

September 21, 2018

Mabbett File No. 2018016.002

Joe Laughton  
Massachusetts Department of Environmental Protection  
Bureau of Waste Site Cleanup  
8 New Bond Street  
Worcester, MA 01606

Re: Notice of Availability of Response Summary for Public Involvement Plan  
Former Buckley & Mann Site  
17 Lawrence Street  
Norfolk, Massachusetts  
Release Tracking Number 2-3000173

Dear Mr. Laughton:

Mabbett & Associates (Mabbett) is providing this notification letter on behalf of Buckley & Mann, Inc., the owner of the above-referenced site, to notify you of the availability of the Response Summary containing responses to public comments received on the Draft Public Involvement Plan, which was presented at a public meeting on August 7, 2018.

The Response Summary is available for review in electronic format through the MassDEP website using the following link: <https://eeasonline.eea.state.ma.us/EEA/fileviewer/Rtn.aspx?rtn=2-3000173>. The Response Summary will also be available for review at the Norfolk and Franklin Public Libraries, and included as an appendix to the Final Public Involvement Plan. The Final Public Involvement Plan will be prepared and submitted to the MassDEP website and the document repositories during the week of September 24, 2018.

Very truly yours,

**MABBETT & ASSOCIATES, INC.**

BY:



Stephen A. Vetere, PE, LSP, LEP  
Section Lead, Site Assessment and Remediation

cc: PIP Petitioner Mailing List  
Town of Norfolk: Town Administrator, Board of Selectmen, Board of Health, Zoning Board of Appeals

**RESPONSE SUMMARY  
DRAFT PUBLIC INVOLVEMENT PLAN  
FORMER BUCKLEY & MANN SITE  
NORFOLK, MASSACHUSETTS  
RTN 2-3000173**

**Comments received from Eric Diamond (ED) on August 7, 2018:**

*ED-1: Thank you for the outline of the PIP process tonight. Near the end, you had a slide titled next steps, and listed re-recording the AUL. Is there an assumption or an agreement already in place that this site will have a AUL in the future?*

**Response:** There are no assumptions or agreements in place regarding the remedial actions that will occur at the Site. Remedial actions will be selected based on the data collected during the Phase II investigation and the conclusions of the risk assessments. However, it is presumed that soils in certain areas will remain at the Site with contaminants that are above levels that allow for unrestricted use, and there may be other soils where contaminants are at such levels where an Activity and Use Limitation will necessarily be part of the final remedy in order to reduce risks to a level that will achieve compliance with the MCP.

*ED-2: When site work is performed, who is allowed to be onsite to witness the testing? Does Mabbett do its own testing, or is it completed by a third party? Is the town's LSP allowed / obligated to be on site during all testing? What if the town does not fund the town LSP to be on site to witness testing? Probably a question for the town's LSP, is there enough money in the budget to witness or do independent testing?*

**Response:** The Site is located on private property that is currently owned by Buckley & Mann. Therefore, anyone wishing to observe sampling and testing activities would need to coordinate through the property owner. Mabbett does have staff members that collect environmental samples, however the recent sampling has been performed by IC Environmental, another qualified environmental consulting firm. We refer your question regarding funding for LSP oversight of sampling activities to the Town. The Town's LSP, or other members of the Town government, are welcome to observe sampling activities conducted by Buckley & Mann.

**Comments received from Sandy Myatt (SM) on August 27, 2018:**

*SM-1: POST-RAO SAMPLING DETAILS: Section 2.3 of Draft PIP states "Environmental sampling data collected during these (2011-2015) assessment activities was consistent with the data collected during response actions and has not revealed any new or additional reporting conditions." Please provide the documentation for tests cited (locations, chain of custody, all results and engineer/LSP performing tests).*

**Response:** Please see Exhibit A of this Response Summary for the requested information.

*SM-2: APRIL 2018 TEST DATA: Section 2.4 of Draft PIP states "In April 2018, additional soil sampling was performed within the Carbonizer Lagoon..." Please provide the documentation for tests cited (locations, chain of custody, all results) done April – August 2018.*

**Response:** Please see Exhibit A of this Response Summary for the requested information. This information was also provided in the Draft Phase II Scope of Work, submitted for public comment on September 4, 2018.

*SM-3: REPORTING EXCEEDANCES TO DEP: Section 2.4 of Draft PIP states that the detections of "antimony, cadmium, and 2-methylaphthalene in soil above RCS-1" were reported to the DEP and that "these*

*detections do not represent a new release condition” and the “revised notification was submitted in the interest of completeness and transparency.” Three additional exceedances above reportable concentrations from the March 2018 sampling exist for Chromium III, Lead and Zinc. Chromium speciation was never done in previous RTN 2-3000173 testing. In addition, Arsenic and Lead in surface waters of Bush Pond are exceedances in this ZONE II. To be complete and transparent, please explain if all exceedances will be reported to the public and DEP throughout this process and reasons they would not be reported.*

**Response:** The initial assessment work at the Site was performed in 1986 and continued into the late 1990s. Some of this work was performed prior to establishment of the MCP (1993), therefore the way in which the initial release was reported to MassDEP was not consistent with the current process. However, in 1998/1999, a Release Abatement Measure (RAM) was implemented to address contaminated soils. The RAM Transmittal Form (BWSC Form 106) submitted with the RAM Completion Statement identifies metals, PAHs, and TPH as the contaminants that triggered the 120-day reporting condition.

The detection of a contaminant in soil or groundwater above a reportable concentration only triggers a 120-day reporting obligation the first time it is detected. If the same contaminant is detected above reportable concentrations in subsequent sampling events, no new reporting obligation is triggered. Chromium, lead, and zinc are all heavy metals that were known to be present at the Site and part of the release that was reported to MassDEP in the 1980s. Similarly, antimony, cadmium, and 2-methylnaphthalene (which were detected above RCS-1 in the March 2018 sampling within the Carbonizer Lagoon) are heavy metals/PAHs whose presence in the environment has also been previously reported to MassDEP, and their detection above RCS-1 did not create a new reporting requirement.

Chromium speciation was performed on a subset of the 2018 analyses and has demonstrated that hexavalent chromium makes up a relatively small percentage of the total chromium detected in soil samples collected from the Site. Hexavalent chromium has not been detected above a reportable concentration. Chromium speciation results have provided additional evidence that the less toxic, less mobile form of chromium (trivalent chromium) is the dominant species at the Site.

There are no reportable concentration thresholds in the MCP for surface water samples. Releases triggering 120-day notification requirements as suggested by the commenter apply to soil and groundwater only.

Buckley & Mann will continue to provide the results of analytical testing to MassDEP at standard MCP reporting milestones. All such documents filed with MassDEP are available to the public on the MassDEP website. Buckley & Mann will also continue to provide the results to the public through the PIP process and through other channels, including through the Town, as was done with the 2018 soil sampling data upon which this comment is based. Buckley & Mann will report releases to MassDEP when obligated to do so under the MCP.

*SM-4: IMMEDIATE HAZARD: Is iron flocculent either in the Tail Race, Carbonizer Trench, Carbonizer Lagoon, Mill River or any of the wetlands between the Tail Race and the Mill River? Is iron flocculent an Imminent Hazard? Who’s responsible for reporting Imminent Hazards to MassDEP?*

**Response:** Iron flocculant has been observed in the Tail Race, Carbonizer Lagoon, and on the banks of the Mill River. The presence of iron flocculant could be a potential Imminent Hazard condition if it was determined to produce immediate or acute adverse impacts to freshwater fish populations. To date, this condition has not been observed at the Site. Buckley & Mann has outlined an investigative strategy in the Phase II Scope of Work to determine whether the presence of iron flocculant at the Site adversely impacts environmental receptors, and the degree to which iron flocculant is related to the MCP release at the Site.

It should also be noted that the results of four soil samples collected from the Tail Race in March 2018 did not identify any metals above reportable concentrations (Exhibit A). In two samples collected from the Tail Race, petroleum hydrocarbons and PAHs were not detected. Additional sampling is planned to further characterize material in the Tail Race and more clearly understand the source of iron flocculant and whether it poses potential human health or environmental risks.

*SM-5: TIER CLASSIFICATION: Does this site meet any of the criteria for Tier I? Please list all existing groundwater reportable concentrations (RCGW-1) at this site. Who is responsible for reclassification when data warrants a change to Tier I?*

**Response:** The Site does not meet any of the criteria for Tier I. Groundwater sampling results from 2014-2015 (the most recent comprehensive sampling events available) are included in Exhibit B to this Response Summary. The only exceedance of RCGW-1 in any of these samples was arsenic. Re-analysis of these samples after filtering indicated that dissolved arsenic was only present at detectable concentrations in a single monitoring well, MW-3DX, in a single sample collected in September 2015. Re-sampling of this well in October 2015 did not reproduce this result. It should be noted that arsenic is a metal which is also naturally occurring and is expected to be present in the environment even in the absence of the Site. Based upon the information derived to date, it appears that arsenic may be naturally occurring in this area but additional characterization will be undertaken to reconfirm our preliminary determination.

*SM-6: RESPONSIBILITY at BUCKLEY & MANN: Who is legally responsible for 17 Lawrence Street and associated costs of the disposal site? What happens to the process if funds are not available to complete cleanup?*

**Response:** Buckley & Mann is legally responsible for environmental response actions at the Site as owner of the property. The ongoing assessment work is being performed to evaluate the extent of remedial actions that will be required to achieve a Permanent Solution under the MCP. The proposed residential development project will move forward after a Permanent Solution has been achieved, or at the point when sufficient work has been done to fully understand the scope of work necessary to achieve a Permanent Solution, so that uncertainty regarding the cost of environmental cleanup will not be a factor in the redevelopment of the property.

*SM-7: PHASE II SCOPE OF WORK: Considering Buckley and Mann represents only a portion of the site's mill history (circa 1901), additional locations and tests for contaminants should reflect the history of the site dating back to when it was a shoddy mill, felting mill, a paper mill and a tannery (circa 1830s). Please review and present to the public all historical mill layouts and their chemicals for possible contamination when the Phase II Scope of Work is presented on September 4, 2018. A detailed map of proposed test locations and associated tables of existing sampling results with locations on the map would help the public understand the proposed Phase II field investigations.*

**Response:** Historical information regarding the existence of a shoddy mill and paper mill on the Buckley & Mann property was provided to the project team at the September 4, 2018 public meeting. This information is being reviewed and its implications on the Phase II Scope of Work will be addressed in the response to public comments on the Phase II Scope of Work.

*SM-8: Please email future PIP correspondence to: [friendsoflawrencest@gmail.com](mailto:friendsoflawrencest@gmail.com)*

**Response:** Future PIP correspondence will be emailed to this address.

**Comments received from Christopher Wagner (CW) on August 27, 2018:**

*CW-1: Dear Stephen, My name is Chris Wagner and I am writing to express the concerns of Arthur Wagner, Geraldine Wagner, and myself regarding the proposed Abbyville Commons and Abbyville Preserve projects at 17 Lawrence Street, and the adjacent parcels. In reading the final Environmental Notification Form (ENF), I found that there are environmental impacts that have not been given adequate attention or investigation. The ENF specifically mentions two certified vernal pools in very close proximity to the proposed project footprint, as well as four other potential vernal pools. There has been no evaluation of whether those four additional vernal pools represent habitat for protected species. I am particularly concerned since the BSG Group, Inc.'s report and findings included in DiPlacido Development Corporation's request for a Project Review dated 6/12/17, notes the following two areas on the property.*

- *Wetland G - "...has been certified as a vernal pool and characterized as a cottonwood open pool cover type. The pool appears to have been certified due to the presence of fairy shrimp but does not appear to support mole salamander species."*
- *Wetland L - "...includes two basins with sufficient biological indicator evidence to be certified as vernal pools. This is one of the areas on site mapped as Woodland Vernal Pool cover type, and provides potential breeding habitat for the marbled salamander."*

*Yet, there has been absolutely no effort made to examine the certified vernal pools in Wetland G, or the potential vernal pools in Wetland L. Wetland L includes Lagoons 1, 2, and 3, as defined in your PIP presentation. All of these pools are within the 1000 foot buffer required of marbled salamander habitat, Lagoons 1 and 2 were included in the previous AUL, and Lagoon 3 is adjacent to the former AUL boundary. Overall, I see no effort being made to examine the former Buckley and Mann site and surrounding areas for protected species and habitat. Habitat maps were redrawn just prior to this project's proposal, but there is no evidence of physical investigation of the site. An appropriate investigation would at least have to take place in the spring, when the vernal pool species are active, Furthermore, impacts on the Mill River, and downstream impact on the Charles River Watershed are of specific concern.*

**Response:** State-listed species concerns are regulated by the Massachusetts Wetlands Protection Act (M.G.L. Ch. 131, § 40) (WPA) and its implementing regulations (310 CMR 10.00 et seq.) and the Massachusetts Endangered Species Act (M.G.L. Ch. 131A; MESA) and MESA Regulations (321 CMR 10.00 et seq.). Both WPA and MESA regulations contain a presumption that a determination regarding state-listed species rendered by the Massachusetts Natural Heritage and Endangered Species Program (NHESP) is accurate.

In September 2014, a NHESP inspector visited the property to determine whether there were marbled salamanders present. The inspector did not identify any marbled salamanders, or other species requiring further protection, during his site visit, and the Massachusetts Division of Fisheries & Wildlife subsequently redrew the overlay district to exclude the property. On July 13, 2017, NHESP provided a "final decision" letter concluding that the proposed development will not result in a "prohibited Take" of state-listed rare species. Please note that a "Take" under MESA is defined to include any unacceptable effect on a state-listed species. A copy of this letter is provided as Exhibit C to this Response Summary.

*CW-2: We also have concerns with both the use of the Buckley and Mann former mill site for a staging area, and the subsequent dismantling of the foundations and culverts in the area. Although the buildings were razed by the town, this land was never previously tested by the DEP. We do not know what exists in these soils and structures, which would be disturbed and released with these*

*proposed construction activities. Toxic chemicals were released into landfill area and wastewater lagoons, as found by the DEP, so logic would hold that those same hazardous materials existent around and beneath ear the buildings where they were handled. The ENF makes no mention of this likelihood in discussions of this demolition and handling and disposal of the resultant solid waste. I feel that there are multiple concerns for release of carcinogens and other hazardous waste into the water supply and air.*

**Response:** Extensive exploration of the former building foundation areas was performed in 2014. Several test pits were excavated within this area in an effort to verify that no floor drains or subsurface conduits were present within the former building footprints (none were encountered). Soil samples were collected for laboratory analysis during this effort. The results of this sampling are provided in Exhibit A to this Response Summary.

**Comments received from Margaret Bedard (MB) on August 27, 2018:**

*MB-1: How far is the setback for the development from the contaminated soil?*

**Response:** The closest proposed residential property line to the former AUL area is approximately 100 feet. There is no setback requirement in the MCP with regard to contaminated soil, the allowable use of land is generally determined by the findings of a human health risk assessment. Note that the proposed residential property boundary is hydrogeologically upgradient of the Buckley & Mann Site, meaning that the direction of groundwater flow is from the Buckley & Mann site away from the proposed development.

*MB-2: Please explain the PIP process in detail.*

**Response:** The best source of additional information on the PIP process is the MassDEP guidance document for the preparation of Public Involvement Plans: *Public Involvement Plan Interim Guidance for Waiver Sites*. This document is available for review at the document repositories or can be downloaded using the following link: <https://www.mass.gov/files/documents/2016/08/rd/91-800.pdf>.

*MB-3: Please explain the clean-up process in detail.*

**Response:** The general process for the assessment and cleanup of contaminated sites in Massachusetts is outlined in the Massachusetts Contingency Plan (MCP, 310 CMR 40.0000). A brief explanation of the process was provided during the public meetings on August 7, 2018 and September 4, 2018. The MCP provides a framework for the assessment and cleanup of sites, but the process for individual sites is dependent upon a number of factors, including but not limited to, the nature of historical site operations, the types of contaminants present, the impacted environmental media, and the extent of contamination.

*MB-4: How are we protected from the contamination during the clean-up?*

**Response:** Any cleanup actions that involve the disturbance of potentially contaminated environmental media (i.e. soil, sediment, groundwater) would be designed to include engineering controls to prevent the migration of contaminants beyond the work area. During the planning of such activities, potential mechanisms for contaminant migration and potential human exposure would be evaluated, and controls would be developed to mitigate any potential for exposure. For example, if excavation of contaminated soil were planned, the potential mechanisms for contaminant migration would include controls for both erosion and fugitive dusts. Potential routes of exposure to contaminants would be through direct contact with contaminated soil or inhalation of fugitive dusts. To mitigate these concerns and prevent exposures, soil excavation activities would be designed to prevent erosion of soils in open excavations or soil stockpiles, and would implement dust control measures to prevent the generation and off-site migration

of dust. Monitoring and testing programs would be established to verify the effectiveness of these measures.

*MB-5: How do we know animals, small critters like bugs & birds, disturbances in weather can't migrate contamination to us?*

**Response:** Animals are generally not considered to provide a viable risk of spreading contamination to humans, except if the animals are themselves impacted by contamination and are consumed/eaten by humans. With respect to potential impacts to animals from contaminants, the environmental risk characterization will address this possibility.

*MB-6: Who is ultimately responsible to complete this clean-up?*

**Response:** Buckley & Mann, the current owners of the property, are legally responsible for achieving compliance with the MCP.

*MB-7: Are there records on workers at Buckley & Mann?*

**Response:** There are no known records on former employees of Buckley & Mann.

*MB-8: Who else has reported on the Buckley and Mann site besides the Mann family?*

**Response:** To date, information on the historical operations of the facility has been provided by members of the Mann family. Additional resources including historical mapping and other literature have also been utilized in the development of our understanding of the site history. Additional interviews of others familiar with the historical operations are planned and information gathered during these interviews will be integrated into the Phase II Scope of Work.

*MB-9: How did the previous clean-up lapse?*

**Response:** The previous site cleanup did not "lapse". It was reviewed by MassDEP, as is routinely done to continually monitor the status of contaminated sites in Massachusetts, and deficiencies were identified in the level of detail provided in the 2001 risk assessment and Activity and Use Limitation (AUL). MassDEP provided Buckley & Mann with a period of 180 days to remedy the issues identified, however, the additional data collection (sampling) and analysis required to improve the 2001 site closure report to meet present-day standards was determined to require additional time. Therefore, the Permanent Solution was retracted so that the additional work could be performed.

*MB-10: How do we ensure it doesn't lapse again?*

**Response:** A Phase II Scope of Work has been developed with the objective of collecting the additional data needed to perform a risk assessment that meets present day standards and identifies cleanup requirements that will protect human health, safety, public welfare, and the environment. A cleanup plan that uses sound science and good judgement, and is consistent with the current MCP, will be undertaken to ensure the remedy selected is the final remedy for the Site.

*MB-11: Where does water come from during clean-up?*

**Response:** Typically, if a significant source of water is required to perform an environmental cleanup, a utility connection, with a one-way valve, to a public or private water supply is made. If a lesser amount of water is required to perform the cleanup, then water would be imported to the site in trucks or tanks.

*MB-12: How do we watch for contamination and ensure we aren't getting additional exposure?*

**Response:** Engineering controls employed to prevent exposure to contaminants during cleanup operations typically include monitoring of erosion controls to ensure impacted soils are not migrating

during precipitation events; monitoring of air to ensure that dusts are not generated during soil handling; wetting of soils to prevent dust generation; and inspection/testing of soil, water, or air to verify the effectiveness of these controls.

*MB-13: There are 6 contaminants above the allowed level, how many are below?*

**Response:** In 2018, soil samples have been collected and analyzed for the presence of heavy metals, extractable petroleum hydrocarbons (EPH), and polycyclic aromatic hydrocarbons (PAH) since these are the chemicals known to have been used at the Site and are the chemicals that have been identified as risk drivers during historical site assessment activities.

The laboratory method for testing of soil and groundwater for heavy metals typically reports the 14 heavy metals for which MassDEP has published risk-based screening criteria. Five of these metals have been detected in at least one soil sample above the most stringent human health risk assessment standards published in the MCP (Method 1 S-1/GW-1 standards), the other nine have been detected below this risk assessment standard in at least one sample. It should be noted that these metals are naturally occurring and are expected to be present in the environment even in the absence of the Site or other anthropogenic sources.

The laboratory method for testing of soil and groundwater for EPH and PAH typically reports 20 different compounds, one of which has been detected above Method 1 S-1/GW-1 standards. Two petroleum hydrocarbon ranges and one additional PAH were detected in the 2018 soil samples below this risk assessment standard. The other 16 compounds were not detected above laboratory reporting limits.

*MB-14: What are the dangers and exposure as these chemical mix and create new and more dangerous chemicals?*

**Response:** The industry standard for characterizing risks associated with exposure to multiple chemicals is to evaluate cumulative site risks by adding together the potential risks posed by each chemical. Although synergism is a recognized phenomenon, the conservatism built into the risk assessment framework under the MCP is considered sufficient to account for any potential synergistic effects created by the interaction between two different chemicals.

With respect to new and more dangerous chemicals being created, the heavy metals that are present in the environment are stable and incapable of being converted into other chemicals. The petroleum hydrocarbons and PAHs present in the environment are organic contaminants that may undergo transformation or degradation due to natural physical, chemical, and biological processes, but typically this renders these contaminants less harmful, not more harmful.

*MB-15: Shouldn't there be additional testing on the mixing of chemicals, what danger that poses to us and the future proposed community?*

**Response:** As mentioned above, the risk assessment will evaluate the cumulative risks to receptors as the sum of the risks posed by each chemical.

*MB-16: There are various chemicals tied to each industry, tannery, paper, felt (mercury), have all of those chemicals been tested for?*

**Response:** Typically, the focus of environmental assessment efforts is on those chemicals that have been identified by MassDEP (or other regulatory agencies) as having characteristics that could result in cancer or non-cancer health effects. The laboratory testing methods that have been employed at the Site include a wide range of chemicals that are designed to evaluate each of the chemicals for which MassDEP has



identified a risk limit. The laboratory testing methods used for this Site include chemicals that may be present at sites with a history of textile, paper, felt, or tannery operations.

*MB-17: How can any living Mann family member report on a factory that is over 150 years old?*

**Response:** As part of the due diligence that is typical of an environmental site assessment, the project team has interviewed past owners/operators of the Site to gather information to assist with the characterization of the Site. These interviews are not the only source of information that are used to develop investigative strategies, but they play an important role in our understanding of the historical operations at the Site. Other sources of information, such as historical maps and other written records, are also reviewed to establish site history.

**Comments Received from Sandy Myatt (SM) on August 27, 2018:**

Phase II Scope of Work Questions:

*SM-9: Please review this linked file [Ecological Risk Assessment: https://www.mass.gov/files/documents/2016/08/ms/ecor511.pdf](https://www.mass.gov/files/documents/2016/08/ms/ecor511.pdf). We will have some questions at the next PIP meeting regarding the April 2018 Project Summary and the linked information from MassDEP.*

**Response:** The content of this MassDEP presentation was discussed at the September 4, 2018 public meeting and will be addressed further in the Phase II Scope of Work.

*SM-10: Can the files of the Mabbett PIP “draft reports” be made available ahead of time via email or online through file sharing (preferable 12 hours ahead) so that the Public can be better prepared?*

**Response:** In the future, draft reports will be made available prior to the public meeting.


*SM-11: When will Mabbett present the responses to each of the concerns and questions raised via the July 3 Survey Letter and during the Draft PIP Comment Period? A public meeting to present the responses and conduct a Q&A period would be helpful after each comment period. Can these Q&A sessions be scheduled as part of the “Responses to Comments”?*

**Response:** Responses to the concerns and questions raised by the PIP via the July 3 Survey Letter are included in Exhibit D to this Response Summary.

**EXHIBIT A**



- 2013 Test Pit Location (Table A-1)
- 2014 Test Pit Location (Table A-2)

**FIGURE A-1**  
**2013-2014 TEST PIT LOCATIONS**  
 FORMER BUCKLEY & MANN SITE  
 NORFOLK, MASSACHUSETTS  
 RTN 2-3000173  


**Table A-1**  
**2013 Soil Analytical Results**  
**Former Buckley and Mann Site**  
**Norfolk, Massachusetts**

LOCATION			P1 TP21	P1 TP6	P1 TP13	P2 TP1	P2 TP2	P2 TP4	P3 TP1	P3 TP4	P4 TP3
SAMPLING DATE			9/4/2013	9/4/2013	9/4/2013	9/4/2013	9/4/2013	9/4/2013	9/4/2013	9/4/2013	9/4/2013
SAMPLE DEPTH (FT BGS)			0-2	0-2	0-2	2-4	4-6	0-2	2-4	0-2	0-2
MCP METHOD 1 STANDARDS	S-1/GW-1	S-1/GW-3									
<b>Metals (mg/kg)</b>											
Arsenic	20	20	<b>14.3</b>	NA	<b>10.0</b>	NA	<b>9.76</b>	NA	<b>16.0</b>	NA	<b>10.9</b>
Barium	1000	1000	<b>29.0</b>	NA	<b>15.1</b>	NA	<b>28.5</b>	NA	<b>99.2</b>	NA	<b>28.2</b>
Cadmium	70	70	1.07 U	NA	1.01 U	NA	1.11 U	NA	<b>1.42</b>	NA	1.24 U
Chromium	1000	1000	<b>5.57</b>	NA	5.07 U	NA	<b>10.4</b>	NA	<b>45.5</b>	NA	<b>9.18</b>
Lead	200	200	<b>19.0</b>	NA	5.07 U	NA	<b>20.3</b>	NA	<b>221</b>	NA	<b>15.7</b>
Mercury	20	20	0.0912 U	NA	0.0865 U	NA	0.0933 U	NA	<b>0.578</b>	NA	0.106 U
Selenium	400	400	5.35 U	NA	5.07 U	NA	5.54 U	NA	5.59 U	NA	6.20 U
Silver	100	100	5.35 U	NA	5.07 U	NA	5.54 U	NA	5.59 U	NA	6.20 U
<b>Extractable Petroleum Hydrocarbons (mg/kg)</b>											
C11-C22 Aromatics			<b>26.2</b>	16.1 U	<b>35.4</b>	<b>22.6</b>	<b>25.4</b>	<b>25.1</b>	<b>29.3</b>	<b>19.5</b>	<b>25.4</b>
C11-C22 Aromatics, Adjusted	1000	1000	<b>26.2</b>	16.1 U	<b>31.2</b>	<b>21.3</b>	<b>25.2</b>	<b>22.4</b>	<b>26.6</b>	<b>19.5</b>	<b>25.4</b>
C9-C18 Aliphatics	1000	1000	16.5 U	16.1 U	15.6 U	18.1 U	16.9 U	17.4 U	17.4 U	15.8 U	19.2 U
C19-C36 Aliphatics	3000	3000	16.5 U	16.1 U	<b>28.8</b>	18.1 U	16.9 U	<b>33.4</b>	17.4 U	15.8 U	19.2 U
2-Methylnaphthalene	0.7	300	0.100 U	0.100 U	0.104 U	0.120 U	0.112 U	<b>0.127</b>	0.116 U	0.105 U	0.128 U
Acenaphthene	4	1000	0.100 U	0.100 U	0.104 U	0.120 U	0.112 U	0.116 U	0.116 U	0.105 U	0.128 U
Acenaphthylene	1	10	0.100 U	0.100 U	0.104 U	0.120 U	0.112 U	0.116 U	0.116 U	0.105 U	0.128 U
Anthracene	1000	1000	0.100 U	0.100 U	<b>0.248</b>	<b>0.211</b>	0.112 U	0.116 U	0.116 U	0.105 U	0.128 U
Benzo(a)anthracene	7	7	0.100 U	0.100 U	<b>0.328</b>	0.120 U	0.112 U	<b>0.171</b>	<b>0.221</b>	0.105 U	0.128 U
Benzo(a)pyrene	2	2	0.100 U	0.100 U	<b>0.152</b>	0.120 U	0.112 U	0.116 U	0.116 U	0.105 U	0.128 U
Benzo(b)fluoranthene	7	7	0.100 U	0.100 U	<b>0.288</b>	<b>0.178</b>	0.112 U	<b>0.173</b>	<b>0.223</b>	0.105 U	0.128 U
Benzo(ghi)perylene	1000	1000	0.100 U	0.100 U	0.104 U	0.120 U	0.112 U	0.116 U	0.116 U	0.105 U	0.128 U
Benzo(k)fluoranthene	70	70	0.100 U	0.100 U	0.104 U	0.120 U	0.112 U	0.116 U	0.116 U	0.105 U	0.128 U
Chrysene	70	70	0.100 U	0.100 U	<b>0.332</b>	<b>0.170</b>	0.112 U	<b>0.303</b>	<b>0.328</b>	0.105 U	0.128 U
Dibenzo(a,h)anthracene	0.7	0.7	0.100 U	0.100 U	0.104 U	0.120 U	0.112 U	0.116 U	0.116 U	0.105 U	0.128 U
Fluoranthene	1000	1000	0.100 U	0.100 U	<b>0.916</b>	<b>0.293</b>	<b>0.157</b>	<b>0.720</b>	<b>0.848</b>	0.105 U	0.128 U
Fluorene	1000	1000	0.100 U	0.100 U	0.104 U	0.120 U	0.112 U	0.116 U	0.116 U	0.105 U	0.128 U
Indeno(1,2,3-cd)Pyrene	7	7	0.100 U	0.100 U	<b>0.325</b>	0.120 U	0.112 U	0.116 U	0.116 U	0.105 U	0.128 U
Naphthalene	4	500	0.100 U	0.100 U	0.104 U	0.120 U	0.112 U	0.116 U	0.116 U	0.105 U	0.128 U
Phenanthrene	10	500	0.100 U	0.100 U	<b>0.881</b>	<b>0.200</b>	0.112 U	<b>0.731</b>	<b>0.544</b>	0.105 U	0.128 U
Pyrene	1000	1000	0.100 U	0.100 U	<b>0.576</b>	<b>0.165</b>	0.112 U	<b>0.427</b>	<b>0.492</b>	0.105 U	0.128 U
<b>Volatile Petroleum Hydrocarbons (mg/kg)</b>											
C5-C8 Aliphatics			11.0 U	10.8 U	10.4 U	12.0 U	11.2 U		11.6 U	10.5 U	12.8 U
C5-C8 Aliphatics, Adjusted	100	100	11.0 U	10.8 U	10.4 U	12.0 U	11.2 U		11.6 U	10.5 U	12.8 U
C9-C12 Aliphatics			11.0 U	10.8 U	10.4 U	12.0 U	11.2 U		11.6 U	10.5 U	12.8 U
C9-C12 Aliphatics, Adjusted	1000	1000	11.0 U	10.8 U	10.4 U	12.0 U	11.2 U		11.6 U	10.5 U	12.8 U
C9-C10 Aromatics	100	100	11.0 U	10.8 U	10.4 U	12.0 U	11.2 U		11.6 U	10.5 U	12.8 U
Methyl Tert-Butyl Ether	0.1	100	0.110 U	0.108 U	0.104 U	0.120 U	0.112 U		0.116 U	0.105 U	0.128 U
Benzene	2	40	0.110 U	0.108 U	0.104 U	0.120 U	0.112 U		0.116 U	0.105 U	0.128 U
Toluene	30	500	0.110 U	0.108 U	0.104 U	0.120 U	0.112 U		0.116 U	0.105 U	0.128 U
Ethylbenzene	40	500	0.110 U	0.108 U	0.104 U	0.120 U	0.112 U		0.116 U	0.105 U	0.128 U
m,p-Xylene	400	500	0.110 U	0.108 U	0.104 U	0.120 U	0.112 U		0.116 U	0.105 U	0.128 U
o-Xylene	400	500	0.110 U	0.108 U	0.104 U	0.120 U	0.112 U		0.116 U	<b>3.99</b>	0.128 U
Naphthalene	4	500	0.110 U	0.108 U	<b>0.558</b>	0.120 U	0.112 U		0.116 U	0.105 U	0.128 U

Notes:

1. mg/kg = milligrams per kilogram
2. bold type = detected constituents
3. shaded cells = MCP standard exceeded
4. U = not detected above laboratory limits
5. NA = not analyzed for this constituent

Table A-2  
2014 Soil Analytical Results  
Former Buckley and Mann Site  
Norfolk, Massachusetts

LOCATION			TP-1	TP-2	TP-4	TP-5	TP-10	TP-12	TP-14	TP-15	TP-17
SAMPLING DATE			8/20/2014	8/20/2014	8/20/2014	8/20/2014	8/20/2014	8/20/2014	8/20/2014	8/20/2014	8/20/2014
SAMPLE DEPTH (FT BGS)											
MCP METHOD 1 STANDARDS	S-1/GW-1	S-1/GW-3									
<b>Metals (mg/kg)</b>											
Antimony	20	20	5.06 U	5.73 U	5.13 U	5.28 U	5.64 U	5.04 U	5.13 U	5.11 U	5.57 U
Arsenic	20	20	5.06 U	5.73 U	5.13 U	5.28 U	5.64 U	5.04 U	5.13 U	5.11 U	5.57 U
Barium	1000	1000	<b>18.4</b>	<b>46.1</b>	<b>23.1</b>	<b>28.5</b>	<b>53.4</b>	<b>18.9</b>	<b>19.8</b>	<b>24.8</b>	<b>29.6</b>
Beryllium	90	90	1.52 U	1.72 U	1.54 U	1.59 U	1.69 U	1.51 U	1.54 U	1.53 U	1.67 U
Cadmium	70	70	1.01 U	1.15 U	1.03 U	1.06 U	<b>5.34</b>	1.01 U	1.03 U	1.02 U	1.11 U
Chromium	1000	1000	5.06 U	<b>17.9</b>	<b>13.7</b>	<b>8.10</b>	<b>21.0</b>	<b>5.78</b>	<b>5.95</b>	<b>10.5</b>	<b>9.43</b>
Lead	200	200	<b>19.8</b>	<b>115</b>	<b>24.5</b>	<b>30.6</b>	<b>118</b>	5.04 U	5.13 U	<b>10.1</b>	<b>24.6</b>
Mercury	20	20	<b>0.16</b>	0.0976 U	0.0902 U	0.0883 U	<b>0.286</b>	0.0865 U	0.0874 U	0.0883 U	0.0943 U
Nickel	600	600	5.06 U	<b>19.5</b>	<b>23.3</b>	<b>22.7</b>	<b>9.33</b>	<b>8.87</b>	<b>12.4</b>	<b>22.2</b>	<b>8.62</b>
Selenium	400	400	5.06 U	5.73 U	5.13 U	5.28 U	5.64 U	5.04 U	5.13 U	5.11 U	5.57 U
Silver	100	100	5.06 U	5.73 U	5.13 U	5.28 U	5.64 U	5.04 U	5.13 U	5.11 U	5.57 U
Thallium	8	8	1.52 U	1.72 U	1.54 U	1.59 U	1.69 U	1.51 U	1.54 U	1.53 U	1.67 U
Vanadium	400	400	<b>6.28</b>	<b>11.3</b>	<b>13.9</b>	<b>9.58</b>	<b>16.3</b>	<b>6.99</b>	<b>6.77</b>	<b>10.3</b>	<b>13.6</b>
Zinc	1000	1000	<b>68.6</b>	<b>115</b>	<b>44.5</b>	<b>37.7</b>	<b>239</b>	<b>20.2</b>	<b>26.2</b>	<b>36.6</b>	<b>48.5</b>
<b>Extractable Petroleum Hydrocarbons (mg/kg)</b>											
C11-C22 Aromatics, Adjusted	1000	1000	NA	NA	NA	NA	17.0 U	NA	NA	NA	NA
C11-C22 Aromatics, Unadjusted			NA	NA	NA	NA	17.0 U	NA	NA	NA	NA
C9-C18 Aliphatics	1000	1000	NA	NA	NA	NA	17.0 U	NA	NA	NA	NA
C19-C36 Aliphatics	3000	3000	NA	NA	NA	NA	<b>21.9</b>	NA	NA	NA	NA
2-Methylnaphthalene	0.7	300	NA	NA	NA	NA	0.114 U	NA	NA	NA	NA
Acenaphthene	4	1000	NA	NA	NA	NA	0.114 U	NA	NA	NA	NA
Acenaphthylene	1	10	NA	NA	NA	NA	0.114 U	NA	NA	NA	NA
Anthracene	1000	1000	NA	NA	NA	NA	0.114 U	NA	NA	NA	NA
Benzo(a)anthracene	7	7	NA	NA	NA	NA	<b>0.216</b>	NA	NA	NA	NA
Benzo(a)pyrene	2	2	NA	NA	NA	NA	0.114 U	NA	NA	NA	NA
Benzo(b)fluoranthene	7	7	NA	NA	NA	NA	<b>0.190</b>	NA	NA	NA	NA
Benzo(ghi)perylene	1000	1000	NA	NA	NA	NA	0.114 U	NA	NA	NA	NA
Benzo(k)fluoranthene	70	70	NA	NA	NA	NA	0.114 U	NA	NA	NA	NA
Chrysene	70	70	NA	NA	NA	NA	<b>0.293</b>	NA	NA	NA	NA
Dibenzo(a,h)anthracene	0.7	0.7	NA	NA	NA	NA	0.114 U	NA	NA	NA	NA
Fluoranthene	1000	1000	NA	NA	NA	NA	<b>0.512</b>	NA	NA	NA	NA
Fluorene	1000	1000	NA	NA	NA	NA	0.114 U	NA	NA	NA	NA
Indeno(1,2,3-cd)Pyrene	7	7	NA	NA	NA	NA	0.114 U	NA	NA	NA	NA
Naphthalene	4	500	NA	NA	NA	NA	0.114 U	NA	NA	NA	NA
Phenanthrene	10	500	NA	NA	NA	NA	<b>0.519</b>	NA	NA	NA	NA
Pyrene	1000	1000	NA	NA	NA	NA	<b>0.432</b>	NA	NA	NA	NA

Notes:

1. mg/kg = milligrams per kilogram
2. bold type = detected constituents
3. shaded cells = MCP standard exceeded
4. U = not detected above laboratory limits
5. NA = not analyzed for this constituent

## ANALYTICAL REPORT

Reported Date: 25-Sep-13

<b>CLIENT:</b>	Kurz Environmental	<b>Client Sample ID:</b>	P1 TP21
<b>Lab Order:</b>	1309044	<b>Tag Number:</b>	
<b>Project:</b>	090413	<b>Collection Date:</b>	9/4/2013
<b>Lab ID:</b>	1309044-001A	<b>Date Received:</b>	9/6/2013
		<b>Matrix:</b>	SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

## EPH RANGES - MADEP EPH

Analyst: KG

Prep Method:	(eph_Spr)	Prep Date:	9/9/2013 11:26:33 AM		
Adjusted C11-C22 Aromatics	26.2	16.5	mg/Kg-dry	1	9/9/2013
C09-C18 Aliphatics	ND	16.5	mg/Kg-dry	1	9/9/2013
C19-C36 Aliphatics	ND	16.5	mg/Kg-dry	1	9/9/2013
Unadjusted C11-C22 Aromatics	26.2	16.5	mg/Kg-dry	1	9/9/2013
Surr: 1-Chlorooctadecane	60.2	40-140	%REC	1	9/9/2013
Surr: o-Terphenyl	80.9	40-140	%REC	1	9/9/2013

## TOTAL METALS BY ICP - SW6010C

Analyst: QS

Prep Method:	(SW3050B)	Prep Date:	9/10/2013 10:29:50 AM		
Arsenic	14.3	5.35	mg/Kg-dry	1	9/11/2013
Barium	29.0	5.35	mg/Kg-dry	1	9/11/2013
Cadmium	ND	1.07	mg/Kg-dry	1	9/11/2013
Chromium	5.57	5.35	mg/Kg-dry	1	9/11/2013
Lead	19.0	5.35	mg/Kg-dry	1	9/11/2013
Selenium	ND	5.35	mg/Kg-dry	1	9/11/2013
Silver	ND	5.35	mg/Kg-dry	1	9/11/2013

## MERCURY - SW7471B

Analyst: EC

Prep Method:	(SW7471B)	Prep Date:	9/12/2013 5:07:02 PM		
Mercury	ND	0.0912	mg/Kg-dry	1	9/12/2013

## EPH TARGET ANALYTES - MADEP EPH

Analyst: Jsi

Prep Method:	(eph_Spr)	Prep Date:	9/9/2013 11:26:33 AM		
Naphthalene	ND	0.100	mg/Kg	1	9/9/2013 7:23:00 PM
2-Methylnaphthalene	ND	0.100	mg/Kg	1	9/9/2013 7:23:00 PM
Acenaphthene	ND	0.100	mg/Kg	1	9/9/2013 7:23:00 PM
Phenanthrene	ND	0.100	mg/Kg	1	9/9/2013 7:23:00 PM
Acenaphthylene	ND	0.100	mg/Kg	1	9/9/2013 7:23:00 PM
Fluorene	ND	0.100	mg/Kg	1	9/9/2013 7:23:00 PM
Anthracene	ND	0.100	mg/Kg	1	9/9/2013 7:23:00 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**ANALYTICAL REPORT**

**Reported Date: 25-Sep-13**

<b>CLIENT:</b>	Kurz Environmental	<b>Client Sample ID:</b>	P1 TP21
<b>Lab Order:</b>	1309044	<b>Tag Number:</b>	
<b>Project:</b>	090413	<b>Collection Date:</b>	9/4/2013
<b>Lab ID:</b>	1309044-001A	<b>Date Received:</b>	9/6/2013
		<b>Matrix:</b>	SOIL

<b>Analyses</b>	<b>Result</b>	<b>RL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
-----------------	---------------	-----------	-------------	--------------	-----------	----------------------

**EPH TARGET ANALYTES - MADEP EPH** Analyst: Jsi

Prep Method: (eph\_Spr) Prep Date: 9/9/2013 11:26:33 AM

Fluoranthene	ND	0.100		mg/Kg	1	9/9/2013 7:23:00 PM
Pyrene	ND	0.100		mg/Kg	1	9/9/2013 7:23:00 PM
Benzo(a)Anthracene	ND	0.100		mg/Kg	1	9/9/2013 7:23:00 PM
Chrysene	ND	0.100		mg/Kg	1	9/9/2013 7:23:00 PM
Benzo(b)Fluoranthene	ND	0.100		mg/Kg	1	9/9/2013 7:23:00 PM
Benzo(k)Fluoranthene	ND	0.100		mg/Kg	1	9/9/2013 7:23:00 PM
Benzo(a)Pyrene	ND	0.100		mg/Kg	1	9/9/2013 7:23:00 PM
Indeno(1,2,3-cd)Pyrene	ND	0.100		mg/Kg	1	9/9/2013 7:23:00 PM
Dibenz(a,h)Anthracene	ND	0.100		mg/Kg	1	9/9/2013 7:23:00 PM
Benzo(g,h,i)Perylene	ND	0.100		mg/Kg	1	9/9/2013 7:23:00 PM
Total PAH Target Concentration	ND	0.100		mg/Kg	1	9/9/2013 7:23:00 PM
Surr: 2,2-Difluorobiphenyl	87.9	40-140		%REC	1	9/9/2013 7:23:00 PM
Surr: 2-Fluorobiphenyl	56.9	40-140		%REC	1	9/9/2013 7:23:00 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 25-Sep-13

<b>CLIENT:</b>	Kurz Environmental	<b>Client Sample ID:</b>	P1 TP21
<b>Lab Order:</b>	1309044	<b>Tag Number:</b>	
<b>Project:</b>	090413	<b>Collection Date:</b>	9/4/2013
<b>Lab ID:</b>	1309044-001B	<b>Date Received:</b>	9/6/2013
		<b>Matrix:</b>	SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VPH - MADEP VPH						Analyst: ZC
Prep Method:			Prep Date:			
Unadjusted C5-C8 Aliphatic HC	ND	11.0		mg/Kg-dry	1	9/10/2013 12:12:00 PM
Unadjusted C9-C12 Aliphatic HC	ND	11.0		mg/Kg-dry	1	9/10/2013 12:12:00 PM
Methyl Tert-Butyl Ether	ND	0.110		mg/Kg-dry	1	9/10/2013 12:12:00 PM
Benzene	ND	0.110		mg/Kg-dry	1	9/10/2013 12:12:00 PM
Toluene	ND	0.110		mg/Kg-dry	1	9/10/2013 12:12:00 PM
Ethylbenzene	ND	0.110		mg/Kg-dry	1	9/10/2013 12:12:00 PM
m,p-Xylene	ND	0.110		mg/Kg-dry	1	9/10/2013 12:12:00 PM
o-Xylene	ND	0.110		mg/Kg-dry	1	9/10/2013 12:12:00 PM
Naphthalene	ND	0.110		mg/Kg-dry	1	9/10/2013 12:12:00 PM
C9-C10 Aromatic Hydrocarbons	ND	11.0		mg/Kg-dry	1	9/10/2013 12:12:00 PM
Adjusted C5-C8 Aliphatic HC	ND	11.0		mg/Kg-dry	1	9/10/2013 12:12:00 PM
Adjusted C9-C12 Aliphatic HC	ND	11.0		mg/Kg-dry	1	9/10/2013 12:12:00 PM
Surr: 2,5-Dibromotoluene FID	88.7	70-130		%REC	1	9/10/2013 12:12:00 PM
Surr: 2,5-Dibromotoluene PID	93.4	70-130		%REC	1	9/10/2013 12:12:00 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811



## ANALYTICAL REPORT

Reported Date: 25-Sep-13

<b>CLIENT:</b>	Kurz Environmental	<b>Client Sample ID:</b>	P1 TP6
<b>Lab Order:</b>	1309044	<b>Tag Number:</b>	
<b>Project:</b>	090413	<b>Collection Date:</b>	9/4/2013
<b>Lab ID:</b>	1309044-002A	<b>Date Received:</b>	9/6/2013
		<b>Matrix:</b>	SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPH RANGES - MADEP EPH</b>						
						Analyst: KG
Prep Method: (eph_Spr)		Prep Date: 9/9/2013 11:26:33 AM				
Adjusted C11-C22 Aromatics	ND	16.1		mg/Kg-dry	1	9/9/2013
C09-C18 Aliphatics	ND	16.1		mg/Kg-dry	1	9/9/2013
C19-C36 Aliphatics	ND	16.1		mg/Kg-dry	1	9/9/2013
Unadjusted C11-C22 Aromatics	ND	16.1		mg/Kg-dry	1	9/9/2013
Surr: 1-Chlorooctadecane	72.0	40-140		%REC	1	9/9/2013
Surr: o-Terphenyl	73.3	40-140		%REC	1	9/9/2013

<b>EPH TARGET ANALYTES - MADEP EPH</b>						
						Analyst: Jsi
Prep Method: (eph_Spr)		Prep Date: 9/9/2013 11:26:33 AM				
Naphthalene	ND	0.100		mg/Kg	1	9/9/2013 7:56:00 PM
2-Methylnaphthalene	ND	0.100		mg/Kg	1	9/9/2013 7:56:00 PM
Acenaphthene	ND	0.100		mg/Kg	1	9/9/2013 7:56:00 PM
Phenanthrene	ND	0.100		mg/Kg	1	9/9/2013 7:56:00 PM
Acenaphthylene	ND	0.100		mg/Kg	1	9/9/2013 7:56:00 PM
Fluorene	ND	0.100		mg/Kg	1	9/9/2013 7:56:00 PM
Anthracene	ND	0.100		mg/Kg	1	9/9/2013 7:56:00 PM
Fluoranthene	ND	0.100		mg/Kg	1	9/9/2013 7:56:00 PM
Pyrene	ND	0.100		mg/Kg	1	9/9/2013 7:56:00 PM
Benzo(a)Anthracene	ND	0.100		mg/Kg	1	9/9/2013 7:56:00 PM
Chrysene	ND	0.100		mg/Kg	1	9/9/2013 7:56:00 PM
Benzo(b)Fluoranthene	ND	0.100		mg/Kg	1	9/9/2013 7:56:00 PM
Benzo(k)Fluoranthene	ND	0.100		mg/Kg	1	9/9/2013 7:56:00 PM
Benzo(a)Pyrene	ND	0.100		mg/Kg	1	9/9/2013 7:56:00 PM
Indeno(1,2,3-cd)Pyrene	ND	0.100		mg/Kg	1	9/9/2013 7:56:00 PM
Dibenz(a,h)Anthracene	ND	0.100		mg/Kg	1	9/9/2013 7:56:00 PM
Benzo(g,h,i)Perylene	ND	0.100		mg/Kg	1	9/9/2013 7:56:00 PM
Total PAH Target Concentration	ND	0.100		mg/Kg	1	9/9/2013 7:56:00 PM
Surr: 2,2-Difluorobiphenyl	87.8	40-140		%REC	1	9/9/2013 7:56:00 PM
Surr: 2-Fluorobiphenyl	54.1	40-140		%REC	1	9/9/2013 7:56:00 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 25-Sep-13

<b>CLIENT:</b>	Kurz Environmental	<b>Client Sample ID:</b>	P1 TP6
<b>Lab Order:</b>	1309044	<b>Tag Number:</b>	
<b>Project:</b>	090413	<b>Collection Date:</b>	9/4/2013
<b>Lab ID:</b>	1309044-002B	<b>Date Received:</b>	9/6/2013
		<b>Matrix:</b>	SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

VPH - MADEP VPH

Analyst: ZC

Prep Method:

Prep Date:

Unadjusted C5-C8 Aliphatic HC	ND	10.8		mg/Kg-dry	1	9/10/2013 12:49:00 PM
Unadjusted C9-C12 Aliphatic HC	ND	10.8		mg/Kg-dry	1	9/10/2013 12:49:00 PM
Methyl Tert-Butyl Ether	ND	0.108		mg/Kg-dry	1	9/10/2013 12:49:00 PM
Benzene	ND	0.108		mg/Kg-dry	1	9/10/2013 12:49:00 PM
Toluene	ND	0.108		mg/Kg-dry	1	9/10/2013 12:49:00 PM
Ethylbenzene	ND	0.108		mg/Kg-dry	1	9/10/2013 12:49:00 PM
m,p-Xylene	ND	0.108		mg/Kg-dry	1	9/10/2013 12:49:00 PM
o-Xylene	ND	0.108		mg/Kg-dry	1	9/10/2013 12:49:00 PM
Naphthalene	ND	0.108		mg/Kg-dry	1	9/10/2013 12:49:00 PM
C9-C10 Aromatic Hydrocarbons	ND	10.8		mg/Kg-dry	1	9/10/2013 12:49:00 PM
Adjusted C5-C8 Aliphatic HC	ND	10.8		mg/Kg-dry	1	9/10/2013 12:49:00 PM
Adjusted C9-C12 Aliphatic HC	ND	10.8		mg/Kg-dry	1	9/10/2013 12:49:00 PM
Surr: 2,5-Dibromotoluene FID	92.5	70-130		%REC	1	9/10/2013 12:49:00 PM
Surr: 2,5-Dibromotoluene PID	108	70-130		%REC	1	9/10/2013 12:49:00 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 25-Sep-13

**CLIENT:** Kurz Environmental **Client Sample ID:** P1 TP13  
**Lab Order:** 1309044 **Tag Number:**  
**Project:** 090413 **Collection Date:** 9/4/2013  
**Lab ID:** 1309044-003A **Date Received:** 9/6/2013 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

## EPH RANGES - MADEP EPH

Analyst: KG

Prep Method: (eph\_Spr) Prep Date: 9/9/2013 11:26:33 AM

Adjusted C11-C22 Aromatics	31.2	15.6		mg/Kg-dry	1	9/11/2013
C09-C18 Aliphatics	ND	15.6		mg/Kg-dry	1	9/11/2013
C19-C36 Aliphatics	28.8	15.6		mg/Kg-dry	1	9/11/2013
Unadjusted C11-C22 Aromatics	35.4	15.6		mg/Kg-dry	1	9/11/2013
Surr: 1-Chlorooctadecane	88.3	40-140		%REC	1	9/11/2013
Surr: o-Terphenyl	94.7	40-140		%REC	1	9/11/2013

## TOTAL METALS BY ICP - SW6010C

Analyst: QS

Prep Method: (SW3050B) Prep Date: 9/10/2013 10:29:50 AM

Arsenic	10.0	5.07		mg/Kg-dry	1	9/11/2013
Barium	15.1	5.07		mg/Kg-dry	1	9/11/2013
Cadmium	ND	1.01		mg/Kg-dry	1	9/11/2013
Chromium	ND	5.07		mg/Kg-dry	1	9/11/2013
Lead	ND	5.07		mg/Kg-dry	1	9/11/2013
Selenium	ND	5.07		mg/Kg-dry	1	9/11/2013
Silver	ND	5.07		mg/Kg-dry	1	9/11/2013

## MERCURY - SW7471B

Analyst: EC

Prep Method: (SW7471B) Prep Date: 9/12/2013 5:07:02 PM

Mercury	ND	0.0865		mg/Kg-dry	1	9/12/2013
---------	----	--------	--	-----------	---	-----------

## EPH TARGET ANALYTES - MADEP EPH

Analyst: Jsi

Prep Method: (eph\_Spr) Prep Date: 9/9/2013 11:26:33 AM

Naphthalene	ND	0.104		mg/Kg-dry	1	9/11/2013 2:18:00 PM
2-Methylnaphthalene	ND	0.104		mg/Kg-dry	1	9/11/2013 2:18:00 PM
Acenaphthene	ND	0.104		mg/Kg-dry	1	9/11/2013 2:18:00 PM
Phenanthrene	0.881	0.104		mg/Kg-dry	1	9/11/2013 2:18:00 PM
Acenaphthylene	ND	0.104		mg/Kg-dry	1	9/11/2013 2:18:00 PM
Fluorene	ND	0.104		mg/Kg-dry	1	9/11/2013 2:18:00 PM
Anthracene	0.248	0.104		mg/Kg-dry	1	9/11/2013 2:18:00 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 25-Sep-13

<b>CLIENT:</b>	Kurz Environmental	<b>Client Sample ID:</b>	P1 TP13
<b>Lab Order:</b>	1309044	<b>Tag Number:</b>	
<b>Project:</b>	090413	<b>Collection Date:</b>	9/4/2013
<b>Lab ID:</b>	1309044-003A	<b>Date Received:</b>	9/6/2013
		<b>Matrix:</b>	SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPH TARGET ANALYTES - MADEP EPH</b>						Analyst: Jsi
	Prep Method: (eph_Spr)			Prep Date: 9/9/2013 11:26:33 AM		
Fluoranthene	0.916	0.104		mg/Kg-dry	1	9/11/2013 2:18:00 PM
Pyrene	0.576	0.104		mg/Kg-dry	1	9/11/2013 2:18:00 PM
Benzo(a)Anthracene	0.328	0.104		mg/Kg-dry	1	9/11/2013 2:18:00 PM
Chrysene	0.332	0.104		mg/Kg-dry	1	9/11/2013 2:18:00 PM
Benzo(b)Fluoranthene	0.288	0.104		mg/Kg-dry	1	9/11/2013 2:18:00 PM
Benzo(k)Fluoranthene	ND	0.104		mg/Kg-dry	1	9/11/2013 2:18:00 PM
Benzo(a)Pyrene	0.152	0.104		mg/Kg-dry	1	9/11/2013 2:18:00 PM
Indeno(1,2,3-cd)Pyrene	0.325	0.104		mg/Kg-dry	1	9/11/2013 2:18:00 PM
Dibenz(a,h)Anthracene	ND	0.104		mg/Kg-dry	1	9/11/2013 2:18:00 PM
Benzo(g,h,i)Perylene	ND	0.104		mg/Kg-dry	1	9/11/2013 2:18:00 PM
Total PAH Target Concentration	4.20	0.104		mg/Kg-dry	1	9/11/2013 2:18:00 PM
Surr: 2,2-Difluorobiphenyl	90.2	40-140		%REC	1	9/11/2013 2:18:00 PM
Surr: 2-Fluorobiphenyl	61.5	40-140		%REC	1	9/11/2013 2:18:00 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 25-Sep-13

<b>CLIENT:</b>	Kurz Environmental	<b>Client Sample ID:</b>	P1 TP13
<b>Lab Order:</b>	1309044	<b>Tag Number:</b>	
<b>Project:</b>	090413	<b>Collection Date:</b>	9/4/2013
<b>Lab ID:</b>	1309044-003B	<b>Date Received:</b>	9/6/2013
		<b>Matrix:</b>	SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VPH - MADEP VPH						Analyst: ZC
Prep Method:			Prep Date:			
Unadjusted C5-C8 Aliphatic HC	ND	10.4		mg/Kg-dry	1	9/10/2013 1:27:00 AM
Unadjusted C9-C12 Aliphatic HC	ND	10.4		mg/Kg-dry	1	9/10/2013 1:27:00 AM
Methyl Tert-Butyl Ether	ND	0.104		mg/Kg-dry	1	9/10/2013 1:27:00 AM
Benzene	ND	0.104		mg/Kg-dry	1	9/10/2013 1:27:00 AM
Toluene	ND	0.104		mg/Kg-dry	1	9/10/2013 1:27:00 AM
Ethylbenzene	ND	0.104		mg/Kg-dry	1	9/10/2013 1:27:00 AM
m,p-Xylene	ND	0.104		mg/Kg-dry	1	9/10/2013 1:27:00 AM
o-Xylene	ND	0.104		mg/Kg-dry	1	9/10/2013 1:27:00 AM
Naphthalene	0.558	0.104		mg/Kg-dry	1	9/10/2013 1:27:00 AM
C9-C10 Aromatic Hydrocarbons	ND	10.4		mg/Kg-dry	1	9/10/2013 1:27:00 AM
Adjusted C5-C8 Aliphatic HC	ND	10.4		mg/Kg-dry	1	9/10/2013 1:27:00 AM
Adjusted C9-C12 Aliphatic HC	ND	10.4		mg/Kg-dry	1	9/10/2013 1:27:00 AM
Surr: 2,5-Dibromotoluene FID	88.8	70-130		%REC	1	9/10/2013 1:27:00 AM
Surr: 2,5-Dibromotoluene PID	101	70-130		%REC	1	9/10/2013 1:27:00 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 25-Sep-13

**CLIENT:** Kurz Environmental **Client Sample ID:** P2 TP1 2-4'  
**Lab Order:** 1309044 **Tag Number:**  
**Project:** 090413 **Collection Date:** 9/4/2013  
**Lab ID:** 1309044-004A **Date Received:** 9/6/2013 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPH RANGES - MADEP EPH</b>						
Analyst: KG						
Prep Method: (eph_Spr)		Prep Date: 9/9/2013 11:26:33 AM				
Adjusted C11-C22 Aromatics	21.3	18.1		mg/Kg-dry	1	9/11/2013
C09-C18 Aliphatics	ND	18.1		mg/Kg-dry	1	9/11/2013
C19-C36 Aliphatics	ND	18.1		mg/Kg-dry	1	9/11/2013
Unadjusted C11-C22 Aromatics	22.6	18.1		mg/Kg-dry	1	9/11/2013
Surr: 1-Chlorooctadecane	67.3	40-140		%REC	1	9/11/2013
Surr: o-Terphenyl	65.7	40-140		%REC	1	9/11/2013

## EPH TARGET ANALYTES - MADEP EPH

Analyst: Jsi

Prep Method: (eph_Spr)		Prep Date: 9/9/2013 11:26:33 AM				
Naphthalene	ND	0.120		mg/Kg-dry	1	9/11/2013 2:52:00 PM
2-Methylnaphthalene	ND	0.120		mg/Kg-dry	1	9/11/2013 2:52:00 PM
Acenaphthene	ND	0.120		mg/Kg-dry	1	9/11/2013 2:52:00 PM
Phenanthrene	0.200	0.120		mg/Kg-dry	1	9/11/2013 2:52:00 PM
Acenaphthylene	ND	0.120		mg/Kg-dry	1	9/11/2013 2:52:00 PM
Fluorene	ND	0.120		mg/Kg-dry	1	9/11/2013 2:52:00 PM
Anthracene	0.211	0.120		mg/Kg-dry	1	9/11/2013 2:52:00 PM
Fluoranthene	0.293	0.120		mg/Kg-dry	1	9/11/2013 2:52:00 PM
Pyrene	0.165	0.120		mg/Kg-dry	1	9/11/2013 2:52:00 PM
Benzo(a)Anthracene	ND	0.120		mg/Kg-dry	1	9/11/2013 2:52:00 PM
Chrysene	0.170	0.120		mg/Kg-dry	1	9/11/2013 2:52:00 PM
Benzo(b)Fluoranthene	0.178	0.120		mg/Kg-dry	1	9/11/2013 2:52:00 PM
Benzo(k)Fluoranthene	ND	0.120		mg/Kg-dry	1	9/11/2013 2:52:00 PM
Benzo(a)Pyrene	ND	0.120		mg/Kg-dry	1	9/11/2013 2:52:00 PM
Indeno(1,2,3-cd)Pyrene	ND	0.120		mg/Kg-dry	1	9/11/2013 2:52:00 PM
Dibenz(a,h)Anthracene	ND	0.120		mg/Kg-dry	1	9/11/2013 2:52:00 PM
Benzo(g,h,i)Perylene	ND	0.120		mg/Kg-dry	1	9/11/2013 2:52:00 PM
Total PAH Target Concentration	1.28	0.120		mg/Kg-dry	1	9/11/2013 2:52:00 PM
Surr: 2,2-Difluorobiphenyl	90.0	40-140		%REC	1	9/11/2013 2:52:00 PM
Surr: 2-Fluorobiphenyl	57.5	40-140		%REC	1	9/11/2013 2:52:00 PM

**Qualifiers:** B Analyte detected in the associated Method Blank BRL Below Reporting Limit  
 E Value above quantitation range H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits ND Not Detected at the Reporting Limit  
 RL Reporting Limit S Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 25-Sep-13

<b>CLIENT:</b>	Kurz Environmental	<b>Client Sample ID:</b>	P2 TP1 2-4'
<b>Lab Order:</b>	1309044	<b>Tag Number:</b>	
<b>Project:</b>	090413	<b>Collection Date:</b>	9/4/2013
<b>Lab ID:</b>	1309044-004B	<b>Date Received:</b>	9/6/2013
		<b>Matrix:</b>	SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

VPH - MADEP VPH

Analyst: ZC

Prep Method:

Prep Date:

Unadjusted C5-C8 Aliphatic HC	ND	12.0		mg/Kg-dry	1	9/10/2013 2:06:00 AM
Unadjusted C9-C12 Aliphatic HC	ND	12.0		mg/Kg-dry	1	9/10/2013 2:06:00 AM
Methyl Tert-Butyl Ether	ND	0.120		mg/Kg-dry	1	9/10/2013 2:06:00 AM
Benzene	ND	0.120		mg/Kg-dry	1	9/10/2013 2:06:00 AM
Toluene	ND	0.120		mg/Kg-dry	1	9/10/2013 2:06:00 AM
Ethylbenzene	ND	0.120		mg/Kg-dry	1	9/10/2013 2:06:00 AM
m,p-Xylene	ND	0.120		mg/Kg-dry	1	9/10/2013 2:06:00 AM
o-Xylene	ND	0.120		mg/Kg-dry	1	9/10/2013 2:06:00 AM
Naphthalene	ND	0.120		mg/Kg-dry	1	9/10/2013 2:06:00 AM
C9-C10 Aromatic Hydrocarbons	ND	12.0		mg/Kg-dry	1	9/10/2013 2:06:00 AM
Adjusted C5-C8 Aliphatic HC	ND	12.0		mg/Kg-dry	1	9/10/2013 2:06:00 AM
Adjusted C9-C12 Aliphatic HC	ND	12.0		mg/Kg-dry	1	9/10/2013 2:06:00 AM
Surr: 2,5-Dibromotoluene FID	85.1	70-130		%REC	1	9/10/2013 2:06:00 AM
Surr: 2,5-Dibromotoluene PID	117	70-130		%REC	1	9/10/2013 2:06:00 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 25-Sep-13

**CLIENT:** Kurz Environmental **Client Sample ID:** P2 TP2 4-6'  
**Lab Order:** 1309044 **Tag Number:**  
**Project:** 090413 **Collection Date:** 9/4/2013  
**Lab ID:** 1309044-005A **Date Received:** 9/6/2013 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

## EPH RANGES - MADEP EPH

Analyst: KG

Prep Method: (eph\_Spr) Prep Date: 9/9/2013 11:26:33 AM

Adjusted C11-C22 Aromatics	25.2	16.9		mg/Kg-dry	1	9/11/2013
C09-C18 Aliphatics	ND	16.9		mg/Kg-dry	1	9/11/2013
C19-C36 Aliphatics	ND	16.9		mg/Kg-dry	1	9/11/2013
Unadjusted C11-C22 Aromatics	25.4	16.9		mg/Kg-dry	1	9/11/2013
Surr: 1-Chlorooctadecane	65.9	40-140		%REC	1	9/11/2013
Surr: o-Terphenyl	74.5	40-140		%REC	1	9/11/2013

## TOTAL METALS BY ICP - SW6010C

Analyst: QS

Prep Method: (SW3050B) Prep Date: 9/10/2013 10:29:50 AM

Arsenic	9.76	5.54		mg/Kg-dry	1	9/11/2013
Barium	28.5	5.54		mg/Kg-dry	1	9/11/2013
Cadmium	ND	1.11		mg/Kg-dry	1	9/11/2013
Chromium	10.4	5.54		mg/Kg-dry	1	9/11/2013
Lead	20.3	5.54		mg/Kg-dry	1	9/11/2013
Selenium	ND	5.54		mg/Kg-dry	1	9/11/2013
Silver	ND	5.54		mg/Kg-dry	1	9/11/2013

## MERCURY - SW7471B

Analyst: EC

Prep Method: (SW7471B) Prep Date: 9/12/2013 5:07:02 PM

Mercury	ND	0.0933		mg/Kg-dry	1	9/12/2013
---------	----	--------	--	-----------	---	-----------

## EPH TARGET ANALYTES - MADEP EPH

Analyst: Jsi

Prep Method: (eph\_Spr) Prep Date: 9/9/2013 11:26:33 AM

Naphthalene	ND	0.112		mg/Kg-dry	1	9/11/2013 3:25:00 PM
2-Methylnaphthalene	ND	0.112		mg/Kg-dry	1	9/11/2013 3:25:00 PM
Acenaphthene	ND	0.112		mg/Kg-dry	1	9/11/2013 3:25:00 PM
Phenanthrene	ND	0.112		mg/Kg-dry	1	9/11/2013 3:25:00 PM
Acenaphthylene	ND	0.112		mg/Kg-dry	1	9/11/2013 3:25:00 PM
Fluorene	ND	0.112		mg/Kg-dry	1	9/11/2013 3:25:00 PM
Anthracene	ND	0.112		mg/Kg-dry	1	9/11/2013 3:25:00 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811



## ANALYTICAL REPORT

Reported Date: 25-Sep-13

<b>CLIENT:</b>	Kurz Environmental	<b>Client Sample ID:</b>	P2 TP2 4-6'
<b>Lab Order:</b>	1309044	<b>Tag Number:</b>	
<b>Project:</b>	090413	<b>Collection Date:</b>	9/4/2013
<b>Lab ID:</b>	1309044-005A	<b>Date Received:</b>	9/6/2013
		<b>Matrix:</b>	SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

## EPH TARGET ANALYTES - MADEP EPH

Analyst: Jsi

Prep Method: (eph\_Spr)

Prep Date: 9/9/2013 11:26:33 AM

Fluoranthene	<b>0.157</b>	0.112		mg/Kg-dry	1	9/11/2013 3:25:00 PM
Pyrene	ND	0.112		mg/Kg-dry	1	9/11/2013 3:25:00 PM
Benzo(a)Anthracene	ND	0.112		mg/Kg-dry	1	9/11/2013 3:25:00 PM
Chrysene	ND	0.112		mg/Kg-dry	1	9/11/2013 3:25:00 PM
Benzo(b)Fluoranthene	ND	0.112		mg/Kg-dry	1	9/11/2013 3:25:00 PM
Benzo(k)Fluoranthene	ND	0.112		mg/Kg-dry	1	9/11/2013 3:25:00 PM
Benzo(a)Pyrene	ND	0.112		mg/Kg-dry	1	9/11/2013 3:25:00 PM
Indeno(1,2,3-cd)Pyrene	ND	0.112		mg/Kg-dry	1	9/11/2013 3:25:00 PM
Dibenz(a,h)Anthracene	ND	0.112		mg/Kg-dry	1	9/11/2013 3:25:00 PM
Benzo(g,h,i)Perylene	ND	0.112		mg/Kg-dry	1	9/11/2013 3:25:00 PM
Total PAH Target Concentration	<b>0.157</b>	0.112		mg/Kg-dry	1	9/11/2013 3:25:00 PM
Surr: 2,2-Difluorobiphenyl	102	40-140		%REC	1	9/11/2013 3:25:00 PM
Surr: 2-Fluorobiphenyl	62.8	40-140		%REC	1	9/11/2013 3:25:00 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 25-Sep-13

<b>CLIENT:</b>	Kurz Environmental	<b>Client Sample ID:</b>	P2 TP2 4-6'
<b>Lab Order:</b>	1309044	<b>Tag Number:</b>	
<b>Project:</b>	090413	<b>Collection Date:</b>	9/4/2013
<b>Lab ID:</b>	1309044-005B	<b>Date Received:</b>	9/6/2013
		<b>Matrix:</b>	SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VPH - MADEP VPH						Analyst: ZC
Prep Method:			Prep Date:			
Unadjusted C5-C8 Aliphatic HC	ND	11.2		mg/Kg-dry	1	9/10/2013 2:45:00 AM
Unadjusted C9-C12 Aliphatic HC	ND	11.2		mg/Kg-dry	1	9/10/2013 2:45:00 AM
Methyl Tert-Butyl Ether	ND	0.112		mg/Kg-dry	1	9/10/2013 2:45:00 AM
Benzene	ND	0.112		mg/Kg-dry	1	9/10/2013 2:45:00 AM
Toluene	ND	0.112		mg/Kg-dry	1	9/10/2013 2:45:00 AM
Ethylbenzene	ND	0.112		mg/Kg-dry	1	9/10/2013 2:45:00 AM
m,p-Xylene	ND	0.112		mg/Kg-dry	1	9/10/2013 2:45:00 AM
o-Xylene	ND	0.112		mg/Kg-dry	1	9/10/2013 2:45:00 AM
Naphthalene	ND	0.112		mg/Kg-dry	1	9/10/2013 2:45:00 AM
C9-C10 Aromatic Hydrocarbons	ND	11.2		mg/Kg-dry	1	9/10/2013 2:45:00 AM
Adjusted C5-C8 Aliphatic HC	ND	11.2		mg/Kg-dry	1	9/10/2013 2:45:00 AM
Adjusted C9-C12 Aliphatic HC	ND	11.2		mg/Kg-dry	1	9/10/2013 2:45:00 AM
Surr: 2,5-Dibromotoluene FID	81.9	70-130		%REC	1	9/10/2013 2:45:00 AM
Surr: 2,5-Dibromotoluene PID	106	70-130		%REC	1	9/10/2013 2:45:00 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 25-Sep-13

<b>CLIENT:</b>	Kurz Environmental	<b>Client Sample ID:</b>	P2 TP4
<b>Lab Order:</b>	1309044	<b>Tag Number:</b>	
<b>Project:</b>	090413	<b>Collection Date:</b>	9/4/2013
<b>Lab ID:</b>	1309044-006A	<b>Date Received:</b>	9/6/2013
		<b>Matrix:</b>	SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPH RANGES - MADEP EPH</b>						
						Analyst: KG
Prep Method: (eph_Spr)		Prep Date: 9/13/2013 12:46:27 PM				
Adjusted C11-C22 Aromatics	22.4	17.4		mg/Kg-dry	1	9/16/2013
C09-C18 Aliphatics	ND	17.4		mg/Kg-dry	1	9/16/2013
C19-C36 Aliphatics	33.4	17.4		mg/Kg-dry	1	9/16/2013
Unadjusted C11-C22 Aromatics	25.1	17.4		mg/Kg-dry	1	9/16/2013
Surr: 1-Chlorooctadecane	59.5	40-140		%REC	1	9/16/2013
Surr: o-Terphenyl	77.2	40-140		%REC	1	9/16/2013

<b>EPH TARGET ANALYTES - MADEP EPH</b>	Analyst: Jsi
--	--------------

Prep Method: (eph_Spr)		Prep Date: 9/13/2013 12:46:27 PM				
Naphthalene	ND	0.116		mg/Kg-dry	1	9/11/2013 3:57:00 PM
2-Methylnaphthalene	0.127	0.116		mg/Kg-dry	1	9/11/2013 3:57:00 PM
Acenaphthene	ND	0.116		mg/Kg-dry	1	9/11/2013 3:57:00 PM
Phenanthrene	0.731	0.116		mg/Kg-dry	1	9/11/2013 3:57:00 PM
Acenaphthylene	ND	0.116		mg/Kg-dry	1	9/11/2013 3:57:00 PM
Fluorene	ND	0.116		mg/Kg-dry	1	9/11/2013 3:57:00 PM
Anthracene	ND	0.116		mg/Kg-dry	1	9/11/2013 3:57:00 PM
Fluoranthene	0.720	0.116		mg/Kg-dry	1	9/11/2013 3:57:00 PM
Pyrene	0.427	0.116		mg/Kg-dry	1	9/11/2013 3:57:00 PM
Benzo(a)Anthracene	0.171	0.116		mg/Kg-dry	1	9/11/2013 3:57:00 PM
Chrysene	0.303	0.116		mg/Kg-dry	1	9/11/2013 3:57:00 PM
Benzo(b)Fluoranthene	0.173	0.116		mg/Kg-dry	1	9/11/2013 3:57:00 PM
Benzo(k)Fluoranthene	ND	0.116		mg/Kg-dry	1	9/11/2013 3:57:00 PM
Benzo(a)Pyrene	ND	0.116		mg/Kg-dry	1	9/11/2013 3:57:00 PM
Indeno(1,2,3-cd)Pyrene	ND	0.116		mg/Kg-dry	1	9/11/2013 3:57:00 PM
Dibenz(a,h)Anthracene	ND	0.116		mg/Kg-dry	1	9/11/2013 3:57:00 PM
Benzo(g,h,i)Perylene	ND	0.116		mg/Kg-dry	1	9/11/2013 3:57:00 PM
Total PAH Target Concentration	2.73	0.116		mg/Kg-dry	1	9/11/2013 3:57:00 PM
Surr: 2,2-Difluorobiphenyl	87.9	40-140		%REC	1	9/11/2013 3:57:00 PM
Surr: 2-Fluorobiphenyl	67.8	40-140		%REC	1	9/11/2013 3:57:00 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 25-Sep-13

CLIENT: Kurz Environmental Client Sample ID: P3 TP1 2-4'  
 Lab Order: 1309044 Tag Number:  
 Project: 090413 Collection Date: 9/4/2013  
 Lab ID: 1309044-007A Date Received: 9/6/2013 Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

## EPH RANGES - MADEP EPH

Analyst: KG

Prep Method: (eph\_Spr) Prep Date: 9/9/2013 11:26:33 AM

Adjusted C11-C22 Aromatics	26.6	17.4		mg/Kg-dry	1	9/11/2013
C09-C18 Aliphatics	ND	17.4		mg/Kg-dry	1	9/11/2013
C19-C36 Aliphatics	ND	17.4		mg/Kg-dry	1	9/11/2013
Unadjusted C11-C22 Aromatics	29.3	17.4		mg/Kg-dry	1	9/11/2013
Surr: 1-Chlorooctadecane	52.4	40-140		%REC	1	9/11/2013
Surr: o-Terphenyl	51.1	40-140		%REC	1	9/11/2013

## TOTAL METALS BY ICP - SW6010C

Analyst: QS

Prep Method: (SW3050B) Prep Date: 9/10/2013 10:29:50 AM

Arsenic	16.0	5.59		mg/Kg-dry	1	9/11/2013
Barium	99.2	5.59		mg/Kg-dry	1	9/11/2013
Cadmium	1.42	1.12		mg/Kg-dry	1	9/11/2013
Chromium	45.5	5.59		mg/Kg-dry	1	9/11/2013
Lead	221	5.59		mg/Kg-dry	1	9/11/2013
Selenium	ND	5.59		mg/Kg-dry	1	9/11/2013
Silver	ND	5.59		mg/Kg-dry	1	9/11/2013

## MERCURY - SW7471B

Analyst: EC

Prep Method: (SW7471B) Prep Date: 9/12/2013 5:07:02 PM

Mercury	0.578	0.0965		mg/Kg-dry	1	9/12/2013
---------	-------	--------	--	-----------	---	-----------

## EPH TARGET ANALYTES - MADEP EPH

Analyst: Jsi

Prep Method: (eph\_Spr) Prep Date: 9/9/2013 11:26:33 AM

Naphthalene	ND	0.116		mg/Kg-dry	1	9/11/2013 4:30:00 PM
2-Methylnaphthalene	ND	0.116		mg/Kg-dry	1	9/11/2013 4:30:00 PM
Acenaphthene	ND	0.116		mg/Kg-dry	1	9/11/2013 4:30:00 PM
Phenanthrene	0.544	0.116		mg/Kg-dry	1	9/11/2013 4:30:00 PM
Acenaphthylene	ND	0.116		mg/Kg-dry	1	9/11/2013 4:30:00 PM
Fluorene	ND	0.116		mg/Kg-dry	1	9/11/2013 4:30:00 PM
Anthracene	ND	0.116		mg/Kg-dry	1	9/11/2013 4:30:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 25-Sep-13

<b>CLIENT:</b>	Kurz Environmental	<b>Client Sample ID:</b>	P3 TP1 2-4'
<b>Lab Order:</b>	1309044	<b>Tag Number:</b>	
<b>Project:</b>	090413	<b>Collection Date:</b>	9/4/2013
<b>Lab ID:</b>	1309044-007A	<b>Date Received:</b>	9/6/2013
		<b>Matrix:</b>	SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPH TARGET ANALYTES - MADEP EPH</b>						Analyst: Jsi
Prep Method: (eph_Spr)		Prep Date: 9/9/2013 11:26:33 AM				
Fluoranthene	0.848	0.116		mg/Kg-dry	1	9/11/2013 4:30:00 PM
Pyrene	0.492	0.116		mg/Kg-dry	1	9/11/2013 4:30:00 PM
Benzo(a)Anthracene	0.221	0.116		mg/Kg-dry	1	9/11/2013 4:30:00 PM
Chrysene	0.328	0.116		mg/Kg-dry	1	9/11/2013 4:30:00 PM
Benzo(b)Fluoranthene	0.223	0.116		mg/Kg-dry	1	9/11/2013 4:30:00 PM
Benzo(k)Fluoranthene	ND	0.116		mg/Kg-dry	1	9/11/2013 4:30:00 PM
Benzo(a)Pyrene	ND	0.116		mg/Kg-dry	1	9/11/2013 4:30:00 PM
Indeno(1,2,3-cd)Pyrene	ND	0.116		mg/Kg-dry	1	9/11/2013 4:30:00 PM
Dibenz(a,h)Anthracene	ND	0.116		mg/Kg-dry	1	9/11/2013 4:30:00 PM
Benzo(g,h,i)Perylene	ND	0.116		mg/Kg-dry	1	9/11/2013 4:30:00 PM
Total PAH Target Concentration	2.72	0.116		mg/Kg-dry	1	9/11/2013 4:30:00 PM
Surr: 2,2-Difluorobiphenyl	85.1	40-140		%REC	1	9/11/2013 4:30:00 PM
Surr: 2-Fluorobiphenyl	59.0	40-140		%REC	1	9/11/2013 4:30:00 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 25-Sep-13

<b>CLIENT:</b>	Kurz Environmental	<b>Client Sample ID:</b>	P3 TP1 2-4'
<b>Lab Order:</b>	1309044	<b>Tag Number:</b>	
<b>Project:</b>	090413	<b>Collection Date:</b>	9/4/2013
<b>Lab ID:</b>	1309044-007B	<b>Date Received:</b>	9/6/2013
		<b>Matrix:</b>	SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

VPH - MADEP VPH

Analyst: ZC

Prep Method:

Prep Date:

Unadjusted C5-C8 Aliphatic HC	ND	11.6		mg/Kg-dry	1	9/10/2013 3:25:00 AM
Unadjusted C9-C12 Aliphatic HC	ND	11.6		mg/Kg-dry	1	9/10/2013 3:25:00 AM
Methyl Tert-Butyl Ether	ND	0.116		mg/Kg-dry	1	9/10/2013 3:25:00 AM
Benzene	ND	0.116		mg/Kg-dry	1	9/10/2013 3:25:00 AM
Toluene	ND	0.116		mg/Kg-dry	1	9/10/2013 3:25:00 AM
Ethylbenzene	ND	0.116		mg/Kg-dry	1	9/10/2013 3:25:00 AM
m,p-Xylene	ND	0.116		mg/Kg-dry	1	9/10/2013 3:25:00 AM
o-Xylene	ND	0.116		mg/Kg-dry	1	9/10/2013 3:25:00 AM
Naphthalene	ND	0.116		mg/Kg-dry	1	9/10/2013 3:25:00 AM
C9-C10 Aromatic Hydrocarbons	ND	11.6		mg/Kg-dry	1	9/10/2013 3:25:00 AM
Adjusted C5-C8 Aliphatic HC	ND	11.6		mg/Kg-dry	1	9/10/2013 3:25:00 AM
Adjusted C9-C12 Aliphatic HC	ND	11.6		mg/Kg-dry	1	9/10/2013 3:25:00 AM
Surr: 2,5-Dibromotoluene FID	86.8	70-130		%REC	1	9/10/2013 3:25:00 AM
Surr: 2,5-Dibromotoluene PID	94.7	70-130		%REC	1	9/10/2013 3:25:00 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 25-Sep-13

<b>CLIENT:</b>	Kurz Environmental	<b>Client Sample ID:</b>	P3 TP4
<b>Lab Order:</b>	1309044	<b>Tag Number:</b>	
<b>Project:</b>	090413	<b>Collection Date:</b>	9/4/2013
<b>Lab ID:</b>	1309044-008A	<b>Date Received:</b>	9/6/2013
		<b>Matrix:</b>	SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPH RANGES - MADEP EPH</b>						
						Analyst: KG
Prep Method: (eph_Spr)		Prep Date: 9/9/2013 11:26:33 AM				
Adjusted C11-C22 Aromatics	19.5	15.8		mg/Kg-dry	1	9/11/2013
C09-C18 Aliphatics	ND	15.8		mg/Kg-dry	1	9/11/2013
C19-C36 Aliphatics	ND	15.8		mg/Kg-dry	1	9/11/2013
Unadjusted C11-C22 Aromatics	19.5	15.8		mg/Kg-dry	1	9/11/2013
Surr: 1-Chlorooctadecane	79.9	40-140		%REC	1	9/11/2013
Surr: o-Terphenyl	78.0	40-140		%REC	1	9/11/2013

<b>EPH TARGET ANALYTES - MADEP EPH</b>						
						Analyst: Jsi
Prep Method: (eph_Spr)		Prep Date: 9/9/2013 11:26:33 AM				
Naphthalene	ND	0.105		mg/Kg-dry	1	9/11/2013 5:03:00 PM
2-Methylnaphthalene	ND	0.105		mg/Kg-dry	1	9/11/2013 5:03:00 PM
Acenaphthene	ND	0.105		mg/Kg-dry	1	9/11/2013 5:03:00 PM
Phenanthrene	ND	0.105		mg/Kg-dry	1	9/11/2013 5:03:00 PM
Acenaphthylene	ND	0.105		mg/Kg-dry	1	9/11/2013 5:03:00 PM
Fluorene	ND	0.105		mg/Kg-dry	1	9/11/2013 5:03:00 PM
Anthracene	ND	0.105		mg/Kg-dry	1	9/11/2013 5:03:00 PM
Fluoranthene	ND	0.105		mg/Kg-dry	1	9/11/2013 5:03:00 PM
Pyrene	ND	0.105		mg/Kg-dry	1	9/11/2013 5:03:00 PM
Benzo(a)Anthracene	ND	0.105		mg/Kg-dry	1	9/11/2013 5:03:00 PM
Chrysene	ND	0.105		mg/Kg-dry	1	9/11/2013 5:03:00 PM
Benzo(b)Fluoranthene	ND	0.105		mg/Kg-dry	1	9/11/2013 5:03:00 PM
Benzo(k)Fluoranthene	ND	0.105		mg/Kg-dry	1	9/11/2013 5:03:00 PM
Benzo(a)Pyrene	ND	0.105		mg/Kg-dry	1	9/11/2013 5:03:00 PM
Indeno(1,2,3-cd)Pyrene	ND	0.105		mg/Kg-dry	1	9/11/2013 5:03:00 PM
Dibenz(a,h)Anthracene	ND	0.105		mg/Kg-dry	1	9/11/2013 5:03:00 PM
Benzo(g,h,i)Perylene	ND	0.105		mg/Kg-dry	1	9/11/2013 5:03:00 PM
Total PAH Target Concentration	ND	0.105		mg/Kg-dry	1	9/11/2013 5:03:00 PM
Surr: 2,2-Difluorobiphenyl	102	40-140		%REC	1	9/11/2013 5:03:00 PM
Surr: 2-Fluorobiphenyl	64.0	40-140		%REC	1	9/11/2013 5:03:00 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 25-Sep-13

<b>CLIENT:</b>	Kurz Environmental	<b>Client Sample ID:</b>	P3 TP4
<b>Lab Order:</b>	1309044	<b>Tag Number:</b>	
<b>Project:</b>	090413	<b>Collection Date:</b>	9/4/2013
<b>Lab ID:</b>	1309044-008B	<b>Date Received:</b>	9/6/2013
		<b>Matrix:</b>	SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VPH - MADEP VPH						Analyst: ZC
Prep Method:			Prep Date:			
Unadjusted C5-C8 Aliphatic HC	ND	10.5		mg/Kg-dry	1	9/10/2013 4:27:00 AM
Unadjusted C9-C12 Aliphatic HC	ND	10.5		mg/Kg-dry	1	9/10/2013 4:27:00 AM
Methyl Tert-Butyl Ether	ND	0.105		mg/Kg-dry	1	9/10/2013 4:27:00 AM
Benzene	ND	0.105		mg/Kg-dry	1	9/10/2013 4:27:00 AM
Toluene	ND	0.105		mg/Kg-dry	1	9/10/2013 4:27:00 AM
Ethylbenzene	ND	0.105		mg/Kg-dry	1	9/10/2013 4:27:00 AM
m,p-Xylene	ND	0.105		mg/Kg-dry	1	9/10/2013 4:27:00 AM
o-Xylene	3.99	0.105		mg/Kg-dry	1	9/10/2013 4:27:00 AM
Naphthalene	ND	0.105		mg/Kg-dry	1	9/10/2013 4:27:00 AM
C9-C10 Aromatic Hydrocarbons	ND	10.5		mg/Kg-dry	1	9/10/2013 4:27:00 AM
Adjusted C5-C8 Aliphatic HC	ND	10.5		mg/Kg-dry	1	9/10/2013 4:27:00 AM
Adjusted C9-C12 Aliphatic HC	ND	10.5		mg/Kg-dry	1	9/10/2013 4:27:00 AM
Surr: 2,5-Dibromotoluene FID	87.4	70-130		%REC	1	9/10/2013 4:27:00 AM
Surr: 2,5-Dibromotoluene PID	101	70-130		%REC	1	9/10/2013 4:27:00 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811



## ANALYTICAL REPORT

Reported Date: 25-Sep-13

<b>CLIENT:</b>	Kurz Environmental	<b>Client Sample ID:</b>	P4 TP3
<b>Lab Order:</b>	1309044	<b>Tag Number:</b>	
<b>Project:</b>	090413	<b>Collection Date:</b>	9/4/2013
<b>Lab ID:</b>	1309044-009A	<b>Date Received:</b>	9/6/2013
		<b>Matrix:</b>	SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

## EPH RANGES - MADEP EPH

Analyst: KG

Prep Method:	(eph_Spr)	Prep Date:	9/9/2013 11:26:33 AM
--------------	-----------	------------	----------------------

Adjusted C11-C22 Aromatics	25.4	19.2		mg/Kg-dry	1	9/11/2013
C09-C18 Aliphatics	ND	19.2		mg/Kg-dry	1	9/11/2013
C19-C36 Aliphatics	ND	19.2		mg/Kg-dry	1	9/11/2013
Unadjusted C11-C22 Aromatics	25.4	19.2		mg/Kg-dry	1	9/11/2013
Surr: 1-Chlorooctadecane	81.8	40-140		%REC	1	9/11/2013
Surr: o-Terphenyl	70.2	40-140		%REC	1	9/11/2013

## TOTAL METALS BY ICP - SW6010C

Analyst: QS

Prep Method:	(SW3050B)	Prep Date:	9/10/2013 10:29:50 AM
--------------	-----------	------------	-----------------------

Arsenic	10.9	6.20		mg/Kg-dry	1	9/11/2013
Barium	28.2	6.20		mg/Kg-dry	1	9/11/2013
Cadmium	ND	1.24		mg/Kg-dry	1	9/11/2013
Chromium	9.18	6.20		mg/Kg-dry	1	9/11/2013
Lead	15.7	6.20		mg/Kg-dry	1	9/11/2013
Selenium	ND	6.20		mg/Kg-dry	1	9/11/2013
Silver	ND	6.20		mg/Kg-dry	1	9/11/2013

## MERCURY - SW7471B

Analyst: EC

Prep Method:	(SW7471B)	Prep Date:	9/12/2013 5:07:02 PM
--------------	-----------	------------	----------------------

Mercury	ND	0.106		mg/Kg-dry	1	9/12/2013
---------	----	-------	--	-----------	---	-----------

## EPH TARGET ANALYTES - MADEP EPH

Analyst: Jsi

Prep Method:	(eph_Spr)	Prep Date:	9/9/2013 11:26:33 AM
--------------	-----------	------------	----------------------

Naphthalene	ND	0.128		mg/Kg-dry	1	9/11/2013 5:35:00 PM
2-Methylnaphthalene	ND	0.128		mg/Kg-dry	1	9/11/2013 5:35:00 PM
Acenaphthene	ND	0.128		mg/Kg-dry	1	9/11/2013 5:35:00 PM
Phenanthrene	ND	0.128		mg/Kg-dry	1	9/11/2013 5:35:00 PM
Acenaphthylene	ND	0.128		mg/Kg-dry	1	9/11/2013 5:35:00 PM
Fluorene	ND	0.128		mg/Kg-dry	1	9/11/2013 5:35:00 PM
Anthracene	ND	0.128		mg/Kg-dry	1	9/11/2013 5:35:00 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 25-Sep-13

<b>CLIENT:</b>	Kurz Environmental	<b>Client Sample ID:</b>	P4 TP3
<b>Lab Order:</b>	1309044	<b>Tag Number:</b>	
<b>Project:</b>	090413	<b>Collection Date:</b>	9/4/2013
<b>Lab ID:</b>	1309044-009A	<b>Date Received:</b>	9/6/2013
		<b>Matrix:</b>	SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

## EPH TARGET ANALYTES - MADEP EPH

Analyst: Jsi

Prep Method: (eph\_Spr)

Prep Date: 9/9/2013 11:26:33 AM

Fluoranthene	ND	0.128		mg/Kg-dry	1	9/11/2013 5:35:00 PM
Pyrene	ND	0.128		mg/Kg-dry	1	9/11/2013 5:35:00 PM
Benzo(a)Anthracene	ND	0.128		mg/Kg-dry	1	9/11/2013 5:35:00 PM
Chrysene	ND	0.128		mg/Kg-dry	1	9/11/2013 5:35:00 PM
Benzo(b)Fluoranthene	ND	0.128		mg/Kg-dry	1	9/11/2013 5:35:00 PM
Benzo(k)Fluoranthene	ND	0.128		mg/Kg-dry	1	9/11/2013 5:35:00 PM
Benzo(a)Pyrene	ND	0.128		mg/Kg-dry	1	9/11/2013 5:35:00 PM
Indeno(1,2,3-cd)Pyrene	ND	0.128		mg/Kg-dry	1	9/11/2013 5:35:00 PM
Dibenz(a,h)Anthracene	ND	0.128		mg/Kg-dry	1	9/11/2013 5:35:00 PM
Benzo(g,h,i)Perylene	ND	0.128		mg/Kg-dry	1	9/11/2013 5:35:00 PM
Total PAH Target Concentration	ND	0.128		mg/Kg-dry	1	9/11/2013 5:35:00 PM
Surr: 2,2-Difluorobiphenyl	102	40-140		%REC	1	9/11/2013 5:35:00 PM
Surr: 2-Fluorobiphenyl	61.3	40-140		%REC	1	9/11/2013 5:35:00 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 25-Sep-13

<b>CLIENT:</b>	Kurz Environmental	<b>Client Sample ID:</b>	P4 TP3
<b>Lab Order:</b>	1309044	<b>Tag Number:</b>	
<b>Project:</b>	090413	<b>Collection Date:</b>	9/4/2013
<b>Lab ID:</b>	1309044-009B	<b>Date Received:</b>	9/6/2013
		<b>Matrix:</b>	SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VPH - MADEP VPH						Analyst: ZC
Prep Method:		Prep Date:				
Unadjusted C5-C8 Aliphatic HC	ND	12.8		mg/Kg-dry	1	9/10/2013 5:04:00 AM
Unadjusted C9-C12 Aliphatic HC	ND	12.8		mg/Kg-dry	1	9/10/2013 5:04:00 AM
Methyl Tert-Butyl Ether	ND	0.128		mg/Kg-dry	1	9/10/2013 5:04:00 AM
Benzene	ND	0.128		mg/Kg-dry	1	9/10/2013 5:04:00 AM
Toluene	ND	0.128		mg/Kg-dry	1	9/10/2013 5:04:00 AM
Ethylbenzene	ND	0.128		mg/Kg-dry	1	9/10/2013 5:04:00 AM
m,p-Xylene	ND	0.128		mg/Kg-dry	1	9/10/2013 5:04:00 AM
o-Xylene	ND	0.128		mg/Kg-dry	1	9/10/2013 5:04:00 AM
Naphthalene	ND	0.128		mg/Kg-dry	1	9/10/2013 5:04:00 AM
C9-C10 Aromatic Hydrocarbons	ND	12.8		mg/Kg-dry	1	9/10/2013 5:04:00 AM
Adjusted C5-C8 Aliphatic HC	ND	12.8		mg/Kg-dry	1	9/10/2013 5:04:00 AM
Adjusted C9-C12 Aliphatic HC	ND	12.8		mg/Kg-dry	1	9/10/2013 5:04:00 AM
Surr: 2,5-Dibromotoluene FID	84.4	70-130		%REC	1	9/10/2013 5:04:00 AM
Surr: 2,5-Dibromotoluene PID	122	70-130		%REC	1	9/10/2013 5:04:00 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

# ANALYTICAL QC SUMMARY REPORT

Date: 26-Sep-13

**CLIENT:** Kurz Environmental  
**Work Order:** 1309044  
**Project:** 090413

**TestCode:** 6010C\_S

Sample ID: <b>MBLK-22910</b>	SampType: <b>MBLK</b>	TestCode: <b>6010C_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>9/10/2013</b>	RunNo: <b>51856</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>22910</b>	TestNo: <b>SW6010C</b>	( <b>SW3050B</b> )	Analysis Date: <b>9/11/2013</b>	SeqNo: <b>584977</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	5.00									
Barium	ND	5.00									
Cadmium	ND	1.00									
Chromium	ND	5.00									
Lead	ND	5.00									
Selenium	ND	5.00									
Silver	ND	5.00									

Sample ID: <b>LCS-22910</b>	SampType: <b>LCS</b>	TestCode: <b>6010C_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>9/10/2013</b>	RunNo: <b>51856</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>22910</b>	TestNo: <b>SW6010C</b>	( <b>SW3050B</b> )	Analysis Date: <b>9/11/2013</b>	SeqNo: <b>584975</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	122.1	5.00	133.3	0	91.6	80	120				
Barium	65.80	5.00	66.67	0	98.7	80	120				
Cadmium	118.5	1.00	133.3	0	88.9	80	120				
Chromium	119.1	5.00	133.3	0	89.4	80	120				
Lead	120.2	5.00	133.3	0	90.2	80	120				
Selenium	119.3	5.00	133.3	0	89.5	80	120				
Silver	31.20	5.00	33.33	0	93.6	80	120				

Sample ID: <b>LCSD-22910</b>	SampType: <b>LCSD</b>	TestCode: <b>6010C_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>9/10/2013</b>	RunNo: <b>51856</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>22910</b>	TestNo: <b>SW6010C</b>	( <b>SW3050B</b> )	Analysis Date: <b>9/11/2013</b>	SeqNo: <b>584976</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	121.4	5.00	133.3	0	91.1	80	120	122.1	0.548	30	
Barium	65.47	5.00	66.67	0	98.2	80	120	65.8	0.508	30	

**Qualifiers:** BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** Kurz Environmental  
**Work Order:** 1309044  
**Project:** 090413

**TestCode:** 6010C\_S

Sample ID: LCSD-22910	SampType: LCSD	TestCode: 6010C_S	Units: mg/Kg	Prep Date: 9/10/2013	RunNo: 51856						
Client ID: ZZZZ	Batch ID: 22910	TestNo: SW6010C	(SW3050B)	Analysis Date: 9/11/2013	SeqNo: 584976						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	118.5	1.00	133.3	0	88.9	80	120	118.5	0.0563	30	
Chromium	117.9	5.00	133.3	0	88.5	80	120	119.1	1.01	30	
Lead	120.3	5.00	133.3	0	90.3	80	120	120.2	0.111	30	
Selenium	120.8	5.00	133.3	0	90.6	80	120	119.3	1.22	30	
Silver	31.27	5.00	33.33	0	93.8	80	120	31.2	0.213	30	

**Qualifiers:** BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

**GeoLabs, Inc.**  
 45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** Kurz Environmental  
**Work Order:** 1309044  
**Project:** 090413

**TestCode:** EPHP\_S

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sample ID: <b>MB-22902</b>	SampType: <b>MBLK</b>	TestCode: <b>EPHP_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>9/9/2013</b>	RunNo: <b>51808</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>22902</b>	TestNo: <b>MADEP EPH_ (eph_Spr)</b>	Analysis Date: <b>9/9/2013</b>	SeqNo: <b>584744</b>							
Naphthalene	ND	0.100									
2-Methylnaphthalene	0.05600	0.100									J
Acenaphthene	ND	0.100									
Phenanthrene	ND	0.100									
Acenaphthylene	ND	0.100									
Fluorene	ND	0.100									
Anthracene	ND	0.100									
Fluoranthene	ND	0.100									
Pyrene	ND	0.100									
Benzo(a)Anthracene	ND	0.100									
Chrysene	ND	0.100									
Benzo(b)Fluoranthene	ND	0.100									
Benzo(k)Fluoranthene	ND	0.100									
Benzo(a)Pyrene	ND	0.100									
Indeno(1,2,3-cd)Pyrene	ND	0.100									
Dibenz(a,h)Anthracene	ND	0.100									
Benzo(g,h,i)Perylene	ND	0.100									
Total PAH Target Concentration	0.05600	0.100									J
Surr: 2,2-Difluorobiphenyl	2.325	0	2.5	0	93.0	40	140				
Surr: 2-Fluorobiphenyl	1.603	0	2.5	0	64.1	40	140				

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sample ID: <b>mb-22902</b>	SampType: <b>MBLK</b>	TestCode: <b>EPHP_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>9/9/2013</b>	RunNo: <b>51828</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>22902</b>	TestNo: <b>MADEP EPH_ (eph_Spr)</b>	Analysis Date: <b>9/11/2013</b>	SeqNo: <b>585173</b>							
Naphthalene	ND	0.100									
2-Methylnaphthalene	ND	0.100									

**Qualifiers:** BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** Kurz Environmental  
**Work Order:** 1309044  
**Project:** 090413

**TestCode:** EPHP\_S

Sample ID: <b>mb-22902</b>	SampType: <b>MBLK</b>	TestCode: <b>EPHP_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>9/9/2013</b>	RunNo: <b>51828</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>22902</b>	TestNo: <b>MADEP EPH_ (eph_Spr)</b>	Analysis Date: <b>9/11/2013</b>	SeqNo: <b>585173</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.100									
Phenanthrene	ND	0.100									
Acenaphthylene	ND	0.100									
Fluorene	ND	0.100									
Anthracene	ND	0.100									
Fluoranthene	ND	0.100									
Pyrene	ND	0.100									
Benzo(a)Anthracene	ND	0.100									
Chrysene	ND	0.100									
Benzo(b)Fluoranthene	ND	0.100									
Benzo(k)Fluoranthene	ND	0.100									
Benzo(a)Pyrene	ND	0.100									
Indeno(1,2,3-cd)Pyrene	ND	0.100									
Dibenz(a,h)Anthracene	ND	0.100									
Benzo(g,h,i)Perylene	ND	0.100									
Total PAH Target Concentration	ND	0.100									
Surr: 2,2-Difluorobiphenyl	2.487	0	2.5	0	99.5	40	140				
Surr: 2-Fluorobiphenyl	1.615	0	2.5	0	64.6	40	140				

Sample ID: <b>mb-22938</b>	SampType: <b>MBLK</b>	TestCode: <b>EPHP_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>9/13/2013</b>	RunNo: <b>51900</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>22938</b>	TestNo: <b>MADEP EPH_ (eph_Spr)</b>	Analysis Date: <b>9/16/2013</b>	SeqNo: <b>586057</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	0.100									
2-Methylnaphthalene	0.06400	0.100									J
Acenaphthene	ND	0.100									
Phenanthrene	ND	0.100									

**Qualifiers:** BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

**CLIENT:** Kurz Environmental  
**Work Order:** 1309044  
**Project:** 090413

**TestCode:** EPHP\_S

Sample ID: <b>mb-22938</b>	SampType: <b>MBLK</b>	TestCode: <b>EPHP_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>9/13/2013</b>	RunNo: <b>51900</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>22938</b>	TestNo: <b>MADEP EPH_ (eph_Spr)</b>	Analysis Date: <b>9/16/2013</b>	SeqNo: <b>586057</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthylene	ND	0.100									
Fluorene	ND	0.100									
Anthracene	ND	0.100									
Fluoranthene	ND	0.100									
Pyrene	ND	0.100									
Benzo(a)Anthracene	ND	0.100									
Chrysene	ND	0.100									
Benzo(b)Fluoranthene	ND	0.100									
Benzo(k)Fluoranthene	ND	0.100									
Benzo(a)Pyrene	ND	0.100									
Indeno(1,2,3-cd)Pyrene	ND	0.100									
Dibenz(a,h)Anthracene	ND	0.100									
Benzo(g,h,i)Perylene	ND	0.100									
Total PAH Target Concentration	0.06400	0.100									J
Surr: 2,2-Difluorobiphenyl	2.459	0	2.5	0	98.4	40	140				
Surr: 2-Fluorobiphenyl	1.744	0	2.5	0	69.8	40	140				

Sample ID: <b>Ics-22902</b>	SampType: <b>LCS</b>	TestCode: <b>EPHP_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>9/9/2013</b>	RunNo: <b>51808</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>22902</b>	TestNo: <b>MADEP EPH_ (eph_Spr)</b>	Analysis Date: <b>9/9/2013</b>	SeqNo: <b>584745</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	3.399	0.100	5	0	68.0	40	140				
2-Methylnaphthalene	3.974	0.100	5	0	79.5	40	140				
Acenaphthene	3.761	0.100	5	0	75.2	40	140				
Phenanthrene	4.278	0.100	5	0	85.6	40	140				
Acenaphthylene	3.419	0.100	5	0	68.4	40	140				
Fluorene	4.411	0.100	5	0	88.2	40	140				

**Qualifiers:** BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811



**CLIENT:** Kurz Environmental  
**Work Order:** 1309044  
**Project:** 090413

**TestCode:** EPHP\_S

Sample ID: Ics-22902	SampType: LCS	TestCode: EPHP_S	Units: mg/Kg	Prep Date: 9/9/2013	RunNo: 51808						
Client ID: ZZZZZ	Batch ID: 22902	TestNo: MADEP EPH_ (eph_Spr)	Analysis Date: 9/9/2013	SeqNo: 584745							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Anthracene	4.148	0.100	5	0	83.0	40	140				
Fluoranthene	4.814	0.100	5	0	96.3	40	140				
Pyrene	3.748	0.100	5	0	75.0	40	140				
Benzo(a)Anthracene	4.403	0.100	5	0	88.1	40	140				
Chrysene	4.616	0.100	5	0	92.3	40	140				
Benzo(b)Fluoranthene	3.303	0.100	5	0	66.1	40	140				
Benzo(k)Fluoranthene	3.513	0.100	5	0	70.3	40	140				
Benzo(a)Pyrene	3.140	0.100	5	0	62.8	40	140				
Indeno(1,2,3-cd)Pyrene	3.587	0.100	5	0	71.7	40	140				
Dibenz(a,h)Anthracene	3.623	0.100	5	0	72.5	40	140				
Benzo(g,h,i)Perylene	4.026	0.100	5	0	80.5	40	140				
Total PAH Target Concentration	66.16	0.100									
Surr: 2,2-Difluorobiphenyl	2.886	0	2.5	0	115	40	140				
Surr: 2-Fluorobiphenyl	1.790	0	2.5	0	71.6	40	140				

Sample ID: Ics-22938	SampType: LCS	TestCode: EPHP_S	Units: mg/Kg	Prep Date: 9/13/2013	RunNo: 51900						
Client ID: ZZZZZ	Batch ID: 22938	TestNo: MADEP EPH_ (eph_Spr)	Analysis Date: 9/16/2013	SeqNo: 586058							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	3.094	0.100	5	0	61.9	40	140				
2-Methylnaphthalene	3.546	0.100	5	0	70.9	40	140				
Acenaphthene	3.577	0.100	5	0	71.5	40	140				
Phenanthrene	4.375	0.100	5	0	87.5	40	140				
Acenaphthylene	3.399	0.100	5	0	68.0	40	140				
Fluorene	4.047	0.100	5	0	80.9	40	140				
Anthracene	4.028	0.100	5	0	80.6	40	140				
Fluoranthene	4.348	0.100	5	0	87.0	40	140				

**Qualifiers:** BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** Kurz Environmental  
**Work Order:** 1309044  
**Project:** 090413

**TestCode:** EPHP\_S

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pyrene	4.315	0.100	5	0	86.3	40	140				
Benzo(a)Anthracene	4.671	0.100	5	0	93.4	40	140				
Chrysene	4.724	0.100	5	0	94.5	40	140				
Benzo(b)Fluoranthene	3.849	0.100	5	0	77.0	40	140				
Benzo(k)Fluoranthene	4.018	0.100	5	0	80.4	40	140				
Benzo(a)Pyrene	3.357	0.100	5	0	67.1	40	140				
Indeno(1,2,3-cd)Pyrene	3.328	0.100	5	0	66.6	40	140				
Dibenz(a,h)Anthracene	3.310	0.100	5	0	66.2	40	140				
Benzo(g,h,i)Perylene	3.594	0.100	5	0	71.9	40	140				
Total PAH Target Concentration	65.58	0.100									
Surr: 2,2-Difluorobiphenyl	2.633	0	2.5	0	105	40	140				
Surr: 2-Fluorobiphenyl	1.902	0	2.5	0	76.1	40	140				

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	3.566	0.100	5	0	71.3	40	140				
2-Methylnaphthalene	3.948	0.100	5	0	79.0	40	140				
Acenaphthene	4.016	0.100	5	0	80.3	40	140				
Phenanthrene	4.784	0.100	5	0	95.7	40	140				
Acenaphthylene	3.579	0.100	5	0	71.6	40	140				
Fluorene	4.712	0.100	5	0	94.2	40	140				
Anthracene	4.647	0.100	5	0	92.9	40	140				
Fluoranthene	5.360	0.100	5	0	107	40	140				
Pyrene	4.076	0.100	5	0	81.5	40	140				
Benzo(a)Anthracene	4.844	0.100	5	0	96.9	40	140				

**Qualifiers:** BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

**CLIENT:** Kurz Environmental  
**Work Order:** 1309044  
**Project:** 090413

**TestCode:** EPHP\_S

Sample ID: LCS2-22902	SampType: LCSD	TestCode: EPHP_S	Units: mg/Kg	Prep Date: 9/9/2013	RunNo: 51808						
Client ID: ZZZZZ	Batch ID: 22902	TestNo: MADEP EPH_ (eph_Spr)		Analysis Date: 9/9/2013	SeqNo: 584746						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	5.144	0.100	5	0	103	40	140				
Benzo(b)Fluoranthene	3.638	0.100	5	0	72.8	40	140				
Benzo(k)Fluoranthene	3.880	0.100	5	0	77.6	40	140				
Benzo(a)Pyrene	3.452	0.100	5	0	69.0	40	140				
Indeno(1,2,3-cd)Pyrene	4.008	0.100	5	0	80.2	40	140				
Dibenz(a,h)Anthracene	3.927	0.100	5	0	78.5	40	140				
Benzo(g,h,i)Perylene	4.376	0.100	5	0	87.5	40	140				
Total PAH Target Concentration	71.96	0.100									
Surr: 2,2-Difluorobiphenyl	2.669	0	2.5	0	107	40	140				
Surr: 2-Fluorobiphenyl	1.722	0	2.5	0	68.9	40	140				

Sample ID: LCS-2 22938	SampType: LCSD	TestCode: EPHP_S	Units: mg/Kg	Prep Date: 9/13/2013	RunNo: 51900						
Client ID: ZZZZZ	Batch ID: 22938	TestNo: MADEP EPH_ (eph_Spr)		Analysis Date: 9/16/2013	SeqNo: 586059						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	3.448	0.100	5	0	69.0	40	140				
2-Methylnaphthalene	3.896	0.100	5	0	77.9	40	140				
Acenaphthene	3.953	0.100	5	0	79.1	40	140				
Phenanthrene	4.704	0.100	5	0	94.1	40	140				
Acenaphthylene	3.796	0.100	5	0	75.9	40	140				
Fluorene	4.607	0.100	5	0	92.1	40	140				
Anthracene	4.313	0.100	5	0	86.3	40	140				
Fluoranthene	4.662	0.100	5	0	93.2	40	140				
Pyrene	4.652	0.100	5	0	93.0	40	140				
Benzo(a)Anthracene	5.025	0.100	5	0	100	40	140				
Chrysene	5.010	0.100	5	0	100	40	140				
Benzo(b)Fluoranthene	4.103	0.100	5	0	82.1	40	140				

**Qualifiers:** BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** Kurz Environmental  
**Work Order:** 1309044  
**Project:** 090413

**TestCode:** EPHP\_S

Sample ID: LCS-2 22938	SampType: LCSD	TestCode: EPHP_S	Units: mg/Kg	Prep Date: 9/13/2013	RunNo: 51900						
Client ID: ZZZZZ	Batch ID: 22938	TestNo: MADEP EPH_ (eph_Spr)		Analysis Date: 9/16/2013	SeqNo: 586059						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(k)Fluoranthene	4.203	0.100	5	0	84.1	40	140				
Benzo(a)Pyrene	3.653	0.100	5	0	73.1	40	140				
Indeno(1,2,3-cd)Pyrene	3.723	0.100	5	0	74.5	40	140				
Dibenz(a,h)Anthracene	3.671	0.100	5	0	73.4	40	140				
Benzo(g,h,i)Perylene	3.959	0.100	5	0	79.2	40	140				
Total PAH Target Concentration	71.38	0.100									
Surr: 2,2-Difluorobiphenyl	2.654	0	2.5	0	106	40	140				
Surr: 2-Fluorobiphenyl	1.883	0	2.5	0	75.3	40	140				

**Qualifiers:** BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** Kurz Environmental  
**Work Order:** 1309044  
**Project:** 090413

**TestCode:** eph\_t\_s

Sample ID: <b>MB-22902</b>	SampType: <b>mblk</b>	TestCode: <b>eph_t_s</b>	Units: <b>mg/Kg</b>	Prep Date: <b>9/9/2013</b>	RunNo: <b>51812</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>22902</b>	TestNo: <b>MADEP EPH (eph_Spr)</b>		Analysis Date: <b>9/9/2013</b>	SeqNo: <b>584940</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Adjusted C11-C22 Aromatics	ND	15.0									
C09-C18 Aliphatics	ND	15.0									
C19-C36 Aliphatics	ND	15.0									
Unadjusted C11-C22 Aromatics	ND	15.0									
Surr: 1-Chlorooctadecane	5.057	0	10	0	50.6	40	140				
Surr: o-Terphenyl	6.429	0	10	0	64.3	40	140				

Sample ID: <b>MB-22938</b>	SampType: <b>mblk</b>	TestCode: <b>eph_t_s</b>	Units: <b>mg/Kg</b>	Prep Date: <b>9/13/2013</b>	RunNo: <b>51899</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>22938</b>	TestNo: <b>MADEP EPH (eph_Spr)</b>		Analysis Date: <b>9/16/2013</b>	SeqNo: <b>585756</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Adjusted C11-C22 Aromatics	ND	15.0									
C09-C18 Aliphatics	ND	15.0									
C19-C36 Aliphatics	ND	15.0									
Unadjusted C11-C22 Aromatics	ND	15.0									
Surr: 1-Chlorooctadecane	6.534	0	10	.0	65.3	40	140				
Surr: o-Terphenyl	7.078	0	10	0	70.8	40	140				

Sample ID: <b>LCS-22902</b>	SampType: <b>Lcs</b>	TestCode: <b>eph_t_s</b>	Units: <b>mg/Kg</b>	Prep Date: <b>9/9/2013</b>	RunNo: <b>51812</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>22902</b>	TestNo: <b>MADEP EPH (eph_Spr)</b>		Analysis Date: <b>9/9/2013</b>	SeqNo: <b>584941</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

C09-C18 Aliphatics	6.761	15.0	10	0	67.6	40	140				J
C19-C36 Aliphatics	12.89	15.0	10	0	129	40	140				J
Unadjusted C11-C22 Aromatics	9.545	15.0	10	0	95.4	40	140				J
Surr: 1-Chlorooctadecane	9.260	0	10	0	92.6	40	140				
Surr: o-Terphenyl	8.250	0	10	0	82.5	40	140				

**Qualifiers:** BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

**CLIENT:** Kurz Environmental  
**Work Order:** 1309044  
**Project:** 090413

**TestCode:** epht\_s

Sample ID:	SampType:	TestCode:	Units:	Prep Date:	RunNo:						
LCS-22938	Lcs	epht_s	mg/Kg	9/13/2013	51899						
Client ID: ZZZZ	Batch ID: 22938	TestNo: MADEP EPH (eph_Spr)		Analysis Date: 9/16/2013	SeqNo: 585757						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
C09-C18 Aliphatics	7.259	15.0	10	0	72.6	40	140				J
C19-C36 Aliphatics	9.836	15.0	10	0	98.4	40	140				J
Unadjusted C11-C22 Aromatics	7.458	15.0	10	0	74.6	40	140				J
Surr: 1-Chlorooctadecane	9.154	0	10	0	91.5	40	140				
Surr: o-Terphenyl	8.457	0	10	0	84.6	40	140				

Sample ID:	SampType:	TestCode:	Units:	Prep Date:	RunNo:						
LCS2-22902	Lcsd	epht_s	mg/Kg	9/9/2013	51812						
Client ID: ZZZZ	Batch ID: 22902	TestNo: MADEP EPH (eph_Spr)		Analysis Date: 9/9/2013	SeqNo: 584942						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
C09-C18 Aliphatics	6.895	15.0	10	0	69.0	40	140	6.761	0	25	J
C19-C36 Aliphatics	11.42	15.0	10	0	114	40	140	12.89	0	25	J
Unadjusted C11-C22 Aromatics	11.65	15.0	10	0	116	40	140	9.545	0	25	J
Surr: 1-Chlorooctadecane	8.626	0	10	0	86.3	40	140	0	0		
Surr: o-Terphenyl	10.36	0	10	0	104	40	140	0	0	0	

Sample ID:	SampType:	TestCode:	Units:	Prep Date:	RunNo:						
LCS-2 22938	Lcsd	epht_s	mg/Kg	9/13/2013	51899						
Client ID: ZZZZ	Batch ID: 22938	TestNo: MADEP EPH (eph_Spr)		Analysis Date: 9/16/2013	SeqNo: 585758						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
C09-C18 Aliphatics	8.083	15.0	10	0	80.8	40	140	7.259	0	25	J
C19-C36 Aliphatics	10.12	15.0	10	0	101	40	140	9.836	0	25	J
Unadjusted C11-C22 Aromatics	8.229	15.0	10	0	82.3	40	140	7.458	0	25	J
Surr: 1-Chlorooctadecane	9.734	0	10	0	97.3	40	140	0	0		
Surr: o-Terphenyl	8.050	0	10	0	80.5	40	140	0	0	0	

**Qualifiers:** BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** Kurz Environmental  
**Work Order:** 1309044  
**Project:** 090413

**TestCode:** hg\_7471b\_s

Sample ID: <b>MB-22935</b>	SampType: <b>MBLK</b>	TestCode: <b>hg_7471b_s</b>	Units: <b>mg/Kg</b>	Prep Date: <b>9/12/2013</b>	RunNo: <b>51880</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>22935</b>	TestNo: <b>SW 7471B</b>	<b>(SW7471B)</b>	Analysis Date: <b>9/12/2013</b>	SeqNo: <b>585321</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 0.0830

Sample ID: <b>LCS-22935</b>	SampType: <b>LCS</b>	TestCode: <b>hg_7471b_s</b>	Units: <b>mg/Kg</b>	Prep Date: <b>9/12/2013</b>	RunNo: <b>51880</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>22935</b>	TestNo: <b>SW 7471B</b>	<b>(SW7471B)</b>	Analysis Date: <b>9/12/2013</b>	SeqNo: <b>585322</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.8950 0.0830 0.833 0 107 80 120

Sample ID: <b>LCSD-22935</b>	SampType: <b>LCSD</b>	TestCode: <b>hg_7471b_s</b>	Units: <b>mg/Kg</b>	Prep Date: <b>9/12/2013</b>	RunNo: <b>51880</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>22935</b>	TestNo: <b>SW 7471B</b>	<b>(SW7471B)</b>	Analysis Date: <b>9/12/2013</b>	SeqNo: <b>585339</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.8650 0.0830 0.833 0 104 80 120

**Qualifiers:** BRL Below Reporting Limit E Value above quantitation range H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits ND Not Detected at the Reporting Limit R RPD outside recovery limits  
 RL Reporting Limit S Spike Recovery outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** Kurz Environmental  
**Work Order:** 1309044  
**Project:** 090413

**TestCode:** VPH\_S2

Sample ID: <b>MBLK</b>	SampType: <b>MBLK</b>	TestCode: <b>VPH_S2</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>51864</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R51864</b>	TestNo: <b>VPH</b>	Analysis Date: <b>9/10/2013</b>	SeqNo: <b>585010</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Unadjusted C5-C8 Aliphatic HC	ND	10.0									
Unadjusted C9-C12 Aliphatic HC	ND	10.0									
Methyl Tert-Butyl Ether	ND	0.100									
Benzene	ND	0.100									
Toluene	ND	0.100									
Ethylbenzene	ND	0.100									
m,p-Xylene	ND	0.100									
o-Xylene	ND	0.100									
Naphthalene	ND	0.100									
C9-C10 Aromatic Hydrocarbons	ND	10.0									
Adjusted C5-C8 Aliphatic HC	ND	10.0									
Adjusted C9-C12 Aliphatic HC	ND	10.0									
Surr: 2,5-Dibromotoluene FID	89.37	0	100	0	89.4	70	130				
Surr: 2,5-Dibromotoluene PID	89.78	0	100	0	89.8	70	130				

Sample ID: <b>LCS</b>	SampType: <b>LCS</b>	TestCode: <b>VPH_S2</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>51864</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R51864</b>	TestNo: <b>VPH</b>	Analysis Date: <b>9/10/2013</b>	SeqNo: <b>585008</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trimethylbenzene	102.2	0.100	100	0	102	70	130				
2,2,4-Trimethylpentane	81.90	0.100	100	0	81.9	70	130				
2-Methylpentane	93.61	0.100	100	0	93.6	70	130				
n-Butylcyclohexane	85.05	0.100	100	0	85.0	70	130				
n-Decane	82.85	0.100	100	0	82.8	70	130				
n-Nonane	85.15	0.100	100	0	85.2	30	130				
n-Pentane	114.8	0.100	100	0	115	70	130				
Unadjusted C5-C8 Aliphatic HC	218.0	10.0	300	0	72.7	70	130				

**Qualifiers:** BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811



**CLIENT:** Kurz Environmental  
**Work Order:** 1309044  
**Project:** 090413

**TestCode:** VPH\_S2

Sample ID: LCS		SampType: LCS		TestCode: VPH_S2		Units: mg/Kg		Prep Date:		RunNo: 51864		
Client ID: ZZZZZ		Batch ID: R51864		TestNo: VPH				Analysis Date: 9/10/2013		SeqNo: 585008		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Unadjusted C9-C12 Aliphatic HC	223.6	10.0	300	0	74.5	70	130					
Methyl Tert-Butyl Ether	98.07	0.100	100	0	98.1	70	130					
Benzene	82.73	0.100	100	0	82.7	70	130					
Toluene	95.50	0.100	100	0	95.5	70	130					
Ethylbenzene	90.91	0.100	100	0	90.9	70	130					
m,p-Xylene	160.3	0.100	200	0	80.2	70	130					
o-Xylene	101.2	0.100	100	0	101	70	130					
Naphthalene	111.2	0.100	100	0	111	70	130					
C9-C10 Aromatic Hydrocarbons	87.38	10.0	100	0	87.4	70	130					
Surr: 2,5-Dibromotoluene FID	120.4	0	100	0	120	70	130					
Surr: 2,5-Dibromotoluene PID	109.6	0	100	0	110	70	130					

Sample ID: LCSD		SampType: LCSD		TestCode: VPH_S2		Units: mg/Kg		Prep Date:		RunNo: 51864		
Client ID: ZZZZZ		Batch ID: R51864		TestNo: VPH				Analysis Date: 9/10/2013		SeqNo: 585009		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
1,2,4-Trimethylbenzene	109.3	0.100	100	0	109	70	130	102.2	6.64	25		
2,2,4-Trimethylpentane	87.52	0.100	100	0	87.5	70	130	81.9	6.63	25		
2-Methylpentane	96.74	0.100	100	0	96.7	70	130	93.61	3.29	25		
n-Butylcyclohexane	112.7	0.100	100	0	113	70	130	85.05	27.9	25	R	
n-Decane	84.99	0.100	100	0	85.0	70	130	82.85	2.55	25		
n-Nonane	88.43	0.100	100	0	88.4	30	130	85.15	3.78	25		
n-Pentane	118.6	0.100	100	0	119	70	130	114.8	3.21	25		
Unadjusted C5-C8 Aliphatic HC	227.0	10.0	300	0	75.7	70	130	218	4.01	25		
Unadjusted C9-C12 Aliphatic HC	249.4	10.0	300	0	83.2	70	130	223.6	10.9	25		
Methyl Tert-Butyl Ether	94.89	0.100	100	0	94.9	70	130	98.07	3.30	25		
Benzene	84.17	0.100	100	0	84.2	70	130	82.73	1.73	25		

**Qualifiers:** BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** Kurz Environmental  
**Work Order:** 1309044  
**Project:** 090413

**TestCode:** VPH\_S2

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	103.6	0.100	100	0	104	70	130	95.5	8.18	25	
Ethylbenzene	95.62	0.100	100	0	95.6	70	130	90.91	5.05	25	
m,p-Xylene	197.0	0.100	200	0	98.5	70	130	160.3	20.5	25	
o-Xylene	98.77	0.100	100	0	98.8	70	130	101.2	2.45	25	
Naphthalene	98.07	0.100	100	0	98.1	70	130	111.2	12.5	25	
C9-C10 Aromatic Hydrocarbons	87.73	10.0	100	0	87.7	70	130	87.38	0.400	25	
Surr: 2,5-Dibromotoluene FID	109.4	0	100	0	109	70	130	0	0	0	
Surr: 2,5-Dibromotoluene PID	111.4	0	100	0	111	70	130	0	0	0	

**Qualifiers:** BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
                   J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
                   RL Reporting Limit      S Spike Recovery outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**ANALYTICAL REPORT**



Thursday, September 04, 2014

Peter Cook  
IC Environmental Management, Inc.  
25 Tia Place  
Franklin, MA 02038

GeoLabs, Inc.  
45 Johnson Lane  
Braintree MA 02184  
Tele: 781 848 7844  
Fax: 781 848 7811

TEL: 508-498-8236

FAX: 508-541-7443

Project: 1401A

Location:

Order No.: 1408255

Dear Peter Cook:

GeoLabs, Inc. received 9 sample(s) on 8/26/2014 for the analyses presented in the following report.

The laboratory results in this report relate only to samples submitted.

All data for associated QC met method or laboratory specifications, except when noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,



David Mick  
Laboratory Director

**For current certifications, please visit our website at [www.geolabs.com](http://www.geolabs.com)**

**Certifications:**

CT (PH-0148) - MA (M-MA015) - NH (2508) - RI (LA000252)

Date: 04-Sep-14

CLIENT: IC Environmental Management, Inc.

Project: 1401A

Lab Order: 1408255

## CASE NARRATIVE

### Physical Condition of Samples

The project was received by the laboratory in satisfactory condition. The sample(s) were received undamaged, in appropriate containers with the correct preservation.

### Project Documentation

The project was accompanied by satisfactory Chain of Custody documentation.

### Analysis of Sample(s)

All extractable samples were extracted and analyzed and any Volatile samples were analyzed within method specified holding times and according to GeoLabs documented Standard Operating Procedure. No analytical anomalies or non-conformances were noted by the laboratory during the processing of these samples.

SIGNATURE:



LAB DIRECTOR

PRINTED NAME: David Mick

DATE: 09/04/14

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** IC Environmental Management, Inc.  
**Project:** 1401A  
**Lab Order:** 1408255

**CASE NARRATIVE**

**EPH Methods**

Method for Ranges: MADEP EPH 04-1.1  
Method for Target Analytes: 8270 GC/MS

Carbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

Adjusted C11-C22 Aromatic Hydrocarbons exclude concentrations of Target PAH Analytes

**CERTIFICATION:**

Were all QA/QC procedures REQUIRED by the EPH Method followed? YES

Were all performance/acceptance standards achieved? YES

Were any significant modifications made to the EPH method? NO

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: 

LAB DIRECTOR

PRINTED NAME: David Mick

DATE: 09/04/14

**ANALYTICAL REPORT**

**Reported Date: 04-Sep-14**

**CLIENT:** IC Environmental Management, Inc. **Client Sample ID:** 820141  
**Lab Order:** 1408255 **Tag Number:**  
**Project:** 1401A **Collection Date:** 8/20/2014 8:00:00 AM  
**Lab ID:** 1408255-001A **Date Received:** 8/26/2014 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**TOTAL METALS BY ICP - SW6010C**

**Analyst: QS**

	Prep Method: (SW3050B)		Prep Date: 8/26/2014 3:57:38 PM		
Antimony	ND	5.06	mg/Kg-dry	1	8/26/2014
Arsenic	ND	5.06	mg/Kg-dry	1	8/26/2014
Barium	18.4	5.06	mg/Kg-dry	1	8/26/2014
Beryllium	ND	1.52	mg/Kg-dry	1	8/26/2014
Cadmium	ND	1.01	mg/Kg-dry	1	8/26/2014
Chromium	ND	5.06	mg/Kg-dry	1	8/26/2014
Lead	19.8	5.06	mg/Kg-dry	1	8/26/2014
Nickel	ND	5.06	mg/Kg-dry	1	8/26/2014
Selenium	ND	5.06	mg/Kg-dry	1	8/26/2014
Silver	ND	5.06	mg/Kg-dry	1	8/26/2014
Thallium	ND	1.52	mg/Kg-dry	1	8/26/2014
Vanadium	6.28	5.06	mg/Kg-dry	1	8/26/2014
Zinc	68.6	5.06	mg/Kg-dry	1	8/26/2014

**MERCURY - SW7471B**

**Analyst: EC**

	Prep Method: (SW7471B)		Prep Date: 8/28/2014 3:41:40 PM		
Mercury	0.160	0.0874	mg/Kg-dry	1	8/28/2014

**Qualifiers:** B Analyte detected in the associated Method Blank  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 RL Reporting Limit  
 BRL Below Reporting Limit  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 S Spike Recovery outside recovery limits

**ANALYTICAL REPORT**

Reported Date: 04-Sep-14

CLIENT: IC Environmental Management, Inc.

Client Sample ID: 820142

Lab Order: 1408255

Tag Number:

Project: 1401A

Collection Date: 8/20/2014 8:20:00 AM

Lab ID: 1408255-002A

Date Received: 8/26/2014

Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**TOTAL METALS BY ICP - SW6010C**

Analyst: QS

Prep Method: (SW3050B)

Prep Date: 8/26/2014 3:57:38 PM

Antimony	ND	5.73		mg/Kg-dry	1	8/26/2014
Arsenic	ND	5.73		mg/Kg-dry	1	8/26/2014
Barium	46.1	5.73		mg/Kg-dry	1	8/26/2014
Beryllium	ND	1.72		mg/Kg-dry	1	8/26/2014
Cadmium	ND	1.15		mg/Kg-dry	1	8/26/2014
Chromium	17.9	5.73		mg/Kg-dry	1	8/26/2014
Lead	115	5.73		mg/Kg-dry	1	8/26/2014
Nickel	19.5	5.73		mg/Kg-dry	1	8/26/2014
Selenium	ND	5.73		mg/Kg-dry	1	8/26/2014
Silver	ND	5.73		mg/Kg-dry	1	8/26/2014
Thallium	ND	1.72		mg/Kg-dry	1	8/26/2014
Vanadium	11.3	5.73		mg/Kg-dry	1	8/26/2014
Zinc	115	5.73		mg/Kg-dry	1	8/26/2014

**MERCURY - SW7471B**

Analyst: EC

Prep Method: (SW7471B)

Prep Date: 8/28/2014 3:41:40 PM

Mercury	ND	0.0976		mg/Kg-dry	1	8/28/2014
---------	----	--------	--	-----------	---	-----------

**Qualifiers:**  
 B Analyte detected in the associated Method Blank  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 RL Reporting Limit

BRL Below Reporting Limit  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 S Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**ANALYTICAL REPORT**

**Reported Date: 04-Sep-14**

**CLIENT:** IC Environmental Management, Inc.  
**Lab Order:** 1408255  
**Project:** 1401A  
**Lab ID:** 1408255-003A

**Client Sample ID:** 820144  
**Tag Number:**  
**Collection Date:** 8/20/2014 9:05:00 AM  
**Matrix:** SOIL

**Date Received:** 8/26/2014

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**TOTAL METALS BY ICP - SW6010C**

**Analyst: QS**

Prep Method: (SW3050B)		Prep Date: 8/26/2014 3:57:38 PM				
Antimony	ND	5.13		mg/Kg-dry	1	8/26/2014
Arsenic	ND	5.13		mg/Kg-dry	1	8/26/2014
Barium	23.1	5.13		mg/Kg-dry	1	8/26/2014
Beryllium	ND	1.54		mg/Kg-dry	1	8/26/2014
Cadmium	ND	1.03		mg/Kg-dry	1	8/26/2014
Chromium	13.7	5.13		mg/Kg-dry	1	8/26/2014
Lead	24.5	5.13		mg/Kg-dry	1	8/26/2014
Nickel	23.3	5.13		mg/Kg-dry	1	8/26/2014
Selenium	ND	5.13		mg/Kg-dry	1	8/26/2014
Silver	ND	5.13		mg/Kg-dry	1	8/26/2014
Thallium	ND	1.54		mg/Kg-dry	1	8/26/2014
Vanadium	13.9	5.13		mg/Kg-dry	1	8/26/2014
Zinc	44.5	5.13		mg/Kg-dry	1	8/26/2014

**MERCURY - SW7471B**

**Analyst: EC**

Prep Method: (SW7471B)		Prep Date: 8/28/2014 3:41:40 PM				
Mercury	ND	0.0902		mg/Kg-dry	1	8/28/2014

**Qualifiers:**  
 B Analyte detected in the associated Method Blank  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 RL Reporting Limit

BRL Below Reporting Limit  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 S Spike Recovery outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811



**ANALYTICAL REPORT**

Reported Date: 04-Sep-14

CLIENT: IC Environmental Management, Inc.

Client Sample ID: 820145

Lab Order: 1408255

Tag Number:

Project: 1401A

Collection Date: 8/20/2014 9:30:00 AM

Lab ID: 1408255-004A

Date Received: 8/26/2014

Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**TOTAL METALS BY ICP - SW6010C**

Analyst: QS

Prep Method: (SW3050B)

Prep Date: 8/28/2014 3:57:38 PM

Antimony	ND	5.28		mg/Kg-dry	1	8/26/2014
Arsenic	ND	5.28		mg/Kg-dry	1	8/26/2014
Barium	28.5	5.28		mg/Kg-dry	1	8/26/2014
Beryllium	ND	1.59		mg/Kg-dry	1	8/26/2014
Cadmium	ND	1.06		mg/Kg-dry	1	8/26/2014
Chromium	8.10	5.28		mg/Kg-dry	1	8/26/2014
Lead	30.6	5.28		mg/Kg-dry	1	8/26/2014
Nickel	22.7	5.28		mg/Kg-dry	1	8/26/2014
Selenium	ND	5.28		mg/Kg-dry	1	8/26/2014
Silver	ND	5.28		mg/Kg-dry	1	8/26/2014
Thallium	ND	1.59		mg/Kg-dry	1	8/26/2014
Vanadium	9.58	5.28		mg/Kg-dry	1	8/26/2014
Zinc	37.7	5.28		mg/Kg-dry	1	8/26/2014

**MERCURY - SW7471B**

Analyst: EC

Prep Method: (SW7471B)

Prep Date: 8/28/2014 3:41:40 PM

Mercury	ND	0.0883		mg/Kg-dry	1	8/28/2014
---------	----	--------	--	-----------	---	-----------

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811



**ANALYTICAL REPORT**

Reported Date: 04-Sep-14

CLIENT: IC Environmental Management, Inc.

Client Sample ID: 8201410

Lab Order: 1408255

Tag Number:

Project: 1401A

Collection Date: 8/20/2014 11:15:00 AM

Lab ID: 1408255-005A

Date Received: 8/26/2014

Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**EPH TARGET ANALYTES - MADEP EPH**

Analyst: ZYZ

	Prep Method: (eph_Spr)		Prep Date: 9/2/2014 8:44:05 AM			
2-Methylnaphthalene		ND	0.114	mg/Kg-dry	1	9/2/2014 4:54:00 PM
Acenaphthene		ND	0.114	mg/Kg-dry	1	9/2/2014 4:54:00 PM
Phenanthrene	10 1000	0.519	0.114	mg/Kg-dry	1	9/2/2014 4:54:00 PM
Acenaphthylene	51 52	ND	0.114	mg/Kg-dry	1	9/2/2014 4:54:00 PM
Fluorene		ND	0.114	mg/Kg-dry	1	9/2/2014 4:54:00 PM
Anthracene		ND	0.114	mg/Kg-dry	1	9/2/2014 4:54:00 PM
Fluoranthene	1000 3000	0.512	0.114	mg/Kg-dry	1	9/2/2014 4:54:00 PM
Pyrene	1000 3000	0.432	0.114	mg/Kg-dry	1	9/2/2014 4:54:00 PM
Benzo(a)Anthracene	7 40	0.216	0.114	mg/Kg-dry	1	9/2/2014 4:54:00 PM
Chrysene	70 400	0.293	0.114	mg/Kg-dry	1	9/2/2014 4:54:00 PM
Benzo(b)Fluoranthene	7 40	0.190	0.114	mg/Kg-dry	1	9/2/2014 4:54:00 PM
Benzo(k)Fluoranthene		ND	0.114	mg/Kg-dry	1	9/2/2014 4:54:00 PM
Benzo(a)Pyrene		ND	0.114	mg/Kg-dry	1	9/2/2014 4:54:00 PM
Indeno(1,2,3-cd)Pyrene		ND	0.114	mg/Kg-dry	1	9/2/2014 4:54:00 PM
Dibenz(a,h)Anthracene		ND	0.114	mg/Kg-dry	1	9/2/2014 4:54:00 PM
Benzo(g,h,i)Perylene		ND	0.114	mg/Kg-dry	1	9/2/2014 4:54:00 PM
Total PAH Target Concentration		2.16	0.114	mg/Kg-dry	1	9/2/2014 4:54:00 PM
Surr: 2,2-Difluorobiphenyl		75.0	40-140	%REC	1	9/2/2014 4:54:00 PM
Surr: 2-Fluorobiphenyl		49.5	40-140	%REC	1	9/2/2014 4:54:00 PM

Qualifiers: B Analyte detected in the associated Method Blank  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 RL Reporting Limit

BRL Below Reporting Limit  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 S Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**ANALYTICAL REPORT**

Reported Date: 04-Sep-14

CLIENT: IC Environmental Management, Inc.  
 Lab Order: 1408255  
 Project: 1401A  
 Lab ID: 1408255-006A

Client Sample ID: 8201412  
 Tag Number:  
 Collection Date: 8/20/2014 1:00:00 PM  
 Matrix: SOIL

Date Received: 8/26/2014

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**TOTAL METALS BY ICP - SW6010C**

Analyst: QS

	Prep Method: (SW3050B)	Prep Date: 8/26/2014 3:57:38 PM			
Antimony	ND	5.04	mg/Kg-dry	1	8/26/2014
Arsenic	ND	5.04	mg/Kg-dry	1	8/26/2014
Barium	18.9	5.04	mg/Kg-dry	1	8/26/2014
Beryllium	ND	1.51	mg/Kg-dry	1	8/26/2014
Cadmium	ND	1.01	mg/Kg-dry	1	8/26/2014
Chromium	5.78	5.04	mg/Kg-dry	1	8/26/2014
Lead	ND	5.04	mg/Kg-dry	1	8/26/2014
Nickel	8.87	5.04	mg/Kg-dry	1	8/26/2014
Selenium	ND	5.04	mg/Kg-dry	1	8/26/2014
Silver	ND	5.04	mg/Kg-dry	1	8/26/2014
Thallium	ND	1.51	mg/Kg-dry	1	8/26/2014
Vanadium	6.99	5.04	mg/Kg-dry	1	8/26/2014
Zinc	20.2	5.04	mg/Kg-dry	1	8/26/2014

**MERCURY - SW7471B**

Analyst: EC

	Prep Method: (SW7471B)	Prep Date: 8/28/2014 3:41:40 PM			
Mercury	ND	0.0855	mg/Kg-dry	1	8/28/2014

Qualifiers: B Analyte detected in the associated Method Blank  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 RL Reporting Limit

BRL Below Reporting Limit  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 S Spike Recovery outside recovery limits

GeoLabs, Inc.  
 45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**ANALYTICAL REPORT**

**Reported Date: 04-Sep-14**

**CLIENT:** IC Environmental Management, Inc.  
**Lab Order:** 1408255  
**Project:** 1401A  
**Lab ID:** 1408255-007A

**Client Sample ID:** 8201414  
**Tag Number:**  
**Collection Date:** 8/20/2014 1:55:00 PM  
**Matrix:** SOIL

**Date Received:** 8/26/2014

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**TOTAL METALS BY ICP - SW6010C**

Analyst: QS

**Prep Method:** (SW3050B)

**Prep Date:** 8/26/2014 3:57:38 PM

Antimony	ND	5.13		mg/Kg-dry	1	8/26/2014
Arsenic	ND	5.13		mg/Kg-dry	1	8/26/2014
Barium	19.8	5.13		mg/Kg-dry	1	8/26/2014
Beryllium	ND	1.54		mg/Kg-dry	1	8/26/2014
Cadmium	ND	1.03		mg/Kg-dry	1	8/26/2014
Chromium	5.95	5.13		mg/Kg-dry	1	8/26/2014
Lead	ND	5.13		mg/Kg-dry	1	8/26/2014
Nickel	12.4	5.13		mg/Kg-dry	1	8/26/2014
Selenium	ND	5.13		mg/Kg-dry	1	8/26/2014
Silver	ND	5.13		mg/Kg-dry	1	8/26/2014
Thallium	ND	1.54		mg/Kg-dry	1	8/26/2014
Vanadium	6.77	5.13		mg/Kg-dry	1	8/26/2014
Zinc	26.2	5.13		mg/Kg-dry	1	8/26/2014

**MERCURY - SW7471B**

Analyst: EC

**Prep Method:** (SW7471B)

**Prep Date:** 8/28/2014 3:41:40 PM

Mercury	ND	0.0874		mg/Kg-dry	1	8/28/2014
---------	----	--------	--	-----------	---	-----------

**Qualifiers:**  
 B Analyte detected in the associated Method Blank  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 RL Reporting Limit

BRL Below Reporting Limit  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 S Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**ANALYTICAL REPORT**

Reported Date: 04-Sep-14

CLIENT: IC Environmental Management, Inc.

Client Sample ID: 8201415

Lab Order: 1408255

Tag Number:

Project: 1401A

Collection Date: 8/20/2014 2:20:00 PM

Lab ID: 1408255-008A Date Received: 8/26/2014

Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**TOTAL METALS BY ICP - SW6010C**

Analyst: QS

	Prep Method: (SW3050B)		Prep Date: 8/26/2014 3:57:38 PM		
Antimony	ND	5.11	mg/Kg-dry	1	8/26/2014
Arsenic	ND	5.11	mg/Kg-dry	1	8/26/2014
Barium	24.8	5.11	mg/Kg-dry	1	8/26/2014
Beryllium	ND	1.53	mg/Kg-dry	1	8/26/2014
Cadmium	ND	1.02	mg/Kg-dry	1	8/26/2014
Chromium	10.5	5.11	mg/Kg-dry	1	8/26/2014
Lead	10.1	5.11	mg/Kg-dry	1	8/26/2014
Nickel	22.2	5.11	mg/Kg-dry	1	8/26/2014
Selenium	ND	5.11	mg/Kg-dry	1	8/26/2014
Silver	ND	5.11	mg/Kg-dry	1	8/26/2014
Thallium	ND	1.53	mg/Kg-dry	1	8/26/2014
Vanadium	10.3	5.11	mg/Kg-dry	1	8/26/2014
Zinc	36.6	5.11	mg/Kg-dry	1	8/26/2014

**MERCURY - SW7471B**

Analyst: EC

	Prep Method: (SW7471B)		Prep Date: 8/28/2014 3:41:40 PM		
Mercury	ND	0.0883	mg/Kg-dry	1	8/28/2014

**Qualifiers:**  
 B Analyte detected in the associated Method Blank  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 RL Reporting Limit

BRL Below Reporting Limit  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 S Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**ANALYTICAL REPORT**

**Reported Date:** 04-Sep-14

**CLIENT:** IC Environmental Management, Inc.

**Client Sample ID:** 8201417

**Lab Order:** 1408255

**Tag Number:**

**Project:** 1401A

**Collection Date:** 8/20/2014 2:45:00 PM

**Lab ID:** 1408255-009A

**Date Received:** 8/26/2014

**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**TOTAL METALS BY ICP - SW6010C**

**Analyst:** QS

	Prep Method: (SW3050B)		Prep Date: 8/26/2014 3:57:38 PM			
Antimony	ND	5.57	mg/Kg-dry	1		8/26/2014
Arsenic	ND	5.57	mg/Kg-dry	1		8/26/2014
Barium	29.6	5.57	mg/Kg-dry	1		8/26/2014
Beryllium	ND	1.67	mg/Kg-dry	1		8/26/2014
Cadmium	ND	1.11	mg/Kg-dry	1		8/26/2014
Chromium	9.43	5.57	mg/Kg-dry	1		8/26/2014
Lead	24.6	5.57	mg/Kg-dry	1		8/26/2014
Nickel	8.62	5.57	mg/Kg-dry	1		8/26/2014
Selenium	ND	5.57	mg/Kg-dry	1		8/26/2014
Silver	ND	5.57	mg/Kg-dry	1		8/26/2014
Thallium	ND	1.67	mg/Kg-dry	1		8/26/2014
Vanadium	13.6	5.57	mg/Kg-dry	1		8/26/2014
Zinc	48.5	5.57	mg/Kg-dry	1		8/26/2014

**MERCURY - SW7471B**

**Analyst:** EC

	Prep Method: (SW7471B)		Prep Date: 8/28/2014 3:41:40 PM			
Mercury	ND	0.0943	mg/Kg-dry	1		8/28/2014

**Qualifiers:**

B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
RL	Reporting Limit	S	Spike Recovery outside recovery limits

**GeoLabs, Inc.**  
 45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

# ANALYTICAL QC SUMMARY REPORT

Date: 04-Sep-14

CLIENT: IC Environmental Management, Inc.  
 Work Order: 1408255  
 Project: 1401A

TestCode: 6010C\_S

Sample ID: MBLK-24611	SampType: MBLK	TestCode: 6010C_S	Units: mg/Kg	Prep Date: 8/26/2014	RunNo: 55774						
Client ID: ZZZZZ	Batch ID: 24611	TestNo: SW6010C	(SW3050B)	Analysis Date: 8/26/2014	SeqNo: 623050						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	5.00									
Arsenic	ND	5.00									
Barium	ND	5.00									
Beryllium	ND	1.50									
Cadmium	ND	1.00									
Chromium	ND	5.00									
Lead	ND	5.00									
Nickel	ND	5.00									
Selenium	ND	5.00									
Silver	ND	5.00									
Thallium	ND	1.50									
Vanadium	ND	5.00									
Zinc	ND	5.00									

Sample ID: LCS-24611	SampType: LCS	TestCode: 6010C_S	Units: mg/Kg	Prep Date: 8/26/2014	RunNo: 55774						
Client ID: ZZZZZ	Batch ID: 24611	TestNo: SW6010C	(SW3050B)	Analysis Date: 8/26/2014	SeqNo: 623048						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	126.3	5.00	133.3	0	94.7	80	120				
Arsenic	127.9	5.00	133.3	0	95.9	80	120				
Barium	125.9	5.00	133.3	0	94.5	80	120				
Beryllium	133.7	1.50	133.3	0	100	80	120				
Cadmium	124.5	1.00	133.3	0	93.4	80	120				
Chromium	127.7	5.00	133.3	0	95.8	80	120				
Lead	125.7	5.00	133.3	0	94.3	80	120				
Nickel	127.2	5.00	133.3	0	95.4	80	120				

Qualifiers: BRL Below Reporting Limit  
 J Analyte detected below quantitation limits  
 RL Reporting Limit  
 E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 S Spike Recovery outside recovery limits  
 H Holding times for preparation or analysis exceeded  
 R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811



**CLIENT:** IC Environmental Management, Inc.  
**Work Order:** 1408255  
**Project:** 1401A

**TestCode: 6010C\_S**

Sample ID: LCS-24611	SampType: LCS	TestCode: 6010C_S	Units: mg/Kg	Prep Date: 8/26/2014	RunNo: 55774						
Client ID: ZZZZ	Batch ID: 24611	TestNo: SW6010C	(SW3050B)	Analysis Date: 8/26/2014	SeqNo: 623048						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	123.4	5.00	133.3	0	92.6	80	120				
Silver	31.93	5.00	33.33	0	95.8	80	120				
Thallium	122.8	1.50	133.3	0	92.1	80	120				
Vanadium	138.1	5.00	133.3	0	104	80	120				
Zinc	128.8	5.00	133.3	3.933	93.7	80	120				

Sample ID: LCSD-24611	SampType: LCSD	TestCode: 6010C_S	Units: mg/Kg	Prep Date: 8/26/2014	RunNo: 55774						
Client ID: ZZZZ	Batch ID: 24611	TestNo: SW6010C	(SW3050B)	Analysis Date: 8/26/2014	SeqNo: 623049						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	123.1	5.00	133.3	0	92.3	80	120	126.3	2.57	30	
Arsenic	124.8	5.00	133.3	0	93.6	80	120	127.9	2.43	30	
Barium	124.9	5.00	133.3	0	93.7	80	120	125.9	0.851	30	
Beryllium	130.9	1.50	133.3	0	98.2	80	120	133.7	2.09	30	
Cadmium	119.8	1.00	133.3	0	89.9	80	120	124.5	3.87	30	
Chromium	123.8	5.00	133.3	0	92.9	80	120	127.7	3.08	30	
Lead	122.3	5.00	133.3	0	91.8	80	120	125.7	2.74	30	
Nickel	122.8	5.00	133.3	0	92.1	80	120	127.2	3.52	30	
Selenium	120.5	5.00	133.3	0	90.4	80	120	123.4	2.35	30	
Silver	30.73	5.00	33.33	0	92.2	80	120	31.93	3.83	30	
Thallium	120.9	1.50	133.3	0	90.7	80	120	122.8	1.59	30	
Vanadium	134.2	5.00	133.3	0	101	80	120	138.1	2.84	30	
Zinc	124.5	5.00	133.3	3.933	90.4	80	120	128.8	3.42	30	

**Qualifiers:** BRL Below Reporting Limit  
 J Analyte detected below quantitation limits  
 RL Reporting Limit  
 E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 S Spike Recovery outside recovery limits  
 H Holding times for preparation or analysis exceeded  
 R RPD outside recovery limits

GeoLabs, Inc.  
 45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** IC Environmental Management, Inc.  
**Work Order:** 1408255  
**Project:** 1401A

**TestCode: EPHP\_S**

Sample ID: mb-24629	SampType: mbik	TestCode: EPHP_S	Units: mg/Kg	Prep Date: 9/2/2014	RunNo: 55845
Client ID: ZZZZZ	Batch ID: 24629	TestNo: MADEP EPH_ (eph_Spr)		Analysis Date: 9/2/2014	SeqNo: 623629

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	0.100									
2-Methylnaphthalene	ND	0.100									
Acenaphthene	ND	0.100									
Phenanthrene	ND	0.100									
Acenaphthylene	ND	0.100									
Fluorene	ND	0.100									
Anthracene	ND	0.100									
Fluoranthene	ND	0.100									
Pyrene	ND	0.100									
Benzo(a)Anthracene	ND	0.100									
Chrysene	ND	0.100									
Benzo(b)Fluoranthene	ND	0.100									
Benzo(k)Fluoranthene	ND	0.100									
Benzo(a)Pyrene	ND	0.100									
Indeno(1,2,3-cd)Pyrene	ND	0.100									
Dibenz(a,h)Anthracene	ND	0.100									
Benzo(g,h,i)Perylene	ND	0.100									
Total PAH Target Concentration	ND	0.100									
Surr: 2,2-Difluorobiphenyl	1.578	0	2.5	0	63.1	40	140				
Surr: 2-Fluorobiphenyl	1.694	0	2.5	0	67.8	40	140				

Sample ID: Ics-24629	SampType: Ics	TestCode: EPHP_S	Units: mg/Kg	Prep Date: 9/2/2014	RunNo: 55845
Client ID: ZZZZZ	Batch ID: 24629	TestNo: MADEP EPH_ (eph_Spr)		Analysis Date: 9/2/2014	SeqNo: 623630

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	3.078	0.100	5	0	61.6	40	140				
2-Methylnaphthalene	2.700	0.100	5	0	54.0	40	140				

**Qualifiers:** BRL Below Reporting Limit  
 J Analyte detected below quantitation limits  
 RL Reporting Limit  
 E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 S Spike Recovery outside recovery limits  
 H Holding times for preparation or analysis exceeded  
 R RPD outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** IC Environmental Management, Inc.  
**Work Order:** 1408255  
**Project:** 1401A

**TestCode: EPHP\_S**

Sample ID: Ics-24629	SampType: Ics	TestCode: EPHP_S	Units: mg/Kg	Prep Date: 9/2/2014	RunNo: 55845						
Client ID: ZZZZ	Batch ID: 24629	TestNo: MADEP EPH_ (eph_Spr)		Analysis Date: 9/2/2014	SeqNo: 623630						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	3.696	0.100	5	0	73.9	40	140				
Phenanthrene	4.306	0.100	5	0	86.1	40	140				
Acenaphthylene	3.446	0.100	5	0	68.9	40	140				
Fluorene	3.789	0.100	5	0	75.8	40	140				
Anthracene	4.051	0.100	5	0	81.0	40	140				
Fluoranthene	4.799	0.100	5	0	96.0	40	140				
Pyrene	4.750	0.100	5	0	95.0	40	140				
Benzo(a)Anthracene	5.385	0.100	5	0	108	40	140				
Chrysene	5.343	0.100	5	0	107	40	140				
Benzo(b)Fluoranthene	4.825	0.100	5	0	96.5	40	140				
Benzo(k)Fluoranthene	5.303	0.100	5	0	106	40	140				
Benzo(a)Pyrene	4.250	0.100	5	0	85.0	40	140				
Indeno(1,2,3-cd)Pyrene	4.247	0.100	5	0	84.9	40	140				
Dibenz(a,h)Anthracene	4.714	0.100	5	0	94.3	40	140				
Benzo(g,h,i)Perylene	3.952	0.100	5	0	79.0	40	140				
Surr: 2,2-Difluorobiphenyl	1.777	0	2.5	0	71.1	40	140				
Surr: 2-Fluorobiphenyl	1.912	0	2.5	0	76.5	40	140				

Sample ID: Ics2-24629	SampType: Icsd	TestCode: EPHP_S	Units: mg/Kg	Prep Date: 9/2/2014	RunNo: 55845						
Client ID: ZZZZ	Batch ID: 24629	TestNo: MADEP EPH_ (eph_Spr)		Analysis Date: 9/2/2014	SeqNo: 623631						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	2.934	0.100	5	0	58.7	40	140	3.078	4.79	25	
2-Methylnaphthalene	2.545	0.100	5	0	50.9	40	140	2.7	5.91	25	
Acenaphthene	3.574	0.100	5	0	71.5	40	140	3.696	3.36	25	
Phenanthrene	4.095	0.100	5	0	81.9	40	140	4.306	5.02	25	
Acenaphthylene	3.337	0.100	5	0	66.7	40	140	3.446	3.21	25	

**Qualifiers:** BRL Below Reporting Limit  
 J Analyte detected below quantitation limits  
 RL Reporting Limit  
 E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 S Spike Recovery outside recovery limits  
 H Holding times for preparation or analysis exceeded  
 R RPD outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** IC Environmental Management, Inc.  
**Work Order:** 1408255  
**Project:** 1401A

**TestCode: EPHP\_S**

Sample ID: Ics2-24629	SampType: Icsd	TestCode: EPHP_S	Units: mg/Kg	Prep Date: 9/2/2014	RunNo: 65845						
Client ID: ZZZZZ	Batch ID: 24629	TestNo: MADEP EPH_ (eph_Spr)		Analysis Date: 9/2/2014	SeqNo: 623631						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluorene	3.665	0.100	5	0	73.3	40	140	3.789	3.33	25	
Anthracene	4.041	0.100	5	0	80.8	40	140	4.051	0.247	25	
Fluoranthene	4.550	0.100	5	0	91.0	40	140	4.799	5.33	25	
Pyrene	4.637	0.100	5	0	92.7	40	140	4.75	2.41	25	
Benzo(a)Anthracene	5.076	0.100	5	0	102	40	140	5.385	5.91	25	
Chrysene	5.165	0.100	5	0	103	40	140	5.343	3.39	25	
Benzo(b)Fluoranthene	4.588	0.100	5	0	91.8	40	140	4.825	5.04	25	
Benzo(k)Fluoranthene	4.915	0.100	5	0	98.3	40	140	5.303	7.59	25	
Benzo(a)Pyrene	4.291	0.100	5	0	85.8	40	140	4.25	0.960	25	
Indeno(1,2,3-cd)Pyrene	4.418	0.100	5	0	88.4	40	140	4.247	3.95	25	
Dibenz(a,h)Anthracene	4.927	0.100	5	0	98.5	40	140	4.714	4.42	25	
Benzo(g,h,i)Perylene	4.387	0.100	5	0	87.7	40	140	3.952	10.4	25	
Surr: 2,2-Difluorobiphenyl	1.628	0	2.5	0	65.1	40	140	0	0	0	
Surr: 2-Fluorobiphenyl	1.806	0	2.5	0	72.2	40	140	0	0	0	

**Qualifiers:** BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** IC Environmental Management, Inc.  
**Work Order:** 1408255  
**Project:** 1401A

**TestCode:** epht\_s

Sample ID: MB-24629	SampType: mblk	TestCode: epht_s	Units: mg/Kg	Prep Date: 9/2/2014	RunNo: 55844
Client ID: ZZZZ	Batch ID: 24629	TestNo: MADEP EPH (eph_Spr)		Analysis Date: 9/2/2014	SeqNo: 623645

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Adjusted C11-C22 Aromatics	ND	15.0									
C09-C18 Aliphatics	ND	15.0									
C19-C36 Aliphatics	ND	15.0									
Unadjusted C11-C22 Aromatics	ND	15.0									
Surr: 1-Chlorooctadecane	7.072	0	10	0	70.7	40	140				
Surr: o-Terphenyl	9.749	0	10	0	97.5	40	140				

Sample ID: LCS-24629	SampType: Lcs	TestCode: epht_s	Units: mg/Kg	Prep Date: 9/2/2014	RunNo: 55844
Client ID: ZZZZ	Batch ID: 24629	TestNo: MADEP EPH (eph_Spr)		Analysis Date: 9/2/2014	SeqNo: 623646

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
C09-C18 Aliphatics	ND	15.0	10	0	72.0	40	140				
C19-C36 Aliphatics	ND	15.0	10	0	101	40	140				
Unadjusted C11-C22 Aromatics	ND	15.0	10	0	96.2	40	140				
Surr: 1-Chlorooctadecane	8.745	0	10	0	87.4	40	140				
Surr: o-Terphenyl	10.98	0	10	0	110	40	140				

Sample ID: LCS2-24629	SampType: Lcsd	TestCode: epht_s	Units: mg/Kg	Prep Date: 9/2/2014	RunNo: 55844
Client ID: ZZZZ	Batch ID: 24629	TestNo: MADEP EPH (eph_Spr)		Analysis Date: 9/2/2014	SeqNo: 623647

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
C09-C18 Aliphatics	ND	15.0	10	0	60.3	40	140	7.202	0	25	
C19-C36 Aliphatics	ND	15.0	10	0	91.9	40	140	10.15	0	25	
Unadjusted C11-C22 Aromatics	ND	15.0	10	0	85.0	40	140	9.618	0	25	
Surr: 1-Chlorooctadecane	8.624	0	10	0	86.2	40	140	0	0		
Surr: o-Terphenyl	9.815	0	10	0	98.2	40	140	0	0	0	

**Qualifiers:** BRL Below Reporting Limit  
 J Analyte detected below quantitation limits  
 RL Reporting Limit  
 E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 S Spike Recovery outside recovery limits  
 H Holding times for preparation or analysis exceeded  
 R RPD outside recovery limits

GeoLabs, Inc.  
 45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** IC Environmental Management, Inc.  
**Work Order:** 1408255  
**Project:** 1401A

**TestCode:** hg\_7471b\_s

Sample ID: MB-24626	SampType: MBLK	TestCode: hg_7471b_s	Units: mg/Kg	Prep Date: 8/28/2014	RunNo: 55809						
Client ID: ZZZZ	Batch ID: 24626	TestNo: SW 7471B (SW7471B)		Analysis Date: 8/28/2014	SeqNo: 623401						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 0.0830

Sample ID: LCS-24626	SampType: LCS	TestCode: hg_7471b_s	Units: mg/Kg	Prep Date: 8/28/2014	RunNo: 55809						
Client ID: ZZZZ	Batch ID: 24626	TestNo: SW 7471B (SW7471B)		Analysis Date: 8/28/2014	SeqNo: 623402						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.8900 0.0830 0.833 0 107 80 120

**Qualifiers:** BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811



# CHAIN OF CUSTODY RECORD

GeoLabs, Inc. Environmental Laboratories  
45 Johnson Lane, Braintree, MA 02184  
p 781.848.7844 • f 781.848.7811  
www.geolabs.com

Sample Handling: circle choice  
Filtration Done  
Not Needed  
Lab to do  
Preservation Lab to do Y/N

1408255

PAGE 1 OF 1

Special Instructions

Turnaround: circle one  
 1-day      3-day  
 2-day      5/7-days

Data Delivery: circle choice (s)  
 Fax  
 Format: email  
 Excel      PDF

Requirements: circle choice (s)  
 GW-1      MCP Methods  
 S-1      DEP  
 QC      Other

CT RCP (Reasonable Confidence Protocols)  
 State / Fed Program - Criteria

Client: IC Environmental Mgmt  
 Address: 25 Tin Place  
Franklin MA 02038  
 Contact: Peter Cook

Phone: 508-498-8236  
 Fax:  
 email: pfcook@comcast.net

Project: # 1401A  
 Project PO: 1401A  
 Invoice to \*:

COLLECTION			SAMPLE LOCATION / ID	CONTAINER					GeoLabs SAMPLE NUMBER	Preservative: <u>7</u>	Analysis Requested				Lab Use Onl	
DATE	TIME	SAMPLED		TYPE	QUANTITY	MATRIX	COMP	GRAB			Priority	PH	TEMPERATURE	LAB	PH	
<u>8/20/14</u>	<u>8 AM</u>	<u>PFC</u>	<u>820141</u>	<u>G</u>	<u>1</u>	<u>S</u>		<u>✓</u>	<u>8255-001</u>	<u>✓</u>	<u>✓</u>					
	<u>8:20 AM</u>		<u>820142</u>	<u>G</u>	<u>1</u>	<u>S</u>		<u>✓</u>	<u>-002</u>	<u>✓</u>						<u>21</u>
	<u>9:05 AM</u>		<u>820144</u>	<u>G</u>	<u>1</u>	<u>S</u>		<u>✓</u>	<u>-003</u>	<u>✓</u>						
	<u>9:30 AM</u>		<u>820145</u>	<u>G</u>	<u>1</u>	<u>S</u>		<u>✓</u>	<u>-004</u>	<u>✓</u>						
	<u>11:15 AM</u>		<u>8201410</u>	<u>G</u>	<u>1</u>	<u>S</u>		<u>✓</u>	<u>-005</u>	<u>✓</u>						
	<u>11:15 AM</u>		<u>8201410-A</u>	<u>✓</u>	<u>1</u>	<u>S</u>		<u>✓</u>	<u>-006</u>	<u>✓</u>						
	<u>1 PM</u>		<u>8201412</u>	<u>G</u>	<u>1</u>	<u>S</u>		<u>✓</u>	<u>-007</u>	<u>✓</u>						
	<u>1:55 PM</u>		<u>8201414</u>	<u>G</u>	<u>1</u>	<u>S</u>		<u>✓</u>	<u>-008</u>	<u>✓</u>						
	<u>2:20 PM</u>		<u>8201415</u>	<u>G</u>	<u>1</u>	<u>S</u>		<u>✓</u>	<u>-009</u>	<u>✓</u>						
	<u>2:45 PM</u>		<u>8201417</u>	<u>G</u>	<u>1</u>	<u>S</u>		<u>✓</u>		<u>✓</u>						

Matrix Codes: GW = Ground Water    DW = Drinking Water    S = Soil    A = Air  
 WW = Waste Water    SL = Sludge    O = Oil    OT = Other

Received on Ice

Preservatives: 1 = Hcl    3 = H2SO4    5 = NaOH    7 = Other  
 2 = HNO3    4 = Na2S2O3    6 = MEQH

Containers: A = Amber    B = Bag    O = Other  
 G = Glass    P = Plastic  
 S = Summa    V = Voa

Relinquished by: [Signature]      Date / Time: 8/26/14

Received by: [Signature]      Date / Time: 8-26-14 7AM

Page 21 of 21

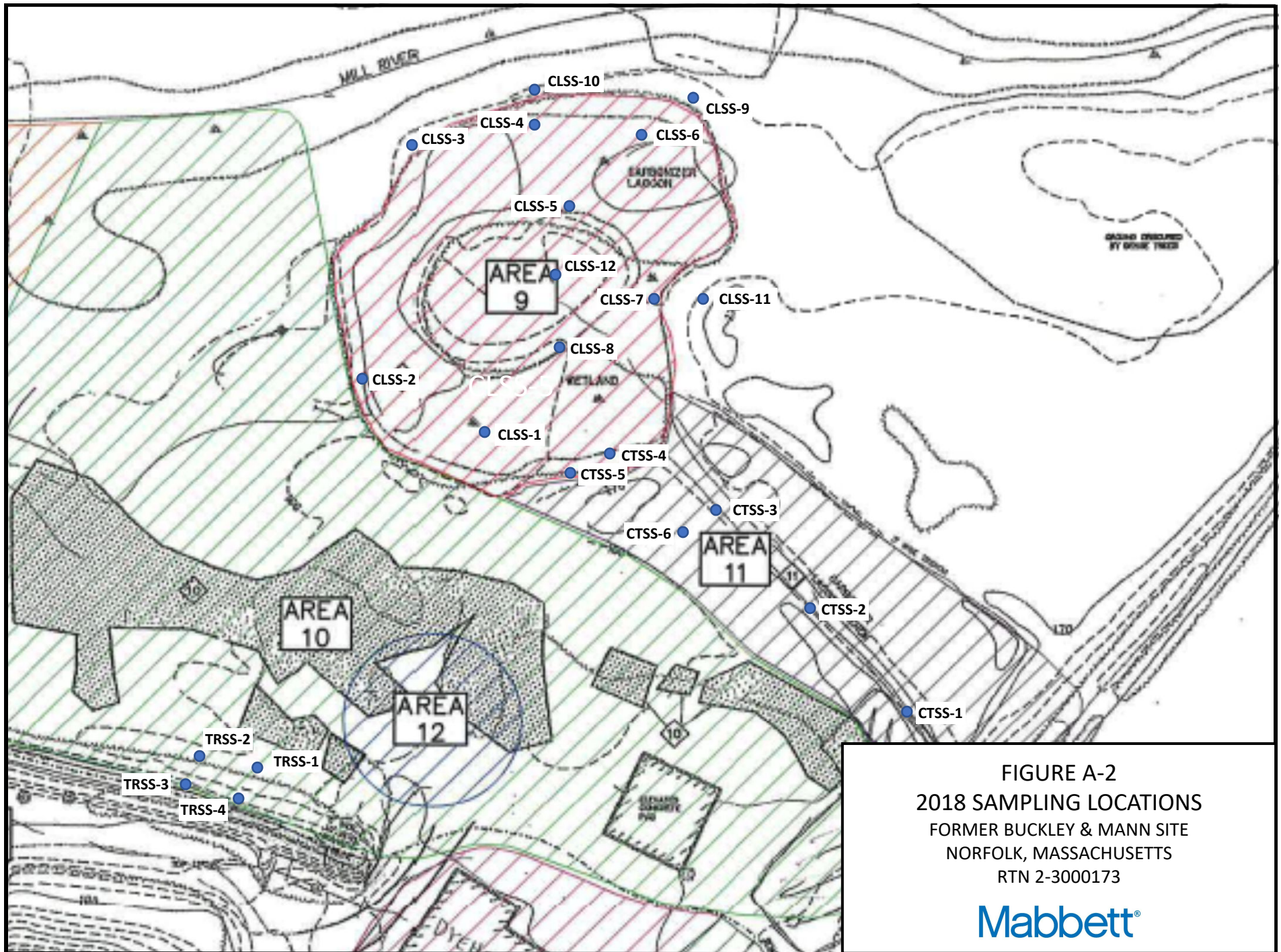


FIGURE A-2  
 2018 SAMPLING LOCATIONS  
 FORMER BUCKLEY & MANN SITE  
 NORFOLK, MASSACHUSETTS  
 RTN 2-3000173



Table A-3  
2018 Carbonizer Trench, Carbonizer Lagoon, and Tail Race Analytical Results  
Former Buckley & Mann Site  
Norfolk, Massachusetts

SITE AREA	LOCATION	SAMPLING DATE	CARBONIZER TRENCH													
			CTSS-1	CTSS-2	CTSS-3	CTSS-3 1-2	CTSS-3 2-3	CTSS-4	CTSS-4 1-2	CTSS-4 2-3	CTSS-5 0-1	CTSS-5 1-2	CTSS-5 2-3	CTSS-6 0-1	CTSS-6 1-2	CTSS-6 2-3
			3/12/18	3/12/18	3/12/18	4/20/18	4/20/18	3/12/18	4/20/18	4/20/18	4/20/18	4/20/18	4/20/18	4/20/18	4/20/18	4/20/18
			0-1	0-1	0-1	1-2	2-3	0-1	1-2	2-3	0-1	1-2	2-3	0-1	1-2	2-3
MCP METHOD 1 STANDARDS	S-1/GW-1	S-1/GW-3														
<b>Metals (mg/kg)</b>																
Antimony	20	20	1.97 U	1.17 U	<b>3.03</b>	1.22 U	1.32 U	1.39 U	1.27 U	1.11 U	<b>4.59</b>	<b>12.9</b>	1.28 U	1.11 U	1.16 U	1.45 U
Arsenic	20	20	<b>6.15</b>	<b>4.93</b>	<b>9.50</b>	1.22 U	1.32 U	<b>7.44</b>	1.27 U	1.11 U	<b>3.75</b>	<b>8.16</b>	<b>2.27</b>	1.11 U	1.16 U	1.45 U
Barium	1000	1000	<b>55.1</b>	<b>17.5</b>	<b>30.4</b>	<b>20.5</b>	<b>31.1</b>	<b>48.5</b>	<b>15.7</b>	<b>16.0</b>	<b>22.9</b>	<b>48.4</b>	<b>21.3</b>	<b>12.7</b>	<b>14.2</b>	<b>27.0</b>
Beryllium	90	90	0.99 U	0.58 U	0.97 U	0.61 U	0.66 U	0.69 U	0.63 U	0.56 U	0.69 U	0.73 U	0.64 U	0.56 U	0.58 U	0.72 U
Cadmium	70	70	<b>5.17</b>	<b>3.92</b>	<b>7.75</b>	<b>1.67</b>	<b>1.94</b>	<b>6.91</b>	<b>0.87</b>	<b>0.90</b>	0.69 U	0.73 U	<b>1.28</b>	<b>0.58</b>	<b>0.82</b>	<b>1.04</b>
Chromium (III)	1000	1000	<b>23.5</b>	<b>49.6</b>	<b>256</b>	<b>10.9</b>	<b>27.6</b>	<b>96.1</b>	<b>31.2</b>	<b>17.2</b>	<b>165</b>	<b>454</b>	<b>40.7</b>	<b>4.70</b>	<b>3.08</b>	<b>42.0</b>
Chromium (VI)	100	100	3 U	2 U	3 U	---	---	<b>6.00</b>	---	---	<b>15.0</b>	8.0 U	---	---	---	---
Lead	200	200	<b>52.1</b>	<b>59.2</b>	<b>971</b>	<b>15.2</b>	<b>35.0</b>	<b>380</b>	<b>14.6</b>	<b>15.7</b>	<b>257</b>	<b>676</b>	<b>42.8</b>	<b>4.59</b>	<b>4.19</b>	<b>47.1</b>
Mercury	20	20	<b>0.252</b>	<b>0.515</b>	<b>1.08</b>	0.085 U	0.079 U	<b>0.49</b>	0.069 U	0.066 U	<b>1.12</b>	<b>1.43</b>	0.084 U	0.070 U	0.076 U	<b>0.211</b>
Nickel	600	600	<b>38.2</b>	<b>5.82</b>	<b>8.53</b>	<b>13.0</b>	<b>12.5</b>	<b>21.6</b>	<b>12.3</b>	<b>36.1</b>	<b>3.42</b>	<b>65.0</b>	<b>12.8</b>	<b>2.50</b>	<b>6.28</b>	<b>4.02</b>
Selenium	400	400	1.97 U	1.17 U	1.93 U	1.22 U	1.32 U	1.39 U	1.27 U	1.11 U	1.38 U	1.46 U	1.28 U	1.11 U	1.16 U	1.45 U
Silver	100	100	0.99 U	0.58 U	0.97 U	0.61 U	0.66 U	0.69 U	0.63 U	0.56 U	<b>1.07</b>	<b>5.69</b>	0.64 U	0.56 U	0.58 U	0.72 U
Thallium	8	8	0.397 U	0.235 U	0.389 U	0.247 U	0.266 U	0.28 U	0.256 U	0.224 U	0.277 U	0.294 U	0.259 U	0.224 U	0.233 U	0.292 U
Vanadium	400	400	<b>21.9</b>	<b>27.4</b>	<b>29.4</b>	<b>11.7</b>	<b>10.3</b>	<b>15.5</b>	<b>9.38</b>	<b>9.11</b>	<b>17.1</b>	<b>10.0</b>	<b>17.6</b>	<b>7.38</b>	<b>6.32</b>	<b>17.0</b>
Zinc	1000	1000	<b>190</b>	<b>31.8</b>	<b>64.3</b>	<b>102</b>	<b>80.7</b>	<b>184</b>	<b>38.0</b>	<b>39.7</b>	<b>17.8</b>	<b>20.2</b>	<b>69.2</b>	<b>11.1</b>	<b>17.1</b>	<b>20.6</b>
<b>Extractable Petroleum Hydrocarbons (mg/kg)</b>																
C11-C22 Aromatics			46.3 U	---	38.7 U	---	<b>17.7</b>	---	---	14.7 U	<b>161</b>	---	---	14.9 U	---	---
C11-C22 Aromatics, Adjusted	1000	1000	46.3 U	---	38.7 U	---	<b>17.7</b>	---	---	14.7 U	<b>161</b>	---	---	14.9 U	---	---
C9-C18 Aliphatics	1000	1000	46.3 U	---	38.7 U	---	17.7 U	---	---	14.7 U	17.2 U	---	---	14.9 U	---	---
C19-C36 Aliphatics	3000	3000	46.3 U	---	<b>64.9</b>	---	<b>45.2</b>	---	---	14.7 U	<b>594</b>	---	---	14.9 U	---	---
2-Methylnaphthalene	0.7	300	1.15 U	---	<b>1.16</b>	---	0.44 U	---	---	0.36 U	0.43 U	---	---	0.37 U	---	---
Acenaphthene	4	1000	1.15 U	---	0.96 U	---	0.44 U	---	---	0.36 U	0.43 U	---	---	0.37 U	---	---
Acenaphthylene	1	10	1.15 U	---	0.96 U	---	0.44 U	---	---	0.36 U	0.43 U	---	---	0.37 U	---	---
Anthracene	1000	1000	1.15 U	---	<b>1.11</b>	---	0.44 U	---	---	0.36 U	0.43 U	---	---	0.37 U	---	---
Benzo(a)anthracene	7	7	1.15 U	---	0.96 U	---	0.44 U	---	---	0.36 U	0.43 U	---	---	0.37 U	---	---
Benzo(a)pyrene	2	2	1.15 U	---	0.96 U	---	0.44 U	---	---	0.36 U	0.43 U	---	---	0.37 U	---	---
Benzo(b)fluoranthene	7	7	1.15 U	---	0.96 U	---	0.44 U	---	---	0.36 U	0.43 U	---	---	0.37 U	---	---
Benzo(ghi)perylene	1000	1000	1.15 U	---	0.96 U	---	0.44 U	---	---	0.36 U	0.43 U	---	---	0.37 U	---	---
Benzo(k)fluoranthene	70	70	1.15 U	---	0.96 U	---	0.44 U	---	---	0.36 U	0.43 U	---	---	0.37 U	---	---
Chrysene	70	70	1.15 U	---	0.96 U	---	0.44 U	---	---	0.36 U	0.43 U	---	---	0.37 U	---	---
Dibenzo(a,h)anthracene	0.7	0.7	1.15 U	---	0.96 U	---	0.44 U	---	---	0.36 U	0.43 U	---	---	0.37 U	---	---
Fluoranthene	1000	1000	1.15 U	---	0.96 U	---	0.44 U	---	---	0.36 U	0.43 U	---	---	0.37 U	---	---
Fluorene	1000	1000	1.15 U	---	0.96 U	---	0.44 U	---	---	0.36 U	0.43 U	---	---	0.37 U	---	---
Indeno(1,2,3-cd)Pyrene	7	7	1.15 U	---	0.96 U	---	0.44 U	---	---	0.36 U	0.43 U	---	---	0.37 U	---	---
Naphthalene	4	500	1.15 U	---	0.96 U	---	0.44 U	---	---	0.36 U	0.43 U	---	---	0.37 U	---	---
Phenanthrene	10	500	1.15 U	---	0.96 U	---	0.44 U	---	---	0.36 U	0.43 U	---	---	0.37 U	---	---
Pyrene	1000	1000	1.15 U	---	0.96 U	---	0.44 U	---	---	0.36 U	0.43 U	---	---	0.37 U	---	---

- Notes:
1. mg/kg = milligrams per kilogram
  2. bold type = detected constituents
  3. shaded cells = MCP standard exceeded
  4. U = not detected above laboratory limits
  5. --- = sample not analyzed for this constituent
  6. Where no Cr6+ data is available, all chromium assumed to be Cr3+

Table A-3  
2018 Carbonizer Trench, Carbonizer Lagoon, and Tail Race Analytical Results  
Former Buckley & Mann Site  
Norfolk, Massachusetts

SITE AREA	LOCATION	SAMPLING DATE	CARBONIZER LAGOON													
			CLSS-1	CLSS-2	CLSS-3	CLSS-4	CLSS-5	CLSS-5	CLSS-5	CLSS-6	CLSS-6	CLSS-6	CLSS-7	CLSS-7	CLSS-7	
			3/12/18	3/12/18	3/12/18	3/12/18	3/12/18	4/20/18	4/20/18	3/12/18	4/20/18	4/20/18	3/12/18	4/20/18	4/20/18	
SAMPLE DEPTH (FT BGS)			0-1	0-1	0-1	0-1	0-1	1-2	2-3	0-1	1-2	2-3	0-1	1-2	2-3	
MCP METHOD 1 STANDARDS	S-1/GW-1	S-1/GW-3														
<b>Metals (mg/kg)</b>																
Antimony	20	20	1.54	6.19	1.97	13.7	33.9	16.1	1.80 U	39.1	1.20 U	1.06 U	8.99	1.31 U	1.32 U	
Arsenic	20	20	6.23	4.94	4.41	1.62 U	4.48	14.1	2.88	17.9	1.20 U	1.06 U	5.37	1.37	1.32 U	
Barium	1000	1000	60.2	82.6	60.6	11.2	103	389	111	155	62	18.4	61.8	30.6	18.6	
Beryllium	90	90	0.44 U	0.68 U	0.58 U	0.81 U	1.42 U	1.26 U	0.90 U	1.55 U	0.60 U	0.53 U	1.56 U	0.65 U	0.66 U	
Cadmium	70	70	8.67	8.94	3.93	0.81 U	2.23	8.97	2.68	86.4	1.67	0.91	2.60	1.94	1.21	
Chromium (III)	1000	1000	134	361	144	196	1440	599	76.2	1780	35.4	11.3	399	41.5	44.6	
Chromium (VI)	100	100	2 U	2 U	2 U	15	11	5.0 U	---	11	---	---	4.0 U	---	---	
Lead	200	200	410	745	283	413	1880	2100	208	1900	16.3	7.66	762	45.0	57.4	
Mercury	20	20	0.983	2.34	1.16 U	1.11	8.85	4.41	0.917	7.14	0.179	0.045 U	2.06	0.093 U	0.072 U	
Nickel	600	600	28.2	32.0	11.5	3.22	11.8	25.0	20.1	72.3	12.1	10.1	8.95	15.4	8.99	
Selenium	400	400	0.88 U	1.37 U	1.16 U	1.62 U	2.83 U	2.52 U	1.80 U	3.11 U	1.20 U	1.06 U	3.11 U	1.31 U	1.32 U	
Silver	100	100	0.44 U	0.68 U	0.58 U	5.55	35.5	5.51	0.90 U	53.6	0.60 U	0.53 U	5.74	0.65 U	0.66 U	
Thallium	8	8	0.178 U	0.276 U	0.233 U	0.326 U	0.571 U	0.509 U	0.363 U	0.626 U	0.241 U	0.213 U	0.627 U	0.263 U	0.267 U	
Vanadium	400	400	25.9	18.8	13.2	9.53	23.7	35.2	14.1	57.4	28.8	12.8	24.4	27.5	21.9	
Zinc	1000	1000	219	181	135	43.4	140	466	571	4850	150	82.7	67.9	92.2	45.9	
<b>Extractable Petroleum Hydrocarbons (mg/kg)</b>																
C11-C22 Aromatics			38.4	---	---	---	---	---	97.8	---	45.8	15.1 U	---	---	17.1 U	
C11-C22 Aromatics, Adjusted	1000	1000	38.4	---	---	---	---	---	97.8	---	45.8	15.1 U	---	---	17.1 U	
C9-C18 Aliphatics	1000	1000	23.1 U	---	---	---	---	---	23.5 U	---	17.2 U	15.1 U	---	---	17.1 U	
C19-C36 Aliphatics	3000	3000	149	---	---	---	---	---	235	---	192	40.1	---	---	28.2	
2-Methylnaphthalene	0.7	300	0.57 U	---	---	---	---	---	0.58 U	---	0.43 U	0.37 U	---	---	0.42 U	
Acenaphthene	4	1000	0.57 U	---	---	---	---	---	0.58 U	---	0.43 U	0.37 U	---	---	0.42 U	
Acenaphthylene	1	10	0.57 U	---	---	---	---	---	0.58 U	---	0.43 U	0.37 U	---	---	0.42 U	
Anthracene	1000	1000	0.57 U	---	---	---	---	---	0.58 U	---	0.43 U	0.37 U	---	---	0.42 U	
Benzo(a)anthracene	7	7	0.57 U	---	---	---	---	---	0.58 U	---	0.43 U	0.37 U	---	---	0.42 U	
Benzo(a)pyrene	2	2	0.57 U	---	---	---	---	---	0.58 U	---	0.43 U	0.37 U	---	---	0.42 U	
Benzo(b)fluoranthene	7	7	0.57 U	---	---	---	---	---	0.58 U	---	0.43 U	0.37 U	---	---	0.42 U	
Benzo(ghi)perylene	1000	1000	0.57 U	---	---	---	---	---	0.58 U	---	0.43 U	0.37 U	---	---	0.42 U	
Benzo(k)fluoranthene	70	70	0.57 U	---	---	---	---	---	0.58 U	---	0.43 U	0.37 U	---	---	0.42 U	
Chrysene	70	70	0.57 U	---	---	---	---	---	0.58 U	---	0.43 U	0.37 U	---	---	0.42 U	
Dibenzo(a,h)anthracene	0.7	0.7	0.57 U	---	---	---	---	---	0.58 U	---	0.43 U	0.37 U	---	---	0.42 U	
Fluoranthene	1000	1000	0.57 U	---	---	---	---	---	0.58 U	---	0.43 U	0.37 U	---	---	0.42 U	
Fluorene	1000	1000	0.57 U	---	---	---	---	---	0.58 U	---	0.43 U	0.37 U	---	---	0.42 U	
Indeno(1,2,3-cd)Pyrene	7	7	0.57 U	---	---	---	---	---	0.58 U	---	0.43 U	0.37 U	---	---	0.42 U	
Naphthalene	4	500	0.57 U	---	---	---	---	---	0.58 U	---	0.43 U	0.37 U	---	---	0.42 U	
Phenanthrene	10	500	0.57 U	---	---	---	---	---	0.58 U	---	0.43 U	0.37 U	---	---	0.42 U	
Pyrene	1000	1000	0.57 U	---	---	---	---	---	0.58 U	---	0.43 U	0.37 U	---	---	0.42 U	

- Notes:
1. mg/kg = milligrams per kilogram
  2. bold type = detected constituents
  3. shaded cells = MCP standard exceeded
  4. U = not detected above laboratory limits
  5. --- = sample not analyzed for this constituent
  6. Where no Cr6+ data is available, all chromium assumed to be Cr3+

**Table A-3**  
**2018 Carbonizer Trench, Carbonizer Lagoon, and Tail Race Analytical Results**  
**Former Buckley & Mann Site**  
**Norfolk, Massachusetts**

SITE AREA	LOCATION	SAMPLING DATE	CARBONIZER LAGOON													
			CLSS-8	CLSS-9	CLSS-9	CLSS-9	CLSS-10	CLSS-10	CLSS-10	CLSS-11	CLSS-11	CLSS-11	CLSS-12	CLSS-12	CLSS-12	
			3/12/18	4/20/18	4/20/18	4/20/18	4/20/18	4/20/18	4/20/18	4/20/18	4/20/18	4/20/18	4/20/18	4/20/18	4/20/18	
			0-1	0-1	1-2	2-3	0-1	1-2	2-3	0-1	1-2	2-3	0-1	1-2	2-3	
MCP METHOD 1 STANDARDS	S-1/GW-1	S-1/GW-3														
<b>Metals (mg/kg)</b>																
Antimony	20	20	<b>8.47</b>	<b>41.6</b>	<b>23.7</b>	<b>26.4</b>	<b>35.6</b>	2.41 U	2.33 U	<b>7.06</b>	1.24 U	1.28 U	<b>48.6</b>	<b>41.3</b>	1.36 U	
Arsenic	20	20	3.84 U	<b>10.3</b>	<b>3.67</b>	<b>5.44</b>	<b>9.45</b>	<b>6.50</b>	2.33 U	<b>7.39</b>	1.24 U	1.28 U	<b>12.9</b>	<b>10.8</b>	<b>2.24</b>	
Barium	1000	1000	<b>56.2</b>	<b>33.1</b>	<b>49.1</b>	<b>90.1</b>	<b>180</b>	<b>249</b>	<b>92.8</b>	<b>11.6</b>	<b>15.0</b>	<b>15.4</b>	<b>40.1</b>	<b>262</b>	<b>32.3</b>	
Beryllium	90	90	1.92 U	1.43 U	1.36 U	1.71 U	1.63 U	1.20 U	1.16 U	0.98 U	0.62 U	0.64 U	1.36 U	1.38 U	0.68 U	
Cadmium	70	70	<b>3.62</b>	1.43 U	<b>3.76</b>	<b>4.13</b>	<b>2.78</b>	<b>2.42</b>	1.16 U	0.98 U	<b>1.50</b>	<b>1.52</b>	1.36 U	1.38 U	<b>2.13</b>	
Chromium (III)	1000	1000	<b>446</b>	<b>1420</b>	<b>672</b>	<b>550</b>	<b>1040</b>	<b>88.7</b>	<b>32.3</b>	<b>207</b>	<b>49.4</b>	<b>23.5</b>	<b>1780</b>	<b>1290</b>	<b>61.3</b>	
Chromium (VI)	100	100	6.0 U	<b>9.0</b>	<b>7.0</b>	<b>66</b>	<b>67</b>	---	---	<b>79</b>	---	---	<b>14</b>	<b>18</b>	---	
Lead	200	200	<b>901</b>	<b>444</b>	<b>153</b>	<b>1120</b>	<b>1020</b>	<b>160</b>	<b>20.0</b>	<b>378</b>	<b>95.9</b>	<b>17.5</b>	<b>281</b>	<b>464</b>	<b>194</b>	
Mercury	20	20	<b>1.07</b>	<b>3.62</b>	<b>2.59</b>	<b>6.15</b>	<b>5.31</b>	<b>0.292</b>	0.144 U	<b>0.574</b>	0.090 U	0.082 U	<b>5.14</b>	<b>5.86</b>	<b>0.171</b>	
Nickel	600	600	<b>11.9</b>	<b>5.35</b>	<b>17.3</b>	<b>21.0</b>	<b>8.79</b>	<b>20.4</b>	<b>19.3</b>	<b>1.89</b>	<b>5.22</b>	<b>8.70</b>	<b>8.52</b>	<b>17.1</b>	<b>11.8</b>	
Selenium	400	400	3.84 U	<b>3.50</b>	2.72 U	3.41 U	3.26 U	2.41 U	2.33 U	1.96 U	1.24 U	1.28 U	<b>4.23</b>	2.76 U	1.36 U	
Silver	100	100	<b>13.5</b>	<b>21.4</b>	<b>7.20</b>	<b>9.76</b>	<b>14.3</b>	1.20 U	1.16 U	0.98 U	0.62 U	0.64 U	<b>23.0</b>	<b>24.8</b>	0.68 U	
Thallium	8	8	0.773 U	0.576 U	0.548 U	0.688 U	0.657	0.485 U	0.469 U	0.395 U	0.251 U	0.258 U	0.547 U	0.557 U	<b>0.363</b>	
Vanadium	400	400	<b>25.6</b>	<b>151</b>	<b>104</b>	<b>28.1</b>	<b>79.6</b>	<b>20.8</b>	<b>12.0</b>	<b>45.3</b>	<b>24.6</b>	<b>21.6</b>	<b>126</b>	<b>82.6</b>	<b>23.0</b>	
Zinc	1000	1000	<b>60.0</b>	<b>20.8</b>	<b>414</b>	<b>414</b>	<b>160</b>	<b>290</b>	<b>120</b>	<b>8.0</b>	<b>23.3</b>	<b>24.9</b>	<b>28.2</b>	<b>34.0</b>	<b>21.7</b>	
<b>Extractable Petroleum Hydrocarbons (mg/kg)</b>																
C11-C22 Aromatics			---	<b>497</b>	---	<b>1400</b>	<b>458</b>	---	<b>50.5</b>	---	---	16.6 U	---	---	---	
C11-C22 Aromatics, Adjusted	1000	1000	---	<b>497</b>	---	<b>1400</b>	<b>458</b>	---	<b>50.5</b>	---	---	16.6 U	---	---	---	
C9-C18 Aliphatics	1000	1000	---	33.7 U	---	<b>131</b>	43.3 U	---	28.1 U	---	---	16.6 U	---	---	---	
C19-C36 Aliphatics	3000	3000	---	<b>1800</b>	---	<b>5410</b>	<b>1670</b>	---	<b>101</b>	---	---	16.6 U	---	---	---	
2-Methylnaphthalene	0.7	300	---	0.84 U	---	1.15 U	1.07 U	---	0.70 U	---	---	0.41 U	---	---	---	
Acenaphthene	4	1000	---	0.84 U	---	1.15 U	1.07 U	---	0.70 U	---	---	0.41 U	---	---	---	
Acenaphthylene	1	10	---	0.84 U	---	1.15 U	1.07 U	---	0.70 U	---	---	0.41 U	---	---	---	
Anthracene	1000	1000	---	0.84 U	---	1.15 U	1.07 U	---	0.70 U	---	---	0.41 U	---	---	---	
Benzo(a)anthracene	7	7	---	0.84 U	---	1.15 U	1.07 U	---	0.70 U	---	---	0.41 U	---	---	---	
Benzo(a)pyrene	2	2	---	0.84 U	---	1.15 U	1.07 U	---	0.70 U	---	---	0.41 U	---	---	---	
Benzo(b)fluoranthene	7	7	---	0.84 U	---	1.15 U	1.07 U	---	0.70 U	---	---	0.41 U	---	---	---	
Benzo(ghi)perylene	1000	1000	---	0.84 U	---	1.15 U	1.07 U	---	0.70 U	---	---	0.41 U	---	---	---	
Benzo(k)fluoranthene	70	70	---	0.84 U	---	1.15 U	1.07 U	---	0.70 U	---	---	0.41 U	---	---	---	
Chrysene	70	70	---	0.84 U	---	1.15 U	1.07 U	---	0.70 U	---	---	0.41 U	---	---	---	
Dibenzo(a,h)anthracene	0.7	0.7	---	0.84 U	---	1.15 U	1.07 U	---	0.70 U	---	---	0.41 U	---	---	---	
Fluoranthene	1000	1000	---	0.84 U	---	1.15 U	1.07 U	---	0.70 U	---	---	0.41 U	---	---	---	
Fluorene	1000	1000	---	0.84 U	---	1.15 U	1.07 U	---	0.70 U	---	---	0.41 U	---	---	---	
Indeno(1,2,3-cd)Pyrene	7	7	---	0.84 U	---	1.15 U	1.07 U	---	0.70 U	---	---	0.41 U	---	---	---	
Naphthalene	4	500	---	0.84 U	---	1.15 U	1.07 U	---	0.70 U	---	---	0.41 U	---	---	---	
Phenanthrene	10	500	---	0.84 U	---	1.15 U	1.07 U	---	0.70 U	---	---	0.41 U	---	---	---	
Pyrene	1000	1000	---	0.84 U	---	1.15 U	1.07 U	---	0.70 U	---	---	0.41 U	---	---	---	

- Notes:
1. mg/kg = milligrams per kilogram
  2. bold type = detected constituents
  3. shaded cells = MCP standard exceeded
  4. U = not detected above laboratory limits
  5. --- = sample not analyzed for this constituent
  6. Where no Cr6+ data is available, all chromium assumed to be Cr3+

Table A-3  
 2018 Carbonizer Trench, Carbonizer Lagoon, and Tail Race Analytical Results  
 Former Buckley & Mann Site  
 Norfolk, Massachusetts

SITE AREA	LOCATION	SAMPLING DATE	TAIL RACE			
			TRSS-1	TRSS-2	TRSS-3	TRSS-4
		3/12/18	3/12/18	3/12/18	3/12/18	
		0-1	0-1	0-1	0-1	
MCP METHOD 1 STANDARDS	S-1/GW-1	S-1/GW-3				
<b>Metals (mg/kg)</b>						
Antimony	20	20	0.77 U	1.51	1.02 U	0.89 U
Arsenic	20	20	4.83	3.99	3.97	3.70
Barium	1000	1000	30.4	55.7	55.1	40.7
Beryllium	90	90	0.39	0.48 U	0.51 U	0.44 U
Cadmium	70	70	2.66	2.78	6.05	3.43
Chromium (III)	1000	1000	29.1	28.0	15.5	18.9
Chromium (VI)	100	100	1.0 U	1.0 U	2.0 U	1.0 U
Lead	200	200	30.6	110	16.7	14.4
Mercury	20	20	0.082 U	0.487	0.108 U	0.087 U
Nickel	600	600	32.5	37.2	29.7	10.7
Selenium	400	400	0.77 U	0.96 U	1.02 U	0.89 U
Silver	100	100	0.39 U	0.48 U	0.51 U	0.44 U
Thallium	8	8	0.156 U	0.194 U	0.205 U	0.179 U
Vanadium	400	400	20.2	24.2	17.2	18.0
Zinc	1000	1000	50.5	56.2	45.6	61.7
<b>Extractable Petroleum Hydrocarbons (mg/kg)</b>						
C11-C22 Aromatics			15.7 U	---	---	18.0 U
C11-C22 Aromatics, Adjusted	1000	1000	15.7 U	---	---	18.0 U
C9-C18 Aliphatics	1000	1000	15.7 U	---	---	18.0 U
C19-C36 Aliphatics	3000	3000	15.7 U	---	---	18.0 U
2-Methylnaphthalene	0.7	300	0.39 U	---	---	0.45 U
Acenaphthene	4	1000	0.39 U	---	---	0.45 U
Acenaphthylene	1	10	0.39 U	---	---	0.45 U
Anthracene	1000	1000	0.39 U	---	---	0.45 U
Benzo(a)anthracene	7	7	0.39 U	---	---	0.45 U
Benzo(a)pyrene	2	2	0.39 U	---	---	0.45 U
Benzo(b)fluoranthene	7	7	0.39 U	---	---	0.45 U
Benzo(ghi)perylene	1000	1000	0.39 U	---	---	0.45 U
Benzo(k)fluoranthene	70	70	0.39 U	---	---	0.45 U
Chrysene	70	70	0.39 U	---	---	0.45 U
Dibenzo(a,h)anthracene	0.7	0.7	0.39 U	---	---	0.45 U
Fluoranthene	1000	1000	0.39 U	---	---	0.45 U
Fluorene	1000	1000	0.39 U	---	---	0.45 U
Indeno(1,2,3-cd)Pyrene	7	7	0.39 U	---	---	0.45 U
Naphthalene	4	500	0.39 U	---	---	0.45 U
Phenanthrene	10	500	0.39 U	---	---	0.45 U
Pyrene	1000	1000	0.39 U	---	---	0.45 U

- Notes:
1. mg/kg = milligrams per kilogram
  2. bold type = detected constituents
  3. shaded cells = MCP standard exceeded
  4. U = not detected above laboratory limits
  5. --- = sample not analyzed for this constituent
  6. Where no Cr6+ data is available, all chromium assumed to be Cr3+



New England Testing Laboratory, Inc.  
(401) 353-3420

## REPORT OF ANALYTICAL RESULTS

**NETLAB Work Order Number: 8C15039**  
**Client Project: 1630 - Buckley Mann Site**

Report Date: 22-March-2018

Prepared for:

Rob Berger  
Capital Environmental  
46 Washburn Street  
Northborough, MA 01532

---

Richard Warila, Laboratory Director  
New England Testing Laboratory, Inc.  
59 Greenhill Street  
West Warwick, RI 02893  
rich.warila@newenglandtesting.com

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

### Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
8C15039-01	CTSS-1 0-1'	Soil	03/12/2018	03/15/2018
8C15039-02	CTSS-2 0-1'	Soil	03/12/2018	03/15/2018
8C15039-03	CTSS-3 0-1'	Soil	03/12/2018	03/15/2018
8C15039-04	CTSS-4 0-1'	Soil	03/12/2018	03/15/2018
8C15039-05	CLSS-1 0-1'	Soil	03/12/2018	03/15/2018
8C15039-06	CLSS-2 0-1'	Soil	03/12/2018	03/15/2018
8C15039-07	CLSS-3 0-1'	Soil	03/12/2018	03/15/2018
8C15039-08	CLSS-4 0-1'	Soil	03/12/2018	03/15/2018
8C15039-09	CLSS-5 0-1'	Soil	03/12/2018	03/15/2018
8C15039-10	CLSS-6 0-1'	Soil	03/12/2018	03/15/2018
8C15039-11	CLSS-7 0-1'	Soil	03/12/2018	03/15/2018
8C15039-12	CLSS-8 0-1'	Soil	03/12/2018	03/15/2018
8C15039-13	TRSS-1 0-1'	Soil	03/12/2018	03/15/2018
8C15039-14	TRSS-2 0-1'	Soil	03/12/2018	03/15/2018
8C15039-15	TRSS-3 0-1'	Soil	03/12/2018	03/15/2018
8C15039-16	TRSS-4 0-1'	Soil	03/12/2018	03/15/2018

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

## ***Request for Analysis***

### **CLSS-1 0-1'**

#### **Analysis**

% Solids  
Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Hexavalent Chromium  
Lead  
MADEP EPH  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Trivalent Chromium  
Vanadium  
Zinc

#### **Method**

Gravimetric  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
SM3500-Cr-B  
EPA 6010C  
MADEP EPH  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
Calculation  
EPA 6010C  
EPA 6010C

### **CLSS-2 0-1'**

#### **Analysis**

% Solids  
Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Hexavalent Chromium  
Lead

#### **Method**

Gravimetric  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
SM3500-Cr-B  
EPA 6010C

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

Mercury	EPA 7471B
Nickel	EPA 6010C
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 7010
Trivalent Chromium	Calculation
Vanadium	EPA 6010C
Zinc	EPA 6010C

**CLSS-3 0-1'**

**Analysis**

% Solids  
Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Hexavalent Chromium  
Lead  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Trivalent Chromium  
Vanadium  
Zinc

**Method**

Gravimetric  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
SM3500-Cr-B  
EPA 6010C  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
Calculation  
EPA 6010C  
EPA 6010C

**CLSS-4 0-1'**

**Analysis**

% Solids  
Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium

**Method**

Gravimetric  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C



Project: 1630 - Buckley Mann Site

Case Number: 8C15039

Chromium	EPA 6010C
Hexavalent Chromium	SM3500-Cr-B
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 7010
Trivalent Chromium	Calculation
Vanadium	EPA 6010C
Zinc	EPA 6010C

**CLSS-5 0-1'**

**Analysis**

% Solids  
Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Hexavalent Chromium  
Lead  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Trivalent Chromium  
Vanadium  
Zinc

**Method**

Gravimetric  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
SM3500-Cr-B  
EPA 6010C  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
Calculation  
EPA 6010C  
EPA 6010C

**CLSS-6 0-1'**

**Analysis**

% Solids  
Antimony  
Arsenic

**Method**

Gravimetric  
EPA 6010C  
EPA 6010C

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Hexavalent Chromium	SM3500-Cr-B
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 7010
Trivalent Chromium	Calculation
Vanadium	EPA 6010C
Zinc	EPA 6010C

**CLSS-7 0-1'**

**Analysis**

% Solids	Gravimetric
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Hexavalent Chromium	SM3500-Cr-B
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 7010
Trivalent Chromium	Calculation
Vanadium	EPA 6010C
Zinc	EPA 6010C

**CLSS-8 0-1'**

**Analysis**

**Method**

**Method**

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

% Solids	Gravimetric
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Hexavalent Chromium	SM3500-Cr-B
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 7010
Trivalent Chromium	Calculation
Vanadium	EPA 6010C
Zinc	EPA 6010C

**CTSS-1 0-1'**

**Analysis**

<b>Analysis</b>	<b>Method</b>
% Solids	Gravimetric
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Hexavalent Chromium	SM3500-Cr-B
Lead	EPA 6010C
MADEP EPH	MADEP EPH
Mercury	EPA 7471B
Nickel	EPA 6010C
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 7010
Trivalent Chromium	Calculation
Vanadium	EPA 6010C

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

Zinc	EPA 6010C
<b>CTSS-2 0-1'</b>	
<b>Analysis</b>	<b>Method</b>
% Solids	Gravimetric
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Hexavalent Chromium	SM3500-Cr-B
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 7010
Trivalent Chromium	Calculation
Vanadium	EPA 6010C
Zinc	EPA 6010C

<b>CTSS-3 0-1'</b>	
<b>Analysis</b>	<b>Method</b>
% Solids	Gravimetric
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Hexavalent Chromium	SM3500-Cr-B
Lead	EPA 6010C
MADEP EPH	MADEP EPH
Mercury	EPA 7471B
Nickel	EPA 6010C
Selenium	EPA 6010C

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

Silver	EPA 6010C
Thallium	EPA 7010
Trivalent Chromium	Calculation
Vanadium	EPA 6010C
Zinc	EPA 6010C

**CTSS-4 0-1'**

**Analysis**

% Solids	Gravimetric
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Hexavalent Chromium	SM3500-Cr-B
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 7010
Trivalent Chromium	Calculation
Vanadium	EPA 6010C
Zinc	EPA 6010C

**Method**

**TRSS-1 0-1'**

**Analysis**

% Solids	Gravimetric
Antimony	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Beryllium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Hexavalent Chromium	SM3500-Cr-B
Lead	EPA 6010C

**Method**

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

MADEP EPH

Mercury

Nickel

Selenium

Silver

Thallium

Trivalent Chromium

Vanadium

Zinc

**TRSS-2 0-1'**

**Analysis**

% Solids

Antimony

Arsenic

Barium

Beryllium

Cadmium

Chromium

Hexavalent Chromium

Lead

Mercury

Nickel

Selenium

Silver

Thallium

Trivalent Chromium

Vanadium

Zinc

**TRSS-3 0-1'**

**Analysis**

% Solids

Antimony

Arsenic

Barium

Beryllium

MADEP EPH

EPA 7471B

EPA 6010C

EPA 6010C

EPA 6010C

EPA 7010

Calculation

EPA 6010C

EPA 6010C

**Method**

Gravimetric

EPA 6010C

EPA 6010C

EPA 6010C

EPA 6010C

EPA 6010C

EPA 6010C

SM3500-Cr-B

EPA 6010C

EPA 7471B

EPA 6010C

EPA 6010C

EPA 6010C

EPA 7010

Calculation

EPA 6010C

EPA 6010C

**Method**

Gravimetric

EPA 6010C

EPA 6010C

EPA 6010C

EPA 6010C

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

Cadmium	EPA 6010C
Chromium	EPA 6010C
Hexavalent Chromium	SM3500-Cr-B
Lead	EPA 6010C
Mercury	EPA 7471B
Nickel	EPA 6010C
Selenium	EPA 6010C
Silver	EPA 6010C
Thallium	EPA 7010
Trivalent Chromium	Calculation
Vanadium	EPA 6010C
Zinc	EPA 6010C

**TRSS-4 0-1'**

**Analysis**

% Solids  
Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Hexavalent Chromium  
Lead  
MADEP EPH  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Trivalent Chromium  
Vanadium  
Zinc

**Method**

Gravimetric  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
SM3500-Cr-B  
EPA 6010C  
MADEP EPH  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
Calculation  
EPA 6010C  
EPA 6010C

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

## **Case Narrative**

### Sample Receipt

The samples were all appropriately cooled and preserved upon receipt. The samples were received in the appropriate containers. The chain of custody was adequately completed and corresponded to the samples submitted.

### EPH

All samples were extracted and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control criteria.

### Metals

All analyses were performed according to NETLAB's documented Standard Operating Procedures, within all required holding times, and with appropriate quality control measures. All QC was within laboratory established acceptance criteria. The samples were received, processed, and reported with no anomalies.



Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: CTSS-1 0-1'**  
**8C15039-01 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Total Metals</b>						
Antimony	ND		1.97	mg/kg	03/16/18	03/19/18
<b>Arsenic</b>	<b>6.15</b>		1.97	mg/kg	03/16/18	03/19/18
<b>Barium</b>	<b>55.1</b>		0.99	mg/kg	03/16/18	03/19/18
Beryllium	ND		0.99	mg/kg	03/16/18	03/19/18
<b>Cadmium</b>	<b>5.17</b>		0.99	mg/kg	03/16/18	03/16/18
<b>Chromium</b>	<b>23.5</b>		0.99	mg/kg	03/16/18	03/16/18
<b>Lead</b>	<b>52.1</b>		0.99	mg/kg	03/16/18	03/16/18
<b>Mercury</b>	<b>0.252</b>		0.224	mg/kg	03/20/18	03/20/18
<b>Nickel</b>	<b>38.2</b>		0.99	mg/kg	03/16/18	03/16/18
Selenium	ND		1.97	mg/kg	03/16/18	03/16/18
Silver	ND		0.99	mg/kg	03/16/18	03/19/18
Thallium	ND		0.397	mg/kg	03/16/18	03/19/18
<b>Vanadium</b>	<b>21.9</b>		0.99	mg/kg	03/16/18	03/16/18
<b>Zinc</b>	<b>190</b>		4.0	mg/kg	03/16/18	03/16/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: CTSS-2 0-1'**  
**8C15039-02 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Total Metals</b>						
Antimony	ND		1.17	mg/kg	03/16/18	03/19/18
<b>Arsenic</b>	<b>4.93</b>		1.17	mg/kg	03/16/18	03/19/18
<b>Barium</b>	<b>17.5</b>		0.58	mg/kg	03/16/18	03/19/18
Beryllium	ND		0.58	mg/kg	03/16/18	03/19/18
<b>Cadmium</b>	<b>3.92</b>		0.58	mg/kg	03/16/18	03/16/18
<b>Chromium</b>	<b>49.6</b>		0.58	mg/kg	03/16/18	03/16/18
<b>Lead</b>	<b>59.2</b>		0.58	mg/kg	03/16/18	03/16/18
<b>Mercury</b>	<b>0.515</b>		0.124	mg/kg	03/20/18	03/20/18
<b>Nickel</b>	<b>5.82</b>		0.58	mg/kg	03/16/18	03/16/18
Selenium	ND		1.17	mg/kg	03/16/18	03/16/18
Silver	ND		0.58	mg/kg	03/16/18	03/19/18
Thallium	ND		0.235	mg/kg	03/16/18	03/19/18
<b>Vanadium</b>	<b>27.4</b>		0.58	mg/kg	03/16/18	03/16/18
<b>Zinc</b>	<b>31.8</b>		2.4	mg/kg	03/16/18	03/16/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: CTSS-3 0-1'**  
**8C15039-03 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Total Metals</b>						
<b>Antimony</b>	<b>3.03</b>		1.93	mg/kg	03/16/18	03/19/18
<b>Arsenic</b>	<b>9.50</b>		1.93	mg/kg	03/16/18	03/19/18
<b>Barium</b>	<b>30.4</b>		0.97	mg/kg	03/16/18	03/19/18
Beryllium	ND		0.97	mg/kg	03/16/18	03/19/18
<b>Cadmium</b>	<b>7.75</b>		0.97	mg/kg	03/16/18	03/16/18
<b>Chromium</b>	<b>256</b>		0.97	mg/kg	03/16/18	03/16/18
<b>Lead</b>	<b>971</b>		0.97	mg/kg	03/16/18	03/16/18
<b>Mercury</b>	<b>1.08</b>		0.189	mg/kg	03/20/18	03/20/18
<b>Nickel</b>	<b>8.53</b>		0.97	mg/kg	03/16/18	03/16/18
Selenium	ND		1.93	mg/kg	03/16/18	03/16/18
Silver	ND		0.97	mg/kg	03/16/18	03/19/18
Thallium	ND		0.389	mg/kg	03/16/18	03/19/18
<b>Vanadium</b>	<b>29.4</b>		0.97	mg/kg	03/16/18	03/19/18
<b>Zinc</b>	<b>64.3</b>		3.9	mg/kg	03/16/18	03/16/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: CTSS-4 0-1'**  
**8C15039-04 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Total Metals</b>						
Antimony	ND		1.39	mg/kg	03/16/18	03/19/18
<b>Arsenic</b>	<b>7.44</b>		1.39	mg/kg	03/16/18	03/19/18
<b>Barium</b>	<b>48.5</b>		0.69	mg/kg	03/16/18	03/19/18
Beryllium	ND		0.69	mg/kg	03/16/18	03/19/18
<b>Cadmium</b>	<b>6.91</b>		0.69	mg/kg	03/16/18	03/16/18
<b>Chromium</b>	<b>96.1</b>		0.69	mg/kg	03/16/18	03/16/18
<b>Lead</b>	<b>380</b>		0.69	mg/kg	03/16/18	03/16/18
<b>Mercury</b>	<b>0.490</b>		0.146	mg/kg	03/20/18	03/20/18
<b>Nickel</b>	<b>21.6</b>		0.69	mg/kg	03/16/18	03/16/18
Selenium	ND		1.39	mg/kg	03/16/18	03/16/18
Silver	ND		0.69	mg/kg	03/16/18	03/19/18
Thallium	ND		0.280	mg/kg	03/16/18	03/19/18
<b>Vanadium</b>	<b>15.5</b>		0.69	mg/kg	03/16/18	03/19/18
<b>Zinc</b>	<b>184</b>		2.8	mg/kg	03/16/18	03/16/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: CLSS-1 0-1'**  
**8C15039-05 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Total Metals</b>						
<b>Antimony</b>	<b>1.54</b>		0.88	mg/kg	03/16/18	03/19/18
<b>Arsenic</b>	<b>6.23</b>		0.88	mg/kg	03/16/18	03/19/18
<b>Barium</b>	<b>60.2</b>		0.44	mg/kg	03/16/18	03/19/18
Beryllium	ND		0.44	mg/kg	03/16/18	03/19/18
<b>Cadmium</b>	<b>8.67</b>		0.44	mg/kg	03/16/18	03/16/18
<b>Chromium</b>	<b>134</b>		0.44	mg/kg	03/16/18	03/16/18
<b>Lead</b>	<b>410</b>		0.44	mg/kg	03/16/18	03/16/18
<b>Mercury</b>	<b>0.983</b>		0.112	mg/kg	03/20/18	03/20/18
<b>Nickel</b>	<b>28.2</b>		0.44	mg/kg	03/16/18	03/16/18
Selenium	ND		0.88	mg/kg	03/16/18	03/16/18
Silver	ND		0.44	mg/kg	03/16/18	03/19/18
Thallium	ND		0.178	mg/kg	03/16/18	03/19/18
<b>Vanadium</b>	<b>25.9</b>		0.44	mg/kg	03/16/18	03/19/18
<b>Zinc</b>	<b>219</b>		1.8	mg/kg	03/16/18	03/16/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: CLSS-2 0-1'**  
**8C15039-06 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Total Metals</b>						
<b>Antimony</b>	<b>6.19</b>		1.37	mg/kg	03/16/18	03/19/18
<b>Arsenic</b>	<b>4.94</b>		1.37	mg/kg	03/16/18	03/19/18
<b>Barium</b>	<b>82.6</b>		0.68	mg/kg	03/16/18	03/19/18
Beryllium	ND		0.68	mg/kg	03/16/18	03/19/18
<b>Cadmium</b>	<b>8.94</b>		0.68	mg/kg	03/16/18	03/16/18
<b>Chromium</b>	<b>361</b>		0.68	mg/kg	03/16/18	03/16/18
<b>Lead</b>	<b>745</b>		0.68	mg/kg	03/16/18	03/16/18
<b>Mercury</b>	<b>2.34</b>		1.47	mg/kg	03/20/18	03/20/18
<b>Nickel</b>	<b>32.0</b>		0.68	mg/kg	03/16/18	03/16/18
Selenium	ND		1.37	mg/kg	03/16/18	03/16/18
Silver	ND		0.68	mg/kg	03/16/18	03/19/18
Thallium	ND		0.276	mg/kg	03/16/18	03/19/18
<b>Vanadium</b>	<b>18.8</b>		0.68	mg/kg	03/16/18	03/19/18
<b>Zinc</b>	<b>181</b>		2.8	mg/kg	03/16/18	03/16/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: CLSS-3 0-1'**  
**8C15039-07 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Total Metals</b>						
<b>Antimony</b>	<b>1.97</b>		1.16	mg/kg	03/16/18	03/19/18
<b>Arsenic</b>	<b>4.41</b>		1.16	mg/kg	03/16/18	03/19/18
<b>Barium</b>	<b>60.6</b>		0.58	mg/kg	03/16/18	03/19/18
Beryllium	ND		0.58	mg/kg	03/16/18	03/19/18
<b>Cadmium</b>	<b>3.93</b>		0.58	mg/kg	03/16/18	03/16/18
<b>Chromium</b>	<b>144</b>		0.58	mg/kg	03/16/18	03/16/18
<b>Lead</b>	<b>283</b>		0.58	mg/kg	03/16/18	03/16/18
Mercury	ND		1.16	mg/kg	03/20/18	03/20/18
<b>Nickel</b>	<b>11.5</b>		0.58	mg/kg	03/16/18	03/16/18
Selenium	ND		1.16	mg/kg	03/16/18	03/16/18
Silver	ND		0.58	mg/kg	03/16/18	03/19/18
Thallium	ND		0.233	mg/kg	03/16/18	03/19/18
<b>Vanadium</b>	<b>13.2</b>		0.58	mg/kg	03/16/18	03/19/18
<b>Zinc</b>	<b>135</b>		2.3	mg/kg	03/16/18	03/16/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: CLSS-4 0-1'**  
**8C15039-08 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Total Metals</b>						
<b>Antimony</b>	<b>13.7</b>		1.62	mg/kg	03/16/18	03/19/18
Arsenic	ND		1.62	mg/kg	03/16/18	03/19/18
<b>Barium</b>	<b>11.2</b>		0.81	mg/kg	03/16/18	03/19/18
Beryllium	ND		0.81	mg/kg	03/16/18	03/19/18
Cadmium	ND		0.81	mg/kg	03/16/18	03/16/18
<b>Chromium</b>	<b>196</b>		0.81	mg/kg	03/16/18	03/16/18
<b>Lead</b>	<b>413</b>		0.81	mg/kg	03/16/18	03/16/18
<b>Mercury</b>	<b>1.11</b>		0.213	mg/kg	03/20/18	03/20/18
<b>Nickel</b>	<b>3.22</b>		0.81	mg/kg	03/16/18	03/16/18
Selenium	ND		1.62	mg/kg	03/16/18	03/16/18
<b>Silver</b>	<b>5.55</b>		0.81	mg/kg	03/16/18	03/19/18
Thallium	ND		0.326	mg/kg	03/16/18	03/19/18
<b>Vanadium</b>	<b>9.53</b>		0.81	mg/kg	03/16/18	03/19/18
<b>Zinc</b>	<b>43.4</b>		3.3	mg/kg	03/16/18	03/16/18



Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: CLSS-5 0-1'**  
**8C15039-09 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Total Metals</b>						
<b>Antimony</b>	<b>33.9</b>		2.83	mg/kg	03/16/18	03/19/18
<b>Arsenic</b>	<b>4.48</b>		2.83	mg/kg	03/16/18	03/19/18
<b>Barium</b>	<b>103</b>		1.42	mg/kg	03/16/18	03/19/18
Beryllium	ND		1.42	mg/kg	03/16/18	03/19/18
<b>Cadmium</b>	<b>2.23</b>		1.42	mg/kg	03/16/18	03/16/18
<b>Chromium</b>	<b>1440</b>		1.42	mg/kg	03/16/18	03/16/18
<b>Lead</b>	<b>1880</b>		1.42	mg/kg	03/16/18	03/16/18
<b>Mercury</b>	<b>8.85</b>		2.62	mg/kg	03/20/18	03/20/18
<b>Nickel</b>	<b>11.8</b>		1.42	mg/kg	03/16/18	03/16/18
Selenium	ND		2.83	mg/kg	03/16/18	03/16/18
<b>Silver</b>	<b>35.5</b>		1.42	mg/kg	03/16/18	03/19/18
Thallium	ND		0.571	mg/kg	03/16/18	03/19/18
<b>Vanadium</b>	<b>23.7</b>		1.42	mg/kg	03/16/18	03/19/18
<b>Zinc</b>	<b>140</b>		5.7	mg/kg	03/16/18	03/16/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: CLSS-6 0-1'**  
**8C15039-10 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Total Metals</b>						
<b>Antimony</b>	<b>39.1</b>		3.11	mg/kg	03/16/18	03/19/18
<b>Arsenic</b>	<b>17.9</b>		3.11	mg/kg	03/16/18	03/19/18
<b>Barium</b>	<b>155</b>		1.55	mg/kg	03/16/18	03/19/18
Beryllium	ND		1.55	mg/kg	03/16/18	03/19/18
<b>Cadmium</b>	<b>86.4</b>		1.55	mg/kg	03/16/18	03/16/18
<b>Chromium</b>	<b>1780</b>		1.55	mg/kg	03/16/18	03/16/18
<b>Lead</b>	<b>1900</b>		1.55	mg/kg	03/16/18	03/16/18
<b>Mercury</b>	<b>7.14</b>		3.08	mg/kg	03/20/18	03/20/18
<b>Nickel</b>	<b>72.3</b>		1.55	mg/kg	03/16/18	03/16/18
Selenium	ND		3.11	mg/kg	03/16/18	03/16/18
<b>Silver</b>	<b>53.6</b>		1.55	mg/kg	03/16/18	03/19/18
Thallium	ND		0.626	mg/kg	03/16/18	03/19/18
<b>Vanadium</b>	<b>57.4</b>		1.55	mg/kg	03/16/18	03/19/18
<b>Zinc</b>	<b>4850</b>		6.3	mg/kg	03/16/18	03/16/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: CLSS-7 0-1'**  
**8C15039-11 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Total Metals</b>						
<b>Antimony</b>	<b>8.99</b>		3.11	mg/kg	03/16/18	03/19/18
<b>Arsenic</b>	<b>5.37</b>		3.11	mg/kg	03/16/18	03/19/18
<b>Barium</b>	<b>61.8</b>		1.56	mg/kg	03/16/18	03/19/18
Beryllium	ND		1.56	mg/kg	03/16/18	03/19/18
<b>Cadmium</b>	<b>2.60</b>		1.56	mg/kg	03/16/18	03/16/18
<b>Chromium</b>	<b>399</b>		1.56	mg/kg	03/16/18	03/16/18
<b>Lead</b>	<b>762</b>		1.56	mg/kg	03/16/18	03/16/18
<b>Mercury</b>	<b>2.06</b>		0.311	mg/kg	03/20/18	03/20/18
<b>Nickel</b>	<b>8.95</b>		1.56	mg/kg	03/16/18	03/16/18
Selenium	ND		3.11	mg/kg	03/16/18	03/16/18
<b>Silver</b>	<b>5.74</b>		1.56	mg/kg	03/16/18	03/19/18
Thallium	ND		0.627	mg/kg	03/16/18	03/19/18
<b>Vanadium</b>	<b>24.4</b>		1.56	mg/kg	03/16/18	03/19/18
<b>Zinc</b>	<b>67.9</b>		6.3	mg/kg	03/16/18	03/16/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: CLSS-8 0-1'**  
**8C15039-12 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Total Metals</b>						
<b>Antimony</b>	<b>8.47</b>		3.84	mg/kg	03/16/18	03/19/18
Arsenic	ND		3.84	mg/kg	03/16/18	03/19/18
<b>Barium</b>	<b>56.2</b>		1.92	mg/kg	03/16/18	03/19/18
Beryllium	ND		1.92	mg/kg	03/16/18	03/19/18
<b>Cadmium</b>	<b>3.62</b>		1.92	mg/kg	03/16/18	03/16/18
<b>Chromium</b>	<b>446</b>		1.92	mg/kg	03/16/18	03/16/18
<b>Lead</b>	<b>901</b>		1.92	mg/kg	03/16/18	03/16/18
<b>Mercury</b>	<b>1.07</b>		0.403	mg/kg	03/20/18	03/20/18
<b>Nickel</b>	<b>11.9</b>		1.92	mg/kg	03/16/18	03/16/18
Selenium	ND		3.84	mg/kg	03/16/18	03/16/18
<b>Silver</b>	<b>13.5</b>		1.92	mg/kg	03/16/18	03/19/18
Thallium	ND		0.773	mg/kg	03/16/18	03/19/18
<b>Vanadium</b>	<b>25.6</b>		1.92	mg/kg	03/16/18	03/19/18
<b>Zinc</b>	<b>60.0</b>		7.7	mg/kg	03/16/18	03/16/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: TRSS-1 0-1'**  
**8C15039-13 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Total Metals</b>						
Antimony	ND		0.77	mg/kg	03/16/18	03/19/18
<b>Arsenic</b>	<b>4.83</b>		0.77	mg/kg	03/16/18	03/19/18
<b>Barium</b>	<b>30.4</b>		0.39	mg/kg	03/16/18	03/19/18
<b>Beryllium</b>	<b>0.39</b>		0.39	mg/kg	03/16/18	03/19/18
<b>Cadmium</b>	<b>2.66</b>		0.39	mg/kg	03/16/18	03/16/18
<b>Chromium</b>	<b>29.1</b>		0.39	mg/kg	03/16/18	03/16/18
<b>Lead</b>	<b>30.6</b>		0.39	mg/kg	03/16/18	03/16/18
Mercury	ND		0.082	mg/kg	03/20/18	03/20/18
<b>Nickel</b>	<b>32.5</b>		0.39	mg/kg	03/16/18	03/16/18
Selenium	ND		0.77	mg/kg	03/16/18	03/16/18
Silver	ND		0.39	mg/kg	03/16/18	03/19/18
Thallium	ND		0.156	mg/kg	03/16/18	03/19/18
<b>Vanadium</b>	<b>20.2</b>		0.39	mg/kg	03/16/18	03/19/18
<b>Zinc</b>	<b>50.5</b>		1.6	mg/kg	03/16/18	03/16/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: TRSS-2 0-1'**  
**8C15039-14 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Total Metals</b>						
<b>Antimony</b>	<b>1.51</b>		0.96	mg/kg	03/16/18	03/19/18
<b>Arsenic</b>	<b>3.99</b>		0.96	mg/kg	03/16/18	03/19/18
<b>Barium</b>	<b>55.7</b>		0.48	mg/kg	03/16/18	03/19/18
Beryllium	ND		0.48	mg/kg	03/16/18	03/19/18
<b>Cadmium</b>	<b>2.78</b>		0.48	mg/kg	03/16/18	03/16/18
<b>Chromium</b>	<b>28.0</b>		0.48	mg/kg	03/16/18	03/16/18
<b>Lead</b>	<b>110</b>		0.48	mg/kg	03/16/18	03/16/18
<b>Mercury</b>	<b>0.487</b>		0.103	mg/kg	03/20/18	03/20/18
<b>Nickel</b>	<b>37.2</b>		0.48	mg/kg	03/16/18	03/16/18
Selenium	ND		0.96	mg/kg	03/16/18	03/16/18
Silver	ND		0.48	mg/kg	03/16/18	03/19/18
Thallium	ND		0.194	mg/kg	03/16/18	03/19/18
<b>Vanadium</b>	<b>24.2</b>		0.48	mg/kg	03/16/18	03/19/18
<b>Zinc</b>	<b>56.2</b>		1.9	mg/kg	03/16/18	03/16/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: TRSS-3 0-1'**  
**8C15039-15 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Total Metals</b>						
Antimony	ND		1.02	mg/kg	03/16/18	03/19/18
<b>Arsenic</b>	<b>3.97</b>		1.02	mg/kg	03/16/18	03/19/18
<b>Barium</b>	<b>55.1</b>		0.51	mg/kg	03/16/18	03/19/18
Beryllium	ND		0.51	mg/kg	03/16/18	03/19/18
<b>Cadmium</b>	<b>6.05</b>		0.51	mg/kg	03/16/18	03/16/18
<b>Chromium</b>	<b>15.5</b>		0.51	mg/kg	03/16/18	03/16/18
<b>Lead</b>	<b>16.7</b>		0.51	mg/kg	03/16/18	03/16/18
Mercury	ND		0.108	mg/kg	03/20/18	03/20/18
<b>Nickel</b>	<b>29.7</b>		0.51	mg/kg	03/16/18	03/16/18
Selenium	ND		1.02	mg/kg	03/16/18	03/16/18
Silver	ND		0.51	mg/kg	03/16/18	03/19/18
Thallium	ND		0.205	mg/kg	03/16/18	03/19/18
<b>Vanadium</b>	<b>17.2</b>		0.51	mg/kg	03/16/18	03/19/18
<b>Zinc</b>	<b>45.6</b>		2.1	mg/kg	03/16/18	03/16/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: TRSS-4 0-1'**  
**8C15039-16 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Total Metals</b>						
Antimony	ND		0.89	mg/kg	03/16/18	03/19/18
<b>Arsenic</b>	<b>3.70</b>		0.89	mg/kg	03/16/18	03/19/18
<b>Barium</b>	<b>40.7</b>		0.44	mg/kg	03/16/18	03/19/18
Beryllium	ND		0.44	mg/kg	03/16/18	03/19/18
<b>Cadmium</b>	<b>3.43</b>		0.44	mg/kg	03/16/18	03/16/18
<b>Chromium</b>	<b>18.9</b>		0.44	mg/kg	03/16/18	03/16/18
<b>Lead</b>	<b>14.4</b>		0.44	mg/kg	03/16/18	03/16/18
Mercury	ND		0.087	mg/kg	03/20/18	03/20/18
<b>Nickel</b>	<b>10.7</b>		0.44	mg/kg	03/16/18	03/16/18
Selenium	ND		0.89	mg/kg	03/16/18	03/16/18
Silver	ND		0.44	mg/kg	03/16/18	03/19/18
Thallium	ND		0.179	mg/kg	03/16/18	03/19/18
<b>Vanadium</b>	<b>18.0</b>		0.44	mg/kg	03/16/18	03/19/18
<b>Zinc</b>	<b>61.7</b>		1.8	mg/kg	03/16/18	03/16/18



Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: CTSS-1 0-1'**  
**8C15039-01 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Calculation</b>						
Trivalent Chromium	23.5		0.985	mg/kg	03/21/18	03/21/18
<b>General Chemistry</b>						
Hexavalent chromium	ND		3	mg/kg	03/21/18	03/21/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: CTSS-2 0-1'**  
**8C15039-02 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Calculation</b>						
Trivalent Chromium	49.6		0.584	mg/kg	03/21/18	03/21/18
<b>General Chemistry</b>						
Hexavalent chromium	ND		2	mg/kg	03/21/18	03/21/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: CTSS-3 0-1'**  
**8C15039-03 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Calculation</b>						
Trivalent Chromium	256		0.966	mg/kg	03/21/18	03/21/18
<b>General Chemistry</b>						
Hexavalent chromium	ND		3	mg/kg	03/21/18	03/21/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: CTSS-4 0-1'**  
**8C15039-04 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Calculation</b>						
Trivalent Chromium	90.1		0.695	mg/kg	03/21/18	03/21/18
<b>General Chemistry</b>						
Hexavalent chromium	6		2	mg/kg	03/21/18	03/21/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: CLSS-1 0-1'**  
**8C15039-05 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Calculation</b>						
Trivalent Chromium	134		0.442	mg/kg	03/21/18	03/21/18
<b>General Chemistry</b>						
Hexavalent chromium	ND		2	mg/kg	03/21/18	03/21/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: CLSS-2 0-1'**  
**8C15039-06 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Calculation</b>						
Trivalent Chromium	361		0.685	mg/kg	03/21/18	03/21/18
<b>General Chemistry</b>						
Hexavalent chromium	ND		2	mg/kg	03/21/18	03/21/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: CLSS-3 0-1'**  
**8C15039-07 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Calculation</b>						
Trivalent Chromium	<b>144</b>		0.578	mg/kg	03/21/18	03/21/18
<b>General Chemistry</b>						
Hexavalent chromium	ND		2	mg/kg	03/21/18	03/21/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: CLSS-4 0-1'**  
**8C15039-08 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Calculation</b>						
Trivalent Chromium	<b>181</b>		0.809	mg/kg	03/21/18	03/21/18
<b>General Chemistry</b>						
Hexavalent chromium	<b>15</b>		3	mg/kg	03/21/18	03/21/18



Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: CLSS-5 0-1'**  
**8C15039-09 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Calculation</b>						
Trivalent Chromium	1429		1.42	mg/kg	03/21/18	03/21/18
<b>General Chemistry</b>						
Hexavalent chromium	11		4	mg/kg	03/21/18	03/21/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: CLSS-6 0-1'**  
**8C15039-10 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Calculation</b>						
Trivalent Chromium	1769		1.55	mg/kg	03/21/18	03/21/18
<b>General Chemistry</b>						
Hexavalent chromium	11		4	mg/kg	03/21/18	03/21/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: CLSS-7 0-1'**  
**8C15039-11 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Calculation</b>						
<b>Trivalent Chromium</b>	<b>399</b>		1.56	mg/kg	03/21/18	03/21/18
<b>General Chemistry</b>						
Hexavalent chromium	ND		4	mg/kg	03/21/18	03/21/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: CLSS-8 0-1'**  
**8C15039-12 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Calculation</b>						
Trivalent Chromium	446		1.92	mg/kg	03/21/18	03/21/18
<b>General Chemistry</b>						
Hexavalent chromium	ND		6	mg/kg	03/21/18	03/21/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: TRSS-1 0-1'**  
**8C15039-13 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Calculation</b>						
Trivalent Chromium	29.1		0.387	mg/kg	03/21/18	03/21/18
<b>General Chemistry</b>						
Hexavalent chromium	ND		1	mg/kg	03/21/18	03/21/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: TRSS-2 0-1'**  
**8C15039-14 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Calculation</b>						
Trivalent Chromium	28.0		0.482	mg/kg	03/21/18	03/21/18
<b>General Chemistry</b>						
Hexavalent chromium	ND		1	mg/kg	03/21/18	03/21/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: TRSS-3 0-1'**  
**8C15039-15 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Calculation</b>						
Trivalent Chromium	15.5		0.510	mg/kg	03/21/18	03/21/18
<b>General Chemistry</b>						
Hexavalent chromium	ND		2	mg/kg	03/21/18	03/21/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Sample: TRSS-4 0-1'**  
**8C15039-16 ()**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Calculation</b>						
<b>Trivalent Chromium</b>	<b>18.9</b>		0.443	mg/kg	03/21/18	03/21/18
<b>General Chemistry</b>						
Hexavalent chromium	ND		1	mg/kg	03/21/18	03/21/18



# **RESULTS: EXTRACTABLE PETROLEUM HYDROCARBONS**

**Results for EPH analysis are presented in the following section. Each page is electronically signed.**

## SAMPLE INFORMATION

Matrix	<input type="checkbox"/> Aqueous <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Sediment <input type="checkbox"/> Other:					
Containers	<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Broken <input type="checkbox"/> Leaking:					
Aqueous Preservatives	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> pH<2 <input type="checkbox"/> pH>2 Comment:					
Temperature	<input checked="" type="checkbox"/> Received on Ice <input checked="" type="checkbox"/> Received at 4 ± 2 °C <input type="checkbox"/> Other: °C					
Extraction Method	Water: N/A			Soil/Sediment : 3546		

## EPH ANALYTICAL RESULTS

Method for Ranges: MADEP EPH 04-1.1	Client ID	Method Blank	CTSS-1 0-1	CTSS-3 0-1	CLSS-1 0-1	TRSS-1 0-1		
Method for Target Analytes:	Lab ID	B8C0564 -BLK1	8C15039 -01	8C15039 -03	8C15039 -05	8C15039 -13		
EPH Surrogate Standards: Aliphatic: Chloro-octadecane Aromatic: o-Terphenyl	Date Collected	NA	3/12/18	3/12/18	3/12/18	3/12/18		
	Date Received	NA	3/15/18	3/15/18	3/15/18	3/15/18		
	Date Thawed	NA	NA	NA	NA	NA		
	Date Extracted	3/16/18	3/16/18	3/16/18	3/16/18	3/16/18		
EPH Fractionation Surrogates: (1) 2-Fluorobiphenyl  (2) 2-Bromonaphthalene	Date Analyzed	3/19/18	3/20/18	3/19/18	3/19/18	3/19/18		
	Time Analyzed	13:31 13:14	13:11	16:25 16:02	15:34 15:14	15:59 15:38		
	Dilution Factor	1X	1X	1X	1X	1X		
	% Moisture (soil/sediment)	NA	71.3	66.0	43.1	18.9		
<b>RANGE/TARGET ANALYTE</b>	<b>RL</b>	<b>Units</b>						
Unadjusted C11-C22 Aromatics <sup>1</sup>	13.3	mg/kg	<13.3	<46.3	<38.7	38.4	<15.7	
Diesel PAH Analytes	Naphthalene	0.33	mg/kg	<0.33	<1.15	<0.96	<0.57	<0.39
	2-Methylnaphthalene	0.33	mg/kg	<0.33	<1.15	1.16	<0.57	<0.39
	Phenanthrene	0.33	mg/kg	<0.33	<1.15	<0.96	<0.57	<0.39
	Acenaphthene	0.33	mg/kg	<0.33	<1.15	<0.96	<0.57	<0.39
Other Target PAH Analytes	Acenaphthylene	0.33	mg/kg	<0.33	<1.15	<0.96	<0.57	<0.39
	Fluorene	0.33	mg/kg	<0.33	<1.15	<0.96	<0.57	<0.39
	Anthracene	0.33	mg/kg	<0.33	<1.15	1.11	<0.57	<0.39
	Fluoranthene	0.33	mg/kg	<0.33	<1.15	<0.96	<0.57	<0.39
	Pyrene	0.33	mg/kg	<0.33	<1.15	<0.96	<0.57	<0.39
	Benzo(a)anthracene	0.33	mg/kg	<0.33	<1.15	<0.96	<0.57	<0.39
	Chrysene	0.33	mg/kg	<0.33	<1.15	<0.96	<0.57	<0.39
	Benzo(b)fluoranthene	0.33	mg/kg	<0.33	<1.15	<0.96	<0.57	<0.39
	Benzo(k)fluoranthene	0.33	mg/kg	<0.33	<1.15	<0.96	<0.57	<0.39
	Benzo(a)pyrene	0.33	mg/kg	<0.33	<1.15	<0.96	<0.57	<0.39
	Indeno(1,2,3-cd)pyrene	0.33	mg/kg	<0.33	<1.15	<0.96	<0.57	<0.39
	Dibenzo(a,h)anthracene	0.33	mg/kg	<0.33	<1.15	<0.96	<0.57	<0.39
Benzo(g,h,i)perylene	0.33	mg/kg	<0.33	<1.15	<0.96	<0.57	<0.39	
C9-C18 Aliphatic Hydrocarbons <sup>1</sup>	13.3	mg/kg	<13.3	<46.3	<38.7	<23.1	<15.7	
C19-C36 Aliphatic Hydrocarbons <sup>1</sup>	13.3	mg/kg	<13.3	<46.3	64.9	149	<15.7	
C11-C22 Aromatic Hydrocarbons <sup>1,2</sup>	13.3	mg/kg	<13.3	<46.3	<38.7	38.4	<15.7	
Aliphatic Surrogate % Recovery			57	58	42	41	60	
Aromatic Surrogate % Recovery			70	80	47	55	80	
Sample Surrogate Acceptance Range			40-140%	40-140%	40-140%	40-140%	40-140%	
Fractionation Surrogate (1) % Recovery			98	91	107	110	109	
Fractionation Surrogate (2) % Recovery			104	89	110	119	114	
Fractionation Surrogate Acceptance Range			40-140%	40-140%	40-140%	40-140%	40-140%	

<sup>1</sup>Hydrocarbon Range data exclude area counts of any surrogate(s) and/or internal standards eluting in that range

<sup>2</sup>C<sub>11</sub>-C<sub>22</sub> Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

**SAMPLE INFORMATION**

Matrix	<input type="checkbox"/> Aqueous <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Sediment <input type="checkbox"/> Other:
Containers	<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Broken <input type="checkbox"/> Leaking:
Aqueous Preservatives	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> pH <sub>&lt;2</sub> <input type="checkbox"/> pH <sub>&gt;2</sub> Comment:
Temperature	<input checked="" type="checkbox"/> Received on Ice <input checked="" type="checkbox"/> Received at 4 ± 2 °C <input type="checkbox"/> Other: °C
Extraction Method	Water: N/A <span style="float:right">Soil/Sediment : 3546</span>

**EPH ANALYTICAL RESULTS**

Method for Ranges: MADEP EPH 04-1.1		Client ID	TRSS-4				
		Lab ID	8C15039-				
			0-1				
Method for Target Analytes:			16				
EPH Surrogate Standards:		Date Collected	3/12/18				
Aliphatic: Chloro-octadecane		Date Received	3/15/18				
Aromatic: o-Terphenyl		Date Thawed	NA				
		Date Extracted	3/16/18				
EPH Fractionation Surrogates:		Date Analyzed	3/20/18				
(1) 2-Fluorobiphenyl		Time Analyzed	13:35				
			13:36				
(2) 2-Bromonaphthalene		Dilution Factor	1X				
		% Moisture (soil/sediment)	27.9				
RANGE/TARGET ANALYTE		RL	Units				
Unadjusted C11-C22 Aromatics <sup>1</sup>		13.3	mg/kg	<18.0			
Diesel PAH Analytes	Naphthalene	0.33	mg/kg	<0.45			
	2-Methylnaphthalene	0.33	mg/kg	<0.45			
	Phenanthrene	0.33	mg/kg	<0.45			
	Acenaphthene	0.33	mg/kg	<0.45			
Other Target PAH Analytes	Acenaphthylene	0.33	mg/kg	<0.45			
	Fluorene	0.33	mg/kg	<0.45			
	Anthracene	0.33	mg/kg	<0.45			
	Fluoranthene	0.33	mg/kg	<0.45			
	Pyrene	0.33	mg/kg	<0.45			
	Benzo(a)anthracene	0.33	mg/kg	<0.45			
	Chrysene	0.33	mg/kg	<0.45			
	Benzo(b)fluoranthene	0.33	mg/kg	<0.45			
	Benzo(k)fluoranthene	0.33	mg/kg	<0.45			
	Benzo(a)pyrene	0.33	mg/kg	<0.45			
	Indeno(1,2,3-cd)pyrene	0.33	mg/kg	<0.45			
	Dibenzo(a,h)anthracene	0.33	mg/kg	<0.45			
Benzo(g,h,i)perylene	0.33	mg/kg	<0.45				
C9-C18 Aliphatic Hydrocarbons <sup>1</sup>		13.3	mg/kg	<18.0			
C19-C36 Aliphatic Hydrocarbons <sup>1</sup>		13.3	mg/kg	<18.0			
C11-C22 Aromatic Hydrocarbons <sup>1,2</sup>		13.3	mg/kg	<18.0			
Aliphatic Surrogate % Recovery				56			
Aromatic Surrogate % Recovery				78			
Sample Surrogate Acceptance Range				40-140%			
Fractionation Surrogate (1) % Recovery				92			
Fractionation Surrogate (2) % Recovery				94			
Fractionation Surrogate Acceptance Range				40-140%			

<sup>1</sup>Hydrocarbon Range data exclude area counts of any surrogate(s) and/or internal standards eluting in that range

<sup>2</sup> C<sub>11</sub>-C<sub>22</sub> Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

spike.txt  
Spike Recovery and RPD Summary Report - SOIL

Method : K:\GC-M\METHODS\ALI-QNT.M (Chemstation Integrator)  
 Title :  
 Last Update : Thu Mar 08 13:13:22 2018  
 Response via : Initial Calibration

Non-Spiked Sample: M031902.D

Spike Sample	Spike Duplicate Sample
-----	
File ID : M031903.D	M031904.D
Sample : B8C0564-BS1 @HX-S	B8C0564-BSD1 @HX-S
Acq Time: 19 Mar 2018 13:38	19 Mar 2018 14:02
-----	

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
-----									
Nonane	0.0	40	16	17	40	43	7	25	30-140
Decane	0.0	40	21	22	52	54	4	25	40-140
Dodecane	0.0	40	23	24	58	61	6	25	40-140
Tetradecane	0.0	40	23	24	58	61	4	25	40-140
Hexadecane	0.0	40	26	26	64	65	2	25	40-140
Octadecane	0.0	40	30	29	75	74	2	25	40-140
Nonadecane	0.0	40	30	30	75	74	2	25	40-140
Eicosane	0.0	40	31	30	77	75	2	25	40-140
Docosane	0.0	40	31	30	78	75	3	25	40-140
Tetracosane	0.0	40	31	30	77	74	4	25	40-140
Hexacosane	0.0	40	31	30	78	75	4	25	40-140
Octacosane	0.0	40	31	30	79	75	4	25	40-140
Triacontane	0.0	40	31	29	77	74	5	25	40-140
Hexatriacontane	0.0	40	28	25	70	61	14	25	40-140
-----									

# - Fails Limit Check

ALI-QNT.M      Mon Mar 19 14:28:40 2018

spike.txt  
Spike Recovery and RPD Summary Report - SOIL

Method : K:\GC-K\METHODS\AROQT.M (Chemstation Integrator)  
 Title :  
 Last Update : Fri Mar 16 11:21:12 2018  
 Response via : Initial Calibration

Non-Spiked Sample: K031902.D

Spike Sample	Spike Duplicate Sample
File ID : K031903.D	K031904.D
Sample : B8C0564-BS1	B8C0564-BSD1
Acq Time: 19 Mar 2018 13:57	19 Mar 2018 14:22

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC RPD	Limits % Rec
Napthalene	0.0	40	31	29	78	73	7	25	40-140
2-Methyl Napthalene	0.0	40	31	29	78	73	7	25	40-140
Acenaphthylene	0.0	40	33	31	82	76	7	25	40-140
Acenaphthene	0.0	40	32	29	79	73	7	25	40-140
Fluorene	0.0	40	32	30	81	75	8	25	40-140
Phenanthrene	0.0	40	36	33	90	83	8	25	40-140
Anthracene	0.0	40	34	33	84	82	3	25	40-140
Fluoranthene	0.0	40	34	31	85	78	9	25	40-140
Pyrene	0.0	40	34	32	86	79	9	25	40-140
Benzo (a) Anthracene	0.0	40	37	34	92	84	9	25	40-140
Chrysene	0.0	40	34	31	84	78	7	25	40-140
Benzo (b) Flouranthe	0.0	40	34	31	84	78	7	25	40-140
Benzo(k)Flouranthene	0.0	40	36	34	89	84	6	25	40-140
Benzo(a)Pyrene	0.0	40	33	31	83	77	8	25	40-140
Indeno(1,2,3)Pyrene	0.0	40	35	31	87	78	11	25	40-140
Dibenzo(ah)Anthracen	0.0	40	35	33	87	84	4	25	40-140
Benzo(g,h,i)Perylene	0.0	40	34	31	85	78	8	25	40-140

# - Fails Limit Check

AROQT.M

Tue Mar 20 13:55:42 2018

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

### Quality Control

#### General Chemistry

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch: B8C0745 - Hexavalent Chrome</b>									
<b>Blank (B8C0745-BLK1)</b>									
Hexavalent chromium	ND	1	mg/kg						
				Prepared & Analyzed: 03/21/18					
<b>Blank (B8C0745-BLK2)</b>									
Hexavalent chromium	ND	1	mg/kg						
				Prepared & Analyzed: 03/21/18					
<b>Blank (B8C0745-BLK3)</b>									
Hexavalent chromium	ND	1	mg/kg						
				Prepared & Analyzed: 03/21/18					
<b>LCS (B8C0745-BS1)</b>									
Hexavalent chromium	19	1	mg/kg	20.0		94.0	90-110		
				Prepared & Analyzed: 03/21/18					
<b>LCS (B8C0745-BS2)</b>									
Hexavalent chromium	19	1	mg/kg	20.0		94.8	90-110		
				Prepared & Analyzed: 03/21/18					
<b>LCS (B8C0745-BS3)</b>									
Hexavalent chromium	19	1	mg/kg	20.0		97.2	90-110		
				Prepared & Analyzed: 03/21/18					
<b>Duplicate (B8C0745-DUP1)</b>									
Hexavalent chromium	ND	3	mg/kg dry		ND				20
				Prepared & Analyzed: 03/21/18					
<b>Matrix Spike (B8C0745-MS1)</b>									
Hexavalent chromium	38	3	mg/kg dry	69.0	ND	55.2	80-120		
				Prepared & Analyzed: 03/21/18					

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Quality Control**  
(Continued)

**Total Metals**

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
---------	--------	------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------

**Batch: B8C0581 - Metals Digestion Soils**

**Blank (B8C0581-BLK1)**

Prepared: 03/16/18 Analyzed: 03/19/18

Thallium	ND		0.133	mg/kg						
Selenium	ND		0.66	mg/kg						
Chromium	ND		0.33	mg/kg						
Arsenic	ND		0.66	mg/kg						
Cadmium	ND		0.33	mg/kg						
Barium	ND		0.33	mg/kg						
Beryllium	ND		0.33	mg/kg						
Antimony	ND		0.66	mg/kg						
Silver	ND		0.33	mg/kg						
Lead	ND		0.33	mg/kg						
Vanadium	ND		0.33	mg/kg						
Nickel	ND		0.33	mg/kg						
Zinc	ND		1.3	mg/kg						

**LCS (B8C0581-BS1)**

Prepared & Analyzed: 03/16/18

Vanadium	70.3		0.33	mg/kg	66.7		105	85-115		
Arsenic	13.3		0.66	mg/kg	13.3		99.9	85-115		
Cadmium	60.1		0.33	mg/kg	66.7		90.1	85-115		
Lead	67.3		0.33	mg/kg	66.7		101	85-115		
Selenium	12.3		0.66	mg/kg	13.3		92.1	85-115		
Nickel	60.3		0.33	mg/kg	66.7		90.5	85-112		
Silver	25.8		0.33	mg/kg	26.7		96.7	85-115		
Antimony	66.1		0.66	mg/kg	66.7		99.2	85-115		
Barium	64.4		0.33	mg/kg	66.7		96.5	85-115		
Zinc	67.2		1.3	mg/kg	66.7		101	85-115		
Beryllium	14.2		0.33	mg/kg	13.3		106	85-115		
Chromium	69.7		0.33	mg/kg	66.7		105	85-115		

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Quality Control**  
(Continued)

**Total Metals (Continued)**

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
---------	--------	------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------

**Batch: B8C0581 - Metals Digestion Soils (Continued)**

**LCS (B8C0581-BS2)**

Prepared: 03/16/18 Analyzed: 03/19/18

Thallium	18.6			ug/l	20.0		93.1	85-115		
----------	------	--	--	------	------	--	------	--------	--	--

**Matrix Spike (B8C0581-MS1)**

**Source: 8C15027-01**

Prepared: 03/16/18 Analyzed: 03/19/18

Silver	34.1		0.49	mg/kg dry	39.7		85.8	70-130		
Zinc	112		2.0	mg/kg dry	99.2	32.6	80.0	70-130		
Vanadium	90.6		0.49	mg/kg dry	99.2		91.3	70-130		
Arsenic	23.7		0.98	mg/kg dry	19.8		119	70-130		
Nickel	88.2		0.49	mg/kg dry	99.2		88.9	70-130		
Barium	136		0.49	mg/kg dry	99.2		137	70-130		
Beryllium	20.0		0.49	mg/kg dry	19.8		101	70-130		
Antimony	86.7		0.98	mg/kg dry	99.2		87.4	70-130		
Cadmium	79.6		0.49	mg/kg dry	99.2		80.2	70-130		
Lead	81.1		0.49	mg/kg dry	99.2		81.7	70-130		

**Matrix Spike Dup (B8C0581-MSD1)**

**Source: 8C15027-01**

Prepared: 03/16/18 Analyzed: 03/19/18

Nickel	86.9		0.49	mg/kg dry	98.5		88.2	70-130	1.58	200
Vanadium	92.4		0.49	mg/kg dry	98.5		93.8	70-130	1.99	200
Zinc	115		2.0	mg/kg dry	98.5	32.6	83.4	70-130	2.43	200
Lead	45.6		0.49	mg/kg dry	98.5		46.2	70-130	56.1	200
Beryllium	18.0		0.49	mg/kg dry	19.7		91.1	70-130	10.9	200
Silver	34.1		0.49	mg/kg dry	39.4		86.4	70-130	0.0248	200
Arsenic	23.1		0.98	mg/kg dry	19.7		117	70-130	2.44	200
Antimony	69.9		0.98	mg/kg dry	98.5		70.9	70-130	21.4	200
Barium	104		0.49	mg/kg dry	98.5		106	70-130	26.1	200
Cadmium	82.9		0.49	mg/kg dry	98.5		84.1	70-130	4.05	200

**Batch: B8C0658 - Metals Digestion Soils**

**Blank (B8C0658-BLK1)**

Prepared & Analyzed: 03/20/18

Mercury	ND		0.071	mg/kg						
---------	----	--	-------	-------	--	--	--	--	--	--



Project: 1630 - Buckley Mann Site

Case Number: 8C15039

**Quality Control**  
(Continued)

**Total Metals (Continued)**

Analyte	ResultQual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
---------	------------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------

**Batch: B8C0658 - Metals Digestion Soils (Continued)**

**LCS (B8C0658-BS1)**

Mercury	0.999	ug/l	1.00	99.9	93-114
---------	-------	------	------	------	--------

Prepared & Analyzed: 03/20/18

**Matrix Spike (B8C0658-MS1)**

Mercury	0.901	ug/l	1.00	0.040	86.1	80-120
---------	-------	------	------	-------	------	--------

Source: 8C15040-01

Prepared & Analyzed: 03/20/18

Project: 1630 - Buckley Mann Site

Case Number: 8C15039

### Notes and Definitions

<b>Item</b>	<b>Definition</b>
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.



**New England Testing Laboratory**  
 59 Greenhill Street  
 West Warwick, RI 02893  
 1-888-863-8522

**Chain of Custody Record**

Project No. 1630		Project Name/Location: Buckley & Mann Site		Matrix			No. of Containers	Preservative	Tests**		
Client: CAPITAL ENV LLC		Report To: Rob Berger / Pete Cook		Aqueous	Soil	Other			Total Cr, Pb, Zn	EPH w/ targets	
Invoice To: Capital Env. LLC		Date	Time	Comp	Grab	Sample I.D.					
3/12/18	12 N		X			CTSS-1 0-1'	X	1 GLASS	ICE	X	X
3/12/18	12:15 P		X			CTSS-2 0-1'	X	1 GLASS	ICE	X	X
3/12/18	12:30 P		X			CTSS-3 0-1'	X	1 GLASS	ICE	X	X
3/12/18	12:45 P		X			CTSS-4 0-1'	X	1 GLASS	ICE	X	X
3/12/18	1:00 P		X			CLSS-1 0-1'	X	1 GLASS	ICE	X	X
3/12/18	1:15 P		X			CLSS-2 0-1'	X	1 GLASS	ICE	X	X
3/12/18	1:30 P		X			CLSS-3 0-1'	X	1 GLASS	ICE	X	X
3/12/18	1:45 P		X			CLSS-4 0-1'	X	1 GLASS	ICE	X	X
3/12/18	2:00 P		X			CLSS-5 0-1'	X	1 GLASS	ICE	X	X
3/12/18	2:15 P		X			CLSS-6 0-1'	X	1 GLASS	ICE	X	X
3/12/18	2:30 P		X			CLSS-7 0-1'	X	1 GLASS	ICE	X	X
3/12/18	3:00 P		X			CLSS-8 0-1'	X	1 GLASS	ICE	X	X
Sampled By: Rob Berger		Date/Time: 3/14/18 7:00 A	Received By: [Signature]		Date/Time: 3/15/18 1:30 P	Laboratory Remarks:		Special Instructions: Norfolk, MA 17 Lawrence St. ICE NV			
Relinquished By: [Signature]		Date/Time: 3/15/18 1:00 P	Received By: [Signature]		Date/Time: 3/15/18 1:00 P	Temp. Received: 4°		MIDWAY 3/17 Turnaround Time (Business Days): 5 Days			

\*MCP 14,  
 hex & tri  
 Chrome  
 requested  
 for all  
 samples  
 per Rob  
 3/19 gd

\* MASS DEP COMPLIANCE Documents  
 Needed \*

ON-ICE ✓  
 Page 1 of 2

**New England Testing Laboratory**

59 Greenhill Street  
West Warwick, RI 02893

1-888-863-8522

**Chain of Custody Record**

Project No. 1630		Project Name/Location: BUCKLEY + Mann Site				Matrix			Preservative	Tests**						
Client: CAPITAL ENV. LLC		Report To: Bob Berger / Peter Cook				Aqueous	Soil	Other		No. of Containers	Total Cr, Pb, Zn	EPH w/ targets				
Invoice To: CAPITAL ENV. LLC		Date	Time	Comp	Grab	Sample I.D.										
		3/12/18	3:15 P	X		TRSS-1	0-1'	X			1 GLASS	ICE	X	X		
		3/12/18	3:30 P	X		TRSS-2	0-1'	X			1 GLASS	ICE	X	X		
		3/12/18	3:45 P	X		TRSS-3	0-1'	X			1 GLASS	ICE	X	X		
		3/12/18	4:00 P	X		TRSS-4	0-1'	X			1 GLASS	ICE	X	X		
Sampled By: Rob Berger		Date/Time: 3/14/18 7:04 A	Received By: [Signature]		Date/Time: 3/15/18 1:30 P	Laboratory Remarks:			Special Instructions: Norfolk, MA 17 Lawrence St. IC ENV							
Relinquished By: [Signature]		Date/Time: 3/15/18 1:00 P	Received By: Karen [Signature]		Date/Time: 3/15/18 17:00	Temp. Received: 4°			MID-DAY 3/22 Turnaround Time (Business Days): 5 Days							

\* MASSDEP Compliance Documents Needed \*

RB

Onica ✓

Page 2 of 2

## MassDEP Analytical Protocol Certification Form

Laboratory Name: New England Testing Laboratory, Inc.

Project #: 1630

Project Location: Buckley and Mann

RTN:

**This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):**  
**8C15039**

Matrices:  Groundwater/Surface Water  Soil/Sediment  Drinking Water  Air  Other:

**CAM Protocol** (check all that apply below):

8260 VOC CAM II A <input type="checkbox"/>	7470/7471 Hg CAM III B <input checked="" type="checkbox"/>	MassDEP VPH (GC/PID/FID) CAM IV A <input type="checkbox"/>	8082 PCB CAM V A <input type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input checked="" type="checkbox"/>	MassDEP VPH (GC/MS) CAM IV C <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
6010 Metals CAM III A <input checked="" type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	MassDEP EPH CAM IV B <input checked="" type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>

**Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status**

<b>A</b>	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>B</b>	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>C</b>	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>D</b>	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>E</b>	VPH, EPH, APH, and TO-15 only a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>F</b>	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

**Responses to Questions G, H and I below are required for "Presumptive Certainty" status**

<b>G</b>	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
----------	---	--

**Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

<b>H</b>	Were <b>all</b> QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>I</b>	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>

<sup>1</sup>All negative responses must be addressed in an attached laboratory narrative.

**I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, is accurate and complete.**

**Signature:** 

**Position:** Laboratory Director

**Printed Name:** Richard Warila

**Date:** 3/22/2018



New England Testing Laboratory, Inc.  
(401) 353-3420

## REPORT OF ANALYTICAL RESULTS

**NETLAB Work Order Number: 8D23023**  
**Client Project: 1630 - Buckley Mann Site**

Report Date: 08-May-2018

Prepared for:

Rob Berger  
Capital Environmental  
46 Washburn Street  
Northborough, MA 01532

---

Richard Warila, Laboratory Director  
New England Testing Laboratory, Inc.  
59 Greenhill Street  
West Warwick, RI 02893  
rich.warila@newenglandtesting.com

**Samples Submitted :**

The samples listed below were submitted to New England Testing Laboratory on 04/23/18. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 8D23023. Custody records are included in this report.

<b>Lab ID</b>	<b>Sample</b>	<b>Matrix</b>	<b>Date Sampled</b>	<b>Date Received</b>
8D23023-01	CTSS-3 1-2	Soil	04/20/2018	04/23/2018
8D23023-02	CTSS-3 2-3	Soil	04/20/2018	04/23/2018
8D23023-03	CTSS-6 0-1	Soil	04/20/2018	04/23/2018
8D23023-04	CTSS-6 1-2	Soil	04/20/2018	04/23/2018
8D23023-05	CTSS-6 2-3	Soil	04/20/2018	04/23/2018
8D23023-06	CTSS-4 1-2	Soil	04/20/2018	04/23/2018
8D23023-07	CTSS-4 2-3	Soil	04/20/2018	04/23/2018
8D23023-08	CTSS-5 0-1	Soil	04/20/2018	04/23/2018
8D23023-09	CTSS-5 1-2	Soil	04/20/2018	04/23/2018
8D23023-10	CTSS-5 2-3	Soil	04/20/2018	04/23/2018
8D23023-11	CLSS-7 1-2	Soil	04/20/2018	04/23/2018
8D23023-12	CLSS-7 2-3	Soil	04/20/2018	04/23/2018
8D23023-13	CLSS-11 0-1	Soil	04/20/2018	04/23/2018
8D23023-14	CLSS-11 1-2	Soil	04/20/2018	04/23/2018
8D23023-15	CLSS-11 2-3	Soil	04/20/2018	04/23/2018
8D23023-16	CLSS-12 0-1	Soil	04/20/2018	04/23/2018
8D23023-17	CLSS-12 1-2	Soil	04/20/2018	04/23/2018
8D23023-18	CLSS-12 2-3	Soil	04/20/2018	04/23/2018
8D23023-19	CLSS-5 1-2	Soil	04/20/2018	04/23/2018
8D23023-20	CLSS-5 2-3	Soil	04/20/2018	04/23/2018
8D23023-21	CLSS-6 1-2	Soil	04/20/2018	04/23/2018
8D23023-22	CLSS-6 2-3	Soil	04/20/2018	04/23/2018
8D23023-23	CLSS-9 0-1	Soil	04/20/2018	04/23/2018
8D23023-24	CLSS-9 1-2	Soil	04/20/2018	04/23/2018
8D23023-25	CLSS-9 2-3	Soil	04/20/2018	04/23/2018
8D23023-26	CLSS-10 0-1	Soil	04/20/2018	04/23/2018
8D23023-27	CLSS-10 1-2	Soil	04/20/2018	04/23/2018
8D23023-28	CLSS-10 2-3	Soil	04/20/2018	04/23/2018

## ***Request for Analysis***

At the client's request, the analyses presented in the following table were performed on the samples submitted.

### **CLSS-10 0-1 (Lab Number: 8D23023-26)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Hexavalent Chromium  
Lead  
MADEP EPH  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Trivalent Chromium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
SM3500-Cr-B  
EPA 6010C  
MADEP EPH  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
Calculation  
EPA 6010C  
EPA 6010C

### **CLSS-10 1-2 (Lab Number: 8D23023-27)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Lead  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
EPA 6010C  
EPA 6010C

### **CLSS-10 2-3 (Lab Number: 8D23023-28)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Lead  
MADEP EPH  
Mercury

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
MADEP EPH  
EPA 7471B



## ***Request for Analysis (continued)***

### **CLSS-10 2-3 (Lab Number: 8D23023-28) (continued)**

#### **Analysis**

Nickel  
Selenium  
Silver  
Thallium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
EPA 6010C  
EPA 6010C

### **CLSS-11 0-1 (Lab Number: 8D23023-13)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Hexavalent Chromium  
Lead  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Trivalent Chromium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
SM3500-Cr-B  
EPA 6010C  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
Calculation  
EPA 6010C  
EPA 6010C

### **CLSS-11 1-2 (Lab Number: 8D23023-14)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Lead  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
EPA 6010C  
EPA 6010C

## ***Request for Analysis (continued)***

### **CLSS-11 2-3 (Lab Number: 8D23023-15)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Lead  
MADEP EPH  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
MADEP EPH  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
EPA 6010C  
EPA 6010C

### **CLSS-12 0-1 (Lab Number: 8D23023-16)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Hexavalent Chromium  
Lead  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Trivalent Chromium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
SM3500-Cr-B  
EPA 6010C  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
Calculation  
EPA 6010C  
EPA 6010C

### **CLSS-12 1-2 (Lab Number: 8D23023-17)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Hexavalent Chromium  
Lead  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Trivalent Chromium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
SM3500-Cr-B  
EPA 6010C  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
Calculation  
EPA 6010C  
EPA 6010C

## ***Request for Analysis (continued)***

### **CLSS-12 2-3 (Lab Number: 8D23023-18)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Lead  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
EPA 6010C  
EPA 6010C

### **CLSS-5 1-2 (Lab Number: 8D23023-19)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Hexavalent Chromium  
Lead  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Trivalent Chromium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
SM3500-Cr-B  
EPA 6010C  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
Calculation  
EPA 6010C  
EPA 6010C

### **CLSS-5 2-3 (Lab Number: 8D23023-20)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Lead  
MADEP EPH  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
MADEP EPH  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
EPA 6010C  
EPA 6010C

## ***Request for Analysis (continued)***

### **CLSS-6 1-2 (Lab Number: 8D23023-21)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Lead  
MADEP EPH  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
MADEP EPH  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
EPA 6010C  
EPA 6010C

### **CLSS-6 2-3 (Lab Number: 8D23023-22)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Lead  
MADEP EPH  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
MADEP EPH  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
EPA 6010C  
EPA 6010C

### **CLSS-7 1-2 (Lab Number: 8D23023-11)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Lead  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
EPA 6010C  
EPA 6010C

## ***Request for Analysis (continued)***

### **CLSS-7 2-3 (Lab Number: 8D23023-12)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Lead  
MADEP EPH  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
MADEP EPH  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
EPA 6010C  
EPA 6010C

### **CLSS-9 0-1 (Lab Number: 8D23023-23)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Hexavalent Chromium  
Lead  
MADEP EPH  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Trivalent Chromium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
SM3500-Cr-B  
EPA 6010C  
MADEP EPH  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
Calculation  
EPA 6010C  
EPA 6010C

## ***Request for Analysis (continued)***

### **CLSS-9 1-2 (Lab Number: 8D23023-24)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Hexavalent Chromium  
Lead  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Trivalent Chromium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
SM3500-Cr-B  
EPA 6010C  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
Calculation  
EPA 6010C  
EPA 6010C

### **CLSS-9 2-3 (Lab Number: 8D23023-25)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Hexavalent Chromium  
Lead  
MADEP EPH  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Trivalent Chromium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
SM3500-Cr-B  
EPA 6010C  
MADEP EPH  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
Calculation  
EPA 6010C  
EPA 6010C

### **CTSS-3 1-2 (Lab Number: 8D23023-01)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Lead  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
EPA 6010C  
EPA 6010C

## ***Request for Analysis (continued)***

### **CTSS-3 2-3 (Lab Number: 8D23023-02)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Lead  
MADEP EPH  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
MADEP EPH  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
EPA 6010C  
EPA 6010C

### **CTSS-4 1-2 (Lab Number: 8D23023-06)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Lead  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
EPA 6010C  
EPA 6010C

### **CTSS-4 2-3 (Lab Number: 8D23023-07)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Lead  
MADEP EPH  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
MADEP EPH  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
EPA 6010C  
EPA 6010C

## ***Request for Analysis (continued)***

### **CTSS-5 0-1 (Lab Number: 8D23023-08)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Hexavalent Chromium  
Lead  
MADEP EPH  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Trivalent Chromium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
SM3500-Cr-B  
EPA 6010C  
MADEP EPH  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
Calculation  
EPA 6010C  
EPA 6010C

### **CTSS-5 1-2 (Lab Number: 8D23023-09)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Hexavalent Chromium  
Lead  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Trivalent Chromium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
SM3500-Cr-B  
EPA 6010C  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
Calculation  
EPA 6010C  
EPA 6010C

### **CTSS-5 2-3 (Lab Number: 8D23023-10)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Lead  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
EPA 6010C  
EPA 6010C



## ***Request for Analysis (continued)***

### **CTSS-6 0-1 (Lab Number: 8D23023-03)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Lead  
MADEP EPH  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
MADEP EPH  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
EPA 6010C  
EPA 6010C

### **CTSS-6 1-2 (Lab Number: 8D23023-04)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Lead  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
EPA 6010C  
EPA 6010C

### **CTSS-6 2-3 (Lab Number: 8D23023-05)**

#### **Analysis**

Antimony  
Arsenic  
Barium  
Beryllium  
Cadmium  
Chromium  
Lead  
Mercury  
Nickel  
Selenium  
Silver  
Thallium  
Vanadium  
Zinc

#### **Method**

EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7471B  
EPA 6010C  
EPA 6010C  
EPA 6010C  
EPA 7010  
EPA 6010C  
EPA 6010C

## **Method References**

*Method for the Determination of Extractable Petroleum Hydrocarbons, Rev. 1.1*, Massachusetts Department of Environmental Protection, 2004

*Standard Methods for the Examination of Water and Wastewater, 20th Edition*, APHA/ AWWA-WPCF, 1998

*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846*, USEPA

## Case Narrative

### Sample Receipt

The samples were all appropriately cooled and preserved upon receipt. The samples were received in the appropriate containers. The chain of custody was adequately completed and corresponded to the samples submitted.

### EPH

All samples were extracted and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control criteria.

### Metals

All analyses were performed according to NETLAB's documented Standard Operating Procedures, within all required holding times, and with appropriate quality control measures. All QC was within laboratory established acceptance criteria. The samples were received, processed, and reported with no anomalies.

Due to matrix interference, some values are reported outside of quality control limits for the matrix spikes and matrix spike duplicates.

### Wet Chemistry

All samples were analyzed within method specified holding times and according to NETLAB's documented standard operating procedures.

### Results: Calculation

**Sample: CTSS-5 0-1**  
**Lab Number: 8D23023-08 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Trivalent Chromium	165		0.688	mg/kg	05/03/18	05/03/18

### Results: Calculation

**Sample: CTSS-5 1-2**  
**Lab Number: 8D23023-09 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Trivalent Chromium	454		0.729	mg/kg	05/03/18	05/03/18

### Results: Calculation

**Sample: CLSS-11 0-1**  
**Lab Number: 8D23023-13 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Trivalent Chromium	207		0.980	mg/kg	05/03/18	05/03/18

### Results: Calculation

**Sample: CLSS-12 0-1**  
**Lab Number: 8D23023-16 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Trivalent Chromium	1780		1.36	mg/kg	05/03/18	05/03/18

### Results: Calculation

**Sample: CLSS-12 1-2**  
**Lab Number: 8D23023-17 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Trivalent Chromium	1290		1.38	mg/kg	05/07/18	05/07/18



### Results: Calculation

**Sample: CLSS-5 1-2**  
**Lab Number: 8D23023-19 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Trivalent Chromium	599		1.26	mg/kg	05/07/18	05/07/18

### Results: Calculation

**Sample: CLSS-9 0-1**  
**Lab Number: 8D23023-23 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Trivalent Chromium	1420		1.43	mg/kg	05/07/18	05/07/18

### Results: Calculation

**Sample: CLSS-9 1-2**  
**Lab Number: 8D23023-24 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Trivalent Chromium	672		1.36	mg/kg	05/07/18	05/07/18

### Results: Calculation

**Sample: CLSS-9 2-3**  
**Lab Number: 8D23023-25 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Trivalent Chromium	550		1.71	mg/kg	05/07/18	05/07/18

### Results: Calculation

**Sample: CLSS-10 0-1**  
**Lab Number: 8D23023-26 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Trivalent Chromium	1040		1.63	mg/kg	05/07/18	05/07/18

### Results: General Chemistry

**Sample: CTSS-5 0-1**  
**Lab Number: 8D23023-08 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Hexavalent chromium	15		7	mg/kg	05/03/18	05/03/18

### Results: General Chemistry

**Sample: CTSS-5 1-2**  
**Lab Number: 8D23023-09 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Hexavalent chromium	ND		8	mg/kg	05/03/18	05/03/18

### Results: General Chemistry

**Sample: CLSS-11 0-1**  
**Lab Number: 8D23023-13 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Hexavalent chromium	79		9	mg/kg	05/03/18	05/03/18



### Results: General Chemistry

**Sample: CLSS-12 0-1**  
**Lab Number: 8D23023-16 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Hexavalent chromium	14		13	mg/kg	05/03/18	05/03/18

### Results: General Chemistry

**Sample: CLSS-12 1-2**  
**Lab Number: 8D23023-17 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Hexavalent chromium	18		5	mg/kg	05/07/18	05/07/18

### Results: General Chemistry

**Sample: CLSS-5 1-2**  
**Lab Number: 8D23023-19 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Hexavalent chromium	ND		5	mg/kg	05/07/18	05/07/18

### Results: General Chemistry

**Sample: CLSS-9 0-1**  
**Lab Number: 8D23023-23 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Hexavalent chromium	9		5	mg/kg	05/07/18	05/07/18

### Results: General Chemistry

**Sample: CLSS-9 1-2**  
**Lab Number: 8D23023-24 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Hexavalent chromium	7		5	mg/kg	05/07/18	05/07/18

### Results: General Chemistry

**Sample: CLSS-9 2-3**  
**Lab Number: 8D23023-25 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Hexavalent chromium	66		7	mg/kg	05/07/18	05/07/18

### Results: General Chemistry

**Sample: CLSS-10 0-1**  
**Lab Number: 8D23023-26 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Hexavalent chromium	67		7	mg/kg	05/07/18	05/07/18

**Results: Total Metals****Sample: CTSS-3 1-2****Lab Number: 8D23023-01 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
Antimony	ND		1.22	mg/kg	04/24/18	04/24/18
Arsenic	ND		1.22	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>20.5</b>		0.61	mg/kg	04/24/18	04/24/18
Beryllium	ND		0.61	mg/kg	04/24/18	04/24/18
<b>Cadmium</b>	<b>1.67</b>		0.61	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>10.9</b>		0.61	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>15.2</b>		0.61	mg/kg	04/24/18	04/24/18
Mercury	ND		0.085	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>13.0</b>		0.61	mg/kg	04/24/18	04/24/18
Selenium	ND		1.22	mg/kg	04/24/18	04/24/18
Silver	ND		0.61	mg/kg	04/24/18	04/24/18
Thallium	ND		0.247	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>11.7</b>		0.61	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>102</b>		2.5	mg/kg	04/24/18	04/24/18



**Results: Total Metals****Sample: CTSS-3 2-3****Lab Number: 8D23023-02 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
Antimony	ND		1.32	mg/kg	04/24/18	04/24/18
Arsenic	ND		1.32	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>31.1</b>		0.66	mg/kg	04/24/18	04/24/18
Beryllium	ND		0.66	mg/kg	04/24/18	04/24/18
<b>Cadmium</b>	<b>1.94</b>		0.66	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>27.6</b>		0.66	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>35.0</b>		0.66	mg/kg	04/24/18	04/24/18
Mercury	ND		0.079	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>12.5</b>		0.66	mg/kg	04/24/18	04/24/18
Selenium	ND		1.32	mg/kg	04/24/18	04/24/18
Silver	ND		0.66	mg/kg	04/24/18	04/24/18
Thallium	ND		0.266	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>10.3</b>		0.66	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>80.7</b>		2.7	mg/kg	04/24/18	04/24/18

**Results: Total Metals****Sample: CTSS-6 0-1****Lab Number: 8D23023-03 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
Antimony	ND		1.11	mg/kg	04/24/18	04/24/18
Arsenic	ND		1.11	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>12.7</b>		0.56	mg/kg	04/24/18	04/24/18
Beryllium	ND		0.56	mg/kg	04/24/18	04/24/18
<b>Cadmium</b>	<b>0.58</b>		0.56	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>4.70</b>		0.56	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>4.59</b>		0.56	mg/kg	04/24/18	04/24/18
Mercury	ND		0.070	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>2.50</b>		0.56	mg/kg	04/24/18	04/24/18
Selenium	ND		1.11	mg/kg	04/24/18	04/24/18
Silver	ND		0.56	mg/kg	04/24/18	04/24/18
Thallium	ND		0.224	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>7.38</b>		0.56	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>11.1</b>		2.2	mg/kg	04/24/18	04/24/18

**Results: Total Metals****Sample: CTSS-6 1-2****Lab Number: 8D23023-04 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
Antimony	ND		1.16	mg/kg	04/24/18	04/24/18
Arsenic	ND		1.16	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>14.2</b>		0.58	mg/kg	04/24/18	04/24/18
Beryllium	ND		0.58	mg/kg	04/24/18	04/24/18
<b>Cadmium</b>	<b>0.82</b>		0.58	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>3.08</b>		0.58	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>4.19</b>		0.58	mg/kg	04/24/18	04/24/18
Mercury	ND		0.076	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>6.28</b>		0.58	mg/kg	04/24/18	04/24/18
Selenium	ND		1.16	mg/kg	04/24/18	04/24/18
Silver	ND		0.58	mg/kg	04/24/18	04/24/18
Thallium	ND		0.233	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>6.32</b>		0.58	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>17.1</b>		2.3	mg/kg	04/24/18	04/24/18

**Results: Total Metals****Sample: CTSS-6 2-3****Lab Number: 8D23023-05 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
Antimony	ND		1.45	mg/kg	04/24/18	04/24/18
Arsenic	ND		1.45	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>27.0</b>		0.72	mg/kg	04/24/18	04/24/18
Beryllium	ND		0.72	mg/kg	04/24/18	04/24/18
<b>Cadmium</b>	<b>1.04</b>		0.72	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>42.0</b>		0.72	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>47.1</b>		0.72	mg/kg	04/24/18	04/24/18
<b>Mercury</b>	<b>0.211</b>		0.088	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>4.02</b>		0.72	mg/kg	04/24/18	04/24/18
Selenium	ND		1.45	mg/kg	04/24/18	04/24/18
Silver	ND		0.72	mg/kg	04/24/18	04/24/18
Thallium	ND		0.292	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>17.0</b>		0.72	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>20.6</b>		2.9	mg/kg	04/24/18	04/24/18

**Results: Total Metals****Sample: CTSS-4 1-2****Lab Number: 8D23023-06 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
Antimony	ND		1.27	mg/kg	04/24/18	04/24/18
Arsenic	ND		1.27	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>15.7</b>		0.63	mg/kg	04/24/18	04/24/18
Beryllium	ND		0.63	mg/kg	04/24/18	04/24/18
<b>Cadmium</b>	<b>0.87</b>		0.63	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>31.2</b>		0.63	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>14.6</b>		0.63	mg/kg	04/24/18	04/24/18
Mercury	ND		0.069	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>12.3</b>		0.63	mg/kg	04/24/18	04/24/18
Selenium	ND		1.27	mg/kg	04/24/18	04/24/18
Silver	ND		0.63	mg/kg	04/24/18	04/24/18
Thallium	ND		0.256	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>9.38</b>		0.63	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>38.0</b>		2.6	mg/kg	04/24/18	04/24/18

**Results: Total Metals****Sample: CTSS-4 2-3****Lab Number: 8D23023-07 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
Antimony	ND		1.11	mg/kg	04/24/18	04/24/18
Arsenic	ND		1.11	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>16.0</b>		0.56	mg/kg	04/24/18	04/24/18
Beryllium	ND		0.56	mg/kg	04/24/18	04/24/18
<b>Cadmium</b>	<b>0.90</b>		0.56	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>17.2</b>		0.56	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>15.7</b>		0.56	mg/kg	04/24/18	04/24/18
Mercury	ND		0.066	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>36.1</b>		0.56	mg/kg	04/24/18	04/24/18
Selenium	ND		1.11	mg/kg	04/24/18	04/24/18
Silver	ND		0.56	mg/kg	04/24/18	04/24/18
Thallium	ND		0.224	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>9.11</b>		0.56	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>39.7</b>		2.2	mg/kg	04/24/18	04/24/18

**Results: Total Metals****Sample: CTSS-5 0-1****Lab Number: 8D23023-08 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
<b>Antimony</b>	<b>4.59</b>		1.38	mg/kg	04/24/18	04/24/18
<b>Arsenic</b>	<b>3.75</b>		1.38	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>22.9</b>		0.69	mg/kg	04/24/18	04/24/18
Beryllium	ND		0.69	mg/kg	04/24/18	04/24/18
Cadmium	ND		0.69	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>180</b>		0.69	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>257</b>		0.69	mg/kg	04/24/18	04/24/18
<b>Mercury</b>	<b>1.12</b>		0.497	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>3.42</b>		0.69	mg/kg	04/24/18	04/24/18
Selenium	ND		1.38	mg/kg	04/24/18	04/24/18
<b>Silver</b>	<b>1.07</b>		0.69	mg/kg	04/24/18	04/24/18
Thallium	ND		0.277	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>17.1</b>		0.69	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>17.8</b>		2.8	mg/kg	04/24/18	04/24/18

**Results: Total Metals****Sample: CTSS-5 1-2****Lab Number: 8D23023-09 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
<b>Antimony</b>	<b>12.9</b>		1.46	mg/kg	04/24/18	04/24/18
<b>Arsenic</b>	<b>8.16</b>		1.46	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>48.4</b>		0.73	mg/kg	04/24/18	04/24/18
Beryllium	ND		0.73	mg/kg	04/24/18	04/24/18
Cadmium	ND		0.73	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>454</b>		0.73	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>676</b>		0.73	mg/kg	04/24/18	04/24/18
<b>Mercury</b>	<b>1.43</b>		0.526	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>65.0</b>		0.73	mg/kg	04/24/18	04/24/18
Selenium	ND		1.46	mg/kg	04/24/18	04/24/18
<b>Silver</b>	<b>5.69</b>		0.73	mg/kg	04/24/18	04/24/18
Thallium	ND		0.294	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>10.0</b>		0.73	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>20.2</b>		2.9	mg/kg	04/24/18	04/24/18



**Results: Total Metals****Sample: CTSS-5 2-3****Lab Number: 8D23023-10 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
Antimony	ND		1.28	mg/kg	04/24/18	04/24/18
<b>Arsenic</b>	<b>2.27</b>		1.28	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>21.3</b>		0.64	mg/kg	04/24/18	04/24/18
Beryllium	ND		0.64	mg/kg	04/24/18	04/24/18
<b>Cadmium</b>	<b>1.28</b>		0.64	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>40.7</b>		0.64	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>42.8</b>		0.64	mg/kg	04/24/18	04/24/18
Mercury	ND		0.084	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>12.8</b>		0.64	mg/kg	04/24/18	04/24/18
Selenium	ND		1.28	mg/kg	04/24/18	04/24/18
Silver	ND		0.64	mg/kg	04/24/18	04/24/18
Thallium	ND		0.259	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>17.6</b>		0.64	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>69.2</b>		2.6	mg/kg	04/24/18	04/24/18

**Results: Total Metals****Sample: CLSS-7 1-2****Lab Number: 8D23023-11 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
Antimony	ND		1.31	mg/kg	04/24/18	04/24/18
<b>Arsenic</b>	<b>1.37</b>		1.31	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>30.6</b>		0.65	mg/kg	04/24/18	04/24/18
Beryllium	ND		0.65	mg/kg	04/24/18	04/24/18
<b>Cadmium</b>	<b>1.94</b>		0.65	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>41.5</b>		0.65	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>45.0</b>		0.65	mg/kg	04/24/18	04/24/18
Mercury	ND		0.093	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>15.4</b>		0.65	mg/kg	04/24/18	04/24/18
Selenium	ND		1.31	mg/kg	04/24/18	04/24/18
Silver	ND		0.65	mg/kg	04/24/18	04/24/18
Thallium	ND		0.263	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>27.5</b>		0.65	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>92.2</b>		2.6	mg/kg	04/24/18	04/24/18

**Results: Total Metals****Sample: CLSS-7 2-3****Lab Number: 8D23023-12 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
Antimony	ND		1.32	mg/kg	04/24/18	04/24/18
Arsenic	ND		1.32	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>18.6</b>		0.66	mg/kg	04/24/18	04/24/18
Beryllium	ND		0.66	mg/kg	04/24/18	04/24/18
<b>Cadmium</b>	<b>1.21</b>		0.66	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>44.6</b>		0.66	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>57.4</b>		0.66	mg/kg	04/24/18	04/24/18
Mercury	ND		0.072	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>8.99</b>		0.66	mg/kg	04/24/18	04/24/18
Selenium	ND		1.32	mg/kg	04/24/18	04/24/18
Silver	ND		0.66	mg/kg	04/24/18	04/24/18
Thallium	ND		0.267	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>21.9</b>		0.66	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>45.9</b>		2.7	mg/kg	04/24/18	04/24/18

**Results: Total Metals****Sample: CLSS-11 0-1****Lab Number: 8D23023-13 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
<b>Antimony</b>	<b>7.06</b>		1.96	mg/kg	04/24/18	04/24/18
<b>Arsenic</b>	<b>7.39</b>		1.96	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>11.6</b>		0.98	mg/kg	04/24/18	04/24/18
Beryllium	ND		0.98	mg/kg	04/24/18	04/24/18
Cadmium	ND		0.98	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>286</b>		0.98	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>378</b>		0.98	mg/kg	04/24/18	04/24/18
<b>Mercury</b>	<b>0.574</b>		0.519	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>1.89</b>		0.98	mg/kg	04/24/18	04/24/18
Selenium	ND		1.96	mg/kg	04/24/18	04/24/18
Silver	ND		0.98	mg/kg	04/24/18	04/24/18
Thallium	ND		0.395	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>45.3</b>		0.98	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>8.0</b>		4.0	mg/kg	04/24/18	04/24/18

**Results: Total Metals****Sample: CLSS-11 1-2****Lab Number: 8D23023-14 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
Antimony	ND		1.24	mg/kg	04/24/18	04/24/18
Arsenic	ND		1.24	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>15.0</b>		0.62	mg/kg	04/24/18	04/24/18
Beryllium	ND		0.62	mg/kg	04/24/18	04/24/18
<b>Cadmium</b>	<b>1.50</b>		0.62	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>49.4</b>		0.62	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>95.9</b>		0.62	mg/kg	04/24/18	04/24/18
Mercury	ND		0.090	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>5.22</b>		0.62	mg/kg	04/24/18	04/24/18
Selenium	ND		1.24	mg/kg	04/24/18	04/24/18
Silver	ND		0.62	mg/kg	04/24/18	04/24/18
Thallium	ND		0.251	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>24.6</b>		0.62	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>23.3</b>		2.5	mg/kg	04/24/18	04/24/18

**Results: Total Metals****Sample: CLSS-11 2-3****Lab Number: 8D23023-15 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
Antimony	ND		1.28	mg/kg	04/24/18	04/24/18
Arsenic	ND		1.28	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>15.4</b>		0.64	mg/kg	04/24/18	04/24/18
Beryllium	ND		0.64	mg/kg	04/24/18	04/24/18
<b>Cadmium</b>	<b>1.52</b>		0.64	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>23.5</b>		0.64	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>17.5</b>		0.64	mg/kg	04/24/18	04/24/18
Mercury	ND		0.082	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>8.70</b>		0.64	mg/kg	04/24/18	04/24/18
Selenium	ND		1.28	mg/kg	04/24/18	04/24/18
Silver	ND		0.64	mg/kg	04/24/18	04/24/18
Thallium	ND		0.258	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>21.6</b>		0.64	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>24.9</b>		2.6	mg/kg	04/24/18	04/24/18

**Results: Total Metals****Sample: CLSS-12 0-1****Lab Number: 8D23023-16 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
<b>Antimony</b>	<b>48.6</b>		2.71	mg/kg	04/24/18	04/24/18
<b>Arsenic</b>	<b>12.9</b>		2.71	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>40.1</b>		1.36	mg/kg	04/24/18	04/24/18
Beryllium	ND		1.36	mg/kg	04/24/18	04/24/18
Cadmium	ND		1.36	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>1800</b>		1.36	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>281</b>		1.36	mg/kg	04/24/18	04/24/18
<b>Mercury</b>	<b>5.14</b>		1.43	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>8.52</b>		1.36	mg/kg	04/24/18	04/24/18
<b>Selenium</b>	<b>4.23</b>		2.71	mg/kg	04/24/18	04/24/18
<b>Silver</b>	<b>23.0</b>		1.36	mg/kg	04/24/18	04/24/18
Thallium	ND		0.547	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>126</b>		1.36	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>28.2</b>		5.5	mg/kg	04/24/18	04/24/18

**Results: Total Metals****Sample: CLSS-12 1-2****Lab Number: 8D23023-17 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
<b>Antimony</b>	<b>41.3</b>		2.76	mg/kg	04/24/18	04/24/18
<b>Arsenic</b>	<b>10.8</b>		2.76	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>262</b>		1.38	mg/kg	04/24/18	04/24/18
Beryllium	ND		1.38	mg/kg	04/24/18	04/24/18
Cadmium	ND		1.38	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>1310</b>		1.38	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>464</b>		1.38	mg/kg	04/24/18	04/24/18
<b>Mercury</b>	<b>5.86</b>		1.70	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>17.1</b>		1.38	mg/kg	04/24/18	04/24/18
Selenium	ND		2.76	mg/kg	04/24/18	04/24/18
<b>Silver</b>	<b>24.8</b>		1.38	mg/kg	04/24/18	04/24/18
Thallium	ND		0.557	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>82.6</b>		1.38	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>34.0</b>		5.6	mg/kg	04/24/18	04/24/18



**Results: Total Metals****Sample: CLSS-12 2-3****Lab Number: 8D23023-18 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
Antimony	ND		1.36	mg/kg	04/24/18	04/24/18
<b>Arsenic</b>	<b>2.24</b>		1.36	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>32.3</b>		0.68	mg/kg	04/24/18	04/24/18
Beryllium	ND		0.68	mg/kg	04/24/18	04/24/18
<b>Cadmium</b>	<b>2.13</b>		0.68	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>61.3</b>		0.68	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>194</b>		0.68	mg/kg	04/24/18	04/24/18
<b>Mercury</b>	<b>0.171</b>		0.098	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>11.8</b>		0.68	mg/kg	04/24/18	04/24/18
Selenium	ND		1.36	mg/kg	04/24/18	04/24/18
Silver	ND		0.68	mg/kg	04/24/18	04/24/18
<b>Thallium</b>	<b>0.363</b>		0.274	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>23.0</b>		0.68	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>21.7</b>		2.7	mg/kg	04/24/18	04/24/18

**Results: Total Metals****Sample: CLSS-5 1-2****Lab Number: 8D23023-19 (Soil)**

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
<b>Antimony</b>	<b>16.1</b>		2.52	mg/kg	04/24/18	04/24/18
<b>Arsenic</b>	<b>14.1</b>		2.52	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>389</b>		1.26	mg/kg	04/24/18	04/24/18
Beryllium	ND		1.26	mg/kg	04/24/18	04/24/18
<b>Cadmium</b>	<b>8.97</b>		1.26	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>599</b>		1.26	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>2100</b>		1.26	mg/kg	04/24/18	04/24/18
<b>Mercury</b>	<b>4.41</b>		0.787	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>25.0</b>		1.26	mg/kg	04/24/18	04/24/18
Selenium	ND		2.52	mg/kg	04/24/18	04/24/18
<b>Silver</b>	<b>5.51</b>		1.26	mg/kg	04/24/18	04/24/18
Thallium	ND		0.509	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>35.2</b>		1.26	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>466</b>		5.1	mg/kg	04/24/18	04/24/18

**Results: Total Metals****Sample: CLSS-5 2-3****Lab Number: 8D23023-20 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
Antimony	ND		1.80	mg/kg	04/24/18	04/24/18
<b>Arsenic</b>	<b>2.88</b>		1.80	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>111</b>		0.90	mg/kg	04/24/18	04/24/18
Beryllium	ND		0.90	mg/kg	04/24/18	04/24/18
<b>Cadmium</b>	<b>2.68</b>		0.90	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>76.2</b>		0.90	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>208</b>		0.90	mg/kg	04/24/18	04/24/18
<b>Mercury</b>	<b>0.917</b>		0.298	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>20.1</b>		0.90	mg/kg	04/24/18	04/24/18
Selenium	ND		1.80	mg/kg	04/24/18	04/24/18
Silver	ND		0.90	mg/kg	04/24/18	04/24/18
Thallium	ND		0.363	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>14.1</b>		0.90	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>571</b>		3.6	mg/kg	04/24/18	04/24/18

**Results: Total Metals****Sample: CLSS-6 1-2****Lab Number: 8D23023-21 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
Antimony	ND		1.20	mg/kg	04/24/18	04/24/18
Arsenic	ND		1.20	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>62.0</b>		0.60	mg/kg	04/24/18	04/24/18
Beryllium	ND		0.60	mg/kg	04/24/18	04/24/18
<b>Cadmium</b>	<b>1.67</b>		0.60	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>35.4</b>		0.60	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>16.3</b>		0.60	mg/kg	04/24/18	04/24/18
<b>Mercury</b>	<b>0.179</b>		0.087	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>12.1</b>		0.60	mg/kg	04/24/18	04/24/18
Selenium	ND		1.20	mg/kg	04/24/18	04/24/18
Silver	ND		0.60	mg/kg	04/24/18	04/24/18
Thallium	ND		0.241	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>28.8</b>		0.60	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>150</b>		2.4	mg/kg	04/24/18	04/24/18

**Results: Total Metals****Sample: CLSS-6 2-3****Lab Number: 8D23023-22 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
Antimony	ND		1.06	mg/kg	04/24/18	04/24/18
Arsenic	ND		1.06	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>18.4</b>		0.53	mg/kg	04/24/18	04/24/18
Beryllium	ND		0.53	mg/kg	04/24/18	04/24/18
<b>Cadmium</b>	<b>0.91</b>		0.53	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>11.3</b>		0.53	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>7.66</b>		0.53	mg/kg	04/24/18	04/24/18
Mercury	ND		0.045	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>10.1</b>		0.53	mg/kg	04/24/18	04/24/18
Selenium	ND		1.06	mg/kg	04/24/18	04/24/18
Silver	ND		0.53	mg/kg	04/24/18	04/24/18
Thallium	ND		0.213	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>12.8</b>		0.53	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>82.7</b>		2.1	mg/kg	04/24/18	04/24/18

**Results: Total Metals****Sample: CLSS-9 0-1****Lab Number: 8D23023-23 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
<b>Antimony</b>	<b>41.6</b>		2.86	mg/kg	04/24/18	04/24/18
<b>Arsenic</b>	<b>10.3</b>		2.86	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>33.1</b>		1.43	mg/kg	04/24/18	04/24/18
Beryllium	ND		1.43	mg/kg	04/24/18	04/24/18
Cadmium	ND		1.43	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>1430</b>		1.43	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>444</b>		1.43	mg/kg	04/24/18	04/24/18
<b>Mercury</b>	<b>3.62</b>		0.956	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>5.35</b>		1.43	mg/kg	04/24/18	04/24/18
<b>Selenium</b>	<b>3.50</b>		2.86	mg/kg	04/24/18	04/24/18
<b>Silver</b>	<b>21.4</b>		1.43	mg/kg	04/24/18	04/24/18
Thallium	ND		0.576	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>151</b>		1.43	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>20.8</b>		5.8	mg/kg	04/24/18	04/24/18

**Results: Total Metals****Sample: CLSS-9 1-2****Lab Number: 8D23023-24 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
<b>Antimony</b>	<b>23.7</b>		2.72	mg/kg	04/24/18	04/24/18
<b>Arsenic</b>	<b>3.67</b>		2.72	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>49.1</b>		1.36	mg/kg	04/24/18	04/24/18
Beryllium	ND		1.36	mg/kg	04/24/18	04/24/18
<b>Cadmium</b>	<b>3.76</b>		1.36	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>679</b>		1.36	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>153</b>		1.36	mg/kg	04/24/18	04/24/18
<b>Mercury</b>	<b>2.59</b>		0.708	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>17.3</b>		1.36	mg/kg	04/24/18	04/24/18
Selenium	ND		2.72	mg/kg	04/24/18	04/24/18
<b>Silver</b>	<b>7.20</b>		1.36	mg/kg	04/24/18	04/24/18
Thallium	ND		0.548	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>104</b>		1.36	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>414</b>		5.5	mg/kg	04/24/18	04/24/18

**Results: Total Metals****Sample: CLSS-9 2-3****Lab Number: 8D23023-25 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
<b>Antimony</b>	<b>26.4</b>		3.41	mg/kg	04/24/18	04/24/18
<b>Arsenic</b>	<b>5.44</b>		3.41	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>90.1</b>		1.71	mg/kg	04/24/18	04/24/18
Beryllium	ND		1.71	mg/kg	04/24/18	04/24/18
<b>Cadmium</b>	<b>4.13</b>		1.71	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>616</b>		1.71	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>1120</b>		1.71	mg/kg	04/24/18	04/24/18
<b>Mercury</b>	<b>6.15</b>		1.16	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>21.0</b>		1.71	mg/kg	04/24/18	04/24/18
Selenium	ND		3.41	mg/kg	04/24/18	04/24/18
<b>Silver</b>	<b>9.76</b>		1.71	mg/kg	04/24/18	04/24/18
Thallium	ND		0.688	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>28.1</b>		1.71	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>414</b>		6.9	mg/kg	04/24/18	04/24/18



**Results: Total Metals****Sample: CLSS-10 0-1****Lab Number: 8D23023-26 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
<b>Antimony</b>	<b>35.6</b>		3.26	mg/kg	04/24/18	04/24/18
<b>Arsenic</b>	<b>9.45</b>		3.26	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>180</b>		1.63	mg/kg	04/24/18	04/24/18
Beryllium	ND		1.63	mg/kg	04/24/18	04/24/18
<b>Cadmium</b>	<b>2.78</b>		1.63	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>1110</b>		1.63	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>1020</b>		1.63	mg/kg	04/24/18	04/24/18
<b>Mercury</b>	<b>5.31</b>		1.15	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>8.79</b>		1.63	mg/kg	04/24/18	04/24/18
Selenium	ND		3.26	mg/kg	04/24/18	04/24/18
<b>Silver</b>	<b>14.3</b>		1.63	mg/kg	04/24/18	04/24/18
Thallium	ND		0.657	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>79.6</b>		1.63	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>160</b>		6.6	mg/kg	04/24/18	04/24/18

**Results: Total Metals****Sample: CLSS-10 1-2****Lab Number: 8D23023-27 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
Antimony	ND		2.41	mg/kg	04/24/18	04/24/18
<b>Arsenic</b>	<b>6.50</b>		2.41	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>249</b>		1.20	mg/kg	04/24/18	04/24/18
Beryllium	ND		1.20	mg/kg	04/24/18	04/24/18
<b>Cadmium</b>	<b>2.42</b>		1.20	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>88.7</b>		1.20	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>160</b>		1.20	mg/kg	04/24/18	04/24/18
<b>Mercury</b>	<b>0.292</b>		0.142	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>20.4</b>		1.20	mg/kg	04/24/18	04/24/18
Selenium	ND		2.41	mg/kg	04/24/18	04/24/18
Silver	ND		1.20	mg/kg	04/24/18	04/24/18
Thallium	ND		0.485	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>20.8</b>		1.20	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>290</b>		4.9	mg/kg	04/24/18	04/24/18

**Results: Total Metals****Sample: CLSS-10 2-3****Lab Number: 8D23023-28 (Soil)**

<b>Analyte</b>	<b>Result</b>	<b>Qual</b>	<b>Reporting Limit</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>
Antimony	ND		2.33	mg/kg	04/24/18	04/24/18
Arsenic	ND		2.33	mg/kg	04/24/18	04/24/18
<b>Barium</b>	<b>92.8</b>		1.16	mg/kg	04/24/18	04/24/18
Beryllium	ND		1.16	mg/kg	04/24/18	04/24/18
Cadmium	ND		1.16	mg/kg	04/24/18	04/24/18
<b>Chromium</b>	<b>32.3</b>		1.16	mg/kg	04/24/18	04/24/18
<b>Lead</b>	<b>20.0</b>		1.16	mg/kg	04/24/18	04/24/18
Mercury	ND		0.144	mg/kg	04/24/18	04/24/18
<b>Nickel</b>	<b>19.3</b>		1.16	mg/kg	04/24/18	04/24/18
Selenium	ND		2.33	mg/kg	04/24/18	04/24/18
Silver	ND		1.16	mg/kg	04/24/18	04/24/18
Thallium	ND		0.469	mg/kg	04/24/18	04/25/18
<b>Vanadium</b>	<b>12.0</b>		1.16	mg/kg	04/24/18	04/24/18
<b>Zinc</b>	<b>120</b>		4.7	mg/kg	04/24/18	04/24/18

**Extractable Petroleum Hydrocarbons  
Sample: CTSS-3 2-3 (8D23023-02)**

**SAMPLE INFORMATION**

Matrix	Soil
Containers	Satisfactory
Aqueous Preservatives	NA
Temperature	Received on Ice Received at: 4+/-2 C°
Extraction Method	EPA Method 3546

**EPH ANALYTICAL RESULTS**

Method for Ranges: MADEP EPH 4-1.1		Client ID		CTSS-3 2-3		
Method for Target Analytes: MADEP EPH 4-1.1		Lab ID		8D23023-02		
EPH Surrogate Standards: Aliphatic: Chlorooctadecane Aromatic: o-Terphenyl		Date Collected		04/20/18		
		Date Received		04/23/18		
		Date Thawed		NA		
		Date Extracted		04/25/18		
EPH Fractionation Surrogates: (1) 2-Fluorobiphenyl (2) 2-Bromonaphthalene		Percent Moisture		28.80		
RANGE/TARGET ANALYTE		Dilution	RL	Units	Result	Analyzed
Unadjusted C11-C22 Aromatic Hydrocarbons [1]		1X	17.7	mg/kg	<b>17.7</b>	04/27/18 17:45
Diesel PAH Analytes	Naphthalene	1X	0.44	mg/kg	<0.44	04/27/18 17:45
	2-Methylnaphthalene	1X	0.44	mg/kg	<0.44	04/27/18 17:45
	Phenanthrene	1X	0.44	mg/kg	<0.44	04/27/18 17:45
	Acenaphthene	1X	0.44	mg/kg	<0.44	04/27/18 17:45
Other Target PAH Analytes	Acenaphthylene	1X	0.44	mg/kg	<0.44	04/27/18 17:45
	Fluorene	1X	0.44	mg/kg	<0.44	04/27/18 17:45
	Anthracene	1X	0.44	mg/kg	<0.44	04/27/18 17:45
	Fluoranthene	1X	0.44	mg/kg	<0.44	04/27/18 17:45
	Pyrene	1X	0.44	mg/kg	<0.44	04/27/18 17:45
	Benzo(a)anthracene	1X	0.44	mg/kg	<0.44	04/27/18 17:45
	Chrysene	1X	0.44	mg/kg	<0.44	04/27/18 17:45
	Benzo(b)fluoranthene	1X	0.44	mg/kg	<0.44	04/27/18 17:45
	Benzo(k)fluoranthene	1X	0.44	mg/kg	<0.44	04/27/18 17:45
	Benzo(a)pyrene	1X	0.44	mg/kg	<0.44	04/27/18 17:45
	Indeno(1,2,3-cd)pyrene	1X	0.44	mg/kg	<0.44	04/27/18 17:45
	Dibenz(a,h)anthracene	1X	0.44	mg/kg	<0.44	04/27/18 17:45
Benzo(g,h,i)perylene	1X	0.44	mg/kg	<0.44	04/27/18 17:45	
C9-C18 Aliphatic Hydrocarbons [1]		1X	17.7	mg/kg	<17.7	04/27/18 14:06
C19-C36 Aliphatic Hydrocarbons [1]		1X	17.7	mg/kg	<b>45.2</b>	04/27/18 14:06
C11-C22 Aromatic Hydrocarbons [1,2]		1X	17.7	mg/kg	<b>17.7</b>	04/27/18 17:45
Chlorooctadecane (Sample Surrogate)				%	61.9	04/27/18 14:06
o-Terphenyl (Sample Surrogate)				%	79.9	04/27/18 17:45
2-Fluorobiphenyl (Fractionation Surrogate)				%	95.4	04/27/18 17:45
2-Bromonaphthalene (Fractionation Surrogate)				%	91.1	04/27/18 17:45
Surrogate Acceptance Range [3]					40 - 140%	

[1] Hydrocarbon range data excludes area counts of any surrogate(s) and/or internal standards eluting in that range.

[2] C11-C22 Aromatic Hydrocarbons excludes the concentration of Target PAH Analytes.

[3] See the case narrative in cases where a dash (-) is entered in the surrogate recovery block.

**Extractable Petroleum Hydrocarbons  
Sample: CTSS-6 0-1 (8D23023-03)**

**SAMPLE INFORMATION**

Matrix	Soil
Containers	Satisfactory
Aqueous Preservatives	NA
Temperature	Received on Ice Received at: 4+/-2 C°
Extraction Method	EPA Method 3546

**EPH ANALYTICAL RESULTS**

Method for Ranges: MADEP EPH 4-1.1	Client ID	CTSS-6 0-1				
Method for Target Analytes: MADEP EPH 4-1.1	Lab ID	8D23023-03				
EPH Surrogate Standards: Aliphatic: Chlorooctadecane Aromatic: o-Terphenyl	Date Collected	04/20/18				
	Date Received	04/23/18				
	Date Thawed	NA				
	Date Extracted	04/25/18				
EPH Fractionation Surrogates: (1) 2-Fluorobiphenyl (2) 2-Bromonaphthalene	Percent Moisture	11.50				
<b>RANGE/TARGET ANALYTE</b>	<b>Dilution</b>	<b>RL</b>	<b>Units</b>	<b>Result</b>	<b>Analyzed</b>	
Unadjusted C11-C22 Aromatic Hydrocarbons [1]	1X	14.9	mg/kg	<14.9	04/27/18 19:01	
Diesel PAH Analytes	Naphthalene	1X	0.37	mg/kg	<0.37	04/27/18 19:01
	2-Methylnaphthalene	1X	0.37	mg/kg	<0.37	04/27/18 19:01
	Phenanthrene	1X	0.37	mg/kg	<0.37	04/27/18 19:01
	Acenaphthene	1X	0.37	mg/kg	<0.37	04/27/18 19:01
Other Target PAH Analytes	Acenaphthylene	1X	0.37	mg/kg	<0.37	04/27/18 19:01
	Fluorene	1X	0.37	mg/kg	<0.37	04/27/18 19:01
	Anthracene	1X	0.37	mg/kg	<0.37	04/27/18 19:01
	Fluoranthene	1X	0.37	mg/kg	<0.37	04/27/18 19:01
	Pyrene	1X	0.37	mg/kg	<0.37	04/27/18 19:01
	Benzo(a)anthracene	1X	0.37	mg/kg	<0.37	04/27/18 19:01
	Chrysene	1X	0.37	mg/kg	<0.37	04/27/18 19:01
	Benzo(b)fluoranthene	1X	0.37	mg/kg	<0.37	04/27/18 19:01
	Benzo(k)fluoranthene	1X	0.37	mg/kg	<0.37	04/27/18 19:01
	Benzo(a)pyrene	1X	0.37	mg/kg	<0.37	04/27/18 19:01
	Indeno(1,2,3-cd)pyrene	1X	0.37	mg/kg	<0.37	04/27/18 19:01
	Dibenz(a,h)anthracene	1X	0.37	mg/kg	<0.37	04/27/18 19:01
Benzo(g,h,i)perylene	1X	0.37	mg/kg	<0.37	04/27/18 19:01	
C9-C18 Aliphatic Hydrocarbons [1]	1X	14.9	mg/kg	<14.9	04/27/18 15:46	
C19-C36 Aliphatic Hydrocarbons [1]	1X	14.9	mg/kg	<14.9	04/27/18 15:46	
C11-C22 Aromatic Hydrocarbons [1,2]	1X	14.9	mg/kg	<14.9	04/27/18 19:01	
Chlorooctadecane (Sample Surrogate)			%	61.1	04/27/18 15:46	
o-Terphenyl (Sample Surrogate)			%	71.0	04/27/18 19:01	
2-Fluorobiphenyl (Fractionation Surrogate)			%	90.3	04/27/18 19:01	
2-Bromonaphthalene (Fractionation Surrogate)			%	81.8	04/27/18 19:01	
Surrogate Acceptance Range [3]				40 - 140%		

[1] Hydrocarbon range data excludes area counts of any surrogate(s) and/or internal standards eluting in that range.

[2] C11-C22 Aromatic Hydrocarbons excludes the concentration of Target PAH Analytes.

[3] See the case narrative in cases where a dash (-) is entered in the surrogate recovery block.

**Extractable Petroleum Hydrocarbons  
Sample: CTSS-4 2-3 (8D23023-07)**

**SAMPLE INFORMATION**

Matrix	Soil
Containers	Satisfactory
Aqueous Preservatives	NA
Temperature	Received on Ice Received at: 4+/-2 C°
Extraction Method	EPA Method 3546

**EPH ANALYTICAL RESULTS**

Method for Ranges: MADEP EPH 4-1.1	Client ID	CTSS-4 2-3				
Method for Target Analytes: MADEP EPH 4-1.1	Lab ID	8D23023-07				
EPH Surrogate Standards: Aliphatic: Chlorooctadecane Aromatic: o-Terphenyl	Date Collected	04/20/18				
	Date Received	04/23/18				
	Date Thawed	NA				
	Date Extracted	04/25/18				
EPH Fractionation Surrogates: (1) 2-Fluorobiphenyl (2) 2-Bromonaphthalene	Percent Moisture	10.70				
<b>RANGE/TARGET ANALYTE</b>	<b>Dilution</b>	<b>RL</b>	<b>Units</b>	<b>Result</b>	<b>Analyzed</b>	
Unadjusted C11-C22 Aromatic Hydrocarbons [1]	1X	14.7	mg/kg	<14.7	04/27/18 19:27	
Diesel PAH Analytes	Naphthalene	1X	0.36	mg/kg	<0.36	04/27/18 19:27
	2-Methylnaphthalene	1X	0.36	mg/kg	<0.36	04/27/18 19:27
	Phenanthrene	1X	0.36	mg/kg	<0.36	04/27/18 19:27
	Acenaphthene	1X	0.36	mg/kg	<0.36	04/27/18 19:27
Other Target PAH Analytes	Acenaphthylene	1X	0.36	mg/kg	<0.36	04/27/18 19:27
	Fluorene	1X	0.36	mg/kg	<0.36	04/27/18 19:27
	Anthracene	1X	0.36	mg/kg	<0.36	04/27/18 19:27
	Fluoranthene	1X	0.36	mg/kg	<0.36	04/27/18 19:27
	Pyrene	1X	0.36	mg/kg	<0.36	04/27/18 19:27
	Benzo(a)anthracene	1X	0.36	mg/kg	<0.36	04/27/18 19:27
	Chrysene	1X	0.36	mg/kg	<0.36	04/27/18 19:27
	Benzo(b)fluoranthene	1X	0.36	mg/kg	<0.36	04/27/18 19:27
	Benzo(k)fluoranthene	1X	0.36	mg/kg	<0.36	04/27/18 19:27
	Benzo(a)pyrene	1X	0.36	mg/kg	<0.36	04/27/18 19:27
	Indeno(1,2,3-cd)pyrene	1X	0.36	mg/kg	<0.36	04/27/18 19:27
	Dibenz(a,h)anthracene	1X	0.36	mg/kg	<0.36	04/27/18 19:27
Benzo(g,h,i)perylene	1X	0.36	mg/kg	<0.36	04/27/18 19:27	
C9-C18 Aliphatic Hydrocarbons [1]	1X	14.7	mg/kg	<14.7	04/27/18 16:10	
C19-C36 Aliphatic Hydrocarbons [1]	1X	14.7	mg/kg	<14.7	04/27/18 16:10	
C11-C22 Aromatic Hydrocarbons [1,2]	1X	14.7	mg/kg	<14.7	04/27/18 19:27	
Chlorooctadecane (Sample Surrogate)			%	61.3	04/27/18 16:10	
o-Terphenyl (Sample Surrogate)			%	76.9	04/27/18 19:27	
2-Fluorobiphenyl (Fractionation Surrogate)			%	96.9	04/27/18 19:27	
2-Bromonaphthalene (Fractionation Surrogate)			%	89.8	04/27/18 19:27	
Surrogate Acceptance Range [3]				40 - 140%		

[1] Hydrocarbon range data excludes area counts of any surrogate(s) and/or internal standards eluting in that range.

[2] C11-C22 Aromatic Hydrocarbons excludes the concentration of Target PAH Analytes.

[3] See the case narrative in cases where a dash (-) is entered in the surrogate recovery block.

**Extractable Petroleum Hydrocarbons  
Sample: CTSS-5 0-1 (8D23023-08)**

**SAMPLE INFORMATION**

Matrix	Soil
Containers	Satisfactory
Aqueous Preservatives	NA
Temperature	Received on Ice Received at: 4+/-2 C°
Extraction Method	EPA Method 3546

**EPH ANALYTICAL RESULTS**

Method for Ranges: MADEP EPH 4-1.1		Client ID		CTSS-5 0-1		
Method for Target Analytes: MADEP EPH 4-1.1		Lab ID		8D23023-08		
EPH Surrogate Standards: Aliphatic: Chlorooctadecane Aromatic: o-Terphenyl		Date Collected		04/20/18		
		Date Received		04/23/18		
		Date Thawed		NA		
		Date Extracted		04/25/18		
EPH Fractionation Surrogates: (1) 2-Fluorobiphenyl (2) 2-Bromonaphthalene		Percent Moisture		31.50		
RANGE/TARGET ANALYTE		Dilution	RL	Units	Result	Analyzed
Unadjusted C11-C22 Aromatic Hydrocarbons [1]		1X	17.2	mg/kg	<b>161</b>	04/27/18 22:08
Diesel PAH Analytes	Naphthalene	1X	0.43	mg/kg	<0.43	04/27/18 22:08
	2-Methylnaphthalene	1X	0.43	mg/kg	<0.43	04/27/18 22:08
	Phenanthrene	1X	0.43	mg/kg	<0.43	04/27/18 22:08
	Acenaphthene	1X	0.43	mg/kg	<0.43	04/27/18 22:08
Other Target PAH Analytes	Acenaphthylene	1X	0.43	mg/kg	<0.43	04/27/18 22:08
	Fluorene	1X	0.43	mg/kg	<0.43	04/27/18 22:08
	Anthracene	1X	0.43	mg/kg	<0.43	04/27/18 22:08
	Fluoranthene	1X	0.43	mg/kg	<0.43	04/27/18 22:08
	Pyrene	1X	0.43	mg/kg	<0.43	04/27/18 22:08
	Benzo(a)anthracene	1X	0.43	mg/kg	<0.43	04/27/18 22:08
	Chrysene	1X	0.43	mg/kg	<0.43	04/27/18 22:08
	Benzo(b)fluoranthene	1X	0.43	mg/kg	<0.43	04/27/18 22:08
	Benzo(k)fluoranthene	1X	0.43	mg/kg	<0.43	04/27/18 22:08
	Benzo(a)pyrene	1X	0.43	mg/kg	<0.43	04/27/18 22:08
	Indeno(1,2,3-cd)pyrene	1X	0.43	mg/kg	<0.43	04/27/18 22:08
	Dibenz(a,h)anthracene	1X	0.43	mg/kg	<0.43	04/27/18 22:08
Benzo(g,h,i)perylene	1X	0.43	mg/kg	<0.43	04/27/18 22:08	
C9-C18 Aliphatic Hydrocarbons [1]		1X	17.2	mg/kg	<17.2	04/27/18 18:42
C19-C36 Aliphatic Hydrocarbons [1]		1X	17.2	mg/kg	<b>594</b>	04/27/18 18:42
C11-C22 Aromatic Hydrocarbons [1,2]		1X	17.2	mg/kg	<b>161</b>	04/27/18 22:08
Chlorooctadecane (Sample Surrogate)				%	43.3	04/27/18 18:42
o-Terphenyl (Sample Surrogate)				%	66.5	04/27/18 22:08
2-Fluorobiphenyl (Fractionation Surrogate)				%	88.6	04/27/18 22:08
2-Bromonaphthalene (Fractionation Surrogate)				%	94.3	04/27/18 22:08
Surrogate Acceptance Range [3]					40 - 140%	

[1] Hydrocarbon range data excludes area counts of any surrogate(s) and/or internal standards eluting in that range.

[2] C11-C22 Aromatic Hydrocarbons excludes the concentration of Target PAH Analytes.

[3] See the case narrative in cases where a dash (-) is entered in the surrogate recovery block.

**Extractable Petroleum Hydrocarbons  
Sample: CLSS-7 2-3 (8D23023-12)**

**SAMPLE INFORMATION**

Matrix	Soil
Containers	Satisfactory
Aqueous Preservatives	NA
Temperature	Received on Ice Received at: 4+/-2 C°
Extraction Method	EPA Method 3546

**EPH ANALYTICAL RESULTS**

Method for Ranges: MADEP EPH 4-1.1		Client ID		CLSS-7 2-3		
Method for Target Analytes: MADEP EPH 4-1.1		Lab ID		8D23023-12		
EPH Surrogate Standards: Aliphatic: Chlorooctadecane Aromatic: o-Terphenyl		Date Collected		04/20/18		
		Date Received		04/23/18		
		Date Thawed		NA		
		Date Extracted		04/25/18		
EPH Fractionation Surrogates: (1) 2-Fluorobiphenyl (2) 2-Bromonaphthalene		Percent Moisture		25.50		
RANGE/TARGET ANALYTE		Dilution	RL	Units	Result	Analyzed
Unadjusted C11-C22 Aromatic Hydrocarbons [1]		1X	17.1	mg/kg	<17.1	04/27/18 15:52
Diesel PAH Analytes	Naphthalene	1X	0.42	mg/kg	<0.42	04/27/18 15:52
	2-Methylnaphthalene	1X	0.42	mg/kg	<0.42	04/27/18 15:52
	Phenanthrene	1X	0.42	mg/kg	<0.42	04/27/18 15:52
	Acenaphthene	1X	0.42	mg/kg	<0.42	04/27/18 15:52
Other Target PAH Analytes	Acenaphthylene	1X	0.42	mg/kg	<0.42	04/27/18 15:52
	Fluorene	1X	0.42	mg/kg	<0.42	04/27/18 15:52
	Anthracene	1X	0.42	mg/kg	<0.42	04/27/18 15:52
	Fluoranthene	1X	0.42	mg/kg	<0.42	04/27/18 15:52
	Pyrene	1X	0.42	mg/kg	<0.42	04/27/18 15:52
	Benzo(a)anthracene	1X	0.42	mg/kg	<0.42	04/27/18 15:52
	Chrysene	1X	0.42	mg/kg	<0.42	04/27/18 15:52
	Benzo(b)fluoranthene	1X	0.42	mg/kg	<0.42	04/27/18 15:52
	Benzo(k)fluoranthene	1X	0.42	mg/kg	<0.42	04/27/18 15:52
	Benzo(a)pyrene	1X	0.42	mg/kg	<0.42	04/27/18 15:52
	Indeno(1,2,3-cd)pyrene	1X	0.42	mg/kg	<0.42	04/27/18 15:52
	Dibenz(a,h)anthracene	1X	0.42	mg/kg	<0.42	04/27/18 15:52
Benzo(g,h,i)perylene	1X	0.42	mg/kg	<0.42	04/27/18 15:52	
C9-C18 Aliphatic Hydrocarbons [1]		1X	17.1	mg/kg	<17.1	04/27/18 13:18
C19-C36 Aliphatic Hydrocarbons [1]		1X	17.1	mg/kg	<b>28.2</b>	04/27/18 13:18
C11-C22 Aromatic Hydrocarbons [1,2]		1X	17.1	mg/kg	<17.1	04/27/18 15:52
Chlorooctadecane (Sample Surrogate)				%	55.7	04/27/18 13:18
o-Terphenyl (Sample Surrogate)				%	75.3	04/27/18 15:52
2-Fluorobiphenyl (Fractionation Surrogate)				%	100	04/27/18 15:52
2-Bromonaphthalene (Fractionation Surrogate)				%	101	04/27/18 15:52
Surrogate Acceptance Range [3]					40 - 140%	

[1] Hydrocarbon range data excludes area counts of any surrogate(s) and/or internal standards eluting in that range.

[2] C11-C22 Aromatic Hydrocarbons excludes the concentration of Target PAH Analytes.

[3] See the case narrative in cases where a dash (-) is entered in the surrogate recovery block.



**Extractable Petroleum Hydrocarbons  
Sample: CLSS-11 2-3 (8D23023-15)**

**SAMPLE INFORMATION**

Matrix	Soil
Containers	Satisfactory
Aqueous Preservatives	NA
Temperature	Received on Ice Received at: 4+/-2 C°
Extraction Method	EPA Method 3546

**EPH ANALYTICAL RESULTS**

Method for Ranges: MADEP EPH 4-1.1		Client ID		CLSS-11 2-3		
Method for Target Analytes: MADEP EPH 4-1.1		Lab ID		8D23023-15		
EPH Surrogate Standards: Aliphatic: Chlorooctadecane Aromatic: o-Terphenyl		Date Collected		04/20/18		
		Date Received		04/23/18		
		Date Thawed		NA		
		Date Extracted		04/25/18		
EPH Fractionation Surrogates: (1) 2-Fluorobiphenyl (2) 2-Bromonaphthalene		Percent Moisture		23.70		
RANGE/TARGET ANALYTE		Dilution	RL	Units	Result	Analyzed
Unadjusted C11-C22 Aromatic Hydrocarbons [1]		1X	16.6	mg/kg	<16.6	04/27/18 19:52
Diesel PAH Analytes	Naphthalene	1X	0.41	mg/kg	<0.41	04/27/18 19:52
	2-Methylnaphthalene	1X	0.41	mg/kg	<0.41	04/27/18 19:52
	Phenanthrene	1X	0.41	mg/kg	<0.41	04/27/18 19:52
	Acenaphthene	1X	0.41	mg/kg	<0.41	04/27/18 19:52
Other Target PAH Analytes	Acenaphthylene	1X	0.41	mg/kg	<0.41	04/27/18 19:52
	Fluorene	1X	0.41	mg/kg	<0.41	04/27/18 19:52
	Anthracene	1X	0.41	mg/kg	<0.41	04/27/18 19:52
	Fluoranthene	1X	0.41	mg/kg	<0.41	04/27/18 19:52
	Pyrene	1X	0.41	mg/kg	<0.41	04/27/18 19:52
	Benzo(a)anthracene	1X	0.41	mg/kg	<0.41	04/27/18 19:52
	Chrysene	1X	0.41	mg/kg	<0.41	04/27/18 19:52
	Benzo(b)fluoranthene	1X	0.41	mg/kg	<0.41	04/27/18 19:52
	Benzo(k)fluoranthene	1X	0.41	mg/kg	<0.41	04/27/18 19:52
	Benzo(a)pyrene	1X	0.41	mg/kg	<0.41	04/27/18 19:52
	Indeno(1,2,3-cd)pyrene	1X	0.41	mg/kg	<0.41	04/27/18 19:52
	Dibenz(a,h)anthracene	1X	0.41	mg/kg	<0.41	04/27/18 19:52
Benzo(g,h,i)perylene	1X	0.41	mg/kg	<0.41	04/27/18 19:52	
C9-C18 Aliphatic Hydrocarbons [1]		1X	16.6	mg/kg	<16.6	04/27/18 16:34
C19-C36 Aliphatic Hydrocarbons [1]		1X	16.6	mg/kg	<16.6	04/27/18 16:34
C11-C22 Aromatic Hydrocarbons [1,2]		1X	16.6	mg/kg	<16.6	04/27/18 19:52
Chlorooctadecane (Sample Surrogate)				%	57.2	04/27/18 16:34
o-Terphenyl (Sample Surrogate)				%	77.7	04/27/18 19:52
2-Fluorobiphenyl (Fractionation Surrogate)				%	102	04/27/18 19:52
2-Bromonaphthalene (Fractionation Surrogate)				%	101	04/27/18 19:52
Surrogate Acceptance Range [3]					40 - 140%	

[1] Hydrocarbon range data excludes area counts of any surrogate(s) and/or internal standards eluting in that range.

[2] C11-C22 Aromatic Hydrocarbons excludes the concentration of Target PAH Analytes.

[3] See the case narrative in cases where a dash (-) is entered in the surrogate recovery block.

**Extractable Petroleum Hydrocarbons  
Sample: CLSS-5 2-3 (8D23023-20)**

**SAMPLE INFORMATION**

Matrix	Soil
Containers	Satisfactory
Aqueous Preservatives	NA
Temperature	Received on Ice Received at: 4+/-2 C°
Extraction Method	EPA Method 3546

**EPH ANALYTICAL RESULTS**

Method for Ranges: MADEP EPH 4-1.1		Client ID		CLSS-5 2-3		
Method for Target Analytes: MADEP EPH 4-1.1		Lab ID		8D23023-20		
EPH Surrogate Standards: Aliphatic: Chlorooctadecane Aromatic: o-Terphenyl		Date Collected		04/20/18		
		Date Received		04/23/18		
		Date Thawed		NA		
		Date Extracted		04/25/18		
EPH Fractionation Surrogates: (1) 2-Fluorobiphenyl (2) 2-Bromonaphthalene		Percent Moisture		44.90		
RANGE/TARGET ANALYTE		Dilution	RL	Units	Result	Analyzed
Unadjusted C11-C22 Aromatic Hydrocarbons [1]		1X	23.5	mg/kg	<b>97.8</b>	04/27/18 18:36
Diesel PAH Analytes	Naphthalene	1X	0.58	mg/kg	<0.58	04/27/18 18:36
	2-Methylnaphthalene	1X	0.58	mg/kg	<0.58	04/27/18 18:36
	Phenanthrene	1X	0.58	mg/kg	<0.58	04/27/18 18:36
	Acenaphthene	1X	0.58	mg/kg	<0.58	04/27/18 18:36
Other Target PAH Analytes	Acenaphthylene	1X	0.58	mg/kg	<0.58	04/27/18 18:36
	Fluorene	1X	0.58	mg/kg	<0.58	04/27/18 18:36
	Anthracene	1X	0.58	mg/kg	<0.58	04/27/18 18:36
	Fluoranthene	1X	0.58	mg/kg	<0.58	04/27/18 18:36
	Pyrene	1X	0.58	mg/kg	<0.58	04/27/18 18:36
	Benzo(a)anthracene	1X	0.58	mg/kg	<0.58	04/27/18 18:36
	Chrysene	1X	0.58	mg/kg	<0.58	04/27/18 18:36
	Benzo(b)fluoranthene	1X	0.58	mg/kg	<0.58	04/27/18 18:36
	Benzo(k)fluoranthene	1X	0.58	mg/kg	<0.58	04/27/18 18:36
	Benzo(a)pyrene	1X	0.58	mg/kg	<0.58	04/27/18 18:36
	Indeno(1,2,3-cd)pyrene	1X	0.58	mg/kg	<0.58	04/27/18 18:36
	Dibenz(a,h)anthracene	1X	0.58	mg/kg	<0.58	04/27/18 18:36
Benzo(g,h,i)perylene	1X	0.58	mg/kg	<0.58	04/27/18 18:36	
C9-C18 Aliphatic Hydrocarbons [1]		1X	23.5	mg/kg	<23.5	04/27/18 15:22
C19-C36 Aliphatic Hydrocarbons [1]		1X	23.5	mg/kg	<b>235</b>	04/27/18 15:22
C11-C22 Aromatic Hydrocarbons [1,2]		1X	23.5	mg/kg	<b>97.8</b>	04/27/18 18:36
Chlorooctadecane (Sample Surrogate)				%	56.6	04/27/18 15:22
o-Terphenyl (Sample Surrogate)				%	81.6	04/27/18 18:36
2-Fluorobiphenyl (Fractionation Surrogate)				%	98.0	04/27/18 18:36
2-Bromonaphthalene (Fractionation Surrogate)				%	95.2	04/27/18 18:36
Surrogate Acceptance Range [3]					40 - 140%	

[1] Hydrocarbon range data excludes area counts of any surrogate(s) and/or internal standards eluting in that range.

[2] C11-C22 Aromatic Hydrocarbons excludes the concentration of Target PAH Analytes.

[3] See the case narrative in cases where a dash (-) is entered in the surrogate recovery block.

**Extractable Petroleum Hydrocarbons  
Sample: CLSS-6 1-2 (8D23023-21)**

**SAMPLE INFORMATION**

Matrix	Soil
Containers	Satisfactory
Aqueous Preservatives	NA
Temperature	Received on Ice Received at: 4+/-2 C°
Extraction Method	EPA Method 3546

**EPH ANALYTICAL RESULTS**

Method for Ranges: MADEP EPH 4-1.1		Client ID		CLSS-6 1-2		
Method for Target Analytes: MADEP EPH 4-1.1		Lab ID		8D23023-21		
EPH Surrogate Standards: Aliphatic: Chlorooctadecane Aromatic: o-Terphenyl		Date Collected		04/20/18		
		Date Received		04/23/18		
		Date Thawed		NA		
		Date Extracted		04/25/18		
EPH Fractionation Surrogates: (1) 2-Fluorobiphenyl (2) 2-Bromonaphthalene		Percent Moisture		26.00		
RANGE/TARGET ANALYTE		Dilution	RL	Units	Result	Analyzed
Unadjusted C11-C22 Aromatic Hydrocarbons [1]		1X	17.2	mg/kg	<b>45.8</b>	04/27/18 18:10
Diesel PAH Analytes	Naphthalene	1X	0.43	mg/kg	<0.43	04/27/18 18:10
	2-Methylnaphthalene	1X	0.43	mg/kg	<0.43	04/27/18 18:10
	Phenanthrene	1X	0.43	mg/kg	<0.43	04/27/18 18:10
	Acenaphthene	1X	0.43	mg/kg	<0.43	04/27/18 18:10
Other Target PAH Analytes	Acenaphthylene	1X	0.43	mg/kg	<0.43	04/27/18 18:10
	Fluorene	1X	0.43	mg/kg	<0.43	04/27/18 18:10
	Anthracene	1X	0.43	mg/kg	<0.43	04/27/18 18:10
	Fluoranthene	1X	0.43	mg/kg	<0.43	04/27/18 18:10
	Pyrene	1X	0.43	mg/kg	<0.43	04/27/18 18:10
	Benzo(a)anthracene	1X	0.43	mg/kg	<0.43	04/27/18 18:10
	Chrysene	1X	0.43	mg/kg	<0.43	04/27/18 18:10
	Benzo(b)fluoranthene	1X	0.43	mg/kg	<0.43	04/27/18 18:10
	Benzo(k)fluoranthene	1X	0.43	mg/kg	<0.43	04/27/18 18:10
	Benzo(a)pyrene	1X	0.43	mg/kg	<0.43	04/27/18 18:10
	Indeno(1,2,3-cd)pyrene	1X	0.43	mg/kg	<0.43	04/27/18 18:10
	Dibenz(a,h)anthracene	1X	0.43	mg/kg	<0.43	04/27/18 18:10
Benzo(g,h,i)perylene	1X	0.43	mg/kg	<0.43	04/27/18 18:10	
C9-C18 Aliphatic Hydrocarbons [1]		1X	17.2	mg/kg	<17.2	04/27/18 14:30
C19-C36 Aliphatic Hydrocarbons [1]		1X	17.2	mg/kg	<b>192</b>	04/27/18 14:30
C11-C22 Aromatic Hydrocarbons [1,2]		1X	17.2	mg/kg	<b>45.8</b>	04/27/18 18:10
Chlorooctadecane (Sample Surrogate)				%	51.6	04/27/18 14:30
o-Terphenyl (Sample Surrogate)				%	80.3	04/27/18 18:10
2-Fluorobiphenyl (Fractionation Surrogate)				%	97.4	04/27/18 18:10
2-Bromonaphthalene (Fractionation Surrogate)				%	95.2	04/27/18 18:10
Surrogate Acceptance Range [3]					40 - 140%	

[1] Hydrocarbon range data excludes area counts of any surrogate(s) and/or internal standards eluting in that range.

[2] C11-C22 Aromatic Hydrocarbons excludes the concentration of Target PAH Analytes.

[3] See the case narrative in cases where a dash (-) is entered in the surrogate recovery block.

**Extractable Petroleum Hydrocarbons  
Sample: CLSS-6 2-3 (8D23023-22)**

**SAMPLE INFORMATION**

Matrix	Soil
Containers	Satisfactory
Aqueous Preservatives	NA
Temperature	Received on Ice Received at: 4+/-2 C°
Extraction Method	EPA Method 3546

**EPH ANALYTICAL RESULTS**

Method for Ranges: MADEP EPH 4-1.1		Client ID		CLSS-6 2-3		
Method for Target Analytes: MADEP EPH 4-1.1		Lab ID		8D23023-22		
EPH Surrogate Standards: Aliphatic: Chlorooctadecane Aromatic: o-Terphenyl		Date Collected		04/20/18		
		Date Received		04/23/18		
		Date Thawed		NA		
		Date Extracted		04/25/18		
EPH Fractionation Surrogates: (1) 2-Fluorobiphenyl (2) 2-Bromonaphthalene		Percent Moisture		19.30		
RANGE/TARGET ANALYTE		Dilution	RL	Units	Result	Analyzed
Unadjusted C11-C22 Aromatic Hydrocarbons [1]		1X	15.1	mg/kg	<15.1	04/27/18 15:26
Diesel PAH Analytes	Naphthalene	1X	0.37	mg/kg	<0.37	04/27/18 15:26
	2-Methylnaphthalene	1X	0.37	mg/kg	<0.37	04/27/18 15:26
	Phenanthrene	1X	0.37	mg/kg	<0.37	04/27/18 15:26
	Acenaphthene	1X	0.37	mg/kg	<0.37	04/27/18 15:26
Other Target PAH Analytes	Acenaphthylene	1X	0.37	mg/kg	<0.37	04/27/18 15:26
	Fluorene	1X	0.37	mg/kg	<0.37	04/27/18 15:26
	Anthracene	1X	0.37	mg/kg	<0.37	04/27/18 15:26
	Fluoranthene	1X	0.37	mg/kg	<0.37	04/27/18 15:26
	Pyrene	1X	0.37	mg/kg	<0.37	04/27/18 15:26
	Benzo(a)anthracene	1X	0.37	mg/kg	<0.37	04/27/18 15:26
	Chrysene	1X	0.37	mg/kg	<0.37	04/27/18 15:26
	Benzo(b)fluoranthene	1X	0.37	mg/kg	<0.37	04/27/18 15:26
	Benzo(k)fluoranthene	1X	0.37	mg/kg	<0.37	04/27/18 15:26
	Benzo(a)pyrene	1X	0.37	mg/kg	<0.37	04/27/18 15:26
	Indeno(1,2,3-cd)pyrene	1X	0.37	mg/kg	<0.37	04/27/18 15:26
	Dibenz(a,h)anthracene	1X	0.37	mg/kg	<0.37	04/27/18 15:26
Benzo(g,h,i)perylene	1X	0.37	mg/kg	<0.37	04/27/18 15:26	
C9-C18 Aliphatic Hydrocarbons [1]		1X	15.1	mg/kg	<15.1	04/27/18 12:54
C19-C36 Aliphatic Hydrocarbons [1]		1X	15.1	mg/kg	<b>40.1</b>	04/27/18 12:54
C11-C22 Aromatic Hydrocarbons [1,2]		1X	15.1	mg/kg	<15.1	04/27/18 15:26
Chlorooctadecane (Sample Surrogate)				%	55.4	04/27/18 12:54
o-Terphenyl (Sample Surrogate)				%	73.1	04/27/18 15:26
2-Fluorobiphenyl (Fractionation Surrogate)				%	97.6	04/27/18 15:26
2-Bromonaphthalene (Fractionation Surrogate)				%	97.2	04/27/18 15:26
Surrogate Acceptance Range [3]					40 - 140%	

[1] Hydrocarbon range data excludes area counts of any surrogate(s) and/or internal standards eluting in that range.

[2] C11-C22 Aromatic Hydrocarbons excludes the concentration of Target PAH Analytes.

[3] See the case narrative in cases where a dash (-) is entered in the surrogate recovery block.

**Extractable Petroleum Hydrocarbons  
Sample: CLSS-9 0-1 (8D23023-23)**

**SAMPLE INFORMATION**

Matrix	Soil
Containers	Satisfactory
Aqueous Preservatives	NA
Temperature	Received on Ice Received at: 4+/-2 C°
Extraction Method	EPA Method 3546

**EPH ANALYTICAL RESULTS**

Method for Ranges: MADEP EPH 4-1.1		Client ID		CLSS-9 0-1		
Method for Target Analytes: MADEP EPH 4-1.1		Lab ID		8D23023-23		
EPH Surrogate Standards: Aliphatic: Chlorooctadecane Aromatic: o-Terphenyl		Date Collected		04/20/18		
		Date Received		04/23/18		
		Date Thawed		NA		
		Date Extracted		04/25/18		
EPH Fractionation Surrogates: (1) 2-Fluorobiphenyl (2) 2-Bromonaphthalene		Percent Moisture		63.60		
RANGE/TARGET ANALYTE		Dilution	RL	Units	Result	Analyzed
Unadjusted C11-C22 Aromatic Hydrocarbons [1]		1X	33.7	mg/kg	<b>497</b>	04/27/18 21:34
Diesel PAH Analytes	Naphthalene	1X	0.84	mg/kg	<0.84	04/27/18 21:34
	2-Methylnaphthalene	1X	0.84	mg/kg	<0.84	04/27/18 21:34
	Phenanthrene	1X	0.84	mg/kg	<0.84	04/27/18 21:34
	Acenaphthene	1X	0.84	mg/kg	<0.84	04/27/18 21:34
Other Target PAH Analytes	Acenaphthylene	1X	0.84	mg/kg	<0.84	04/27/18 21:34
	Fluorene	1X	0.84	mg/kg	<0.84	04/27/18 21:34
	Anthracene	1X	0.84	mg/kg	<0.84	04/27/18 21:34
	Fluoranthene	1X	0.84	mg/kg	<0.84	04/27/18 21:34
	Pyrene	1X	0.84	mg/kg	<0.84	04/27/18 21:34
	Benzo(a)anthracene	1X	0.84	mg/kg	<0.84	04/27/18 21:34
	Chrysene	1X	0.84	mg/kg	<0.84	04/27/18 21:34
	Benzo(b)fluoranthene	1X	0.84	mg/kg	<0.84	04/27/18 21:34
	Benzo(k)fluoranthene	1X	0.84	mg/kg	<0.84	04/27/18 21:34
	Benzo(a)pyrene	1X	0.84	mg/kg	<0.84	04/27/18 21:34
	Indeno(1,2,3-cd)pyrene	1X	0.84	mg/kg	<0.84	04/27/18 21:34
	Dibenz(a,h)anthracene	1X	0.84	mg/kg	<0.84	04/27/18 21:34
Benzo(g,h,i)perylene	1X	0.84	mg/kg	<0.84	04/27/18 21:34	
C9-C18 Aliphatic Hydrocarbons [1]		1X	33.7	mg/kg	<33.7	04/27/18 18:11
C19-C36 Aliphatic Hydrocarbons [1]		1X	33.7	mg/kg	<b>1800</b>	04/27/18 18:11
C11-C22 Aromatic Hydrocarbons [1,2]		1X	33.7	mg/kg	<b>497</b>	04/27/18 21:34
Chlorooctadecane (Sample Surrogate)				%	45.6	04/27/18 18:11
o-Terphenyl (Sample Surrogate)				%	73.2	04/27/18 21:34
2-Fluorobiphenyl (Fractionation Surrogate)				%	94.8	04/27/18 21:34
2-Bromonaphthalene (Fractionation Surrogate)				%	98.7	04/27/18 21:34
Surrogate Acceptance Range [3]					40 - 140%	

[1] Hydrocarbon range data excludes area counts of any surrogate(s) and/or internal standards eluting in that range.

[2] C11-C22 Aromatic Hydrocarbons excludes the concentration of Target PAH Analytes.

[3] See the case narrative in cases where a dash (-) is entered in the surrogate recovery block.

**Extractable Petroleum Hydrocarbons  
Sample: CLSS-9 2-3 (8D23023-25)**

**SAMPLE INFORMATION**

Matrix	Soil
Containers	Satisfactory
Aqueous Preservatives	NA
Temperature	Received on Ice Received at: 4+/-2 C°
Extraction Method	EPA Method 3546

**EPH ANALYTICAL RESULTS**

Method for Ranges: MADEP EPH 4-1.1		Client ID		CLSS-9 2-3		
Method for Target Analytes: MADEP EPH 4-1.1		Lab ID		8D23023-25		
EPH Surrogate Standards: Aliphatic: Chlorooctadecane Aromatic: o-Terphenyl		Date Collected		04/20/18		
		Date Received		04/23/18		
		Date Thawed		NA		
		Date Extracted		04/25/18		
EPH Fractionation Surrogates: (1) 2-Fluorobiphenyl (2) 2-Bromonaphthalene		Percent Moisture		72.30		
RANGE/TARGET ANALYTE		Dilution	RL	Units	Result	Analyzed
Unadjusted C11-C22 Aromatic Hydrocarbons [1]		1X	46.3	mg/kg	<b>1400</b>	04/27/18 21:09
Diesel PAH Analytes	Naphthalene	1X	1.15	mg/kg	<1.15	04/27/18 21:09
	2-Methylnaphthalene	1X	1.15	mg/kg	<1.15	04/27/18 21:09
	Phenanthrene	1X	1.15	mg/kg	<1.15	04/27/18 21:09
	Acenaphthene	1X	1.15	mg/kg	<1.15	04/27/18 21:09
Other Target PAH Analytes	Acenaphthylene	1X	1.15	mg/kg	<1.15	04/27/18 21:09
	Fluorene	1X	1.15	mg/kg	<1.15	04/27/18 21:09
	Anthracene	1X	1.15	mg/kg	<1.15	04/27/18 21:09
	Fluoranthene	1X	1.15	mg/kg	<1.15	04/27/18 21:09
	Pyrene	1X	1.15	mg/kg	<1.15	04/27/18 21:09
	Benzo(a)anthracene	1X	1.15	mg/kg	<1.15	04/27/18 21:09
	Chrysene	1X	1.15	mg/kg	<1.15	04/27/18 21:09
	Benzo(b)fluoranthene	1X	1.15	mg/kg	<1.15	04/27/18 21:09
	Benzo(k)fluoranthene	1X	1.15	mg/kg	<1.15	04/27/18 21:09
	Benzo(a)pyrene	1X	1.15	mg/kg	<1.15	04/27/18 21:09
	Indeno(1,2,3-cd)pyrene	1X	1.15	mg/kg	<1.15	04/27/18 21:09
	Dibenz(a,h)anthracene	1X	1.15	mg/kg	<1.15	04/27/18 21:09
Benzo(g,h,i)perylene	1X	1.15	mg/kg	<1.15	04/27/18 21:09	
C9-C18 Aliphatic Hydrocarbons [1]		1X	46.3	mg/kg	<b>131</b>	04/27/18 17:47
C19-C36 Aliphatic Hydrocarbons [1]		1X	46.3	mg/kg	<b>5410</b>	04/27/18 17:47
C11-C22 Aromatic Hydrocarbons [1,2]		1X	46.3	mg/kg	<b>1400</b>	04/27/18 21:09
Chlorooctadecane (Sample Surrogate)				%	58.3	04/27/18 17:47
o-Terphenyl (Sample Surrogate)				%	77.6	04/27/18 21:09
2-Fluorobiphenyl (Fractionation Surrogate)				%	104	04/27/18 21:09
2-Bromonaphthalene (Fractionation Surrogate)				%	98.4	04/27/18 21:09
Surrogate Acceptance Range [3]					40 - 140%	

[1] Hydrocarbon range data excludes area counts of any surrogate(s) and/or internal standards eluting in that range.

[2] C11-C22 Aromatic Hydrocarbons excludes the concentration of Target PAH Analytes.

[3] See the case narrative in cases where a dash (-) is entered in the surrogate recovery block.

**Extractable Petroleum Hydrocarbons  
Sample: CLSS-10 0-1 (8D23023-26)**

**SAMPLE INFORMATION**

Matrix	Soil
Containers	Satisfactory
Aqueous Preservatives	NA
Temperature	Received on Ice Received at: 4+/-2 C°
Extraction Method	EPA Method 3546

**EPH ANALYTICAL RESULTS**

Method for Ranges: MADEP EPH 4-1.1		Client ID		CLSS-10 0-1		
Method for Target Analytes: MADEP EPH 4-1.1		Lab ID		8D23023-26		
EPH Surrogate Standards: Aliphatic: Chlorooctadecane Aromatic: o-Terphenyl		Date Collected		04/20/18		
		Date Received		04/23/18		
		Date Thawed		NA		
		Date Extracted		04/25/18		
EPH Fractionation Surrogates: (1) 2-Fluorobiphenyl (2) 2-Bromonaphthalene		Percent Moisture		70.50		
RANGE/TARGET ANALYTE		Dilution	RL	Units	Result	Analyzed
Unadjusted C11-C22 Aromatic Hydrocarbons [1]		1X	43.3	mg/kg	<b>458</b>	04/27/18 22:41
Diesel PAH Analytes	Naphthalene	1X	1.07	mg/kg	<1.07	04/27/18 22:41
	2-Methylnaphthalene	1X	1.07	mg/kg	<1.07	04/27/18 22:41
	Phenanthrene	1X	1.07	mg/kg	<1.07	04/27/18 22:41
	Acenaphthene	1X	1.07	mg/kg	<1.07	04/27/18 22:41
Other Target PAH Analytes	Acenaphthylene	1X	1.07	mg/kg	<1.07	04/27/18 22:41
	Fluorene	1X	1.07	mg/kg	<1.07	04/27/18 22:41
	Anthracene	1X	1.07	mg/kg	<1.07	04/27/18 22:41
	Fluoranthene	1X	1.07	mg/kg	<1.07	04/27/18 22:41
	Pyrene	1X	1.07	mg/kg	<1.07	04/27/18 22:41
	Benzo(a)anthracene	1X	1.07	mg/kg	<1.07	04/27/18 22:41
	Chrysene	1X	1.07	mg/kg	<1.07	04/27/18 22:41
	Benzo(b)fluoranthene	1X	1.07	mg/kg	<1.07	04/27/18 22:41
	Benzo(k)fluoranthene	1X	1.07	mg/kg	<1.07	04/27/18 22:41
	Benzo(a)pyrene	1X	1.07	mg/kg	<1.07	04/27/18 22:41
	Indeno(1,2,3-cd)pyrene	1X	1.07	mg/kg	<1.07	04/27/18 22:41
	Dibenz(a,h)anthracene	1X	1.07	mg/kg	<1.07	04/27/18 22:41
Benzo(g,h,i)perylene	1X	1.07	mg/kg	<1.07	04/27/18 22:41	
C9-C18 Aliphatic Hydrocarbons [1]		1X	43.3	mg/kg	<43.3	04/27/18 19:13
C19-C36 Aliphatic Hydrocarbons [1]		1X	43.3	mg/kg	<b>1670</b>	04/27/18 19:13
C11-C22 Aromatic Hydrocarbons [1,2]		1X	43.3	mg/kg	<b>458</b>	04/27/18 22:41
Chlorooctadecane (Sample Surrogate)				%	53.7	04/27/18 19:13
o-Terphenyl (Sample Surrogate)				%	88.8	04/27/18 22:41
2-Fluorobiphenyl (Fractionation Surrogate)				%	92.9	04/27/18 22:41
2-Bromonaphthalene (Fractionation Surrogate)				%	91.3	04/27/18 22:41
Surrogate Acceptance Range [3]					40 - 140%	

[1] Hydrocarbon range data excludes area counts of any surrogate(s) and/or internal standards eluting in that range.

[2] C11-C22 Aromatic Hydrocarbons excludes the concentration of Target PAH Analytes.

[3] See the case narrative in cases where a dash (-) is entered in the surrogate recovery block.

**Extractable Petroleum Hydrocarbons  
Sample: CLSS-10 2-3 (8D23023-28)**

**SAMPLE INFORMATION**

Matrix	Soil
Containers	Satisfactory
Aqueous Preservatives	NA
Temperature	Received on Ice Received at: 4+/-2 C°
Extraction Method	EPA Method 3546

**EPH ANALYTICAL RESULTS**

Method for Ranges: MADEP EPH 4-1.1	Client ID	CLSS-10 2-3				
Method for Target Analytes: MADEP EPH 4-1.1	Lab ID	8D23023-28				
EPH Surrogate Standards: Aliphatic: Chlorooctadecane Aromatic: o-Terphenyl	Date Collected	04/20/18				
	Date Received	04/23/18				
	Date Thawed	NA				
	Date Extracted	04/25/18				
EPH Fractionation Surrogates: (1) 2-Fluorobiphenyl (2) 2-Bromonaphthalene	Percent Moisture	55.20				
<b>RANGE/TARGET ANALYTE</b>	<b>Dilution</b>	<b>RL</b>	<b>Units</b>	<b>Result</b>	<b>Analyzed</b>	
Unadjusted C11-C22 Aromatic Hydrocarbons [1]	1X	28.1	mg/kg	<b>50.5</b>	04/27/18 16:20	
Diesel PAH Analytes	Naphthalene	1X	0.70	mg/kg	<0.70	04/27/18 16:20
	2-Methylnaphthalene	1X	0.70	mg/kg	<0.70	04/27/18 16:20
	Phenanthrene	1X	0.70	mg/kg	<0.70	04/27/18 16:20
	Acenaphthene	1X	0.70	mg/kg	<0.70	04/27/18 16:20
Other Target PAH Analytes	Acenaphthylene	1X	0.70	mg/kg	<0.70	04/27/18 16:20
	Fluorene	1X	0.70	mg/kg	<0.70	04/27/18 16:20
	Anthracene	1X	0.70	mg/kg	<0.70	04/27/18 16:20
	Fluoranthene	1X	0.70	mg/kg	<0.70	04/27/18 16:20
	Pyrene	1X	0.70	mg/kg	<0.70	04/27/18 16:20
	Benzo(a)anthracene	1X	0.70	mg/kg	<0.70	04/27/18 16:20
	Chrysene	1X	0.70	mg/kg	<0.70	04/27/18 16:20
	Benzo(b)fluoranthene	1X	0.70	mg/kg	<0.70	04/27/18 16:20
	Benzo(k)fluoranthene	1X	0.70	mg/kg	<0.70	04/27/18 16:20
	Benzo(a)pyrene	1X	0.70	mg/kg	<0.70	04/27/18 16:20
	Indeno(1,2,3-cd)pyrene	1X	0.70	mg/kg	<0.70	04/27/18 16:20
	Dibenz(a,h)anthracene	1X	0.70	mg/kg	<0.70	04/27/18 16:20
Benzo(g,h,i)perylene	1X	0.70	mg/kg	<0.70	04/27/18 16:20	
C9-C18 Aliphatic Hydrocarbons [1]	1X	28.1	mg/kg	<28.1	04/27/18 13:42	
C19-C36 Aliphatic Hydrocarbons [1]	1X	28.1	mg/kg	<b>101</b>	04/27/18 13:42	
C11-C22 Aromatic Hydrocarbons [1,2]	1X	28.1	mg/kg	<b>50.5</b>	04/27/18 16:20	
Chlorooctadecane (Sample Surrogate)			%	54.6	04/27/18 13:42	
o-Terphenyl (Sample Surrogate)			%	78.1	04/27/18 16:20	
2-Fluorobiphenyl (Fractionation Surrogate)			%	99.2	04/27/18 16:20	
2-Bromonaphthalene (Fractionation Surrogate)			%	96.8	04/27/18 16:20	
Surrogate Acceptance Range [3]				40 - 140%		

[1] Hydrocarbon range data excludes area counts of any surrogate(s) and/or internal standards eluting in that range.

[2] C11-C22 Aromatic Hydrocarbons excludes the concentration of Target PAH Analytes.

[3] See the case narrative in cases where a dash (-) is entered in the surrogate recovery block.



## Quality Control

### General Chemistry

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch: B8E0166 - Hexavalent Chrome</b>										
<b>Blank (B8E0166-BLK1)</b>										
Hexavalent chromium	ND		1	mg/kg						Prepared & Analyzed: 05/03/18
<b>Blank (B8E0166-BLK2)</b>										
Hexavalent chromium	ND		1	mg/kg						Prepared & Analyzed: 05/03/18
<b>LCS (B8E0166-BS1)</b>										
Hexavalent chromium	20		1	mg/kg	20.0		99.6	90-110		Prepared & Analyzed: 05/03/18
<b>LCS (B8E0166-BS2)</b>										
Hexavalent chromium	19		1	mg/kg	20.0		93.8	90-110		Prepared & Analyzed: 05/03/18
<b>Duplicate (B8E0166-DUP1)</b>										
Hexavalent chromium	17		7	mg/kg dry		15			16.1	20
<b>Matrix Spike (B8E0166-MS1)</b>										
Hexavalent chromium	99		7	mg/kg dry	29.4	15	289	80-120		Prepared & Analyzed: 05/03/18
<b>Batch: B8E0314 - Hexavalent Chrome</b>										
<b>Blank (B8E0314-BLK1)</b>										
Hexavalent chromium	ND		1	mg/kg						Prepared & Analyzed: 05/07/18
<b>Blank (B8E0314-BLK2)</b>										
Hexavalent chromium	ND		1	mg/kg						Prepared & Analyzed: 05/07/18
<b>LCS (B8E0314-BS1)</b>										
Hexavalent chromium	18		1	mg/kg	20.0		90.4	90-110		Prepared & Analyzed: 05/07/18

**Quality Control  
(Continued)**

**General Chemistry (Continued)**

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch: B8E0314 - Hexavalent Chrome (Continued)</b>										
<b>LCS (B8E0314-BS2)</b>										
Hexavalent chromium	19		1	mg/kg	20.0		93.0	90-110		
Prepared & Analyzed: 05/07/18										
<b>Duplicate (B8E0314-DUP1)</b>										
Hexavalent chromium	9		3	mg/kg dry		18			66.6	20
Source: 8D23023-17										
Prepared & Analyzed: 05/07/18										
<b>Matrix Spike (B8E0314-MS1)</b>										
Hexavalent chromium	55		5	mg/kg dry	52.2	18	70.6	80-120		
Prepared & Analyzed: 05/07/18										

**Quality Control  
(Continued)**

**Total Metals**

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch: B8D0881 - Metals Digestion Soils</b>										
<b>Blank (B8D0881-BLK1)</b>					Prepared & Analyzed: 04/24/18					
Nickel	ND		0.50	mg/kg						
Beryllium	ND		0.50	mg/kg						
Cadmium	ND		0.50	mg/kg						
Selenium	ND		0.99	mg/kg						
Vanadium	ND		0.50	mg/kg						
Barium	ND		0.50	mg/kg						
Lead	ND		0.50	mg/kg						
Chromium	ND		0.50	mg/kg						
Arsenic	ND		0.99	mg/kg						
Zinc	ND		2.0	mg/kg						
Antimony	ND		0.99	mg/kg						
Silver	ND		0.50	mg/kg						
Thallium	ND		0.200	mg/kg						
<b>LCS (B8D0881-BS1)</b>										
					Prepared & Analyzed: 04/24/18					
Lead	93.3		0.50	mg/kg	100		93.3	85-115		
Antimony	96.4		0.99	mg/kg	100		96.4	85-115		
Cadmium	95.4		0.50	mg/kg	100		95.4	85-115		
Arsenic	19.3		0.99	mg/kg	20.0		96.5	85-115		
Nickel	94.1		0.50	mg/kg	100		94.1	85-112		
Chromium	99.8		0.50	mg/kg	100		99.8	85-115		
Beryllium	20.6		0.50	mg/kg	20.0		103	85-115		
Selenium	18.0		0.99	mg/kg	20.0		90.0	85-115		
Barium	102		0.50	mg/kg	100		102	85-115		
Vanadium	103		0.50	mg/kg	100		103	85-115		
Zinc	94.7		2.0	mg/kg	100		94.7	85-115		
Silver	39.8		0.50	mg/kg	40.0		99.4	85-115		

**Quality Control  
(Continued)**

**Total Metals (Continued)**

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
---------	--------	------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------

**Batch: B8D0881 - Metals Digestion Soils (Continued)**

**LCS (B8D0881-BS2)**

Prepared: 04/24/18 Analyzed: 04/25/18

Thallium	1.96		0.200	mg/kg	2.00		98.1	85-115		
----------	------	--	-------	-------	------	--	------	--------	--	--

**Matrix Spike (B8D0881-MS1)**

**Source: 8D23023-01**

Prepared & Analyzed: 04/24/18

Selenium	14.8		1.10	mg/kg dry	22.2	ND	66.7	70-130		
Antimony	83.1		1.10	mg/kg dry	111	ND	74.9	70-130		
Lead	137		0.55	mg/kg dry	111	15.2	110	70-130		
Zinc	261		2.2	mg/kg dry	111	102	143	70-130		
Vanadium	126		0.55	mg/kg dry	111	11.7	103	70-130		
Cadmium	107		0.55	mg/kg dry	111	1.67	95.0	70-130		
Nickel	123		0.55	mg/kg dry	111	13.0	99.4	70-130		
Chromium	124		0.55	mg/kg dry	111	10.9	102	70-130		
Silver	44.9		0.55	mg/kg dry	44.4	ND	101	70-130		
Beryllium	22.5		0.55	mg/kg dry	22.2	ND	102	70-130		
Arsenic	21.8		1.10	mg/kg dry	22.2	ND	98.2	70-130		
Barium	134		0.55	mg/kg dry	111	20.5	103	70-130		

**Matrix Spike (B8D0881-MS2)**

**Source: 8D23023-15**

Prepared: 04/24/18 Analyzed: 04/25/18

Thallium	0.731		0.258	mg/kg dry	2.58	ND	28.3	70-130		
----------	-------	--	-------	-----------	------	----	------	--------	--	--

**Matrix Spike Dup (B8D0881-MSD1)**

**Source: 8D23023-01**

Prepared & Analyzed: 04/24/18

Silver	38.7		0.55	mg/kg dry	44.4	ND	87.1	70-130	15.1	200
Arsenic	21.3		1.10	mg/kg dry	22.2	ND	95.8	70-130	2.45	200
Vanadium	119		0.55	mg/kg dry	111	11.7	96.9	70-130	5.85	200
Cadmium	104		0.55	mg/kg dry	111	1.67	91.9	70-130	3.19	200
Beryllium	22.5		0.55	mg/kg dry	22.2	ND	101	70-130	0.335	200
Lead	113		0.55	mg/kg dry	111	15.2	87.8	70-130	19.5	200
Selenium	16.0		1.10	mg/kg dry	22.2	ND	72.0	70-130	7.72	200
Zinc	192		2.2	mg/kg dry	111	102	80.7	70-130	30.5	200
Antimony	87.5		1.10	mg/kg dry	111	ND	78.9	70-130	5.22	200
Chromium	116		0.55	mg/kg dry	111	10.9	94.4	70-130	7.21	200
Nickel	114		0.55	mg/kg dry	111	13.0	91.5	70-130	7.34	200
Barium	124		0.55	mg/kg dry	111	20.5	93.7	70-130	7.77	200

**Quality Control**  
(Continued)

**Total Metals (Continued)**

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
---------	--------	------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------

**Batch: B8D0881 - Metals Digestion Soils (Continued)**

**Matrix Spike Dup (B8D0881-MSD2)**

**Source: 8D23023-15**

Prepared: 04/24/18 Analyzed: 04/25/18

Thallium	0.461		0.265	mg/kg dry	2.66	ND	17.4	70-130	45.2	20
----------	-------	--	-------	-----------	------	----	------	--------	------	----

**Batch: B8D0911 - Metals Digestion Soils**

**Blank (B8D0911-BLK1)**

Prepared & Analyzed: 04/24/18

Barium	ND		0.50	mg/kg						
Nickel	ND		0.50	mg/kg						
Vanadium	ND		0.50	mg/kg						
Antimony	ND		0.99	mg/kg						
Silver	ND		0.50	mg/kg						
Cadmium	ND		0.50	mg/kg						
Lead	ND		0.50	mg/kg						
Beryllium	ND		0.50	mg/kg						
Chromium	ND		0.50	mg/kg						
Zinc	ND		2.0	mg/kg						
Arsenic	ND		0.99	mg/kg						
Selenium	ND		0.99	mg/kg						

**LCS (B8D0911-BS1)**

Prepared & Analyzed: 04/24/18

Selenium	17.3		0.99	mg/kg	20.0		86.4	85-115		
Vanadium	96.5		0.50	mg/kg	100		96.5	85-115		
Antimony	90.6		0.99	mg/kg	100		90.6	85-115		
Lead	88.8		0.50	mg/kg	100		88.8	85-115		
Chromium	95.1		0.50	mg/kg	100		95.1	85-115		
Beryllium	19.0		0.50	mg/kg	20.0		95.2	85-115		
Barium	96.0		0.50	mg/kg	100		96.0	85-115		
Arsenic	18.2		0.99	mg/kg	20.0		91.1	85-115		
Silver	40.9		0.50	mg/kg	40.0		102	85-115		
Cadmium	91.0		0.50	mg/kg	100		91.0	85-115		
Nickel	89.7		0.50	mg/kg	100		89.7	85-112		
Zinc	89.4		2.0	mg/kg	100		89.4	85-115		

**Quality Control  
(Continued)**

**Total Metals (Continued)**

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch: B8D0911 - Metals Digestion Soils (Continued)</b>										
<b>Matrix Spike (B8D0911-MS1)</b>			<b>Source: 8D23023-16</b>			Prepared & Analyzed: 04/24/18				
Selenium	43.1		2.53	mg/kg dry	51.1	4.23	76.1	70-130		
Nickel	217		1.26	mg/kg dry	255	8.52	81.8	70-130		
Lead	561		1.26	mg/kg dry	255	281	110	70-130		
Chromium	1560		1.26	mg/kg dry	255	1800	NR	70-130		
Antimony	205		2.53	mg/kg dry	255	48.6	61.2	70-130		
Cadmium	209		1.26	mg/kg dry	255	ND	82.0	70-130		
Beryllium	44.8		1.26	mg/kg dry	51.1	ND	87.7	70-130		
Barium	255		1.26	mg/kg dry	255	40.1	84.0	70-130		
Arsenic	50.8		2.53	mg/kg dry	51.1	12.9	74.1	70-130		
Vanadium	308		1.26	mg/kg dry	255	126	71.2	70-130		
Silver	87.3		1.26	mg/kg dry	102	23.0	63.0	70-130		
Zinc	225		5.1	mg/kg dry	255	28.2	77.0	70-130		
<b>Matrix Spike (B8D0911-MS2)</b>										
<b>Source: 8D23023-28</b>			Prepared: 04/24/18 Analyzed: 04/25/18							
Thallium	1.52		0.424	mg/kg dry	4.26	ND	35.7	70-130		
<b>Matrix Spike Dup (B8D0911-MSD1)</b>										
<b>Source: 8D23023-16</b>			Prepared & Analyzed: 04/24/18							
Beryllium	48.9		1.31	mg/kg dry	53.1	ND	92.0	70-130	8.70	200
Silver	87.1		1.31	mg/kg dry	106	23.0	60.4	70-130	0.264	200
Nickel	232		1.31	mg/kg dry	265	8.52	84.1	70-130	6.38	200
Chromium	1250		1.31	mg/kg dry	265	1800	NR	70-130	22.3	200
Antimony	204		2.63	mg/kg dry	265	48.6	58.7	70-130	0.354	200
Cadmium	225		1.31	mg/kg dry	265	ND	84.7	70-130	7.09	200
Selenium	45.8		2.63	mg/kg dry	53.1	4.23	78.3	70-130	6.04	200
Zinc	249		5.3	mg/kg dry	265	28.2	83.2	70-130	10.2	200
Lead	657		1.31	mg/kg dry	265	281	142	70-130	15.8	200
Vanadium	330		1.31	mg/kg dry	265	126	76.8	70-130	6.91	200
Barium	303		1.31	mg/kg dry	265	40.1	98.9	70-130	17.2	200
Arsenic	55.2		2.63	mg/kg dry	53.1	12.9	79.5	70-130	8.21	200

**Quality Control**  
(Continued)

**Total Metals (Continued)**

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch: B8D0911 - Metals Digestion Soils (Continued)</b>										
<b>Matrix Spike Dup (B8D0911-MSD2)</b>			<b>Source: 8D23023-28</b>			Prepared: 04/24/18 Analyzed: 04/25/18				
Thallium	0.862		0.404	mg/kg dry	4.05	ND	21.3	70-130	55.1	20
<b>Batch: B8D0942 - Metals Digestion Soils</b>										
<b>Blank (B8D0942-BLK1)</b>			Prepared & Analyzed: 04/24/18							
Mercury	ND		0.071	mg/kg						
<b>LCS (B8D0942-BS1)</b>			Prepared & Analyzed: 04/24/18							
Mercury	0.983			ug/l	1.00		98.3	93-114		
<b>Matrix Spike (B8D0942-MS2)</b>			<b>Source: 8D23023-10</b>			Prepared & Analyzed: 04/24/18				
Mercury	1.11			ug/l	1.00	0.362	74.6	80-120		
<b>Batch: B8D0943 - Metals Digestion Soils</b>										
<b>Blank (B8D0943-BLK1)</b>			Prepared & Analyzed: 04/24/18							
Mercury	ND		0.071	mg/kg						
<b>LCS (B8D0943-BS1)</b>			Prepared & Analyzed: 04/24/18							
Mercury	0.983			ug/l	1.00		98.3	93-114		

**Quality Control**  
(Continued)

**Extractable Petroleum Hydrocarbons (MADEP-EPH)**

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch: B8D0949 - EPA 3546</b>										
<b>Blank (B8D0949-BLK1)</b>										
					Prepared: 04/25/18 Analyzed: 04/27/18					
Unadjusted C11-C22 Aromatic Hydrocarbons	ND		13.3	mg/kg						
Naphthalene	ND		0.33	mg/kg						
2-Methylnaphthalene	ND		0.33	mg/kg						
Phenanthrene	ND		0.33	mg/kg						
Acenaphthene	ND		0.33	mg/kg						
Acenaphthylene	ND		0.33	mg/kg						
Fluorene	ND		0.33	mg/kg						
Anthracene	ND		0.33	mg/kg						
Fluoranthene	ND		0.33	mg/kg						
Pyrene	ND		0.33	mg/kg						
Benzo(a)anthracene	ND		0.33	mg/kg						
Chrysene	ND		0.33	mg/kg						
Benzo(b)fluoranthene	ND		0.33	mg/kg						
Benzo(k)fluoranthene	ND		0.33	mg/kg						
Benzo(a)pyrene	ND		0.33	mg/kg						
Indeno(1,2,3-cd)pyrene	ND		0.33	mg/kg						
Dibenz(a,h)anthracene	ND		0.33	mg/kg						
Benzo(g,h,i)perylene	ND		0.33	mg/kg						
C9-C18 Aliphatic Hydrocarbons	ND		13.3	mg/kg						
C19-C36 Aliphatic Hydrocarbons	ND		13.3	mg/kg						
C11-C22 Aromatic Hydrocarbons	ND		13.3	mg/kg						
<i>Surrogate: Chlorooctadecane</i>			4.67	mg/kg	8.33		56.0	40-140		
<i>Surrogate: o-Terphenyl</i>			5.58	mg/kg	8.33		66.9	40-140		
<i>Surrogate: 2-Fluorobiphenyl</i>			2.05	mg/kg	3.33		61.4	40-140		
<i>Surrogate: 2-Bromonaphthalene</i>			2.07	mg/kg	3.33		62.2	40-140		
<b>LCS (B8D0949-BS1)</b>										
					Prepared: 04/25/18 Analyzed: 04/27/18					
Naphthalene	1.99		0.33	mg/kg	2.67		74.7	40-140		
2-Methylnaphthalene	1.94		0.33	mg/kg	2.67		72.7	40-140		
Phenanthrene	2.18		0.33	mg/kg	2.67		81.6	40-140		
Acenaphthene	2.10		0.33	mg/kg	2.67		78.6	40-140		
Acenaphthylene	2.06		0.33	mg/kg	2.67		77.4	40-140		
Fluorene	1.94		0.33	mg/kg	2.67		72.9	40-140		
Anthracene	2.40		0.33	mg/kg	2.67		90.0	40-140		
Fluoranthene	2.13		0.33	mg/kg	2.67		80.0	40-140		
Pyrene	2.30		0.33	mg/kg	2.67		86.2	40-140		
Benzo(a)anthracene	2.18		0.33	mg/kg	2.67		81.8	40-140		
Chrysene	2.30		0.33	mg/kg	2.67		86.2	40-140		
Benzo(b)fluoranthene	2.27		0.33	mg/kg	2.67		85.2	40-140		
Benzo(k)fluoranthene	1.64		0.33	mg/kg	2.67		61.6	40-140		
Benzo(a)pyrene	2.12		0.33	mg/kg	2.67		79.6	40-140		
Indeno(1,2,3-cd)pyrene	1.56		0.33	mg/kg	2.67		58.5	40-140		
Dibenz(a,h)anthracene	1.85		0.33	mg/kg	2.67		69.3	40-140		
Benzo(g,h,i)perylene	2.12		0.33	mg/kg	2.67		79.6	40-140		
Nonane	1.14		0.33	mg/kg	2.67		42.8	30-140		
Decane	1.52		0.33	mg/kg	2.67		57.1	40-140		
Dodecane	1.48		0.33	mg/kg	2.67		55.6	40-140		
Tetradecane	1.50		0.33	mg/kg	2.67		56.3	40-140		
Hexadecane	1.67		0.33	mg/kg	2.67		62.7	40-140		
Octadecane	2.04		0.33	mg/kg	2.67		76.3	40-140		
Nonadecane	1.97		0.33	mg/kg	2.67		73.8	40-140		
Eicosane	2.17		0.33	mg/kg	2.67		81.4	40-140		
Docosane	2.18		0.33	mg/kg	2.67		81.7	40-140		



**Quality Control**  
(Continued)

**Extractable Petroleum Hydrocarbons (MADEP-EPH) (Continued)**

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch: B8D0949 - EPA 3546 (Continued)</b>										
<b>LCS (B8D0949-BS1)</b>										
					Prepared: 04/25/18 Analyzed: 04/27/18					
Tetracosane	2.09		0.33	mg/kg	2.67		78.3	40-140		
Hexacosane	2.13		0.33	mg/kg	2.67		79.8	40-140		
Octacosane	2.15		0.33	mg/kg	2.67		80.5	40-140		
Triacontane	2.11		0.33	mg/kg	2.67		79.1	40-140		
Hexatriacontane	1.92		0.33	mg/kg	2.67		72.2	40-140		
<hr/>										
<i>Surrogate: Chlorooctadecane</i>			5.60	mg/kg	8.33		67.2	40-140		
<i>Surrogate: o-Terphenyl</i>			6.62	mg/kg	8.33		79.5	40-140		
<i>Surrogate: 2-Fluorobiphenyl</i>			3.20	mg/kg	3.33		96.0	40-140		
<i>Surrogate: 2-Bromonaphthalene</i>			3.20	mg/kg	3.33		96.0	40-140		
<hr/>										
<b>LCS Dup (B8D0949-BSD1)</b>										
					Prepared: 04/25/18 Analyzed: 04/27/18					
Naphthalene	1.94		0.33	mg/kg	2.67		72.8	40-140	2.51	25
2-Methylnaphthalene	1.88		0.33	mg/kg	2.67		70.5	40-140	3.07	25
Phenanthrene	2.00		0.33	mg/kg	2.67		75.0	40-140	8.33	25
Acenaphthene	2.01		0.33	mg/kg	2.67		75.5	40-140	4.09	25
Acenaphthylene	1.98		0.33	mg/kg	2.67		74.3	40-140	4.09	25
Fluorene	1.82		0.33	mg/kg	2.67		68.4	40-140	6.41	25
Anthracene	2.24		0.33	mg/kg	2.67		84.0	40-140	6.90	25
Fluoranthene	1.98		0.33	mg/kg	2.67		74.2	40-140	7.55	25
Pyrene	2.12		0.33	mg/kg	2.67		79.5	40-140	8.06	25
Benzo(a)anthracene	2.01		0.33	mg/kg	2.67		75.5	40-140	8.04	25
Chrysene	2.17		0.33	mg/kg	2.67		81.6	40-140	5.60	25
Benzo(b)fluoranthene	1.90		0.33	mg/kg	2.67		71.1	40-140	18.1	25
Benzo(k)fluoranthene	1.97		0.33	mg/kg	2.67		73.8	40-140	18.0	25
Benzo(a)pyrene	2.01		0.33	mg/kg	2.67		75.2	40-140	5.65	25
Indeno(1,2,3-cd)pyrene	1.92		0.33	mg/kg	2.67		71.9	40-140	20.6	25
Dibenz(a,h)anthracene	2.02		0.33	mg/kg	2.67		75.7	40-140	8.97	25
Benzo(g,h,i)perylene	2.05		0.33	mg/kg	2.67		76.8	40-140	3.64	25
Nonane	1.26		0.33	mg/kg	2.67		47.3	30-140	9.98	25
Decane	1.68		0.33	mg/kg	2.67		63.1	40-140	10.1	25
Dodecane	1.64		0.33	mg/kg	2.67		61.6	40-140	10.2	25
Tetradecane	1.63		0.33	mg/kg	2.67		61.0	40-140	8.01	25
Hexadecane	1.71		0.33	mg/kg	2.67		64.0	40-140	2.05	25
Octadecane	1.99		0.33	mg/kg	2.67		74.5	40-140	2.35	25
Nonadecane	1.92		0.33	mg/kg	2.67		72.0	40-140	2.47	25
Eicosane	2.12		0.33	mg/kg	2.67		79.6	40-140	2.30	25
Docosane	2.17		0.33	mg/kg	2.67		81.2	40-140	0.583	25
Tetracosane	2.11		0.33	mg/kg	2.67		79.2	40-140	1.11	25
Hexacosane	2.13		0.33	mg/kg	2.67		80.0	40-140	0.344	25
Octacosane	2.15		0.33	mg/kg	2.67		80.8	40-140	0.372	25
Triacontane	2.13		0.33	mg/kg	2.67		80.0	40-140	1.16	25
Hexatriacontane	1.85		0.33	mg/kg	2.67		69.4	40-140	3.88	25
<hr/>										
<i>Surrogate: Chlorooctadecane</i>			5.29	mg/kg	8.33		63.5	40-140		
<i>Surrogate: o-Terphenyl</i>			6.08	mg/kg	8.33		73.0	40-140		
<i>Surrogate: 2-Fluorobiphenyl</i>			3.09	mg/kg	3.33		92.6	40-140		
<i>Surrogate: 2-Bromonaphthalene</i>			3.06	mg/kg	3.33		91.8	40-140		

## Quality Control

(Continued)

### Extractable Petroleum Hydrocarbons (MADEP-EPH) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch: B8D0949 - EPA 3546 (Continued)</b>										
<b>Matrix Spike (B8D0949-MS1)</b>			<b>Source: 8D23023-03</b>			Prepared: 04/25/18 Analyzed: 04/27/18				
Naphthalene	1.68		0.36	mg/kg dry	2.92	ND	57.4	40-140		
2-Methylnaphthalene	1.90		0.36	mg/kg dry	2.92	ND	65.1	40-140		
Phenanthrene	2.14		0.36	mg/kg dry	2.92	ND	73.5	40-140		
Acenaphthene	2.12		0.36	mg/kg dry	2.92	ND	72.7	40-140		
Acenaphthylene	2.02		0.36	mg/kg dry	2.92	ND	69.4	40-140		
Fluorene	1.87		0.36	mg/kg dry	2.92	ND	64.0	40-140		
Anthracene	2.55		0.36	mg/kg dry	2.92	ND	87.4	40-140		
Fluoranthene	2.22		0.36	mg/kg dry	2.92	ND	76.0	40-140		
Pyrene	2.37		0.36	mg/kg dry	2.92	ND	81.0	40-140		
Benzo(a)anthracene	2.21		0.36	mg/kg dry	2.92	ND	75.5	40-140		
Chrysene	2.46		0.36	mg/kg dry	2.92	ND	84.2	40-140		
Benzo(b)fluoranthene	2.36		0.36	mg/kg dry	2.92	ND	80.7	40-140		
Benzo(k)fluoranthene	2.33		0.36	mg/kg dry	2.92	ND	79.8	40-140		
Benzo(a)pyrene	2.01		0.36	mg/kg dry	2.92	ND	68.8	40-140		
Indeno(1,2,3-cd)pyrene	1.69		0.36	mg/kg dry	2.92	ND	57.9	40-140		
Dibenz(a,h)anthracene	2.32		0.36	mg/kg dry	2.92	ND	79.4	40-140		
Benzo(g,h,i)perylene	1.98		0.36	mg/kg dry	2.92	ND	68.0	40-140		
Nonane	1.15		0.36	mg/kg dry	2.92	ND	39.3	30-140		
Decane	1.57		0.36	mg/kg dry	2.92	ND	53.9	40-140		
Dodecane	1.53		0.36	mg/kg dry	2.92	ND	52.4	40-140		
Tetradecane	1.50		0.36	mg/kg dry	2.92	ND	51.5	40-140		
Hexadecane	1.67		0.36	mg/kg dry	2.92	ND	57.3	40-140		
Octadecane	1.99		0.36	mg/kg dry	2.92	ND	68.3	40-140		
Nonadecane	1.97		0.36	mg/kg dry	2.92	ND	67.4	40-140		
Eicosane	2.25		0.36	mg/kg dry	2.92	ND	77.0	40-140		
Docosane	2.28		0.36	mg/kg dry	2.92	ND	78.3	40-140		
Tetracosane	2.23		0.36	mg/kg dry	2.92	ND	76.4	40-140		
Hexacosane	2.24		0.36	mg/kg dry	2.92	ND	76.8	40-140		
Octacosane	2.26		0.36	mg/kg dry	2.92	ND	77.5	40-140		
Triacontane	2.23		0.36	mg/kg dry	2.92	ND	76.5	40-140		
Hexatriacontane	2.05		0.36	mg/kg dry	2.92	ND	70.2	40-140		
<hr/>										
Surrogate: Chlorooctadecane			5.17	mg/kg dry	9.12		56.7	40-140		
Surrogate: o-Terphenyl			7.02	mg/kg dry	9.12		76.9	40-140		
Surrogate: 2-Fluorobiphenyl			3.58	mg/kg dry	3.65		98.1	40-140		
Surrogate: 2-Bromonaphthalene			3.50	mg/kg dry	3.65		95.8	40-140		

**Quality Control**  
(Continued)

**Extractable Petroleum Hydrocarbons (MADEP-EPH) (Continued)**

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch: B8D0949 - EPA 3546 (Continued)</b>										
<b>Matrix Spike Dup (B8D0949-MSD1)</b>			<b>Source: 8D23023-03</b>			Prepared: 04/25/18 Analyzed: 04/27/18				
Naphthalene	1.76		0.36	mg/kg dry	2.93	ND	60.0	40-140	4.95	25
2-Methylnaphthalene	2.10		0.36	mg/kg dry	2.93	ND	71.5	40-140	9.82	25
Phenanthrene	2.49		0.36	mg/kg dry	2.93	ND	85.0	40-140	15.0	25
Acenaphthene	2.32		0.36	mg/kg dry	2.93	ND	79.0	40-140	8.72	25
Acenaphthylene	2.24		0.36	mg/kg dry	2.93	ND	76.4	40-140	10.1	25
Fluorene	2.10		0.36	mg/kg dry	2.93	ND	71.6	40-140	11.8	25
Anthracene	2.74		0.36	mg/kg dry	2.93	ND	93.3	40-140	6.98	25
Fluoranthene	2.57		0.36	mg/kg dry	2.93	ND	87.6	40-140	14.6	25
Pyrene	2.74		0.36	mg/kg dry	2.93	ND	93.5	40-140	14.7	25
Benzo(a)anthracene	2.54		0.36	mg/kg dry	2.93	ND	86.7	40-140	14.2	25
Chrysene	2.72		0.36	mg/kg dry	2.93	ND	92.7	40-140	10.1	25
Benzo(b)fluoranthene	2.57		0.36	mg/kg dry	2.93	ND	87.6	40-140	8.59	25
Benzo(k)fluoranthene	2.79		0.36	mg/kg dry	2.93	ND	95.2	40-140	18.1	25
Benzo(a)pyrene	2.30		0.36	mg/kg dry	2.93	ND	78.6	40-140	13.7	25
Indeno(1,2,3-cd)pyrene	1.40		0.36	mg/kg dry	2.93	ND	47.9	40-140	18.4	25
Dibenz(a,h)anthracene	2.75		0.36	mg/kg dry	2.93	ND	93.9	40-140	17.3	25
Benzo(g,h,i)perylene	2.48		0.36	mg/kg dry	2.93	ND	84.6	40-140	22.3	25
Nonane	1.22		0.36	mg/kg dry	2.93	ND	41.7	30-140	6.34	25
Decane	1.76		0.36	mg/kg dry	2.93	ND	60.1	40-140	11.4	25
Dodecane	1.80		0.36	mg/kg dry	2.93	ND	61.2	40-140	16.0	25
Tetradecane	1.82		0.36	mg/kg dry	2.93	ND	62.0	40-140	18.9	25
Hexadecane	2.05		0.36	mg/kg dry	2.93	ND	69.8	40-140	20.1	25
Octadecane	2.47		0.36	mg/kg dry	2.93	ND	84.1	40-140	21.3	25
Nonadecane	2.41		0.36	mg/kg dry	2.93	ND	82.3	40-140	20.4	25
Eicosane	2.75		0.36	mg/kg dry	2.93	ND	93.6	40-140	20.0	25
Docosane	2.55		0.36	mg/kg dry	2.93	ND	87.0	40-140	11.1	25
Tetracosane	2.64		0.36	mg/kg dry	2.93	ND	90.0	40-140	16.8	25
Hexacosane	2.67		0.36	mg/kg dry	2.93	ND	91.2	40-140	17.6	25
Octacosane	2.70		0.36	mg/kg dry	2.93	ND	92.2	40-140	17.8	25
Triacontane	2.64		0.36	mg/kg dry	2.93	ND	90.2	40-140	16.9	25
Hexatriacontane	2.33		0.36	mg/kg dry	2.93	ND	79.6	40-140	13.0	25
<hr/>										
<i>Surrogate: Chlorooctadecane</i>			6.67	mg/kg dry	9.16		72.8	40-140		
<i>Surrogate: o-Terphenyl</i>			7.78	mg/kg dry	9.16		84.9	40-140		
<i>Surrogate: 2-Fluorobiphenyl</i>			3.86	mg/kg dry	3.67		105	40-140		
<i>Surrogate: 2-Bromonaphthalene</i>			3.81	mg/kg dry	3.67		104	40-140		

## Notes and Definitions

<b>Item</b>	<b>Definition</b>
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.



8 D 2 3023+

### New England Testing Laboratory

59 Greenhill Street  
West Warwick, RI 02893

1-888-863-8522

### Chain of Custody Record

Project No.		Project Name/Location:		Matrix			No. of Containers	Preservative	Tests**				
Client:		Report To:		Aqueous	Soil	Other			T. Metals 14	EPH w/ tars			
Date	Time	Comp	Grab	Sample I.D.									
4.20.18	855A	X		CTSS-3 1-2'	X		1	ICE	X				
4.20.18	930A	X		CTSS-3 2'-3'	X		1	ICE	X	X			
4.20.18	938A	X		CTSS-6 0-1'	X		1	ICE	X	X			
4.20.18	945A	X		CTSS-6 1-2'	X		1	ICE	X				
4.20.18	955A	X		CTSS-6 2'-3'	X		1	ICE	X				
4.20.18	1000A	X		CTSS-4 1-2'	X		1	ICE	X				
4.20.18	1010A	X		CTSS-4 2'-3'	X		1	ICE	X	X			
4.20.18	1015A	X		CTSS-5 0-1'	X		1	ICE	X	X			
4.20.18	1020A	X		CTSS-5 1-2'	X		1	ICE	X				
4.20.18	1030A	X		CTSS-5 2'-3'	X		1	ICE	X				
4.20.18	1105A	X		CLSS-7 1-2'	X		1	ICE	X				
4.20.18	1115A	X		CLSS-7 2'-3'	X		1	ICE	X	X			
4.20.18	1135A	X		CLSS-11 0-1'	X		1	ICE	X				
4.20.18	1145A	X		CLSS-11 1-2'	X		1	ICE	X				
Sampled By:		Date/Time	Received By:		Date/Time	Laboratory Remarks:		Special Instructions:					
<i>[Signature]</i>		4/23/18	<i>[Signature]</i>		4/23			* Please do Matrix spike & Matrix spike Dup on this set.					
Relinquished By:		Date/Time	Received By:		Date/Time	Temp. Received:							
<i>[Signature]</i>		4/23	<i>[Signature]</i>		4.23.18	3°							
**Notab Subcontracts the following tests: Radiologicals, Radon, TOC, Asbestos, UCMRs, Perchlorate, Bromate, Bromide, Sieve, Salmonella, Carbamates								Turnaround Time (Business Days): 5 Days					


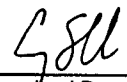

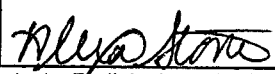
CS on ice ✓  
Pg 1 of 2

# New England Testing Laboratory

59 Greenhill Street  
West Warwick, RI 02893

1-888-863-8522

## Chain of Custody Record

Project No.		Project Name/Location: 17 Lawrence St Buckley + Mann Norfolk, MA				Matrix			No. of Containers	Preservative	Tests**							
Client: Capital Environmental, LLC		Report To: Rob Berger Rob Berger				Aqueous	Soil	Other			T. Metals 14	EPH w/Leads						
Invoice To: CAPITAL ENVIRO, LLC		Date	Time	Comp	Grab				Sample I.D.									
4.20.18	1155	X		CL55-11	2'-3'	X			1	ICE	X	X						
4.20.18	1200P	X		CL55-12	0'-1'	X			1	ICE	X							
4.20.18	1210P	X		CL55-12	1'-2'	X			1	ICE	X							
4.20.18	1220P	X		CL55-12	2'-3'	X			1	ICE	X							
4.20.18	1220P	X		CL55-5	1'-2'	X			1	ICE	X							
4.20.18	1225P	X		CL55-5	2'-3'	X			1	ICE	X	X						
4.20.18	126P	X		CL55-6	1'-2'	X			1	ICE	X	X						
4.20.18	136P	X		CL55-6	2'-3'	X			1	ICE	X	X						
4.20.18	138P	X		CL55-9	0'-1'	X			1	ICE	X	X						
4.20.18	146P	X		CL55-9	1'-2'	X			1	ICE	X							
4.20.18	152P	X		CL55-9	2'-3'	X			1	ICE	X	X						
4.20.18	200P	X		CL55-10	0'-1'	X			1	ICE	X	X						
4.20.18	210P	X		CL55-10	1'-2'	X			1	ICE	X	X						
4.20.18	220P	X		CL55-10	2'-3'	X			1	ICE	X	X						
Sampled By: 		Date/Time: 4/23/18 9:24	Received By: 		Date/Time: 4/23 105	Laboratory Remarks:			Special Instructions:									
Relinquished By: 		Date/Time: 4/25 1430	Received By: 		Date/Time: 4-23-18 1430	Temp. Received: -3°												
**Netlab Subcontracts the following tests: Radiologicals, Radon, TOC, Asbestos, UCMRs, Perchlorate, Bromate, Bromide, Sieve, Salmonella, Carbamates											Turnaround Time [Business Days]: 5 Days							

CS on ice ✓  
Pg 2 of 2



8 D 2 3023+

### New England Testing Laboratory

59 Greenhill Street  
West Warwick, RI 02893

1-888-863-8522

### Chain of Custody Record

Project No.		Project Name/Location: 17 Lawrence St Buckley + Mann, Norwalk, MA		Matrix			No. of Containers	Preservative	Tests**				
Client: CAPITAL Environmental, LLC		Report To: Rob Berger		Aqueous	Soil	Other			T. Metals 14	EPH w/ targets	Hex/Tri Chromium		
Invoice To: CAPITAL ENVITO, LLC		Date	Time	Comp	Grab	Sample I.D.							
		4.20.18	835A	X		CTSS-3 1-2'	X	X	ICE	X			
		4.20.18	930A	X		CTSS-3 2'-3'	X		ICE	X	X		
		4.20.18	938A	X		CTSS-6 0-1'	X		ICE	X	X		
		4.20.18	945A	X		CTSS-6 1-2'	X		ICE	X			
		4.20.18	955A	X		CTSS-6 2'-3'	X		ICE	X			
		4.20.18	1000A	X		CTSS-4 1'-2'	X		ICE	X			
		4.20.18	1010A	X		CTSS-4 2'-3'	X		ICE	X	X		
		4.20.18	1015A	X		CTSS-5 0-1'	X		ICE	X	X	X	
		4.20.18	1020A	X		CTSS-5 1'-2'	X		ICE	X	X		
		4.20.18	1030A	X		CTSS-5 2'-3'	X		ICE	X			
		4.20.18	1105A	X		CLSS-7 1-2'	X		ICE	X			
		4.20.18	1115A	X		CLSS-7 2-3'	X		ICE	X	X		
		4.20.18	1135A	X		CLSS-11 0-1'	X		ICE	X			
		4.20.18	1145A	X		CLSS-11 1'-2'	X		ICE	X			
Sampled By: <i>[Signature]</i>		Date/Time: 4/23/18	Received By: <i>[Signature]</i>		Date/Time: 4/23	Laboratory Remarks:		Special Instructions: * Please do Matrix spike & Matrix spike Dup on this set.					
Relinquished By: <i>[Signature]</i>		Date/Time: 4/23	Received By: <i>[Signature]</i>		Date/Time: 4.23.18	Temp. Received: 3.							

\*Hex/Tri  
Chrome added  
Per Rob  
5/1 gel

\*\*NE Lab Subcontracts the following tests: Radiologicals, Radon, TOC, Asbestos, UCMRs, Perchlorate, Bromate, Bromide, Sieve, Salmonella, Carbamates

Turnaround Time (Business Days): 5 Days

CS on ice ✓  
Pg 1 of 2

**New England Testing Laboratory**

59 Greenhill Street  
West Warwick, RI 02893  
1-888-863-8522

**Chain of Custody Record**

Project No.		Project Name/Location: 17 Lawrence St Buckley + Mann Norfolk, MA		Matrix			No. of Containers	Preservative	Tests**					
Client: Capital Environmental, LLC		Report To: Rob Berger		Aqueous	Soil	Other			T. Metals 14	EPH w/ targets	Hex / Tri Chrom			
Invoice To: Capital Enviro, LLC		Date	Time	Comp	Grab	Sample I.D.								
		4.20.18	1155	X		CLSS-11 2'-3'	X	1	ICE	X	X			
		4.20.18	1200P	X		CLSS-12 0'-1'	X	1	ICE	X	X			
		4.20.18	1210P	X		CLSS-12 1'-2'	X	1	ICE	X	X			
		4.20.18	1220P	X		CLSS-12 2'-3'	X	1	ICE	X	X			
		4.20.18	1223P	X		CLSS-5 1'-2'	X	1	ICE	X	X			
		4.20.18	1225P	X		CLSS-5 2'-3'	X	1	ICE	X	X			
		4.20.18	126P	X		CLSS-6 1'-2'	X	1	ICE	X	X			
		4.20.18	136P	X		CLSS-6 2'-3'	X	1	ICE	X	X			
		4.20.18	138P	X		CLSS-9 0'-1'	X	1	ICE	X	X			
		4.20.18	146P	X		CLSS-9 1'-2'	X	1	ICE	X	X			
		4.20.18	152P	X		CLSS-9 2'-3'	X	1	ICE	X	X			
		4.20.18	200P	X		CLSS-10 0'-1'	X	1	ICE	X	X			
		4.20.18	210P	X		CLSS-10 1'-2'	X	1	ICE	X	X			
		4.20.18	220P	X		CLSS-10 2'-3'	X	1	ICE	X	X			
Sampled By: <i>[Signature]</i>		Date/Time: 4/23/18	Received By: <i>[Signature]</i>		Date/Time: 4/23/18	Laboratory Remarks:			Special Instructions:					
Relinquished By: <i>[Signature]</i>		Date/Time: 4/25/18	Received By: <i>[Signature]</i>		Date/Time: 4/23/18	Temp. Received: -3°								

\*\*Newlab Subcontracts the following tests: Radiologicals, Radon, TOC, Asbestos, UCMRs, Perchlorate, Bromate, Bromide, Sieve, Salmonella, Carbamates

Turnaround Time [Business Days]: 5 Days

CS on ice ✓  
Pg 2 of 2



## MassDEP Analytical Protocol Certification Form

Laboratory Name: New England Testing Laboratory, Inc.

Project #:

Project Location: Norfolk, MA

RTN:

**This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):**  
**8D23023**

Matrices:  Groundwater/Surface Water  Soil/Sediment  Drinking Water  Air  Other:

**CAM Protocol** (check all that apply below):

8260 VOC CAM II A <input type="checkbox"/>	7470/7471 Hg CAM III B <input checked="" type="checkbox"/>	MassDEP VPH (GC/PID/FID) CAM IV A <input type="checkbox"/>	8082 PCB CAM V A <input type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input checked="" type="checkbox"/>	MassDEP VPH (GC/MS) CAM IV C <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
6010 Metals CAM III A <input checked="" type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	MassDEP EPH CAM IV B <input checked="" type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>

**Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status**

<b>A</b>	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>B</b>	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>C</b>	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>D</b>	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>E</b>	VPH, EPH, APH, and TO-15 only a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>F</b>	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

**Responses to Questions G, H and I below are required for "Presumptive Certainty" status**

<b>G</b>	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
----------	---	--

**Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

<b>H</b>	Were <b>all</b> QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>I</b>	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>

<sup>1</sup>All negative responses must be addressed in an attached laboratory narrative.

**I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, is accurate and complete.**

**Signature:** 

**Position:** Laboratory Director

**Printed Name:** Richard Warila

**Date:** 5/8/2018

**EXHIBIT B**

- ⊕ Existing Monitoring Well (proposed for sampling)
- ⊕ Existing Monitoring Well (sampled in 2015)

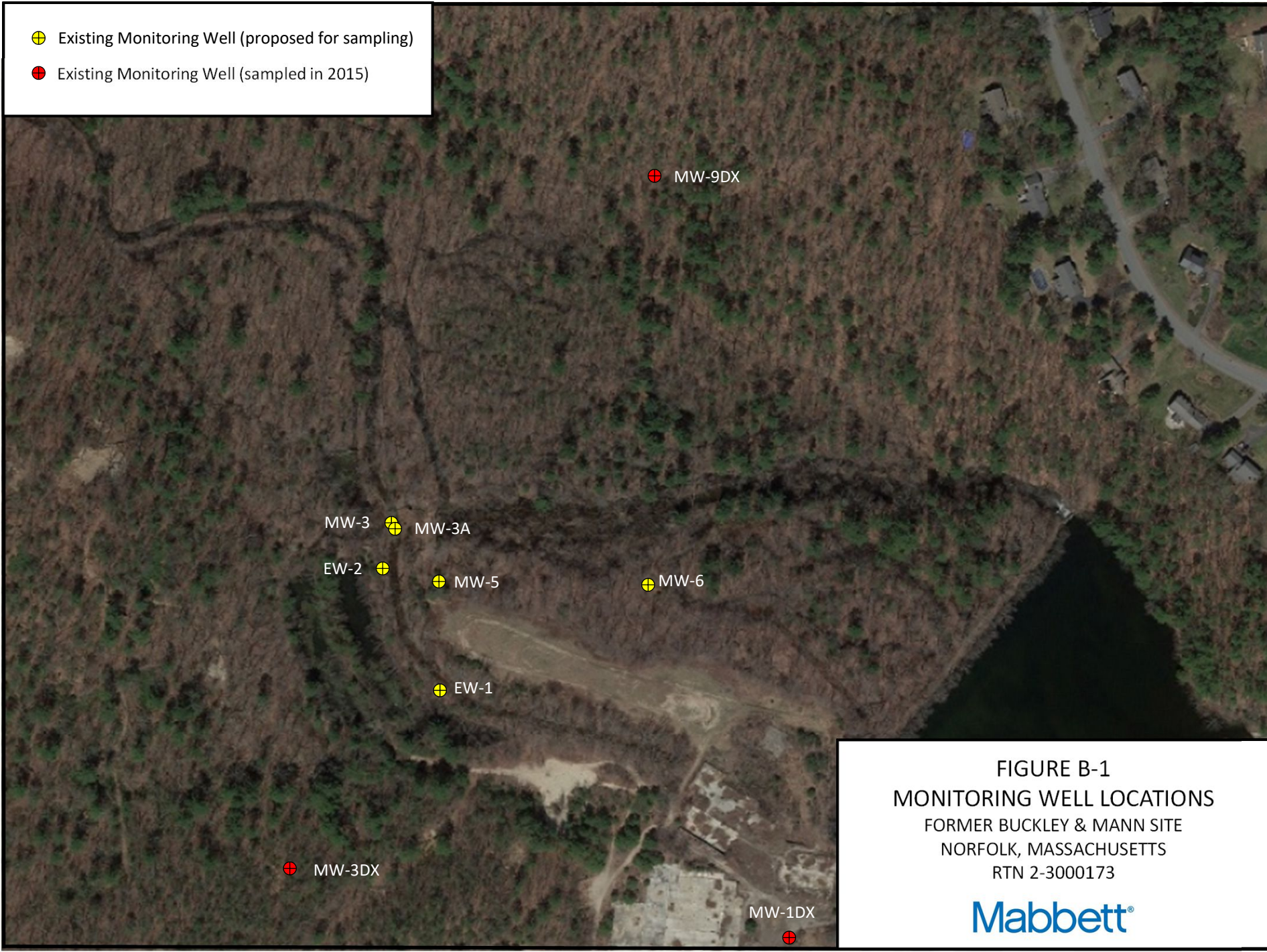


FIGURE B-1  
MONITORING WELL LOCATIONS  
FORMER BUCKLEY & MANN SITE  
NORFOLK, MASSACHUSETTS  
RTN 2-3000173

Mabbett®





Table B-1  
2014 Groundwater Analytical Results  
Former Buckley and Mann Site  
Norfolk, Massachusetts  
Page 3 of 3

LOCATION			EW-1	EW-2	MW-3	MW-3A	MW-5	MW-6
SAMPLING DATE			6/26/2014	6/19/2014	6/26/2014	6/19/2014	6/19/2014	6/19/2014
MCP METHOD 1 STANDARDS	GW-1	GW-3						
<b>Volatile Organic Compounds (ug/L)</b>								
Toluene	1000	40000	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
trans-1,2-Dichloroethene	100	50000	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
trans-1,3-Dichloropropene	0.4	200	0.270 U	0.270 U	0.270 U	0.270 U	0.270 U	0.270 U
Trichloroethene	5	5000	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Trichlorofluoromethane			2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Vinyl Chloride	2	50000	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Xylenes, Total	10000	5000	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
<b>Extractable Petroleum Hydrocarbons (ug/L)</b>								
C11-C22 Aromatics	200	5000	NA	102 U	100 U	101 U	101 U	101 U
C11-C22 Aromatics, Adjusted	200	5000	NA	102 U	100 U	101 U	101 U	101 U
C9-C18 Aliphatics	700	50000	NA	102 U	100 U	101 U	101 U	101 U
C19-C36 Aliphatics	14000	50000	NA	102 U	100 U	101 U	101 U	101 U
2-Methylnaphthalene	10	20000	NA	1.02 U	1.00 U	1.01 U	1.01 U	1.01 U
Acenaphthene	20	10000	NA	1.02 U	1.00 U	1.01 U	1.01 U	1.01 U
Acenaphthylene	30	40	NA	1.02 U	1.00 U	1.01 U	1.01 U	1.01 U
Anthracene	60	30	NA	1.02 U	1.00 U	1.01 U	1.01 U	1.01 U
Benzo(a)anthracene	1	1000	NA	0.408 U	0.400 U	0.402 U	0.404 U	0.404 U
Benzo(a)pyrene	0.2	500	NA	0.194 U	0.190 U	0.191 U	0.192 U	0.192 U
Benzo(b)fluoranthene	1	400	NA	0.204 U	0.200 U	0.201 U	0.202 U	0.202 U
Benzo(ghi)perylene	50	20	NA	1.02 U	1.00 U	1.01 U	1.01 U	1.01 U
Benzo(k)fluoranthene	1	100	NA	0.204 U	0.200 U	0.201 U	0.202 U	0.202 U
Chrysene	2	70	NA	1.02 U	1.00 U	1.01 U	1.01 U	1.01 U
Dibenzo(a,h)anthracene	0.5	40	NA	0.408 U	0.400 U	0.402 U	0.404 U	0.404 U
Fluoranthene	90	200	NA	1.02 U	1.00 U	1.01 U	1.01 U	1.01 U
Fluorene	30	40	NA	1.02 U	1.00 U	1.01 U	1.01 U	1.01 U
Indeno(1,2,3-cd)Pyrene	0.5	100	NA	0.408 U	0.400 U	0.402 U	0.404 U	0.404 U
Naphthalene	140	20000	NA	1.02 U	1.00 U	1.01 U	1.01 U	1.01 U
Phenanthrene	40	10000	NA	1.02 U	1.00 U	1.01 U	1.01 U	1.01 U
Pyrene	60	20	NA	1.02 U	1.00 U	1.01 U	1.01 U	1.01 U

Notes:

1. mg/L = milligrams per liter, ug/L = micrograms per liter
2. bold type = detected constituents
3. shaded cells = MCP standard exceeded
4. U = not detected above laboratory limits
5. NA = not analyzed for this constituent

Table B-2  
April/June 2015 Groundwater Analytical Results  
Former Buckley and Mann Site  
Norfolk, Massachusetts  
Page 1 of 3

LOCATION			EW-1	EW-2	MW-1DX	MW-3	MW-5	MW-6	WS-3	MW-3DX	MW-9DX
SAMPLING DATE			4/2/2015	4/2/2015	4/2/2015	4/2/2015	4/2/2015	4/2/2015	6/10/2015	6/10/2015	6/10/2015
MCP METHOD 1 STANDARDS	GW-1	GW-3									
<b>Metals (mg/L)</b>											
Antimony	0.006	8	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U
Arsenic	0.01	0.9	0.0133 U	<b>0.022</b>	<b>0.069</b>	<b>0.020</b>	<b>0.036</b>	<b>0.032</b>	<b>0.017</b>	<b>0.020</b>	0.0133 U
Barium	2	50	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	<b>0.057</b>	0.05 U
Beryllium	0.004	0.2	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Cadmium	0.005	0.004	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Chromium	0.1	0.3	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U
Lead	0.015	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Nickel	0.1	0.2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Selenium	0.05	0.1	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Silver	0.1	0.007	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U
Thallium	0.002	3	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Vanadium	0.03	4	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U
Zinc	5	0.9	<b>0.312</b>	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Mercury	0.002	0.02	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
<b>Volatile Organic Compounds (ug/L)</b>											
1,1,1,2-Tetrachloroethane	5	50000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
1,1,1-Trichloroethane	200	20000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
1,1,2,2-Tetrachloroethane	2	50000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
1,1,2-Trichloroethane	5	50000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
1,1-Dichloroethane	70	20000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
1,1-Dichloroethene	7	30000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
1,1-Dichloropropene			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
1,2,3-Trichlorobenzene			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
1,2,3-Trichloropropane			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
1,2,4-Trichlorobenzene	70	50000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
1,2,4-Trimethylbenzene			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
1,2-Dibromo-3-Chloropropane			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
1,2-Dibromoethane			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
1,2-Dichlorobenzene	600	2000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
1,2-Dichloroethane	5	20000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
1,2-Dichloropropane	5	50000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
1,3,5-Trimethylbenzene			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
1,3-Dichlorobenzene	100	50000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
1,3-Dichloropropane			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
1,4-Dichlorobenzene	5	8000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
1,4-Dioxane	0.3	50000	NA	NA	NA	500 U	NA	500 U	NA	NA	NA

Table B-2  
 April/June 2015 Groundwater Analytical Results  
 Former Buckley and Mann Site  
 Norfolk, Massachusetts  
 Page 2 of 3

LOCATION			EW-1	EW-2	MW-1DX	MW-3	MW-5	MW-6	WS-3	MW-3DX	MW-9DX
SAMPLING DATE			4/2/2015	4/2/2015	4/2/2015	4/2/2015	4/2/2015	4/2/2015	6/10/2015	6/10/2015	6/10/2015
MCP METHOD 1 STANDARDS	GW-1	GW-3									
<b>Volatile Organic Compounds (ug/L)</b>											
2,2-Dichloropropane			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
2-Butanone	4000	50000	NA	NA	NA	10 U	NA	10 U	NA	NA	NA
2-Chlorotoluene			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
2-Hexanone			NA	NA	NA	10 U	NA	10 U	NA	NA	NA
2-Methoxy-2-Methylbutane			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
4-Chlorotoluene			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
4-Isopropyltoluene			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
4-Methyl-2-Pentanone			NA	NA	NA	5.00 U	NA	5.00 U	NA	NA	NA
Acetone	6300	50000	NA	NA	NA	10 U	NA	10 U	NA	NA	NA
Benzene	5	10000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Bromobenzene			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Bromochloromethane			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Bromodichloromethane	3	50000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Bromoform	4	50000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Bromomethane	10	800	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Carbon Disulfide			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Carbon Tetrachloride	5	5000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Chlorobenzene	100	1000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Chloroethane			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Chloroform	70	20000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Chloromethane			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
cis-1,2-Dichloroethene	70	50000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
cis-1,3-Dichloropropene	0.4	200	NA	NA	NA	0.170 U	NA	0.170 U	NA	NA	NA
Dibromochloromethane	2	50000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Dibromomethane			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Dichlorodifluoromethane			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Diethyl Ether			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Diisopropyl Ether			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Ethylbenzene	700	5000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Ethyl-t-Butyl Ether			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Hexachlorobutadiene	0.6	3000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Isopropylbenzene			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Methy Tert-Butyl Ether	70	50000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Methylene Chloride			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Naphthalene	140	20000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
n-Butylbenzene			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA



Table B-2  
 April/June 2015 Groundwater Analytical Results  
 Former Buckley and Mann Site  
 Norfolk, Massachusetts  
 Page 3 of 3

LOCATION			EW-1	EW-2	MW-1DX	MW-3	MW-5	MW-6	WS-3	MW-3DX	MW-9DX
SAMPLING DATE			4/2/2015	4/2/2015	4/2/2015	4/2/2015	4/2/2015	4/2/2015	6/10/2015	6/10/2015	6/10/2015
MCP METHOD 1 STANDARDS	GW-1	GW-3									
<b>Volatile Organic Compounds (ug/L)</b>											
n-Propylbenzene			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Styrene	100	6000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
t-Butyl Alcohol			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
tert-Butylbenzene			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Tetrachloroethene	5	30000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Tetrahydrofuran			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Toluene	1000	40000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
trans-1,2-Dichloroethene	100	50000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
trans-1,3-Dichloropropene	0.4	200	NA	NA	NA	0.270 U	NA	0.270 U	NA	NA	NA
Trichloroethene	5	5000	NA	NA	NA	<b>3.02</b>	NA	2.00 U	NA	NA	NA
Trichlorofluoromethane			NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Vinyl Chloride	2	50000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA
Xylenes, Total	10000	5000	NA	NA	NA	2.00 U	NA	2.00 U	NA	NA	NA

Notes:

1. mg/kg = milligrams per kilogram
2. bold type = detected constituents
3. shaded cells = MCP standard exceeded
4. U = not detected above laboratory limits
5. NA = not analyzed for this constituent

**Table B-3**  
**September-October 2015 Groundwater Analytical Results**  
**Former Buckley and Mann Site**  
**Norfolk, Massachusetts**

LOCATION			MW-1DX	MW-3DX	MW-5	MW-9DX	WS-3
SAMPLING DATE			9/23/2015	9/23/2015	9/23/2015	9/23/2015	9/23/2015
MCP METHOD 1 STANDARDS	GW-1	GW-3					
<b>Metals (mg/L)</b>							
Arsenic (total - unfiltered)	0.01	0.9	<b>0.002</b>	<b>0.12</b>	0.001 U	<b>0.007</b>	0.001 U
Arsenic (dissolved - filtered)	0.01	0.9	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U

LOCATION			MW-1DX	MW-1DX	MW-3DX	MW-3DX	MW-5
SAMPLING DATE			10/20/2015	10/20/2015	10/20/2015	10/20/2015	10/20/2015
MCP METHOD 1 STANDARDS	GW-1	GW-3					
<b>Metals (mg/L)</b>							
Arsenic (total - unfiltered)	0.01	0.9	0.001 U	0.004 U	0.001 U	0.004 U	0.001 U
Arsenic (dissolved - filtered)	0.01	0.9	0.001 U	0.004 U	0.001 U	0.004 U	0.001 U

LOCATION			MW-5	MW-9DX	MW-9DX	WS-3	WS-3
SAMPLING DATE			10/20/2015	10/20/2015	10/20/2015	10/20/2015	10/20/2015
MCP METHOD 1 STANDARDS	GW-1	GW-3					
<b>Metals (mg/L)</b>							
Arsenic (total - unfiltered)	0.01	0.9	0.004 U	0.001 U	0.004 U	0.001 U	0.004 U
Arsenic (dissolved - filtered)	0.01	0.9	0.004 U	0.001 U	0.004 U	0.001 U	0.004 U

Notes:

1. October samples analyzed by two different laboratories
2. mg/L = milligrams per liter
3. bold type = detected constituents
4. shaded cells = MCP standard exceeded
5. U = not detected above laboratory limits
6. NA = not analyzed for this constituent

ANALYTICAL REPORT



Monday, June 30, 2014

Steve Kurz  
Kurz Environmental  
P. O. Box 358  
Sherborn, MA 01770

GeoLabs, Inc.  
45 Johnson Lane  
Braintree MA 02184  
Tele: 781 848 7844  
Fax: 781 848 7811

TEL: (617) 650-4256

FAX:

Project: B&M

Location:

Order No.: 1406206

Dear Steve Kurz:

GeoLabs, Inc. received 4 sample(s) on 6/20/2014 for the analyses presented in the following report.

The laboratory results in this report relate only to samples submitted. All data for associated QC met method or laboratory specifications, except where noted in the Case Narrative.

Analytical methods and results meet requirements of 310CMR 40.1056(J) as per MADEP Compendium of Analytical Methods (CAM).

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in cursive script that reads "David Mick". The signature is written in black ink and is positioned above the printed name and title.

David Mick  
Laboratory Director

For current certifications, please visit our website at [www.geolabs.com](http://www.geolabs.com)

Certifications:

CT (PH-0148) - MA (M-MA015) - NH (2508) - RI (LA000252)

**Mass DEP Analytical Protocol Certification Form**

Laboratory Name: GeoLabs, Inc. Project #: \_\_\_\_\_

Project Location: B&M RTN: \_\_\_\_\_

This form provides certification for the following data set: 1406206 (001-004)

Matrices:  Groundwater/Surface Water  Soil/Sediment  Drinking Water  Air  Other-wastewater

**CAM Protocol** (check all that apply below):

8260 VOC CAM II A <input checked="" type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	MassDEP VPH CAM IV A <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input checked="" type="checkbox"/>	MassDEP EPH CAM IV B <input checked="" type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>
6010 Metals CAM III A <input checked="" type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	8082 PCB CAM V A <input type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>	

**Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status**

<b>A</b>	Were all samples received in a condition consistent with those described on the Chain of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>B</b>	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>C</b>	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>D</b>	Does the laboratory report comply with all reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>E</b>	VPH, EPH, APH and TO-15 only: a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>F</b>	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

**Responses to Questions G, H, and I below are required for "Presumptive Certainty" status**

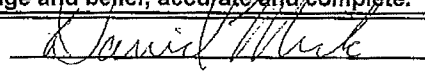
<b>G</b>	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
----------	---	---

**Data User Note:** Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2) (k) and WSC-07-350.

<b>H</b>	Were all QC performance standards as specified in the CAM protocol(s) achieved?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup>
<b>I</b>	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup>

<sup>1</sup> All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: 

Position: Laboratory Director

Printed Name: David Mick

Date: June 30, 2014

Date: 30-Jun-14

CLIENT: Kurz Environmental  
Project: B&M  
Lab Order: 1406206

**CASE NARRATIVE**

Physical Condition of Samples

The project was received by the laboratory in satisfactory condition. The sample(s) were received undamaged, in appropriate containers with the correct preservation.

Project Documentation

The project was accompanied by satisfactory Chain of Custody documentation.

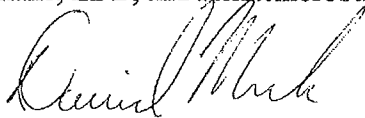
Analysis of Sample(s)

All extractable samples were extracted and analyzed and any Volatile samples were analyzed within method specified holding times and according to GeoLabs documented Standard Operating Procedure. The following analytical anomalies or non-conformances were noted by the laboratory during the processing of these samples:

See QC to review spike & RPD % recoveries outside of recovery limits.

Limits for 1,4-Dioxane, EDB, and Hexachlorobutadiene do not meet MCP limits.

SIGNATURE:



LAB DIRECTOR

PRINTED NAME: David Mick

DATE: 06/30/14

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

---

**CLIENT:** Kurz Environmental  
**Project:** B&M  
**Lab Order:** 1406206

---

**CASE NARRATIVE**

EPH Methods

Method for Ranges: MADEP EPH 04-1.1  
Method for Target Analytes: 8270 GC/MS

Carbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

Adjusted C11-C22 Aromatic Hydrocarbons exclude concentrations of Target PAH Analytes

**CERTIFICATION:**

Were all QA/QC procedures REQUIRED by the EPH Method followed? YES

Were all performance/acceptance standards achieved? YES

Were any significant modifications made to the EPH method? NO

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE:



LAB DIRECTOR

PRINTED NAME: David Mick

DATE: 06/30/14

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**ANALYTICAL REPORT**

**Reported Date:** 30-Jun-14

<b>CLIENT:</b> Kurz Environmental	<b>Client Sample ID:</b> MW-6
<b>Lab Order:</b> 1406206	<b>Collection Date:</b> 6/19/2014 12:00:00 PM
<b>Project:</b> B&M	<b>Date Received:</b> 6/20/2014
<b>Lab ID:</b> 1406206-001	<b>Matrix:</b> GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**EPH RANGES - MADEP EPH** Analyst: KG

Prep Method:	(eph_Wpr)	Prep Date:	6/25/2014 9:06:46 AM			
Adjusted C11-C22 Aromatics	ND	101		µg/L	1	6/25/2014
C09-C18 Aliphatics	ND	101		µg/L	1	6/25/2014
C19-C36 Aliphatics	ND	101		µg/L	1	6/25/2014
Unadjusted C11-C22 Aromatics	ND	101		µg/L	1	6/25/2014
Surr: 1-Chlorooctadecane	44.1	40-140		%REC	1	6/25/2014
Surr: o-Terphenyl	99.5	40-140		%REC	1	6/25/2014

**TOTAL METALS BY ICP - SW6010C** Analyst: QS

Prep Method:	(SW3010A)	Prep Date:	6/26/2014 1:30:23 PM			
Barium	0.220	0.0100		mg/L	1	6/26/2014
Cadmium	ND	0.0100		mg/L	1	6/26/2014
Chromium	0.0880	0.0100		mg/L	1	6/26/2014
Lead	0.0390	0.0100		mg/L	1	6/26/2014
Selenium	0.0200	0.0100		mg/L	1	6/26/2014
Silver	ND	0.0100		mg/L	1	6/26/2014

**TOTAL METALS BY GFAA - 7010** Analyst: QS

Prep Method:	(SW3020A)	Prep Date:	6/23/2014 2:34:57 PM			
Arsenic	0.0174	0.00100		mg/L	1	6/23/2014

**TOTAL MERCURY - 7470A** Analyst: EC

Prep Method:	Prep Date:					
Mercury	0.000533	0.000200		mg/L	1	6/24/2014

**EPH TARGET ANALYTES - MADEP EPH** Analyst: ZYZ

Prep Method:	(eph_Wpr)	Prep Date:	6/25/2014 9:06:46 AM			
Naphthalene	ND	1.01		µg/L	1	6/26/2014 7:57:00 AM
2-Methylnaphthalene	ND	1.01		µg/L	1	6/26/2014 7:57:00 AM
Acenaphthene	ND	1.01		µg/L	1	6/26/2014 7:57:00 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**ANALYTICAL REPORT**

**Reported Date: 30-Jun-14**

<b>CLIENT:</b> Kurz Environmental	<b>Client Sample ID:</b> MW-6
<b>Lab Order:</b> 1406206	<b>Collection Date:</b> 6/19/2014 12:00:00 PM
<b>Project:</b> B&M	<b>Date Received:</b> 6/20/2014
<b>Lab ID:</b> 1406206-001	<b>Matrix:</b> GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**EPH TARGET ANALYTES - MADEP EPH**

Analyst: ZYZ

Prep Method:	(eph_Wpr)	Prep Date:	6/25/2014 9:06:46 AM			
Phenanthrene	ND	1.01	µg/L	1	6/26/2014 7:57:00 AM	
Acenaphthylene	ND	1.01	µg/L	1	6/26/2014 7:57:00 AM	
Fluorene	ND	1.01	µg/L	1	6/26/2014 7:57:00 AM	
Anthracene	ND	1.01	µg/L	1	6/26/2014 7:57:00 AM	
Fluoranthene	ND	1.01	µg/L	1	6/26/2014 7:57:00 AM	
Pyrene	ND	1.01	µg/L	1	6/26/2014 7:57:00 AM	
Benzo(a)Anthracene	ND	0.404	µg/L	1	6/26/2014 7:57:00 AM	
Chrysene	ND	1.01	µg/L	1	6/26/2014 7:57:00 AM	
Benzo(b)Fluoranthene	ND	0.202	µg/L	1	6/26/2014 7:57:00 AM	
Benzo(k)Fluoranthene	ND	0.202	µg/L	1	6/26/2014 7:57:00 AM	
Benzo(a)Pyrene	ND	0.192	µg/L	1	6/26/2014 7:57:00 AM	
Indeno(1,2,3-cd)Pyrene	ND	0.404	µg/L	1	6/26/2014 7:57:00 AM	
Dibenz(a,h)Anthracene	ND	0.404	µg/L	1	6/26/2014 7:57:00 AM	
Benzo(g,h,i)Perylene	ND	1.01	µg/L	1	6/26/2014 7:57:00 AM	
Total PAH Target Concentration	ND	0.202	µg/L	1	6/26/2014 7:57:00 AM	
Surr: 2,2-Difluorobiphenyl	102	40-140	%REC	1	6/26/2014 7:57:00 AM	
Surr: 2-Fluorobiphenyl	77.2	40-140	%REC	1	6/26/2014 7:57:00 AM	

**VOLATILE ORGANIC COMPOUNDS - SW8260B**

Analyst: ZYZ

Prep Method:	Prep Date:					
1,1,1,2-Tetrachloroethane	ND	2.00	µg/L	1	6/27/2014 9:42:00 AM	
1,1,1-Trichloroethane	ND	2.00	µg/L	1	6/27/2014 9:42:00 AM	
1,1,2,2-Tetrachloroethane	ND	2.00	µg/L	1	6/27/2014 9:42:00 AM	
1,1,2-Trichloroethane	ND	2.00	µg/L	1	6/27/2014 9:42:00 AM	
1,1-Dichloroethane	ND	2.00	µg/L	1	6/27/2014 9:42:00 AM	
1,1-Dichloroethene	ND	2.00	µg/L	1	6/27/2014 9:42:00 AM	
1,1-Dichloropropene	ND	2.00	µg/L	1	6/27/2014 9:42:00 AM	
1,2,3-Trichlorobenzene	ND	2.00	µg/L	1	6/27/2014 9:42:00 AM	
1,2,3-Trichloropropane	ND	2.00	µg/L	1	6/27/2014 9:42:00 AM	
1,2,4-Trichlorobenzene	ND	2.00	µg/L	1	6/27/2014 9:42:00 AM	
1,2,4-Trimethylbenzene	ND	2.00	µg/L	1	6/27/2014 9:42:00 AM	
1,2-Dibromo-3-Chloropropane	ND	2.00	µg/L	1	6/27/2014 9:42:00 AM	
1,2-Dibromoethane	ND	2.00	µg/L	1	6/27/2014 9:42:00 AM	
1,2-Dichlorobenzene	ND	2.00	µg/L	1	6/27/2014 9:42:00 AM	

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811



**ANALYTICAL REPORT**

**Reported Date:** 30-Jun-14

**CLIENT:** Kurz Environmental  
**Lab Order:** 1406206  
**Project:** B&M  
**Lab ID:** 1406206-001

**Client Sample ID:** MW-6  
**Collection Date:** 6/19/2014 12:00:00 PM  
**Date Received:** 6/20/2014  
**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**VOLATILE ORGANIC COMPOUNDS - SW8260B**

Analyst: ZYZ

Prep Method:	Prep Date:					
1,2-Dichloroethane	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
1,2-Dichloropropane	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
1,3,5-Trimethylbenzene	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
1,3-Dichlorobenzene	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
1,3-Dichloropropane	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
1,4-Dichlorobenzene	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
1,4-Dioxane	ND	500		µg/L	1	6/27/2014 9:42:00 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
2-Butanone	ND	10.0		µg/L	1	6/27/2014 9:42:00 AM
2-Chlorotoluene	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
2-Hexanone	ND	10.0		µg/L	1	6/27/2014 9:42:00 AM
2-Methoxy-2-Methylbutane (TAME)	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
4-Chlorotoluene	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
4-Isopropyltoluene	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
4-Methyl-2-Pentanone	ND	5.00		µg/L	1	6/27/2014 9:42:00 AM
Acetone	ND	10.0		µg/L	1	6/27/2014 9:42:00 AM
Benzene	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Bromobenzene	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Bromochloromethane	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Bromodichloromethane	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Bromoform	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Bromomethane	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Carbon Disulfide	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Carbon Tetrachloride	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Chlorobenzene	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Chloroethane	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Chloroform	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Chloromethane	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
cis-1,2-Dichloroethene	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
cis-1,3-Dichloropropene	ND	0.170		µg/L	1	6/27/2014 9:42:00 AM
Dibromochloromethane	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Dibromomethane	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Dichlorodifluoromethane	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Diethyl Ether	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Diisopropyl Ether	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Ethylbenzene	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**ANALYTICAL REPORT**

**Reported Date:** 30-Jun-14

**CLIENT:** Kurz Environmental  
**Lab Order:** 1406206  
**Project:** B&M  
**Lab ID:** 1406206-001

**Client Sample ID:** MW-6  
**Collection Date:** 6/19/2014 12:00:00 PM  
**Date Received:** 6/20/2014  
**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**VOLATILE ORGANIC COMPOUNDS - SW8260B**

Analyst: ZYZ

Prep Method:		Prep Date:				
Ethyl-t-Butyl Ether	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Hexachlorobutadiene	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Isopropylbenzene	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Methyl Tert-Butyl Ether	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Methylene Chloride	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Naphthalene	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
n-Butylbenzene	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
n-Propylbenzene	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
sec-Butylbenzene	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Styrene	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
t-Butyl Alcohol	ND	20.0		µg/L	1	6/27/2014 9:42:00 AM
tert-Butylbenzene	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Tetrachloroethene	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Tetrahydrofuran	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Toluene	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
trans-1,2-Dichloroethene	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
trans-1,3-Dichloropropene	ND	0.270		µg/L	1	6/27/2014 9:42:00 AM
Trichloroethene	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Trichlorofluoromethane	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Vinyl Chloride	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Xylenes, Total	ND	2.00		µg/L	1	6/27/2014 9:42:00 AM
Surr: 1,2-Dichloroethane-d4	107	70-130		%REC	1	6/27/2014 9:42:00 AM
Surr: 4-Bromofluorobenzene	104	70-130		%REC	1	6/27/2014 9:42:00 AM
Surr: Dibromofluoromethane	108	70-130		%REC	1	6/27/2014 9:42:00 AM
Surr: Toluene-d8	84.6	70-130		%REC	1	6/27/2014 9:42:00 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

**ANALYTICAL REPORT**

**Reported Date:** 30-Jun-14

**CLIENT:** Kurz Environmental  
**Lab Order:** 1406206  
**Project:** B&M  
**Lab ID:** 1406206-002

**Client Sample ID:** MW-5  
**Collection Date:** 6/19/2014 11:00:00 AM  
**Date Received:** 6/20/2014  
**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**EPH RANGES - MADEP EPH**

Analyst: **KG**

Prep Method:	(eph_Wpr)	Prep Date:	6/25/2014 9:06:46 AM			
Adjusted C11-C22 Aromatics	ND	101	µg/L	1	6/25/2014	
C09-C18 Aliphatics	ND	101	µg/L	1	6/25/2014	
C19-C36 Aliphatics	ND	101	µg/L	1	6/25/2014	
Unadjusted C11-C22 Aromatics	ND	101	µg/L	1	6/25/2014	
Surr: 1-Chlorooctadecane	62.8	40-140	%REC	1	6/25/2014	
Surr: o-Terphenyl	91.3	40-140	%REC	1	6/25/2014	

**TOTAL METALS BY ICP - SW6010C**

Analyst: **QS**

Prep Method:	(SW3010A)	Prep Date:	6/26/2014 1:30:23 PM			
Barium	0.348	0.0100	mg/L	1	6/26/2014	
Cadmium	ND	0.0100	mg/L	1	6/26/2014	
Chromium	0.0170	0.0100	mg/L	1	6/26/2014	
Lead	ND	0.0100	mg/L	1	6/26/2014	
Selenium	0.0260	0.0100	mg/L	1	6/26/2014	
Silver	ND	0.0100	mg/L	1	6/26/2014	

**TOTAL METALS BY GFAA - 7010**

Analyst: **QS**

Prep Method:	(SW3020A)	Prep Date:	6/23/2014 2:34:57 PM			
Arsenic	0.00172	0.00100	mg/L	1	6/23/2014	

**TOTAL MERCURY - 7470A**

Analyst: **EC**

Prep Method:		Prep Date:				
Mercury	0.000353	0.000200	mg/L	1	6/24/2014	

**EPH TARGET ANALYTES - MADEP EPH**

Analyst: **ZYZ**

Prep Method:	(eph_Wpr)	Prep Date:	6/25/2014 9:06:46 AM			
Naphthalene	ND	1.01	µg/L	1	6/26/2014 8:32:00 AM	
2-Methylnaphthalene	ND	1.01	µg/L	1	6/26/2014 8:32:00 AM	
Acenaphthene	ND	1.01	µg/L	1	6/26/2014 8:32:00 AM	

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

## ANALYTICAL REPORT

Reported Date: 30-Jun-14

CLIENT: Kurz Environmental  
 Lab Order: 1406206  
 Project: B&M  
 Lab ID: 1406206-002

Client Sample ID: MW-5  
 Collection Date: 6/19/2014 11:00:00 AM  
 Date Received: 6/20/2014  
 Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

## EPH TARGET ANALYTES - MADEP EPH

Analyst: ZYZ

Prep Method:	(eph_Wpr)	Prep Date:	6/25/2014 9:06:46 AM			
Phenanthrene	ND	1.01	µg/L	1	6/26/2014 8:32:00 AM	
Acenaphthylene	ND	1.01	µg/L	1	6/26/2014 8:32:00 AM	
Fluorene	ND	1.01	µg/L	1	6/26/2014 8:32:00 AM	
Anthracene	ND	1.01	µg/L	1	6/26/2014 8:32:00 AM	
Fluoranthene	ND	1.01	µg/L	1	6/26/2014 8:32:00 AM	
Pyrene	ND	1.01	µg/L	1	6/26/2014 8:32:00 AM	
Benzo(a)Anthracene	ND	0.404	µg/L	1	6/26/2014 8:32:00 AM	
Chrysene	ND	1.01	µg/L	1	6/26/2014 8:32:00 AM	
Benzo(b)Fluoranthene	ND	0.202	µg/L	1	6/26/2014 8:32:00 AM	
Benzo(k)Fluoranthene	ND	0.202	µg/L	1	6/26/2014 8:32:00 AM	
Benzo(a)Pyrene	ND	0.192	µg/L	1	6/26/2014 8:32:00 AM	
Indeno(1,2,3-cd)Pyrene	ND	0.404	µg/L	1	6/26/2014 8:32:00 AM	
Dibenz(a,h)Anthracene	ND	0.404	µg/L	1	6/26/2014 8:32:00 AM	
Benzo(g,h,i)Perylene	ND	1.01	µg/L	1	6/26/2014 8:32:00 AM	
Total PAH Target Concentration	ND	0.202	µg/L	1	6/26/2014 8:32:00 AM	
Surr: 2,2-Difluorobiphenyl	93.2	40-140	%REC	1	6/26/2014 8:32:00 AM	
Surr: 2-Fluorobiphenyl	78.1	40-140	%REC	1	6/26/2014 8:32:00 AM	

## VOLATILE ORGANIC COMPOUNDS - SW8260B

Analyst: ZYZ

Prep Method:		Prep Date:				
1,1,1,2-Tetrachloroethane	ND	2.00	µg/L	1	6/27/2014 10:17:00 AM	
1,1,1-Trichloroethane	ND	2.00	µg/L	1	6/27/2014 10:17:00 AM	
1,1,2,2-Tetrachloroethane	ND	2.00	µg/L	1	6/27/2014 10:17:00 AM	
1,1,2-Trichloroethane	ND	2.00	µg/L	1	6/27/2014 10:17:00 AM	
1,1-Dichloroethane	ND	2.00	µg/L	1	6/27/2014 10:17:00 AM	
1,1-Dichloroethene	ND	2.00	µg/L	1	6/27/2014 10:17:00 AM	
1,1-Dichloropropene	ND	2.00	µg/L	1	6/27/2014 10:17:00 AM	
1,2,3-Trichlorobenzene	ND	2.00	µg/L	1	6/27/2014 10:17:00 AM	
1,2,3-Trichloropropane	ND	2.00	µg/L	1	6/27/2014 10:17:00 AM	
1,2,4-Trichlorobenzene	ND	2.00	µg/L	1	6/27/2014 10:17:00 AM	
1,2,4-Trimethylbenzene	ND	2.00	µg/L	1	6/27/2014 10:17:00 AM	
1,2-Dibromo-3-Chloropropane	ND	2.00	µg/L	1	6/27/2014 10:17:00 AM	
1,2-Dibromoethane	ND	2.00	µg/L	1	6/27/2014 10:17:00 AM	
1,2-Dichlorobenzene	ND	2.00	µg/L	1	6/27/2014 10:17:00 AM	

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**ANALYTICAL REPORT**

**Reported Date:** 30-Jun-14

**CLIENT:** Kurz Environmental  
**Lab Order:** 1406206  
**Project:** B&M  
**Lab ID:** 1406206-002

**Client Sample ID:** MW-5  
**Collection Date:** 6/19/2014 11:00:00 AM  
**Date Received:** 6/20/2014  
**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**VOLATILE ORGANIC COMPOUNDS - SW8260B**

Analyst: ZYZ

Prep Method:	Prep Date:					
1,2-Dichloroethane	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
1,2-Dichloropropane	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
1,3,5-Trimethylbenzene	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
1,3-Dichlorobenzene	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
1,3-Dichloropropane	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
1,4-Dichlorobenzene	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
1,4-Dioxane	ND	500		µg/L	1	6/27/2014 10:17:00 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
2-Butanone	ND	10.0		µg/L	1	6/27/2014 10:17:00 AM
2-Chlorotoluene	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
2-Hexanone	ND	10.0		µg/L	1	6/27/2014 10:17:00 AM
2-Methoxy-2-Methylbutane (TAME)	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
4-Chlorotoluene	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
4-Isopropyltoluene	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
4-Methyl-2-Pentanone	ND	5.00		µg/L	1	6/27/2014 10:17:00 AM
Acetone	ND	10.0		µg/L	1	6/27/2014 10:17:00 AM
Benzene	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Bromobenzene	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Bromochloromethane	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Bromodichloromethane	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Bromoform	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Bromomethane	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Carbon Disulfide	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Carbon Tetrachloride	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Chlorobenzene	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Chloroethane	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Chloroform	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Chloromethane	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
cis-1,2-Dichloroethene	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
cis-1,3-Dichloropropene	ND	0.170		µg/L	1	6/27/2014 10:17:00 AM
Dibromochloromethane	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Dibromomethane	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Dichlorodifluoromethane	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Diethyl Ether	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Diisopropyl Ether	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Ethylbenzene	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

**ANALYTICAL REPORT**

**Reported Date: 30-Jun-14**

<b>CLIENT:</b> Kurz Environmental	<b>Client Sample ID:</b> MW-5
<b>Lab Order:</b> 1406206	<b>Collection Date:</b> 6/19/2014 11:00:00 AM
<b>Project:</b> B&M	<b>Date Received:</b> 6/20/2014
<b>Lab ID:</b> 1406206-002	<b>Matrix:</b> GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**VOLATILE ORGANIC COMPOUNDS - SW8260B**

Analyst: ZYZ

Prep Method:	Prep Date:					
Ethyl-t-Butyl Ether	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Hexachlorobutadiene	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Isopropylbenzene	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Methyl Tert-Butyl Ether	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Methylene Chloride	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Naphthalene	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
n-Butylbenzene	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
n-Propylbenzene	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
sec-Butylbenzene	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Styrene	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
t-Butyl Alcohol	ND	20.0		µg/L	1	6/27/2014 10:17:00 AM
tert-Butylbenzene	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Tetrachloroethene	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Tetrahydrofuran	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Toluene	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
trans-1,2-Dichloroethene	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
trans-1,3-Dichloropropene	ND	0.270		µg/L	1	6/27/2014 10:17:00 AM
Trichloroethene	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Trichlorofluoromethane	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Vinyl Chloride	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Xylenes, Total	ND	2.00		µg/L	1	6/27/2014 10:17:00 AM
Surr: 1,2-Dichloroethane-d4	107	70-130		%REC	1	6/27/2014 10:17:00 AM
Surr: 4-Bromofluorobenzene	100	70-130		%REC	1	6/27/2014 10:17:00 AM
Surr: Dibromofluoromethane	112	70-130		%REC	1	6/27/2014 10:17:00 AM
Surr: Toluene-d8	85.8	70-130		%REC	1	6/27/2014 10:17:00 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

**ANALYTICAL REPORT**

**Reported Date: 30-Jun-14**

<b>CLIENT:</b> Kurz Environmental	<b>Client Sample ID:</b> EW-2
<b>Lab Order:</b> 1406206	<b>Collection Date:</b> 6/19/2014
<b>Project:</b> B&M	<b>Date Received:</b> 6/20/2014
<b>Lab ID:</b> 1406206-003	<b>Matrix:</b> GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**EPH RANGES - MADEP EPH** Analyst: KG

Prep Method: (eph_Wpr)		Prep Date: 6/25/2014 9:06:46 AM				
Adjusted C11-C22 Aromatics	ND	102		µg/L	1	6/25/2014
C09-C18 Aliphatics	ND	102		µg/L	1	6/25/2014
C19-C36 Aliphatics	ND	102		µg/L	1	6/25/2014
Unadjusted C11-C22 Aromatics	ND	102		µg/L	1	6/25/2014
Surr: 1-Chlorooctadecane	54.1	40-140		%REC	1	6/25/2014
Surr: o-Terphenyl	90.4	40-140		%REC	1	6/25/2014

**TOTAL METALS BY ICP - SW6010C** Analyst: QS

Prep Method: (SW3010A)		Prep Date: 6/26/2014 1:30:23 PM				
Barium	0.0140	0.0100		mg/L	1	6/26/2014
Cadmium	ND	0.0100		mg/L	1	6/26/2014
Chromium	ND	0.0100		mg/L	1	6/26/2014
Lead	ND	0.0100		mg/L	1	6/26/2014
Selenium	ND	0.0100		mg/L	1	6/26/2014
Silver	ND	0.0100		mg/L	1	6/26/2014

**TOTAL METALS BY GFAA - 7010** Analyst: QS

Prep Method: (SW3020A)		Prep Date: 6/23/2014 2:34:57 PM				
Arsenic	ND	0.00100		mg/L	1	6/23/2014

**TOTAL MERCURY - 7470A** Analyst: EC

Prep Method:		Prep Date:				
Mercury	ND	0.000200		mg/L	1	6/24/2014

**EPH TARGET ANALYTES - MADEP EPH** Analyst: ZYZ

Prep Method: (eph_Wpr)		Prep Date: 6/25/2014 9:06:46 AM				
Naphthalene	ND	1.02		µg/L	1	6/26/2014 9:41:00 AM
2-Methylnaphthalene	ND	1.02		µg/L	1	6/26/2014 9:41:00 AM
Acenaphthene	ND	1.02		µg/L	1	6/26/2014 9:41:00 AM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	BRL Below Reporting Limit
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	RL Reporting Limit	S Spike Recovery outside recovery limits

**ANALYTICAL REPORT**

**Reported Date: 30-Jun-14**

**CLIENT:** Kurz Environmental  
**Lab Order:** 1406206  
**Project:** B&M  
**Lab ID:** 1406206-003

**Client Sample ID:** EW-2  
**Collection Date:** 6/19/2014  
**Date Received:** 6/20/2014  
**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**EPH TARGET ANALYTES - MADEP EPH**

Analyst: ZYZ

Prep Method: (eph_Wpr)		Prep Date: 6/25/2014 9:06:46 AM				
Phenanthrene	ND	1.02		µg/L	1	6/26/2014 9:41:00 AM
Acenaphthylene	ND	1.02		µg/L	1	6/26/2014 9:41:00 AM
Fluorene	ND	1.02		µg/L	1	6/26/2014 9:41:00 AM
Anthracene	ND	1.02		µg/L	1	6/26/2014 9:41:00 AM
Fluoranthene	ND	1.02		µg/L	1	6/26/2014 9:41:00 AM
Pyrene	ND	1.02		µg/L	1	6/26/2014 9:41:00 AM
Benzo(a)Anthracene	ND	0.408		µg/L	1	6/26/2014 9:41:00 AM
Chrysene	ND	1.02		µg/L	1	6/26/2014 9:41:00 AM
Benzo(b)Fluoranthene	ND	0.204		µg/L	1	6/26/2014 9:41:00 AM
Benzo(k)Fluoranthene	ND	0.204		µg/L	1	6/26/2014 9:41:00 AM
Benzo(a)Pyrene	ND	0.194		µg/L	1	6/26/2014 9:41:00 AM
Indeno(1,2,3-cd)Pyrene	ND	0.408		µg/L	1	6/26/2014 9:41:00 AM
Dibenz(a,h)Anthracene	ND	0.408		µg/L	1	6/26/2014 9:41:00 AM
Benzo(g,h,i)Perylene	ND	1.02		µg/L	1	6/26/2014 9:41:00 AM
Total PAH Target Concentration	ND	0.204		µg/L	1	6/26/2014 9:41:00 AM
Surr: 2,2-Difluorobiphenyl	76.0	40-140		%REC	1	6/26/2014 9:41:00 AM
Surr: 2-Fluorobiphenyl	61.4	40-140		%REC	1	6/26/2014 9:41:00 AM

**VOLATILE ORGANIC COMPOUNDS - SW8260B**

Analyst: ZYZ

Prep Method:		Prep Date:				
1,1,1,2-Tetrachloroethane	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
1,1,1-Trichloroethane	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
1,1,2,2-Tetrachloroethane	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
1,1,2-Trichloroethane	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
1,1-Dichloroethane	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
1,1-Dichloroethene	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
1,1-Dichloropropene	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
1,2,3-Trichlorobenzene	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
1,2,3-Trichloropropane	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
1,2,4-Trimethylbenzene	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
1,2-Dibromo-3-Chloropropane	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
1,2-Dibromoethane	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
1,2-Dichlorobenzene	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.  
 45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811



**ANALYTICAL REPORT**

Reported Date: 30-Jun-14

**CLIENT:** Kurz Environmental  
**Lab Order:** 1406206  
**Project:** B&M  
**Lab ID:** 1406206-003

**Client Sample ID:** EW-2  
**Collection Date:** 6/19/2014  
**Date Received:** 6/20/2014  
**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**VOLATILE ORGANIC COMPOUNDS - SW8260B**

Analyst: ZYZ

Prep Method:	Prep Date:					
1,2-Dichloroethane	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
1,2-Dichloropropane	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
1,3,5-Trimethylbenzene	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
1,3-Dichlorobenzene	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
1,3-Dichloropropane	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
1,4-Dichlorobenzene	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
1,4-Dioxane	ND	500		µg/L	1	6/27/2014 10:53:00 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
2-Butanone	ND	10.0		µg/L	1	6/27/2014 10:53:00 AM
2-Chlorotoluene	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
2-Hexanone	ND	10.0		µg/L	1	6/27/2014 10:53:00 AM
2-Methoxy-2-Methylbutane (TAME)	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
4-Chlorotoluene	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
4-Isopropyltoluene	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
4-Methyl-2-Pentanone	ND	5.00		µg/L	1	6/27/2014 10:53:00 AM
Acetone	ND	10.0		µg/L	1	6/27/2014 10:53:00 AM
Benzene	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
Bromobenzene	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
Bromochloromethane	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
Bromodichloromethane	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
Bromoform	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
Bromomethane	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
Carbon Disulfide	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
Carbon Tetrachloride	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
Chlorobenzene	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
Chloroethane	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
Chloroform	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
Chloromethane	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
cis-1,2-Dichloroethene	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
cis-1,3-Dichloropropene	ND	0.170		µg/L	1	6/27/2014 10:53:00 AM
Dibromochloromethane	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
Dibromomethane	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
Dichlorodifluoromethane	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
Diethyl Ether	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
Diisopropyl Ether	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM
Ethylbenzene	ND	2.00		µg/L	1	6/27/2014 10:53:00 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 30-Jun-14

CLIENT: Kurz Environmental  
 Lab Order: 1406206  
 Project: B&M  
 Lab ID: 1406206-003

Client Sample ID: EW-2  
 Collection Date: 6/19/2014  
 Date Received: 6/20/2014  
 Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

## VOLATILE ORGANIC COMPOUNDS - SW8260B

Analyst: ZYZ

Prep Method:			Prep Date:			
Ethyl-t-Butyl Ether	ND	2.00	µg/L	1	6/27/2014 10:53:00 AM	
Hexachlorobutadiene	ND	2.00	µg/L	1	6/27/2014 10:53:00 AM	
Isopropylbenzene	ND	2.00	µg/L	1	6/27/2014 10:53:00 AM	
Methyl Tert-Butyl Ether	ND	2.00	µg/L	1	6/27/2014 10:53:00 AM	
Methylene Chloride	ND	2.00	µg/L	1	6/27/2014 10:53:00 AM	
Naphthalene	ND	2.00	µg/L	1	6/27/2014 10:53:00 AM	
n-Butylbenzene	ND	2.00	µg/L	1	6/27/2014 10:53:00 AM	
n-Propylbenzene	ND	2.00	µg/L	1	6/27/2014 10:53:00 AM	
sec-Butylbenzene	ND	2.00	µg/L	1	6/27/2014 10:53:00 AM	
Styrene	ND	2.00	µg/L	1	6/27/2014 10:53:00 AM	
t-Butyl Alcohol	ND	20.0	µg/L	1	6/27/2014 10:53:00 AM	
tert-Butylbenzene	ND	2.00	µg/L	1	6/27/2014 10:53:00 AM	
Tetrachloroethene	ND	2.00	µg/L	1	6/27/2014 10:53:00 AM	
Tetrahydrofuran	ND	2.00	µg/L	1	6/27/2014 10:53:00 AM	
Toluene	ND	2.00	µg/L	1	6/27/2014 10:53:00 AM	
trans-1,2-Dichloroethene	ND	2.00	µg/L	1	6/27/2014 10:53:00 AM	
trans-1,3-Dichloropropene	ND	0.270	µg/L	1	6/27/2014 10:53:00 AM	
Trichloroethene	ND	2.00	µg/L	1	6/27/2014 10:53:00 AM	
Trichlorofluoromethane	ND	2.00	µg/L	1	6/27/2014 10:53:00 AM	
Vinyl Chloride	ND	2.00	µg/L	1	6/27/2014 10:53:00 AM	
Xylenes, Total	ND	2.00	µg/L	1	6/27/2014 10:53:00 AM	
Surr: 1,2-Dichloroethane-d4	110	70-130	%REC	1	6/27/2014 10:53:00 AM	
Surr: 4-Bromofluorobenzene	104	70-130	%REC	1	6/27/2014 10:53:00 AM	
Surr: Dibromofluoromethane	112	70-130	%REC	1	6/27/2014 10:53:00 AM	
Surr: Toluene-d8	86.0	70-130	%REC	1	6/27/2014 10:53:00 AM	

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**ANALYTICAL REPORT**

**Reported Date:** 30-Jun-14

**CLIENT:** Kurz Environmental  
**Lab Order:** 1406206  
**Project:** B&M  
**Lab ID:** 1406206-004

**Client Sample ID:** MW-3A  
**Collection Date:** 6/19/2014  
**Date Received:** 6/20/2014  
**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**EPH RANGES - MADEP EPH**

Analyst: KG

Prep Method:	(eph_Wpr)	Prep Date:	6/25/2014 9:06:46 AM			
Adjusted C11-C22 Aromatics	ND	101		µg/L	1	6/25/2014
C09-C18 Aliphatics	ND	101		µg/L	1	6/25/2014
C19-C36 Aliphatics	ND	101		µg/L	1	6/25/2014
Unadjusted C11-C22 Aromatics	ND	101		µg/L	1	6/25/2014
Surr: 1-Chlorooctadecane	49.1	40-140		%REC	1	6/25/2014
Surr: o-Terphenyl	91.5	40-140		%REC	1	6/25/2014

**TOTAL METALS BY ICP - SW6010C**

Analyst: QS

Prep Method:	(SW3010A)	Prep Date:	6/26/2014 1:30:23 PM			
Barium	0.0770	0.0100		mg/L	1	6/26/2014
Cadmium	ND	0.0100		mg/L	1	6/26/2014
Chromium	ND	0.0100		mg/L	1	6/26/2014
Lead	ND	0.0100		mg/L	1	6/26/2014
Selenium	ND	0.0100		mg/L	1	6/26/2014
Silver	ND	0.0100		mg/L	1	6/26/2014

**TOTAL METALS BY GFAA - 7010**

Analyst: QS

Prep Method:	(SW3020A)	Prep Date:	6/23/2014 2:34:57 PM			
Arsenic	ND	0.00100		mg/L	1	6/23/2014

**TOTAL MERCURY - 7470A**

Analyst: EC

Prep Method:		Prep Date:				
Mercury	ND	0.000200		mg/L	1	6/24/2014

**EPH TARGET ANALYTES - MADEP EPH**

Analyst: ZYZ

Prep Method:	(eph_Wpr)	Prep Date:	6/25/2014 9:06:46 AM			
Naphthalene	ND	1.01		µg/L	1	6/26/2014 10:17:00 AM
2-Methylnaphthalene	ND	1.01		µg/L	1	6/26/2014 10:17:00 AM
Acenaphthene	ND	1.01		µg/L	1	6/26/2014 10:17:00 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**ANALYTICAL REPORT**

**Reported Date: 30-Jun-14**

**CLIENT:** Kurz Environmental  
**Lab Order:** 1406206  
**Project:** B&M  
**Lab ID:** 1406206-004

**Client Sample ID:** MW-3A  
**Collection Date:** 6/19/2014  
**Date Received:** 6/20/2014  
**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**EPH TARGET ANALYTES - MADEP EPH**

Analyst: ZYZ

Prep Method:	(eph_Wpr)	Prep Date:	6/25/2014 9:06:46 AM			
Phenanthrene	ND	1.01	µg/L	1	6/26/2014 10:17:00 AM	
Acenaphthylene	ND	1.01	µg/L	1	6/26/2014 10:17:00 AM	
Fluorene	ND	1.01	µg/L	1	6/26/2014 10:17:00 AM	
Anthracene	ND	1.01	µg/L	1	6/26/2014 10:17:00 AM	
Fluoranthene	ND	1.01	µg/L	1	6/26/2014 10:17:00 AM	
Pyrene	ND	1.01	µg/L	1	6/26/2014 10:17:00 AM	
Benzo(a)Anthracene	ND	0.402	µg/L	1	6/26/2014 10:17:00 AM	
Chrysene	ND	1.01	µg/L	1	6/26/2014 10:17:00 AM	
Benzo(b)Fluoranthene	ND	0.201	µg/L	1	6/26/2014 10:17:00 AM	
Benzo(k)Fluoranthene	ND	0.201	µg/L	1	6/26/2014 10:17:00 AM	
Benzo(a)Pyrene	ND	0.191	µg/L	1	6/26/2014 10:17:00 AM	
Indeno(1,2,3-cd)Pyrene	ND	0.402	µg/L	1	6/26/2014 10:17:00 AM	
Dibenz(a,h)Anthracene	ND	0.402	µg/L	1	6/26/2014 10:17:00 AM	
Benzo(g,h,i)Perylene	ND	1.01	µg/L	1	6/26/2014 10:17:00 AM	
Total PAH Target Concentration	ND	0.201	µg/L	1	6/26/2014 10:17:00 AM	
Surr: 2,2-Difluorobiphenyl	106	40-140	%REC	1	6/26/2014 10:17:00 AM	
Surr: 2-Fluorobiphenyl	84.1	40-140	%REC	1	6/26/2014 10:17:00 AM	

**VOLATILE ORGANIC COMPOUNDS - SW8260B**

Analyst: ZYZ

Prep Method:	Prep Date:					
1,1,1,2-Tetrachloroethane	ND	2.00	µg/L	1	6/27/2014 11:31:00 AM	
1,1,1-Trichloroethane	ND	2.00	µg/L	1	6/27/2014 11:31:00 AM	
1,1,2,2-Tetrachloroethane	ND	2.00	µg/L	1	6/27/2014 11:31:00 AM	
1,1,2-Trichloroethane	ND	2.00	µg/L	1	6/27/2014 11:31:00 AM	
1,1-Dichloroethane	ND	2.00	µg/L	1	6/27/2014 11:31:00 AM	
1,1-Dichloroethene	ND	2.00	µg/L	1	6/27/2014 11:31:00 AM	
1,1-Dichloropropene	ND	2.00	µg/L	1	6/27/2014 11:31:00 AM	
1,2,3-Trichlorobenzene	ND	2.00	µg/L	1	6/27/2014 11:31:00 AM	
1,2,3-Trichloropropane	ND	2.00	µg/L	1	6/27/2014 11:31:00 AM	
1,2,4-Trichlorobenzene	ND	2.00	µg/L	1	6/27/2014 11:31:00 AM	
1,2,4-Trimethylbenzene	ND	2.00	µg/L	1	6/27/2014 11:31:00 AM	
1,2-Dibromo-3-Chloropropane	ND	2.00	µg/L	1	6/27/2014 11:31:00 AM	
1,2-Dibromoethane	ND	2.00	µg/L	1	6/27/2014 11:31:00 AM	
1,2-Dichlorobenzene	ND	2.00	µg/L	1	6/27/2014 11:31:00 AM	

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	BRL Below Reporting Limit
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	RL Reporting Limit	S Spike Recovery outside recovery limits

**ANALYTICAL REPORT**

**Reported Date: 30-Jun-14**

**CLIENT:** Kurz Environmental  
**Lab Order:** 1406206  
**Project:** B&M  
**Lab ID:** 1406206-004

**Client Sample ID:** MW-3A  
**Collection Date:** 6/19/2014  
**Date Received:** 6/20/2014  
**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**VOLATILE ORGANIC COMPOUNDS - SW8260B**

Analyst: ZYZ

Prep Method:	Prep Date:					
1,2-Dichloroethane	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
1,2-Dichloropropane	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
1,3,5-Trimethylbenzene	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
1,3-Dichlorobenzene	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
1,3-Dichloropropane	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
1,4-Dichlorobenzene	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
1,4-Dioxane	ND	500		µg/L	1	6/27/2014 11:31:00 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
2-Butanone	ND	10.0		µg/L	1	6/27/2014 11:31:00 AM
2-Chlorotoluene	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
2-Hexanone	ND	10.0		µg/L	1	6/27/2014 11:31:00 AM
2-Methoxy-2-Methylbutane (TAME)	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
4-Chlorotoluene	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
4-Isopropyltoluene	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
4-Methyl-2-Pentanone	ND	5.00		µg/L	1	6/27/2014 11:31:00 AM
Acetone	ND	10.0		µg/L	1	6/27/2014 11:31:00 AM
Benzene	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Bromobenzene	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Bromochloromethane	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Bromodichloromethane	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Bromoform	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Bromomethane	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Carbon Disulfide	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Carbon Tetrachloride	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Chlorobenzene	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Chloroethane	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Chloroform	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Chloromethane	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
cis-1,2-Dichloroethene	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
cis-1,3-Dichloropropene	ND	0.170		µg/L	1	6/27/2014 11:31:00 AM
Dibromochloromethane	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Dibromomethane	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Dichlorodifluoromethane	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Diethyl Ether	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Diisopropyl Ether	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Ethylbenzene	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.  
 45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 30-Jun-14

CLIENT: Kurz Environmental  
 Lab Order: 1406206  
 Project: B&M  
 Lab ID: 1406206-004

Client Sample ID: MW-3A  
 Collection Date: 6/19/2014  
 Date Received: 6/20/2014  
 Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

## VOLATILE ORGANIC COMPOUNDS - SW8260B

Analyst: ZYZ

Prep Method:	Prep Date:					
Ethyl-t-Butyl Ether	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Hexachlorobutadiene	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Isopropylbenzene	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Methyl Tert-Butyl Ether	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Methylene Chloride	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Naphthalene	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
n-Butylbenzene	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
n-Propylbenzene	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
sec-Butylbenzene	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Styrene	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
t-Butyl Alcohol	ND	20.0		µg/L	1	6/27/2014 11:31:00 AM
tert-Butylbenzene	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Tetrachloroethene	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Tetrahydrofuran	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Toluene	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
trans-1,2-Dichloroethene	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
trans-1,3-Dichloropropene	ND	0.270		µg/L	1	6/27/2014 11:31:00 AM
Trichloroethene	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Trichlorofluoromethane	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Vinyl Chloride	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Xylenes, Total	ND	2.00		µg/L	1	6/27/2014 11:31:00 AM
Surr: 1,2-Dichloroethane-d4	108	70-130		%REC	1	6/27/2014 11:31:00 AM
Surr: 4-Bromofluorobenzene	105	70-130		%REC	1	6/27/2014 11:31:00 AM
Surr: Dibromofluoromethane	111	70-130		%REC	1	6/27/2014 11:31:00 AM
Surr: Toluene-d8	84.3	70-130		%REC	1	6/27/2014 11:31:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

# ANALYTICAL QC SUMMARY REPORT

Date: 30-Jun-14

CLIENT: Kurz Environmental

Work Order: 1406206

Project: B&M

TestCode: 6010C\_W

Sample ID: MBLK-24322	SampType: MBLK	TestCode: 6010C_W	Units: mg/L	Prep Date: 6/26/2014	RunNo: 55066
Client ID: ZZZZZ	Batch ID: 24322	TestNo: SW6010B (SW3010A)		Analysis Date: 6/26/2014	SeqNo: 616358

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	0.0500									
Cadmium	ND	0.0100									
Chromium	ND	0.0100									
Lead	ND	0.0100									
Selenium	ND	0.0100									
Silver	ND	0.0100									

Sample ID: LCS-24322	SampType: LCS	TestCode: 6010C_W	Units: mg/L	Prep Date: 6/26/2014	RunNo: 55066
Client ID: ZZZZZ	Batch ID: 24322	TestNo: SW6010B (SW3010A)		Analysis Date: 6/26/2014	SeqNo: 616356

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	1.926	0.0500	2	0	96.3	80	120				
Cadmium	1.891	0.0100	2	0	94.6	80	120				
Chromium	1.967	0.0100	2	0	98.4	80	120				
Lead	1.986	0.0100	2	0	99.3	80	120				
Selenium	1.972	0.0100	2	0	98.6	80	120				
Silver	0.4630	0.0100	0.5	0	92.6	80	120				

Sample ID: LCSD-24322	SampType: LCSD	TestCode: 6010C_W	Units: mg/L	Prep Date: 6/26/2014	RunNo: 55066
Client ID: ZZZZZ	Batch ID: 24322	TestNo: SW6010B (SW3010A)		Analysis Date: 6/26/2014	SeqNo: 616357

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	1.882	0.0500	2	0	94.1	80	120	1.926	2.31	20	
Cadmium	1.887	0.0100	2	0	94.4	80	120	1.891	0.212	20	
Chromium	1.962	0.0100	2	0	98.1	80	120	1.967	0.255	20	
Lead	1.998	0.0100	2	0	99.9	80	120	1.986	0.602	20	

Qualifiers: BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Kurz Environmental

Work Order: 1406206

Project: B&M

TestCode: 6010C\_W

Sample ID: LCSD-24322	SampType: LCSD	TestCode: 6010C_W	Units: mg/L	Prep Date: 6/26/2014	RunNo: 55066						
Client ID: ZZZZZ	Batch ID: 24322	TestNo: SW6010B (SW3010A)		Analysis Date: 6/26/2014	SeqNo: 616357						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	1.981	0.0100	2	0	99.0	80	120	1.972	0.455	20	
Silver	0.4690	0.0100	0.5	0	93.8	80	120	0.463	1.29	20	

Qualifiers: BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
              J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
              RL Reporting Limit      S Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811



**CLIENT:** Kurz Environmental  
**Work Order:** 1406206  
**Project:** B&M

**TestCode:** 7010\_W

Sample ID: MBLK-24303	SampType: MBLK	TestCode: 7010_W	Units: mg/L	Prep Date: 6/23/2014	RunNo: 55017						
Client ID: ZZZZZ	Batch ID: 24303	TestNo: E200.9	(SW3020A)	Analysis Date: 6/23/2014	SeqNo: 615790						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic ND 0.0100

Sample ID: LCS-24303	SampType: LCS	TestCode: 7010_W	Units: mg/L	Prep Date: 6/23/2014	RunNo: 55017						
Client ID: ZZZZZ	Batch ID: 24303	TestNo: E200.9	(SW3020A)	Analysis Date: 6/23/2014	SeqNo: 615788						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic ND 0.0100 0.01 0 97.1 80 120

Sample ID: LCSD-24303	SampType: LCSD	TestCode: 7010_W	Units: mg/L	Prep Date: 6/23/2014	RunNo: 55017						
Client ID: ZZZZZ	Batch ID: 24303	TestNo: E200.9	(SW3020A)	Analysis Date: 6/23/2014	SeqNo: 615789						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic 0.01005 0.0100 0.01 0 100 80 120 0.009712 3.42 20

**Qualifiers:** BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Kurz Environmental  
 Work Order: 1406206  
 Project: B&M

TestCode: 8260B\_W MCP

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	2.00									
1,1,1-Trichloroethane	ND	2.00									
1,1,2,2-Tetrachloroethane	ND	2.00									
1,1,2-Trichloroethane	ND	2.00									
1,1-Dichloroethane	ND	2.00									
1,1-Dichloroethene	ND	2.00									
1,1-Dichloropropene	ND	2.00									
1,2,3-Trichlorobenzene	ND	2.00									
1,2,3-Trichloropropane	ND	2.00									
1,2,4-Trichlorobenzene	ND	2.00									
1,2,4-Trimethylbenzene	ND	2.00									
1,2-Dibromo-3-Chloropropane	ND	2.00									
1,2-Dibromoethane	ND	2.00									
1,2-Dichlorobenzene	ND	2.00									
1,2-Dichloroethane	ND	2.00									
1,2-Dichloropropane	ND	2.00									
1,3,5-Trimethylbenzene	ND	2.00									
1,3-Dichlorobenzene	ND	2.00									
1,3-Dichloropropane	ND	2.00									
1,4-Dichlorobenzene	ND	2.00									
1,4-Dioxane	ND	500									
2,2-Dichloropropane	ND	2.00									
2-Butanone	ND	10.0									
2-Chlorotoluene	ND	2.00									
2-Hexanone	ND	10.0									
2-Methoxy-2-Methylbutane (TAME)	ND	2.00									
4-Chlorotoluene	ND	2.00									
4-Isopropyltoluene	ND	2.00									

Qualifiers: BRL Below Reporting Limit E Value above quantitation range H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits ND Not Detected at the Reporting Limit R RPD outside recovery limits  
 RL Reporting Limit S Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Kurz Environmental  
 Work Order: 1406206  
 Project: B&M

TestCode: 8260B\_W MCP

Sample ID: MBLK	SampType: MBLK	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 55094
Client ID: ZZZZZ	Batch ID: R55094	TestNo: SW8260B		Analysis Date: 6/27/2014	SeqNo: 616525

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Methyl-2-Pentanone	ND	5.00									
Acetone	ND	10.0									
Benzene	ND	2.00									
Bromobenzene	ND	2.00									
Bromochloromethane	ND	2.00									
Bromodichloromethane	ND	2.00									
Bromoform	ND	2.00									
Bromomethane	ND	2.00									
Carbon Disulfide	ND	2.00									
Carbon Tetrachloride	ND	2.00									
Chlorobenzene	ND	2.00									
Chloroethane	ND	2.00									
Chloroform	ND	2.00									
Chloromethane	ND	2.00									
cis-1,2-Dichloroethene	ND	2.00									
cis-1,3-Dichloropropene	ND	0.170									
Dibromochloromethane	ND	2.00									
Dibromomethane	ND	2.00									
Dichlorodifluoromethane	ND	2.00									
Diethyl Ether	ND	2.00									
Diisopropyl Ether	ND	2.00									
Ethylbenzene	ND	2.00									
Ethyl-t-Butyl Ether	ND	2.00									
Hexachlorobutadiene	ND	2.00									
Isopropylbenzene	ND	2.00									
Methyl Tert-Butyl Ether	ND	2.00									
Methylene Chloride	ND	2.00									
Naphthalene	ND	2.00									

Qualifiers: BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** Kurz Environmental  
**Work Order:** 1406206  
**Project:** B&M

**TestCode:** 8260B\_W MCP

Sample ID: MBLK	SampType: MBLK	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 55094						
Client ID: ZZZZZ	Batch ID: R55094	TestNo: SW8260B		Analysis Date: 6/27/2014	SeqNo: 616525						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
n-Butylbenzene	ND	2.00									
n-Propylbenzene	ND	2.00									
sec-Butylbenzene	ND	2.00									
Styrene	ND	2.00									
t-Butyl Alcohol	ND	20.0									
tert-Butylbenzene	ND	2.00									
Tetrachloroethene	ND	2.00									
Tetrahydrofuran	ND	2.00									
Toluene	ND	2.00									
trans-1,2-Dichloroethene	ND	2.00									
trans-1,3-Dichloropropene	ND	0.270									
Trichloroethene	ND	2.00									
Trichlorofluoromethane	ND	2.00									
Vinyl Chloride	ND	2.00									
Xylenes, Total	ND	2.00									
Surr: 1,2-Dichloroethane-d4	30.05	0	30	0	100	70	130				
Surr: 4-Bromofluorobenzene	32.04	0	30	0	107	70	130				
Surr: Dibromofluoromethane	30.29	0	30	0	101	70	130				
Surr: Toluene-d8	25.76	0	30	0	85.9	70	130				

Sample ID: LCS	SampType: LCS	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 55094						
Client ID: ZZZZZ	Batch ID: R55094	TestNo: SW8260B		Analysis Date: 6/26/2014	SeqNo: 616523						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	57.86	2.00	50	0	116	70	130				
1,1,1-Trichloroethane	52.81	2.00	50	0	106	70	130				
1,1,2,2-Tetrachloroethane	62.39	2.00	50	0	125	70	130				

**Qualifiers:** BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** Kurz Environmental  
**Work Order:** 1406206  
**Project:** B&M

**TestCode:** 8260B\_W MCP

Sample ID: LCS	SampType: LCS	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 55094						
Client ID: ZZZZZ	Batch ID: R55094	TestNo: SW8260B		Analysis Date: 6/26/2014	SeqNo: 616523						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	62.04	2.00	50	0	124	70	130				
1,1-Dichloroethane	46.01	2.00	50	0	92.0	70	130				
1,1-Dichloroethene	47.10	2.00	50	0	94.2	70	130				
1,1-Dichloropropene	60.37	2.00	50	0	121	70	130				
1,2,3-Trichlorobenzene	57.25	2.00	50	0	114	70	130				
1,2,3-Trichloropropane	64.40	2.00	50	0	129	70	130				
1,2,4-Trichlorobenzene	57.06	2.00	50	0	114	70	130				
1,2,4-Trimethylbenzene	62.61	2.00	50	0	125	70	130				
1,2-Dibromo-3-Chloropropane	60.85	2.00	50	0	122	70	130				
1,2-Dibromoethane	61.78	2.00	50	0	124	70	130				
1,2-Dichlorobenzene	55.68	2.00	50	0	111	70	130				
1,2-Dichloroethane	64.15	2.00	50	0	128	70	130				
1,2-Dichloropropane	61.80	2.00	50	0	124	70	130				
1,3,5-Trimethylbenzene	61.58	2.00	50	0	123	70	130				
1,3-Dichlorobenzene	56.48	2.00	50	0	113	70	130				
1,3-Dichloropropane	63.56	2.00	50	0	127	70	130				
1,4-Dichlorobenzene	53.55	2.00	50	0	107	70	130				
1,4-Dioxane	ND	500	50	0	0	70	130				S
2,2-Dichloropropane	55.37	2.00	50	0	111	70	130				
2-Butanone	43.01	10.0	50	0	86.0	70	130				
2-Chlorotoluene	62.09	2.00	50	0	124	70	130				
2-Hexanone	62.34	10.0	50	0	125	70	130				
2-Methoxy-2-Methylbutane (TAME)	ND	2.00	50	0	0	70	130				S
4-Chlorotoluene	61.03	2.00	50	0	122	70	130				
4-Isopropyltoluene	66.22	2.00	50	0	132	70	130				S
4-Methyl-2-Pentanone	58.81	5.00	50	0	118	70	130				
Acetone	38.74	10.0	50	0	77.5	70	130				
Benzene	59.31	2.00	50	0	119	70	130				

**Qualifiers:** BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Kurz Environmental  
 Work Order: 1406206  
 Project: B&M

TestCode: 8260B\_W MCP

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	60.46	2.00	50	0	121	70	130				
Bromochloromethane	45.16	2.00	50	0	90.3	70	130				
Bromodichloromethane	61.56	2.00	50	0	123	70	130				
Bromoform	63.42	2.00	50	0	127	70	130				
Bromomethane	57.85	2.00	50	0	116	70	130				
Carbon Disulfide	55.11	2.00	50	0	110	70	130				
Carbon Tetrachloride	58.46	2.00	50	0	117	70	130				
Chlorobenzene	58.94	2.00	50	0	118	70	130				
Chloroethane	49.22	2.00	50	0	98.4	70	130				
Chloroform	49.27	2.00	50	0	98.5	70	130				
Chloromethane	52.20	2.00	50	0	104	70	130				
cis-1,2-Dichloroethene	53.87	2.00	50	0	108	70	130				
cis-1,3-Dichloropropene	64.85	0.170	50	0	130	70	130				
Dibromochloromethane	60.11	2.00	50	0	120	70	130				
Dibromomethane	59.78	2.00	50	0	120	70	130				
Dichlorodifluoromethane	61.91	2.00	50	0	124	70	130				
Diethyl Ether	ND	2.00	50	0	0	70	130				S
Diisopropyl Ether	41.78	2.00	50	0	83.6	70	130				
Ethylbenzene	60.54	2.00	50	0	121	70	130				
Ethyl-t-Butyl Ether	39.79	2.00	50	0	79.6	70	130				
Hexachlorobutadiene	55.83	2.00	50	0	112	70	130				
Isopropylbenzene	70.94	2.00	50	0	142	70	130				S
Methyl Tert-Butyl Ether	49.20	2.00	50	0	98.4	70	130				
Methylene Chloride	43.59	2.00	50	0	87.2	70	130				
Naphthalene	59.32	2.00	50	0	119	70	130				
n-Butylbenzene	64.83	2.00	50	0	130	70	130				
n-Propylbenzene	62.49	2.00	50	0	125	70	130				
sec-Butylbenzene	67.49	2.00	50	0	135	70	130				S

Qualifiers: BRL Below Reporting Limit  
 J Analyte detected below quantitation limits  
 RL Reporting Limit  
 E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 S Spike Recovery outside recovery limits  
 H Holding times for preparation or analysis exceeded  
 R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** Kurz Environmental  
**Work Order:** 1406206  
**Project:** B&M

**TestCode:** 8260B\_W MCP

Sample ID: LCS	SampType: LCS	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 55094						
Client ID: ZZZZZ	Batch ID: R55094	TestNo: SW8260B		Analysis Date: 6/26/2014	SeqNo: 616523						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Styrene	58.46	2.00	50	0	117	70	130				
t-Butyl Alcohol	419.0	20.0	500	0	83.8	70	130				
tert-Butylbenzene	62.06	2.00	50	0	124	70	130				
Tetrachloroethene	61.83	2.00	50	0	124	70	130				
Tetrahydrofuran	43.19	2.00	50	0	86.4	70	130				
Toluene	56.67	2.00	50	0	113	70	130				
trans-1,2-Dichloroethene	45.64	2.00	50	0	91.3	70	130				
trans-1,3-Dichloropropene	66.22	0.270	50	0	132	70	130				S
Trichloroethene	60.09	2.00	50	0	120	70	130				
Trichlorofluoromethane	60.76	2.00	50	0	122	70	130				
Vinyl Chloride	35.29	2.00	50	0	70.6	70	130				
Xylenes, Total	180.3	2.00	150	0	120	70	130				
Surr: 1,2-Dichloroethane-d4	28.88	0	30	0	96.3	70	130				
Surr: 4-Bromofluorobenzene	33.25	0	30	0	111	70	130				
Surr: Dibromofluoromethane	30.60	0	30	0	102	70	130				
Surr: Toluene-d8	25.32	0	30	0	84.4	70	130				

Sample ID: LCSD	SampType: LCSD	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 55094						
Client ID: ZZZZZ	Batch ID: R55094	TestNo: SW8260B		Analysis Date: 6/27/2014	SeqNo: 616524						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	57.18	2.00	50	0	114	70	130	57.86	1.18	20	
1,1,1-Trichloroethane	50.43	2.00	50	0	101	70	130	52.81	4.61	20	
1,1,2,2-Tetrachloroethane	60.37	2.00	50	0	121	70	130	62.39	3.29	20	
1,1,2-Trichloroethane	61.35	2.00	50	0	123	70	130	62.04	1.12	20	
1,1-Dichloroethane	44.99	2.00	50	0	90.0	70	130	46.01	2.24	20	
1,1-Dichloroethene	46.42	2.00	50	0	92.8	70	130	47.1	1.45	20	

**Qualifiers:** BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Kurz Environmental  
 Work Order: 1406206  
 Project: B&M

TestCode: 8260B\_W MCP

Sample ID: LCSD	SampType: LCSD	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 55094						
Client ID: ZZZZZ	Batch ID: R55094	TestNo: SW8260B		Analysis Date: 6/27/2014	SeqNo: 616524						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloropropene	59.98	2.00	50	0	120	70	130	60.37	0.648	20	
1,2,3-Trichlorobenzene	59.61	2.00	50	0	119	70	130	57.25	4.04	20	
1,2,3-Trichloropropane	64.05	2.00	50	0	128	70	130	64.4	0.545	20	
1,2,4-Trichlorobenzene	58.72	2.00	50	0	117	70	130	57.06	2.87	20	
1,2,4-Trimethylbenzene	63.86	2.00	50	0	128	70	130	62.61	1.98	20	
1,2-Dibromo-3-Chloropropane	60.61	2.00	50	0	121	70	130	60.85	0.395	20	
1,2-Dibromoethane	61.77	2.00	50	0	124	70	130	61.78	0.0162	20	
1,2-Dichlorobenzene	55.70	2.00	50	0	111	70	130	55.68	0.0359	20	
1,2-Dichloroethane	60.81	2.00	50	0	122	70	130	64.15	5.35	20	
1,2-Dichloropropane	63.57	2.00	50	0	127	70	130	61.8	2.82	20	
1,3,5-Trimethylbenzene	62.95	2.00	50	0	126	70	130	61.58	2.20	20	
1,3-Dichlorobenzene	56.62	2.00	50	0	113	70	130	56.48	0.248	20	
1,3-Dichloropropane	62.94	2.00	50	0	126	70	130	63.56	0.980	20	
1,4-Dichlorobenzene	54.01	2.00	50	0	108	70	130	53.55	0.855	20	
1,4-Dioxane	ND	500	50	0	0	70	130	0	0	20	S
2,2-Dichloropropane	52.38	2.00	50	0	105	70	130	55.37	5.55	20	
2-Butanone	49.64	10.0	50	0	99.3	70	130	43.01	14.3	20	
2-Chlorotoluene	63.23	2.00	50	0	126	70	130	62.09	1.82	20	
2-Hexanone	62.83	10.0	50	0	126	70	130	62.34	0.783	20	
2-Methoxy-2-Methylbutane (TAME)	ND	2.00	50	0	0	70	130	0	0	20	S
4-Chlorotoluene	61.81	2.00	50	0	124	70	130	61.03	1.27	20	
4-Isopropyltoluene	70.91	2.00	50	0	142	70	130	66.22	6.84	20	S
4-Methyl-2-Pentanone	56.42	5.00	50	0	113	70	130	58.81	4.15	20	
Acetone	41.94	10.0	50	0	83.9	70	130	38.74	7.93	20	
Benzene	63.21	2.00	50	0	126	70	130	59.31	6.37	20	
Bromobenzene	60.58	2.00	50	0	121	70	130	60.46	0.198	20	
Bromochloromethane	51.15	2.00	50	0	102	70	130	45.16	12.4	20	
Bromodichloromethane	62.84	2.00	50	0	126	70	130	61.56	2.06	20	

Qualifiers: BRL Below Reporting Limit E Value above quantitation range H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits ND Not Detected at the Reporting Limit R RPD outside recovery limits  
 RL Reporting Limit S Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811



CLIENT: Kurz Environmental

Work Order: 1406206

Project: B&M

TestCode: 8260B\_W MCP

Sample ID: LCSD	SampType: LCSD	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 55094						
Client ID: ZZZZZ	Batch ID: R55094	TestNo: SW8260B		Analysis Date: 6/27/2014	SeqNo: 616524						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromoform	62.62	2.00	50	0	125	70	130	63.42	1.27	20	
Bromomethane	58.47	2.00	50	0	117	70	130	57.85	1.07	20	
Carbon Disulfide	54.60	2.00	50	0	109	70	130	55.11	0.930	20	
Carbon Tetrachloride	56.59	2.00	50	0	113	70	130	58.46	3.25	20	
Chlorobenzene	59.13	2.00	50	0	118	70	130	58.94	0.322	20	
Chloroethane	60.38	2.00	50	0	121	70	130	49.22	20.4	20	R
Chloroform	48.18	2.00	50	0	96.4	70	130	49.27	2.24	20	
Chloromethane	56.29	2.00	50	0	113	70	130	52.2	7.54	20	
cis-1,2-Dichloroethene	43.38	2.00	50	0	86.8	70	130	53.87	21.6	20	R
cis-1,3-Dichloropropene	64.69	0.170	50	0	129	70	130	64.85	0.247	20	
Dibromochloromethane	60.84	2.00	50	0	122	70	130	60.11	1.21	20	
Dibromomethane	63.06	2.00	50	0	126	70	130	59.78	5.34	20	
Dichlorodifluoromethane	64.09	2.00	50	0	128	70	130	61.91	3.46	20	
Diethyl Ether	ND	2.00	50	0	0	70	130	0	0	20	S
Diisopropyl Ether	43.02	2.00	50	0	86.0	70	130	41.78	2.92	20	
Ethylbenzene	61.13	2.00	50	0	122	70	130	60.54	0.970	20	
Ethyl-t-Butyl Ether	39.25	2.00	50	0	78.5	70	130	39.79	1.37	20	
Hexachlorobutadiene	58.66	2.00	50	0	117	70	130	55.83	4.94	20	
Isopropylbenzene	72.00	2.00	50	0	144	70	130	70.94	1.48	20	S
Methyl Tert-Butyl Ether	48.30	2.00	50	0	96.6	70	130	49.2	1.85	20	
Methylene Chloride	42.13	2.00	50	0	84.3	70	130	43.59	3.41	20	
Naphthalene	57.57	2.00	50	0	115	70	130	59.32	2.99	20	
n-Butylbenzene	65.83	2.00	50	0	132	70	130	64.83	1.53	20	S
n-Propylbenzene	64.11	2.00	50	0	128	70	130	62.49	2.56	20	
sec-Butylbenzene	71.28	2.00	50	0	143	70	130	67.49	5.46	20	S
Styrene	59.60	2.00	50	0	119	70	130	58.46	1.93	20	
t-Butyl Alcohol	412.9	20.0	500	0	82.6	70	130	419	1.47	20	
tert-Butylbenzene	63.37	2.00	50	0	127	70	130	62.06	2.09	20	

Qualifiers: BRL Below Reporting Limit E Value above quantitation range H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits ND Not Detected at the Reporting Limit R RPD outside recovery limits  
 RL Reporting Limit S Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Kurz Environmental

Work Order: 1406206

Project: B&M

TestCode: 8260B\_W MCP

Sample ID: LCSD	SampType: LCSD	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 55094						
Client ID: ZZZZZ	Batch ID: R55094	TestNo: SW8260B		Analysis Date: 6/27/2014	SeqNo: 616524						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	62.82	2.00	50	0	126	70	130	61.83	1.59	20	
Tetrahydrofuran	48.73	2.00	50	0	97.5	70	130	43.19	12.1	20	
Toluene	60.12	2.00	50	0	120	70	130	56.67	5.91	20	
trans-1,2-Dichloroethene	43.49	2.00	50	0	87.0	70	130	45.64	4.82	20	
trans-1,3-Dichloropropene	71.30	0.270	50	0	143	70	130	66.22	7.39	20	S
Trichloroethene	63.68	2.00	50	0	127	70	130	60.09	5.80	20	
Trichlorofluoromethane	71.37	2.00	50	0	143	70	130	60.76	16.1	20	S
Vinyl Chloride	39.11	2.00	50	0	78.2	70	130	35.29	10.3	20	
Xylenes, Total	181.4	2.00	150	0	121	70	130	180.3	0.625	20	
Surr: 1,2-Dichloroethane-d4	29.96	0	30	0	99.9	70	130	0	0	0	
Surr: 4-Bromofluorobenzene	29.22	0	30	0	97.4	70	130	0	0	0	
Surr: Dibromofluoromethane	29.82	0	30	0	99.4	70	130	0	0	0	
Surr: Toluene-d8	26.80	0	30	0	89.3	70	130	0	0	0	

Qualifiers: BRL Below Reporting Limit

J Analyte detected below quantitation limits

RL Reporting Limit

E Value above quantitation range

ND Not Detected at the Reporting Limit

S Spike Recovery outside recovery limits

H Holding times for preparation or analysis exceeded

R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** Kurz Environmental  
**Work Order:** 1406206  
**Project:** B&M

**TestCode:** EPHP\_W

Sample ID: MB-24314	SampType: mblk	TestCode: EPHP_W	Units: µg/L	Prep Date: 6/25/2014	RunNo: 55055						
Client ID: ZZZZZ	Batch ID: 24314	TestNo: MADEP EPH_ (eph_Wpr)		Analysis Date: 6/26/2014	SeqNo: 616181						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	1.00									
2-Methylnaphthalene	ND	1.00									
Acenaphthene	ND	1.00									
Phenanthrene	ND	1.00									
Acenaphthylene	ND	1.00									
Fluorene	ND	1.00									
Anthracene	ND	1.00									
Fluoranthene	ND	1.00									
Pyrene	ND	1.00									
Benzo(a)Anthracene	ND	0.400									
Chrysene	ND	1.00									
Benzo(b)Fluoranthene	ND	0.200									
Benzo(k)Fluoranthene	ND	0.200									
Benzo(a)Pyrene	ND	0.190									
Indeno(1,2,3-cd)Pyrene	ND	0.400									
Dibenz(a,h)Anthracene	ND	0.400									
Benzo(g,h,i)Perylene	ND	1.00									
Total PAH Target Concentration	ND	0.200									
Surr: 2,2-Difluorobiphenyl	21.36	0	25	0	85.4	40	140				
Surr: 2-Fluorobiphenyl	18.97	0	25	0	75.9	40	140				

Sample ID: LCS2-24314	SampType: Ics	TestCode: EPHP_W	Units: µg/L	Prep Date: 6/25/2014	RunNo: 55055						
Client ID: ZZZZZ	Batch ID: 24314	TestNo: MADEP EPH_ (eph_Wpr)		Analysis Date: 6/26/2014	SeqNo: 616183						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	20.79	1.00	50	0	41.6	40	140				
2-Methylnaphthalene	20.68	1.00	50	0	41.4	40	140				

**Qualifiers:** BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** Kurz Environmental  
**Work Order:** 1406206  
**Project:** B&M

**TestCode:** EPHP\_W

Sample ID: LCS2-24314	SampType: lcs	TestCode: EPHP_W	Units: µg/L	Prep Date: 6/25/2014	RunNo: 55055						
Client ID: ZZZZZ	Batch ID: 24314	TestNo: MADEP EPH_ (eph_Wpr)		Analysis Date: 6/26/2014	SeqNo: 616183						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	26.28	1.00	50	0	52.6	40	140				
Phenanthrene	35.02	1.00	50	0	70.0	40	140				
Acenaphthylene	26.78	1.00	50	0	53.6	40	140				
Fluorene	33.18	1.00	50	0	66.4	40	140				
Anthracene	34.85	1.00	50	0	69.7	40	140				
Fluoranthene	35.62	1.00	50	0	71.2	40	140				
Pyrene	38.94	1.00	50	0	77.9	40	140				
Benzo(a)Anthracene	40.81	0.400	50	0	81.6	40	140				
Chrysene	41.88	1.00	50	0	83.8	40	140				
Benzo(b)Fluoranthene	36.58	0.200	50	0	73.2	40	140				
Benzo(k)Fluoranthene	37.74	0.200	50	0	75.5	40	140				
Benzo(a)Pyrene	36.91	0.190	50	0	73.8	40	140				
Indeno(1,2,3-cd)Pyrene	41.96	0.400	50	0	83.9	40	140				
Dibenz(a,h)Anthracene	43.14	0.400	50	0	86.3	40	140				
Benzo(g,h,i)Perylene	43.01	1.00	50	0	86.0	40	140				
Surr: 2,2-Difluorobiphenyl	22.21	0	25	0	88.8	40	140				
Surr: 2-Fluorobiphenyl	19.02	0	25	0	76.1	40	140				

Sample ID: LCS-24314	SampType: lcs	TestCode: EPHP_W	Units: µg/L	Prep Date: 6/25/2014	RunNo: 55055						
Client ID: ZZZZZ	Batch ID: 24314	TestNo: MADEP EPH_ (eph_Wpr)		Analysis Date: 6/26/2014	SeqNo: 616209						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	20.73	1.00	50	0	41.5	40	140				
2-Methylnaphthalene	22.19	1.00	50	0	44.4	40	140				
Acenaphthene	26.75	1.00	50	0	53.5	40	140				
Phenanthrene	35.46	1.00	50	0	70.9	40	140				
Acenaphthylene	26.59	1.00	50	0	53.2	40	140				

**Qualifiers:** BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** Kurz Environmental  
**Work Order:** 1406206  
**Project:** B&M

**TestCode:** EPHP\_W

Sample ID: LCS-24314	SampType: lcs	TestCode: EPHP_W	Units: µg/L	Prep Date: 6/25/2014	RunNo: 55055						
Client ID: ZZZZZ	Batch ID: 24314	TestNo: MADEP EPH_ (eph_Wpr)		Analysis Date: 6/26/2014	SeqNo: 616209						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluorene	32.72	1.00	50	0	65.4	40	140				
Anthracene	35.00	1.00	50	0	70.0	40	140				
Fluoranthene	35.69	1.00	50	0	71.4	40	140				
Pyrene	38.83	1.00	50	0	77.7	40	140				
Benzo(a)Anthracene	40.50	0.400	50	0	81.0	40	140				
Chrysene	41.47	1.00	50	0	82.9	40	140				
Benzo(b)Fluoranthene	37.48	0.200	50	0	75.0	40	140				
Benzo(k)Fluoranthene	39.17	0.200	50	0	78.3	40	140				
Benzo(a)Pyrene	37.49	0.190	50	0	75.0	40	140				
Indeno(1,2,3-cd)Pyrene	43.04	0.400	50	0	86.1	40	140				
Dibenz(a,h)Anthracene	42.85	0.400	50	0	85.7	40	140				
Benzo(g,h,i)Perylene	42.22	1.00	50	0	84.4	40	140				
Surr: 2,2-Difluorobiphenyl	23.02	0	25	0	92.1	40	140				
Surr: 2-Fluorobiphenyl	18.71	0	25	0	74.8	40	140				

**Qualifiers:** BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Kurz Environmental  
 Work Order: 1406206  
 Project: B&M

TestCode: epht\_w

Sample ID: MB-24314	SampType: mbik	TestCode: epht_w	Units: µg/L	Prep Date: 6/25/2014	RunNo: 55060						
Client ID: ZZZZZ	Batch ID: 24314	TestNo: MADEP EPH (eph_Wpr)		Analysis Date: 6/25/2014	SeqNo: 616256						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Adjusted C11-C22 Aromatics	ND	100									
C09-C18 Aliphatics	ND	100									
C19-C36 Aliphatics	ND	100									
Unadjusted C11-C22 Aromatics	ND	100									
Surr: 1-Chlorooctadecane	56.06	0	100	0	56.1	40	140				
Surr: o-Terphenyl	95.49	0	100	0	95.5	40	140				

Sample ID: LCS-24314	SampType: Lcs	TestCode: epht_w	Units: µg/L	Prep Date: 6/25/2014	RunNo: 55060						
Client ID: ZZZZZ	Batch ID: 24314	TestNo: MADEP EPH (eph_Wpr)		Analysis Date: 6/25/2014	SeqNo: 616257						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
C09-C18 Aliphatics	ND	100	100	0	48.7	40	140				
C19-C36 Aliphatics	ND	100	100	0	74.3	40	140				
Unadjusted C11-C22 Aromatics	ND	100	100	0	53.1	40	140				
Surr: 1-Chlorooctadecane	76.63	0	100	0	76.6	40	140				
Surr: o-Terphenyl	83.03	0	100	0	83.0	40	140				

Sample ID: LCS2-24314	SampType: Lcsd	TestCode: epht_w	Units: µg/L	Prep Date: 6/25/2014	RunNo: 55060						
Client ID: ZZZZZ	Batch ID: 24314	TestNo: MADEP EPH (eph_Wpr)		Analysis Date: 6/25/2014	SeqNo: 616258						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
C09-C18 Aliphatics	ND	100	100	0	55.1	40	140	48.71	0	25	
C19-C36 Aliphatics	ND	100	100	0	79.2	40	140	74.34	0	25	
Unadjusted C11-C22 Aromatics	ND	100	100	0	65.2	40	140	53.08	0	25	
Surr: 1-Chlorooctadecane	74.24	0	100	0	74.2	40	140	0	0	0	
Surr: o-Terphenyl	99.12	0	100	0	99.1	40	140	0	0	0	

Qualifiers: BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** Kurz Environmental  
**Work Order:** 1406206  
**Project:** B&M

**TestCode:** HG-7470A\_W

Sample ID: MB-24307	SampType: MBLK	TestCode: HG-7470A_W	Units: mg/L	Prep Date: 6/24/2014	RunNo: 55039						
Client ID: ZZZZZ	Batch ID: 24307	TestNo: SW7470A	(SW7470A/E2)	Analysis Date: 6/24/2014	SeqNo: 616560						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.000200									

Sample ID: LCS-24307	SampType: LCS	TestCode: HG-7470A_W	Units: mg/L	Prep Date: 6/24/2014	RunNo: 55039						
Client ID: ZZZZZ	Batch ID: 24307	TestNo: SW7470A	(SW7470A/E2)	Analysis Date: 6/24/2014	SeqNo: 616561						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.004650	0.000200	0.005	0	93.0	80	120				

Sample ID: LCSD-24307	SampType: LCSD	TestCode: HG-7470A_W	Units: mg/L	Prep Date: 6/24/2014	RunNo: 55039						
Client ID: ZZZZZ	Batch ID: 24307	TestNo: SW7470A	(SW7470A/E2)	Analysis Date: 6/24/2014	SeqNo: 616562						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.004990	0.000200	0.005	0	99.8	80	120	0.00465	7.05	20	

**Qualifiers:** BRL Below Reporting Limit  
 J Analyte detected below quantitation limits  
 RL Reporting Limit  
 E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 S Spike Recovery outside recovery limits  
 H Holding times for preparation or analysis exceeded  
 R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811



**CHAIN OF CUSTODY RECORD**  
 GeoLabs, Inc. Environmental Laboratories  
 45 Johnson Lane, Braintree, MA 02184  
 p 781.848.7844 • f 781.848.7811  
 www.geolabs.com

Sample Handling: circle choice  
 Filtration Done  
 Not Needed  
 Lab to do  
 Preservation Lab to do Y / N

1400066 PAGE 1 OF 1  
 Special Instructions

Turnaround: circle one  
 1-day 3-day  
 2-day 5/7-days

Data Delivery: circle choice (s)  
 Fax email  
 Format: PDF  
 Excel

Requirements: circle choice (s)  
 GW-1 MCP Methods  
 S-1 DEP  
 QC Other

CT RCP (Reasonable Confidence Protocols)  
 State / Fed Program - Criteria

Client: Kurz  
 Address: \_\_\_\_\_  
 Contact: \_\_\_\_\_

Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 email: \_\_\_\_\_

Project: B&M  
 Project PO: \_\_\_\_\_  
 Invoice to \*: Client

COLLECTION			SAMPLE LOCATION / ID	CONTAINER			GeoLabs SAMPLE NUMBER	Analysis Requested			Lab Use Only	
DATE	TIME	SAMPLED		TYPE	QUANTITY	MATRIX		VOI's	EPH targets	RORA's	TEMPERATURE	LAB PH
6/19	12	MAG	MW-6	VIA/P	GW	X	02006-001	X	X	X	7-	
	11		MW-5				-002					
			EW-2				-003					
			MW-3A				-004					

Matrix Codes: GW = Ground Water DW = Drinking Water S = Soil A = Air  
 WW = Waste Water SL = Sludge O = Oil OT = Other

Received on Ice

Preservatives: 1 = HCl 3 = H2SO4 5 = NaOH 7 = Other  
 2 = HNO3 4 = Na2S2O3 6 = MEOH

Containers: A = Amber B = Bag O = Other  
 G = Glass P = Plastic  
 S = Summa V = Voa

Relinquished by: [Signature] Date / Time 6/20/14 10:35

Received by: [Signature] Date / Time 6/20/14 11:30

[Signature] Date / Time 6/20/14 11:30

Page 38 of 38



ANALYTICAL REPORT



Thursday, July 03, 2014

Mark Germano  
Kurz Environmental  
P. O. Box 358  
Sherborn, MA 01770

GeoLabs, Inc.  
45 Johnson Lane  
Braintree MA 02184  
Tele: 781 848 7844  
Fax: 781 848 7811

TEL: (339) 793-3528

FAX:

Project: B&M

Location:

Order No.: 1406272

Dear Mark Germano:

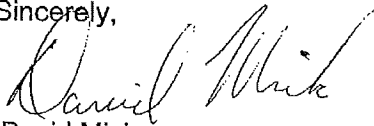
GeoLabs, Inc. received 2 sample(s) on 6/27/2014 for the analyses presented in the following report.

The laboratory results in this report relate only to samples submitted. All data for associated QC met method or laboratory specifications, except where noted in the Case Narrative.

Analytical methods and results meet requirements of 310CMR 40.1056(J) as per MADEP Compendium of Analytical Methods (CAM).

If you have any questions regarding these tests results, please feel free to call.

Sincerely,



David Mick  
Laboratory Director

For current certifications, please visit our website at [www.geolabs.com](http://www.geolabs.com)

Certifications:

CT (PH-0148) - MA (M-MA015) - NH (2508) - RI (LA000252)

**MassDEP Analytical Protocol Certification Form**

Laboratory Name: GeoLabs, Inc. Project #: \_\_\_\_\_  
 Project Location: B&M RTN: \_\_\_\_\_

This form provides certification for the following data set: 1406272 (001-002)

Matrices:  Groundwater/Surface Water  Soil/Sediment  Drinking Water  Air  Other-wastewater

**CAM Protocol (check all that apply below):**

8260 VOC CAM II A <input checked="" type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	MassDEP VPH CAM IV A <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input checked="" type="checkbox"/>	MassDEP EPH CAM IV B <input checked="" type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>
6010 Metals CAM III A <input checked="" type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	8082 PCB CAM V A <input type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>	

**Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status**

<b>A</b>	Were all samples received in a condition consistent with those described on the Chain of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>B</b>	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>C</b>	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>D</b>	Does the laboratory report comply with all reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>E</b>	VPH, EPH, APH and TO-15 only: a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>F</b>	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

**Responses to Questions G, H, and I below are required for "Presumptive Certainty" status**

**G** Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?  Yes  No

*Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2) (k) and WSC-07-350.*

**H** Were all QC performance standards as specified in the CAM protocol(s) achieved?  Yes  No<sup>1</sup>

**I** Were results reported for the complete analyte list specified in the selected CAM protocol(s)?  Yes  No<sup>1</sup>

<sup>1</sup> All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: David Mick Position: Laboratory Director  
 Printed Name: David Mick Date: July 3, 2014

Date: 03-Jul-14

CLIENT: Kurz Environmental  
Project: B&M  
Lab Order: 1406272

**CASE NARRATIVE**

Physical Condition of Samples

The project was received by the laboratory in satisfactory condition. The sample(s) were received undamaged, in appropriate containers with the correct preservation.

Project Documentation

The project was accompanied by satisfactory Chain of Custody documentation.

Analysis of Sample(s)

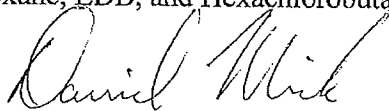
Select metals reported via method 6010C, per client request.

All extractable samples were extracted and analyzed and any Volatile samples were analyzed within method specified holding times and according to GeoLabs documented Standard Operating Procedure. The following analytical anomalies or non-conformances were noted by the laboratory during the processing of these samples:

See QC to review spike & RPD % recoveries outside of recovery limits.

Limits for 1,4-Dioxane, EDB, and Hexachlorobutadiene do not meet MCP limits.

SIGNATURE:



LAB DIRECTOR

PRINTED NAME: David Mick

DATE: 07/03/14

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** Kurz Environmental  
**Project:** B&M  
**Lab Order:** 1406272

**CASE NARRATIVE**

EPH Methods

Method for Ranges: MADEP EPH 04-1.1  
Method for Target Analytes: 8270 GC/MS

Carbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range  
Adjusted C11-C22 Aromatic Hydrocarbons exclude concentrations of Target PAH Analytes

**CERTIFICATION:**

Were all QA/QC procedures REQUIRED by the EPH Method followed? YES  
Were all performance/acceptance standards achieved? NO (See Case Narrative)  
Were any significant modifications made to the EPH method? NO

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE:



LAB DIRECTOR

PRINTED NAME: David Mick

DATE: 07/03/14

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**ANALYTICAL REPORT**

Reported Date: 03-Jul-14

**CLIENT:** Kurz Environmental **Client Sample ID:** EW-1  
**Lab Order:** 1406272 **Tag Number:**  
**Project:** B&M **Collection Date:** 6/26/2014  
**Lab ID:** 1406272-001A **Date Received:** 6/27/2014 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**VOLATILE ORGANIC COMPOUNDS - SW8260B**

Analyst: ZC

Prep Method:	Prep Date:					
1,1,1,2-Tetrachloroethane	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
1,1,1-Trichloroethane	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
1,1,2,2-Tetrachloroethane	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
1,1,2-Trichloroethane	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
1,1-Dichloroethane	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
1,1-Dichloroethene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
1,1-Dichloropropene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
1,2,3-Trichlorobenzene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
1,2,3-Trichloropropane	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
1,2,4-Trimethylbenzene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
1,2-Dibromo-3-Chloropropane	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
1,2-Dibromoethane	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
1,2-Dichlorobenzene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
1,2-Dichloroethane	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
1,2-Dichloropropane	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
1,3,5-Trimethylbenzene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
1,3-Dichlorobenzene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
1,3-Dichloropropane	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
1,4-Dichlorobenzene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
1,4-Dioxane	ND	500		µg/L	1	6/30/2014 6:27:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
2-Butanone	ND	10.0		µg/L	1	6/30/2014 6:27:00 PM
2-Chlorotoluene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
2-Hexanone	ND	10.0		µg/L	1	6/30/2014 6:27:00 PM
2-Methoxy-2-Methylbutane (TAME)	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
4-Chlorotoluene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
4-Isopropyltoluene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
4-Methyl-2-Pentanone	ND	5.00		µg/L	1	6/30/2014 6:27:00 PM
Acetone	32.7	10.0		µg/L	1	6/30/2014 6:27:00 PM
Benzene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Bromobenzene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Bromochloromethane	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Bromodichloromethane	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Bromoform	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM

**Qualifiers:** B Analyte detected in the associated Method Blank BRL Below Reporting Limit  
E Value above quantitation range H Holding times for preparation or analysis exceeded  
J Analyte detected below quantitation limits ND Not Detected at the Reporting Limit  
RL Reporting Limit S Spike Recovery outside recovery limits

## ANALYTICAL REPORT

Reported Date: 03-Jul-14

**CLIENT:** Kurz Environmental **Client Sample ID:** EW-1  
**Lab Order:** 1406272 **Tag Number:**  
**Project:** B&M **Collection Date:** 6/26/2014  
**Lab ID:** 1406272-001A **Date Received:** 6/27/2014 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

## VOLATILE ORGANIC COMPOUNDS - SW8260B

Analyst: ZC

Prep Method:	Prep Date:					
Bromomethane	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Carbon Disulfide	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Carbon Tetrachloride	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Chlorobenzene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Chloroethane	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Chloroform	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Chloromethane	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
cis-1,2-Dichloroethene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
cis-1,3-Dichloropropene	ND	0.170		µg/L	1	6/30/2014 6:27:00 PM
Dibromochloromethane	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Dibromomethane	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Dichlorodifluoromethane	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Diethyl Ether	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Diisopropyl Ether	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Ethylbenzene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Ethyl-t-Butyl Ether	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Hexachlorobutadiene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Isopropylbenzene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Methyl Tert-Butyl Ether	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Methylene Chloride	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Naphthalene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
n-Butylbenzene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
n-Propylbenzene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
sec-Butylbenzene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Styrene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
t-Butyl Alcohol	ND	20.0		µg/L	1	6/30/2014 6:27:00 PM
tert-Butylbenzene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Tetrachloroethene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Tetrahydrofuran	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Toluene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
trans-1,2-Dichloroethene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
trans-1,3-Dichloropropene	ND	0.270		µg/L	1	6/30/2014 6:27:00 PM
Trichloroethene	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Trichlorofluoromethane	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM
Vinyl Chloride	ND	2.00		µg/L	1	6/30/2014 6:27:00 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**ANALYTICAL REPORT**

Reported Date: 03-Jul-14

**CLIENT:** Kurz Environmental **Client Sample ID:** EW-1  
**Lab Order:** 1406272 **Tag Number:**  
**Project:** B&M **Collection Date:** 6/26/2014  
**Lab ID:** 1406272-001A **Date Received:** 6/27/2014 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**VOLATILE ORGANIC COMPOUNDS - SW8260B**

Analyst: ZC

Prep Method:	Prep Date:					
Xylenes, Total	ND	2.00	µg/L	1	6/30/2014 6:27:00 PM	
Surr: 1,2-Dichloroethane-d4	123	70-130	%REC	1	6/30/2014 6:27:00 PM	
Surr: 4-Bromofluorobenzene	103	70-130	%REC	1	6/30/2014 6:27:00 PM	
Surr: Dibromofluoromethane	134	70-130	S %REC	1	6/30/2014 6:27:00 PM	
Surr: Toluene-d8	68.2	70-130	S %REC	1	6/30/2014 6:27:00 PM	

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.  
 45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 03-Jul-14

CLIENT: Kurz Environmental

Client Sample ID: MW-3

Lab Order: 1406272

Tag Number:

Project: B&amp;M

Collection Date: 6/26/2014

Lab ID: 1406272-002A

Date Received: 6/27/2014

Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

## VOLATILE ORGANIC COMPOUNDS - SW8260B

Analyst: ZC

Prep Method:	Prep Date:					
1,1,1,2-Tetrachloroethane	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
1,1,1-Trichloroethane	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
1,1,2,2-Tetrachloroethane	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
1,1,2-Trichloroethane	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
1,1-Dichloroethane	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
1,1-Dichloroethane	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
1,1-Dichloropropene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
1,2,3-Trichlorobenzene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
1,2,3-Trichloropropane	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
1,2,4-Trimethylbenzene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
1,2-Dibromo-3-Chloropropane	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
1,2-Dibromoethane	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
1,2-Dichlorobenzene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
1,2-Dichloroethane	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
1,2-Dichloropropane	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
1,3,5-Trimethylbenzene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
1,3-Dichlorobenzene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
1,3-Dichloropropane	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
1,4-Dichlorobenzene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
1,4-Dioxane	ND	500		µg/L	1	6/30/2014 7:02:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
2-Butanone	ND	10.0		µg/L	1	6/30/2014 7:02:00 PM
2-Chlorotoluene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
2-Hexanone	ND	10.0		µg/L	1	6/30/2014 7:02:00 PM
2-Methoxy-2-Methylbutane (TAME)	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
4-Chlorotoluene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
4-Isopropyltoluene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
4-Methyl-2-Pentanone	ND	5.00		µg/L	1	6/30/2014 7:02:00 PM
Acetone	ND	10.0		µg/L	1	6/30/2014 7:02:00 PM
Benzene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Bromobenzene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Bromochloromethane	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Bromodichloromethane	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Bromoform	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM

Qualifiers: B Analyte detected in the associated Method Blank  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 RL Reporting Limit

BRL Below Reporting Limit  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 S Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811



## ANALYTICAL REPORT

Reported Date: 03-Jul-14

CLIENT: Kurz Environmental

Client Sample ID: MW-3

Lab Order: 1406272

Tag Number:

Project: B&amp;M

Collection Date: 6/26/2014

Lab ID: 1406272-002A

Date Received: 6/27/2014

Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

## VOLATILE ORGANIC COMPOUNDS - SW8260B

Analyst: ZC

Prep Method:

Prep Date:

Bromomethane	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Carbon Disulfide	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Carbon Tetrachloride	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Chlorobenzene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Chloroethane	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Chloroform	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Chloromethane	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
cis-1,2-Dichloroethene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
cis-1,3-Dichloropropene	ND	0.170		µg/L	1	6/30/2014 7:02:00 PM
Dibromochloromethane	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Dibromomethane	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Dichlorodifluoromethane	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Diethyl Ether	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
DIsopropyl Ether	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Ethylbenzene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Ethyl-t-Butyl Ether	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Hexachlorobutadiene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Isopropylbenzene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Methyl Tert-Butyl Ether	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Methylene Chloride	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Naphthalene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
n-Butylbenzene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
n-Propylbenzene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
sec-Butylbenzene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Styrene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
t-Butyl Alcohol	ND	20.0		µg/L	1	6/30/2014 7:02:00 PM
tert-Butylbenzene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Tetrachloroethene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Tetrahydrofuran	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Toluene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
trans-1,2-Dichloroethene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
trans-1,3-Dichloropropene	ND	0.270		µg/L	1	6/30/2014 7:02:00 PM
Trichloroethene	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Trichlorofluoromethane	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM
Vinyl Chloride	ND	2.00		µg/L	1	6/30/2014 7:02:00 PM

Qualifiers: B Analyte detected in the associated Method Blank  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 RL Reporting Limit

BRL Below Reporting Limit  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 S Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**ANALYTICAL REPORT**

**Reported Date:** 03-Jul-14

**CLIENT:** Kurz Environmental **Client Sample ID:** MW-3  
**Lab Order:** 1406272 **Tag Number:**  
**Project:** B&M **Collection Date:** 6/26/2014  
**Lab ID:** 1406272-002A **Date Received:** 6/27/2014 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**VOLATILE ORGANIC COMPOUNDS - SW8260B** Analyst: ZC

	Prep Method:		Prep Date:			
Xylenes, Total	ND	2.00	µg/L	1	6/30/2014 7:02:00 PM	
Surr: 1,2-Dichloroethane-d4	124	70-130	%REC	1	6/30/2014 7:02:00 PM	
Surr: 4-Bromofluorobenzene	97.5	70-130	%REC	1	6/30/2014 7:02:00 PM	
Surr: Dibromofluoromethane	132	70-130	S %REC	1	6/30/2014 7:02:00 PM	
Surr: Toluene-d8	66.8	70-130	S %REC	1	6/30/2014 7:02:00 PM	

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	BRL Below Reporting Limit
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	RL Reporting Limit	S Spike Recovery outside recovery limits

**GeoLabs, Inc.**  
 45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 03-Jul-14

CLIENT: Kurz Environmental  
 Lab Order: 1406272  
 Project: B&M  
 Lab ID: 1406272-002B

Client Sample ID: MW-3  
 Tag Number:  
 Collection Date: 6/26/2014  
 Matrix: GROUNDWATER

Date Received: 6/27/2014

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

## EPH RANGES - MADEP EPH

Analyst: KG

Prep Method:	(eph_Wpr)	Prep Date:	6/30/2014 11:53:09 AM
Adjusted C11-C22 Aromatics	ND	100	µg/L
C09-C18 Aliphatics	ND	100	µg/L
C19-C36 Aliphatics	ND	100	µg/L
Unadjusted C11-C22 Aromatics	ND	100	µg/L
Surr: 1-Chlorooctadecane	59.3	40-140	%REC
Surr: o-Terphenyl	100	40-140	%REC

## EPH TARGET ANALYTES - MADEP EPH

Analyst: ZYZ

Prep Method:	(eph_Wpr)	Prep Date:	6/30/2014 11:53:09 AM
Naphthalene	ND	1.00	µg/L
2-Methylnaphthalene	ND	1.00	µg/L
Acenaphthene	ND	1.00	µg/L
Phenanthrene	ND	1.00	µg/L
Acenaphthylene	ND	1.00	µg/L
Fluorene	ND	1.00	µg/L
Anthracene	ND	1.00	µg/L
Fluoranthene	ND	1.00	µg/L
Pyrene	ND	1.00	µg/L
Benzo(a)Anthracene	ND	0.400	µg/L
Chrysene	ND	1.00	µg/L
Benzo(b)Fluoranthene	ND	0.200	µg/L
Benzo(k)Fluoranthene	ND	0.200	µg/L
Benzo(a)Pyrene	ND	0.190	µg/L
Indeno(1,2,3-cd)Pyrene	ND	0.400	µg/L
Dibenz(a,h)Anthracene	ND	0.400	µg/L
Benzo(g,h,i)Perylene	ND	1.00	µg/L
Total PAH Target Concentration	ND	0.200	µg/L
Surr: 2,2-Difluorobiphenyl	67.6	40-140	%REC
Surr: 2-Fluorobiphenyl	51.6	40-140	%REC

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding Times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**ANALYTICAL REPORT**

**Reported Date:** 03-Jul-14

**CLIENT:** Kurz Environmental **Client Sample ID:** MW-3  
**Lab Order:** 1406272 **Tag Number:**  
**Project:** B&M **Collection Date:** 6/26/2014  
**Lab ID:** 1406272-002C **Date Received:** 6/27/2014 **Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**TOTAL METALS BY ICP - SW6010C**

Analyst: ZYZ

	Prep Method: (SW3010A)		Prep Date: 7/2/2014 12:21:46 PM			
Arsenic	0.0310	0.0100	mg/L	1	7/3/2014	
Barium	0.115	0.0100	mg/L	1	7/3/2014	
Cadmium	ND	0.0100	mg/L	1	7/3/2014	
Chromium	0.0480	0.0100	mg/L	1	7/3/2014	
Lead	ND	0.0100	mg/L	1	7/3/2014	
Selenium	ND	0.0100	mg/L	1	7/3/2014	
Silver	ND	0.0100	mg/L	1	7/3/2014	

**TOTAL MERCURY - 7470A**

Analyst: EC

	Prep Method: (SW7470A/E245.1)		Prep Date: 7/1/2014 2:51:29 PM			
Mercury	ND	0.000200	mg/L	1	7/1/2014	

**Qualifiers:** B Analyte detected in the associated Method Blank BRL Below Reporting Limit  
E Value above quantitation range H Holding times for preparation or analysis exceeded  
J Analyte detected below quantitation limits ND Not Detected at the Reporting Limit  
RL Reporting Limit S Spike Recovery outside recovery limits

**GeoLabs, Inc.**  
45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

# ANALYTICAL QC SUMMARY REPORT

Date: 03-Jul-14

CLIENT: Kurz Environmental  
 Work Order: 1406272  
 Project: B&M

TestCode: 6010C\_W

Sample ID: MB-24348	SampType: MBLK	TestCode: 6010C_W	Units: mg/L	Prep Date: 7/2/2014	RunNo: 55164						
Client ID: ZZZZ	Batch ID: 24348	TestNo: SW6010B (SW3010A)		Analysis Date: 7/3/2014	SeqNo: 617230						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.0100									
Barium	ND	0.0500									
Cadmium	ND	0.0100									
Chromium	ND	0.0100									
Lead	ND	0.0100									
Selenium	ND	0.0100									
Silver	ND	0.0100									

Sample ID: LCS-24348	SampType: LCS	TestCode: 6010C_W	Units: mg/L	Prep Date: 7/2/2014	RunNo: 55164						
Client ID: ZZZZ	Batch ID: 24348	TestNo: SW6010B (SW3010A)		Analysis Date: 7/3/2014	SeqNo: 617228						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	2.026	0.0100	2	0	101	80	120				
Barium	1.951	0.0500	2	0	97.6	80	120				
Cadmium	1.947	0.0100	2	0	97.4	80	120				
Chromium	1.990	0.0100	2	0	99.5	80	120				
Lead	1.958	0.0100	2	0	97.9	80	120				
Selenium	1.988	0.0100	2	0	99.4	80	120				
Silver	0.4880	0.0100	0.5	0	97.6	80	120				

Sample ID: LCSD-24348	SampType: LCSD	TestCode: 6010C_W	Units: mg/L	Prep Date: 7/2/2014	RunNo: 55164						
Client ID: ZZZZ	Batch ID: 24348	TestNo: SW6010B (SW3010A)		Analysis Date: 7/3/2014	SeqNo: 617229						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.974	0.0100	2	0	98.7	80	120	2.026	2.60	20	
Barium	1.950	0.0500	2	0	97.5	80	120	1.951	0.0513	20	

Qualifiers: BRL Below Reporting Limit  
 J Analyte detected below quantitation limits  
 RL Reporting Limit  
 E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 S Spike Recovery outside recovery limits  
 H Holding times for preparation or analysis exceeded  
 R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** Kurz Environmental  
**Work Order:** 1406272  
**Project:** B&M

**TestCode:** 6010C\_W

Sample ID: LCSD-24348	SampType: LCSD	TestCode: 6010C_W	Units: mg/L	Prep Date: 7/2/2014	RunNo: 55164						
Client ID: ZZZZZ	Batch ID: 24348	TestNo: SW6010B	(SW3010A)	Analysis Date: 7/3/2014	SeqNo: 617229						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	1.904	0.0100	2	0	95.2	80	120	1.947	2.23	20	
Chromium	1.946	0.0100	2	0	97.3	80	120	1.99	2.24	20	
Lead	1.912	0.0100	2	0	95.6	80	120	1.958	2.38	20	
Selenium	1.938	0.0100	2	0	96.9	80	120	1.988	2.55	20	
Silver	0.4950	0.0100	0.5	0	99.0	80	120	0.488	1.42	20	

**Qualifiers:** BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** Kurz Environmental  
**Work Order:** 1406272  
**Project:** B&M

**TestCode:** 8260B\_W MCP

Sample ID: <b>MBLK</b>	SampType: <b>MBLK</b>	TestCode: <b>8260B_W MC</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>55113</b>
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R55113</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/30/2014</b>	SeqNo: <b>616727</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	2.00									
1,1,1-Trichloroethane	ND	2.00									
1,1,2,2-Tetrachloroethane	ND	2.00									
1,1,2-Trichloroethane	ND	2.00									
1,1-Dichloroethane	ND	2.00									
1,1-Dichloroethene	ND	2.00									
1,1-Dichloropropene	ND	2.00									
1,2,3-Trichlorobenzene	ND	2.00									
1,2,3-Trichloropropane	ND	2.00									
1,2,4-Trichlorobenzene	ND	2.00									
1,2,4-Trimethylbenzene	ND	2.00									
1,2-Dibromo-3-Chloropropane	ND	2.00									
1,2-Dibromoethane	ND	2.00									
1,2-Dichlorobenzene	ND	2.00									
1,2-Dichloroethane	ND	2.00									
1,2-Dichloropropane	ND	2.00									
1,3,5-Trimethylbenzene	ND	2.00									
1,3-Dichlorobenzene	ND	2.00									
1,3-Dichloropropane	ND	2.00									
1,4-Dichlorobenzene	ND	2.00									
1,4-Dioxane	ND	500									
2,2-Dichloropropane	ND	2.00									
2-Butanone	ND	10.0									
2-Chlorotoluene	ND	2.00									
2-Hexanone	ND	10.0									
2-Methoxy-2-Methylbutane (TAME)	ND	2.00									
4-Chlorotoluene	ND	2.00									
4-Isopropyltoluene	ND	2.00									

<b>Qualifiers:</b>	BRL Below Reporting Limit	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	R RPD outside recovery limits
	RL Reporting Limit	S Spike Recovery outside recovery limits	

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Kurz Environmental  
 Work Order: 1406272  
 Project: B&M

TestCode: 8260B\_W MCP

Sample ID: MBLK	SampType: MBLK	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 55113
Client ID: ZZZZZ	Batch ID: R55113	TestNo: SW8260B		Analysis Date: 6/30/2014	SeqNo: 616727

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Methyl-2-Pentanone	ND	5.00									
Acetone	ND	10.0									
Benzene	ND	2.00									
Bromobenzene	ND	2.00									
Bromochloromethane	ND	2.00									
Bromodichloromethane	ND	2.00									
Bromoform	ND	2.00									
Bromomethane	ND	2.00									
Carbon Disulfide	ND	2.00									
Carbon Tetrachloride	ND	2.00									
Chlorobenzene	ND	2.00									
Chloroethane	ND	2.00									
Chloroform	ND	2.00									
Chloromethane	ND	2.00									
cis-1,2-Dichloroethene	ND	2.00									
cis-1,3-Dichloropropene	ND	0.170									
Dibromochloromethane	ND	2.00									
Dibromomethane	ND	2.00									
Dichlorodifluoromethane	ND	2.00									
Diethyl Ether	ND	2.00									
Diisopropyl Ether	ND	2.00									
Ethylbenzene	ND	2.00									
Ethyl-t-Butyl Ether	ND	2.00									
Hexachlorobutadiene	ND	2.00									
isopropylbenzene	ND	2.00									
Methyl Tert-Butyl Ether	ND	2.00									
Methylene Chloride	ND	2.00									
Naphthalene	ND	2.00									

Qualifiers: BRL Below Reporting Limit  
 J Analyte detected below quantitation limits  
 RL Reporting Limit  
 E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 S Spike Recovery outside recovery limits  
 H Holding times for preparation or analysis exceeded  
 R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811



CLIENT: Kurz Environmental  
 Work Order: 1406272  
 Project: B&M

TestCode: 8260B\_W MCP

Sample ID: MBLK	SampType: MBLK	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 55113						
Client ID: ZZZZ	Batch ID: R55113	TestNo: SW8260B		Analysis Date: 6/30/2014	SeqNo: 616727						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
n-Butylbenzene	ND	2.00									
n-Propylbenzene	ND	2.00									
sec-Butylbenzene	ND	2.00									
Styrene	ND	2.00									
t-Butyl Alcohol	ND	20.0									
tert-Butylbenzene	ND	2.00									
Tetrachloroethene	ND	2.00									
Tetrahydrofuran	ND	2.00									
Toluene	ND	2.00									
trans-1,2-Dichloroethene	ND	2.00									
trans-1,3-Dichloropropene	ND	0.270									
Trichloroethene	ND	2.00									
Trichlorofluoromethane	ND	2.00									
Vinyl Chloride	ND	2.00									
Xylenes, Total	ND	2.00									
Surr: 1,2-Dichloroethane-d4	33.12	0	30	0	110	70	130				
Surr: 4-Bromofluorobenzene	31.51	0	30	0	105	70	130				
Surr: Dibromofluoromethane	38.18	0	30	0	127	70	130				
Surr: Toluene-d8	20.82	0	30	0	69.4	70	130				S

Sample ID: LCS	SampType: LCS	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 55113						
Client ID: ZZZZ	Batch ID: R55113	TestNo: SW8260B		Analysis Date: 6/30/2014	SeqNo: 616725						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	54.78	2.00	50	0	110	70	130				
1,1,1-Trichloroethane	46.98	2.00	50	0	94.0	70	130				
1,1,2,2-Tetrachloroethane	62.30	2.00	50	0	125	70	130				

Qualifiers: BRL Below Reporting Limit E Value above quantitation range H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits ND Not Detected at the Reporting Limit R RPD outside recovery limits  
 RL Reporting Limit S Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Kurz Environmental  
 Work Order: 1406272  
 Project: B&M

TestCode: 8260B\_W MCP

Sample ID: LCS	SampType: LCS	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 55113						
Client ID: ZZZZZ	Batch ID: R55113	TestNo: SW8260B		Analysis Date: 6/30/2014	SeqNo: 616725						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	56.57	2.00	50	0	113	70	130				
1,1-Dichloroethane	41.32	2.00	50	0	82.6	70	130				
1,1-Dichloroethene	42.09	2.00	50	0	84.2	70	130				
1,1-Dichloropropene	58.04	2.00	50	0	116	70	130				
1,2,3-Trichlorobenzene	38.93	2.00	50	0	77.9	70	130				
1,2,3-Trichloropropane	56.56	2.00	50	0	113	70	130				
1,2,4-Trichlorobenzene	47.80	2.00	50	0	95.6	70	130				
1,2,4-Trimethylbenzene	62.39	2.00	50	0	125	70	130				
1,2-Dibromo-3-Chloropropane	49.12	2.00	50	0	98.2	70	130				
1,2-Dibromoethane	54.82	2.00	50	0	110	70	130				
1,2-Dichlorobenzene	53.97	2.00	50	0	108	70	130				
1,2-Dichloroethane	58.23	2.00	50	0	116	70	130				
1,2-Dichloropropane	59.78	2.00	50	0	120	70	130				
1,3,5-Trimethylbenzene	61.39	2.00	50	0	123	70	130				
1,3-Dichlorobenzene	55.99	2.00	50	0	112	70	130				
1,3-Dichloropropane	59.61	2.00	50	0	119	70	130				
1,4-Dichlorobenzene	52.02	2.00	50	0	104	70	130				
1,4-Dioxane	ND	500	50	0	0	70	130				
2,2-Dichloropropane	40.65	2.00	50	0	81.3	70	130				S
2-Butanone	34.88	10.0	50	0	69.8	70	130				
2-Chlorotoluene	62.93	2.00	50	0	126	70	130				S
2-Hexanone	54.62	10.0	50	0	109	70	130				
2-Methoxy-2-Methylbutane (TAME)	ND	2.00	50	0	0	70	130				
4-Chlorotoluene	60.05	2.00	50	0	120	70	130				S
4-Isopropyltoluene	68.95	2.00	50	0	138	70	130				
4-Methyl-2-Pentanone	53.36	5.00	50	0	107	70	130				S
Acetone	40.39	10.0	50	0	80.8	70	130				
Benzene	60.75	2.00	50	0	122	70	130				

Qualifiers: BRL Below Reporting Limit  
 J Analyte detected below quantitation limits  
 RL Reporting Limit  
 E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 S Spike Recovery outside recovery limits  
 H Holding times for preparation or analysis exceeded  
 R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CLIENT:** Kurz Environmental  
**Work Order:** 1406272  
**Project:** B&M

**TestCode:** 8260B\_W MCP

Sample ID: LCS	SampType: LCS	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 55113						
Client ID: ZZZZZ	Batch ID: R55113	TestNo: SW8260B		Analysis Date: 6/30/2014	SeqNo: 616725						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	57.29	2.00	50	0	115	70	130				
Bromochloromethane	34.02	2.00	50	0	68.0	70	130				S
Bromodichloromethane	57.03	2.00	50	0	114	70	130				
Bromoform	54.47	2.00	50	0	109	70	130				
Bromomethane	49.52	2.00	50	0	99.0	70	130				
Carbon Disulfide	48.03	2.00	50	0	96.1	70	130				
Carbon Tetrachloride	52.05	2.00	50	0	104	70	130				
Chlorobenzene	58.53	2.00	50	0	117	70	130				
Chloroethane	57.89	2.00	50	0	116	70	130				
Chloroform	38.13	2.00	50	0	76.3	70	130				
Chloromethane	61.66	2.00	50	0	123	70	130				
cis-1,2-Dichloroethene	37.12	2.00	50	0	74.2	70	130				
cis-1,3-Dichloropropene	61.02	0.170	50	0	122	70	130				
Dibromochloromethane	54.54	2.00	50	0	109	70	130				
Dibromomethane	55.08	2.00	50	0	110	70	130				
Dichlorodifluoromethane	41.78	2.00	50	0	83.6	70	130				
Diethyl Ether	ND	2.00	50	0	0	70	130				S
Diisopropyl Ether	37.28	2.00	50	0	74.6	70	130				
Ethylbenzene	60.80	2.00	50	0	122	70	130				
Ethyl-t-Butyl Ether	35.65	2.00	50	0	71.3	70	130				
Hexachlorobutadiene	53.88	2.00	50	0	108	70	130				
Isopropylbenzene	71.84	2.00	50	0	144	70	130				S
Methyl Tert-Butyl Ether	42.08	2.00	50	0	84.2	70	130				
Methylene Chloride	37.80	2.00	50	0	75.6	70	130				
Naphthalene	44.54	2.00	50	0	89.1	70	130				
n-Butylbenzene	67.82	2.00	50	0	136	70	130				S
n-Propylbenzene	66.64	2.00	50	0	133	70	130				S
sec-Butylbenzene	72.56	2.00	50	0	145	70	130				S

**Qualifiers:** BRL Below Reporting Limit      E Value above quantitation range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits      ND Not Detected at the Reporting Limit      R RPD outside recovery limits  
 RL Reporting Limit      S Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Kurz Environmental  
 Work Order: 1406272  
 Project: B&M

TestCode: 8260B\_W MCP

Sample ID: LCS	SampType: LCS	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 55113						
Client ID: ZZZZZ	Batch ID: R55113	TestNo: SW8260B		Analysis Date: 6/30/2014	SeqNo: 616725						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Styrene	59.62	2.00	50	0	119	70	130				
t-Butyl Alcohol	371.6	20.0	500	0	74.3	70	130				
tert-Butylbenzene	61.63	2.00	50	0	123	70	130				
Tetrachloroethene	63.12	2.00	50	0	126	70	130				
Tetrahydrofuran	33.55	2.00	50	0	67.1	70	130				
Toluene	61.31	2.00	50	0	123	70	130				S
trans-1,2-Dichloroethene	37.09	2.00	50	0	74.2	70	130				
trans-1,3-Dichloropropene	63.96	0.270	50	0	128	70	130				
Trichloroethene	55.03	2.00	50	0	110	70	130				
Trichlorofluoromethane	69.57	2.00	50	0	139	70	130				
Vinyl Chloride	48.79	2.00	50	0	97.6	70	130				S
Xylenes, Total	179.6	2.00	150	0	120	70	130				
Surr: 1,2-Dichloroethane-d4	26.52	0	30	0	88.4	70	130				
Surr: 4-Bromofluorobenzene	32.56	0	30	0	109	70	130				
Surr: Dibromofluoromethane	29.03	0	30	0	96.8	70	130				
Surr: Toluene-d8	27.81	0	30	0	92.7	70	130				

Sample ID: LCSD	SampType: LCSD	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 55113						
Client ID: ZZZZZ	Batch ID: R55113	TestNo: SW8260B		Analysis Date: 6/30/2014	SeqNo: 616726						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	57.44	2.00	50	0	115	70	130	54.78	4.74	20	
1,1,1-Trichloroethane	55.02	2.00	50	0	110	70	130	46.98	15.8	20	
1,1,2,2-Tetrachloroethane	61.54	2.00	50	0	123	70	130	62.3	1.23	20	
1,1,2-Trichloroethane	55.90	2.00	50	0	112	70	130	56.57	1.19	20	
1,1-Dichloroethane	43.44	2.00	50	0	86.9	70	130	41.32	5.00	20	
1,1-Dichloroethene	46.58	2.00	50	0	93.2	70	130	42.09	10.1	20	

Qualifiers: BRL Below Reporting Limit  
 J Analyte detected below quantitation limits  
 RL Reporting Limit  
 E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 S Spike Recovery outside recovery limits  
 H Holding times for preparation or analysis exceeded  
 R RPD outside recovery limits

GeoLabs, Inc.  
 45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Kurz Environmental  
 Work Order: 1406272  
 Project: B&M

TestCode: 8260B\_W MCP

Sample ID: LCSD	SampType: LCSD	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 55113						
Client ID: ZZZZZ	Batch ID: R55113	TestNo: SW8260B		Analysis Date: 6/30/2014	SeqNo: 616726						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloropropene	57.46	2.00	50	0	115	70	130	58.04	1.00	20	
1,2,3-Trichlorobenzene	42.22	2.00	50	0	84.4	70	130	38.93	8.11	20	
1,2,3-Trichloropropane	59.55	2.00	50	0	119	70	130	56.56	5.15	20	
1,2,4-Trichlorobenzene	51.99	2.00	50	0	104	70	130	47.8	8.40	20	
1,2,4-Trimethylbenzene	64.71	2.00	50	0	129	70	130	62.39	3.65	20	
1,2-Dibromo-3-Chloropropane	53.73	2.00	50	0	107	70	130	49.12	8.96	20	
1,2-Dibromoethane	55.89	2.00	50	0	112	70	130	54.82	1.93	20	
1,2-Dichlorobenzene	55.65	2.00	50	0	111	70	130	53.97	3.07	20	
1,2-Dichloroethane	59.68	2.00	50	0	119	70	130	58.23	2.46	20	
1,2-Dichloropropane	65.73	2.00	50	0	131	70	130	59.78	9.48	20	S
1,3,5-Trimethylbenzene	63.06	2.00	50	0	126	70	130	61.39	2.68	20	
1,3-Dichlorobenzene	59.18	2.00	50	0	118	70	130	55.99	5.54	20	
1,3-Dichloropropane	59.87	2.00	50	0	120	70	130	59.61	0.435	20	
1,4-Dichlorobenzene	55.49	2.00	50	0	111	70	130	52.02	6.46	20	
1,4-Dioxane	ND	500	50	0	0	70	130	0	0	20	S
2,2-Dichloropropane	50.95	2.00	50	0	102	70	130	40.65	22.5	20	R
2-Butanone	41.61	10.0	50	0	83.2	70	130	34.88	17.6	20	
2-Chlorotoluene	58.64	2.00	50	0	117	70	130	62.93	7.06	20	
2-Hexanone	54.68	10.0	50	0	109	70	130	54.62	0.110	20	
2-Methoxy-2-Methylbutane (TAME)	ND	2.00	50	0	0	70	130	0	0	20	S
4-Chlorotoluene	61.90	2.00	50	0	124	70	130	60.05	3.03	20	
4-Isopropyltoluene	74.84	2.00	50	0	150	70	130	68.95	8.19	20	S
4-Methyl-2-Pentanone	54.33	5.00	50	0	109	70	130	53.36	1.80	20	
Acetone	38.87	10.0	50	0	77.7	70	130	40.39	3.84	20	
Benzene	60.31	2.00	50	0	121	70	130	60.75	0.727	20	
Bromobenzene	58.82	2.00	50	0	118	70	130	57.29	2.64	20	
Bromochloromethane	44.50	2.00	50	0	89.0	70	130	34.02	26.7	20	R
Bromodichloromethane	60.55	2.00	50	0	121	70	130	57.03	5.99	20	

Qualifiers: BRL Below Reporting Limit  
 J Analyte detected below quantitation limits  
 RL Reporting Limit  
 E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 S Spike Recovery outside recovery limits  
 H Holding times for preparation or analysis exceeded  
 R RPD outside recovery limits

GeoLabs, Inc.  
 45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Kurz Environmental  
 Work Order: 1406272  
 Project: B&M

TestCode: 8260B\_W MCP

Sample ID: LCSD	SampType: LCSD	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 55113						
Client ID: ZZZZ	Batch ID: R55113	TestNo: SW8260B		Analysis Date: 6/30/2014	SeqNo: 616726						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromoform	55.78	2.00	50	0	112	70	130	54.47	2.38	20	
Bromomethane	56.99	2.00	50	0	114	70	130	49.52	14.0	20	
Carbon Disulfide	53.98	2.00	50	0	108	70	130	48.03	11.7	20	
Carbon Tetrachloride	60.25	2.00	50	0	120	70	130	52.05	14.6	20	
Chlorobenzene	61.80	2.00	50	0	124	70	130	58.53	5.44	20	
Chloroethane	60.91	2.00	50	0	122	70	130	57.89	5.08	20	
Chloroform	43.23	2.00	50	0	86.5	70	130	38.13	12.5	20	
Chloromethane	67.85	2.00	50	0	136	70	130	61.66	9.56	20	S
cis-1,2-Dichloroethene	41.99	2.00	50	0	84.0	70	130	37.12	12.3	20	
cis-1,3-Dichloropropene	67.71	0.170	50	0	135	70	130	61.02	10.4	20	S
Dibromochloromethane	54.92	2.00	50	0	110	70	130	54.54	0.694	20	
Dibromomethane	60.38	2.00	50	0	121	70	130	55.08	9.18	20	
Dichlorodifluoromethane	80.31	2.00	50	0	161	70	130	41.78	63.1	20	SR
Diethyl Ether	ND	2.00	50	0	0	70	130	0	0	20	S
Diisopropyl Ether	38.76	2.00	50	0	77.5	70	130	37.28	3.89	20	
Ethylbenzene	64.10	2.00	50	0	128	70	130	60.8	5.28	20	
Ethyl-t-Butyl Ether	42.72	2.00	50	0	85.4	70	130	35.65	18.0	20	
Hexachlorobutadiene	58.08	2.00	50	0	116	70	130	53.88	7.50	20	
Isopropylbenzene	72.12	2.00	50	0	144	70	130	71.84	0.389	20	S
Methyl Tert-Butyl Ether	43.05	2.00	50	0	86.1	70	130	42.08	2.28	20	
Methylene Chloride	40.75	2.00	50	0	81.5	70	130	37.8	7.51	20	
Naphthalene	49.32	2.00	50	0	98.6	70	130	44.54	10.2	20	
n-Butylbenzene	71.66	2.00	50	0	143	70	130	67.82	5.51	20	S
n-Propylbenzene	64.64	2.00	50	0	129	70	130	66.64	3.05	20	
sec-Butylbenzene	77.33	2.00	50	0	155	70	130	72.56	6.36	20	S
Styrene	62.28	2.00	50	0	125	70	130	59.62	4.36	20	
t-Butyl Alcohol	452.7	20.0	500	0	90.5	70	130	371.6	19.7	20	
tert-Butylbenzene	63.31	2.00	50	0	127	70	130	61.63	2.69	20	

Qualifiers: BRL Below Reporting Limit E Value above quantitation range H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits ND Not Detected at the Reporting Limit R RPD outside recovery limits  
 RL Reporting Limit S Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Kurz Environmental  
 Work Order: 1406272  
 Project: B&M

TestCode: 8260B\_W MCP

Sample ID: LCSD	SampType: LCSD	TestCode: 8260B_W MC	Units: µg/L	Prep Date:	RunNo: 55113						
Client ID: ZZZZZ	Batch ID: R55113	TestNo: SW8260B		Analysis Date: 6/30/2014	SeqNo: 616726						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	63.11	2.00	50	0	126	70	130	63.12	0.0158	20	
Tetrahydrofuran	39.48	2.00	50	0	79.0	70	130	33.55	16.2	20	
Toluene	62.56	2.00	50	0	125	70	130	61.31	2.02	20	
trans-1,2-Dichloroethene	42.09	2.00	50	0	84.2	70	130	37.09	12.6	20	
trans-1,3-Dichloropropene	64.91	0.270	50	0	130	70	130	63.96	1.47	20	
Trichloroethene	60.72	2.00	50	0	121	70	130	55.03	9.83	20	
Trichlorofluoromethane	76.83	2.00	50	0	154	70	130	69.57	9.92	20	
Vinyl Chloride	48.80	2.00	50	0	97.6	70	130	48.79	0.0205	20	S
Xylenes, Total	187.3	2.00	150	0	125	70	130	179.6	4.19	20	
Surr: 1,2-Dichloroethane-d4	28.22	0	30	0	94.1	70	130	0	0	0	
Surr: 4-Bromofluorobenzene	31.36	0	30	0	105	70	130	0	0	0	
Surr: Dibromofluoromethane	30.07	0	30	0	100	70	130	0	0	0	
Surr: Toluene-d8	26.35	0	30	0	87.8	70	130	0	0	0	

Qualifiers: BRL Below Reporting Limit  
 J Analyte detected below quantitation limits  
 RL Reporting Limit  
 E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 S Spike Recovery outside recovery limits  
 H Holding times for preparation or analysis exceeded  
 R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Kurz Environmental  
 Work Order: 1406272  
 Project: B&M

TestCode: EPHP\_W

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	1.00									
2-Methylnaphthalene	ND	1.00									
Acenaphthene	ND	1.00									
Phenanthrene	ND	1.00									
Acenaphthylene	ND	1.00									
Fluorene	ND	1.00									
Anthracene	ND	1.00									
Fluoranthene	ND	1.00									
Pyrene	ND	1.00									
Benzo(a)Anthracene	ND	0.400									
Chrysene	ND	1.00									
Benzo(b)Fluoranthene	ND	0.200									
Benzo(k)Fluoranthene	ND	0.200									
Benzo(a)Pyrene	ND	0.190									
Indeno(1,2,3-cd)Pyrene	ND	0.400									
Dibenz(a,h)Anthracene	ND	0.400									
Benzo(g,h,i)Perylene	ND	1.00									
Total PAH Target Concentration	ND	0.200									
Surr: 2,2-Difluorobiphenyl	14.88	0	25	0	59.5	40	140				
Surr: 2-Fluorobiphenyl	14.51	0	25	0	58.0	40	140				

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	17.74	1.00	50	0	35.5	40	140				S
2-Methylnaphthalene	20.76	1.00	50	0	41.5	40	140				

Qualifiers: BRL Below Reporting Limit E Value above quantitation range H Holding times for preparation or analysis exceeded  
 J Analyte detected below quantitation limits ND Not Detected at the Reporting Limit R RPD outside recovery limits  
 RL Reporting Limit S Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811



CLIENT: Kurz Environmental  
 Work Order: 1406272  
 Project: B&M

TestCode: EPHP\_W

Sample ID: ICS-24332	SampType: ICS	TestCode: EPHP_W	Units: µg/L	Prep Date: 6/30/2014	RunNo: 55125						
Client ID: ZZZZ	Batch ID: 24332	TestNo: MADEP EPH_ (eph_Wpr)		Analysis Date: 7/1/2014	SeqNo: 616966						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	22.49	1.00	50	0	45.0	40	140				
Phenanthrene	28.13	1.00	50	0	56.3	40	140				
Acenaphthylene	22.46	1.00	50	0	44.9	40	140				
Fluorene	25.84	1.00	50	0	51.7	40	140				
Anthracene	28.27	1.00	50	0	56.5	40	140				
Fluoranthene	31.82	1.00	50	0	63.6	40	140				
Pyrene	30.00	1.00	50	0	60.0	40	140				
Benzo(a)Anthracene	32.50	0.400	50	0	65.0	40	140				
Chrysene	32.76	1.00	50	0	65.5	40	140				
Benzo(b)Fluoranthene	43.80	0.200	50	0	87.6	40	140				
Benzo(k)Fluoranthene	43.60	0.200	50	0	87.2	40	140				
Benzo(a)Pyrene	42.22	0.190	50	0	84.4	40	140				
Indeno(1,2,3-cd)Pyrene	46.31	0.400	50	0	92.6	40	140				
Dibenz(a,h)Anthracene	45.25	0.400	50	0	90.5	40	140				
Benzo(g,h,i)Perylene	48.78	1.00	50	0	97.6	40	140				
Surr: 2,2-Difluorobiphenyl	18.61	0	25	0	74.4	40	140				
Surr: 2-Fluorobiphenyl	14.75	0	25	0	59.0	40	140				

Sample ID: LCS2-24332	SampType: LCSD	TestCode: EPHP_W	Units: µg/L	Prep Date: 6/30/2014	RunNo: 55125						
Client ID: ZZZZ	Batch ID: 24332	TestNo: MADEP EPH_ (eph_Wpr)		Analysis Date: 7/1/2014	SeqNo: 616799						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	18.84	1.00	50	0	37.7	40	140	17.74	6.01	25	S
2-Methylnaphthalene	20.29	1.00	50	0	40.6	40	140	20.76	2.29	25	
Acenaphthene	23.99	1.00	50	0	48.0	40	140	22.49	6.45	25	
Phenanthrene	27.87	1.00	50	0	55.7	40	140	28.13	0.929	25	
Acenaphthylene	23.10	1.00	50	0	46.2	40	140	22.46	2.81	25	

Qualifiers: BRL Below Reporting Limit  
 J Analyte detected below quantitation limits  
 RL Reporting Limit  
 E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 S Spike Recovery outside recovery limits  
 H Holding times for preparation or analysis exceeded  
 R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Kurz Environmental  
 Work Order: 1406272  
 Project: B&M

TestCode: EPHP\_W

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluorene	27.15	1.00	50	0	54.3	40	140	25.84	4.94	25	
Anthracene	27.95	1.00	50	0	55.9	40	140	28.27	1.14	25	
Fluoranthene	32.00	1.00	50	0	64.0	40	140	31.82	0.564	25	
Pyrene	29.97	1.00	50	0	59.9	40	140	30	0.100	25	
Benzo(a)Anthracene	32.45	0.400	50	0	64.9	40	140	32.5	0.154	25	
Chrysene	33.10	1.00	50	0	66.2	40	140	32.76	1.03	25	
Benzo(b)Fluoranthene	44.13	0.200	50	0	88.3	40	140	43.8	0.751	25	
Benzo(k)Fluoranthene	44.66	0.200	50	0	89.3	40	140	43.6	2.40	25	
Benzo(a)Pyrene	44.63	0.190	50	0	89.3	40	140	42.22	5.55	25	
Indeno(1,2,3-cd)Pyrene	49.26	0.400	50	0	98.5	40	140	46.31	6.17	25	
Dibenz(a,h)Anthracene	47.66	0.400	50	0	95.3	40	140	45.25	5.19	25	
Benzo(g,h,i)Perylene	54.90	1.00	50	0	110	40	140	48.78	11.8	25	
Surr: 2,2-Difluorobiphenyl	18.88	0	25	0	75.5	40	140	0	0	0	
Surr: 2-Fluorobiphenyl	15.31	0	25	0	61.2	40	140	0	0	0	

Qualifiers: BRL Below Reporting Limit  
 J Analyte detected below quantitation limits  
 RL Reporting Limit  
 E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 S Spike Recovery outside recovery limits  
 H Holding times for preparation or analysis exceeded  
 R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

CLIENT: Kurz Environmental  
 Work Order: 1406272  
 Project: B&M

TestCode: epht\_w

Sample ID: MB-24332	SampType: mblk	TestCode: epht_w	Units: µg/L	Prep Date: 6/30/2014	RunNo: 55110						
Client ID: ZZZZZ	Batch ID: 24332	TestNo: MADEP EPH (eph_Wpr)		Analysis Date: 6/30/2014	SeqNo: 616679						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Adjusted C11-C22 Aromatics	ND	100									
C09-C18 Aliphatics	ND	100									
C19-C36 Aliphatics	ND	100									
Unadjusted C11-C22 Aromatics	ND	100									
Surr: 1-Chlorooctadecane	72.39	0	100	0	72.4	40	140				
Surr: o-Terphenyl	82.71	0	100	0	82.7	40	140				

Sample ID: LCS-24332	SampType: Lcs	TestCode: epht_w	Units: µg/L	Prep Date: 6/30/2014	RunNo: 55110						
Client ID: ZZZZZ	Batch ID: 24332	TestNo: MADEP EPH (eph_Wpr)		Analysis Date: 6/30/2014	SeqNo: 616680						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
C09-C18 Aliphatics	ND	100	100	0	56.7	40	140				
C19-C36 Aliphatics	ND	100	100	0	80.9	40	140				
Unadjusted C11-C22 Aromatics	ND	100	100	0	74.5	40	140				
Surr: 1-Chlorooctadecane	86.00	0	100	0	86.0	40	140				
Surr: o-Terphenyl	98.82	0	100	0	98.8	40	140				

Sample ID: LCS2-24332	SampType: Lcsd	TestCode: epht_w	Units: µg/L	Prep Date: 6/30/2014	RunNo: 55110						
Client ID: ZZZZZ	Batch ID: 24332	TestNo: MADEP EPH (eph_Wpr)		Analysis Date: 6/30/2014	SeqNo: 616681						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
C09-C18 Aliphatics	ND	100	100	0	57.7	40	140	56.73	0	25	
C19-C36 Aliphatics	ND	100	100	0	89.5	40	140	80.91	0	25	
Unadjusted C11-C22 Aromatics	ND	100	100	0	76.9	40	140	74.46	0	25	
Surr: 1-Chlorooctadecane	90.54	0	100	0	90.5	40	140	0	0	0	
Surr: o-Terphenyl	100.0	0	100	0	100	40	140	0	0	0	

Qualifiers: BRL Below Reporting Limit  
 J Analyte detected below quantitation limits  
 RL Reporting Limit  
 E Value above quantitation range  
 ND Not Detected at the Reporting Limit  
 S Spike Recovery outside recovery limits  
 H Holding times for preparation or analysis exceeded  
 R RPD outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**CHAIN OF CUSTODY RECORD**

GeoLabs, Inc. Environmental Laboratories  
 45 Johnson Lane, Braintree, MA 02184  
 p 781.848.7844 • f 781.848.7811  
 www.geolabs.com

Sample Handling: circle choice  
 Filtration Done  
 Not Needed  
 Lab to do  
 Preservation Lab to do Y/N

1406010  
 Special Instructions

PAGE 1 OF 1

Turnaround: circle one  
 1-day  
 2-day  
 3-day  
 5/7-days

Data Delivery: circle choice (s)  
 Fax  
 Format: email  
 Excel PDF

Requirements: circle choice (s)  
 MCP Methods  
 DEP  
 Other

CT RCP (Reasonable Confidence Protocols)  
 State / Fed Program - Criteria

Client: Qua  
 Address:  
 Contact: Mark Germano

Phone:  
 Fax:  
 email:

Project: 351M  
 Project PO:  
 Invoice to \*: client

COLLECTION			SAMPLE LOCATION / ID	CONTAINER				GeoLabs SAMPLE NUMBER	Analysis Requested			Lab Use Only	
DATE	TIME	SAMPLED		TYPE	QUANTITY	MATRIX	COMP		GRAB	UVC	Metals	PH targets	TEMPERATURE
6/26		MAO	EW-1	V	1	GW	X	6272-001	X				
6/26		MAO	MW-3	V	2	GW	X		X				
			MW-3	P	1	GW	X	-002		X			
			MW-3	A	1	GW	X			X			

Matrix Codes:  
 GW = Ground Water DW = Drinking Water S = Soil A = Air  
 WW = Waste Water SL = Sludge O = Oil OT = Other

Received on Ice

Preservatives  
 1 = HCl 3 = H2SO4 5 = NaOH 7 = Other  
 2 = HNO3 4 = Na2S2O3 6 = MeOH

Containers:  
 A = Amber B = Bag O = Other  
 G = Glass P = Plastic  
 S = Summa V = Voa

Relinquished by: [Signature] Date / Time 6/27/14

Received by: [Signature] Date / Time 6/27/14 1235

Page 28 of 28

**ANALYTICAL REPORT**



Monday, April 13, 2015

Peter Cook  
IC Environmental Management, Inc.  
25 Tia Place  
Franklin, MA 02038

GeoLabs, Inc.  
45 Johnson Lane  
Braintree MA 02184  
Tele: 781 848 7844  
Fax: 781 848 7811

TEL: 508-498-8236  
FAX: 508-541-7443

Project:  
Location: 17 Lawrence St, Norfolk MA

Order No.: 1504030

Dear Peter Cook:

GeoLabs, Inc. received 6 sample(s) on 4/3/2015 for the analyses presented in the following report.

The laboratory results in this report relate only to samples submitted.

All data for associated QC met method or laboratory specifications, except when noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "DM", is written over the word "Sincerely,".

David Mick  
Laboratory Director

For current certifications, please visit our website at [www.geolabs.com](http://www.geolabs.com)

**Certifications:**

CT (PH-0148) - MA (M-MA015) - NH (2508) - RI (LA000252)

Date: 13-Apr-15

CLIENT: IC Environmental Management, Inc.  
Project:  
Lab Order: 1504030

**CASE NARRATIVE**

Physical Condition of Samples

The project was received by the laboratory in satisfactory condition. The sample(s) were received undamaged, in appropriate containers with the correct preservation.

Project Documentation

The project was accompanied by satisfactory Chain of Custody documentation. Total metals cancelled per client request 04/06/15.

Analysis of Sample(s)

All extractable samples were extracted and analyzed and any Volatile samples were analyzed within method specified holding times and according to GeoLabs documented Standard Operating Procedure. No analytical anomalies or non-conformances were noted by the laboratory during the processing of these samples.

SIGNATURE:



LAB DIRECTOR

PRINTED NAME: David Mick

DATE: 04/13/15

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**ANALYTICAL REPORT**

**Reported Date:** 13-Apr-15

**CLIENT:** IC Environmental Management, Inc.  
**Lab Order:** 1504030  
**Project:**  
**Lab ID:** 1504030-001

**Client Sample ID:** MW-1DX  
**Collection Date:** 4/2/2015 9:40:00 AM  
**Date Received:** 4/3/2015  
**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**DISSOLVED METALS BY ICP - SW6010C**

**Analyst:** ZYZ

**Prep Method:** (SW3005A)      **Prep Date:** 4/8/2015 10:52:39 AM

Antimony	ND	0.00600		mg/L	1	4/8/2015
Arsenic	0.0690	0.0133		mg/L	1	4/8/2015
Barium	ND	0.0500		mg/L	1	4/8/2015
Beryllium	ND	0.00100		mg/L	1	4/8/2015
Cadmium	ND	0.00400		mg/L	1	4/8/2015
Chromium	ND	0.0700		mg/L	1	4/8/2015
Lead	ND	0.0100		mg/L	1	4/8/2015
Nickel	ND	0.100		mg/L	1	4/8/2015
Selenium	ND	0.0500		mg/L	1	4/8/2015
Thallium	ND	0.0100		mg/L	1	4/8/2015
Vanadium	ND	0.0300		mg/L	1	4/8/2015
Zinc	ND	0.180		mg/L	1	4/8/2015

**DISSOLVED SILVER - E200.7**

**Analyst:** ZYZ

**Prep Method:** (SW3005A)      **Prep Date:** 4/8/2015 10:52:39 AM

Silver-Dissolved	ND	0.00700		mg/L	1	4/8/2015
------------------	----	---------	--	------	---	----------

**DISSOLVED MERCURY - 7470A**

**Analyst:** EC

**Prep Method:** (SW7470A/E245.1)      **Prep Date:** 4/7/2015 4:39:58 PM

Mercury	ND	0.000200		mg/L	1	4/7/2015
---------	----	----------	--	------	---	----------

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 13-Apr-15

CLIENT: IC Environmental Management, Inc.  
 Lab Order: 1504030  
 Project:  
 Lab ID: 1504030-002

Client Sample ID: EW-2  
 Collection Date: 4/2/2015 10:45:00 AM  
 Date Received: 4/3/2015  
 Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

## DISSOLVED METALS BY ICP - SW6010C

Analyst: ZYZ

Prep Method: (SW3005A)

Prep Date: 4/8/2015 10:52:39 AM

Antimony	ND	0.00600		mg/L	1	4/8/2015
Arsenic	0.0220	0.0133		mg/L	1	4/8/2015
Barium	ND	0.0500		mg/L	1	4/8/2015
Beryllium	ND	0.00100		mg/L	1	4/8/2015
Cadmium	ND	0.00400		mg/L	1	4/8/2015
Chromium	ND	0.0700		mg/L	1	4/8/2015
Lead	ND	0.0100		mg/L	1	4/8/2015
Nickel	ND	0.100		mg/L	1	4/8/2015
Selenium	ND	0.0500		mg/L	1	4/8/2015
Thallium	ND	0.0100		mg/L	1	4/8/2015
Vanadium	ND	0.0300		mg/L	1	4/8/2015
Zinc	ND	0.180		mg/L	1	4/8/2015

## DISSOLVED SILVER - E200.7

Analyst: ZYZ

Prep Method: (SW3005A)

Prep Date: 4/8/2015 10:52:39 AM

Silver-Dissolved	ND	0.00700		mg/L	1	4/8/2015
------------------	----	---------	--	------	---	----------

## DISSOLVED MERCURY - 7470A

Analyst: EC

Prep Method: (SW7470A/E245.1)

Prep Date: 4/7/2015 4:39:58 PM

Mercury	ND	0.000200		mg/L	1	4/7/2015
---------	----	----------	--	------	---	----------

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811



## ANALYTICAL REPORT

Reported Date: 13-Apr-15

CLIENT: IC Environmental Management, Inc.  
 Lab Order: 1504030  
 Project:  
 Lab ID: 1504030-003

Client Sample ID: MW-3  
 Collection Date: 4/2/2015 11:15:00 AM  
 Date Received: 4/3/2015  
 Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

## DISSOLVED METALS BY ICP - SW6010C

Analyst: ZYZ

Prep Method: (SW3005A)

Prep Date: 4/8/2015 10:52:39 AM

Antimony	ND	0.00600		mg/L	1	4/8/2015
Arsenic	0.0200	0.0133		mg/L	1	4/8/2015
Barium	ND	0.0500		mg/L	1	4/8/2015
Beryllium	ND	0.00100		mg/L	1	4/8/2015
Cadmium	ND	0.00400		mg/L	1	4/8/2015
Chromium	ND	0.0700		mg/L	1	4/8/2015
Lead	ND	0.0100		mg/L	1	4/8/2015
Nickel	ND	0.100		mg/L	1	4/8/2015
Selenium	ND	0.0500		mg/L	1	4/8/2015
Thallium	ND	0.0100		mg/L	1	4/8/2015
Vanadium	ND	0.0300		mg/L	1	4/8/2015
Zinc	ND	0.180		mg/L	1	4/8/2015

## DISSOLVED SILVER - E200.7

Analyst: ZYZ

Prep Method: (SW3005A)

Prep Date: 4/8/2015 10:52:39 AM

Silver-Dissolved	ND	0.00700		mg/L	1	4/8/2015
------------------	----	---------	--	------	---	----------

## DISSOLVED MERCURY - 7470A

Analyst: EC

Prep Method: (SW7470A/E245.1)

Prep Date: 4/7/2015 4:39:58 PM

Mercury	ND	0.000200		mg/L	1	4/7/2015
---------	----	----------	--	------	---	----------

## VOLATILE ORGANIC COMPOUNDS - SW8260B

Analyst: Admir

Prep Method:

Prep Date:

1,1,1,2-Tetrachloroethane	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
1,1,1-Trichloroethane	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
1,1,2,2-Tetrachloroethane	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
1,1,2-Trichloroethane	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
1,1-Dichloroethane	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
1,1-Dichloroethene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
1,1-Dichloropropene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
1,2,3-Trichlorobenzene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 13-Apr-15

CLIENT: IC Environmental Management, Inc.  
 Lab Order: 1504030  
 Project:  
 Lab ID: 1504030-003

Client Sample ID: MW-3  
 Collection Date: 4/2/2015 11:15:00 AM  
 Date Received: 4/3/2015  
 Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

## VOLATILE ORGANIC COMPOUNDS - SW8260B

Analyst: Admir

Prep Method:	Prep Date:					
1,2,3-Trichloropropane	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
1,2,4-Trimethylbenzene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
1,2-Dibromo-3-Chloropropane	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
1,2-Dibromoethane	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
1,2-Dichlorobenzene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
1,2-Dichloroethane	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
1,2-Dichloropropane	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
1,3,5-Trimethylbenzene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
1,3-Dichlorobenzene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
1,3-Dichloropropane	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
1,4-Dichlorobenzene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
1,4-Dioxane	ND	500		µg/L	1	4/9/2015 3:08:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
2-Butanone	ND	10.0		µg/L	1	4/9/2015 3:08:00 PM
2-Chlorotoluene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
2-Hexanone	ND	10.0		µg/L	1	4/9/2015 3:08:00 PM
2-Methoxy-2-Methylbutane (TAME)	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
4-Chlorotoluene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
4-Isopropyltoluene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
4-Methyl-2-Pentanone	ND	5.00		µg/L	1	4/9/2015 3:08:00 PM
Acetone	ND	10.0		µg/L	1	4/9/2015 3:08:00 PM
Benzene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Bromobenzene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Bromochloromethane	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Bromodichloromethane	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Bromoform	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Bromomethane	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Carbon Disulfide	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Carbon Tetrachloride	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Chlorobenzene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Chloroethane	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Chloroform	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Chloromethane	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
cis-1,2-Dichloroethene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
cis-1,3-Dichloropropene	ND	0.170		µg/L	1	4/9/2015 3:08:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 13-Apr-15

<b>CLIENT:</b>	IC Environmental Management, Inc.	<b>Client Sample ID:</b>	MW-3
<b>Lab Order:</b>	1504030	<b>Collection Date:</b>	4/2/2015 11:15:00 AM
<b>Project:</b>		<b>Date Received:</b>	4/3/2015
<b>Lab ID:</b>	1504030-003	<b>Matrix:</b>	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

## VOLATILE ORGANIC COMPOUNDS - SW8260B

Analyst: Admin

Prep Method:	Prep Date:					
Dibromochloromethane	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Dibromomethane	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Dichlorodifluoromethane	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Diethyl Ether	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Diisopropyl Ether	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Ethylbenzene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Ethyl-t-Butyl Ether	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Hexachlorobutadiene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Isopropylbenzene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Methyl Tert-Butyl Ether	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Methylene Chloride	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Naphthalene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
n-Butylbenzene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
n-Propylbenzene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
sec-Butylbenzene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Styrene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
t-Butyl Alcohol	ND	20.0		µg/L	1	4/9/2015 3:08:00 PM
tert-Butylbenzene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Tetrachloroethene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Tetrahydrofuran	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Toluene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
trans-1,2-Dichloroethene	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
trans-1,3-Dichloropropene	ND	0.270		µg/L	1	4/9/2015 3:08:00 PM
Trichloroethene	3.02	2.00		µg/L	1	4/9/2015 3:08:00 PM
Trichlorofluoromethane	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Vinyl Chloride	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM
Xylenes, Total	ND	2.00		µg/L	1	4/9/2015 3:08:00 PM

<b>Qualifiers:</b>	<b>B</b> Analyte detected in the associated Method Blank	<b>BRL</b> Below Reporting Limit
	<b>E</b> Value above quantitation range	<b>H</b> Holding times for preparation or analysis exceeded
	<b>J</b> Analyte detected below quantitation limits	<b>ND</b> Not Detected at the Reporting Limit
	<b>RL</b> Reporting Limit	<b>S</b> Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**ANALYTICAL REPORT**

**Reported Date: 13-Apr-15**

**CLIENT:** IC Environmental Management, Inc.  
**Lab Order:** 1504030  
**Project:**  
**Lab ID:** 1504030-004

**Client Sample ID:** EW-1  
**Collection Date:** 4/2/2015 12:00:00 PM  
**Date Received:** 4/3/2015  
**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**DISSOLVED METALS BY ICP - SW6010C**

Analyst: ZYZ

Prep Method: (SW3005A) Prep Date: 4/8/2015 10:52:39 AM

Antimony	ND	0.00600		mg/L	1	4/8/2015
Arsenic	ND	0.0133		mg/L	1	4/8/2015
Barium	ND	0.0500		mg/L	1	4/8/2015
Beryllium	ND	0.00100		mg/L	1	4/8/2015
Cadmium	ND	0.00400		mg/L	1	4/8/2015
Chromium	ND	0.0700		mg/L	1	4/8/2015
Lead	ND	0.0100		mg/L	1	4/8/2015
Nickel	ND	0.100		mg/L	1	4/8/2015
Selenium	ND	0.0500		mg/L	1	4/8/2015
Thallium	ND	0.0100		mg/L	1	4/8/2015
Vanadium	ND	0.0300		mg/L	1	4/8/2015
Zinc	0.312	0.180		mg/L	1	4/8/2015

**DISSOLVED SILVER - E200.7**

Analyst: ZYZ

Prep Method: (SW3005A) Prep Date: 4/8/2015 10:52:39 AM

Silver-Dissolved	ND	0.00700		mg/L	1	4/8/2015
------------------	----	---------	--	------	---	----------

**DISSOLVED MERCURY - 7470A**

Analyst: EC

Prep Method: (SW7470A/E245.1) Prep Date: 4/7/2015 4:39:58 PM

Mercury	ND	0.000200		mg/L	1	4/7/2015
---------	----	----------	--	------	---	----------

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**ANALYTICAL REPORT**

**Reported Date: 13-Apr-15**

**CLIENT:** IC Environmental Management, Inc.  
**Lab Order:** 1504030  
**Project:**  
**Lab ID:** 1504030-005

**Client Sample ID:** MW-6  
**Collection Date:** 4/2/2015 12:40:00 PM  
**Date Received:** 4/3/2015  
**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**DISSOLVED METALS BY ICP - SW6010C**

Analyst: ZYZ

**Prep Method:** (SW3005A)      **Prep Date:** 4/8/2015 10:52:39 AM

Antimony	ND	0.00600		mg/L	1	4/8/2015
Arsenic	0.0320	0.0133		mg/L	1	4/8/2015
Barium	ND	0.0500		mg/L	1	4/8/2015
Beryllium	ND	0.00100		mg/L	1	4/8/2015
Cadmium	ND	0.00400		mg/L	1	4/8/2015
Chromium	ND	0.0700		mg/L	1	4/8/2015
Lead	ND	0.0100		mg/L	1	4/8/2015
Nickel	ND	0.100		mg/L	1	4/8/2015
Selenium	ND	0.0500		mg/L	1	4/8/2015
Thallium	ND	0.0100		mg/L	1	4/8/2015
Vanadium	ND	0.0300		mg/L	1	4/8/2015
Zinc	ND	0.180		mg/L	1	4/8/2015

**DISSOLVED SILVER - E200.7**

Analyst: ZYZ

**Prep Method:** (SW3005A)      **Prep Date:** 4/8/2015 10:52:39 AM

Silver-Dissolved	ND	0.00700		mg/L	1	4/8/2015
------------------	----	---------	--	------	---	----------

**DISSOLVED MERCURY - 7470A**

Analyst: EC

**Prep Method:** (SW7470A/E245.1)      **Prep Date:** 4/7/2015 4:39:58 PM

Mercury	ND	0.000200		mg/L	1	4/7/2015
---------	----	----------	--	------	---	----------

**VOLATILE ORGANIC COMPOUNDS - SW8260B**

Analyst: Admir

**Prep Method:**      **Prep Date:**

1,1,1,2-Tetrachloroethane	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
1,1,1-Trichloroethane	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
1,1,2,2-Tetrachloroethane	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
1,1,2-Trichloroethane	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
1,1-Dichloroethane	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
1,1-Dichloroethene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
1,1-Dichloropropene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
1,2,3-Trichlorobenzene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**ANALYTICAL REPORT**

**Reported Date: 13-Apr-15**

**CLIENT:** IC Environmental Management, Inc.  
**Lab Order:** 1504030  
**Project:**  
**Lab ID:** 1504030-005

**Client Sample ID:** MW-6  
**Collection Date:** 4/2/2015 12:40:00 PM  
**Date Received:** 4/3/2015  
**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**VOLATILE ORGANIC COMPOUNDS - SW8260B** Analyst: Admir

Prep Method:	Prep Date:					
1,2,3-Trichloropropane	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
1,2,4-Trimethylbenzene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
1,2-Dibromo-3-Chloropropane	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
1,2-Dibromoethane	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
1,2-Dichlorobenzene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
1,2-Dichloroethane	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
1,2-Dichloropropane	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
1,3,5-Trimethylbenzene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
1,3-Dichlorobenzene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
1,3-Dichloropropane	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
1,4-Dichlorobenzene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
1,4-Dioxane	ND	500		µg/L	1	4/9/2015 3:41:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
2-Butanone	ND	10.0		µg/L	1	4/9/2015 3:41:00 PM
2-Chlorotoluene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
2-Hexanone	ND	10.0		µg/L	1	4/9/2015 3:41:00 PM
2-Methoxy-2-Methylbutane (TAME)	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
4-Chlorotoluene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
4-Isopropyltoluene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
4-Methyl-2-Pentanone	ND	5.00		µg/L	1	4/9/2015 3:41:00 PM
Acetone	ND	10.0		µg/L	1	4/9/2015 3:41:00 PM
Benzene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Bromobenzene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Bromochloromethane	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Bromodichloromethane	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Bromoform	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Bromomethane	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Carbon Disulfide	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Carbon Tetrachloride	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Chlorobenzene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Chloroethane	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Chloroform	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Chloromethane	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
cis-1,2-Dichloroethene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
cis-1,3-Dichloropropene	ND	0.170		µg/L	1	4/9/2015 3:41:00 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

**ANALYTICAL REPORT**

**Reported Date: 13-Apr-15**

**CLIENT:** IC Environmental Management, Inc.  
**Lab Order:** 1504030  
**Project:**  
**Lab ID:** 1504030-005

**Client Sample ID:** MW-6  
**Collection Date:** 4/2/2015 12:40:00 PM  
**Date Received:** 4/3/2015  
**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

**VOLATILE ORGANIC COMPOUNDS - SW8260B** Analyst: Admir

Prep Method:	Prep Date:					
Dibromochloromethane	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Dibromomethane	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Dichlorodifluoromethane	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Diethyl Ether	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Diisopropyl Ether	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Ethylbenzene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Ethyl-t-Butyl Ether	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Hexachlorobutadiene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Isopropylbenzene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Methyl Tert-Butyl Ether	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Methylene Chloride	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Naphthalene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
n-Butylbenzene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
n-Propylbenzene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
sec-Butylbenzene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Styrene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
t-Butyl Alcohol	ND	20.0		µg/L	1	4/9/2015 3:41:00 PM
tert-Butylbenzene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Tetrachloroethene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Tetrahydrofuran	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Toluene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
trans-1,2-Dichloroethene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
trans-1,3-Dichloropropene	ND	0.270		µg/L	1	4/9/2015 3:41:00 PM
Trichloroethene	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Trichlorofluoromethane	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Vinyl Chloride	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM
Xylenes, Total	ND	2.00		µg/L	1	4/9/2015 3:41:00 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

## ANALYTICAL REPORT

Reported Date: 13-Apr-15

CLIENT: IC Environmental Management, Inc.  
 Lab Order: 1504030  
 Project:  
 Lab ID: 1504030-006

Client Sample ID: MW-5  
 Collection Date: 4/2/2015 1:15:00 PM  
 Date Received: 4/3/2015  
 Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

## DISSOLVED METALS BY ICP - SW6010C

Analyst: ZYZ

Prep Method: (SW3005A)

Prep Date: 4/8/2015 10:52:39 AM

Antimony	ND	0.00600		mg/L	1	4/8/2015
Arsenic	0.0360	0.0133		mg/L	1	4/8/2015
Barium	ND	0.0500		mg/L	1	4/8/2015
Beryllium	ND	0.00100		mg/L	1	4/8/2015
Cadmium	ND	0.00400		mg/L	1	4/8/2015
Chromium	ND	0.0700		mg/L	1	4/8/2015
Lead	ND	0.0100		mg/L	1	4/8/2015
Nickel	ND	0.100		mg/L	1	4/8/2015
Selenium	ND	0.0500		mg/L	1	4/8/2015
Thallium	ND	0.0100		mg/L	1	4/8/2015
Vanadium	ND	0.0300		mg/L	1	4/8/2015
Zinc	ND	0.180		mg/L	1	4/8/2015

## DISSOLVED SILVER - E200.7

Analyst: ZYZ

Prep Method: (SW3005A)

Prep Date: 4/8/2015 10:52:39 AM

Silver-Dissolved	ND	0.00700		mg/L	1	4/8/2015
------------------	----	---------	--	------	---	----------

## DISSOLVED MERCURY - 7470A

Analyst: EC

Prep Method: (SW7470A/E245.1)

Prep Date: 4/7/2015 4:39:58 PM

Mercury	ND	0.000200		mg/L	1	4/7/2015
---------	----	----------	--	------	---	----------

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811



1504030

<b>GeoLabs, Inc.</b> Environmental Laboratories 45 Johnson Lane Braintree, MA 02184 Office: 781-848-7844 Fax: 781-848-7811	<b>Turnaround Time</b> RUSH: 24hrs <input type="checkbox"/> 48hrs <input type="checkbox"/> 72hrs <input type="checkbox"/>	STANDARD: 5 Days <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Approved By: _____	Page <u>1</u> of <u>1</u>
	<b>SPECIAL INSTRUCTIONS</b>  Please Filter Dissolved Metals  <i>Cancel T. Metals per DSR 4/6/15</i>		

Client: IC Environmental Address: 25 Tia Pl. Franklin, MA Phone: _____ Fax: _____ Contact: Peter F. Cook E-mail: _____	Project Number: _____ Project Location: 17 Lawrence Street Norfolk, MA Purchase Order #: _____ Collected By: R. Berger
--	--

SAMPLE ID	COLLECTION			SAMPLE LOCATION	CONTAINER		M A T R I X	C O M P	G R A B	P R E S	G E O L A B S S A M P L E N U M B E R	Disslv. Metals 14	T. Metals 14	VOC's 2260C	TEMPERATURE	L A B P H
	D A T E	T I M E	S A M P L E D		T Y P E	Q U A N T										
MW-1DX	4.2.15	9:40	RB	Well MW-1DX	P	2	GW		X	27	4030-001	X	X			7/5
EW-2	4.2.15	10:45	RB	Well EW-2	P	2	GW		X	27	-002	X	X			
MW-3	4.2.15	11:15	RB	Well MW-3	PV	4	GW		X	127	-003	X	X	X		
EW-1	4.2.15	12:00	RB	Well EW-1	P	2	GW		X	27	-004	X	X			
MW-6	4.2.15	12:40	RB	Well MW-6	PV	4	GW		X	127	-005	X	X	X		
MW-5	4.2.15	1:15	RB	Well MW-5	P	2	GW		X	27	-006	X	X			

<b>CONTAINER CODES:</b> A = Amber B = Bag G = Glass P = Plastic S = Summa Canister O = Other    V = VOA	<b>MATRIX CODES:</b> GW = Ground Water WW = Wastewater DW = Drinking Water SL = Sludge S = Soil    A = Air O = Oil    OT = Other	<b>PRESERVATIVE CODES:</b> 1 = HCl    7 = ICE 2 = HNO <sub>3</sub> 3 = H <sub>2</sub> SO <sub>4</sub> 4 = Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> 5 = NaOH 6 = MeOH	<b>Relinquished By:</b> <i>[Signature]</i> <b>Date/Time:</b> 4/3/15 <b>Relinquished By:</b> <i>[Signature]</i> <b>Date/Time:</b> 4.3.15 4:35 <b>Relinquished By:</b> _____ <b>Received By:</b> <i>[Signature]</i> <b>Date/Time:</b> 4.3.15 1:30 <b>Received By:</b> _____ <b>Received By GeoLabs:</b> <i>[Signature]</i> <b>Date/Time:</b> 4/3/15 16:35
<b>GEOLABS CHAIN OF CUSTODY</b>			

✓ ON ICE

ANALYTICAL REPORT



Thursday, June 18, 2015

Peter Cook  
IC Environmental Management, Inc.  
25 Tia Place  
Franklin, MA 02038

GeoLabs, Inc.  
45 Johnson Lane  
Braintree MA 02184  
Tele: 781 848 7844  
Fax: 781 848 7811

TEL: 508-498-8236  
FAX: 508-541-7443

Project: Tom DiPlacido  
Location: 17 Lawrence St, Norfolk MA

Order No.: 1506117

Dear Peter Cook:

GeoLabs, Inc. received 3 sample(s) on 6/11/2015 for the analyses presented in the following report.

The laboratory results in this report relate only to samples submitted.

All data for associated QC met method or laboratory specifications, except when noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in cursive script, appearing to read "David Mick".

David Mick  
Laboratory Director

For current certifications, please visit our website at [www.geolabs.com](http://www.geolabs.com)

Certifications:

CT (PH-0148) - MA (M-MA015) - NH (2508) - RI (LA000252)

Date: 18-Jun-15

CLIENT: IC Environmental Management, Inc.  
Project: Tom DiPlacido  
Lab Order: 1506117

**CASE NARRATIVE**

Physical Condition of Samples

The project was received by the laboratory in satisfactory condition. The sample(s) were received undamaged, in appropriate containers with the correct preservation with the following exception: Samples were filtered and preserved upon receipt of laboratory.

Project Documentation

The project was accompanied by satisfactory Chain of Custody documentation.

Analysis of Sample(s)

All extractable samples were extracted and analyzed and any Volatile samples were analyzed within method specified holding times and according to GeoLabs documented Standard Operating Procedure. No analytical anomalies or non-conformances were noted by the laboratory during the processing of these samples.

SIGNATURE:



LAB DIRECTOR

PRINTED NAME: David Mick

DATE: 06/18/15

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 18-Jun-15

<b>CLIENT:</b>	IC Environmental Management, Inc.	<b>Client Sample ID:</b>	(TOWN WELL) WS-3
<b>Lab Order:</b>	1506117	<b>Tag Number:</b>	
<b>Project:</b>	Tom DiPlacido	<b>Collection Date:</b>	6/10/2015 8:30:00 AM
<b>Lab ID:</b>	1506117-001A	<b>Date Received:</b>	6/11/2015
		<b>Matrix:</b>	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

## DISSOLVED METALS BY ICP - SW6010C

Analyst: QS

Prep Method: (SW3005A)

Prep Date: 6/15/2015 12:37:09 PM

Antimony	ND	0.00600		mg/L	1	6/15/2015
Arsenic	0.0170	0.0133		mg/L	1	6/15/2015
Barium	ND	0.0500		mg/L	1	6/15/2015
Beryllium	ND	0.00100		mg/L	1	6/15/2015
Cadmium	ND	0.00400		mg/L	1	6/15/2015
Chromium	ND	0.0700		mg/L	1	6/15/2015
Lead	ND	0.0100		mg/L	1	6/15/2015
Nickel	ND	0.100		mg/L	1	6/15/2015
Selenium	ND	0.0500		mg/L	1	6/15/2015
Thallium	ND	0.0100		mg/L	1	6/15/2015
Vanadium	ND	0.0300		mg/L	1	6/15/2015
Zinc	ND	0.180		mg/L	1	6/15/2015

## DISSOLVED SILVER - E200.7

Analyst: QS

Prep Method: (SW3005A)

Prep Date: 6/15/2015 12:37:09 PM

Silver-Dissolved	ND	0.00700		mg/L	1	6/15/2015
------------------	----	---------	--	------	---	-----------

## DISSOLVED MERCURY - 7470A

Analyst: EC

Prep Method: (SW7470A/E245.1)

Prep Date: 6/15/2015 4:49:22 PM

Mercury	ND	0.000200		mg/L	1	6/15/2015
---------	----	----------	--	------	---	-----------

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

## ANALYTICAL REPORT

Reported Date: 18-Jun-15

<b>CLIENT:</b>	IC Environmental Management, Inc.	<b>Client Sample ID:</b>	MW-3DX
<b>Lab Order:</b>	1506117	<b>Tag Number:</b>	
<b>Project:</b>	Tom DiPlacido	<b>Collection Date:</b>	6/10/2015 9:40:00 AM
<b>Lab ID:</b>	1506117-002A	<b>Date Received:</b>	6/11/2015
		<b>Matrix:</b>	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
----------	--------	----	------	-------	----	---------------

## DISSOLVED METALS BY ICP - SW6010C

Analyst: QS

Prep Method: (SW3005A)

Prep Date: 6/15/2015 12:37:09 PM

Antimony	ND	0.00600		mg/L	1	6/15/2015
Arsenic	0.0200	0.0133		mg/L	1	6/15/2015
Barium	0.0570	0.0500		mg/L	1	6/15/2015
Beryllium	ND	0.00100		mg/L	1	6/15/2015
Cadmium	ND	0.00400		mg/L	1	6/15/2015
Chromium	ND	0.0700		mg/L	1	6/15/2015
Lead	ND	0.0100		mg/L	1	6/15/2015
Nickel	ND	0.100		mg/L	1	6/15/2015
Selenium	ND	0.0500		mg/L	1	6/15/2015
Thallium	ND	0.0100		mg/L	1	6/15/2015
Vanadium	ND	0.0300		mg/L	1	6/15/2015
Zinc	ND	0.180		mg/L	1	6/15/2015

## DISSOLVED SILVER - E200.7

Analyst: QS

Prep Method: (SW3005A)

Prep Date: 6/15/2015 12:37:09 PM

Silver-Dissolved	ND	0.00700		mg/L	1	6/15/2015
------------------	----	---------	--	------	---	-----------

## DISSOLVED MERCURY - 7470A

Analyst: EC

Prep Method: (SW7470A/E245.1)

Prep Date: 6/15/2015 4:49:22 PM

Mercury	ND	0.000200		mg/L	1	6/15/2015
---------	----	----------	--	------	---	-----------

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

**ANALYTICAL REPORT**

**Reported Date: 18-Jun-15**

<b>CLIENT:</b>	IC Environmental Management, Inc.	<b>Client Sample ID:</b>	MW-9DX
<b>Lab Order:</b>	1506117	<b>Tag Number:</b>	
<b>Project:</b>	Tom DiPlacido	<b>Collection Date:</b>	6/10/2015 10:20:00 AM
<b>Lab ID:</b>	1506117-003A	<b>Date Received:</b>	6/11/2015
		<b>Matrix:</b>	GROUNDWATER

<b>Analyses</b>	<b>Result</b>	<b>RL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>
-----------------	---------------	-----------	-------------	--------------	-----------	----------------------

**DISSOLVED METALS BY ICP - SW6010C**

**Analyst: QS**

**Prep Method: (SW3005A) Prep Date: 6/15/2015 12:37:09 PM**

Antimony	ND	0.00600		mg/L	1	6/15/2015
Arsenic	ND	0.0133		mg/L	1	6/15/2015
Barium	ND	0.0500		mg/L	1	6/15/2015
Beryllium	ND	0.00100		mg/L	1	6/15/2015
Cadmium	ND	0.00400		mg/L	1	6/15/2015
Chromium	ND	0.0700		mg/L	1	6/15/2015
Lead	ND	0.0100		mg/L	1	6/15/2015
Nickel	ND	0.100		mg/L	1	6/15/2015
Selenium	ND	0.0500		mg/L	1	6/15/2015
Thallium	ND	0.0100		mg/L	1	6/15/2015
Vanadium	ND	0.0300		mg/L	1	6/15/2015
Zinc	ND	0.180		mg/L	1	6/15/2015

**DISSOLVED SILVER - E200.7**

**Analyst: QS**

**Prep Method: (SW3005A) Prep Date: 6/15/2015 12:37:09 PM**

Silver-Dissolved	ND	0.00700		mg/L	1	6/15/2015
------------------	----	---------	--	------	---	-----------

**DISSOLVED MERCURY - 7470A**

**Analyst: EC**

**Prep Method: (SW7470A/E245.1) Prep Date: 6/15/2015 4:49:22 PM**

Mercury	ND	0.000200		mg/L	1	6/15/2015
---------	----	----------	--	------	---	-----------

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

**GeoLabs, Inc.**

45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811



**CHAIN OF CUSTODY RECORD**

GeoLabs, Inc. Environmental Laboratories  
45 Johnson Lane, Braintree, MA 02184  
p 781.848.7844 • f 781.848.7811  
www.geolabs.com

Sample Handling: circle choice  
Filtration Done  
Not Needed  
Lab to do  
Preservation Lab to do Y/N

Special Instructions  
*\* Please filter + then preserve \**

Turnaround: circle one  
1-day  
2-day  
3-day  
5/7-days

Data Delivery: circle choice (s)  
Fax email  
Format:  
Excel PDF

Requirements: circle choice (s)  
GW-1  
S-1  
QC  
MCP Methods  
DEP  
Other

CT RCP (Reasonable Confidence Protocols)  
State / Fed Program - Criteria

Client: IC Environmental  
Address: 25 TIA Place  
Franklin, MA 02038-3452  
Contact: Peter P. Cook

Phone:  
Fax:  
email: Email to Peter Cook

Project: Tom DiPlacido 17 Lawrence St, Norfolk, MA  
Project PO:  
Invoice to: IC Env

COLLECTION			SAMPLE LOCATION / ID	CONTAINER			G R A B	GeoLabs SAMPLE NUMBER	Analysis Requested	Lab Use Only	
D A T E	T I M E	S A M P L E D		T Y P E	Q U A N T I T Y	M A T R I X				TEMPERATURE	L A B P H
6/10/15	8 <sup>30</sup> A	DB	(Town Well) WS-3	P	1	GW	X	-001			7/5
6/10/15	9 <sup>40</sup> A	DB	MW-3 DX	P	1	GW	X	-002			
6/10/15	10 <sup>20</sup> A	DB	MW-9 DX	P	1	GW	X	-003			

Matrix Codes:  
GW = Ground Water    DW = Drinking Water    S = Soil    A = Air  
WW = Waste Water    SL = Sludge    O = Oil    OT = Other

Received on Ice

Preservatives  
1 = Hcl    3 = H2SO4    5 = NaOH    7 = Other  
2 = HNO3    4 = Na2S2O3    6 = MECH

Containers:  
A = Amber    B = Bag    O = Other  
G = Glass    P = Plastic  
S = Summa    V = Voa

Relinquished by: Rob Burger  
Date / Time: 6/11/15 07:30

Received by: [Signature]  
Date / Time: 6/11/15 11:30  
[Signature] 6/11/15 1600



**CERTIFICATE OF ANALYSIS**

Capital Environmental  
Attn: Mr. Robert Berger  
46 Washburn Street  
Northborough, MA 01532

**Date Received:** 9/23/15  
**Date Reported:** 9/30/15  
**P.O. #:**  
**Work Order #:** 1509-20516

---

**DESCRIPTION: NORFOLK MA - WATER TESTING FOR ARSENIC**

---

Subject sample(s) has/have been analyzed by our Warwick, R.I. laboratory with the attached results.

Reference: All parameters were analyzed by U.S. EPA and Massachusetts Contingency Plan (MCP) approved methodologies where applicable. The specific methodologies are listed in the methods column of the Certificate of Analysis.

Data qualifiers (if present) are explained in full at the end of a given sample's analytical results.

Certification #: RI LAI00033, MA M-RI015, CT PH-0508, ME RI00015  
NH 2537, NY 11726

This Certificate represents all data associated with the referenced work order and is paginated for completeness. The complete Certificate includes one attachment; the original Chain of Custody.

If you have any questions regarding this work, or if we may be of further assistance, please contact our customer service department.

Approved by:

Data Reporting

enc: Chain of Custody



Customer Name : Capital Environmental

Work Order #: 1509-20516

MassDEP Analytical Protocol Certification Form		
Laboratory Name: R.I. Analytical Laboratories	Work Order #: 1509-20516	
Project / Location: NORFOLK MA - WATER TESTING FOR ARSENIC		RTN :
This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):		
1509-20516-001 through 1509-20516-005		

Matrices:  Groundwater/Surface Water  Soil / Sediment  Drinking Water  Air  Other

CAM Protocol: (check all that apply below)

8260 VOC CAM II A <input type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	MassDEP VPH CAM IV A <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	MassDEP EPH CAM IV B <input type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>
6010 Metals CAM III A <input type="checkbox"/>	6020 Metals CAM III D <input checked="" type="checkbox"/>	8082 PCB CAM V A <input type="checkbox"/>	9014 Total Cyanide /PAC CAM VIA <input type="checkbox"/>	6860 Perchlorate CAM VII B <input type="checkbox"/>	

Affirmative responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B	Were the analytical methods(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s) ? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Responses to Questions G,H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<small>Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.</small>		
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup>

<sup>1</sup> All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, is accurate and complete.

Signature   
Printed Name: Eric H. Jensen

Position: Laboratory Director  
Date: 9-30-15

# Case Narrative

Date: 9/30/2015

Capital Environmental  
Attn: Mr. Robert Berger  
46 Washburn Street  
Northborough, MA 01532

Project: NORFOLK MA - WATER TESTING FOR ARSENIC

Work Order #: 1509-20516

The following exceptions were noted for this Work Order:

Metals by 6020

Question I - Per the client's request, only a subset of the MCP analyte list for SW-846 Method 6020 Metals is reported.

There were no additional exceptions or analytical issues to discuss concerning the testing requirements for the project.

**R.I. Analytical Laboratories, Inc.**  
**CERTIFICATE OF ANALYSIS**

Capital Environmental

Date Received: 9/23/15

Work Order #: 1509-20516

NORFOLK MA - WATER TESTING FOR ARSENIC

Sample # 001

SAMPLE DESCRIPTION: WELL - 1DX

SAMPLE TYPE: GRAB

SAMPLE DATE/TIME: 9/23/2015 @ 08:55

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Total Metals						
Arsenic	0.002	0.001	mg/l	SW-846 6020A	9/30/15 12:46	PJC
Dissolved Metals Analyzed by ICPMS						
Arsenic	<0.001	0.001	mg/l	SW-846 6020A	9/25/15 13:00	PJC
ICPMS Digestion				SW-846 3020A	9/24/15 21:28	CRC
Digestion date	Digested			SW-846 3020A	9/24/15 8:40	JRW

Sample # 002

SAMPLE DESCRIPTION: WELL - 9DX

SAMPLE TYPE: GRAB

SAMPLE DATE/TIME: 9/23/2015 @ 09:20

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Total Metals						
Arsenic	0.007	0.001	mg/l	SW-846 6020A	9/30/15 13:03	PJC
Dissolved Metals Analyzed by ICPMS						
Arsenic	<0.001	0.001	mg/l	SW-846 6020A	9/25/15 13:32	PJC
ICPMS Digestion				SW-846 3020A	9/24/15 21:28	CRC
Digestion date	Digested			SW-846 3020A	9/24/15 8:40	JRW

Sample # 003

SAMPLE DESCRIPTION: WELL - MW-5

SAMPLE TYPE: GRAB

SAMPLE DATE/TIME: 9/23/2015 @ 10:10

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Total Metals						
Arsenic	<0.001	0.001	mg/l	SW-846 6020A	9/30/15 13:08	PJC
Dissolved Metals Analyzed by ICPMS						
Arsenic	<0.001	0.001	mg/l	SW-846 6020A	9/25/15 13:38	PJC
ICPMS Digestion				SW-846 3020A	9/24/15 21:28	CRC
Digestion date	Digested			SW-846 3020A	9/24/15 8:40	JRW

**R.I. Analytical Laboratories, Inc.**  
**CERTIFICATE OF ANALYSIS**

**Capital Environmental**

Date Received: 9/23/15

Work Order #: 1509-20516

NORFOLK MA - WATER TESTING FOR ARSENIC

Sample # 004

**SAMPLE DESCRIPTION:** WELL - MW-3DX

**SAMPLE TYPE:** GRAB

**SAMPLE DATE/TIME:** 9/23/2015 @ 10:50

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Total Metals						
Arsenic	0.12	0.01	mg/l	SW-846 6020A	9/30/15 13:13	PJC
Dissolved Metals Analyzed by ICPMS						
Arsenic	<0.001	0.001	mg/l	SW-846 6020A	9/25/15 13:43	PJC
ICPMS Digestion				SW-846 3020A	9/24/15 21:28	CRC
Digestion date	Digested			SW-846 3020A	9/24/15 8:40	JRW

Sample # 005

**SAMPLE DESCRIPTION:** WELL - WS-3

**SAMPLE TYPE:** GRAB

**SAMPLE DATE/TIME:** 9/23/2015 @ 11:15

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Total Metals						
Arsenic	<0.001	0.001	mg/l	SW-846 6020A	9/30/15 13:19	PJC
Dissolved Metals Analyzed by ICPMS						
Arsenic	<0.001	0.001	mg/l	SW-846 6020A	9/25/15 13:49	PJC
ICPMS Digestion				SW-846 3020A	9/24/15 21:28	CRC
Digestion date	Digested			SW-846 3020A	9/24/15 8:40	JRW

## QA/QC Report

Client: Capital Environmental

WO #: 1509-20516

Date: 9/30/2015

## -Method Blanks Results-

Parameter	Units	Results	Date Analyzed
<b>Dissolved Metals</b>			
Arsenic (mg/l)	mg/l	<0.001	9/25/2015
<b>Metals by ICPMS</b>			
Arsenic	mg/l	<0.001	9/30/2015

**-LCS/LCS Duplicate Data Results-**

Parameter	CRM Acceptance Limits	Spike Conc	LCS Conc	LCS % Rec	LCS Dup Conc	LCS DUP % Rec	% RPD	Date Analyzed
<b>Dissolved Metals</b>								
Arsenic (mg/l)		0.050	0.052	104	0.050	100	4	9/25/2015
<b>Metals by ICPMS</b>								
Arsenic		0.050	0.050	100	0.049	98	2	9/30/2015

# CHAIN OF CUSTODY RECORD

R.I. Analytical Laboratories, Inc.

41 Illinois Avenue  
Warwick, RI 02888-3007  
Tel: 800-937-2580  
Fax: 401-738-1970

131 Coolidge St, Suite 105  
Hudson, MA 01749-1331  
Tel: 800-937-2580  
Fax: 978-568-0078

Date Collected	Time Collected	Field Sample Identification	Grab or Composite	# of Containers & Type <sup>c</sup>	Preservation Code <sup>p</sup>	Matrix Code <sup>m</sup>	Total Arsenic	Dissolved Arsenic (Lab Filter)												
09-23-15	08:55	Well - 1DX	G	2 P	NZ	GW	X	X												
09-23-15	09:20	Well - 9 DX	G	2 P	NZ	GW	X	X												
09-23-15	10:10	Well - MW-5	G	2 P	NZ	GW	X	X												
09-23-15	10:50	Well - MW-3DX	G	2 P	NZ	GW	X	X												
09-23-15	11:15	Well - WS-3	G	2 P	NZ	GW	X	X												

*(Handwritten initials)*

Client Information				Project Information			
Company Name:	Capital Environmental / IC Environmental			Project Name:	Norfolk MA - Water Testing for Arsenic		
Address:	46 Washburn Street			P.O. Number:	Project Number:		
City / State / Zip:	Northborough, MA 01532			Report To:	Robert Berger	Cell:	508-439-2083 Fax: 508-393-5567
Telephone:	(508) 393-5550	Fax:	(508) 393-5567	Sampled by:	Robert Berger	Email report to these addresses:	berger.capitalenvironmental@gmail.com
Contact Person:	Mr. Robert Berger, LSP			Quote No:			

Relinquished By	Date	Time	Received By	Date	Time
<i>(Signature)</i>	9/23/15	12:46 P	<i>(Signature)</i>	9/23	12:46
	9/23	1600		9/23	1600
	9/23	1800		9/23/15	1800

Turn Around Time		
Normal	<input checked="" type="checkbox"/>	EMAIL Report
5 Business days	<input checked="" type="checkbox"/>	
Rush - Date Due:	_ / _ / _	

Project Comments	
Circle if applicable: <b>GW-1</b>	MCP Data Enhancement QC Package? <b>Yes</b>
	Temp. Upon Receipt <b>4.8 °C</b>

Lab Use Only	
Sample Pick Up Only	
RIAL sampled; attach field hours	
Shipped on ice	<input checked="" type="checkbox"/>
Workorder No:	1509-20516

Containers: P=Poly, G=Glass, AG=Amber Glass, V=Vial, St=Sterile Preservatives: A=Ascorbic Acid, NH4=NH4Cl, H=HCl, M=MeOH, N=HNO3, NP=None, S=H2SO4, SB=NaHSO4, SH=NaOH, T=Na2S2O3, Z=ZnOAc  
Matrix Codes: GW=Groundwater, SW=Surface Water, WW=Wastewater, DW=Drinking Water, S=Soil, SL=Sludge, A=Air, B=Bulk/Solid, O=

4.8 °C



**CERTIFICATE OF ANALYSIS**

Capital Environmental  
Attn: Mr. Robert Berger  
46 Washburn Street  
Northborough, MA 01532

**Date Received:** 10/20/15  
**Date Reported:** 10/27/15  
**P.O. #:** 1630  
**Work Order #:** 1510-22628

---

**DESCRIPTION:** PROJECT# 1630 BUCKLEY AND MANN, NORFOLK, MA

---

Subject sample(s) has/have been analyzed by our Warwick, R.I. laboratory with the attached results.

Reference: All parameters were analyzed by U.S. EPA and Massachusetts Contingency Plan (MCP) approved methodologies where applicable. The specific methodologies are listed in the methods column of the Certificate of Analysis.

Data qualifiers (if present) are explained in full at the end of a given sample's analytical results.

Certification #: RI LAI00033, MA M-RI015, CT PH-0508, ME RI00015  
NH 2537, NY 11726

This Certificate represents all data associated with the referenced work order and is paginated for completeness. The complete Certificate includes one attachment; the original Chain of Custody.

If you have any questions regarding this work, or if we may be of further assistance, please contact our customer service department.

Approved by:

Data Reporting

enc: Chain of Custody



Customer Name : Capital Environmental

Work Order #: 1510-22628

**MassDEP Analytical Protocol Certification Form**

Laboratory Name: R.I. Analytical Laboratories Work Order #: 1510-22628  
Project / Location: PROJECT# 1630 BUCKLEY AND MANN, NORFOLK, MA RTN :

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):  
1510-22628-001 through 1510-22628-005

Matrices:  Groundwater/Surface Water  Soil / Sediment  Drinking Water  Air  Other

**CAM Protocol** (check all that apply below):

8260 VOC CAM II A <input type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	MassDEP VPH CAM IV A <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	MassDEP EPH CAM IV B <input type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>
6010 Metals CAM III A <input type="checkbox"/>	6020 Metals CAM III D <input checked="" type="checkbox"/>	8082 PCB CAM V A <input type="checkbox"/>	9014 Total Cyanide /PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VII B <input type="checkbox"/>	

Affirmative responses to Questions A through F are required for "Presumptive Certainty" status

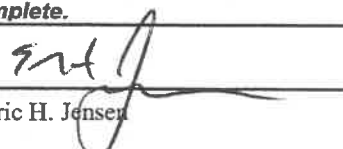
A	Were all samples received in a condition consistent with those described on the Chain-of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B	Were the analytical methods(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s) ? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Responses to Questions G,H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<small>Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.</small>		
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup>

<sup>1</sup> All negative responses must be addressed in an attached laboratory narrative.

**I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, is accurate and complete.**

Signature   
Printed Name: Eric H. Jensen

Position: Laboratory Director  
Date: 10-27-15

# Case Narrative

Date: 10/27/2015

Capital Environmental  
Attn: Mr. Robert Berger  
46 Washburn Street  
Northborough, MA 01532

Project: PROJECT# 1630 BUCKLEY AND MANN, NORFOLK, MA

Work Order #: 1510-22628

The following exceptions were noted for this Work Order:

Dissolved Metals by 6020

Question I - Per the client's request, only a subset of the MCP analyte list for SW-846 Method 6020 Dissolved Metals is reported.

There were no additional exceptions or analytical issues to discuss concerning the testing requirements for the project.

**R.I. Analytical Laboratories, Inc.**  
**CERTIFICATE OF ANALYSIS**

Capital Environmental

Date Received: 10/20/15

Work Order #: 1510-22628

PROJECT# 1630 BUCKLEY AND MANN, NORFOLK, MA

Sample # 001

SAMPLE DESCRIPTION: WELL-1DX

SAMPLE TYPE: GRAB

SAMPLE DATE/TIME: 10/20/2015 @ 09:19

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Total Metals						
Arsenic	<0.001	0.001	mg/l	SW-846 6020A	10/22/15 12:29	PJC
Dissolved Metals Analyzed by ICPMS						
Arsenic	<0.001	0.001	mg/l	SW-846 6020A	10/22/15 15:44	PJC
ICPMS Digestion				SW-846 3020A	10/21/15 19:26	CRC
Digestion date	Digested			SW-846 3020A	10/22/15 8:25	JRW

Sample # 002

SAMPLE DESCRIPTION: MW-5

SAMPLE TYPE: GRAB

SAMPLE DATE/TIME: 10/20/2015 @ 09:45

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Total Metals						
Arsenic	<0.001	0.001	mg/l	SW-846 6020A	10/22/15 12:35	PJC
Dissolved Metals Analyzed by ICPMS						
Arsenic	<0.001	0.001	mg/l	SW-846 6020A	10/22/15 16:05	PJC
ICPMS Digestion				SW-846 3020A	10/21/15 19:26	CRC
Digestion date	Digested			SW-846 3020A	10/22/15 8:25	JRW

Sample # 003

SAMPLE DESCRIPTION: WS-3

SAMPLE TYPE: GRAB

SAMPLE DATE/TIME: 10/20/2015 @ 10:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Total Metals						
Arsenic	<0.001	0.001	mg/l	SW-846 6020A	10/22/15 12:40	PJC
Dissolved Metals Analyzed by ICPMS						
Arsenic	<0.001	0.001	mg/l	SW-846 6020A	10/22/15 16:21	PJC
ICPMS Digestion				SW-846 3020A	10/21/15 19:26	CRC
Digestion date	Digested			SW-846 3020A	10/22/15 8:25	JRW

**R.I. Analytical Laboratories, Inc.**  
**CERTIFICATE OF ANALYSIS**

**Capital Environmental**

Date Received: 10/20/15

Work Order #: 1510-22628

PROJECT# 1630 BUCKLEY AND MANN, NORFOLK, MA

Sample # 004

**SAMPLE DESCRIPTION:** WELL-3DX**SAMPLE TYPE:** GRAB**SAMPLE DATE/TIME:** 10/20/2015 @ 11:10

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Total Metals						
Arsenic	<0.001	0.001	mg/l	SW-846 6020A	10/22/15 12:46	PJC
Dissolved Metals Analyzed by ICPMS						
Arsenic	<0.001	0.001	mg/l	SW-846 6020A	10/22/15 16:27	PJC
ICPMS Digestion				SW-846 3020A	10/21/15 19:26	CRC
Digestion date	Digested			SW-846 3020A	10/22/15 8:25	JRW

Sample # 005

**SAMPLE DESCRIPTION:** WELL-9DX**SAMPLE TYPE:** GRAB**SAMPLE DATE/TIME:** 10/20/2015 @ 11:45

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Total Metals						
Arsenic	<0.001	0.001	mg/l	SW-846 6020A	10/22/15 13:12	PJC
Dissolved Metals Analyzed by ICPMS						
Arsenic	<0.001	0.001	mg/l	SW-846 6020A	10/22/15 16:32	PJC
ICPMS Digestion				SW-846 3020A	10/21/15 19:26	CRC
Digestion date	Digested			SW-846 3020A	10/22/15 8:25	JRW

## QA/QC Report

Client: Capital Environmental

WO #: 1510-22628

Date: 10/27/2015

## -Method Blanks Results-

Parameter	Units	Results	Date Analyzed
<b>Dissolved Metals</b>			
Arsenic (mg/l)	mg/l	<0.001	10/22/2015
<b>Metals by ICPMS</b>			
Arsenic	mg/l	<0.001	10/22/2015

**-LCS/LCS Duplicate Data Results-**

<b>Parameter</b>	<b>CRM Acceptance Limits</b>	<b>Spike Conc</b>	<b>LCS Conc</b>	<b>LCS % Rec</b>	<b>LCS Dup Conc</b>	<b>LCS DUP % Rec</b>	<b>% RPD</b>	<b>Date Analyzed</b>
<b>Dissolved Metals</b>								
Arsenic (mg/l)		0.050	0.043	86	0.043	86	0	10/22/2015
<b>Metals by ICPMS</b>								
Arsenic		0.050	0.052	104	0.046	92	12	10/22/2015

# CHAIN OF CUSTODY RECORD

R.I. Analytical Laboratories, Inc.

41 Illinois Avenue  
Warwick, RI 02888-3007  
Tel: 800-937-2580  
Fax: 401-738-1970

131 Coolidge St, Suite 105  
Hudson, MA 01749-1331  
Tel: 800-937-2580  
Fax: 978-568-0078

Date Collected	Time Collected	Field Sample Identification	Grab or Composite	# of Containers & Type c	Preservation Code P	Matrix Code M	Total Arsenic	Dissolved Arsenic												
10.20.15	9:19 a	Well-1DX	G	2P	NI	GW	x	x												
10.20.15	9:45 a	MW-5	G	2P	NI	GW	x	x												
10.20.15	10:30 a	WS-3	G	2P	NI	GW	x	x												
10.20.15	11:10 a	Well-3DX	G	2P	NI	GW	x	x												
10.20.15	11:45 a	Well-9DX	G	2P	NI	GW	x	x												

Client Information				Project Information					
Company Name:	Capital Environmental, LLC			Project Name:	Buckley and Mann, Norfolk, MA				
Address:	46 Washburn Street			P.O. Number:	1630	Project Number:	1630		
City / State / Zip:	Northborough, MA 01532			Report To:	Robert Berger	Cell:	508-439-2083	Fax:	508-393-5567
Telephone:	(508) 393-5550	Fax:	(508) 393-5567	Sampled by:	R Berger	Email report to these addresses:	rberger.capitalenvironmental@gmail.com		
Contact Person:	Mr. Robert Berger, LSP			Quote No:					

Relinquished By	Date	Time	Received By	Date	Time
Rob Berger	10.20.2015	1603	[Signature]	10/20/15	1603
[Signature]	10/20/15	1605	[Signature]	10/20	1605
[Signature]	10/20	1800	[Signature]	10/20/15	1800

Turn Around Time		
Normal	<input checked="" type="checkbox"/>	EMAIL Report
5 Business days	<input checked="" type="checkbox"/>	
Rush	<input type="checkbox"/>	(business days)

**Project Comments**

Circle if applicable: **GW-1**, GW-2, GW-3, S-1, S-2, S-3    MCP Data Enhancement QC Package? **Yes** No

\*\*\*\*\*Please filter the dissolved arsenic samples, then preserve\*\*\*\*\*

16.6 °C

Temp. Upon Receipt 4.0 °C

Lab Use Only	
Sample Pick Up Only	<input type="checkbox"/>
REAL sampled; attach field hours	<input type="checkbox"/>
Shipped on ice	<input checked="" type="checkbox"/>
Workorder No:	1510-22628

Containers: P=Poly, G=Glass, AG=Amber Glass, V=Vial, St=Sterile    Preservatives: A=Ascorbic Acid, NH4=NH4Cl, H=HCl, M=MeOH, N=HNO3, NP=None, S=H2SO4, SB=NaHSO4, SH=NaOH, T=Na2S2O3, Z=ZnOAc

Matrix Codes: GW=Groundwater, SW=Surface Water, WW=Wastewater, DW=Drinking Water, S=Soil, SL=Sludge, A=Air, B=Bulk/Solid, O=

- Final Report
- Re-Issued Report
- Revised Report

Report Date:  
30-Oct-15 14:27

### Laboratory Report

Capital Environmental, LLC  
46 Washburn Street  
Northborough, MA 01532  
Attn: Robert Berger

Project: Buckley + Mann - Norfolk, MA  
Project #: 1630

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SC13948-01	Well-1DX	Ground Water	20-Oct-15 09:19	21-Oct-15 15:10
SC13948-02	MW-5	Ground Water	20-Oct-15 09:45	21-Oct-15 15:10
SC13948-03	WS-3	Ground Water	20-Oct-15 10:30	21-Oct-15 15:10
SC13948-04	Well-3DX	Ground Water	20-Oct-15 11:10	21-Oct-15 15:10
SC13948-05	Well-9DX	Ground Water	20-Oct-15 11:45	21-Oct-15 15:10

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received. All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110  
Connecticut # PH-0777  
Florida # E87936  
Maine # MA138  
New Hampshire # 2538  
New Jersey # MA011  
New York # 11393  
Pennsylvania # 68-04426/68-02924  
Rhode Island # LAO00098  
USDA # S-51435



Authorized by:



June O'Connor  
Laboratory Director

Eurofins Spectrum Analytical holds certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.


Please note that this report contains 10 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

*Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our Quality web page at [www.spectrum-analytical.com](http://www.spectrum-analytical.com) for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).*

*Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.*



### MassDEP Analytical Protocol Certification Form

<b>Laboratory Name:</b> Eurofins Spectrum Analytical, Inc.			<b>Project #:</b> 1630		
<b>Project Location:</b> Buckley + Mann - Norfolk, MA			<b>RTN:</b>		
<b>This form provides certifications for the following data set:</b>			SC13948-01 through SC13948-05		
<b>Matrices:</b> Ground Water					
<b>CAM Protocol</b>					
8260 VOC CAM II A	7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
✓ 6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B
<i>Affirmative responses to questions A through F are required for Presumptive Certainty's status</i>					
<b>A</b>	Were all samples received in a condition consistent with those described on the Chain of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?				Yes   ✓   No
<b>B</b>	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?				✓   Yes   No
<b>C</b>	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?				✓   Yes   No
<b>D</b>	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?				✓   Yes   No
<b>E</b>	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?				Yes   No Yes   No
<b>F</b>	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to questions A through E)?				✓   Yes   No
<i>Responses to questions G, H and I below are required for Presumptive Certainty's status</i>					
<b>G</b>	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?				✓   Yes   No
<b>Data User Note:</b> Data that achieve Presumptive Certainty's status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.					
<b>H</b>	Were all QC performance standards specified in the CAM protocol(s) achieved?				✓   Yes   No
<b>I</b>	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?				Yes   ✓   No
<i>All negative responses are addressed in a case narrative on the cover page of this report.</i>					
<i>I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.</i>					
 June O'Connor Laboratory Director Date: 10/30/2015					

*This laboratory report is not valid without an authorized signature on the cover page.*

**CASE NARRATIVE:**

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 1.8 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

In accordance with 40 CFR 136.3, samples for dissolved metals analysis must be filtered within 15 minutes of collection and before adding preservatives. Samples not filtered in the field within 15 minutes of collection are not within method requirements.

**There is no relevant protocol-specific QC and/or performance standards non-conformances to report.**

### Sample Acceptance Check Form

Client: Capital Environmental, LLC  
Project: Buckley + Mann - Norfolk, MA / 1630  
Work Order: SC13948  
Sample(s) received on: 10/21/2015

*The following outlines the condition of samples for the attached Chain of Custody upon receipt.*

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Were custody seals present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were custody seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Were samples received at a temperature of $\leq 6^{\circ}\text{C}$ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples cooled on ice upon transfer to laboratory representative?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were sample containers received intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples accompanied by a Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Did sample container labels agree with Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples received within method-specific holding times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*This laboratory report is not valid without an authorized signature on the cover page.*

### Summary of Hits

Lab ID:

Client ID:

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
-----------	--------	------	-----------------	-------	-------------------

No hits detected.

*Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.*

*This laboratory report is not valid without an authorized signature on the cover page.*

<u>Sample Identification</u>			<u>Client Project #</u>			<u>Matrix</u>		<u>Collection Date/Time</u>		<u>Received</u>			
Well-1DX			1630			Ground Water		20-Oct-15 09:19		21-Oct-15			
SC13948-01													
CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
<b>Total Metals by EPA 200/6000 Series Methods</b>													
	Preservation	Field Preserved		N/A			1	EPA 200/6000 methods			LNB	1520017	
<b>Total Metals by EPA 6000/7000 Series Methods</b>													
7440-38-2	Arsenic	< 0.0040		mg/l	0.0040	0.0027	1	SW846 6010C	28-Oct-15	29-Oct-15	tbc	1520417	
<b>Soluble Metals by EPA 200/6000 Series Methods</b>													
	Filtration	Lab Filtered	MF	N/A			1	EPA 200.7/3005A/6010	21-Oct-15 16:45	21-Oct-15 16:45	LNB	1520043	
<b>Soluble Metals by EPA 6000/7000 Series Methods</b>													
7440-38-2	Arsenic	< 0.0040		mg/l	0.0040	0.0027	1	SW846 6010C	28-Oct-15	29-Oct-15	tbc	1520419	

<u>Sample Identification</u>			<u>Client Project #</u>			<u>Matrix</u>		<u>Collection Date/Time</u>		<u>Received</u>			
MW-5			1630			Ground Water		20-Oct-15 09:45		21-Oct-15			
SC13948-02													
CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
<b>Total Metals by EPA 200/6000 Series Methods</b>													
	Preservation	Field Preserved		N/A			1	EPA 200/6000 methods			LNB	1520017	
<b>Total Metals by EPA 6000/7000 Series Methods</b>													
7440-38-2	Arsenic	< 0.0040		mg/l	0.0040	0.0027	1	SW846 6010C	28-Oct-15	29-Oct-15	tbc	1520417	
<b>Soluble Metals by EPA 200/6000 Series Methods</b>													
	Filtration	Lab Filtered	MF	N/A			1	EPA 200.7/3005A/6010	21-Oct-15 16:45	21-Oct-15 16:45	LNB	1520043	
<b>Soluble Metals by EPA 6000/7000 Series Methods</b>													
7440-38-2	Arsenic	< 0.0040		mg/l	0.0040	0.0027	1	SW846 6010C	28-Oct-15	29-Oct-15	tbc	1520419	

<u>Sample Identification</u>			<u>Client Project #</u>			<u>Matrix</u>		<u>Collection Date/Time</u>		<u>Received</u>			
WS-3			1630			Ground Water		20-Oct-15 10:30		21-Oct-15			
SC13948-03													
CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
<b>Total Metals by EPA 200/6000 Series Methods</b>													
	Preservation	Field Preserved		N/A			1	EPA 200/6000 methods			LNB	1520017	
<b>Total Metals by EPA 6000/7000 Series Methods</b>													
7440-38-2	Arsenic	< 0.0040		mg/l	0.0040	0.0027	1	SW846 6010C	28-Oct-15	29-Oct-15	tbc	1520417	
<b>Soluble Metals by EPA 200/6000 Series Methods</b>													
	Filtration	Lab Filtered	MF	N/A			1	EPA 200.7/3005A/6010	21-Oct-15 16:45	21-Oct-15 16:45	LNB	1520043	
<b>Soluble Metals by EPA 6000/7000 Series Methods</b>													
7440-38-2	Arsenic	< 0.0040		mg/l	0.0040	0.0027	1	SW846 6010C	28-Oct-15	29-Oct-15	tbc	1520419	

This laboratory report is not valid without an authorized signature on the cover page.

Sample IdentificationWell-3DX  
SC13948-04Client Project #  
1630Matrix  
Ground WaterCollection Date/Time  
20-Oct-15 11:10Received  
21-Oct-15

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
<b>Total Metals by EPA 200/6000 Series Methods</b>													
	Preservation	Field Preserved		N/A			1	EPA 200/6000 methods			LNB	1520017	
<b>Total Metals by EPA 6000/7000 Series Methods</b>													
7440-38-2	Arsenic	< 0.0040		mg/l	0.0040	0.0027	1	SW846 6010C	28-Oct-15	29-Oct-15	tbc	1520417	
<b>Soluble Metals by EPA 200/6000 Series Methods</b>													
	Filtration	Lab Filtered	MF	N/A			1	EPA 200.7/3005A/6010	21-Oct-15 16:45	21-Oct-15 16:45	LNB	1520043	
<b>Soluble Metals by EPA 6000/7000 Series Methods</b>													
7440-38-2	Arsenic	< 0.0040		mg/l	0.0040	0.0027	1	SW846 6010C	28-Oct-15	29-Oct-15	tbc	1520419	

Sample IdentificationWell-9DX  
SC13948-05Client Project #  
1630Matrix  
Ground WaterCollection Date/Time  
20-Oct-15 11:45Received  
21-Oct-15

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
<b>Total Metals by EPA 200/6000 Series Methods</b>													
	Preservation	Field Preserved		N/A			1	EPA 200/6000 methods			LNB	1520017	
<b>Total Metals by EPA 6000/7000 Series Methods</b>													
7440-38-2	Arsenic	< 0.0040		mg/l	0.0040	0.0027	1	SW846 6010C	28-Oct-15	29-Oct-15	tbc	1520417	
<b>Soluble Metals by EPA 200/6000 Series Methods</b>													
	Filtration	Lab Filtered	MF	N/A			1	EPA 200.7/3005A/6010	21-Oct-15 16:45	21-Oct-15 16:45	LNB	1520043	
<b>Soluble Metals by EPA 6000/7000 Series Methods</b>													
7440-38-2	Arsenic	< 0.0040		mg/l	0.0040	0.0027	1	SW846 6010C	28-Oct-15	29-Oct-15	tbc	1520419	

*This laboratory report is not valid without an authorized signature on the cover page.*

**Total Metals by EPA 6000/7000 Series Methods - Quality Control**

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch 1520417 - SW846 3005A</b>										
<u>Blank (1520417-BLK1)</u>					Prepared: 28-Oct-15 Analyzed: 29-Oct-15					
Arsenic	< 0.0040		mg/l	0.0040						
<u>LCS (1520417-BS1)</u>					Prepared: 28-Oct-15 Analyzed: 29-Oct-15					
Arsenic	1.28		mg/l	0.0040	1.25		103	85-115		
<u>LCS Dup (1520417-BSD1)</u>					Prepared: 28-Oct-15 Analyzed: 29-Oct-15					
Arsenic	1.26		mg/l	0.0040	1.25		101	85-115	2	20

*This laboratory report is not valid without an authorized signature on the cover page.*

**Soluble Metals by EPA 6000/7000 Series Methods - Quality Control**

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch 1520419 - SW846 3005A</b>										
<b><u>Blank (1520419-BLK1)</u></b>						<u>Prepared: 28-Oct-15 Analyzed: 29-Oct-15</u>				
Arsenic	< 0.0040		mg/l	0.0040						
<b><u>LCS (1520419-BS1)</u></b>						<u>Prepared: 28-Oct-15 Analyzed: 29-Oct-15</u>				
Arsenic	1.17		mg/l	0.0040	1.25		94	85-115		
<b><u>LCS Dup (1520419-BSD1)</u></b>						<u>Prepared: 28-Oct-15 Analyzed: 29-Oct-15</u>				
Arsenic	1.29		mg/l	0.0040	1.25		103	85-115	10	20
<b><u>Duplicate (1520419-DUP1)</u></b>						<u>Prepared: 28-Oct-15 Analyzed: 29-Oct-15</u>				
Arsenic	< 0.0040		mg/l	0.0040		BRL				20
<b><u>Matrix Spike (1520419-MS1)</u></b>						<u>Prepared: 28-Oct-15 Analyzed: 29-Oct-15</u>				
Arsenic	1.19		mg/l	0.0040	1.25	BRL	95	75-125		
<b><u>Matrix Spike Dup (1520419-MSD1)</u></b>						<u>Prepared: 28-Oct-15 Analyzed: 29-Oct-15</u>				
Arsenic	1.30		mg/l	0.0040	1.25	BRL	104	75-125	9	20
<b><u>Post Spike (1520419-PS1)</u></b>						<u>Prepared: 28-Oct-15 Analyzed: 29-Oct-15</u>				
Arsenic	1.32		mg/l	0.0040	1.25	BRL	106	80-120		

*This laboratory report is not valid without an authorized signature on the cover page.*



## Notes and Definitions

dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
MF	In accordance with 40 CFR 136.3, samples for dissolved metals analysis must be filtered within 15 minutes of collection and before adding preservatives. Samples not filtered in the field within 15 minutes of collection are not within method requirements.

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Validated by:  
June O'Connor

Sc 13940

# CHAIN OF CUSTODY RECORD

## Special Handling:

- Standard TAT - 7 to 10 business days
  - Rush TAT - Date Needed: \_\_\_\_\_
- All TATs subject to laboratory approval  
Min. 24-hr notification needed for rushes  
Samples disposed after 60 days unless otherwise instructed.

SPECTRUM ANALYTICAL, INC.

Page 1 of 1

Report To: Capital Environmental, LLC  
46 WASHBURN ST  
Norfolk, MA 01532

Telephone #: 508 393-5550  
Project Mgr: Rob Berger

Invoice To: SAME AS Report to

P.O. No.: 1630 Quote/RQN: \_\_\_\_\_

Project No: 1630

Site Name: Buckley + Mann

Location: Norfolk State: MA

F=Field Filtered 1=Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> 2=HCl 3=H<sub>2</sub>SO<sub>4</sub> 4=HNO<sub>3</sub> 5=NaOH 6=Ascorbic Acid  
7=CH<sub>3</sub>OH 8=NaHSO<sub>4</sub> 9=Deionized Water 10=H<sub>2</sub>PO<sub>4</sub> 11= ICE 12= \_\_\_\_\_

### List Preservative Code below:

4 11

### QA/QC Reporting Notes:

\* additional charges may apply

DW=Dinking Water GW=Groundwater SW=Surface Water WW=Waste Water  
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas  
X1= \_\_\_\_\_ X2= \_\_\_\_\_ X3= \_\_\_\_\_

### Containers Analysis

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers				Analysis		Check if chlorinated
						# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic			
13948-01	Well-1DX	10.20.15	919A	G	GW				2	TOTAL Arsenic	✓	<input type="checkbox"/> Other: State-specific reporting standards:
-02	MW-5	10.20.15	945A	G	GW				2	Dissolved Arsenic	✓	
-03	WS-3	10.20.15	1030A	G	GW				2		✓	
-04	Well-3DX	10.20.15	1110A	G	GW				2		✓	
-05	Well-9DX	10.20.15	1145A	G	GW				2		✓	

MA DEP MCP CAM Report?  Yes  No  
CT DPH RCP Report?  Yes  No

- Standard  No QC
- DQA\*
- ASP A\*  ASP B\*
- NJ Reduced\*  NJ Full\*
- Tier II\*  Tier IV\*

All samples nice  
Please filter dissolved Arsenic

Relinquished by:	Received by:	Date:	Time:	Temp °C
<u>Rob Berger</u> 10/21/15	<u>[Signature]</u>	10/21/15	940	10.8
<u>[Signature]</u> 7:20A	<u>[Signature]</u>	10/21/15	1510	0

EDD format: \_\_\_\_\_  
 E-mail to: Rob@Capital-Enviro.COM

Condition upon receipt: Custody Seals:  Present  Intact  Broken  
 Ambient  Iced  Refrigerated  DI VOA Frozen  Soil Jar Frozen

**EXHIBIT C**



MASSWILDLIFE

## DIVISION OF FISHERIES & WILDLIFE

1 Rabbit Hill Road, Westborough, MA 01581  
p: (508) 389-6300 | f: (508) 389-7890  
**MASS.GOV/MASSWILDLIFE**

Jack Buckley, *Director*

July 13, 2017

Thomas DiPlacido  
DiPlacido Development Corp.  
850 Franklin Street, Suite 8  
Wrentham MA 02093

RE: Project Location: 17, 65 and 67 Lawrence Street, Norfolk  
Project Description: The Preserve at Abbyville Residential Development  
NHESP File No.: **13-32057**

Dear Applicant:

Thank you for submitting the MESA Project Review Checklist, site plans (dated March 15, 2017, Overview Plan dated April 25, 2017) and other required materials to the Natural Heritage and Endangered Species Program of the MA Division of Fisheries & Wildlife (the "Division") for review pursuant to the Massachusetts Endangered Species Act (MESA) (MGL c.131A) and its implementing regulations (321 CMR 10.00).

Based on a review of the information that was provided and the information that is currently contained in our database, the Division has determined that this project, as currently proposed, **will not result in a prohibited Take** of state-listed rare species. This determination is a final decision of the Division of Fisheries & Wildlife pursuant to 321 CMR 10.18. Any changes to the proposed project or any additional work beyond that shown on the site plans may require an additional filing with the Division pursuant to the MESA. This project may be subject to further review if no physical work is commenced within five years from the date of issuance of this determination, or if there is a change to the project.

Please note that this determination addresses only the matter of state-listed species and their habitats. If you have any questions regarding this letter please contact Jesse Leddick, Endangered Species Review Biologist, at (508) 389-6386.

Sincerely,

Thomas W. French, Ph.D.  
Assistant Director

cc: Norfolk Conservation Commission  
S.M. Lorusso & Sons, Inc.  
Stephen Mann, Buckley & Mann, Inc.  
Diana Walden, BSC Group, Inc.

MASSWILDLIFE

**EXHIBIT D**

## EXHIBIT D

### PUBLIC INVOLVEMENT PLAN INTERVIEW FEEDBACK FORMER BUCKLEY & MANN SITE NORFOLK, MASSACHUSETTS RELEASE TRACKING NUMBER 2-3000173

The text provided in italic type includes the content of the letter received from Sandra Myatt, on behalf of the PIP petitioners, on July 17, 2018. Buckley & Mann's response to each question is presented in bold type after each question.

---

*TO: Steve Vetere [Vetere@mabbett.com](mailto:Vetere@mabbett.com)*

*RE: Public Involvement Plan Interview Request*

*Former Buckley & Mann Site*

*RTN 2-3000173*

*CC: Mr. McCarthy, Norfolk Town Planner [rmccarthy@norfolk.ma.us](mailto:rmccarthy@norfolk.ma.us)*

*Mr. Hathaway, Norfolk Town Administrator [jhathaway@norfolk.ma.us](mailto:jhathaway@norfolk.ma.us)*

*Norfolk Board of Health Betsy Fijol [bfijol@norfolk.ma.us](mailto:bfijol@norfolk.ma.us)*

*Norfolk Conservation Commission and Zoning Board of Appeals [abrady@norfolk.ma.us](mailto:abrady@norfolk.ma.us)*

*Norfolk Conservation Commission, Agent Janet DeLonga [jdelonga@norfolk.ma.us](mailto:jdelonga@norfolk.ma.us)*

*Board of Selectmen, Chair Mr. Lehan [jlehan@norfolk.mamus](mailto:jlehan@norfolk.mamus)*

*Board of Selectmen, Vice Chair [jpalumbo@norfolk.ma.us](mailto:jpalumbo@norfolk.ma.us)*

*Board of Selectmen, Clerk [kkalkut@norfolk.ma.us](mailto:kkalkut@norfolk.ma.us)*

*Town Clerk, Carol Greene [cgreene@norfolk.ma.us](mailto:cgreene@norfolk.ma.us)*

*Norfolk Public Works [dpw@norfolk.ma.us](mailto:dpw@norfolk.ma.us)*

*Mr. Joseph Laughton, MADEP Waste Site Cleanup [Joseph.laughton@state.ma.us](mailto:Joseph.laughton@state.ma.us)*

*From: Sandra Myatt and Subgroup of PIP Petitioners*

*Mr. David Dimond [digitaldimond@gmail.com](mailto:digitaldimond@gmail.com)*

*July 17, 2018*

*Dear Mr. Vetere,*

*We are in receipt of your request for information describing our concerns for the disposal site at 17 Lawrence Street as you prepare the Draft Public Involvement Plan. This letter, from a subset of the PIP petitioners, states some of our concerns. We expect that as more data becomes available as to the horizontal and vertical extent of contamination, more questions and concerns will arise. Most of our concerns stem from the fact that the retracted AUL is not the only contaminated portion of the property. We would like to know what other hazardous materials exist, where they exist, and what health risks are associated with the combination of contaminants found. We are concerned with how the water, wildlife and environmental receptors are impacted. We would like to know if contamination has reached into any bedrock fractures which supply water to private and public wells. Lastly, we want to protect local water supplies and area residents from harm.*

- 1. Determine the horizontal and vertical extent of contamination:** *Include downgradient status via various waterways (Mill River, trenches and the Tail Race) as well as Bush Pond. Vertical*

*delineation shall include method to evaluate bedrock aquifers such as examination of area private wells and the Gold Street well for chemicals known to be on site. Provide 3D mapping of contamination plumes.*

**Response:** One of the objectives of the Phase II investigation will be to delineate the horizontal and vertical extent of contamination. The Mill River, Carbonizer Trench, Tail Race, and Bush Pond will be investigated. No bedrock groundwater assessment is planned for the Phase II because the project team does not believe that it is warranted at this time. Groundwater sampling data from existing wells screened in the overburden aquifer have not encountered evidence of contamination, and the contaminants-of-concern at the Site (metals, petroleum hydrocarbons, PAHs) do not have the physical characteristics that are typically necessary to migrate into the bedrock.

- 2. *Online Repository of Information:*** *This online repository is in addition to public library repositories in Norfolk and Franklin. We would like reports/documents/sampling data etc. uploaded as they are obtained by Mabbett or other LSPs working on this site, including Weston and Sampson. Items should include photographs and other pertinent material collected to date and continuing throughout the site remediation. PIP process is to continue if possible, through future cleanup/audits.*

**Response:** The project team will work with the Town to make interim submittals available to the public for review. The exact mechanism to be used is unknown at this time.

- 3. *Consider 200-year history of factory operations:*** *Locations which reflect the earliest structures and various operations through the centuries should be tested, including locations when it was a papermill, a tannery, as well as the textile operation's most recent history. Please contact previous employees of the mill to determine undocumented dumping practices.*

**Response:** The project team is reviewing historical information regarding manufacturing operations that occupied the Site prior to Buckley & Mann and will incorporate this information into the Phase II Scope of Work. Additional interviews with people familiar with historical site operations are being interviewed to learn more about the processes that were employed at the Site during its use as a textile manufacturer.

- 4. *Potential Vernal Pool Assessment/Certification:*** *Perform appropriate testing of Lagoons 1 & 2 and Carbonizer Lagoon and other natural waterbodies on site for contamination and wildlife. Report results to Natural Heritage and Endangered Species Program for vernal pool certification or provide pathway for certification with public involvement. These waterbodies would be tested as part of horizontal extent.*

**Response:** The Phase II Scope of Work includes sediment and surface water sampling in lagoons and other water bodies in the vicinity of the Site.

- 5. *Risk Assessment:*** *Evaluate risks associated with substances found to determine if significant risk to human health or environment exists. Consider substances alone and in combination with each other. Perform health survey and report findings. Discuss pathways for exposure including air and water.*

**Response:** A Method 3 human health and environmental risk assessment will be performed once the nature and extent of contamination has been delineated. The risk assessment will follow MassDEP protocols.

6. **Report Exceedances of MCP Standards.** *Document when exceedances in Mabbett's April 26, 2018 Project Status Summary, will be reported to proper authorities. Specify reporting schedule for future exceedances.*

**Response:** Exceedances encountered during the March and April 2018 sampling efforts did not trigger any new reporting requirements. The metals and one PAH detected above reportable concentrations did not represent a new reporting condition. However, Buckley & Mann did submit a revision to the notification to document the specific metals and PAH that were detected. Buckley & Mann will report future release conditions as warranted and within the time frames established in the MCP.

7. **Answer Previous PIP Concerns:** *A previous PIP on this same property occurred in the early 2000s. These concerns are being sent separately to be addressed during this investigation.*

**Response:** The project team will address all releases in accordance with the Massachusetts Contingency Plan to document a condition of No Significant Risk and achieve a Permanent Solution.

8. **Zone II Considerations and Protections:** *Provide protections for water quality in this recharge zone by examining the filtration capacity of the overburden and the impact of its possible removal considering the results of horizontal/vertical disposal site delineation. Include bedrock aquifer impact if uncontaminated overburden is removed as proposed.*

**Response:** The scope of the PIP is limited to MCP and disposal site issues. The nature and extent of contamination in groundwater will be characterized to support a Permanent Solution with respect to groundwater contamination. If elevated concentrations of one or more contaminant are detected in a monitoring well that is located within the Zone II, then the Site would be reclassified as Tier 1. Impacts on groundwater from the removal of clean soil at the Site are beyond the scope of the MCP process.

9. **Disposal Site Boundaries Evaluated:** *Once the disposal site boundaries have been specified, the relationship of the disposal site, to the proposed Abbyville project needs to be reviewed to evaluate the design and safety to existing and future residents. Also re-evaluate the environmental impacts from the development such as the rise in water table from wastewater treatment plant considering the disposal site and possible post clean-up configuration.*

**Response:** The proximity of the disposal site boundary to residential homes will be a key consideration for the cleanup strategy. The human health risk assessment will necessarily consider the increased potential for exposure to contaminated environmental media that would result from the construction of new homes in close proximity to the Site. Potential environmental impacts from the wastewater treatment plan are beyond the scope of the MCP process.

10. **Establish Buffer Zones at Property Boundaries:** *Considering that long term monitoring of the site post-remediation may be necessary, residents would like a buffer zone of existing vegetation 500'*



*from the property lines to remain into perpetuity. Monitoring wells in these buffer zones should be established along the perimeter. Consider and document all possible impacts post-cleanup, including back diffusion of contaminants, their long-term existence in the soil and their future migration and degradation. Establish if geochemical conditions favor degradation for long term management of any remaining onsite plumes. More discussion of active and sustained treatment of contaminants will be necessary once the disposal site has been fully delineated.*

**Response:** The Phase II Comprehensive Site Assessment will evaluate the fate and transport of contaminants, and the site cleanup strategy will be designed to be protective of human health and the environment in perpetuity with consideration given to all of the potential migration pathways and exposure routes for any contaminated media remaining on site.

*Thank You,*

*We look forward to working cooperatively with all parties to understand and manage this site for the safest outcome possible and to achieve a condition of no significant risk to human health or the environment.*

*Sandra Myatt*

*PIP Petitioner and a subset of PIP Petitioners*