31.90	22.35	5:23	10:53	✓	✓	CTS-M-8-SY +#100
140	105	9.37	37.94	28.57	7:36	10:55	✓	✓	CTS-M-8-SY +#140
200	74	9.10	67.62	58.52	6:31	10:56	✓	✓	CTS-M-8-SY +#200
270	53	9.17	60.75	51.58	7:56	10:58	✓	✓	CTS-M-8-SY +#270
-270	-53	2.18	502.43	500.25	NA	~~NA~~ 8:25	✓	✓	CTS-M-8-SY -#270
Totals:						10/13 MO		10/18 JF	✓

10/17 MO

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-M-8-SY 2 of 3		
Date Analyzed:	10/11/22		
Time Analyzed:	mistake -JD	Sampler Signature	J Dik
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.6 lbs		

Wet RO-TAP Procedure						Checklist			
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.76	12.14	2.38	6:57	11:06	✓	✓	CTS-M-8-SY +#25
50	297	9.12	26.26	17.14	8:24	11:08	✓	✓	CTS-M-8-SY +#50
100	149	9.02	57.88	48.86	5:41	11:09	✓	✓	CTS-M-8-SY +#100
140	105	9.26	47.23	37.97	7:22	11:10	✓	✓	CTS-M-8-SY +#140
200	74	9.54	52.93	43.39	5:34	11:11	✓	✓	CTS-M-8-SY +#200
270	53	8.95	29.70	20.75	6:48	11:13	✓	✓	CTS-M-8-SY +#270
-270	-53	2.16	41.51	39.35	NA	10:59	✓	N	CTS-M-8-SY -#270
Totals:						10/13 MD		10/18 JT	

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-M-8 SY 2 of 3		
Date Analyzed:	10/11/22		
Time Analyzed:	mistake - SO	Sampler Signature	Jordan Dick
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.6 lbs		

Wet RO-TAP Procedure						Checklist			
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	8.77	17.63	8.86	5:37	11:14	✓	✓	CTS-M-8-SY +#25
50	297	8.83	43.93	35.10	6:52	11:15	✓	✓	CTS-M-8-SY +#50
100	149	8.55	86.01	77.46	6:15	11:17	✓	✓	CTS-M-8-SY +#100
140	105	8.71	59.35	50.64	7:41	11:18	✓	✓	CTS-M-8-SY +#140
200	74	9.00	67.19	58.19	5:24	11:19	✓	✓	CTS-M-8-SY +#200
270	53	9.24	33.19	23.95	6:57	11:20	✓	✓	CTS-M-8-SY +#270
-270	-53	2.17	37.34	35.17	NA	11:01	✓	✓	CTS-M-8-SY -#270
Totals:						10/13 MO		10/18 IF	

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-M-30-SY 1 of 4		
Date Analyzed:	10/13/22		
Time Analyzed:	8:00 AM	Sampler Signature	Jm Dill
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.6 lbs		

		Wet RO-TAP Procedure				Checklist			
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.28	~~11.07~~ MO	0.04	4:25	11:54	✓	✓	CTS-M-30-SY +#25
50	297	9.28	9.~~25~~33	0.05	5:37	11:54	✓	✓	CTS-M-30-SY +#50
100	149	9.16	9.28	0.12	6:27	11:57	✓	✓	CTS-M-30-SY +#100
140	105	9.18	9.33	0.15	7:49	11:59	✓	✓	CTS-M-30-SY +#140
200	74	9.60	9.76	0.16	6:42	12:06	✓	✓	CTS-M-30-SY +#200
270	53	9.06	9.30	0.24	8:06	12:08	✓	✓	CTS-M-30-SY +#270
-270	-53	~~2.13~~	~~235.57~~		NA	8:38	✓	✓	CTS-M-30-SY -#270
Totals:		2.13	284.95	282.82		(10/14 MO			

~~[illegible]~~
10/20MO

+25 DRYMASS = 9.32g

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	PAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-M-30-SY 2 of 4		
Date Analyzed:	10/13/22		
Time Analyzed:	8:23 AM	Sampler Signature	J Dick
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.6 lbs		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	8.59	9.81	1.22	5:24	11:43	✓	✓	CTS-M-30-SY +#25
50	297	9.30	16.20	6.90	7:52	11:45	✓	✓	CTS-M-30-SY +#50
100	149	9.07	29.94	20.87	6:37	11:47	✓	✓	CTS-M-30-SY +#100
140	105	8.76	30.65	21.89	8:02	11:48	✓	✓	CTS-M-30-SY +#140
200	74	8.77	55.42	46.65	6:29	11:50	✓	✓	CTS-M-30-SY +#200
270	53	8.70	45.62	36.92	7:53	11:51	✓	✓	CTS-M-30-SY +#270
-270	-53	2.13	235.53	233.40	NA	8:38	✓	✓	CTS-M-30-SY -#270
Totals:						10/14 MO			

10/17 MO

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-M-30-SY 3 of 4		
Date Analyzed:	10/13/22		
Time Analyzed:	8:55 AM	Sampler Signature	Jordan Dick
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.6 lbs		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.06	13.59	4.53	6:22	11:32	✓	✓	CTS-M-30-SY +#25
50	297	9.07	41.32	32.30	7:47	11:34	✓	✓	CTS-M-30-SY +#50
100	149	9.32	90.84	81.52	6:45	11:38	✓	✓	CTS-M-30-SY +#100
140	105	9.39	66.66	57.27	8:17	11:39	✓	✓	CTS-M-30-SY +#140
200	74	9.65	92.60	82.95	5:48	11:39	✓	✓	CTS-M-30-SY +#200
270	53	9.21	37.28	28.07	7:12	11:41	✓	✓	CTS-M-30-SY +#270
-270	-53	2.17	52.49	50.32	NA	8:33	✓	✓	CTS-M-30-SY -#270
Totals:						10/14 MO			

10/17 MO

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	BAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-M-30-SU 4 of 4		
Date Analyzed:	10/13/22		
Time Analyzed:		Sampler Signature	[signature]
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.6 lbs		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.44	11.67	2.23	6:49	10:34	✓	✓	CTS-M-30-SU +#25
50	297	9.42	23.29	13.87	7:58	10:35	✓	✓	CTS-M-30-SU +#50
100	149	9.41	49.86	40.45	5:47	10:36	✓	✓	CTS-M-30-SU +#100
140	105	8.86	38.52	29.66	6:46	10:37	✓	✓	CTS-M-30-SU +#140
200	74	9.26	50.22	40.96	5:37	10:38	✓	✓	CTS-M-30-SU +#200
270	53	9.48	27.29	17.81	7:01	10:40	✓	✓	CTS-M-30-SU +#270
-270	-53	2.16	33.69	31.53	NA	10:45	✓	✓	CTS-M-30-SU -#270
Totals:						10/14 MO			

DATA ENTERED

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-H-O-SL 1 of 1		
Date Analyzed:	10/12/22		
Time Analyzed:	8:40 AM	Sampler Signature	[signature]
Original Dry Mass [g]	400.27g		
Original Slurry Mass [lb]	NA		

Wet RO-TAP Procedure						Checklist			
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.52	18.28	~~18.28~~	8:01	7:42	✓	✓	CTS-H-0-SL-01+#25
50	297	9.47	22.81	~~22.81~~	9:15	9:41	✓	✓	CTS-H-0-SL-01 +#50
100	149	9.60	45.85	~~45.8~~	7:14	9:40	✓	✓	CTS-H-0-SL-01 +#100
140	105	9.08	45.54	36.46	8:39	9:39	✓	✓	CTS-H-0-SL-01 +#140
200	74	9.60	69.56	59.96	6:26	9:38	✓	✓	CTS-H-0-SL-01 +#200
270	53	9.18	49.21	40.03	7:52	9:37	✓	✓	CTS-H-0-SL-01 +#270
-270	-53	~~2.19~~ MO	~~415.93~~ MO	199.00	NA	8:50	✓	✓	CTS-H-0-SL-01 -#270
Totals:		2.16	201.16			10/14 IF		10/18 IF	

10/17 MO

Net total #25 = 8.76
#50 = 13.34
#100 = 36.25

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-H-4-SY 1 of 3		
Date Analyzed:	10/13/22		
Time Analyzed:	11:30 AM	Sampler Signature	Jordan Dick
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	17.0 lbs		

Wet RO-TAP Procedure						Checklist			Sample Bag Label	
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF		
25	707	9.43	9.50	0.07	4:34	11:01	✓	✓	CTS-H-4-SY	+#25
50	297	9.67	9.79	0.12	6:21	11:02	✓	✓	CTS-H-4-SY	+#50
100	149	9.19	9.51	0.32	6:37	11:03	✓	✓	CTS-H-4-SY	+#100
140	105	9.29	9.40	0.11	8:12	11:05	✓	✓	CTS-H-4-SY	+#140
200	74	9.32	9.66	0.34	6:47	11:06	✓	✓	CTS-H-4-SY	+#200
270	53	9.42	9.91	0.49	8:15	11:09	✓	✓	CTS-H-4-SY	+#270
-270	-53	2.12	317.19	315.07		11:30	✓	✓	CTS-H-4-SY	-#270
Totals:										

10/14 MO
10/20 MO

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-H-4-SY 2 of 3		
Date Analyzed:	10/13/22		
Time Analyzed:	1:15 PM	Sampler Signature	[signature] Dick
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	17.0 lbs		

Size Fraction [US Mesh]	Size Fraction [micron]	Wet RO-TAP Procedure Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.08	15.04	5.96	5:37	10:49	✓	✓	CTS-H-4-SY +#25
50	297	9.08	41.14	32.06	6:52	10:52	✓	✓	CTS-H-4-SY +#50
100	149	9.50	95.85	86.35	6:22	10:53	✓	✓	CTS-H-4-SY +#100
140	105	9.02	83.09	74.07	7:38	10:55	✓	✓	CTS-H-4-SY +#140
200	74	9.35	148.41	139.06	6:37	10:56	✓	✓	CTS-H-4-SY +#200
270	53	8.85	49.18	40.33	7:49	10:58	✓	✓	CTS-H-4-SY +#270
-270	-53	2.06	165.87	163.81	NA	8:51	✓	✓	CTS-H-4-SY -#270
Totals:									

10/14 MO

10/17 MO

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-H-4-S4 3 of 3		
Date Analyzed:	10/13/22	Sampler Signature	[signature]
Time Analyzed:	1:45 PM		
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	17.0 lbs		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	8.31	10.55	2.24	5:29	9:57	✓	✓	CTS-H-4-SU +#25
50	297	9.02	24.07	15.05	6:48	9:58	✓	✓	CTS-H-4-SU +#50
100	149	8.59	64.97	56.38	6:26	9:59	✓	✓	CTS-H-4-SU +#100
140	105	8.69	62.85	54.16	7:57	10:00	✓	✓	CTS-H-4-SU +#140
200	74	9.04	85.00	75.96	5:48	10:01	✓	✓	CTS-H-4-SU +#200
270	53	8.48	53.89	45.41	7:09	10:02	✓	✓	CTS-H-4-SU +#270
-270	-53	2.03	131.26	129.23	NA	8:53	✓	✓	CTS-H-4-SU -#270
Totals:						10/14 FF			

10/14 MO

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-H-8-SY 1 of 4		
Date Analyzed:	10/13/22		
Time Analyzed:	10:00 AM	Sampler Signature	Jordan Dick
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	186 lbs		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.32	9.57	0.25	4:57	✓	10:22	✓	CTS-H-8-SY +#25
50	297	8.94	9.10	0.16	6:15	✓	10:23	✓	CTS-H-8-SY +#50
100	149	8.55	8.97	0.42	6:21	✓	10:24	✓	CTS-H-8-SY +#100
140	105	8.92	9.22	0.30	7:39	✓	10:25	✓	CTS-H-8-SY +#140
200	74	8.89	9.26	0.37	5:46	✓	10:26	✓	CTS-H-8-SY +#200
270	53	8.31	9.01	0.70	7:15	✓	10:27	✓	CTS-H-8-SY +#270
-270	-53	2.12	361.98	359.86		✓	12:25	✓	CTS-H-8-SY -#270
Totals:							10/18 JF 10/18 JF		

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-H-8-S4 2 of 4		
Date Analyzed:	10/13/22		
Time Analyzed:	10:45 AM	Sampler Signature	J Dick
Original Dry Mass [g]	N/A		
Original Slurry Mass [lb]	18.6 lbs		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	9.06	10.59	1.53	5:48	10:00 ✓	10:00	✓	CTS-H-8-S4 + #25
50	297	8.99	15.84	6.85	7:37	10:01 ✓	10:01	✓	CTS-H-8-S4 + #50
100	149	9.56	29.91	20.35	6:52	10:02 ✓	10:02	✓	CTS-H-8-S4 + #100
140	105	9.19	38.31	29.12	8:33	10:03 ✓	10:03	✓	CTS-H-8-S4 + #140
200	74	8.69	83.31	74.62	5:26	10:04 ✓	10:04	✓	CTS-H-8-S4 + #200
270	53	9.45	63.45	54.00	6:51	10:05 ✓	10:05	✓	CTS-H-8-S4 + #270
-270	-53	2.06	234.13	232.07	N/A	12:21	✓	✓	CTS-H-8-S4 - #270
Totals:						10/11 JF	10/19 JF		

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-H-8-SY 3 of 4		
Date Analyzed:	10/17/22		
Time Analyzed:	9:00AM	Sampler Signature	JM Dick
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.6 lbs		

Wet RO-TAP Procedure						Checklist			Sample Bag Label	
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF		
25	707	9.0	12.38	3.38	5:52	✓	9:07	✓	CTS-H-8-SY	+#25
50	297	9.47	38.58	29.11	7:15	✓	9:08	✓	CTS-H-8-SY	+#50
100	149	9.09	86.47	77.38	5:41	✓	9:09	✓	CTS-H-8-SY	+#100
140	105	9.1	72.43	63.33	7:27	✓	9:10	✓	CTS-H-8-SY	+#140
200	74	9.07	108.71	99.64	5:13	✓	9:11	✓	CTS-H-8-SY	+#200
270	53	9.02	33.88	24.86	6:47	✓	9:12	✓	CTS-H-8-SY	+#270
-270	-53	2.11	40.85	~~44.74~~ 38.74	NA	✓	12:28	✓	CTS-H-8-SY	-#270
Totals:							10/18 IF 10/19 JF			

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-H-8-SY 4 of 4		
Date Analyzed:	10/17/22		
Time Analyzed:	9:27 AM	Sampler Signature	JDick
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.6 lbs		

Wet RO-TAP Procedure						Checklist			
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	8.29	12.40	4.11	5:29	✓	10:13	✓	CTS-H-8-SY +#25
50	297	8.30	27.75	19.45	6:48	✓	10:14	✓	CTS-H-8-SY +#50
100	149	8.40	56.26	47.86	6:22	✓	10:15	✓	CTS-H-8-SY +#100
140	105	8.70	51.47	42.77	7:53	✓	10:16	✓	CTS-H-8-SY +#140
200	74	9.19	69.90	60.71	5:27	✓	10:17	✓	CTS-H-8-SY +#200
270	53	8.86	33.03	24.17	6:39	✓	10:18	✓	CTS-H-8-SY +#270
-270	-53	~~2.12~~	~~361.98~~	35.13	NA	12:22	✓	✓	CTS-H-8-SY -#270
Totals:		2.12	37.25			10/19/22	10/18/22		

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-H-30-S4 1 of 4		
Date Analyzed:	10/17/22		
Time Analyzed:	9:53 AM	Sampler Signature	[signature]
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.0 lbs		

		Wet RO-TAP Procedure				Checklist			
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.2	9.46	0.20	4:56	✓	7:44	✓	
50	297	9.47	9.67	0.26	6:12	✓	7:45	✓	
100	149	9.06	9.39	0.33	6:49	✓	7:46	✓	
140	105	8.58	8.87	0.29	8:15	✓	7:47	✓	
200	74	9.26	9.83	0.57	6:37	✓	7:48	✓	
270	53	8.68	10.36	1.68	7:52	✓	7:49	✓	
-270	-53	2.16	374.91	372.75	N/A	✓	12:17	✓	
Totals:							10/18 JF	10/19 JF	

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAGS	Sampler Name Print	Jordan Dick
Sample Analyzed:	LTS-14-30-54 2 of 21		
Date Analyzed:	10/17/22		
Time Analyzed:	10:18 AM	Sampler Signature	JMa Dick
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.0 lbs		

Wet RO-TAP Procedure

Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Checklist: Sample Logged	Checklist: Sample Bagged	Checklist: Sample XRF	Sample Bag Label
25	707	8.79 / 8.99	9.85 / 13.88	1.06	6:09	✓	10:36	✓	
50	297			4.89	7:36	✓	10:37	✓	
100	149	9.33	23.43	14.10	5:49	✓	10:38	✓	
140	105	9.03	27.85	18.82	6:54	✓	10:39	✓	
200	74	9.71	53.91	44.20	5:38	✓	10:40	✓	
270	53	9.28	57.60	48.32	7:06	✓	10:41	✓	
-270	-53	2.12	250.39	248.27		✓	12:14	✓	
Totals:							10/18/22 - 10/19/22		

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	LTS-H-30-54 3 of 4		
Date Analyzed:	6/17/22		
Time Analyzed:	10:44 Am	Sampler Signature	[signature] Dick
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.0 lbs		

Wet RO-TAP Procedure						Checklist			Sample Bag Label
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	
25	707	8.54	11.41	2.87	6:16	✓	10:10	✓	
50	297	9.18	43.35	34.17	7:43	✓	10:11	✓	
100	149	8.68	79.28	70.60	5:39	✓	10:12	✓	
140	105	9.70	64.56	54.86	7:12	✓	10:13	✓	
200	74	8.75	80.65	71.90	5:26	✓	10:14	✓	
270	53	9.68	36.77	27.09	7:43	✓	10:15	✓	
-270	-53	2.08	43.13	41.05	N/A	✓	12:16	✓	
Totals:							10/18 JF \ 10/19 JK		

DISA

Exhibit C SOP for ROTAP Material Processing - Site Sample Collection COC

Project:	RAES	Sampler Name Print	Jordan Dick
Sample Analyzed:	CTS-H-30-54 4 of 4		
Date Analyzed:	10/17/22		
Time Analyzed:	11:30 AM	Sampler Signature	[signature] Dik
Original Dry Mass [g]	NA		
Original Slurry Mass [lb]	18.0 lbs		

Wet RO-TAP Procedure						Checklist			
Size Fraction [US Mesh]	Size Fraction [micron]	Tare Mass Cup/Filter Paper [g]	Dry Mass Total [g]	Net Mass Total [g]	Time on Screen [mm:ss]	Sample Logged	Sample Bagged	Sample XRF	Sample Bag Label
25	707	9.46	10.64	1.18	6:15	✓	10:49	✓	
50	297	8.94	20.98	12.04	7:49	✓	10:50	✓	
100	149	8.85	55.96	47.11	5:36	✓	10:51	✓	
140	105	8.74	58.99	50.25	6:52	✓	10:52	✓	
200	74	8.57	34.69	26.12	5:43	✓	10:53	✓	
270	53	8.63	82.82	74.19	7:14	✓	10:54	✓	
-270	-53	2.12	44.44	42.32	N/A	✓	12:14	✓	
Totals:						10/18 IF		10/19 IF	

APPENDIX B-4
GRAB FEED SAMPLE MASS LOGGING, SAMPLE MOISTURE DETERMINATION, AND SAMPLE SPLITTING FORMS

Mass Tracking Sheet - Bulk

Project:	22013-001	Technician:	M. Orrell
Sample ID:	Soil Samples	Notes:	Dried 09/06/22 AM

	By Drying Container		Tare Mass g	Wet Mass g	Dry Mass g
1409.89	CR-L-0-SL-01	1 of 4	8.98	355.90	351.08
	CR-L-0-SL-01	2 of 4	8.40	395.47	387.61
	CR-L-0-SL-01	3 of 4	8.67	390.45	382.21
	CR-L-0-SL-01	4 of 4	7.94	320.49	313.55
1312.02	CR-M-0-SL-01	1 of 4	8.74	392.22	374.38
	CR-M-0-SL-01	2 of 4	8.94	344.82	331.46
	CR-M-0-SL-01	3 of 4	8.65	375.68	360.38
	CR-M-0-SL-01	4 of 4	8.67	280.09	271.03
1692.07	CR-H-0-SL-01	1 of 4	8.55	460.64	448.05
	CR-H-0-SL-01	2 of 4	8.64	449.67	437.41
	CR-H-0-SL-01	3 of 4	8.36	409.07	398.05
	CR-H-0-SL-01	4 of 4	8.47	445.82	432.98
1362.68	QV-L-0-SL-01	1 of 4	8.87	463.66	451.62
	QV-L-0-SL-01	2 of 4	8.59	450.24	438.50
	QV-L-0-SL-01	3 of ~~4~~ 3	8.37	501.63	488.78
1483.86	QV-M-0-SL-01	1 of 4	8.58	404.37	393.12
	QV-M-0-SL-01	2 of 4	8.88	389.44	380.09
	QV-M-0-SL-01	3 of 4	7.90	459.28	446.58
	QV-M-0-SL-01	4 of 4	8.43	292.89	288.27
1545.65	QV-H-0-SL-01	1 of 4	8.45	500.85	486.61
	QV-H-0-SL-01	2 of 4	8.60	486.64	474.78
	QV-H-0-SL-01	3 of 4	8.62	458.94	450.20
	QV-H-0-SL-01	4 of 4	7.88	156.85	158.06
1231.92	CTS-L-0-SL-01	1 of 4	8.98	401.04	394.45
	CTS-L-0-SL-01	2 of 4	8.49	414.92	406.67
	CTS-L-0-SL-01	3 of ~~4~~ 3	8.70	457.45	447.67
1328.64	CTS-M-0-SL-01	1 of 4	8.61	380.13	366.33
	CTS-M-0-SL-01	2 of 4	8.91	374.22	361.68
	CTS-M-0-SL-01	3 of 4	8.17	380.40	365.39
	CTS-M-0-SL-01	4 of 4	8.67	267.92	260.01
1551.91	CTS-H-0-SL-01	1 of 4	8.60	510.56	508.16
	CTS-H-0-SL-01	2 of 4	8.44	449.78	448.66
	CTS-H-0-SL-01	3 of 4	8.04	430.41	429.06
	CTS-H-0-SL-01	4 of 4	8.27	186.61	190.09
1386.65	CTS-H-0 +1/4"	1 of 3	8.60	569.85	575.21
	CTS-H-0 +1/4"	2 of 3	8.48	562.16	567.55
	CTS-H-0 +1/4"	3 of 3	8.45	252.77	259.82
	CTS-M-0 +1/4"	1 of 3	8.42	591.89	591.30
	CTS-M-0 +1/4"	2 of 3	8.41	610.90	610.48
	CTS-M-0 +1/4"	3 of 3	8.11	317.07	319.76
	CTS-L-0 +1/4"	1 of 3	8.63	580.42	586.10
	CTS-L-0 +1/4"	2 of 3	8.46	583.41	582.81
	CTS-L-0 +1/4"	3 of 3	9.56	206.31	211.65
	CR-H-0 (Kenyon)	1 of 1	9.48	714.05	717.67

+ including pan

DISA®

SAMPLE RECEIPT INVENTORY

Client- Project #: 22013-001

Company: TetraTech/Nav. Natio **Contact:**

Date Received:	09/01/2022	**Sample Status:**	☐ Damage ☐ Contamination ☐ ______
Receipt Notification to Client:	~~—~~	**Notes:**	sample picked up & delivered by DISA

Testing Priority:	☐ Standard	☐ Rush			
Sample Characteristics:	☒ Radioactive	☐ High Org. Carbon	☐ High Silica	☐ Hydrocarbons	☐ Other specify: ______

CHAIN OF CUSTODY

Received by: Print:	Sign:	Date/Time:	Relinquished by: Print:	Sign:	Date/Time:
Andrew Halverson					

SAMPLE INFORMATION

Sample ID:	Sample Type*:	Photo:	Weight/Core Length:	Notes:
see Treatability Study Tracking Sheet		☐		
		☐		
		☐		
		☐		
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		☐		
		☐		

*: **DC:** Drill Core, **BS:** Bulk Solids, **T:** Tailings, **P:** Pulp **S:** Slurry

Mass Tracking Sheet - Bulk

Project:	22013-001	Technician:	M. Orrell
Sample ID:	Soil Samples	Notes:	

	As-Received Bulk	Dried Bulk Matl		MLA Charge	Bulk Analytical Assay Charge	Sieve Charge	
	g	g	Moisture Content	g	g	g	Total Mass before splitting
CR-L-0-SL-01	1462.31		100.0%	380.16	703.33	313.76	1399.48
CR-M-0-SL-01	1392.81		100.0%	333.71	649.85	317.55	1301.74
CR-H-0-SL-01	1765.20		100.0%	448.77	796.62	434.58	1681.90
QV-L-0-SL-01	1415.53		100.0%	321.64	659.77	369.19	1352.26
QV-M-0-SL-01	1545.98		100.0%	367.59	721.82	382.11	1473.19
QV-H-0-SL-01	1603.28		100.0%	380.54	768.26	384.81	1535.10
CTS-L-0-SL-01	1273.41		100.0%	311.80	590.31	315.70	1221.40
CTS-M-0-SL-01	1402.67		100.0%	331.80	645.78	337.14	1318.07
CTS-H-0-SL-01	1577.36		100.0%	362.39	773.47	400.27	1400.57 +140.85
CTS-H-0 +1/4"	1384.78		100.0%				
CTS-M-0 +1/4"	1519.86		100.0%				
CTS-L-0 +1/4"	1370.14		100.0%				
CR-H-0 (Kenyon)	714.05		100.0%				
			#DIV/0!				

9/6/22 22013 TetraTech/NNation Soil Samples
M. Orrell

Time	Sample		Tare Mass		Wet Mass		Dry Mass
9:45	CR-L-0-SL-01 1 of ~~2~~4	Tare Mass:	8.98	Wet Mass:	355.90	Dry Mass:	
	CR-L-0-SL-01 2 of ~~2~~4	Tare Mass:	8.40	Wet Mass:	395.44	Dry Mass:	
	CR-M-0-SL-01 1 of ~~2~~4	Tare Mass:	8.74	Wet Mass:	392.22	Dry Mass:	
	CR-M-0-SL-01 2 of ~~2~~4	Tare Mass:	8.94	Wet Mass:	344.82	Dry Mass:	
9:50	CR-H-0-SL-01 1 of 2	Tare Mass:	8.55	Wet Mass:	460.64	Dry Mass:	
	CR-H-0-SL-01 2 of 2	Tare Mass:	8.64	Wet Mass:	449.67	Dry Mass:	
9:57	QV-L-0-SL-01 1 of 2	Tare Mass:	8.87	Wet Mass:	463.66	Dry Mass:	
	QV-L-0-SL-01 2 of 2	Tare Mass:	8.59	Wet Mass:	450.24	Dry Mass:	
10:07	QV-M-0-SL-01 1 of 2	Tare Mass:	8.58	Wet Mass:	404.37	Dry Mass:	
	QV-M-0-SL-01 2 of 2	Tare Mass:	8.88	Wet Mass:	389.44	Dry Mass:	
10:15	QV-H-0-SL-01 1 of 2	Tare Mass:	8.45	Wet Mass:	500.85	Dry Mass:	
	QV-H-0-SL-01 2 of 2	Tare Mass:	8.60	Wet Mass:	486.64	Dry Mass:	
10:20	CTS-L-0-SL-01 1 of 2	Tare Mass:	8.98	Wet Mass:	401.04	Dry Mass:	
	CTS-L-0-SL-01 2 of 2	Tare Mass:	8.49	Wet Mass:	414.92	Dry Mass:	
10:30	CTS-M-0-SL-01 1 of 2	Tare Mass:	8.61	Wet Mass:	380.13	Dry Mass:	
	CTS-M-0-SL-01 2 of 2	Tare Mass:	8.91	Wet Mass:	374.27	Dry Mass:	
10:34	CTS-H-0-SL-01 1 of 2	Tare Mass:	8.60	Wet Mass:	510.56	Dry Mass:	
	CTS-H-0-SL-01 2 of 2	Tare Mass:	8.44	Wet Mass:	449.78	Dry Mass:	

Sample		Tare	Mass
CR-L-0-SL-01	x3	8.67	390.45
	x4	7.94	320.49
CR-M-0 SL-01	x3	8.65	375.68
	x4	8.67	280.09
CR-H-0-SL-01	x3	8.36	409.07
	x4	8.47	445.82
QV-L-0-SL-01	x3	8.37	501.63
	~~x4~~		
QV-M-0-SL-01	x3	7.90	459.28
	x4	8.43	292.89
QV-H-0-SL-01	x3	8.62	458.94
	x4	7.88	156.85
CTS-L-0-SL-01	x3	8.70	457.45
CTS-M-0-SL-01	x3	8.17	380.40
	x4	8.67	267.92
CTS-H-0-SL-01	x3	8.04	430.41
	x4	8.27	186.61

Sample			Tare	Mass
CTS-H-0	+1/4"	x1	8.60	569.85
		x2	8.48	562.16
		x3	8.45	252.77
CTS-M-0	+1/4"	x1	8.42	591.89
		x2	8.41	610.90
		x3	8.11	317.07

CTS-L-O +1/4"

x1	8.63	580.42
x2	8.46	583.41
x3	9.56	206.31

kenyon's
CR-H-O
(coarse feed after pre-cut)

x1	9.48	494.05

APPENDIX B-5
OLD CHURCH ROCK MINE, COVE TRANSFER STATION 2, AND QUIVIRA CHURCH ROCK 1 MINE FRACTIONATION SAMPLE SPLITTING FORMS

		Split Goals						
Multiplier		0.25		0.25		0.5		Notes:
		Metals/Ra 226 Split		MLA		SPLP/TCLP		
Sample ID	Original Mass [g]	Est.	Actual	Est.	Actual	Est.	Actual	
CR-L-0-SL-01 +25	7.3	N/A		N/A		N/A		
CR-L-0-SL-01 +50	21.82	N/A		N/A		N/A		
CR-L-0-SL-01 +100	78.6	N/A		N/A		N/A		
CR-L-0-SL-01 +140	60.52	N/A		N/A		N/A		
CR-L-0-SL-01 +200	48.25	N/A		N/A		N/A		
CR-L-0-SL-01 +270	19	N/A		N/A		N/A		
CR-L-0-SL-01 -270	76.85	N/A		N/A		N/A		
CR-L-4-SY +25	21.1	5.28	5.28	5.28	5.29	10.55	10.45	High organics
CR-L-4-SY +50	93.89	23.47	23.47	23.47	23.47	46.95	46.91	
CR-L-4-SY +100	292.99	73.25	~~73~~ *	73.25	73.28	146.50	146.21	Needs Dup.
CR-L-4-SY +140	216.01	54.00	54.00	54.00	54.03	108.01	107.53	
CR-L-4-SY +200	147.75	36.94	36.94	36.94	36.95	73.88	73.51	
CR-L-4-SY +270	58.97	14.74	14.75	14.74	14.75	29.49	28.79	
CR-L-4-SY -270	111.2							
CR-L-8-SY +25	16.42	4.11	4.11	4.11	4.10	8.21	8.11	High organics
CR-L-8-SY +50	96.23	24.06	24.05	24.06	24.09	48.12	48.06	
CR-L-8-SY +100	316.33	79.08	79.07	79.08	79.08	158.17	~~156~~157.87	
CR-L-8-SY +140	235.75	58.94	59.00	58.94	58.95	117.88	117.43	
CR-L-8-SY +200	155.51	38.88	38.87	38.88	38.89	77.76	77.26	
CR-L-8-SY +270	62.53	15.63	15.63	15.63	15.63	31.27	30.78	
CR-L-8-SY -270	112.07							
CR-L-30-SY +25	14.83	3.71	3.71	3.71	3.72	7.42	7.41	
CR-L-30-SY +50	86.23	21.56	21.57	21.56	21.59	43.12	43.06	
CR-L-30-SY +100	299.05	74.76	74.76	74.76	74.76	149.53	149.27	
CR-L-30-SY +140	230.55	57.64	57.66	57.64	57.65	115.28	114.95	
CR-L-30-SY +200	158.34	39.59	39.60	39.59	39.60	79.17	78.70	
CR-L-30-SY +270	65.63	16.41	16.42	16.41	16.41	32.82	32.31	
CR-L-30-SY -270	137.01							
CR-M-0-SL-01 +25	36.97	N/A		N/A		N/A		
CR-M-0-SL-01 +50	77.55	N/A		N/A		N/A		
CR-M-0-SL-01 +100	84.32	N/A **		N/A		N/A		Needs Dup.
CR-M-0-SL-01 +140	30.38	N/A		N/A		N/A		
CR-M-0-SL-01 +200	20.85	N/A		N/A		N/A		
CR-M-0-SL-01 +270	9.44	N/A		N/A		N/A		
CR-M-0-SL-01 -270	56.16	N/A		N/A		N/A		
CR-M-4-SY +25	82.48	20.62	20.61	20.62	20.62	41.24	41.18	
CR-M-4-SY +50	369.57	92.39	92.38	92.39	92.40	184.79	183.97	TEAR in bag - sample loss
CR-M-4-SY +100	353.13	88.28	88.27	88.28	88.35	176.57	176.40	
CR-M-4-SY +140	113.78	28.45	28.45	28.45	28.46	56.89	56.57	
CR-M-4-SY +200	70.67	17.67	17.67	17.67	17.98	35.34	34.56	MLA split high
CR-M-4-SY +270	31.43	7.86	7.86	7.86	7.85	15.72	15.31	
CR-M-4-SY -270	109.17							
CR-M-8-SY +25	165.22	41.31	41.31	41.31	41.31	82.61	82.61	
CR-M-8-SY +50	493.53	123.38	123.38	123.38	123.40	246.77	216.64	SPLP split low ↳ was transcript. error on previous sheet
CR-M-8-SY +100	410.51	102.63	102.63	102.63	102.69	205.26	205.18	
CR-M-8-SY +140	125.67	31.42	31.43	31.42	31.42	62.84	62.45	
CR-M-8-SY +200	76.71	19.18	19.17	19.18	19.18	38.36	38.10	
CR-M-8-SY +270	35.58	8.90	8.90	8.90	8.90	17.79	17.44	
CR-M-8-SY -270	131.25							

* CR-L-4-SY +100 -01 = 36.62
CR-L-4-SY +100 -02 = 36.63

** CR-M-0-SL-01 +100 -01 = 42.17
~~CR-M-0-SL-02 +1~~ mo
CR-M-0-SL-01 +100-02 = 42.15

CR-L-30	MLA	GROSS	= 215.96
		BAG	= 2.23
	SPLP	GROSS	= 427.92
		BAG	= 2.28
CR-L-8	MLA	GROSS	= 223.03
		BAG	= 2.28
	SPLP	GROSS	= 441.76
		BAG	= 2.27
CR-L-4	MLA	GROSS	= 209.91
		BAG	= 2.26
	SPLP	GROSS	= 415.54
		BAG	= 2.27
CR-M-4	MLA	GROSS	= 257.95
		BAG	= 2.31
	SPLP	GROSS	= 513.69
		BAG	= 5.12
CR-M-8	MLA	GROSS	= 331.97
		BAG	= 5.03
	SPLP	GROSS	= 627.42
		BAG	= 5.08

			Split Goals						
Multiplier			0.25		0.25		0.5		Notes:
			Metals/Ra 226 Split		MLA		SPLP/TCLP		
Sample ID		Original Mass [g]	Est.	Actual	Est.	Actual	Est.	Actual	
			Split Goals						
Multiplier			0.25		0.25		0.5		Notes:
			Metals/Ra 226 Split		MLA		SPLP/TCLP		
Sample ID		Original Mass [g]	Est.	Actual	Est.	Actual	Est.	Actual	
CR-M-30-SY +25	✓	100.44	25.11	25.11	25.11	25.11	50.22	49.89	
CR-M-30-SY +50	✓	371.53	92.88	92.89	92.88	92.94	185.77	185.43	
CR-M-30-SY +100-01	✓	373.26	46.66	46.66	93.32	93.33	186.63	186.16	
CR-M-30-SY +100-02			46.66	46.66					
CR-M-30-SY +140	✓	120.34	30.09	30.09	30.09	30.09	60.17	59.84	
CR-M-30-SY +200	✓	79.47	19.87	19.87	19.87	19.90	39.74	13.13	
CR-M-30-SY +270	✓	35.66	8.92	8.92	8.92	8.93	17.83	17.26	
CR-M-30-SY -270		171.24							
CR-H-0-SL-01 +25	✓	83.60	N/A		N/A		N/A		
CR-H-0-SL-01 +50	✓	139.19	N/A		N/A		N/A		
CR-H-0-SL-01 +100	✓	92.25	N/A		N/A		N/A		
CR-H-0-SL-01 +140	✓	21.13	N/A		N/A		N/A		
CR-H-0-SL-01 +200	✓	14.87	N/A		N/A		N/A		
CR-H-0-SL-01 +270	✓	9.19	N/A		N/A		N/A		
CR-H-0-SL-01 -270		71.97	N/A		N/A		N/A		
CR-H-4-SY +25	✓	338.14	84.54	84.54	84.54	84.55	169.07	169.04	
CR-H-4-SY +50	✓	688.11	172.03	172.04	172.03	172.04	344.06	343.92	
CR-H-4-SY +100	✓	394.93	98.73	98.72	98.73	98.74	197.47	197.24	
CR-H-4-SY +140	✓	74.24	18.56	18.56	18.56	18.56	37.12	36.62	
CR-H-4-SY +200	✓	46.31	11.58	11.58	11.58	11.61	23.16	22.49	
CR-H-4-SY +270	✓	24.31	6.08	6.08	6.08	6.09	12.16	11.63	
CR-H-4-SY -270		97.92							
CR-H-8-SY +25	✓	380.46	95.12	95.13	95.12	95.12	190.23	190.25	
CR-H-8-SY +50-01	✓	659.10	82.39	82.39	164.78	164.79	329.55	329.28	
CR-H-8-SY +50-02			82.39	82.38					
CR-H-8-SY +100	370.26	~~380.18~~	92.57 ~~95.05~~	92.59	92.57 ~~95.05~~	92.58	185.13 ~~190.09~~	184.86	
CR-H-8-SY +140	✓	71.97	17.99	18.00	17.99	18.05	35.99	35.32	Need dupe on +50 and
CR-H-8-SY +200	✓	43.96	10.99	11.00	10.99	11.01	21.98	21.38	on SPLP (dup on SPLP
CR-H-8-SY +270	✓	24.09	6.02	6.02	6.02	6.02	12.05	11.38	~391.51g)
CR-H-8-SY -270		105.42							
CR-H-30-SY +25	✓	148.99	37.25	37.25	37.25	37.25	74.50	74.47	
CR-H-30-SY +50	✓	505.49	126.37	126.37	126.37	126.37	252.75	252.64	
CR-H-30-SY +100	✓	368.61	92.15	92.15	92.15	92.16	184.31	184.06	
CR-H-30-SY +140	✓	80.1	20.03	20.03	20.03	20.07	40.05	39.61	
CR-H-30-SY +200	✓	50.68	12.67	12.67	12.67	12.67	25.34	24.93	
CR-H-30-SY +270	✓	28.94	7.24	7.24	7.24	7.25	14.47	14.02	
CR-H-30-SY -270		167.47							
QV-L-0-SL-01 +25	✓	52.3	N/A		N/A		N/A		
QV-L-0-SL-01 +50	✓	89.67	N/A		N/A		N/A		
QV-L-0-SL-01 +100	✓	102.86	N/A		N/A		N/A		
QV-L-0-SL-01 +140	✓	30.44	N/A		N/A		N/A		
QV-L-0-SL-01 +200	✓	15.33	N/A		N/A		N/A		
QV-L-0-SL-01 +270	✓	8.67	N/A		N/A		N/A		
QV-L-0-SL-01 -270	✓	68.72	N/A		N/A		N/A		
QV-L-4-SY +25	✓	91.56	22.89	22.90	22.89	22.89	45.78	45.67	
QV-L-4-SY +50-01	✓	344.46	43.06	43.06	86.12	86.12	172.23	171.60	
QV-L-4-SY +50-02			43.06	43.06					
QV-L-4-SY +100	✓	361.9	90.48	90.47	90.48	90.49	180.95	180.75	
QV-L-4-SY +140	✓	105.43	26.36	26.36	26.36	26.36	52.72	52.80	
QV-L-4-SY +200	✓	49.6	12.40	12.40	12.40	12.40	24.80	24.56	
QV-L-4-SY +270	✓	22.63	5.66	5.66	5.66	5.66	11.32	11.01	
QV-L-4-SY -270		117.17							

shipped

[illegible]

Combined Samples					
	Mass [g]			Mass [g]	
MLA	Est.	Actual	SPLP	Est.	Actual
CR-M-30-SY +25/+270	270.18	270.24	CR-M-30-SY +25/+270	540.35	537.61
CR-H-4-SY +25/+270	391.51	391.55	CR-H-4-SY +25/+270	783.02	~~[illegible]~~
CR-H-8-SY +25/+270	389.94	387.45	CR-H-8-SY +25/+270-01	389.94	388.24
			CR-H-8-SY +25/+270-02	389.94	383.75
CR-H-30-SY +25/+270	295.70 ~~243.90~~	295.77	CR-H-30-SY +25/+270	591.41	589.73
QV-L-4-SY +25/+270	~~238.24~~ 243.90	243.92	QV-L-4-SY +25/+270	487.79	485.89

> sample composited
> then riffle split

		BAG	Full
CRH4SY	MLA	2.55	394.10
	SPLP	2.54	783.39
CRH8SY	MLA	2.81	389.96
CRH30SY	MLA	2.48	298.24
	SPLP	2.43	592.09
QV-L-4	MLA	2.41	246.35
	SPLP	2.49	488.34

Combined Samples

MLA	Mass [g]	SPLP	Mass [g]
CR-L-4-SY +25/+270	207.68	CR-L-4-SY Combined +25/+270	415.36
CR-L-8-SY +25/+270	220.69	CR-L-8-SY Combined +25/+270	441.39
CR-L-30-SY +25/+270	213.66 ~~255.27~~	CR-L-30-SY Combined +25/+270	427.32
CR-M-4-SY +25/+270	255.27	CR-M-4-SY Combined +25/+270	510.53
CR-M-8-SY +25/+270	326.81	CR-M-8-SY Combined +25/+270	653.61

Sampling notes:

Disposable spoons cleaned for each size fract (x6)
material mixed in bag by agitating solids back/forth
sample bag opened, ~~spoon~~ sample transferred by spoon to
tared bag & pan until reaching approx. goal mass for Metals/Ra
spoon kept w/ sample bag
continued until all sample sizes weighed out for metals/Ra
tared pan, weighed labeled bag for MLA
followed email instruction to tare betwn sizefract & continued
adding to the MLA bag until complete
weighed "GROSS" MASS of MLA sample & bag
tared pan, weighed SPLP labeled bag
followed same instruction as MLA but poured mat'l instead of
spoon transfer
Removed as much matl as possible from the bags (original bags)
*Static claimed some sample permanently in bag/on spoon

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CHECK

		Split Goals							
Multiplier			0.25		0.25		0.5		Notes:
			Metals/Ra 226 Split		MLA		SPLP/TCLP		
Sample ID		Original Mass [g]	Est.	Actual	Est.	Actual	Est.	Actual	
CTS-L-0-SL-01 +25	✓	6.88	N/A		N/A		N/A		MLA BAG 2.44
CTS-L-0-SL-01 +50	✓	11.73	N/A		N/A		N/A		NET
CTS-L-0-SL-01 +100	✓	32.09	N/A		N/A		N/A		SPLP BAG 2.48
CTS-L-0-SL-01 +140	✓	35.57	N/A		N/A		N/A		NET
CTS-L-0-SL-01 +200	✓	43.80	N/A		N/A		N/A		
CTS-L-0-SL-01 +270	✓	36.63	N/A		N/A		N/A		
CTS-L-0-SL-01 -270	✓	143.58	N/A		N/A		N/A		
CTS-L-4-SY +25	✓	30.01 ~~30.35~~	7.50 7.59	7.80	7.50 7.59	7.59	15.18	15 88	x
CTS-L-4-SY +50	✓	91.34	22.84	22.83	22.84	22.85	45.67	45.88	
CTS-L-4-SY +100	✓	168.80	42.20	42.21	42.20	42.21	84.40	84.64	
CTS-L-4-SY +140	✓	128.76	32.19	32.19	32.19	32.19	64.38	64.24	
CTS-L-4-SY +200		167.28 ~~197.98~~	41.82 ~~49.50~~	41.97	41.82 ~~49.50~~	41.85	83.11 ~~98.99~~	82.45	weights off -
CTS-L-4-SY +270		144.76 ~~121.16~~	36.19 ~~30.29~~	36.12	36.19 ~~30.29~~	36.30	72.38 ~~60.58~~	71.49	AH 10/22
CTS-L-4-SY -270		596.34			149.09				BAG
CTS-L-8-SY +25	✓	8.29	2.07	2.06	2.07	2.06	4.15	4.15	MLA 243
CTS-L-8-SY +50	✓	53.51	13.38	13.37	13.38	13.38	26.76	26.66	SPLP 2.36
CTS-L-8-SY +100	✓	130.35	32.59	32.59	32.59	32.60	65.18	64.89	
CTS-L-8-SY +140	✓	115.35	28.84	28.84	28.84	28.84	57.68	57.44	
CTS-L-8-SY +200	✓	191.75	47.94	47.94	47.94	47.94	95.88	95.27	
CTS-L-8-SY +270	✓	100.48	25.12	25.12	25.12	25 12	50.24	49.47	
CTS-L-8-SY -270		606.09			151.52				BAG
CTS-L-30-SY +25		5.07	1.27	1.2740	1.27	1.27	2.54	2.54	MLA 2.36
CTS-L-30-SY +50		34.09	8.52	8.52	8.52	8.52	17.05	~~17.06~~	* SPLP 2.38
CTS-L-30-SY +100-01		98.71	12.34	12.34	24.68	24.68	49.36	49.26	18.09
CTS-L-30-SY +100-02			12.34	12.34					
CTS-L-30-SY +140		96.89	24.22 ~~12.11~~	24.22	24.22	24.23	48.45	47.91	
CTS-L-30-SY +200		179.05	44.76	44.76	44.76	44.76	89.53	89.00	
CTS-L-30-SY +270		95.70	23.93	23.93	23.93	23.94	47.85	47.66	
CTS-L-30-SY -270		674.92							
CTS-M-0-SL-01 +25	✓	8.34	N/A		N/A		N/A		
CTS-M-0-SL-01 +50	✓	17.33	N/A		N/A		N/A		
CTS-M-0-SL-01 +100	✓	38.48	N/A		N/A		N/A		
CTS-M-0-SL-01 +140	✓	36.91	N/A		N/A		N/A		
CTS-M-0-SL-01 +200	✓	48.80	N/A		N/A		N/A		
CTS-M-0-SL-01 +270	✓	30.95	N/A		N/A		N/A		
CTS-M-0-SL-01 -270	✓	155.64	N/A		N/A		N/A		
CTS-M-4-SY +25	✓	12.65	3.16	3.16	3.16	3.16	6.33	~~6.33~~	* MLA BAG 2.41
CTS-M-4-SY +50	✓	69.90	17.48	17.48	17.48	17.48	34.95	34.83	SPLP BAG 2.43
CTS-M-4-SY +100	✓	152.68	38.17	38.16	38.17	38.18	76.34	76.15	6.67
CTS-M-4-SY +140	✓	125.77	31.44	31.44	31.44	31.43	62.89	62.44	
CTS-M-4-SY +200	✓	165.18	41.30	41.30	41.30	41.32	82.59	81.96	
CTS-M-4-SY +270	✓	95.28	23.82	23.83	23.82	23.83	47.64	47.01	
CTS-M-4-SY -270		548.47			137.12				
CTS-M-8-SY +25	✓	12.05	3.01	3.02	3.01	3.01	6.03	~~6.03~~	* MLA BAG 2.39
CTS-M-8-SY +50	✓	58.21	14.55	14.55	14.55	14.57	29.11	29.16	SPLP BAG 2.37
CTS-M-8-SY +100-01	✓	148.67	18.58	18.58	37.17	37.17	74.34	74.05	6.25
CTS-M-8-SY +100-02			18.58	18.57					
CTS-M-8-SY +140	✓	117.18	29.30	29.31	29.30	29.30	58.59	58.26	
CTS-M-8-SY +200	✓	160.10	40.03	40.04	40.03	40.03	80.05	79.20	
CTS-M-8-SY +270	✓	96.28	24.07	24.08	24.07	24.06	48.14	47.48	
CTS-M-8-SY -270		574.77			143.69				

			Split Goals						
Multiplier			0.25		0.25		0.5		Notes:
			Metals/Ra 226 Split		MLA		SPLP/TCLP		
Sample ID		Original Mass [g]	Est.	Actual	Est.	Actual	Est.	Actual	BAG
CTS-M-30-SY +25	✓	8.02	2.01	2.01	2.01	2.01	4.01	4.19	MLA 2.44
CTS-M-30-SY +50	✓	53.12	13.28	13.28	13.28	13.28	26.56	26.66	SPLP 2.38
CTS-M-30-SY +100	✓	142.96	35.74	35.74	35.74	35.76	71.48	71.20	
CTS-M-30-SY +140	✓	108.97	27.24	27.23	27.24	27.25	54.49	53.94	
CTS-M-30-SY +200	✓	170.72	42.68	42.68	42.68	42.68	85.36	84.60	
CTS-M-30-SY +270	✓	83.04	20.76	20.75	20.76	20.77	41.52	40.80	
CTS-M-30-SY -270		~~315.25~~							
CTS-H-0-SL-01 +25	✓	8.76	N/A		N/A		N/A		
CTS-H-0-SL-01 +50	✓	13.34	N/A		N/A		N/A		
CTS-H-0-SL-01 +100	✓	36.25	N/A		N/A		N/A		
CTS-H-0-SL-01 +140	✓	36.46	N/A		N/A		N/A		
CTS-H-0-SL-01 +200	✓	59.96	N/A		N/A		N/A		
CTS-H-0-SL-01 +270	✓	40.03	N/A		N/A		N/A		
CTS-H-0-SL-01 -270	✓	199.00	N/A		N/A		N/A		BAG
CTS-H-4-SY +25	✓	8.27	2.07	2.07	2.07	2.06	4.14	4.01	MLA 2.44
CTS-H-4-SY +50	✓	47.23	11.81	11.82	11.81	11.83	23.62	23.53	SPLP 2.36
CTS-H-4-SY +100-01	✓	143.05	17.88	17.87	35.76	35.77	71.53	71.02	
CTS-H-4-SY +100-02	X		17.88	17.88					
CTS-H-4-SY +140	✓	128.34	32.09	32.10	32.09	32.09	64.17	63.38	
CTS-H-4-SY +200	✓	215.36	53.84	53.85	53.84	53.86	107.68	106.82	
CTS-H-4-SY +270	✓	86.23	21.56	21.57	21.56	21.56	43.12	42.39	
CTS-H-4-SY -270		~~293.04~~			73.26				
CTS-H-8-SY +25	✓	9.27	2.32	2.32	2.32	2.33	4.64	4.09	MLA 2.46
CTS-H-8-SY +50	✓	55.57	13.89	13.89	13.89	13.90	27.79	27.36	SPLP 2.36
CTS-H-8-SY +100	✓	146.01	36.50	36.49	36.50	36.50	73.01	72.40	
CTS-H-8-SY +140	✓	135.52	33.88	33.89	33.88	33.88	67.76	66.87	
CTS-H-8-SY +200	✓	235.34	58.84	58.84	58.84	58.84	117.67	116.97	
CTS-H-8-SY +270	✓	103.73	25.93	25.93	25.93	25.93	51.87	50.84	
CTS-H-8-SY -270		~~0.00~~			0.00				
CTS-H-30-SY +25	✓	5.31	1.33	1.34	1.33	1.33	2.66	2.13	MLA 2.36
CTS-H-30-SY +50	✓	51.36	12.84	12.84	12.84	12.85	25.68	25.05	SPLP 2.37
CTS-H-30-SY +100-01	✓	132.14	16.52	16.53	33.04	33.04	66.07	65.23	
CTS-H-30-SY +100-02			16.52	16.52					
CTS-H-30-SY +140	✓	124.22	31.06	31.06	31.06	31.06	62.11	61.35	
CTS-H-30-SY +200	✓	142.59	35.65	35.64	35.65	35.65	71.30	70.33	
CTS-H-30-SY +270		151.28	37.82	37.82	37.82	37.81	75.64	74.54	
CTS-H-30-SY -270		0.00							

Combined Samples							
	Mass [g]				Mass [g]		
MLA	Est.	Actual		SPLP	Est.	Actual	
CTS-L-4-SY +25/+270	184.51		104.84	CTS-L-4-SY +25/+270	369.03		209.94
CTS-L-8-SY +25/+270	149.93	152.35	149.94	CTS-L-8-SY +25/+270	299.87	300.14	297.88
CTS-L-30-SY +25/+270	127.38	129.75	127.40	CTS-L-30-SY +25/+270	254.76	256.83	253.43
CTS-M-4-SY +25/+270	155.37	157.67	155.40	CTS-M-4-SY +25/+270	310.73	311.39	308.72
CTS-M-8-SY +25/+270	148.12	150.51	148.14	CTS-M-8-SY +25/+270	296.25	296.66	294.18
CTS-M-30-SY +25/+270	141.71	144.23	0.00	CTS-M-30-SY +25/+270	283.42	283.66	0.00
CTS-H-4-SY +25/+270	157.12	159.61	0.00	CTS-H-4-SY +25/+270	314.24	313.46	0.00
CTS-H-8-SY +25/+270	171.36	173.77	0.00	CTS-H-8-SY +25/+270	342.72	340.85	0.00
CTS-H-30-SY +25/+270	151.73	154.14	0.00	CTS-H-30-SY +25/+270	303.45	306.98	0.00

		Split Goals						
Multiplier		0.25		0.25		0.5		Notes:
		Metals/Ra 226 Split		MLA		SPLP/TCLP		
Sample ID	Original Mass [g]	Est.	Actual	Est.	Actual	Est.	Actual	
		Split Goals						
Multiplier		0.25		0.25		0.5		Notes:
		Metals/Ra 226 Split		MLA		SPLP/TCLP		
Sample ID	Original Mass [g]	Est.	Actual	Est.	Actual	Est.	Actual	
QV-L-8-SY +25	✓ 150.49	37.62	37.62	37.62	37.59	75.25	75.26	
QV-L-8-SY +50	✓ 477.05	119.26	119.26	119.26	119.27	238.53	238.15	
QV-L-8-SY +100	✓ 479.74	119.94	119.94	119.94	119.93	239.87	239.34	
QV-L-8-SY +140	✓ 132.76	33.19	32.19	33.19	33.19	66.38	65.46	
QV-L-8-SY +200	✓ 61.84	15.46	15.46	15.46	15.46	30.92	30.34	
QV-L-8-SY +270	✓ 30.10	7.53	7.53	7.53	7.52	15.05	14.26	
QV-L-8-SY -270	141.64							
QV-L-30-SY +25	120.26	30.07	30.09	30.07	30.12	60.13	60.09	AH 10/08
QV-L-30-SY +50	421.12	105.28	105.42	105.28	105.29	210.56	210.04	
QV-L-30-SY +100	470.74	117.69	117.69	117.69	117.72	235.37	234.71	
QV-L-30-SY +140	136.49	34.12	34.22	34.12	34.14	68.25	68.07	
QV-L-30-SY +200	67.02	16.76	16.76	16.76	16.75	33.51	31.96	
QV-L-30-SY +270	31.15	7.79	7.79	7.79	7.79	15.58	15.05	
QV-L-30-SY -270	181.25							
QV-M-4-SY +25	325.43	81.36	81.35	81.36	81.44	162.72	162.70	AH 10/09
QV-M-4-SY +50	598.34	149.59	149.59	149.59	149.60	299.17	297.45	In field notes tear in original bag
QV-M-4-SY +100-01	425.92	53.24	53.23	106.48	106.47	212.96	212.21	
QV-M-4-SY +100-02		53.24	53.25					
QV-M-4-SY +140	93.37	23.34	23.34	23.34	23.35	46.69	46.06	
QV-M-4-SY +200	44.34	11.09	11.09	11.09	11.08	22.17	21.66	
QV-M-4-SY +270	23.55	5.89	5.88	5.89	5.87	11.78	11.15	
QV-M-4-SY -270	66.40							
QV-M-0-SL-01 +25	56.49	N/A ~~14.12~~		N/A ~~14.12~~		N/A ~~28.25~~		AH 10/08
QV-M-0-SL-01 +50	114.89	N/A ~~28.72~~		N/A ~~28.72~~		N/A ~~57.45~~		
QV-M-0-SL-01 +100	87.26	N/A ~~21.82~~		N/A ~~21.82~~		N/A ~~43.63~~		
QV-M-0-SL-01 +140	25.76	N/A ~~6.44~~		N/A ~~6.44~~		N/A ~~12.88~~		
QV-M-0-SL-01 +200	12.46	N/A ~~3.12~~		N/A ~~3.12~~		N/A ~~6.23~~		
QV-M-0-SL-01 +270	8.06	N/A ~~2.02~~		N/A ~~2.02~~		N/A ~~4.03~~		
QV-M-0-SL-01 -270	74.87	N/A ~~18.72~~		N/A ~~18.72~~		N/A ~~37.44~~		
QV-M-8-SY +25	259.71	64.93	64.92	64.93	64.95	129.86	127.43	AH 10/8
QV-M-8-SY +50	629.30	157.33	157.33	157.33	157.32	314.65	314.56	
QV-M-8-SY +100	462.53	115.63	115.67	115.63	115.61	231.27	231.21	
QV-M-8-SY +140	100.91	25.23	25.22	25.23	25.23	50.46	50.20	
QV-M-8-SY +200	49.39	12.35	12.35	12.35	12.35	24.70	24.28	
QV-M-8-SY +270	24.85	6.21	6.22	6.21	6.22	12.43	11.96	
QV-M-8-SY -270	78.60							
QV-M-30-SY +25	167.69	41.92	41.91	41.92	42.05	83.85	83.77	AH 10/08
QV-M-30-SY +50	522.93	130.73	130.72	130.73	130.83	261.47	261.02	
QV-M-30-SY +100-01	426.85	53.36	53.37	106.71	106.72	213.43	212.91	
QV-M-30-SY +100-02		53.36	53.36					
QV-M-30-SY +140	105.43	26.36	26.36	26.36	26.36	52.72	52.30	
QV-M-30-SY +200	54.70	13.68	13.68	13.68	13.69	27.35	26.82	
QV-M-30-SY +270	28.62	7.16	7.21	7.16	7.16	14.31	13.82	
QV-M-30-SY -270	124.50							
QV-H-4-SY +25	905.65 ~~328.33~~	101.41 ~~82.08~~	101.55	101.41 ~~82.08~~	101.41	202.83 ~~164.17~~	202.57	AH, 10/09
QV-H-4-SY +50	898.07 ~~733.63~~	224.52 ~~183.41~~	224.51	224.52 ~~183.41~~	224.55	449.04 ~~366.82~~	448.48	
QV-H-4-SY +100	591.43 ~~487.48~~	147.86 ~~121.87~~	147.85	147.86 ~~121.87~~	147.87	295.72 ~~243.74~~	295.24	
QV-H-4-SY +140	121.57 ~~100.31~~	30.39 ~~25.08~~	30.38	30.39 ~~25.08~~	30.43	60.79 ~~50.16~~	60.61	
QV-H-4-SY +200	58.00 ~~47.87~~	14.50 ~~11.97~~	14.50	14.50 ~~11.97~~	14.50	29.00 ~~23.94~~	28.54	
QV-H-4-SY +270	26.60 ~~22.34~~	6.65 ~~5.59~~	6.64	6.65 5.59	6.72	13.30 ~~11.17~~	12.93	
QV-H-4-SY -270	~~73.22~~							

Error in original sheet 10/09 AH

Combined Samples

MLA	Mass [g] Est.	Mass [g] Actual	SPLP	Mass [g] Est.	Mass [g] Actual
QV-L-8-SY +25/+270	333.00	332.96 ~~0.00~~	QV-L-8-SY +25/+270	665.99	662.81
QV-L-30-SY +25/+270	311.70	311.81 ~~0.00~~	QV-L-30-SY +25/+270	623.39	619.92
QV-M-4-SY +25/+270	377.74	377.81 ~~0.00~~	QV-M-4-SY +25/+270	755.48	753.70
QV-M-8-SY +25/+270	381.67	381.69 ~~0.00~~	QV-M-8-SY +25/+270	763.35	759.64
QV-M-30-SY +25/+270	326.56	326.81 ~~0.00~~	QV-M-30-SY +25/+270	653.11	650.64
QV-H-4-SY +25/+270	~~429.99~~	525.48 0.00	QV-H-4-SY +25/+270	~~859.98~~	1048.37
QV-H-8-SY +25/+270	~~412.20~~	507.44 ~~0.00~~	QV-H-8-SY +25/+270	~~824.53~~	1012.12
QV-H-30-SY +25/+270	415.86	415.85 0.00	QV-H-30-SY +25/+270	831.72	829.32

AH 10/09

Goal

MLA	SPLP
525.33	1050.66
507.44	1014.89

Error in original sheet printed fixed version 10/09 AH

Split Goals								
Multiplier		0.25		0.25		0.5		Notes:
		Metals/Ra 226 Split		MLA		SPLP/TCLP		
Sample ID	Original Mass [g]	Est.	Actual	Est.	Actual	Est.	Actual	
—	—	—	—	—	—	—	—	
—	—	—	—	—	—	—	—	
—	—	—	—	—	—	—	—	
—	—	—	—	—	—	—	—	
QV-H-0-SL-01 +25	57.53	N/A		N/A		N/A		
QV-H-0-SL-01 +50	109.53	N/A		N/A		N/A		
QV-H-0-SL-01 +100	98.59	N/A		N/A		N/A		
QV-H-0-SL-01 +140	24.54	N/A		N/A		N/A		
QV-H-0-SL-01 +200	12.01	N/A		N/A		N/A		
QV-H-0-SL-01 +270	7.35	N/A		N/A		N/A		
QV-H-0-SL-01 -270	72.37	N/A		N/A		N/A		
QV-H-8-SY +25	291.91	72.98	72.98	72.98	72.98	145.96	—	
QV-H-8-SY +50	705.19	176.30	176.31	176.30	176.31	352.60	—	
QV-H-8-SY +100	479.58	119.90	119.92	119.90	119.91	239.79	—	
QV-H-8-SY +140	101.95	25.49	25.48	25.49	25.50	50.98	—	
QV-H-8-SY +200	47.15	11.79	11.79	11.79	11.80	23.58	—	
QV-H-8-SY +270	23.27	5.82	5.82	5.82	5.82	11.64	—	
QV-H-8-SY -270	84.09							
QV-H-30-SY +25	247.12	61.78	61.80	61.78	61.78	123.56	123.67	AM, 10/09
QV-H-30-SY +50	661.94	165.49	165.49	165.49	165.48	330.97	330.57	
QV-H-30-SY +100-01	527.33	65.92	65.97	131.83	131.83	263.67	262.98	
QV-H-30-SY +100-02		65.92	65.97					
QV-H-30-SY +140	130.85	32.71	32.71	32.71	32.70	65.43	65.04	
QV-H-30-SY +200	65.24	16.31	16.32	16.31	16.31	32.62	32.12	
QV-H-30-SY +270	30.95	7.74	7.74	7.74	7.75	15.48	14.94	
QV-H-30-SY -270	144.96							

Split Goals							
Multiplier		0.25		0.25		0.5	
		Metals/Ra 226 Split		MLA		SPLP/TCLP	
Sample ID	Original Mass [g]	Est.	Actual	Est.	Actual	Est.	Actual
QV-H-8-SY +25	339.73	84.93	84.94	84.93	84.93	169.87	~~84~~ 169.21
QV-H-8-SY +50	867.23	216.81	216.80	216.81	216.83	433.62	433.21
QV-H-8-SY +100	605.60	151.40	151.40	151.40	151.39	302.80	302.26
QV-H-8-SY +140	128.16	32.04	32.08	32.04	32.03	64.08	55.67
QV-H-8-SY +200	60.22	15.06	15.06	15.06	15.06	30.11	37.91
QV-H-8-SY +270	28.83	7.21	7.21	7.21	7.20	14.42	13.86
QV-H-8-SY -270	96.03						

10/09 AH

Possible logging error

QV-H-8-SY

Metals/Ra226

	Original	Tared Goal	Tared Actual
+25	72.98	11.95	11.96
+50	176.31	40.50	40.49
+100	119.92	31.48	31.48
+140	25.48	6.56	6.60
+200	11.79	3.27	3.27
+270	5.82	1.39	1.39

MLA

Original	Tared Goal	Tared Actual
72.98	11.95	11.95
176.31	40.50	40.52
119.91	31.49	31.48
25.50	6.54	6.53
11.80	3.26	3.26
5.82	1.39	1.38

APPENDIX B-6
DISA SAMPLE WEIGHT TRACKING FORMS

Mass Tracking Sheet - Bulk

Project:	22013-001	Technician:	M. Orrell
Sample ID:	Soil Samples	Notes:	

	As-Received Bulk	Dried Bulk Matl		MLA Charge	Bulk Analytical Assay Charge	Sieve Charge
	g	g	Moisture Content	g	g	g
CR-L-0-SL-01	1462.31	1400.46	4.2%	380.16	703.33	313.76
CR-M-0-SL-01	1392.81	1302.25	6.5%	333.71	649.85	317.55
CR-H-0-SL-01	1765.20	1682.47	4.7%	448.77	796.62	434.58
QV-L-0-SL-01	1415.53	1353.07	4.4%	321.64	659.77	369.19
QV-M-0-SL-01	1545.98	1474.27	4.6%	367.59	721.82	382.11
QV-H-0-SL-01	1603.28	1536.10	4.2%	380.54	768.26	384.81
CTS-L-0-SL-01	1273.41	1222.62	4.0%	311.80	590.31	315.70
CTS-M-0-SL-01	1402.67	1319.05	6.0%	331.80	645.78	337.14
CTS-H-0-SL-01	1577.36	1542.62	2.2%	362.39	773.47	400.27
CTS-H-0 +1/4"	1384.78	1377.05	0.6%		1016.11	353.03
CTS-M-0 +1/4"	1519.86	1496.60	1.5%		1088.29	400.96
CTS-L-0 +1/4"	1370.14	1347.91	1.6%		1014.94	327.21
CR-H-0 (Kenyon)	714.05	708.19	0.8%		708.19	
			#DIV/0!			

Mass Tracking Sheet - Bulk

Project:	22013-001	Technician:	M. Orrell
Sample ID:	Soil Samples	Notes:	Dried 09/06/22 AM

By Drying Container		Tare Mass g	Wet Mass g	Dry Mass w/ pan g	Dry Mass g
CR-L-0-SL-01	1 of 4	8.98	355.90	351.08	342.10
CR-L-0-SL-01	2 of 4	8.40	395.47	387.61	379.21
CR-L-0-SL-01	3 of 4	8.67	390.45	382.21	373.54
CR-L-0-SL-01	4 of 4	7.94	320.49	313.55	305.61
CR-M-0-SL-01	1 of 4	8.74	392.22	374.38	365.64
CR-M-0-SL-01	2 of 4	8.94	344.82	331.46	322.52
CR-M-0-SL-01	3 of 4	8.65	375.68	360.38	351.73
CR-M-0-SL-01	4 of 4	8.67	280.09	271.03	262.36
CR-H-0-SL-01	1 of 4	8.55	460.64	448.05	439.50
CR-H-0-SL-01	2 of 4	8.64	449.67	437.41	428.77
CR-H-0-SL-01	3 of 4	8.36	409.07	398.05	389.69
CR-H-0-SL-01	4 of 4	8.47	445.82	432.98	424.51
QV-L-0-SL-01	1 of 3	8.87	463.66	451.62	442.75
QV-L-0-SL-01	2 of 3	8.59	450.24	438.5	429.91
QV-L-0-SL-01	3 of 3	8.37	501.63	488.78	480.41
QV-M-0-SL-01	1 of 4	8.58	404.37	393.12	384.54
QV-M-0-SL-01	2 of 4	8.88	389.44	380.09	371.21
QV-M-0-SL-01	3 of 4	7.90	459.28	446.58	438.68
QV-M-0-SL-01	4 of 4	8.43	292.89	288.27	279.84
QV-H-0-SL-01	1 of 4	8.45	500.85	486.61	478.16
QV-H-0-SL-01	2 of 4	8.60	486.64	474.78	466.18
QV-H-0-SL-01	3 of 4	8.62	458.94	450.2	441.58
QV-H-0-SL-01	4 of 4	7.88	156.85	158.06	150.18
CTS-L-0-SL-01	1 of 3	8.98	401.04	394.45	385.47
CTS-L-0-SL-01	2 of 3	8.49	414.92	406.67	398.18
CTS-L-0-SL-01	3 of 3	8.70	457.45	447.67	438.97
CTS-M-0-SL-01	1 of 4	8.61	380.13	366.33	357.72
CTS-M-0-SL-01	2 of 4	8.91	374.22	361.68	352.77
CTS-M-0-SL-01	3 of 4	8.17	380.40	365.39	357.22
CTS-M-0-SL-01	4 of 4	8.67	267.92	260.01	251.34
CTS-H-0-SL-01	1 of 4	8.60	510.56	508.16	499.56
CTS-H-0-SL-01	2 of 4	8.44	449.78	448.66	440.22
CTS-H-0-SL-01	3 of 4	8.04	430.41	429.06	421.02
CTS-H-0-SL-01	4 of 4	8.27	186.61	190.09	181.82
CTS-H-0 +1/4"	1 of 3	8.60	569.85	575.21	566.61
CTS-H-0 +1/4"	2 of 3	8.48	562.16	567.55	559.07
CTS-H-0 +1/4"	3 of 3	8.45	252.77	259.82	251.37
CTS-M-0 +1/4"	1 of 3	8.42	591.89	591.3	582.88
CTS-M-0 +1/4"	2 of 3	8.41	610.90	610.48	602.07
CTS-M-0 +1/4"	3 of 3	8.11	317.07	319.76	311.65
CTS-L-0 +1/4"	1 of 3	8.63	580.42	580.1	571.47
CTS-L-0 +1/4"	2 of 3	8.46	583.41	582.81	574.35
CTS-L-0 +1/4"	3 of 3	9.56	206.31	211.65	202.09
CR-H-0 (Kenyon)	1 of 1	9.48	714.05	717.67	708.19

Overall Samples	Tare Mass g	Wet Mass g	Dry Mass g
CR-L-0-SL-01	33.99	1462.31	1400.46
CR-M-0-SL-01	35.00	1392.81	1302.25
CR-H-0-SL-01	34.02	1765.20	1682.47
QV-L-0-SL-01	25.83	1415.53	1353.07
QV-M-0-SL-01	33.79	1545.98	1474.27
QV-H-0-SL-01	33.55	1603.28	1536.1
CTS-L-0-SL-01	26.17	1273.41	1222.62
CTS-M-0-SL-01	34.36	1402.67	1319.05
CTS-H-0-SL-01	33.35	1577.36	1542.62
CTS-H-0 +1/4"	25.53	1384.78	1377.05
CTS-M-0 +1/4"	24.94	1519.86	1496.6
CTS-L-0 +1/4"	26.65	1370.14	1347.91
CR-H-0 (Kenyon)	9.48	714.05	708.19

Mass Tracking Sheet - Bulk

Project:	22013-001	Technician:	M. Orrell
Sample ID:	Soil Samples	Notes:	

	+#25	+#50	+#100	+#140	+#200	+#270	-#270
	g	g	g	g	g	g	g
CR-L-4-SY	21.10	93.89	292.99	216.01	147.75	58.97	111.20
CR-L-8-SY	16.42	96.23	316.33	235.75	155.51	62.53	112.07
CR-L-30-SY	14.83	86.23	299.05	230.55	158.34	65.63	137.04
CR-H-4-SY	338.14	688.11	394.93	74.24	46.31	24.31	97.92
CR-H-8-SY	380.46	659.10	370.26	71.97	43.96	24.09	105.42
CR-H-30-SY	148.99	505.49	368.61	80.10	50.68	28.94	167.47
CR-M-4-SY	82.48	369.57	353.13	113.78	70.67	31.43	109.17
CR-M-8-SY	165.22	463.53	410.51	125.67	76.71	35.58	131.25
CR-M-30-SY	100.44	371.53	373.26	120.34	79.47	35.66	171.24
CTS-H-4-SY	8.27	47.23	143.05	128.34	215.36	86.23	608.11
CTS-H-8-SY	9.27	55.57	146.01	135.52	235.34	103.73	665.80
CTS-H-30-SY	5.31	51.36	132.14	124.22	142.59	151.28	704.39
CTS-L-4-SY	30.01	91.34	168.80	128.76	167.28	144.76	596.34
CTS-L-8-SY	8.31	53.51	130.35	115.55	191.75	100.48	606.09
CTS-L-30-SY	5.07	33.09	98.71	96.89	179.05	95.70	674.92
CTS-M-4-SY	12.65	69.90	152.68	125.77	165.18	95.28	548.47
CTS-M-8-SY	12.05	58.21	148.67	117.18	160.10	96.28	574.77
CTS-M-30-SY	8.02	53.12	142.96	108.97	170.72	83.04	598.07
QV-H-4-SY	405.65	898.07	591.43	121.57	58.00	26.60	84.22
QV-H-8-SY	339.73	867.23	605.60	128.16	60.22	28.83	96.03
QV-H-30-SY	247.12	661.94	527.33	130.85	65.24	30.95	144.96
QV-L-4-SY	91.56	344.46	361.90	105.43	49.60	22.63	117.17
QV-L-8-SY	150.49	477.05	479.74	132.76	61.84	30.10	141.64
QV-L-30-SY	120.26	421.12	470.74	136.49	67.02	31.15	181.25
QV-M-4-SY	325.43	598.34	425.92	93.37	44.34	23.55	66.40
QV-M-8-SY	259.71	629.30	462.53	100.91	49.39	24.85	78.60
QV-M-30-SY	167.69	522.93	426.85	105.43	54.70	28.62	124.50

HPSA PSD Weight Compilation

		1 of		2 of		3 of		4 of		5 of		6 of		7 of		Total
		Pan	Sample+Pan	Pan	Sample+Pan	Pan	Sample+Pan	Pan	Sample+Pan	Pan	Sample+Pan	Pan	Sample+Pan	Pan	Sample+Pan	
CR-H-30-SY	+#25	9.46	34.53	9.58	44.12	9.17	45.84	9.39	62.10							148.99
CR-H-30-SY	+#50	9.75	115.41	9.23	150.58	9.49	120.88	9.81	156.90							505.49
CR-H-30-SY	+#100	9.54	101.11	9.49	113.86	9.25	88.60	9.11	102.43							368.61
CR-H-30-SY	+#140	9.38	29.43	9.66	33.58	9.40	24.69	9.38	30.22							80.10
CR-H-30-SY	+#200	9.42	22.74	9.75	22.98	9.61	20.84	9.39	22.29							50.68
CR-H-30-SY	+#270	9.12	16.55	9.71	17.28	9.60	16.04	9.71	17.21							28.94
CR-H-30-SY	-#270	2.12	88.36	2.15	40.35	2.03	21.20	2.17	26.03							167.47
CR-H-4-SY	+#25	9.65	87.46	9.51	65.40	9.55	96.59	9.61	66.59	9.65	70.07					338.14
CR-H-4-SY	+#50	9.60	146.66	9.48	132.54	9.36	211.30	9.92	110.33	9.44	135.08					688.11
CR-H-4-SY	+#100	9.48	97.07	9.60	70.13	9.65	110.38	9.34	87.17	9.66	77.91					394.93
CR-H-4-SY	+#140	9.42	25.84	9.38	20.78	9.24	28.10	9.42	25.08	9.92	21.82					74.24
CR-H-4-SY	+#200	9.55	21.12	9.53	17.77	9.26	21.01	9.50	17.78	9.73	16.20					46.31
CR-H-4-SY	+#270	9.88	16.05	9.75	14.62	9.84	15.96	9.30	13.51	9.46	12.40					24.31
CR-H-4-SY	-#270	2.05	31.63	2.17	21.61	2.10	28.84	2.17	15.72	2.14	10.75					97.92
CR-H-8-SY	+#25	9.51	76.08	9.29	107.62	9.40	88.53	9.50	70.17	9.38	85.14					380.46
CR-H-8-SY	+#50	9.24	136.05	9.72	202.26	9.59	142.12	9.27	103.36	9.43	122.56					659.10
CR-H-8-SY	+#100	9.78	84.88	9.58	111.90	9.16	81.58	9.35	64.89	9.92	74.80					370.26
CR-H-8-SY	+#140	9.69	25.02	9.44	27.51	9.52	23.63	9.51	20.68	9.67	22.96					71.97
CR-H-8-SY	+#200	9.13	18.75	9.86	19.81	9.64	18.78	9.27	16.90	9.55	17.17					43.96
CR-H-8-SY	+#270	9.50	14.80	9.37	14.76	9.33	14.22	9.30	13.36	9.98	14.43					24.09
CR-H-8-SY	-#270	2.14	46.73	2.18	21.10	2.12	17.33	2.09	16.78	2.15	14.16					105.42
CR-L-30-SY	+#25	9.69	15.08	9.96	14.41	9.42	14.41									14.83
CR-L-30-SY	+#50	9.43	37.88	10.08	37.65	9.32	39.53									86.23
CR-L-30-SY	+#100	9.65	112.02	9.35	104.51	9.57	111.09									299.05
CR-L-30-SY	+#140	10.40	95.80	9.50	78.57	9.39	85.47									230.55
CR-L-30-SY	+#200	9.79	72.50	9.46	55.31	9.65	59.43									158.34
CR-L-30-SY	+#270	9.81	37.48	9.72	28.46	9.78	29.00									65.63
CR-L-30-SY	-#270	2.11	76.82	2.08	32.96	2.13	33.58									137.04
CR-L-4-SY	+#25	9.28	14.68	9.78	20.51	9.88	14.85									21.10
CR-L-4-SY	+#50	9.90	39.29	9.37	53.71	9.34	29.50									93.89
CR-L-4-SY	+#100	9.29	113.50	9.70	123.10	9.41	84.79									292.99
CR-L-4-SY	+#140	9.55	87.46	9.67	81.45	10.01	76.33									216.01
CR-L-4-SY	+#200	9.47	61.21	9.57	52.76	9.88	62.70									147.75
CR-L-4-SY	+#270	9.80	29.73	9.72	23.42	9.48	34.82									58.97
CR-L-4-SY	-#270	2.13	31.98	2.14	18.67	2.07	66.89									111.20
CR-L-8-SY	+#25	9.55	16.58	9.53	14.24	9.31	13.99									16.42
CR-L-8-SY	+#50	9.82	45.67	9.77	42.09	9.62	37.68									96.23
CR-L-8-SY	+#100	9.95	125.31	9.16	119.99	9.67	99.81									316.33
CR-L-8-SY	+#140	9.84	95.52	9.51	92.85	9.47	76.20									235.75
CR-L-8-SY	+#200	10.02	64.25	9.47	66.22	9.53	54.06									155.51
CR-L-8-SY	+#270	9.81	32.25	9.63	32.06	9.69	27.35									62.53
CR-L-8-SY	-#270	2.14	44.09	2.05	44.84	2.13	29.46									112.07
CR-M-30-SY	+#25	9.27	30.96	9.48	42.90	9.60	39.82	9.53	24.64							100.44
CR-M-30-SY	+#50	9.70	95.34	9.20	129.41	9.19	101.41	9.73	83.19							371.53
CR-M-30-SY	+#100	9.79	99.18	9.52	123.86	9.23	94.76	9.74	93.74							373.26
CR-M-30-SY	+#140	9.55	36.74	9.49	48.18	9.31	35.77	10.06	38.06							120.34
CR-M-30-SY	+#200	9.15	27.19	9.57	34.52	9.66	27.58	9.82	28.38							79.47
CR-M-30-SY	+#270	9.51	18.30	9.74	20.92	9.24	16.67	9.35	17.61							35.66
CR-M-30-SY	-#270	2.07	90.19	2.12	35.18	2.14	20.66	2.06	33.60							171.24
CR-M-4-SY	+#25	9.74	39.43	9.74	36.96	9.77	35.34									82.48
CR-M-4-SY	+#50	9.84	133.41	9.31	131.03	9.54	133.82									369.57
CR-M-4-SY	+#100	9.86	118.98	9.50	127.78	9.58	135.31									353.13
CR-M-4-SY	+#140	9.73	45.45	9.54	45.67	9.57	51.50									113.78
CR-M-4-SY	+#200	9.51	32.70	9.64	32.28	9.60	34.44									70.67
CR-M-4-SY	+#270	9.82	20.29	9.72	20.03	9.58	20.23									31.43
CR-M-4-SY	-#270	2.02	44.64	2.17	35.48	2.11	35.35									109.17
CR-M-8-SY	+#25	9.80	42.21	9.32	70.71	9.35	54.07	9.77	36.47							165.22
CR-M-8-SY	+#50	9.69	114.25	9.68	123.53	9.67	151.16	9.33	112.96							463.53
CR-M-8-SY	+#100	9.89	136.16	9.69	79.88	9.53	113.37	9.57	119.78							410.51
CR-M-8-SY	+#140	9.79	52.50	9.78	28.34	9.55	34.91	9.36	48.40							125.67
CR-M-8-SY	+#200	9.51	31.29	9.83	23.65	9.71	25.22	9.78	35.38							76.71
CR-M-8-SY	+#270	9.82	19.56	9.81	16.87	9.58	17.25	9.41	20.52							35.58
CR-M-8-SY	-#270	2.08	40.26	2.11	26.97	2.09	28.01	2.06	44.35							131.25
CTS-H-30-SY	+#25	9.47	9.67	8.79	9.85	8.54	11.41	9.46	10.64							5.31
CTS-H-30-SY	+#50	9.20	9.46	8.99	13.88	9.18	43.35	8.94	20.98							51.36
CTS-H-30-SY	+#100	9.06	9.39	9.33	23.43	8.68	79.28	8.85	55.96							132.14
CTS-H-30-SY	+#140	8.58	8.87	9.03	27.85	9.70	64.56	8.74	58.99							124.22
CTS-H-30-SY	+#200	9.26	9.83	9.71	53.91	8.95	80.65	8.57	34.69							142.59
CTS-H-30-SY	+#270	8.68	10.36	9.28	57.60	9.68	36.77	8.63	82.82							151.28
CTS-H-30-SY	-#270	2.16	374.91	2.12	250.39	2.08	43.13	2.12	44.44							704.39

CTS-H-4-SY	+#25	9.43	9.50	9.08	15.04	8.31	10.55									8.27
CTS-H-4-SY	+#50	9.67	9.79	9.08	41.14	9.02	24.07									47.23
CTS-H-4-SY	+#100	9.19	9.51	9.50	95.85	8.59	64.97									143.05
CTS-H-4-SY	+#140	9.29	9.40	9.02	83.09	8.69	62.85									128.34
CTS-H-4-SY	+#200	9.32	9.66	9.35	148.41	9.04	85.00									215.36
CTS-H-4-SY	+#270	9.42	9.91	8.85	49.18	8.48	53.89									86.23
CTS-H-4-SY	-#270	2.12	317.19	2.06	165.87	2.03	131.26									608.11
CTS-H-8-SY	+#25	9.32	9.57	9.06	10.59	9.00	12.38	8.29	12.40							9.27
CTS-H-8-SY	+#50	8.94	9.10	8.99	15.84	9.47	38.58	8.30	27.75							55.57
CTS-H-8-SY	+#100	8.55	8.97	9.56	29.91	9.09	86.47	8.40	56.26							146.01
CTS-H-8-SY	+#140	8.92	9.22	9.19	38.31	9.10	72.43	8.70	51.47							135.52
CTS-H-8-SY	+#200	8.89	9.26	8.69	83.31	9.07	108.71	9.19	69.90							235.34
CTS-H-8-SY	+#270	8.31	9.01	9.45	63.45	9.02	33.88	8.86	33.03							103.73
CTS-H-8-SY	-#270	2.12	361.98	2.06	234.13	2.11	40.85	2.12	37.25							665.80
CTS-L-30-SY	+#25	9.22	9.28	8.92	10.09	9.03	11.83	9.47	10.02	9.28	9.77					5.07
CTS-L-30-SY	+#50	8.71	9.04	9.07	20.04	9.56	23.69	9.82	13.36	9.62	13.74					33.09
CTS-L-30-SY	+#100	8.89	9.73	9.26	44.46	8.72	41.48	9.49	26.45	9.47	22.42					98.71
CTS-L-30-SY	+#140	9.23	9.96	9.12	45.69	9.38	40.00	9.64	25.91	9.69	22.39					96.89
CTS-L-30-SY	+#200	9.24	23.90	9.37	81.36	9.38	50.86	9.23	38.61	8.91	30.45					179.05
CTS-L-30-SY	+#270	8.85	13.35	9.09	49.75	9.55	31.09	9.18	26.35	9.08	20.91					95.70
CTS-L-30-SY	-#270	2.16	512.80	2.10	96.12	2.11	29.16	2.14	27.59	2.13	19.89					674.92
CTS-L-4-SY	+#25	8.55	8.83	9.90	10.04	8.68	17.15	9.63	27.26	9.41	12.90					30.01
CTS-L-4-SY	+#50	9.03	9.72	8.95	15.08	9.03	38.28	9.64	53.78	9.61	20.74					91.34
CTS-L-4-SY	+#100	9.40	12.00	9.11	42.15	8.67	62.60	8.87	69.81	9.26	27.55					168.80
CTS-L-4-SY	+#140	9.03	13.46	9.10	49.29	9.14	48.32	8.84	41.28	9.49	22.01					128.76
CTS-L-4-SY	+#200	8.84	176.12													167.28
CTS-L-4-SY	+#270	2.13	146.89													144.76
CTS-L-4-SY	-#270	4.26	387.32	2.17	134.21	2.13	52.01	2.14	20.04	2.11	15.57					596.34
CTS-L-8-SY	+#25	8.72	13.61	8.76	10.59	9.47	10.36	9.75	10.45							8.31
CTS-L-8-SY	+#50	8.67	37.37	9.08	22.18	9.38	15.86	8.43	13.66							53.51
CTS-L-8-SY	+#100	9.10	71.08	8.93	45.24	9.31	28.48	8.83	21.72							130.35
CTS-L-8-SY	+#140	9.06	62.58	9.01	38.91	9.01	25.51	8.75	24.38							115.55
CTS-L-8-SY	+#200	8.84	89.44	8.64	61.13	9.10	33.34	8.63	43.05							191.75
CTS-L-8-SY	+#270	9.11	45.27	9.08	28.30	8.92	21.18	9.01	41.85							100.48
CTS-L-8-SY	-#270	2.19	475.93	2.18	60.90	2.15	48.14	2.14	29.78							606.09
CTS-M-30-SY	+#25	9.28	9.32	8.59	9.81	9.06	13.59	9.44	11.67							8.02
CTS-M-30-SY	+#50	9.28	9.33	9.30	16.20	9.02	41.32	9.42	23.29							53.12
CTS-M-30-SY	+#100	9.16	9.28	9.07	29.94	9.32	90.84	9.41	49.86							142.96
CTS-M-30-SY	+#140	9.18	9.33	8.76	30.65	9.39	66.66	8.86	38.52							108.97
CTS-M-30-SY	+#200	9.60	9.76	8.77	55.42	9.65	92.60	9.26	50.22							170.72
CTS-M-30-SY	+#270	9.06	9.30	8.70	45.62	9.21	37.28	9.48	27.29							83.04
CTS-M-30-SY	-#270	2.13	284.95	2.13	235.53	2.17	52.49	2.16	33.69							598.07
CTS-M-4-SY	+#25	9.18	9.23	9.51	15.91	9.01	15.21									12.65
CTS-M-4-SY	+#50	8.83	9.52	8.88	47.75	8.67	39.01									69.90
CTS-M-4-SY	+#100	9.09	11.76	9.05	97.76	8.53	69.83									152.68
CTS-M-4-SY	+#140	9.30	13.79	9.58	83.49	8.64	56.01									125.77
CTS-M-4-SY	+#200	8.97	22.36	9.17	103.86	9.46	66.56									165.18
CTS-M-4-SY	+#270	8.84	25.43	8.85	54.22	9.32	42.64									95.28
CTS-M-4-SY	-#270	2.09	419.94	2.03	90.35	2.08	44.38									548.47
CTS-M-8-SY	+#25	9.25	10.06	9.76	12.14	8.77	17.63									12.05
CTS-M-8-SY	+#50	9.45	15.42	9.12	26.26	8.83	43.93									58.21
CTS-M-8-SY	+#100	9.55	31.90	9.02	57.88	8.55	86.01									148.67
CTS-M-8-SY	+#140	9.37	37.94	9.26	47.23	8.71	59.35									117.18
CTS-M-8-SY	+#200	9.10	67.62	9.54	52.93	9.00	67.19									160.10
CTS-M-8-SY	+#270	9.17	60.75	8.95	29.70	9.24	33.19									96.28
CTS-M-8-SY	-#270	2.18	502.43	2.16	41.51	2.17	37.34									574.77
QV-H-30-SY	+#25	8.83	48.66	9.08	57.30	8.96	68.54	8.92	57.43	8.96	59.94					247.12
QV-H-30-SY	+#50	8.59	142.15	9.22	152.91	9.03	156.32	9.10	119.70	9.08	135.88					661.94
QV-H-30-SY	+#100	8.84	121.66	8.61	126.64	9.28	116.70	9.38	98.50	8.84	108.78					527.33
QV-H-30-SY	+#140	9.49	39.49	9.01	41.27	9.27	34.40	8.87	28.75	9.04	32.62					130.85
QV-H-30-SY	+#200	8.83	23.65	8.86	26.50	9.05	20.35	9.20	19.09	9.33	20.92					65.24
QV-H-30-SY	+#270	8.98	16.02	8.60	17.75	9.14	13.84	9.17	14.19	9.59	14.63					30.95
QV-H-30-SY	-#270	2.12	75.35	2.08	27.51	2.16	18.27	2.15	16.40	2.10	18.04					144.96
QV-H-4-SY	+#25	9.19	71.57	9.01	50.95	7.88	117.26	8.56	59.22	8.60	72.57	9.09	86.41			405.65
QV-H-4-SY	+#50	9.17	172.11	9.00	115.40	8.24	225.29	8.51	139.76	8.88	124.87	7.99	172.43			898.07
QV-H-4-SY	+#100	9.47	117.61	8.98	81.65	8.41	146.17	9.11	101.03	9.06	86.05	8.80	112.75			591.43
QV-H-4-SY	+#140	9.08	31.75	9.32	24.97	8.17	35.66	8.38	26.51	8.64	25.01	8.49	29.75			121.57

QV-H-4-SY	+#200	9.39	19.94	9.59	17.13	8.87	22.14	8.23	16.89	8.96	16.81	9.04	19.17			58.00
QV-H-4-SY	+#270	9.05	14.18	9.04	12.64	9.51	15.71	8.49	12.26	9.16	12.80	8.65	12.91			26.60
QV-H-4-SY	-#270	2.10	33.98	2.17	9.31	2.16	18.62	2.10	10.88	2.08	11.04	2.12	13.12			84.22
QV-H-8-SY	+#25	9.45	58.85	9.24	69.44	9.61	99.85	9.09	67.20	9.02	42.98	9.23	57.05			339.73
QV-H-8-SY	+#50	9.69	153.48	9.14	149.19	9.37	204.45	9.05	139.77	9.31	104.86	8.81	170.85			867.23
QV-H-8-SY	+#100	9.35	120.37	9.14	99.35	8.62	128.43	8.95	100.99	9.05	75.55	9.22	135.24			605.60
QV-H-8-SY	+#140	9.97	33.57	9.23	27.53	8.89	34.02	9.07	27.47	9.36	25.88	9.00	35.21			128.16
QV-H-8-SY	+#200	9.67	19.25	9.43	18.00	9.19	21.27	8.98	17.80	9.33	17.43	9.06	22.13			60.22
QV-H-8-SY	+#270	9.54	14.30	9.27	13.18	9.25	15.08	9.37	14.62	9.09	12.61	9.35	14.91			28.83
QV-H-8-SY	-#270	2.09	44.18	2.14	12.07	2.10	14.01	2.16	14.74	2.08	9.66	2.12	14.06			96.03
QV-L-30-SY	+#25	8.00	30.07	8.71	55.24	8.94	32.12	8.84	37.32							120.26
QV-L-30-SY	+#50	8.47	108.90	8.39	121.15	9.58	132.06	8.91	94.36							421.12
QV-L-30-SY	+#100	8.41	113.86	8.79	131.14	8.45	144.29	8.86	115.96							470.74
QV-L-30-SY	+#140	8.38	37.09	8.42	47.45	8.58	44.78	8.95	41.50							136.49
QV-L-30-SY	+#200	9.34	23.25	8.62	27.50	9.17	26.99	8.97	25.38							67.02
QV-L-30-SY	+#270	9.69	16.26	8.76	17.36	8.42	16.87	9.21	16.74							31.15
QV-L-30-SY	-#270	2.16	108.72	2.10	28.69	2.14	24.67	2.06	27.63							181.25
QV-L-4-SY	+#25	8.92	33.65	9.28	58.07	9.74	27.78									91.56
QV-L-4-SY	+#50	8.58	115.29	9.77	161.98	9.51	95.05									344.46
QV-L-4-SY	+#100	9.00	122.68	9.21	154.15	9.17	112.45									361.90
QV-L-4-SY	+#140	9.25	43.23	9.38	49.79	9.65	40.69									105.43
QV-L-4-SY	+#200	8.50	26.03	9.36	28.72	9.70	22.41									49.60
QV-L-4-SY	+#270	8.73	17.46	9.67	19.31	9.59	13.85									22.63
QV-L-4-SY	-#270	2.14	38.48	2.08	25.11	2.15	59.95									117.17
QV-L-8-SY	+#25	8.36	48.47	8.94	41.81	8.89	46.01	9.19	49.58							150.49
QV-L-8-SY	+#50	9.13	115.14	8.92	108.90	8.57	143.65	8.83	144.81							477.05
QV-L-8-SY	+#100	8.78	125.48	8.28	115.66	8.79	135.65	8.86	137.66							479.74
QV-L-8-SY	+#140	8.63	41.94	8.62	37.78	9.18	43.89	8.78	44.36							132.76
QV-L-8-SY	+#200	9.16	23.03	8.50	22.76	8.80	25.69	9.08	25.90							61.84
QV-L-8-SY	+#270	8.41	16.18	8.85	16.22	9.15	16.48	9.11	16.74							30.10
QV-L-8-SY	-#270	2.08	74.40	2.09	30.92	2.13	20.06	2.06	24.62							141.64
QV-M-30-SY	+#25	8.62	26.18	8.14	62.08	8.87	53.80	8.72	59.98							167.69
QV-M-30-SY	+#50	8.68	87.57	8.08	149.19	9.44	145.56	8.63	175.44							522.93
QV-M-30-SY	+#100	8.70	88.60	8.98	117.79	9.58	111.04	8.91	145.59							426.85
QV-M-30-SY	+#140	8.86	31.70	9.14	35.53	9.17	35.25	8.58	38.70							105.43
QV-M-30-SY	+#200	8.84	21.46	9.15	23.06	9.60	23.40	8.66	23.03							54.70
QV-M-30-SY	+#270	8.78	16.19	9.11	17.11	9.81	16.07	8.73	15.68							28.62
QV-M-30-SY	-#270	2.12	62.21	2.08	26.11	2.16	22.81	2.19	21.92							124.50
QV-M-4-SY	+#25	8.91	113.04	8.84	67.85	8.47	90.24	8.68	89.20							325.43
QV-M-4-SY	+#50	8.81	163.01	9.28	152.04	8.79	161.49	8.78	157.46							598.34
QV-M-4-SY	+#100	8.56	120.19	8.87	124.83	9.08	110.22	8.83	106.02							425.92
QV-M-4-SY	+#140	8.79	32.85	8.87	36.61	8.71	31.39	8.82	27.71							93.37
QV-M-4-SY	+#200	8.60	20.35	8.74	22.18	8.63	19.12	8.77	17.43							44.34
QV-M-4-SY	+#270	8.81	15.27	8.92	16.65	9.20	14.53	8.95	12.98							23.55
QV-M-4-SY	-#270	2.18	28.41	2.12	22.78	2.18	13.36	2.16	10.49							66.40
QV-M-8-SY	+#25	8.68	72.37	8.85	84.01	7.91	58.44	8.99	79.32							259.71
QV-M-8-SY	+#50	8.50	194.42	9.06	228.41	8.32	107.40	8.97	133.92							629.30
QV-M-8-SY	+#100	9.20	150.99	9.30	162.79	8.12	80.74	8.65	103.28							462.53
QV-M-8-SY	+#140	8.68	40.07	9.00	41.45	8.17	24.15	8.51	29.60							100.91
QV-M-8-SY	+#200	8.73	23.74	8.48	24.28	8.87	17.20	8.54	18.79							49.39
QV-M-8-SY	+#270	8.75	16.42	7.88	15.40	8.77	13.03	9.12	14.52							24.85
QV-M-8-SY	-#270	2.07	40.67	2.15	20.92	2.10	10.71	2.11	14.73							78.60

Sample Tracking for Duplicates and MS/MSD

Total Sample Count	Sample ID	Metals	Analysis Ra 226	TCLP	SPLP	Sample Mass [g]
1	CR-L-0-SL-01	x	x		x	703.33
2	CR-M-0-SL-01	x	x		x	649.85
3	CR-H-0-SL-01	x	x		x	796.62
4	QV-L-0-SL-01	x	x		x	659.77
5	QV-M-0-SL-01	x	x		x	721.82
6	QV-H-0-SL-01	x	x		x	768.26
7	CTS-L-0-SL-01	x	x		x	590.31
8	CTS-M-0-SL-01	x	x		x	645.78
9	CTS-H-0-SL-01	x	x		x	773.47
10	CR-L-0-SL-01 +25	x	x			7.30
11	CR-L-0-SL-01 +50	x	x			21.82
12	CR-L-0-SL-01 +100	x	x			78.60
13	CR-L-0-SL-01 +140	x	x			60.52
14	CR-L-0-SL-01 +200	x	x			48.25
15	CR-L-0-SL-01 +270	x	x			19.00
16	CR-L-0-SL-01 -270	x	x			76.85
17	CR-L-4-SY +25	x	x			5.28
18	CR-L-4-SY +50	x	x			23.47
19	CR-L-4-SY +100-01	x	x			36.62
20	CR-L-4-SY +100-02	x	x			36.62
-	CTS-L-0-+1/4-inch	x	x			1026.92
1	CR-L-4-SY +140	x	x			54.00
2	CR-L-4-SY +200	x	x			36.94
3	CR-L-4-SY +270	x	x			14.74
4	CR-L-8-SY +25	x	x			4.11
5	CR-L-8-SY +50	x	x			24.06
6	CR-L-8-SY +100	x	x			79.08
7	CR-L-8-SY +140	x	x			58.94
8	CR-L-8-SY +200	x	x			38.88
9	CR-L-8-SY +270	x	x			15.63
10	CR-L-30-SY +25	x	x			3.71
11	CR-L-30-SY +50	x	x			21.56
12	CR-L-30-SY +100	x	x			74.76
13	CR-L-30-SY +140	x	x			57.64
14	CR-L-30-SY +200	x	x			39.59
15	CR-L-30-SY +270	x	x			16.41
10	CR-L-4-SY Combined +25/+270				x	415.36
11	CR-L-8-SY Combined +25/+270				x	441.39
12	CR-L-30-SY Combined +25/+270				x	427.32
16	CR-M-0-SL-01 +25	x	x			36.97
17	CR-M-0-SL-01 +50	x	x			77.55
18	CR-M-0-SL-01 +100-01	x	x			42.16
19	CR-M-0-SL-01 +100-02	x	x			42.16
20	CR-M-0-SL-01 +140	x	x			30.38
-	CTS-M-0-+1/4-inch	x	x			1139.04
1	CR-M-0-SL-01 +200	x	x			20.85
2	CR-M-0-SL-01 +270	x	x			9.44
3	CR-M-0-SL-01 -270	x	x			56.16
4	CR-M-4-SY +25	x	x			20.62
5	CR-M-4-SY +50	x	x			92.39
6	CR-M-4-SY +100	x	x			88.28
7	CR-M-4-SY +140	x	x			28.45
8	CR-M-4-SY +200	x	x			17.67
9	CR-M-4-SY +270	x	x			7.86
10	CR-M-8-SY +25	x	x			41.31
11	CR-M-8-SY +50	x	x			123.38
12	CR-M-8-SY +100	x	x			102.63
13	CR-M-8-SY +140	x	x			31.42
14	CR-M-8-SY +200	x	x			19.18
15	CR-M-8-SY +270	x	x			8.90

13	CR-M-4-SY Combined +25/+270			x	510.53	
14	CR-M-8-SY Combined +25/+270			x	653.61	
16	CR-M-30-SY +25	x	x		25.11	
17	CR-M-30-SY +50	x	x		92.88	
18	CR-M-30-SY +100-01	x	x		46.66	
19	CR-M-30-SY +100-02	x	x		46.66	
20	CTS-H-0-+1/4 inch	x	x		1037.7	
1	CR-M-30-SY +140	x	x		30.09	
2	CR-M-30-SY +200	x	x		19.87	
3	CR-M-30-SY +270	x	x		8.92	
4	CR-H-0-SL-01 +25	x	x		83.60	
5	CR-H-0-SL-01 +50	x	x		139.19	
6	CR-H-0-SL-01 +100	x	x		92.25	
7	CR-H-0-SL-01 +140	x	x		21.13	
8	CR-H-0-SL-01 +200	x	x		14.87	
9	CR-H-0-SL-01 +270	x	x		9.19	
10	CR-H-0-SL-01 -270	x	x		71.97	
11	CR-H-4-SY +25	x	x		84.54	
12	CR-H-4-SY +50	x	x		172.03	
13	CR-H-4-SY +100	x	x		98.73	
14	CR-H-4-SY +140	x	x		18.56	
15	CR-H-4-SY +200	x	x		11.58	
16	CR-H-4-SY +270	x	x		6.08	SHIPPED 10
17	CR-H-8-SY +25	x	x		92.57	
18	CR-H-8-SY +50-01	x	x		82.39	
19	CR-H-8-SY +50-02	x	x		82.39	
20	CR-H-0-KY	x	x		713.58	
1	CR-H-8-SY +100	x	x		95.05	
2	CR-H-8-SY +140	x	x		17.99	
3	CR-H-8-SY +200	x	x		10.99	
4	CR-H-8-SY +270	x	x		6.02	
15	CR-M-30-SY Combined +25/+270			x	540.35	
5	CR-H-30-SY +25	x	x		37.25	
6	CR-H-30-SY +50	x	x		126.37	
7	CR-H-30-SY +100	x	x		92.15	
8	CR-H-30-SY +140	x	x		20.03	
9	CR-H-30-SY +200	x	x		12.67	
10	CR-H-30-SY +270	x	x		7.24	
16	CR-H-4-SY Combined +25/+270-01			x	391.51	
17	CR-H-4-SY Combined +25/+270-02			x	391.51	
18	CR-H-8-SY Combined +25/270			x	774.78	
19	CR-H-30-SY Combined +25/+270			x	591.41	
11	QV-L-0-SL-01 +25	x	x		52.3	
12	QV-L-0-SL-01 +50	x	x		89.67	
13	QV-L-0-SL-01 +100	x	x		102.86	
14	QV-L-0-SL-01 +140	x	x		30.44	
15	QV-L-0-SL-01 +200	x	x		15.33	
16	QV-L-0-SL-01 +270	x	x		8.67	
17	QV-L-0-SL-01 -270	x	x		68.72	
18	QV-L-4-SY +25	x	x		22.89	
19	QV-L-4-SY +50-01	x	x		43.06	
20	QV-L-4-SY +50-02	x	x		43.06	
1	QV-L-4-SY +100	x	x		90.48	
2	QV-L-4-SY +140	x	x		26.36	
3	QV-L-4-SY +200	x	x		12.40	
4	QV-L-4-SY +270	x	x		5.66	
5	QV-L-8-SY +25	x	x		37.62	
6	QV-L-8-SY +50	x	x		119.26	
7	QV-L-8-SY +100	x	x		119.94	
8	QV-L-8-SY +140	x	x		33.19	
9	QV-L-8-SY +200	x	x		15.46	
10	QV-L-8-SY +270	x	x		7.53	
11	QV-L-30-SY +25	x	x		30.07	
12	QV-L-30-SY +50	x	x		105.28	

13	QV-L-30-SY +100	x	x		117.69
14	QV-L-30-SY +140	x	x		34.12
15	QV-L-30-SY +200	x	x		16.76
16	QV-L-30-SY +270	x	x		7.79
17	QV-M-4-SY +25	x	x		81.36
18	QV-M-4-SY +50	x	x		149.59
19	QV-M-4-SY +100-01	x	x		53.24
20	QV-M-4-SY +100-02	x	x		53.24
1	QV-M-4-SY +140	x	x		23.34
2	QV-M-4-SY +200	x	x		11.09
3	QV-M-4-SY +270	x	x		5.89
4	QV-M-0-SL-01 +25	x	x		56.49
5	QV-M-0-SL-01 +50	x	x		114.89
6	QV-M-0-SL-01 +100	x	x		87.26
7	QV-M-0-SL-01 +140	x	x		25.76
8	QV-M-0-SL-01 +200	x	x		12.46
9	QV-M-0-SL-01 +270	x	x		8.06
10	QV-M-0-SL-01 -270	x	x		74.87
11	QV-M-8-SY +25	x	x		64.93
12	QV-M-8-SY +50	x	x		157.33
13	QV-M-8-SY +100	x	x		115.63
14	QV-M-8-SY +140	x	x		25.23
15	QV-M-8-SY +200	x	x		12.35
16	QV-M-8-SY +270	x	x		6.21
17	QV-M-30-SY +25	x	x		41.92
18	QV-M-30-SY +50	x	x		130.73
19	QV-M-30-SY +100-01	x	x		53.36
20	QV-M-30-SY +100-02	x	x		53.36
1	QV-M-30-SY +140	x	x		26.36
2	QV-M-30-SY +200	x	x		13.68
3	QV-M-30-SY +270	x	x		7.16
4	QV-H-4-SY +25	x	x		101.41
5	QV-H-4-SY +50	x	x		224.52
6	QV-H-4-SY +100	x	x		147.86
7	QV-H-4-SY +140	x	x		30.39
8	QV-H-4-SY +200	x	x		14.50
9	QV-H-4-SY +270	x	x		6.65
10	QV-H-0-SL-01 +25	x	x		57.53
11	QV-H-0-SL-01 +50	x	x		109.53
12	QV-H-0-SL-01 +100	x	x		98.59
13	QV-H-0-SL-01 +140	x	x		24.54
14	QV-H-0-SL-01 +200	x	x		12.01
15	QV-H-0-SL-01 +270	x	x		7.35
16	QV-H-0-SL-01 -270	x	x		72.37
17	QV-H-8-SY +25	x	x		84.93
18	QV-H-8-SY +50	x	x		216.81
19	QV-H-8-SY +100-01	x	x		75.70
20	QV-H-8-SY +100-02	x	x		75.70
1	QV-H-8-SY +140	x	x		32.04
2	QV-H-8-SY +200	x	x		15.06
3	QV-H-8-SY +270	x	x		7.21
4	QV-H-30-SY +25	x	x		61.78
5	QV-H-30-SY +50	x	x		165.49
6	QV-H-30-SY +100	x	x		131.83
7	QV-H-30-SY +140	x	x		32.71
8	QV-H-30-SY +200	x	x		16.31
9	QV-H-30-SY +270	x	x		7.74
20	QV-L-4-SY Combined +25/+270			x	487.79
1	QV-L-8-SY Combined +25/+270			x	665.99
2	QV-L-30-SY Combined +25/+270			x	623.39
3	QV-M-4-SY Combined +25/+270			x	755.48
4	QV-M-8-SY Combined +25/+270			x	763.35
5	QV-M-30-SY Combined +25/+270			x	653.11
6	QV-H-4-SY Combined +25/+270			x	1050.66 Above Ship

	7	CTS-L-4-SY Combined +25/270				x	
	8	CTS-L-8-SY Combined +25/270				x	
	9	CTS-L-30-SY Combined +25/270				x	
	10	CTS-M-4-SY Combined +25/270				x	
	11	CTS-M-8-SY Combined +25/270				x	
	12	CTS-M-30-SY Combined +25/270				x	
	13	CTS-H-4-SY Combined +25/270				x	
	14	CTS-H-8-SY Combined +25/270				x	
	15	CTS-H-30-SY Combined +25/270				x	
	16	QV-H-8-SY Combined +25/+270				x	1014.89
	17	QV-H-30-SY Combined +25/+270-01				x	415.86
TCLP Counter	18	QV-H-30-SY Combined +25/+270-02				x	415.86
1	10	CR-L-4-SY -270 Concentrate	x	x	x		
2	11	CR-L-8-SY -270 Concentrate	x	x	x		
3	12	CR-L-30-SY -270 Concentrate	x	x	x		
4	13	CR-M-4-SY -270 Concentrate	x	x	x		
5	14	CR-M-8-SY -270 Concentrate	x	x	x		
6	15	CR-M-30-SY -270 Concentrate	x	x	x		
7	16	CR-H-4-SY -270 Concentrate	x	x	x		
8	17	CR-H-8-SY -270 Concentrate	x	x	x		
9	18	CR-H-30-SY -270 Concentrate	x	x	x		
10	19	QV-L-30-SY -270 Concentrate-01	x	x	x		
11	20	QV-L-30-SY -270 Concentrate-02	x	x	x		
12	1	QV-L-4-SY -270 Concentrate	x	x	x		
13	2	QV-L-8-SY -270 Concentrate	x	x	x		
14	3	QV-M-4-SY -270 Concentrate	x	x	x		
15	4	QV-M-8-SY -270 Concentrate	x	x	x		
16	5	QV-M-30-SY -270 Concentrate	x	x	x		
17	6	QV-H-4-SY -270 Concentrate	x	x	x		
18	7	QV-H-8-SY -270 Concentrate	x	x	x		
19	8	QV-H-30-SY -270 Concentrate	x	x	x		
20	9	CTS-L-4-SY -270 Concentrate	x	x	x		
1	10	CTS-L-8-SY -270 Concentrate	x	x	x		
2	11	CTS-L-30-SY -270 Concentrate	x	x	x		
3	12	CTS-M-4-SY -270 Concentrate	x	x	x		
4	13	CTS-M-8-SY -270 Concentrate	x	x	x		
5	14	CTS-M-30-SY -270 Concentrate	x	x	x		
6	15	CTS-H-4-SY -270 Concentrate	x	x	x		
7	16	CTS-H-8-SY -270 Concentrate	x	x	x		
8	17	CTS-H-30-SY -270 Concentrate-01	x	x	x		
9	18	CTS-H-30-SY -270 Concentrate-02	x	x	x		
	19	CTS-L-4-SY +25	x	x			
	20	CTS-L-4-SY +50	x	x			
	1	CTS-L-4-SY +100	x	x			
	2	CTS-L-4-SY +140	x	x			
	3	CTS-L-4-SY +200	x	x			
	4	CTS-L-4-SY +270	x	x			
	5	CTS-L-8-SY +25	x	x			
	6	CTS-L-8-SY +50	x	x			
	7	CTS-L-8-SY +100	x	x			
	8	CTS-L-8-SY +140	x	x			
	9	CTS-L-8-SY +200	x	x			
	10	CTS-L-8-SY +270	x	x			
	11	CTS-L-30-SY +25	x	x			
	12	CTS-L-30-SY +50	x	x			
	13	CTS-L-30-SY +100-01	x	x			
	14	CTS-L-30-SY +100-02	x	x			
	15	CTS-L-30-SY +140	x	x			
	16	CTS-L-30-SY +200	x	x			
	17	CTS-L-30-SY +270	x	x			
	18	CTS-0-SL-01 +25	x	x			
	19	CTS-0-SL-01 +50	x	x			
	20	CTS-0-SL-01 +100	x	x			
	1	CTS-0-SL-01 +140	x	x			
	2	CTS-0-SL-01 +200	x	x			

3	CTS-0-SL-01 +270	x	x
4	CTS-0-SL-01 -270	x	x
5	CTS-M-4-SY +25	x	x
6	CTS-M-4-SY +50	x	x
7	CTS-M-4-SY +100	x	x
8	CTS-M-4-SY +140	x	x
9	CTS-M-4-SY +200	x	x
10	CTS-M-4-SY +270	x	x
11	CTS-M-8-SY +25	x	x
12	CTS-M-8-SY +50	x	x
13	CTS-M-8-SY +100-01	x	x
14	CTS-M-8-SY +100-02	x	x
15	CTS-M-8-SY +140	x	x
16	CTS-M-8-SY +200	x	x
17	CTS-M-8-SY +270	x	x
18	CTS-M-30-SY +25	x	x
19	CTS-M-30-SY +50	x	x
20	CTS-M-30-SY +100	x	x
1	CTS-M-30-SY +140	x	x
2	CTS-M-30-SY +200	x	x
3	CTS-M-30-SY +270	x	x
4	CTS-M-0-SL-01 +25	x	x
5	CTS-M-0-SL-01 +50	x	x
6	CTS-M-0-SL-01 +100	x	x
7	CTS-M-0-SL-01 +140	x	x
8	CTS-M-0-SL-01 +200	x	x
9	CTS-M-0-SL-01 +270	x	x
10	CTS-M-0-SL-01 -270	x	x
11	CTS-H-4-SY +25	x	x
12	CTS-H-4-SY +50	x	x
13	CTS-H-4-SY +100-01	x	x
14	CTS-H-4-SY +100-02	x	x
15	CTS-H-4-SY +140	x	x
16	CTS-H-4-SY +200	x	x
17	CTS-H-4-SY +270	x	x
18	CTS-H-8-SY +25	x	x
19	CTS-H-8-SY +50	x	x
20	CTS-H-8-SY +100	x	x
1	CTS-H-8-SY +140	x	x
2	CTS-H-8-SY +200	x	x
3	CTS-H-8-SY +270	x	x
4	CTS-H-0-SL-01 +25	x	x
5	CTS-H-0-SL-01 +50	x	x
6	CTS-H-0-SL-01 +100	x	x
7	CTS-H-0-SL-01 +140	x	x
8	CTS-H-0-SL-01 +200	x	x
9	CTS-H-0-SL-01 +270	x	x
10	CTS-H-0-SL-01 -270	x	x
11	CTS-H-30-SY +25	x	x
12	CTS-H-30-SY +50	x	x
13	CTS-H-30-SY +100-01	x	x
14	CTS-H-30-SY +100-02	x	x
15	CTS-H-30-SY +140	x	x
16	CTS-H-30-SY +200	x	x
17	CTS-H-30-SY +270	x	x

PSD Sample Splitting Actual

Sample ID	Original Mass [g]	Metals/Ra 226 Split Est.	Metals/Ra 226 Split Actual	MLA Est.	MLA Actual	SPLP/TCLP Est.	SPLP/TCLP Actual	Notes:
Multiplier (Split Goals)		0.25		0.25		0.5		
CR-L-0-SL-01 +25	7.3	N/A		N/A		N/A		
CR-L-0-SL-01 +50	21.82	N/A		N/A		N/A		
CR-L-0-SL-01 +100	78.6	N/A		N/A		N/A		
CR-L-0-SL-01 +140	60.52	N/A		N/A		N/A		
CR-L-0-SL-01 +200	48.25	N/A		N/A		N/A		
CR-L-0-SL-01 +270	19	N/A		N/A		N/A		
CR-L-0-SL-01 -270	76.85	N/A		N/A		N/A		
CR-L-4-SY +25	21.1	5.28	5.28	5.28	5.29	10.55	10.45	High Organics
CR-L-4-SY +50	93.89	23.47	23.47	23.47	23.47	46.95	46.91	
CR-L-4-SY +100-01	292.99	73.25	36.62	73.25	73.28	146.50	146.21	Needs Dup.
CR-L-4-SY +100-02			36.63					
CR-L-4-SY +140	216.01	54.00	54.00	54.00	54.03	108.01	107.53	
CR-L-4-SY +200	147.75	36.94	36.94	36.94	36.95	73.88	73.51	
CR-L-4-SY +270	58.97	14.74	14.75	14.74	14.75	29.49	28.79	
CR-L-4-SY -270	111.2							
CR-L-8-SY +25	16.42	4.11	4.11	4.11	4.10	8.21	8.11	High Organics
CR-L-8-SY +50	96.23	24.06	24.05	24.06	24.09	48.12	48.06	
CR-L-8-SY +100	316.33	79.08	79.07	79.08	79.08	158.17	157.87	
CR-L-8-SY +140	235.75	58.94	59.00	58.94	58.95	117.88	117.43	
CR-L-8-SY +200	155.51	38.88	38.87	38.88	38.89	77.76	77.26	
CR-L-8-SY +270	62.53	15.63	15.63	15.63	15.63	31.27	30.78	
CR-L-8-SY -270	112.07							
CR-L-30-SY +25	14.83	3.71	3.71	3.71	3.72	7.42	7.41	
CR-L-30-SY +50	86.23	21.56	21.57	21.56	21.59	43.12	43.06	
CR-L-30-SY +100	299.05	74.76	74.76	74.76	74.76	149.53	149.27	
CR-L-30-SY +140	230.55	57.64	57.66	57.64	57.65	115.28	114.95	
CR-L-30-SY +200	158.34	39.59	39.60	39.59	39.60	79.17	78.70	
CR-L-30-SY +270	65.63	16.41	16.42	16.41	16.41	32.82	32.31	
CR-L-30-SY -270	137.01							
CR-M-0-SL-01 +25	36.97	N/A		N/A		N/A		
CR-M-0-SL-01 +50	77.55	N/A		N/A		N/A		
CR-M-0-SL-01 +100-01	84.32	N/A	42.17	N/A		N/A		Needs Dup.
CR-M-0-SL-01 +100-02			42.15					
CR-M-0-SL-01 +140	30.38	N/A		N/A		N/A		
CR-M-0-SL-01 +200	20.85	N/A		N/A		N/A		
CR-M-0-SL-01 +270	9.44	N/A		N/A		N/A		
CR-M-0-SL-01 -270	56.16	N/A		N/A		N/A		
CR-M-4-SY +25	82.48	20.62	20.61	20.62	20.62	41.24	41.18	
CR-M-4-SY +50	369.57	92.39	92.38	92.39	92.40	184.79	183.97	Tear in bag - sample loss
CR-M-4-SY +100	353.13	88.28	88.27	88.28	88.35	176.57	176.40	
CR-M-4-SY +140	113.78	28.45	28.45	28.45	28.46	56.89	56.57	
CR-M-4-SY +200	70.67	17.67	17.67	17.67	17.98	35.34	34.56	High on MLA split
CR-M-4-SY +270	31.43	7.86	7.86	7.86	7.85	15.72	15.31	
CR-M-4-SY -270	109.17							
CR-M-8-SY +25	165.22	41.31	41.31	41.31	41.31	82.61	82.61	
CR-M-8-SY +50	493.53	123.38	123.38	123.38	123.40	246.77	216.64	Low on SPLP - from transcriptional error on previous spreadsheet
CR-M-8-SY +100	410.51	102.63	102.63	102.63	102.69	205.26	205.18	
CR-M-8-SY +140	125.67	31.42	31.43	31.42	31.42	62.84	62.45	
CR-M-8-SY +200	76.71	19.18	19.17	19.18	19.18	38.36	38.10	
CR-M-8-SY +270	35.58	8.90	8.90	8.90	8.90	17.79	17.44	
CR-M-8-SY -270	131.25							

MLA	Mass [g] Est.	Mass [g] Actual	SPLP	Mass [g] Est.	Mass [g] Actual
Combined Samples					
CR-L-4-SY +25/+270	207.68	207.65	CR-L-4-SY +25/+270	415.36	413.27
CR-L-8-SY +25/+270	220.69	220.75	CR-L-8-SY +25/+270	441.39	439.49
CR-L-30-SY +25/+270	213.66	213.73	CR-L-30-SY +25/+270	427.32	425.64
CR-M-4-SY +25/+270	255.27	255.64	CR-M-4-SY +25/+270	510.53	507.97
CR-M-8-SY +25/+270	326.81	326.94	CR-M-8-SY +25/+270	653.61	622.34

Sample ID	Original Mass [g]	Metals/Ra 226 Split Est.	Metals/Ra 226 Split Actual	MLA Est.	MLA Actual	SPLP/TCLP Est.	SPLP/TCLP Actual	Notes:
Multiplier (Split Goals)		0.25		0.25		0.5		
CR-M-30-SY +25	100.44	25.11	25.11	25.11	25.11	50.22	49.89	
CR-M-30-SY +50	371.53	92.88	92.89	92.88	92.94	185.77	485.43	
CR-M-30-SY +100-01	373.26	46.66	46.66	93.32	93.33	186.63	186.16	
CR-M-30-SY +100-02		46.66	46.66					
CR-M-30-SY +140	120.34	30.09	30.09	30.09	30.09	60.17	59.84	
CR-M-30-SY +200	79.47	19.87	19.87	19.87	19.9	39.74	13.13	
CR-M-30-SY +270	35.66	8.92	8.92	8.92	8.93	17.83	17.26	
CR-M-30-SY -270	171.24							
CR-H-0-SL-01 +25	83.60	N/A		N/A		N/A		
CR-H-0-SL-01 +50	139.19	N/A		N/A		N/A		
CR-H-0-SL-01 +100	92.25	N/A		N/A		N/A		
CR-H-0-SL-01 +140	21.13	N/A		N/A		N/A		
CR-H-0-SL-01 +200	14.87	N/A		N/A		N/A		
CR-H-0-SL-01 +270	9.19	N/A		N/A		N/A		
CR-H-0-SL-01 -270	71.97	N/A		N/A		N/A		
CR-H-4-SY +25	338.14	84.54	84.54	84.54	84.55	169.07	169.04	
CR-H-4-SY +50	688.11	172.03	172.04	172.03	172.04	344.06	343.92	
CR-H-4-SY +100	394.93	98.73	98.72	98.73	98.74	197.47	197.24	
CR-H-4-SY +140	74.24	18.56	18.56	18.56	18.56	37.12	36.62	
CR-H-4-SY +200	46.31	11.58	11.58	11.58	11.61	23.16	22.49	
CR-H-4-SY +270	24.31	6.08	6.08	6.08	6.09	12.16	11.63	
CR-H-4-SY -270	97.92							
CR-H-8-SY +25	380.46	95.12	95.13	95.12	95.12	190.23	190.25	
CR-H-8-SY +50-01	659.10	82.39	82.39	164.78	164.79	329.55	329.28	
CR-H-8-SY +50-02		82.39	82.38					
CR-H-8-SY +100	370.26	92.57	92.59	92.57	92.58	185.13	184.86	
CR-H-8-SY +140	71.97	17.99	18.00	17.99	18.05	35.99	35.32	Need dupe on +50 and
CR-H-8-SY +200	43.96	10.99	11.00	10.99	11.01	21.98	21.38	on SPLP (dup on SPLP
CR-H-8-SY +270	24.09	6.02	6.02	6.02	6.02	12.05	11.38	~391.51g)
CR-H-8-SY -270	105.42							
CR-H-30-SY +25	148.99	37.25	37.25	37.25	37.25	74.50	74.47	
CR-H-30-SY +50	505.49	126.37	126.37	126.37	126.37	252.75	252.64	
CR-H-30-SY +100	368.61	92.15	92.15	92.15	92.16	184.31	184.06	
CR-H-30-SY +140	80.1	20.03	20.03	20.03	20.07	40.05	39.61	
CR-H-30-SY +200	50.68	12.67	12.67	12.67	12.67	25.34	24.93	
CR-H-30-SY +270	28.94	7.24	7.24	7.24	7.25	14.47	14.02	
CR-H-30-SY -270	167.47							
QV-L-0-SL-01 +25	52.3	N/A		N/A		N/A		
QV-L-0-SL-01 +50	89.67	N/A		N/A		N/A		
QV-L-0-SL-01 +100	102.86	N/A		N/A		N/A		
QV-L-0-SL-01 +140	30.44	N/A		N/A		N/A		
QV-L-0-SL-01 +200	15.33	N/A		N/A		N/A		
QV-L-0-SL-01 +270	8.67	N/A		N/A		N/A		
QV-L-0-SL-01 -270	68.72	N/A		N/A		N/A		
QV-L-4-SY +25	91.56	22.89	22.90	22.89	22.89	45.78	45.67	
QV-L-4-SY +50-01	344.46	43.06	43.06	86.12	86.12	172.23	171.60	
QV-L-4-SY +50-02		43.06	43.06					

MLA	Mass [g] Est.	Mass [g] Actual	SPLP	Mass [g] Est.	Mass [g] Actual
Combined Samples					
CR-M-30-SY +25/+270	270.18	270.24	CR-M-30-SY +25/+270	540.35	537.61
CR-H-4-SY +25/+270	391.51	391.55	CR-H-4-SY +25/+270	783.02	780.85
CR-H-8-SY +25/+270	387.46	387.45	CR-H-8-SY +25/+270-01	387.46	388.24
			CR-H-8-SY +25/+270-02	389.94	383.75
CR-H-30-SY +25/+270	295.70	295.77	CR-H-30-SY +25/+270	591.41	589.73
QV-L-4-SY +25/+270	243.90	243.92	QV-L-4-SY +25/+270	487.79	485.89

		Split Goals						
Multiplier		0.25		0.25		0.5		Notes:
		Metals/Ra 226 Split		MLA		SPLP/TCLP		
Sample ID	Original Mass [g]	Est.	Actual	Est.	Actual	Est.	Actual	
QV-L-4-SY +100	361.9	90.48	90.47	90.48	90.49	180.95	180.75	
QV-L-4-SY +140	105.43	26.36	26.36	26.36	26.36	52.72	52.30	
QV-L-4-SY +200	49.6	12.40	12.40	12.40	12.40	24.80	24.56	
QV-L-4-SY +270	22.63	5.66	5.66	5.66	5.66	11.32	11.01	
QV-L-4-SY -270	117.17							

		Split Goals						
Multiplier		0.25		0.25		0.5		Notes:
		Metals/Ra 226 Split		MLA		SPLP/TCLP		
Sample ID	Original Mass [g]	Est.	Actual	Est.	Actual	Est.	Actual	
QV-L-8-SY +25	150.49	37.62	37.62	37.62	37.59	75.25	75.26	
QV-L-8-SY +50	477.05	119.26	119.26	119.26	119.27	238.53	238.15	
QV-L-8-SY +100	479.74	119.94	119.94	119.94	119.93	239.87	239.34	
QV-L-8-SY +140	132.76	33.19	33.19	33.19	33.19	66.38	65.46	
QV-L-8-SY +200	61.84	15.46	15.46	15.46	15.46	30.92	30.34	
QV-L-8-SY +270	30.10	7.53	7.53	7.53	7.52	15.05	14.26	
QV-L-8-SY -270	141.64							
QV-L-30-SY +25	120.26	30.07	30.09	30.07	30.12	60.13	60.09	
QV-L-30-SY +50	421.12	105.28	105.42	105.28	105.29	210.56	210.04	
QV-L-30-SY +100	470.74	117.69	117.69	117.69	117.72	235.37	234.71	
QV-L-30-SY +140	136.49	34.12	34.22	34.12	34.14	68.25	68.07	
QV-L-30-SY +200	67.02	16.76	16.76	16.76	16.75	33.51	31.96	
QV-L-30-SY +270	31.15	7.79	7.79	7.79	7.79	15.58	15.05	
QV-L-30-SY -270	181.25							
QV-M-4-SY +25	325.43	81.36	81.35	81.36	81.44	162.72	162.7	
QV-M-4-SY +50	598.34	149.59	149.59	149.59	149.60	299.17	299.17	
QV-M-4-SY +100-01	425.92	53.24	53.23	106.48	106.47	212.96	212.96	
QV-M-4-SY +100-02		53.24	53.25					
QV-M-4-SY +140	93.37	23.34	23.34	23.34	23.35	46.69	46.06	
QV-M-4-SY +200	44.34	11.09	11.09	11.09	11.08	22.17	21.66	
QV-M-4-SY +270	23.55	5.89	5.88	5.89	5.87	11.78	11.15	
QV-M-4-SY -270	66.40							
QV-M-0-SL-01 +25	56.49	N/A		N/A		N/A		
QV-M-0-SL-01 +50	114.89	N/A		N/A		N/A		
QV-M-0-SL-01 +100	87.26	N/A		N/A		N/A		
QV-M-0-SL-01 +140	25.76	N/A		N/A		N/A		
QV-M-0-SL-01 +200	12.46	N/A		N/A		N/A		
QV-M-0-SL-01 +270	8.06	N/A		N/A		N/A		
QV-M-0-SL-01 -270	74.87	N/A		N/A		N/A		
QV-M-8-SY +25	259.71	64.93	64.92	64.93	64.95	129.86	127.43	
QV-M-8-SY +50	629.30	157.33	157.33	157.33	157.33	314.65	314.56	
QV-M-8-SY +100	462.53	115.63	115.67	115.63	115.61	231.27	231.21	
QV-M-8-SY +140	100.91	25.23	25.22	25.23	25.23	50.46	50.20	
QV-M-8-SY +200	49.39	12.35	12.35	12.35	12.35	24.70	24.28	
QV-M-8-SY +270	24.85	6.21	6.22	6.21	6.22	12.43	11.96	
QV-M-8-SY -270	78.60							
QV-M-30-SY +25	167.69	41.92	41.91	41.92	42.05	83.85	83.77	
QV-M-30-SY +50	522.93	130.73	130.72	130.73	130.83	261.47	261.02	
QV-M-30-SY +100-01	426.85	53.36	53.37	106.71	106.72	213.43	212.91	
QV-M-30-SY +100-02		53.36	53.36					
QV-M-30-SY +140	105.43	26.36	26.36	26.36	26.36	52.72	52.3	
QV-M-30-SY +200	54.70	13.68	13.68	13.68	13.69	27.35	26.82	
QV-M-30-SY +270	28.62	7.16	7.21	7.16	7.16	14.31	13.82	
QV-M-30-SY -270	124.50							
QV-H-4-SY +25	405.65	101.41	101.55	101.41	101.41	202.83	202.57	
QV-H-4-SY +50	898.07	224.52	224.51	224.52	224.55	449.04	448.48	
QV-H-4-SY +100	591.43	147.86	147.85	147.86	147.87	295.72	295.24	
QV-H-4-SY +140	121.57	30.39	30.38	30.39	30.43	60.79	60.61	
QV-H-4-SY +200	58.00	14.50	14.50	14.50	14.50	29.00	28.54	
QV-H-4-SY +270	26.60	6.65	6.64	6.65	6.72	13.30	12.93	
QV-H-4-SY -270	84.22							
QV-H-0-SL-01 +25	57.53	N/A		N/A		N/A		
QV-H-0-SL-01 +50	109.53	N/A		N/A		N/A		
QV-H-0-SL-01 +100	98.59	N/A		N/A		N/A		
QV-H-0-SL-01 +140	24.54	N/A		N/A		N/A		
QV-H-0-SL-01 +200	12.01	N/A		N/A		N/A		
QV-H-0-SL-01 +270	7.35	N/A		N/A		N/A		
QV-H-0-SL-01 -270	72.37	N/A		N/A		N/A		
QV-H-8-SY +25	339.73	84.93	84.94	84.93	84.93	169.87	169.21	
QV-H-8-SY +50	867.23	216.81	216.80	216.81	216.83	433.62	433.21	
QV-H-8-SY +100	605.60	151.40	151.40	151.40	151.39	302.80	302.26	
QV-H-8-SY +140	128.16	32.04	32.08	32.04	32.03	64.08	55.67	Potential Contamination - Weight discrepancy
QV-H-8-SY +200	60.22	15.06	15.06	15.06	15.06	30.11	37.91	Potential Contamination - Weight discrepancy
QV-H-8-SY +270	28.83	7.21	7.21	7.21	7.20	14.42	13.86	
QV-H-8-SY -270	96.03							
QV-H-30-SY +25	247.12	61.78	61.80	61.78	61.78	123.56	123.67	
QV-H-30-SY +50	661.94	165.49	165.49	165.49	165.48	330.97	330.57	
QV-H-30-SY +100-01	527.33	65.92	65.97	131.83	131.83	263.67	262.98	
QV-H-30-SY +100-02		65.92	65.97					
QV-H-30-SY +140	130.85	32.71	32.71	32.71	32.70	65.43	65.04	
QV-H-30-SY +200	65.24	16.31	16.32	16.31	16.31	32.62	32.12	
QV-H-30-SY +270	30.95	7.74	7.74	7.74	7.75	15.48	14.94	
QV-H-30-SY -270	144.96							

Combined Samples					
	Mass [g]			Mass [g]	
MLA	Est.	Actual	SPLP	Est.	Actual
QV-L-8-SY +25/+270	333.00	332.96	QV-L-8-SY +25/+270	665.99	662.81
QV-L-30-SY +25/+270	311.70	311.81	QV-L-30-SY +25/+270	623.39	619.92
QV-M-4-SY +25/+270	377.74	377.81	QV-M-4-SY +25/+270	755.48	753.70
QV-M-8-SY +25/+270	381.67	381.69	QV-M-8-SY +25/+270	763.35	759.64
QV-M-30-SY +25/+270	326.56	326.81	QV-M-30-SY +25/+270	653.11	650.64
QV-H-4-SY +25/+270	525.33	525.48	QV-H-4-SY +25/+270	1050.66	1048.37
QV-H-8-SY +25/+270	507.44	507.44	QV-H-8-SY +25/+270	1014.89	1012.12
QV-H-30-SY +25/+270	415.86	415.85	QV-H-30-SY +25/+270	831.72	829.32

		Split Goals						
Multiplier		0.25		0.25		0.5		Notes:
		Metals/Ra 226 Split		MLA		SPLP/TCLP		
Sample ID	Original Mass [g]	Est.	Actual	Est.	Actual	Est.	Actual	
CTS-L-0-SL-01 +25	6.88	N/A		N/A		N/A		
CTS-L-0-SL-01 +50	11.73	N/A		N/A		N/A		
CTS-L-0-SL-01 +100	32.09	N/A		N/A		N/A		
CTS-L-0-SL-01 +140	35.57	N/A		N/A		N/A		
CTS-L-0-SL-01 +200	43.80	N/A		N/A		N/A		
CTS-L-0-SL-01 +270	36.63	N/A		N/A		N/A		
CTS-L-0-SL-01 -270	143.58	N/A		N/A		N/A		
CTS-L-4-SY +25	30.01	7.50	7.60	7.50	7.59	15.01	15.18	
CTS-L-4-SY +50	91.34	22.84	22.83	22.84	22.85	45.67	45.88	
CTS-L-4-SY +100	168.80	42.20	42.21	42.20	42.21	84.40	84.64	
CTS-L-4-SY +140	128.76	32.19	32.19	32.19	32.19	64.38	64.24	
CTS-L-4-SY +200	167.28	41.82	41.97	41.82	41.85	83.64	82.45	
CTS-L-4-SY +270	144.76	36.19	36.12	36.19	36.30	72.38	71.49	
CTS-L-4-SY -270	596.34			149.09				
CTS-L-8-SY +25	8.29	2.07	2.06	2.07	2.06	4.15	4.15	
CTS-L-8-SY +50	53.51	13.38	13.37	13.38	13.38	26.76	26.66	

Combined Samples					
	Mass [g]			Mass [g]	
MLA	Est.	Actual	SPLP	Est.	Actual
CTS-L-4-SY +25/+270	182.74	182.99	CTS-L-4-SY +25/+270	365.48	363.88
CTS-L-8-SY +25/+270	149.93	149.94	CTS-L-8-SY +25/+270	299.87	297.88
CTS-L-30-SY +25/+270	127.38	127.40	CTS-L-30-SY +25/+270	254.76	253.43
CTS-M-4-SY +25/+270	155.37	155.40	CTS-M-4-SY +25/+270	310.73	308.72
CTS-M-8-SY +25/+270	148.12	148.14	CTS-M-8-SY +25/+270	296.25	294.18
CTS-M-30-SY +25/+270	141.71	141.75	CTS-M-30-SY +25/+270	283.42	281.39
CTS-H-4-SY +25/+270	157.12	157.17	CTS-H-4-SY +25/+270	314.24	311.15
CTS-H-8-SY +25/+270	171.36	171.38	CTS-H-8-SY +25/+270	342.72	338.53
CTS-H-30-SY +25/+270	151.73	151.74	CTS-H-30-SY +25/+270	303.45	298.63

		Split Goals						
Multiplier		0.25		0.25		0.5		Notes:
		Metals/Ra 226 Split		MLA		SPLP/TCLP		
Sample ID	Original Mass [g]	Est.	Actual	Est.	Actual	Est.	Actual	
CTS-L-8-SY +100	130.35	32.59	32.59	32.59	32.60	65.18	64.89	
CTS-L-8-SY +140	115.35	28.84	28.84	28.84	28.84	57.68	57.44	
CTS-L-8-SY +200	191.75	47.94	47.94	47.94	47.94	95.88	95.27	
CTS-L-8-SY +270	100.48	25.12	25.12	25.12	25.12	50.24	49.47	
CTS-L-8-SY -270	606.09			151.52				
CTS-L-30-SY +25	5.07	1.27	1.40	1.27	1.27	2.54	2.54	
CTS-L-30-SY +50	34.09	8.52	8.52	8.52	8.52	17.05	17.06	
CTS-L-30-SY +100-01	98.71	12.34	12.34	24.68	24.68	49.36	49.26	
CTS-L-30-SY +100-02		12.34	12.34					
CTS-L-30-SY +140	96.89	24.22	24.22	24.22	24.23	48.45	47.91	
CTS-L-30-SY +200	179.05	44.76	44.76	44.76	44.76	89.53	89.00	
CTS-L-30-SY +270	95.70	23.93	23.93	23.93	23.94	47.85	47.66	
CTS-L-30-SY -270	674.92							
CTS-M-0-SL-01 +25	8.34	N/A		N/A		N/A		
CTS-M-0-SL-01 +50	17.33	N/A		N/A		N/A		
CTS-M-0-SL-01 +100	38.48	N/A		N/A		N/A		
CTS-M-0-SL-01 +140	36.91	N/A		N/A		N/A		
CTS-M-0-SL-01 +200	48.80	N/A		N/A		N/A		
CTS-M-0-SL-01 +270	30.95	N/A		N/A		N/A		
CTS-M-0-SL-01 -270	155.64	N/A		N/A		N/A		
CTS-M-4-SY +25	12.65	3.16	3.16	3.16	3.16	6.33	6.33	
CTS-M-4-SY +50	69.90	17.48	17.48	17.48	17.48	34.95	34.83	
CTS-M-4-SY +100	152.68	38.17	38.16	38.17	38.18	76.34	76.15	
CTS-M-4-SY +140	125.77	31.44	31.44	31.44	31.43	62.89	62.44	
CTS-M-4-SY +200	165.18	41.30	41.30	41.30	41.32	82.59	81.96	
CTS-M-4-SY +270	95.28	23.82	23.83	23.82	23.83	47.64	47.01	
CTS-M-4-SY -270	548.47			137.12				
CTS-M-8-SY +25	12.05	3.01	3.02	3.01	3.01	6.03	6.03	
CTS-M-8-SY +50	58.21	14.55	14.55	14.55	14.57	29.11	29.16	
CTS-M-8-SY +100-01	148.67	18.58	18.58	37.17	37.17	74.34	74.05	
CTS-M-8-SY +100-02		18.58	18.57					
CTS-M-8-SY +140	117.18	29.30	29.31	29.30	29.30	58.59	58.26	
CTS-M-8-SY +200	160.10	40.03	40.04	40.03	40.03	80.05	79.20	
CTS-M-8-SY +270	96.28	24.07	24.08	24.07	24.06	48.14	47.48	
CTS-M-8-SY -270	574.77			143.69				
CTS-M-30-SY +25	8.02	2.01	2.01	2.01	2.01	4.01	4.19	
CTS-M-30-SY +50	53.12	13.28	13.28	13.28	13.28	26.56	26.66	
CTS-M-30-SY +100	142.96	35.74	35.74	35.74	35.76	71.48	71.20	
CTS-M-30-SY +140	108.97	27.24	27.23	27.24	27.25	54.49	53.94	
CTS-M-30-SY +200	170.72	42.68	42.68	42.68	42.68	85.36	84.60	
CTS-M-30-SY +270	83.04	20.76	20.75	20.76	20.77	41.52	40.80	
CTS-M-30-SY -270	315.25							
CTS-H-0-SL-01 +25	8.76	N/A		N/A		N/A		
CTS-H-0-SL-01 +50	13.34	N/A		N/A		N/A		
CTS-H-0-SL-01 +100	36.25	N/A		N/A		N/A		
CTS-H-0-SL-01 +140	36.46	N/A		N/A		N/A		
CTS-H-0-SL-01 +200	59.96	N/A		N/A		N/A		
CTS-H-0-SL-01 +270	40.03	N/A		N/A		N/A		
CTS-H-0-SL-01 -270	199.00	N/A		N/A		N/A		
CTS-H-4-SY +25	8.27	2.07	2.07	2.07	2.06	4.14	4.01	
CTS-H-4-SY +50	47.23	11.81	11.82	11.81	11.83	23.62	23.53	
CTS-H-4-SY +100-01	143.05	17.88	17.87	35.76	35.77	71.53	71.02	
CTS-H-4-SY +100-02		17.88	17.88					
CTS-H-4-SY +140	128.34	32.09	32.10	32.09	32.09	64.17	63.38	
CTS-H-4-SY +200	215.36	53.84	53.85	53.84	53.86	107.68	106.82	
CTS-H-4-SY +270	86.23	21.56	21.57	21.56	21.56	43.12	42.39	
CTS-H-4-SY -270	293.04			73.26				
CTS-H-8-SY +25	9.27	2.32	2.32	2.32	2.33	4.64	4.09	
CTS-H-8-SY +50	55.57	13.89	13.89	13.89	13.90	27.79	27.36	
CTS-H-8-SY +100	146.01	36.50	36.49	36.50	36.50	73.01	72.40	
CTS-H-8-SY +140	135.52	33.88	33.89	33.88	33.88	67.76	66.87	
CTS-H-8-SY +200	235.34	58.84	58.84	58.84	58.84	117.67	116.97	
CTS-H-8-SY +270	103.73	25.93	25.93	25.93	25.93	51.87	50.84	
CTS-H-8-SY -270	0.00			0.00				
CTS-H-30-SY +25	5.31	1.33	1.34	1.33	1.33	2.66	2.13	
CTS-H-30-SY +50	51.36	12.84	12.84	12.84	12.85	25.68	25.05	
CTS-H-30-SY +100-01	132.14	16.52	16.53	33.04	33.04	66.07	65.23	
CTS-H-30-SY +100-02		16.52	16.52					
CTS-H-30-SY +140	124.22	31.06	31.06	31.06	31.06	62.11	61.35	
CTS-H-30-SY +200	142.59	35.65	35.64	35.65	35.65	71.30	70.33	
CTS-H-30-SY +270	151.28	37.82	37.82	37.82	37.81	75.64	74.54	
CTS-H-30-SY -270	0.00							

Concentrate Fraction Combinations

Quivira							
RO-TAP Sample ID	RO-TAP Sample Mass [g]	Goal Mass QV-L-0-F Added [g]	Actual Mass QV-L-0-F Added [g]	Post Pulverized Mass [g]	Date/Time	Notes	Lost Mass %
QV-L-4-SY -270	117.17	166.52	166.51	280.73			-1.0%
QV-L-8-SY -270	141.64	224.56	224.63	362.72			-1.0%
QV-L-30-SY -270	181.25	217.61	217.67	394.32			-1.2%

RO-TAP Sample ID	RO-TAP Sample Mass [g]	Goal Mass QV-M-0-F Added [g]	Actual Mass QV-M-0-F Added [g]	Post Pulverized Mass [g]	Date/Time	Notes	
QV-M-4-SY -270	66.40	311.91	311.90	375.01			-0.9%
QV-M-8-SY -270	78.60	317.44	317.69	393.39			-0.7%
QV-M-30-SY -270	124.50	282.92	282.93	404.61			-0.7%

RO-TAP Sample ID	RO-TAP Sample Mass [g]	Goal Mass QV-H-0-F Added [g]	Actual Mass QV-H-0-F Added [g]	Post Pulverized Mass [g]	Date/Time	Notes	
QV-H-4-SY -270	84.22	389.75	389.91	470.18			-0.8%
QV-H-8-SY -270	96.03	379.09	379.09	470.56			-1.0%
QV-H-30-SY -270	144.96	322.49	322.53	459.77			-1.7%

Church Rock							
RO-TAP Sample ID	RO-TAP Sample Mass [g]	Goal Mass CR-L-0-F Added [g]	Actual Mass CR-L-0-F Added [g]	Post Pulverized Mass [g]	Date/Time	Notes	
CR-L-4-SY -270	111.20	189.09	189.19	298.92			-0.5%
CR-L-8-SY -270	112.07	199.72	199.87	309.37			-0.8%
CR-L-30-SY -270	137.04	199.08	199.21	333.14			-0.9%

RO-TAP Sample ID	RO-TAP Sample Mass [g]	Goal Mass CR-M-0-F Added [g]	Actual Mass CR-M-0-F Added [g]	Post Pulverized Mass [g]	Date/Time	Notes	
CR-M-4-SY -270	109.17	165.47	165.51	271.70			-1.1%
CR-M-8-SY -270	131.25	206.20	206.37	334.43			-0.9%
CR-M-30-SY -270	171.24	183.29	183.65	350.94			-1.1%

RO-TAP Sample ID	RO-TAP Sample Mass [g]	Goal Mass CR-H-0-F Added [g]	Actual Mass CR-H-0-F Added [g]	Post Pulverized Mass [g]	Date/Time	Notes	
CR-H-4-SY -270	97.92	240.99	241.01	336.07			-0.8%
CR-H-8-SY -270	105.42	239.73	239.82	343.28			-0.6%
CR-H-30-SY -270	167.47	195.56	195.67	358.80			-1.2%

CTS -270 Fraction Pulverizing

Pulverizing Order	Sample ID	Logged Weight [g]	Pre-Pulverized Weight [g]
7	CTS-H-4-SY -270	608.11	607.07
8	CTS-H-8-SY -270	665.50	660.55
9	CTS-H-30-SY -270	704.39	700.87
1	CTS-L-4-SY -270	596.34	592.80
2	CTS-L-8-SY -270	606.09	602.49
3	CTS-L-30-SY -270	674.92	670.90
4	CTS-M-4-SY -270	548.47	547.27
5	CTS-M-8-SY -270	574.77	572.61
6	CTS-M-30-SY -270	598.07	597.79

Post- Pulverized Weight [g]	Lost Mass %
606.04	-0.2%
659.54	-0.2%
699.81	-0.2%
591.53	-0.2%
601.54	-0.2%
667.67	-0.5%
546.55	-0.1%
571.44	-0.2%
596.81	-0.2%

APPENDIX B-7
DISA SUMMARIZED FIELD AND LABORATORY NOTES

Field

<u>8/22/2022</u>

- John signed in contractor 1 dosimeter at 8:15 AM.
- Parked both trailers at 8:50-ish by high concentration area at Church Rock.
- 11:05 CR-L-0-SL-unscreened collected in 2 buckets. XRF Readings for uranium concentration:
    - Just below removed vegetation: 6 ppm
    - 6-inch depth: 105 ppm, 399 ppm
    - 10–12-inch depth: 43 ppm
- 11:30 CR-M-0-SL unscreened collected.
- 11:51 CR-H-0-SL unscreened collected.
- 1:32 PM, all unscreened (raw sample) masses recorded. Table below from lab notes:

Bucket	Tare [lb]	Gross [lb]
CR-L-01 Unscreened	2.2	51.8
CR-L-02 Unscreened	2.2	48.8
CR-M-01 Unscreened	2.2	61.2
CR-M-02 Unscreened	2.4	55.8
CR-H-01 Unscreened	2.2	64.4
CR-H-02 Unscreened	2.4	60.2

- All screened and crushed by 5 PM.
- Tables for each of the screened masses:

Bucket	Tare [lb]	Gross [lb]
CR-L-0->1/4-inch-01	2.2	2.6
CR-L-0-<1/4-inch-01	2.2	45.8
CR-L-0-<1/4-inch-01	2.2	54.2
CR-M-0->1/4-inch-01	2.2	4.2
CR-M-0-<1/4-inch-01	2.2	54.2
CR-M-0-<1/4-inch-01	2.2	60.0
CR-H-0->1/4-inch-01	2.2	3.8
CR-H-0-<1/4-inch-01	2.2	59.2
CR-H-0-<1/4-inch-01	2.2	63.6

- Day concluded 5:20 PM

<u>8/23/2022</u>

- Samples coned and quartered for CR-0-SL-01
- L:

  - Tare: 5.00 g
  - Gross: 1466.34 g
- M:
  - Tare: 4.99 g
  - Gross: 1389.38 g
- H:
  - 5.00 g
  - 1768.06 g
- Double bagged, placed in gallon bags
- Gallon bags placed in cooler.
- Pre-cutting:
  - L finished at 12:15 PM
  - M finished at 2:20 PM
  - H finished at 4 PM
- Coarse feed stored in trailer due to chance of rain.

<u>8/24/2022</u>

- Water calibration with flow gauge on first day of CR testing:
  - 5-gallon bucket filled for all trials
  - First, Total flow gauge start: 10.193 m^3
  - First, End: 10.214 m^3, 33.83 seconds
  - Second, start: 10.2145 m^3
  - Second, end: 10.2335 m^3, 32.71 seconds
  - Third, start: 10.2335 m^3
  - Third, end: 10.2525 m^3, 33.86 seconds
- Field calculations from above:
  - First: 0.021 m^3 = 5.547 gallons
  - Second: 0.019 m^3 = 5.019 gallons
  - Third: .019 m^3 = 5.019 gallons
- Second bucket will sample used for CR-MU-WT-01 and third bucket used for CR-MU-WT-02.
- Average flow meter records: 5.195 gal, 33.47 seconds, 0.115 gal/sec
- 80 gallons = 516 seconds = 8 min 36 seconds, determined that we needed 0.3028 m^3 reading for proper fill.
- CR-L Test
  - Total flow start: 10.2525 m^3
  - Total flow end: 8:36.80, switched totes at 5 minutes and 21 seconds (stopwatch paused)
  - VFDs set at 94.7 and 94.3 Hz.
  - Time to load CR-L 3 minutes 20 seconds.

- Flow meter noise level set too high. As a result, the doppler flow meter did not record for beginning of the test. Dropped the noise level about halfway through the test to get reading of 56-58 gpm.
- Screen record stopped at 11 minutes of processing time. Amperage hovered around 5.9-6.0 amps for the remainder of the test.
- Used 3-5 gallons of makeup water to spray wet solids into open top of HPSA tank.
- Test concluded, everything rinsed at 11:37 AM.
- CR-M Test conditions
- Total flow meter:
    - Start: 10.6345 m^3
    - End: 10.9540 m^3
    - Time: 8:36.28
- Quick Mass of still wet solids recorded prior to adding to system:
    - Noted as visually moister than when collected prior to screening.
    - Net: 53.2 lb for bucket 1 and 52.0 lb for bucket 2.
- Pump VFD settings of 94.3 and 95.0 Hz.
- Time to load material: 1:34.37. Test time started after all material added at about 12:17 PM.
- Screen record stopped after 15 minutes of processing. Amperage hovered around 6.2-6.35 A for the remainder of the test.
- Test concluded around 12:50 PM.
- CR-H Test conditions
- Total flow meter:
    - Start: 11.0252 m^3
    - End: 11.3413 m^3
    - Time: 8:36.55
- Quick mass recorded on still wet solids:
    - Noted as moister than when collected.
    - Quick mass: 50.6 lb for bucket 1 and 59.6 lb for bucket 2.
- Time to load material into the system of 2 minutes and 10 seconds.
- Screen record stopped after 15 minutes. Amperage range from 6.4-6.6 for the remainder of the test.
- Tests and rinses completed at 3:30 PM.
- Began breaking down for mobilization to next site.
- Day ended 5:10 PM.

<u>8/25/2022</u>

- Day started at Old Church Rock Mine site and began moving to Quivira. Andrew arrived at 9:30 AM while Jordan remained with Bitco to finish cleaning and breaking down site.
- At the Quivira site, the previous medium sample location was covered in a swamp. A picture was taken.

- Braden was assigned to find a new medium sample.
- The low and high sample areas were the same as identified during recon.
- Collected masses from individual areas in table below:

Bucket	Tare [lb]	Gross [lb]
QV-L-0-Unscreened-01	2.2	61.0
QV-L-0-Unscreened-02	2.2	58.4
QV-M-0-Unscreened-01	2.2	56.4
QV-M-0-Unscreened-02	2.2	56.0
QV-H-0-Unscreened-01	2.2	56.8
QV-H-0-Unscreened-02	2.2	55.6

- Rained out during ¼-inch material screening at 4:00 PM.

8/26/2022

- (Some illegibility of recorded masses on first page of field notes for this day due to raindrops blotting ink)
- Tables for screened masses:

Bucket	Tare [lb]	Gross [lb]
QV-L-0->1/4-inch-01	2.2	6.8
QV-L-0-<1/4-inch-01	2.2	59.8
QV-L-0-<1/4-inch-01	2.2	54.6
QV-M-0->1/4-inch-01	2.2	7.8
QV-M-0-<1/4-inch-01	2.2	55.4
QV-M-0-<1/4-inch-01	2.2	50.4
QV-H-0->1/4-inch-01	2.2	4.6
QV-H-0-<1/4-inch-01	2.2	58.0
QV-H-0-<1/4-inch-01	2.2	51.8

- XRF readings of the material collected in buckets, screened, crushed, and mixed together were as follows:
    - QV-L: 115 ppm
    - QV-M: 80-140 ppm
    - QV-H: 160-200 ppm
- Rain and lightning delays happened twice during the workday.
- Decided with the close grouping of concentrations, that the originally collected QV-H-0 sample would be re-named and re-classified as the medium concentration sample and that the new high concentration sample would be collected by digging deeper at the same high concentration spot.
- Day end 4:20 PM due to lighting/rain.

8/27/2022

- Medium returned to sample point.
- Covid test taken. Result: negative.
- Scale broke on 8/26, rerecorded mass for previous high sample and re-recorded as table below:

Bucket	Tare [lb]	Gross [lb]
QV-M-0-SL-01	2.2	55.4
QV-M-0-SL-02	2.2	56.2

- New high unscreened sample collected as in table below:

Bucket	Tare [lb]	Gross [lb]
QV-H-0-Unscreened-01	2.2	68.6
QV-H-0-Unscreened-02	2.2	69.2

- Screened masses as shown in table below:

Bucket	Tare [lb]	Gross [lb]
QV-H-0->1/4-inch-01	2.2	5.6
QV-H-0-<1/4-inch-01	2.2	62.0
QV-H-0-<1/4-inch-02	2.2	57.8
QV-H-0-<1/4-inch-03	2.2	15.6

- Recorded XRF reading after crushing oversize and recombining/mixing in the wheelbarrow as 340-427 ppm U.
- High sample taken 1:30 PM
- (No time recorded for pre-cut finish on low bulk sample)
- Medium pre-cut finished 12:05 PM
- High pre-cut finished 4:15 PM
- Day end 4:30 PM

8/28/2022

- 5-gallon bucket total flow meter calibration:
    - First
        - Start: 11.4875 m^3
        - End: 11.5066 m^3
        - Net: 0.0191 m^3
        - Time 30.57 seconds
    - Second

        - Start: 11.5066 m^3
        - End: 11.5279 m^3
        - Net: 0.0213 m^3
        - Time: 29.63 seconds
        -
    - Third
        - Start: 11.5279 m^3
        - End: 11.5471 m^3
        - Net: 0.0192 m^3
        - Time: 30.32 seconds
    - Average: 0.0199 m^3 over 30.17 seconds for 0.174 gallons per second
    - For 80 gallons of water volume in HPSA tank, determined a required fill time of 7 minutes 40 seconds.
- QV-L Test conditions:
    - Total flow meter:
        - Start: 11.5471 m^3
        - End: 11.5644 m^3
        - Time: 7:40.47
    - Close pump VFD set at 94.7 Hz and far pump VFD set at 94.3 Hz.
    - Quick masses recorded for coarse feed samples loaded into system:
        - Noted as moister than when collected.

Bucket	Tare	Gross
QV-L-0-Coarse Feed-01	2.2	46.0
QV-L-0-Coarse Feed-02	2.2	64.2

    - 55.61 seconds to load all material for processing.
    - Screen recording stopped after 15:30-15:45 of test time. Amperage ranged from 6.3-6.5 for the remainder of the test.
    - Test completed and unit rinsed by 10:56 AM
- QV-M Test conditions (originally written as CR-M in lab notes, crossed out and corrected):
    - Total flow meter:
        - Start: 11.6611 m^3
        - End: 11.9361 m^3
        - Time: 7:40.10
    - Quick mass recorded for coarse feed samples loaded into the system:
        - Noted as more moist than when collected

Bucket	Tare [lb]	Gross [lb]
QV-M-0-Coarse Feed-01	2.2	63.8
QV-M-0-Coarse Feed-02	2.2	35.8

    - Close pump VFD set at 94.8 Hz and far pump VFD set at 94.3 Hz.
    - Time to add material prior to starting test time of 54.98 seconds.
    - During test, 8-minute sample splashed when collecting sample. Made this note during the test in case results for QV-H-8-SY had fewer fines in the PSD as a possible explanation.
    - Screen record stopped after 15 minutes of test time. Amperage ranged from 6.3-6.6 for the remainder of the test.
    - Noise level of flow meter set to 44 for testing at Old Church Rock Mine site
    - (Left a space for noise level set of flow meter at Quivira but did not fill it in at the site).
    - Test completed and HPSA unit rinsed out by 11:55 AM
- CR-H Test conditions:
    - Total Flow meter:
        - Start: 12.1165 m^3
        - End: 12.3912 m^3
        - Time: 7:40.33
    - Quick mass recorded for coarse feed material prior to processing in HPSA:
        - Noted as moister than when collected.

Bucket	Tare [lb]	Gross [lb]
QV-H-0-Coarse Feed-01	2.2	65.6
QV-H-0-Coarse Feed-02	2.2	58.2

    - Time to add material from buckets prior to HPSA processing time recorded as: 1:03.15
    - Stopped screen recording after 15 minutes of processing time. Amperage ranged from 6.4-6.8 for the remainder of the test.
    - Test completed and HPSA unit rinsed by 2:02 PM.
- Cleaned up and broke down site, prepped to mobilize to the next site.
- Braden took pictures of all CoCs.
- Day ended around 6 PM

<u>8/29/2022</u>

- Arrived at Cove Transfer Station 2 at 9 AM
- Wanted to test the theory that the red dirt at the site my be a cap. Loader dug down 3 feet. No change in scintillator reading. Decided not to dig any further into pile for samples.
- Shoveled 3 buckets each of low, medium, and high concentration bulk samples.
- CTS-L:

  - Unscreened 1, 2, and 3 all read ND for uranium concentration from XRF in-situ measurement with a 3σ of 13 ppm.
  - One dark clump at the top of one of the buckets was measured to have a concentration of 238 ppm U.
- CTS-M:
  - Unscreened 1: 18 ppm U
  - Unscreened 2: 25 ppm U
  - Unscreened 3: 39 ppm U
  - An XRF measurement was performed on a black rock sitting at the top of the bucket which read 931 ppm U
- CTS-H:
  - Unscreened 1: 50 ppm U
  - Unscreened 2: 30 ppm U
  - Unscreened 3: 44 ppm U
  - Dark clump in top of bucket: 10 ppm U
- (Error in original recording of unscreened masses resolved while on-site)
- Unscreened bucket masses were recorded as in the table below:

Bucket	Tare [lb]	Gross [lb]
CTS-L-0-Unscreened-01	2.2	54.2
CTS-L-0-Unscreened-02	2.2	58.8
CTS-L-0-Unscreened-03	2.2	58.4
CTS-M-0-Unscreened-01	2.2	54.0
CTS-M-0-Unscreened-02	2.2	51.4
CTS-M-0-Unscreened-03	2.2	50.2
CTS-H-0-Unscreened-01	2.2	54.2
CTS-H-0-Unscreened-02	2.2	53.4
CTS-H-0-Unscreened-03	2.2	56.2

- Bucket masses after screening through a ¼-inch mesh screen were as recorded below:

Bucket	Tare [lb]	Gross [lb]
CTS-L-0->1/4-inch-01	2.2	7.4
CTS-L-0-<1/4-inch-01	2.2	55.2
CTS-L-0-<1/4-inch-02	2.4	56.8
CTS-L-0-<1/4-inch-03	2.4	52.4
CTS-M-0->1/4-inch-01	2.2	6.2
CTS-M-0-<1/4-inch-01	2.4	52.2
CTS-M-0-<1/4-inch-02	2.2	54.6
CTS-M-0-<1/4-inch-03	2.4	44.8
CTS-H-0->1/4-inch-01	2.2	9.0
CTS-H-0-<1/4-inch-01	2.2	58.2

CTS-H-0-<1/4-inch-02	2.2	55.8
CTS-H-0-<1/4-inch-03	2.2	42.6

8/30/2022

- After screening and crushing of the oversize, in-situ XRF measurements were made of the buckets of material retained on ¼-inch mesh and buckets of material passing ¼-inch mesh. Readings are as summarized in the table below:

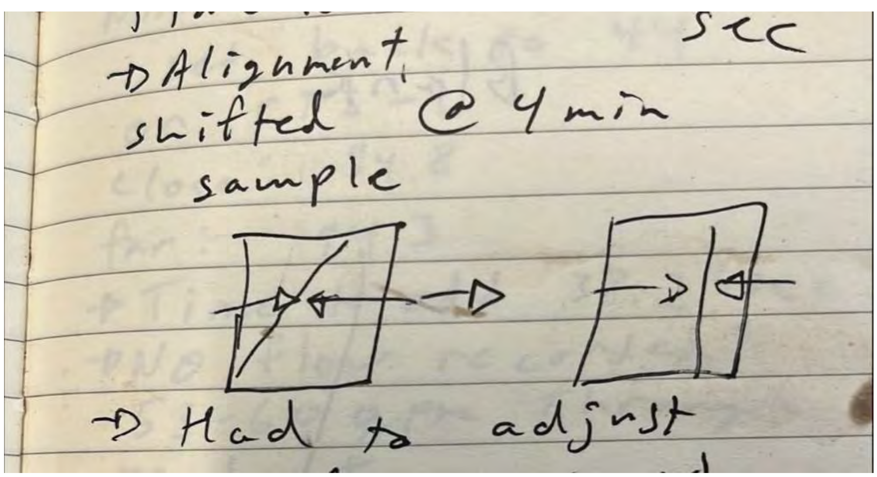
Bucket	XRF U concentration
CTS-L-0->1/4-inch-01	4
CTS-L-0-<1/4-inch-01	ND, 3σ<10
CTS-L-0-<1/4-inch-02	ND, 3σ<10
CTS-L-0-<1/4-inch-03	ND, 3σ<10
CTS-M-0->1/4-inch-01	406
CTS-M-0-<1/4-inch-01	42
CTS-M-0-<1/4-inch-02	44
CTS-M-0-<1/4-inch-03	229 on coarser rock, 28 on finer red dirt
CTS-H-0->1/4-inch-01	522
CTS-H-0-<1/4-inch-01	57
CTS-H-0-<1/4-inch-02	41
CTS-H-0-<1/4-inch-03	Two readings: 36 and 34

- Subsample of material retained on 1/4-inch was taken back to Disa Laboratory for analysis. This ¼-inch retained material was not mixed back in with the material passing ¼-inch for HPSA processing, but returned to the high concentration location. (Not written down as a deviation in laboratory notebook, but recorded in field CoCs).
- No pre-cut for material at CTS site.
- Decided to run 2 buckets of homogenized passing ¼-inch material for each test.
- Processed mass in table below:

Bucket	Tare [lb]	Gross [lb]
CTS-L-0-SL-01	2.4	53.8
CTS-L-0-SL-02	2.4	51.0
CTS-M-0-SL-01	2.2	50.8
CTS-M-0-SL-02	2.4	49.4
CTS-H-0-SL-01	2.2	58.4
CTS-H-0-SL-02	2.2	60.8

- Total flow meter calibration:
  - First

        - Start: 12.5061 m^3
        - End: 12.5266 m^3
        - Net: 0.0205 m^3
        - Time: 31.79 seconds
    - Second
        - Start: 12.5226 m^3
        - End: 12.5472 m^3
        - Net: 0.0206 m^3
        - Time: 32.67 seconds
    - Third
        - Start: 12.5472 m^3
        - End: 12.5671 m^3
        - Net: 0.0199 m^3
        - Time: 31.39 seconds
    - Average of 0.0203 m^3 over 31.95 seconds for a rate of 0.168 gallons per second.
    - To achieve 80 gallons of water in HPSA system, determined fill time of 7 minutes and 56 seconds.
- CTS-L Test conditions:
    - Total flow meter start: 12.5671 m^3
    - Total flow meter end: 12.8594 m^3
    - Time: 8:06.90
    - Close pump VFD set to 94.8 Hz and far pump VFD set to 94.3 Hz
    - Time required to add material of 32.88 seconds prior to starting processing time.
    - After four-minute sample, jet alignment was perceived to shift as shown in the drawing from the field notebook below:



    - Had to adjust VFDs to get back to balance. (Likely reflected by recorded pressure data)
    - Screen recording stopped after 15 minutes of processing time. Amperage ranged from 5.8-6.2 for the remainder of the test.

  - Test completed and rinsed by 2:31 PM
- CTS-M Test conditions:
  - Total flow meter start: 13.1277 m^3
  - Total flow meter end: 13.1286 m^3, noted as not working and does not serve as a means to approximate true volume of water used in test.
  - Time to fill: 7:56.03
  - Doppler flow meter noise set back to 44 as noise level too high to record data for CTS-L test.
  - Close pump VFD set to 94.8 Hz and far pump VFD set to 94.3 Hz
  - Time to add material prior to starting HPSA processing time of 38.23 seconds
  - No flow recorded during test. Written in lab notes that doppler flow meter readout showed 53-60 gpm.
  - Some adjustment in VFD frequency required throughout test to balance flow between nozzles.
  - Screen record stopped after 15 minutes of HPSA processing time. Amperage ranged from 6-6.2 for the remainder of the test.
  - Test concluded and system rinsed by 3:32 PM
- CTS-H Test conditions:
  - Total flow meter start: 13.3078 m^3
  - Total flow meter end: 13.5950 m^3
  - Time: 7:56.67
  - Close pump VFD set to 94.8 Hz and far pump VFD set to 94.3 Hz
  - Time to add material took: 40.43 seconds.
  - Flow meter noise level set adjusted 2 minutes and 20 seconds into the test
  - Screen recording stopped at 15 minutes of HPSA processing time. Amperage ranged between 6-6.2 for the remainder of the test.
  - Test completed and system rinsed out by 4:36 PM
  - Day concluded at 5:10 PM

Laboratory

<u>9/6/2022</u>

- Sample processing at Disa HQ begins.
- CR-L-4-SY Tab ripped open 4 PM
- 300 mL of shop water used to rinse some sample for filtration separation of solids and water for assay. (Noted as error for any dilution seen in CR-L-4-WT).
- CR-L-4-SY bucket: Remaining gross of 3.8 pounds, bucket tare mass of 1.2 pounds. Sample approximated as 2.6 pounds, assuming no moisture, and split into 3 PSDs.
  - CR-L-4-WT took a long time to filter, noted as pulling off pressure filter on 9/7.

<u>9/7/2022</u>

- CR-L-4-WT separated completely from solids on filter paper by 10 AM.
- CR-L-4-SY filtered solids still wet on 5-micron filter paper:
  - Tare: 2.13 g tare
  - Gross: 74.81 g gross
- CR-L-8-SY tab ripped 2 PM
  - Remaining solids in bucket: 4.0 pounds gross, 1.2 pounds tare, 2.8 pounds net, divided into 3 PSDs
- CR-L-8-WT water filtered 4 PM. Filter paper still wet:
  - 8.84 g gross
  - 2.09 g tare
  - Ran with second PSD

9/8/2022

- CR-L-30-SY Tab ripped open at 8 AM
- Moist mass in bucket: 4.0 pounds gross, 1.2 pounds tare, 2.8 pounds net, split into 3 PSDs
- CR-L-30-WT: No appreciable mass on filter paper

9/9/2022

- CR-M-4-SY tab ripped at 9 AM. Bucket mass after decanting into pressure filter: 4.4 pounds gross, 1.2 pounds tare, 3.2 pounds net, split into 3 PSDs. No appreciable mass retained on filter paper for CR-M-4-WT

9/12/2022

- Tab ripped on CR-M-8-SY at 10 AM. Bucket mass after decanting: 5.0 pounds gross, 1.2 pounds tare, 3.8 pounds net, split into four PSDs.
- CR-M-8-WT (mislabeled as SY in laboratory notes). Still wet masses:
  - 16.03 g gross
  - 2.07 g tare
  - Combined with PSD 2 of 4

9/13/2022

- Tab ripped at 9:45 AM for CR-M-30-SY. Bucket mass after decanting: 4.8 pounds gross, 1.2 pounds tare, 3.6 pounds net, split into 4 PSDs.
- Some leaking of pressure filtered water for CR-M-30-SY, may have lost some water mass in cleanup around the pressure filter.
- CR-M-30-WT filtered solids still wet mass on filter paper (not recorded in laboratory notes, but sample finished filtering at 2:30 PM):
  - 66.70 g gross
  - 2.11 g tare
  - Combined with PSD 1 of 4

9/14/2022

- Started bottling up water samples. Table below summarizes recorded masses:

Sample ID/Bucket	Tare [lb]	Gross [lb]
CR-L-4-WT	1.2	15.0
CR-L-8-WT	1.2	14.2
CR-L-30-WT	1.2	15.2
CR-M-4-WT	1.2	15.0
CR-M-8-WT	1.2	15.8
CR-M-30-WT	1.2	15.0

- Pictures taken of each water sample and bottle.
- Some solids settled in bottom of CR-L-30-WT. These were rinsed into cup for drying and combination with CR-L-30-SY -270 fractionated solids, since these solids had already passed the 5-micron filter paper during the dewatering step. It was decided that these solids should not be rinsed into the CR-L-30-WT water bottle shipped to Pace as it would have diluted the sample in a similar manner to CR-L-4-WT.

9/15/2022

- CR-H-4-SY tab ripped at 7:45 AM
- Switched to total and dissolved analytes on aqueous samples.
- CR-H-4-WT (written in error in laboratory notes as SY) filtered 10:30 AM, no appreciable mass retained on filter paper.
- Wet solids in CR-H-4-SY bucket: 6.0 pounds gross, 1.2 pounds tare, 4.8 pounds net, split into 5 PSDs.
- CR-M-0-SL-01 PSD first time through pressure filter finished at 4:30 PM. (This generated two buckets of pressure filter effluent water used CR-M-0-SL-0-0.45 Filtrate Pre-Rec)
- 6:20 PM, buckets mixed with drill.
    - Video taken and saved.
    - 30 mL syringe used to filter through 0.45-micron filters into 250 mL sample cup.
    - As noted on CR-M-0-SL-01 PSD sheet, filter masses recorded, used in the following fashion for water sampling prior to recycle of pressure filter water:
        - Filter 1 used for:
            - 1st: Syringe taken from Bucket 1, 30 mL aliquot, 30 mL in sample cup total.
            - 2nd: Syringe taken from Bucket 2, 30 mL aliquot, 60 mL in sample cup total.
            - 3rd: Syringe taken from Bucket 1, 30 mL aliquot, 90 mL in sample cup total.

      - 4th: Syringe taken from Bucket 2, 30 mL aliquot, 120 mL in sample cup total.
      - 5th: Syringe taken from Bucket 1, 30 mL aliquot, 150 mL in sample cup total.
    - Filter 2 used for:
      - 6th: Syringe taken from Bucket 2, 30 mL aliquot, 180 mL in sample cup total.
      - 7th: Syringe taken from Bucket 1, 30 mL aliquot, 210 mL in sample cup total.
      - 8th: Syringe taken from Bucket 2, 30 mL aliquot, 240 mL in sample cup total.
      - 9th: Syringe taken from Bucket 1, 5 mL aliquot, 245 mL in sample cup total.
      - 10th: Syringe taken from Bucket 2, 5 mL aliquot, 250 mL in sample cup total.
  - Sample preserved with nitric acid in sample cup as noted in Pace CoC
- CR-M-0-SL-01 filter effluent recycled.
- CR-H-4-WT
  - Tare: 1.2 lb
  - Gross: 15.8 lb
  - Stored on ice with preserved 0.45-micron filtrate sample.

<u>9/17/2022</u>

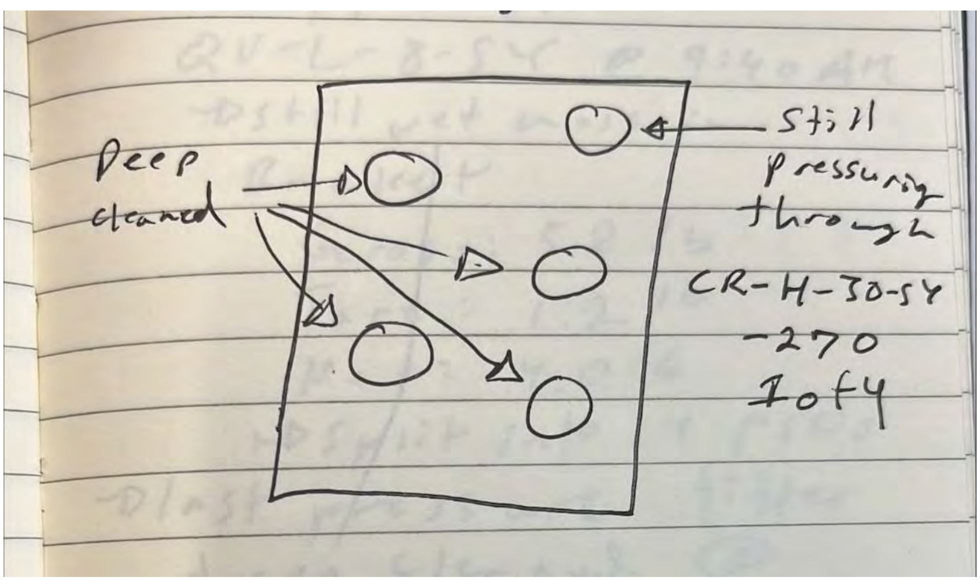
- CR-H-8-SY Tab ripped at 2:40 PM, still wet mass of material in bucket: gross 6.0 pounds, tare 1.2 pounds, net 4.8 pounds, split into 5 PSDs
- No appreciable mass retained on CR-H-8-WT filtered solids paper

<u>9/19/2022</u>

- CR-M-0-SL-01 recycle finished. Mixed water in buckets with drill again.
- 30 mL syringe used. Same 0.45-micron filter used for all aliquots:
  - 1st: Syringe taken from Bucket 1, 30 mL aliquot, 30 mL in sample cup total.
  - 2nd: Syringe taken from Bucket 2, 30 mL aliquot, 60 mL in sample cup total.
  - 3rd: Syringe taken from Bucket 1, 30 mL aliquot, 90 mL in sample cup total.
  - 4th: Syringe taken from Bucket 2, 30 mL aliquot, 120 mL in sample cup total.
  - 5th: Syringe taken from Bucket 1, 30 mL aliquot, 150 mL in sample cup total.
  - 6th: Syringe taken from Bucket 2, 30 mL aliquot, 180 mL in sample cup total.
  - 7th: Syringe taken from Bucket 1, 30 mL aliquot, 210 mL in sample cup total.

- 8th: Syringe taken from Bucket 2, 30 mL aliquot, 240 mL in sample cup total.
- 9th: Syringe taken from Bucket 1, 5 mL aliquot, 245 mL in sample cup total.
- 10th: Syringe taken from Bucket 2, 5 mL aliquot, 250 mL in sample cup total.

- Preserved and stored in cooler with ice and other 0.45-micron pre-recycle sample.
- Post-recycle buckets saved for dup if needed.
- CR-H-30-SY Tab ripped 8:20 AM. Still wet mass of solids in bucket recorded: gross 5.2 pounds, tare 1.2 pounds, net 4.0 pounds, split into 4 PSDs.
- CR-H-30-WT (incorrectly written in lab notes as SY) finished 10:50 AM. Still wet filter paper mass:
    - 2.07 g tare
    - 17.78 g gross
- CR completed.
- Deep clean on equipment prior to starting QV
    - Sieves
        - Soap and water scrub and ultrasonic cleaner per SOP x2 for deep clean
    - Pressure filters
        - Tube scrubbed with soap and water (SOP between samples)
        - Cloth scrubbed with soap and water (SOP between samples)
        - Mesh scrubbed with soap and water
        - Gasket scrubbed with soap and water
        - Base under wire mesh scrubbed with soap and water
        - Soapy water pressured through apparatus
    - (At the time of writing in the lab notes, this picture was drawn to indicate which filters had been deep cleaned)



9/20/2022

- Tab ripped on QV-L-4-SY at 7 AM. Still wet mass in bucket recorded: gross 4.2 pounds, tare 1.2 pounds, net 3.0 pounds, split into 3 PSDs
- Tab ripped on QV-L-8-SY at 9:40 AM. Still wet mass in bucket recorded: gross 5.2 pounds, tare 1.2 pounds, net 4.0 pounds, split into 4 PSDs
- Last pressure filter deep cleaned at 9:50 AM
- Tab ripped on QV-L-30-SY at 2 PM. Still wet solids mass in bucket: gross 5.0 pounds, tare 1.2 pounds, net 3.8 pounds, split into 4 PSDs.
- Due to long pressure filtering time on dewatering solids, QV-L-8-SY and QV-L-30-SY wetted with shop water to avoid drying and precipitation.
- QV-L-4-WT finished filtering 4:50 PM
- QV-L-8-WT finished filtering at 6:20 PM

9/21/2022

- QV-L-30-WT checked at 7 AM. Water completely through filter.
- Water sample masses as bottled up:
    - QV-L-4-WT:
        - Gross: 14.8 lb
        - Tare: 1.2 lb
    - QV-L-8-WT:
        - Gross: 16.4 lb
        - Tare: 1.2 lb
    - QV-L-30-WT:
        - Gross: 15.8 lb
        - Tare: 1.2 lb
- Matt audit:
    - Note that no water left over
    - Make note in write up/report about sealed 2-gallon buckets and rip tabs.
    - SPLP is more important
    - Log all deviations in a word file
    - Keep receipts from FedEx, upload BOL pictures
    - Add Purchase order: Matt will email to you (on Pace CoCs)
    - Sign over tape on custody seal
- Called Pace about required masses for analyses:
    - Metals: 1 gram
    - TCLP: 200 grams
    - SPLP: 200 grams
    - Ra 226: 300 grams
- CR-M-30-SY +25 XRF reading unusually high at 454 ppm U. Likely will have to redo CR-M-30-SY PSDs and check again with XRF.
- Called Yohji. He said:
    - No mercury for solid samples

  - Mercury for TCLP samples
- Need to pull apart pressure filter for Matt picture.

9/22/2022

- Matt took picture of pressure filter pulled apart
- QV-L-4-WT filtered solids still damp mass:
  - Gross: 51.74 g
  - Tare: 2.11 g
  - Combined with QV-L-4-SY PSD 3 of 3
- QV-L-4-SY PSD 3 of 3 lasted slightly longer time due to conversation with Matt on mechanics of method.
- Matt wanted QV-L-4-WT filtered solids paper dried to determine remaining mass after rinsing onto screen.

9/28/2022

- QV-L-8-WT filtered solids combined with PSD 1 of 4. Still damp mass:
  - Gross: 47.40 grams
  - Tare: 2.16 grams

9/29/2022

- QV-L-30-WT filtered solids still damp:
  - Gross: 103.88 grams
  - Tare: 2.12 grams
  - Combined with PSD 1 of 4
- QV-M-4-SY Tab ripped at 6 PM. Still wet mass: gross 5.2 pounds, tare 1.0 pounds, net 4.2 pounds, split into 4 PSDs.
- QV-M-8-SY Tab ripped at 6 PM. Small leak from pressure filter for QV-M-8-WT. Sill wet mass: gross 5.6 pounds, tare 1.2 pounds, net 4.4 pounds, split into 4 PSDs.
- QV-M-8-WT finished filtering at 7 PM.

9/30/2022

- QV-M-4-WT finished filtering at 6:30 AM. Water mass:
  - Gross: 15.6 pounds
  - Tare: 1.2 pounds
- QV-M-8-WT:
  - Gross: 15.6 pounds
  - Tare: 1.2 pounds
- QV-M-4-WT filtered solids still wet:
  - Gross: 23.86 grams
  - Tare: 2.19 grams
  - Combined with PSD 1 of 4

    - Filter paper placed in drier for mass after rinsing
- Error in splitting CR-M-8-SY +50-mesh fraction due to incorrect logging.
    - Will affect SPLP charge and MLA charge results.
- Still damp QV-M-8-WT filtered solids
    - Gross: 21.71 grams
    - Tare: 2.10 grams

<u>10/01/2022</u>

- QV-L-4-WT filtered solids saved paper
    - Gross: 2.37 grams dry
    - Tare: 2.11 grams
    - Disposed in trash
- Tab ripped on QV-M-30-SY at 3:30 PM
- QV-M-30-SY still damp solids in bucket: gross 5.2 pounds, tare 1.2 pounds, net 4.0 pounds, split into 4 PSDs
- QV-M-30-WT finished filtering at 4 PM. Still wet solids on filter paper:
    - Gross: 16.22 grams
    - Tare: 2.15 grams
    - Combined with PSD 1 of 4
- Tab ripped on QV-H-4-SY at 10 PM. Leaks from pressure filter for QV-H-4-WT. Still wet mass in bucket of QV-H-4-SY: gross 7.2 pounds, tare 1.2 pounds, net 6 pounds, split into 6 PSDs.

<u>10/02/2022</u>

- QV-H-4-WT finished filtering when check at 8 AM
- Tab ripped on QV-H-8-SY at 11:45 AM
- QV-H-8-SY still wet solids in bucket: gross 7.0 pounds, tare 1.2 pounds, 5.8 pounds net, split into 6 PSDs.
- QV-M-4-WT filtered solids paper weighed:
    - 2.19 g tare
    - 2.53 g gross
- QV-H-8-WT filtered through at 4 PM
- QV-H-4-WT filtered solids still wet:
    - Gross: 21.31 grams
    - Tare 2.13 grams
    - Combined with PSD 1 of 6

<u>10/03/2022</u>

- Tab ripped on QV-H-30-SY at 9 AM. Still wet solids in bucket after decanting: gross 6.2 pounds, tare 1.0 pounds, net 5.2 pounds, split into 5 PSDs.
- QV-H-30-WT finished filtering at 10 AM.
- QV-H-8-WT filtered solids, still wet:
    - Gross: 35.53 grams
    - Tare: 2.16 grams
    - Combined with PSD 1 of 6
- QV-H-30-WT filtered solids, still wet:
    - Gross: 52.30 grams
    - Tare: 2.13 grams
    - Added to PSD 1 of 5

<u>10/04/2022</u>

- CTS fractionation handed off to Jordan Dick
- QV-0-F samples well settled
    - Water decanted and combined with fractionation water
- Pictures taken
- QV-L-0-F split into 4 pans with yellow tape labels
- QV-M-0-F split into 3 pans with neon yellow tape labels
- QV-H-0-F split into 3 pans with bright green tape labels

<u>10/05/2022</u>

- QV-0-F samples dried at 105 degrees Celsius in Despatch Oven
- Madeline Orrell bottled up water samples and took pictures. Masses in table below:

Sample ID/Bucket	Gross [lb]	Tare [lb]
QV-M-4-WT	15.6	1.2
QV-M-8-WT	15.6	1.2
QV-M-30-WT	16.0	1.2
QV-H-4-WT	15.4	1.2
QV-H-8-WT	15.0	1.2
QV-H-30-WT	15.0	1.2

- Shop water sample taken directly from spray hose/head used for fractionation. Pictures taken.

<u>10/06/2022</u>

- Package survey higher than usual. Wiped cooler with samples thoroughly with Clorox prior to release.

<u>10/08/2022</u>

- QV-0-F water poured into QV fractionation tote. Not enough space in tote. Poured into 55-gallon drum with remaining fractionation water that wouldn't fit in tote.
- CTS-L-4-WT sample:
    - Collected: 10/05/2022 10:00
    - Gross: 14.8 lb
    - Tare: 1.2 lb
- CTS-L-8-WT sample:
    - Collected 10/05/2022 16:30
    - Gross: 14.4 lb
    - Tare: 1.2 lb

10/09/2022

- QV-M-4-SY +50 bag had a tear. May contribute to some lost mass
    - Transferred to new bag prior to splitting
- QV-H-8-SY +140 and +200 fractions off by about 7 grams. Noted as logging error on sheet. This was likely a mixup of an XRF cup. Will have some effect on metals results for both fractions.

10/10/2022

- Dried masses in pans for QV-0-F samples in table below:

Sample/Pan ID	Tare [lb]	Gross [lb]
QV-L-0-F 1 of 4	2.8	3.0
QV-L-0-F 2 of 4	2.8	8.0
QV-L-0-F 3 of 4	2.8	5.8
QV-L-0-F 4 of 4	2.8	6.4
QV-M-0-F 1 of 3	3.0	4.0
QV-M-0-F 2 of 3	2.8	8.0
QV-M-0-F 3 of 3	3.0	9.8
QV-H-0-F 1 of 3	2.8	11.2
QV-H-0-F 2 of 3	2.8	4.4
QV-H-0-F 3 of 3	2.8	5.8

- As recorded in buckets after scraping out of paper in pans:

Sample/Bucket ID	Tare [lb]	Gross [lb]	Net [lb]
QV-L-0-F	1.8	13.2	11.4
QV-M-0-F	1.4	14.4	13.0
QV-H-0-F	1.6	14.2	12.6

- Discrepancies between weights could be due to scale used. No pictures taken. Pans and paper cleaned well into buckets.

10/11/2022

- CR-F water settled
  - Pictures taken, poured off into fractionation water tote for Church Rock
- CR and QV-F-WT samples well settled, water poured off and combined with respective fractionation water totes
- Samples in drier in cooking pans with cooking paper. Dried at 105 degrees Celsius:
  - CR-H-0-F, CR-M-0-F, CR-L-0-F, CR-L-0-F-WT, CR-M-0-F-WT, QV-H-0-F-WT, QV-M-0-F-WT, QV-L-0-F-WT

10/13/2022

- CR-M-0-SL-01 Fractionation water used in filtrate analysis combined with fractionation water tote
- CTS-M-4-WT originally labeled incorrectly.
  - Labeled as CTS-M-0-F-WT
  - Renamed, pictures taken, will not propagate any error in sample analysis.
- Water samples table:

Sample/Bucket ID	Tare [lb]	Gross [lb]	Date/Time
CTS-M-4-WT	1.2	15.4	10/11 9:24 AM
CTS-M-8-WT	1.2	14.8	10/12 2:06 PM
CTS-M-30-WT	1.2	14.8	10/13 8 AM
CTS-H-4-WT	1.2	13.6	10/13 7:40 AM

- Lab tech recorded masses for dried CR fines samples.

10/24/2022

- Crushing order for fines buckets based on XRF reading inside the bucket of uncrushed material. Table below illustrates justification:

Sample/Bucket ID	XRF U concentration [ppm]	Crushing Order
CR-L-0-F	171	1
QV-L-0-F	250	2
QV-M-0-F	944	3
CR-M-0-F	1023	4
QV-H-0-F	1559	5
CR-H-0-F	4840	6

- Samples put back into same bucket after crushing. Table below shows pre- and post-crushed recorded masses:

Sample ID	Tare [lb]	Gross [lb]	Notes
CR-L-0-F Pre-Crush	2.0	16.0	
CR-L-0-F Post-Crush	2.0	16.0	
QV-L-0-F Pre-Crush	1.8	13.2	
QV-L-0-F Post-Crush	1.8	13.2	
QV-M-0-F Pre-Crush	1.4	14.4	
QV-M-0-F Post-Crush	1.8	14.4	Discrepancy likely due to being incorrectly written by lab tech. Original pan mass used for mass balance
CR-M-0-F Pre-Crush	2.2	14.6	
CR-M-0-F Post-Crush	2.2	14.4	
QV-H-0-F Pre-Crush	1.6	14.2	
QV-H-0-F Post-Crush	1.6	14.2	
CR-H-0-F Pre-Crush	2.2	16.0	
CR-H-0-F Post-Crush	2.2	15.8	

- After crushing, put samples into XRF pucks and analyzed again. Summarized in table below:

Sample ID	XRF U Reading [ppm]
U Standard	1958
CR-L-0-F	192
QV-L-0-F	313
QV-M-0-F	994
CR-M-0-F	1326
QV-H-0-F	1510
CR-H-0-F	5414

- True mass balance mixing of fines and concentrate should include F-WT suspended samples. Not enough mass to accurately mix and XRF on 0-F and 0-F-WT suspended solids not significantly different. As a result, just mixed 0-F samples since plenty of mass was available to meet the mass balance requirements.

10/25/2022

- Combined and pulverized concentrate fraction samples analyzed with the XRF again.
- Fractionation water inventory:

- CR:
  - Last combination from notes 10/13, time not recorded.
  - Pictures taken.
  - Tote 1: about 1000 L
  - Tote 2: about 50 gallons/200 L
- QV:
  - Last combination from notes 10/11, time not recorded.
  - Tote 1: about 330 galllons
  - Drum 2: small volume, not recorded
- CTS:
  - Last PSD completed on 10/17 from field forms. Last water combined in tote likely 10/18. No time recorded.
  - Tote 1 volume >700 L, <200 gallons

- CR fractionation water totes:
  - Tote 1 pumped into tote 2 for roughly equal volume
  - After equal volume reached between the two totes, around 1 gallon was pumped from each for a representative sample. Pictures taken.
- QV fractionation water tote and drum:
  - Water pumped from tote into drum until drum full at a volume of 55 gallons which roughly equates to 208 L.
  - The tote contained a remaining 1100 L for 1308 L total between the tote and the drum. For a representative sample of the water to be discharged, Disa mixed the sample in the proportions below:
    - Tote: (16 lb)(1100/1308) = 13.5 lb goal
      - Goal tote water sample on tare with bucket tare of 1.2 pounds = 14.7 pounds
    - Drum: (16 lb)(208/1308) = 2.5 lb goal
- Actual samples taken:
  - CR Fractionation:
    - Tare: 1.2 lb
    - Tote 1: 9.2 lb gross
    - Tote 2: 17.4 gross
  - QV Fractionation:
    - Tare: 1.2 lb
    - Tote: 14.4 lb gross
    - Tote plus Drum: 17.6 lb gross
  - CTS fractionation: since only one tote, space for masses entered into log book, but not filled in since there was no need.
- Duplicates on remaining bulk sample analyses. Bag tared when on scale, follows data in table below:

Sample ID	Net [g]
QV-H-30-SY Combined +25/+270-01	414.54
QV-H-30-SY Combined +25/+270-02	413.32
CTS-H-4-SY -270-01	304.81
CTS-H-4-SY -270-02	301.03
CTS-L-8-SY -270-01	303.14
CTS-L-8-SY -270-02	297.70

- These samples attempted to meet the goals of the table as shown below:

Sample	Split Goal [g]
QV-H-30-SY Combined +25/+270	414.66
CTS-H-4-SY -270	303.02
CTS-L-8-SY -270	300.77

10/26/2022

- Water sampled from totes on 10/25 poured from buckets into Ra and Metals bottles only.
  - CR: All water from bucket poured into bottles
  - QV: All water from bucket poured into bottles
  - Some water remaining in CTS bucket, recombined remaining in bucket with water in CTS fractionation water tote

Jordan Dick Laboratory Notes

10/04/2022

- CTS-L-4-SY tab ripped at 2:52 PM. Filter solids paper still wet:
  - Tare: 2.16 g
  - Gross: 10.53 g
- CTS-L-4-SY still wet solids in bucket: tare 1.2 pounds, gross 6.2 pounds, net 5.0 pounds, split into 5 PSDs

10/5/2022

- CTS-L-4-SY PSD 1/5 -270 fraction split between 2 pressure filters to make faster.
- CTS-L-8-SY tab ripped at 11:56 AM. Filter paper still wet solids:
    - Tare: 2.18 g
    - Gross: 10.18 g
- CTS-L-8-SY still wet solids in bucket: tare 1.2 pounds, gross 6.0 pounds, net 4.8 PSDs, split into 4 PSDs

<u>10/6/2022</u>

- CTS-L-30-SY tab ripped at 10:24 AM. Filter paper still wet solids:
    - Tare: 2.14 g
    - Gross: 10.00 g
- CTS-L-30-SY still wet solids in bucket: tare 1.2 pounds, gross 6.8 pounds, net 5.6 pounds, split into 5 PSDs.

<u>10/11/2022</u>

- CTS-M-4-SY tab ripped at 8:15 AM. Filter paper still wet solids:
    - Tare: 2.10 g
    - Gross: 9.66 g
    - Combined with PSD 3 of 3
- CTS-M-4-SY still wet solids in bucket: tare 1.2 pounds, gross 4.8 pounds, net 3.6 pounds, split into three PSDs.
- CTS-M-8-SY tab ripped at 2:06 PM. Filter paper still wet solids:
    - Tare: 2.12 g
    - Gross: 9.77 g
    - Combined with PSD 3 of 3
- CTS-M-8-SY still wet solids in bucket: tare 1.2 pounds, gross 5.6 pounds, net 4.4 pounds, noted originally as split into 4 PSDs, then switched to only performing 3 PSDs.

<u>10/12/2022</u>

- CTS-M-30-SY tab ripped at 1:40 PM. Filter paper still wet solids:
    - Tare: 2.12 g
    - Gross: 12.63 g
    - Combined with 1 of 4
- CTS-M-30-SY still wet solids in bucket: tare 1.2 pounds, gross 6.2 pounds, net 5.0 pounds, split into 4 PSDs.
- CTS-H-4-SY tab ripped 1:50 PM. Still wet filtered solids:
    - Tare: 2.10 g
    - Gross: 10.60 g
    - Combined with PSD 1 of 3
- CTS-H-4-SY still wet solids in bucket: tare 1.2 pounds, gross 5.8 pounds, net 4.6 pounds, split into 3 PSDs.

10/13/2022

- CTS-H-8-SY tab ripped at 10 AM. Still wet solids on filter paper:
  - Tare: 2.11 g
  - Gross: 9.34 g
  - Combined with PSD 1 of 4
- CTS-H-8-SY still wet solids in bucket: tare 1.0 pounds, gross 6.6 pounds, net 5.6 pounds, split into 4 PSDs.
- CTS-H-30-SY tab ripped 3:37 PM. Still wet filtered solids:
  - Tare: 2.12 g
  - Wet Weight not filled in
- CTS-H-30-SY still wet solids in bucket: tare 1.2 pounds, gross 6.8 pounds, net 5.6 pounds, split into 4 PSDs.
- (It should be noted that many of these did not get split per the 500 grams per deck rule used for the others. This is because of the large portion of fine material and its tendency to all report to the first PSD, leaving little for the remaining PSDs to be retained on fractions greater than 270-mesh, negating the need to split the samples further than they were).

APPENDIX B-8
OLD CHURCH ROCK MINE, QUIVIRA CHURCH ROCK 1 MINE, AND COVE TRANSFER STATION 2 PULVERIZING TRACKERS

Concentrate Fraction Combinations

Quivira

RO-TAP Sample ID	RO-TAP Sample Mass [g]	Goal Mass QV-L-0-F Added [g]	Actual Mass QV-L-0-F Added [g]	Post Pulverized Mass [g]	Date/Time	Notes
QV-L-4-SY -270 ✓	117.17	166.52	166.51	280.73	10/24 18:35	AH
QV-L-8-SY -270 ✓	141.64	224.56	224.63	362.72	10/24 18:45	AH
QV-L-30-SY -270 ✓	181.25	217.61	217.67	394.32	10/24 18:55	AH

RO-TAP Sample ID	RO-TAP Sample Mass [g]	Goal Mass QV-M-0-F Added [g]	Actual Mass QV-M-0-F Added [g]	Post Pulverized Mass [g]	Date/Time	Notes
QV-M-4-SY -270	✓ 66.40	311.91	311.90	375.01	10/24 19:04	AH
QV-M-8-SY -270 ✓	78.60	317.44	317.69	393.38	10/24 19:08	AH
QV-M-30-SY -270 ~~NO~~	✓ 124.50	282.92	282.93	404.61	10/24 19:10	AH

RO-TAP Sample ID	RO-TAP Sample Mass [g]	Goal Mass QV-H-0-F Added [g]	Actual Mass QV-H-0-F Added [g]	Post Pulverized Mass [g]	Date/Time	Notes
QV-H-4-SY -270 ✓	84.22	389.75	389.91	470.18	10/24 19:21	AH
QV-H-8-SY -270 ✓	96.03	379.09	379.09	470.56	10/24 19:26	AH
QV-H-30-SY -270 ✓	144.96	322.49	322.53	459.77	10/24 19:30	Some mass spilled from puck AH

Church Rock

RO-TAP Sample ID	RO-TAP Sample Mass [g]	Goal Mass CR-L-0-F Added [g]	Actual Mass CR-L-0-F Added [g]	Post Pulverized Mass [g]	Date/Time	Notes
CR-L-4-SY -270 ✓	111.20	189.09	189.19	298.92	10/24 19:38	AH
CR-L-8-SY -270 ✓	112.07	199.72	199.87	309.37	10/24 19:43	AH
CR-L-30-SY -270 ✓	137.04	199.08	199.21	333.14	10/24 19:46	AH

RO-TAP Sample ID	RO-TAP Sample Mass [g]	Goal Mass CR-M-0-F Added [g]	Actual Mass CR-M-0-F Added [g]	Post Pulverized Mass [g]	Date/Time	Notes
CR-M-4-SY -270 ✓	109.17	165.47	165.51	271.70	10/24 19:57	AH
CR-M-8-SY -270 ✓	131.25	206.20	206.37	334.43	10/24 20:02	AH
CR-M-30-SY -270 ✓	171.24	183.29	183.65	350.94	10/24 20:05	AH

RO-TAP Sample ID	RO-TAP Sample Mass [g]	Goal Mass CR-H-0-F Added [g]	Actual Mass CR-H-0-F Added [g]	Post Pulverized Mass [g]	Date/Time	Notes
CR-H-4-SY -270 ✓	97.92	240.99	241.01	336.07	10/24 20:14	AH
CR-H-8-SY -270 ✓	105.42	239.73	239.82	343.28	10/24 20:17	AH
CR-H-30-SY -270 ✓	167.47	195.56	195.67	358.80	10/24 20:22	AH

Check on -270 ROTAP Mass Fractions Prior to Mixing. 2.27 g empty plastic bag tared on scale.

Sample ID	Approx Net (g)	Notes
QV-L-4-SY-270	116.12 ✓	
QV-L-8-SY-270	139.93 ✓	
QV-L-30-SY-270	178.24 ✓	
QV-M-4-SY-270	64.74 ✓	
QV-M-8-SY-270	77.33 ✓	
QV-M-30-SY-270	~~143.14~~ NO 123.15 ✓	originally massed QV-H-30-SY-270
QV-H-~~30~~4-SY-270	82.08 ✓	
QV-H-8-SY-270	93.25 ✓	
QV-H-30-SY-270	143.14 ✓	
CR-L-4-SY-270	110.94 ✓	
CR-L-8-SY-270	111.10 ✓	
CR-L-30-SY-270	136.15 ✓	
CR-M-4-SY-270	109.60 ✓	
CR-M-8-SY-270	130.79 ✓	
CR-M-30-SY-270	169.66 ✓	
CR-H-4-SY-270	96.65 ✓	
CR-H-8-SY-270	104.85 ✓	
CR-H-30-SY-270	165.48 ✓	

Pulverizing order

CR-L-4 → 8 → 30

QV-L-4 → 8 → 30

QV-M-4 → 8 → 30

CR-M-4 → 8 → 30

QV-H-4 → 8 → 30

CR-H-4 → 8 → 30

→ Puck cleaned between each sample

→ samples pulverized for 10-20 seconds

	-270 Pulverizing	Logged Wt	Pre-Pulverized Wt	Post-Pulverized Wt
		g	g	g
7	CTS-H-4-SY	608.11	607.07	606.04
8	CTS-H-8-SY	~~671.80~~ 665.80	660.55	659.54
9	CTS-H-30-SY	704.39	700.87	699.81
1	CTS-L-4-SY	596.34	592.80	591.53
2	CTS-L-8-SY	606.09	602.49	601.54
3	CTS-L-30-SY	674.92	670.90	667.67
4	CTS-M-4-SY	548.47	547.27	546.55
5	CTS-M-8-SY	574.77	572.61	571.44
6	CTS-M-30-SY	598.07	597.79	596.81

APPENDIX B-9
2021 ANNUAL DRINKING WATER QUALITY REPORTS

2021 Annual Drinking Water Quality Report
Wholesale Water Customers

For
CITY OF CASPER
200 N. DAVID STREET
CASPER, WY 82601
(307) 235-8213

The City of Casper (City) is pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the water quality and services delivered to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. The City purchases wholesale water from the Central Wyoming Regional Water System (CWRWS) for your use. The water sources consist of twenty-nine ground water wells and one surface water source drawn from the North Platte River. The City continually strives to insure the quality of the water as it travels to your system through transmission and distribution lines. The City and the CWRWS are committed to ensuring the quality of your water.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it can dissolve naturally occurring minerals and, in some cases, radioactive materials. The water can also pick up substances such as:

1) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural operations and wildlife.
2) Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic waste water discharges, oil and gas production, mining or farming.
3) Pesticides and Herbicides, which can come from agriculture, urban storm water runoff, and residential uses.
4) Organic chemical contaminants, which can come from industrial processes, gas stations, urban storm water runoff and septic systems
5) Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

We are pleased to report to our consumers that our drinking water is safe and meets Federal and State requirements.

If you have any questions about this report or concerning your water utility, please contact Bruce Martin, Public Utilities Manager at (307) 235-8213 or Andrew Beamer, Public Services Director at (307) 235-8341. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of the regularly scheduled meetings. The Casper Public Utilities Advisory Board **meets as needed on the fourth Wednesday of the month** at 7:00 AM at Casper City Hall, 200 N. David St., in the Downstairs Meeting Room.

TEST RESULTS						
Contaminant	**Violation Y/N**	**Level Detected**	**Unit Measurement**	**MCLG**	**MCL**	**Likely Source of Contamination**
Microbiological Contaminants						
1. Total Coliform Bacteria	N	0.016% July & 0.016% Nov. 0% rest of months	Presence/ Absence Testing	0	5% of monthly samples are positive	Naturally present in the environment
2. Fecal Coliform and *E. coli*	N	ND	Presence/ Absence Testing	0	A routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or *E. coli* positive	Human and animal fecal waste
3. Turbidity Groundwater Surface Water	N	< 0.20 < 0.15	NTU	N/A	0.20 0.15	Soil Runoff
4. Cryptosporidium	N	<1	oocysts/L	N/A	2-log removal	Animal and human fecal waste
Radioactive Contaminants						
5. Beta/Photon Emitters	N/A	N/A	Mrem/yr	0	4	Decay of natural and man-made deposits
6. Alpha Emitters (Annual Average) SP01 (Surface Water) SP02 (Ground Water)	N	0.9 0.5	pCi/L	0	15	Erosion of natural deposits
7. Combined Radium SP01 (Surface Water) SP02 (Ground Water)	N	1.5 0.5	pCi/L	0	5	Erosion of natural deposits
8. Uranium	N	4	ppb/L	0	30	Erosion of natural deposits

TEST RESULTS						
Contaminant	**Violation Y/N**	**Level Detected**	**Unit Measurement**	**MCLG**	**MCL**	**Likely Source of Contamination**
18. Fluoride SP01 (Surface Water) SP02 (Ground Water)	N	0.30 0.40	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
19. Lead (Source)	N	ND	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
19A. Lead (Pb&Cu Rule) June to August 2020 (90% Value) Number of Sites Exceeding AL	N	.001 0	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
20. Mercury (inorganic)	N	ND	ppb	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
21. Nitrate (as Nitrogen) SP01 (Surface Water) SP02 (Ground Water)	N	0.06 0.4	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
22. Nitrite (as Nitrogen)	N	ND	ppm	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
23. Selenium SP01 (Surface Water) SP02 (Ground Water)	N	ND ND	ppb	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
24. Sodium SP01 (Surface Water) SP02 (Ground Water)	N	32.1 50.5	ppm	None	None	Natural occurring
25. Thallium	N	ND	ppb	0.5	2	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories
Synthetic Organic Contaminants including Pesticides and Herbicides						
26. 2,4-D	N	ND	ppb	70	70	Runoff from herbicide used on row crops
27. 2,4,5-TP (Silvex)	N	ND	ppb	50	50	Residue of banned herbicide
28. Acrylamide	N/A	N/A	ppb	0	TT	Added to water during sewage/wastewater treatment
29. Alachlor	N	ND	ppb	0	2	Runoff from herbicide used on row crops

TEST RESULTS						
Contaminant	**Violation Y/N**	**Level Detected**	**Unit Measurement**	**MCLG**	**MCL**	**Likely Source of Contamination**
50. Lindane	N	ND	Nanograms/l	200	200	Runoff/leaching from insecticide used on cattle, lumber, gardens
51. Methoxychlor	N	ND	ppb	40	40	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
52. Oxamyl [Vydate]	N	ND	ppb	200	200	Runoff/leaching from insecticide used on apples, potatoes and tomatoes
Volatile Organic Contaminants						
53. PCBs [Polychlorinated biphenyls]	N	ND	Nanograms/l	0	500	Runoff from landfills; discharge of waste chemicals
54. Pentachlorophenol	N	ND	ppb	0	1	Discharge from wood preserving factories
55. Picloram	N	ND	ppb	500	500	Herbicide runoff
56. Simazine	N	ND	ppb	4	4	Herbicide runoff
57. Toxaphene	N	ND	ppb	0	3	Runoff/leaching from insecticide used on cotton and cattle
58. Benzene	N	ND	ppb	0	5	Discharge from factories; leaching from gas storage tanks and landfills
59. Carbon tetrachloride	N	ND	ppb	0	5	Discharge from chemical plants and other industrial activities
60. Chlorobenzene	N	ND	ppb	100	100	Discharge from chemical and agricultural chemical factories
61. 1,2-Dichlorobenzene	N	ND	ppb	600	600	Discharge from industrial chemical factories
62. 1,4-Dichlorobenzene	N	ND	ppb	75	75	Discharge from industrial chemical factories
63. 1,2 – Dichloroethane	N	ND	ppb	0	5	Discharge from industrial chemical factories
64. 1,1 – Dichloroethylene	N	ND	ppb	7	7	Discharge from industrial chemical factories
65. cis-1,2-Dichloroethylene	N	ND	ppb	70	70	Discharge from industrial chemical factories
66. trans - 1,2 – Dichloroethylene	N	ND	ppb	100	100	Discharge from industrial chemical factories
67. Dichloromethane	N	ND	ppb	0	5	Discharge from pharmaceutical and chemical factories
68. 1,2-Dichloropropane	N	ND	ppb	0	5	Discharge from industrial chemical factories

TEST RESULTS						
Contaminant	**Violation Y/N**	**Level Detected**	**Unit Measurement**	**MCLG**	**MCL**	**Likely Source of Contamination**
81a. Bromate (SW Source Water) – Running Annual Average Highest Level Detected Range of Results	N	1.5 1.9 1.1 – 1.9	ppb	0	10 (MCL based on running annual average)	Bromate is a by-product of using Ozone as a disinfectant if Bromide is present in the source water
81b. Bromate (GW Source Water) – Running Annual Average Highest Level Detected Range of Results	N	5.8 12 3 – 12	ppb	0	10 (MCL based on running annual average)	Bromate is a by-product of using Ozone as a disinfectant if Bromide is present in the source water
82. TOC Average (Total Organic Carbon) SW Raw Water SW Finished Water % TOC Removal	N	6.3 3.0 52%	ppm	N/A	TT (Greater than 25% removal)	Naturally present in the environment
83. Chloramine Residual (Running Annual Average) Range of Results	N	1.36 0.12 - 2.28	ppm	4	4	Water additive used to control microbes

The sampling frequency for the contaminants listed in the above table complies with Environmental Protection Agency (EPA) drinking water regulations. Some of our data in the table is more than one year old, since certain chemical contaminants are monitored less than once a year.

What do the numbers in these tables mean?

As you can see by the table, our system had no MCL violations. **We're proud that your drinking water meets or exceeds all Federal and State requirements.** We have learned through our monitoring and testing that some constituents have been detected. The Environmental Protection Agency has determined that your water is SAFE at these levels.

In order to ensure that tap water is safe to drink, the EPA establishes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration establishes limits for contaminants in bottled water. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the

Thank you for allowing us to continue providing your family with clean, quality water this year. In order to maintain a safe and dependable water supply and water distribution system, we need to make improvements that will benefit our customers. These improvements are reflected as water rate adjustments. Thank you for your understanding.

We, at the City, work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life, and our children's future.

If at any time you have concerns or any questions, please feel free to call Bruce Martin, Public Utilities Manager at (307) 235-8213 or Andrew Beamer, Public Services Director at (307) 235-8341.

Public Meetings

The Water Systems Department encourages you to participate in decisions affecting drinking water. You are invited to attend regular City Council meetings on the second and fourth Tuesdays of every month to voice your concerns about drinking water. City Council meets at 6:00 p.m. at City Hall, 110 West Aztec Avenue, Gallup, New Mexico. Meeting dates and times are published in local newspapers, and agendas may be obtained from the City Clerk's office.

The public is invited to attend and participate in City of Gallup Sustainable Board meetings held the first Monday of every month from 3:00 p.m. to 5:00 p.m. at the City Manager's Conference Room, located at 110 West Aztec, to discuss current water issues and make recommendations to the City Council.

To find out more about the City of Gallup, visit our Web page at http://www.gallupnm.gov. You may also find information on the U.S. Environmental Protection Agency (U.S. EPA) water information Web site at http://water.epa.gov/drink/index.cfm.

Source Water Assessment

A Source Water Assessment Plan (SWAP) is now available at our office. This plan is an assessment of the delineated area around our listed sources through which contaminants, if present, could migrate and reach our source water. It also includes an inventory of potential sources of contamination within the delineated area, and a determination of the water supply's susceptibility to contamination by the identified potential sources.

According to the Source Water Assessment Plan, our water system had a susceptibility rating of "medium." If you would like to review the Source Water Assessment Plan, please feel free to contact our office during regular office hours.

En Español

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

CITY OF GALLUP

PO Box 1270
Gallup, NM 87305

CITY OF GALLUP

PWS ID: NM3508317

2021 ANNUAL DRINKING Water Quality REPORT

2021 Annual Drinking Water Quality Report

PWS ID: NM3508317

Where Does My Water Come From?

Gallup's water is produced from 16 wells tapping underground supplies from two main underground aquifers: the Gallup Sandstone and the Dakota-Westwater. The Dakota Westwater Aquifer is separated from the Galllup Sandstone by a massive shale layer known as the Mancos Shale. The Gallup Sandstone is the shallower of the two and is several hundred feet thick. The wells are located up to 10 miles from the city center and range from 300 to 3,500 feet deep. They receive no recharge from surface sources (such as rain or snow) immediately above the well site. Being confined and not being in immediate contact with surface water, these aquifers are well-protected from contamination by surface sources in the vicinity of the well sites. Water is collected from these underground supplies then pumped to eight storage tanks. Gravity and pumps move water to our homes and businesses. Many of the water system's components – wells, pipes, storage tanks, and pumps – are old and deteriorating, so a great deal of resources is used to keep water flowing.

Our underground water is being used up. It is not replaced from natural sources. City water shortages in the not-too-distant future are predicted by experts. Our limited and uncertain water supply limits possibilities for growth, economic development, and new jobs. The City has worked to find new sources of water since early in our history. In recent years, water conservation has been recognized as the most cost-effective "source" of water.

A Water Conservation Program is administrated by the Water Conservation Coordinator at the Utilities and Engineering Service. This person administers a number of water-saving programs that have helped replace high-flow toilets, shower heads, clothes washers, and restaurant dishwashing equipment. Another program encourages replacement of private and public lawns and high water-use type landscaping, and use of the rain and snow water for landscaping and gardening. The coordinator also works with schools, businesses, and community groups to make people aware of our water problems and to suggest solutions. The coordinator will inspect businesses and make suggestions for improvements to equipment and landscaping, which will reduce water use and cost. These programs are believed to aid in the water consumption reduction and has lowered the City's cost to pump and distribute water as well as saving water for future use.

Utilities and Engineering Service is using a technology to understand and operate the water system effectively. A computerized control system using sensing equipment and radio communications continuously track the operating conditions at wells, pumps, water tanks, and other equipment, allowing utility personnel to operate the water system efficiently and to identify problems like water line breaks or developing pump problems. A computerized mapping system is also being developed.

Navajo Gallup Water Supply Project

The Navajo Gallup Water Supply Project (NGWSP) was authorized for construction under Public Law 111-11 in March 2009 and was scheduled for completion in 2024. However, this deadline will not be met as the US Bureau of Reclamation (USBR) is evaluating a request from the Navajo Nation to add a storage reservoir component to the project. This would entail using the San Juan Generating Station's reservoir to store water diverted from the San Juan River prior to it being treated and delivered to project participants by way of the San Juan Lateral. The Navajo Nation and US Bureau of Reclamation have requested that all project participants lobby Congress to extend the completion date of the project. The City is currently considering this request.

The project currently has an indexed cost of approximately $1.35 billion. The USBR/City of Gallup Repayment Contract No. 11-WC-40-435 requires the City of Gallup to pay 35% of our allocated cost of $182,928,917 or $64,025,121. The State of New Mexico Water Trust Board (WTB) has contributed approximately $36,600,000 in grants, thus far, to build the Gallup Regional Water System, which is a component of the NGWSP. It is anticipated that the State will receive credit toward their $50 million share of the project with WTB grants and cash payments.

The US Bureau of Reclamation has informed project participants that its latest construction estimate exceeds authorized funding by approximately $248 million and has requested project participants lobby Congress to increase the authorized cost ceiling and obtain additional funding to complete the project. The City is currently considering this request.

The City of Gallup has been working with the USBR, the State of New Mexico, the Navajo Nation, the Northwest New Mexico Council of Governments, and Indian Health Services since Congress authorized a feasibility study of the project in 1971. The NGWSP will provide a long-term supply of municipal and industrial water to the Navajo Nation, the Jicarilla Apache Nation, and the City of Gallup. It will deliver over 13,000 acre feet of drinking water to the City of Gallup, Navajo Chapters and surrounding rural areas.

This past year, the City began construction of Reach 27.10, with a scheduled completion date of June 2021; completed the design of Reach 27.11 and will put it out for construction bid in April 2021; and obtained Water Trust Board Funding for Reach 27.7B. The City is on track to complete construction of the Gallup Regional Water System prior to the Congressional deadline of December, 2024.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or http://water.epa.gov/drink/hotline.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include: Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife; Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems; Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Sign Up for Savings...

Choose from (5) water & energy saving rebates for City of Gallup utility customers:

1) $100 or $75 utility bill credit for replacing older than 1994, water guzzling **Toilets & Showerhead Rebate** - Commercial customers can get a $ 75 credit per toilet, while Residential customers can get a $100 utility bill credit for the first toilet, $75 for the second, and $50 for the third toilet; with new WaterSense certified toilets. Saving $ on your utility bill. A family of four can re-pay a new toilet price in 2 to 3 years, while saving more $ in the future.
2) **$100 utility bill credit** for replacing old **Clothes Washers**;
3) **$30 utility bill credit** for replacing **Refrigerators** with new high efficient models;
4) **$30 utility bill credit** for installing two water saving **Rain Barrels**;
5) **$25 utility bill credit** per each **10 square feet** to convert high water using green grass - into water thrifty **Xeriscape** landscapes.

How do I qualify for Utility Bill Credits?

- Visit www.gallupnm.gov; Type in the "Search Gallup" box: "Rebates", or call (505) 863-1393 for more information.
- Toilets represent one of the single largest water users inside your home. All city utility customers who have old, water guzzling 3.5 gallon per flush (gpf) toilets in their building, with utility bill accounts in good standing, may qualify for a toilet rebate.
- *Buildings in which toilets have already been retrofitted with new 1.6 (gpf) are already water saving fixtures - and do not qualify.*
- Get a 63% water savings with new WaterSense certified toilets compared to older than 1994, 3.5 gallon per flush toilets.
- Call # 863-1393 to find out if your business or residential family can qualify for Toilet & Showerhead Rebates. Get an additional 60% water savings with a new 1.5 gallon per minute (gpm) showerhead and 1/2 gpm faucet aerators.

Look for this Logo when purchasing water saving fixtures. WaterSense is a partnership program sponsored by EPA, with the goal of protecting future U.S. water supplies by promoting water efficient products and services. The City of Gallup is a WaterSense partner.

Sign up and save $ and our most precious valuable resource today!

2021 Test Results

PWS ID: NM3508317

We are pleased to present to the citizens of Gallup, our annual water quality report covering all testing performed between January 1 and December 31, 2021. Our water is monitored for many different kinds of contaminants on a very strict sampling schedule. The information below represents only those substances that were detected; our goal is to keep all detects below their respective maximum allowed levels. The State recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2017	15	0	3.3	ND - 3.3	No	Erosion of natural deposits
Arsenic (ppb)	2017/2018	10	0	1	ND - 1.0	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Beta/Photon Emitters* (pCi/L)	2017	50	0	5.3	5.2 - 5.3	No	Decay of natural and man-made deposits
Chlorine (ppm)	2021	[4]	[4]	1.8	0.6 - 1.8	No	Water additive used to control microbes
Combined Radium (pCi/L)	2017	5	0	1.63	1.38 - 1.63	No	Erosion of natural deposits
Fluoride (ppm)	2017/2018	4	4	0.88	0.63 - 0.88	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA] (ppb)	2021	60	NA	2.6	2.0 - 2.6	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes] (ppb)	2021	80	NA	32	8.0 - 32	No	By-product of drinking water disinfection
Barium (ppm)	2017/2018	2	2	0.021	ND - 0.021	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Nitrate/Nitrite (ppm)	2021	10	10	0.07	0 - 0.07	No	Runoff from fertilizer use
Uranium (ppb)	2017	30	0	ND	ND	No	Erosion of natural deposits

* The MCL for beta particles is 4 mrem/year. U.S. EPA considers 50 pCi/L to be the level of concern for beta particles.

COPPER & LEAD – Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH PERCENTILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2020	1.3	1.3	0.05	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2020	15	0	1	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

UNREGULATED CONTAMINANT MONITORIUNG RULE - PART 4 (UCMR4)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE (LOW - HIGH)
HAA5 (ug/L)	2018/2019	3	ND - 3
HAA6Br (ug/L)	2018/2019	8.5	ND - 8.5
HAA9 (ug/L)	2018/2019	9.5	79 - 390
Managnese (ug/L)	2018/2019	30.9	5.3 - 30.9
Germanium (ug/L)	2018/2019	0.6	ND - 0.6
Bromide FS (ug/L)	2018/2019	97.1	66.6 - 97.1

We participated in the 4th stage of the EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR4 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information on this program.

Additional Information for Arsenic

While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Lead in Home Plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Gallup Water System is responsible for providing high-quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/lead

The City of Gallup proudly presents the results of monitoring done on its drinking water for the period from January 1 to December 31, 2021. The purpose of this report is to advance consumers' understanding of drinking water and heighten awareness of the need to protect precious water resources. We are committed to producing a high quality drinking water that meets all state and federal standards. As your Mayor, the Council and I want to let you know how seriously we take our responsibility in providing you the best possible drinking water within our means. Because of this, we have hired some very capable water operators, utility planners and engineers to run our water system – we appreciate their professionalism and contributions to our community! We are ever vigilant with meeting the goals of source water protection, water conservation and community education while continuing to meet the needs of our residents.

I encourage you to share your thoughts and ideas with us about the information in this report. This is your City. Your water system. Your home. We are here to serve you.

Louis Bonaguidi
Mayor

CITY OF GALLUP

Definitions

In the tables above, you may find many terms and abbreviations you are not familiar with. To help you better understand these terms we've provided the following definitions:

- **90th percentile:** The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. A percentile is a value on a scale of
- **AL (Action Level):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- **LRAA (Locational Running Annual Average):** The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Level Detected values for TTHMs and HAAs are reported as LRAAs.
- **MCL (Maximum Contaminant Level):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- **MCLG (Maximum Contaminant Level Goal):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- **MRDL (Maximum Residual Disinfectant Level):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- **MRDLG (Maximum Residual Disinfectant Level Goal):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- **NA:** Not applicable
- **ND (Not detected):** Indicates that the substance was not found by laboratory analysis.
- **pCi/L (picocuries per liter):** A measure of the radioactivity in water.
- **ppb (parts per billion):** One part by weight of analyte to 1 billion parts by weight of the water sample.
- **ppm (parts per million):** One part by weight of analyte to 1 million parts by weight of the water sample.
- **TT (Treatment Technique):** A required process intended to reduce the level of a contaminant in drinking water.