



**Phase II Environmental Site Assessment  
Former Montague Gold Mines, Dartmouth, Nova Scotia  
Final Report**

**October 2021**

Project #TV183013.3000.52

# **Phase II Environmental Site Assessment**

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### **Final Report**

**Project #TV183013.3000.52**

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Nova Scotia Lands Incorporated

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## Executive Summary

Wood Environment & Infrastructure Solutions, a division of Wood Canada Limited (Wood) was retained by Intrinsic, on behalf of Nova Scotia Lands, to complete a Phase II Environmental Site Assessment (ESA) of the former Montague Gold Mines, currently being managed by Nova Scotia Lands. The Phase II ESA was completed on Crown land parcels of the historic mine, to meet the requirements of the Nova Scotia Environment Contaminated Sites Regulatory process. The former Montague Gold Mines spans over six Parcel Identification (PID) Numbers, PID 00315085, 00252478, 00018002, 40306029, 41294646, and 41294679 located mainly around Montague Road, hereafter collectively referred to as "the Site". This Phase II ESA is restricted to assessing only Crown land property parcels, as identified in the PID numbers above.

The purpose of this project is to conduct a Phase II ESA in accordance with the Nova Scotia Environment (NSE) Contaminated Site Regulations (CSRs) Phase II ESA Protocol (PRO-400) and Checklist (CHK-400), for Crown land associated with the former Montague Gold Mines.

The Phase II ESA included:

- A gap analysis of all previous sampling and analytical data to identify areas at the Site that needed further investigation;
- An intrusive investigation and sample analysis;
- A summary of the Site background including geological, hydrogeological, and hydrological information; and
- A report to discuss all findings of the Phase II ESA.

The scope of the intrusive investigation was selected in order to determine the presence or absence of Contaminants of Potential Concern (COPCs) in soil and/or groundwater, and/ or attempt to delineate known areas of impacts (i.e., tailings) at the Site. Although various investigations have been completed at the Site, collection of further analytical data was necessary to meet the requirements of the NSE CSRs. Areas requiring further investigation include:

- Along/ near Crown land boundaries to determine the presence/ absence/ delineation of potential metals impacts in soil around the property boundary.
- Areas within the Crown land property boundaries not previously investigated to determine the presence/ absence of metals impacts in soil.
- Areas of known historical infrastructure to determine the presence/ absence of metals and petroleum hydrocarbon impacts in soil.
- Areas observed to be undelineated for metals impacts within the Crown land boundary to attempt to achieve delineation in soil.
- Areas of known tailings to determine the presence/ absence of potential cyanide impacts in soil.
- Limited groundwater data exists for the Site, with the only groundwater samples on Crown land located within the main tailings area. Additional groundwater data is required across the Site to determine the presence/ absence of metals impacts in groundwater at the Site.

Based on the information collected during this investigation, Wood provides the following conclusions:



- Elevated concentrations of arsenic greater than applicable NSE Tier I are widespread at the Site. Delineation is not achieved at all property boundaries. It is likely that due to the geology of the Site, there may be a naturally elevated arsenic concentrations (outside of the concentrated tailings area), as is common in Nova Scotia.
- Elevated concentrations of mercury greater than applicable NSE Tier I appear to be associated with the historical tailings. Mercury is generally considered delineated on Site, except for areas where the tailings cross the Site boundaries.
- Elevated concentrations of cyanide greater than applicable NSE Tier I appear to be associated with the historical tailings. Cyanide is not delineated within the tailings piles and is not expected in other areas of the Site.
- Elevated concentrations of cobalt greater than applicable NSE Tier I are widespread at the Site, mostly contained within the historic tailings, and appears to be mainly delineated within the tailings.
- Elevated concentrations of copper greater than applicable NSE Tier I appear to be contained within the historic tailings at the Site. Copper is generally considered delineated on Site, except for areas where the tailings cross the Site boundaries.
- Elevated concentrations of lead greater than applicable NSE Tier I generally appear to be contained within historic tailings at the Site, Lead is generally considered delineated on Site, except for areas where the tailings cross the Site boundaries.
- Elevated concentrations of selenium greater than applicable NSE Tier I are located within historic tailings at the Site and sporadically across the Site. Selenium has not been delineated along various areas of the Site boundaries.
- The following metals: antimony, nickel, silver, tin, vanadium and zinc were identified in a few sporadic sample locations at the Site, exceeding NSE Tier I EQSs. Due to the sporadic nature of these exceedances, it is likely they are not associated with the historic mining activities.
- Numerous aluminum and iron samples had concentrations that exceeded the Tier I EQSs for soil. Naturally elevated concentrations of aluminum and iron are common throughout Nova Scotia.
- Only one PHC exceedance, to NSE Tier I EQS I was identified, near the Symonds- Kaye, Oland and Boyd's Crusher area. It is not likely PHCs are a concern in soil at the Site.
- Elevated concentrations of arsenic greater than NSE Tier I are present in groundwater in the area of the main tailings, which is likely associated with former mining activities. Elevated arsenic in groundwater and drinking water is known to occur in areas surrounding the Site as a result of the local geology.

Based on the conclusions of this investigation, the following recommendations are presented for consideration:

- Use the information collected during this investigation and previous investigations to prepare an ecological and human health risk assessment to identify appropriate risk-based remediation criteria;
- Based on the risk-based remediation criteria, update the conceptual closure plan to identify feasible and effective risk mitigation strategies.



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## **1.0 INTRODUCTION**

Wood Environment & Infrastructure Solutions, a division of Wood Canada Limited (Wood) was retained by Intrinsic, on behalf of Nova Scotia Lands, to complete a Phase II Environmental Site Assessment (ESA) of the former Montague Gold Mines, currently being managed by Nova Scotia Lands. The Phase II ESA was completed on Crown land parcels of the historic mine property, to meet the requirements of the Nova Scotia Environment Contaminated Sites Regulatory process. The former Montague Gold Mines spans over five Parcel Identification (PID) Numbers, PID 00315085, 00252478, 00018002, 40306029, 41294646, and 41294679, located mainly around Montague Road, hereafter collectively referred to as "the Site". This Phase II ESA is restricted to assessing only Crown land property parcels, as identified in the PID numbers above.

### **1.1 Purpose**

The purpose of this project is to conduct a Phase II ESA in accordance with the Nova Scotia Environment (NSE) Contaminated Site Regulations (CSRs) Phase II ESA Protocol (PRO-400) and Checklist (CHK-400), for Crown land associated with the former Montague Gold Mines.

### **1.2 Objectives**

The objectives of the Phase II ESA, as per the NSE CSR Phase II ESA protocol, PRO-400, are as follows:

- Confirm the presence or absence of contamination based on a Phase I ESA, performed in accordance with the Phase I ESA protocol, (PRO-300). (Note that the Phase I ESA was completed in 2020)
- Conduct intrusive investigations.
- Compare analytical data to the applicable Tier I Environmental Quality Standards (EQS) as provided by the NSE CSRs.
- Acquire sufficient information to develop a remedial action plan, if necessary.
- Document the results of the Phase II ESA in a report.

### **1.3 Project Scope**

The Phase II ESA included:

- A gap analysis of all previous sampling and analytical data to identify areas at the Site that needed further investigation;
- An intrusive investigation and sample analysis;
- A summary of the Site background including geological, hydrogeological, and hydrological information; and
- A report to discuss all findings of the Phase II ESA.

The scope of the intrusive investigation was selected in order to determine the presence or absence of Contaminants of Potential Concern (COPCs) in soil and/or groundwater, and/ or attempt to delineate known areas of impacts (i.e., tailings) at the Site. Although various investigations have been completed at the Site, collection of further analytical data was necessary to meet the requirements of the NSE CSRs. Areas requiring further investigation include:

- Along/ near Crown land boundaries to determine the presence/ absence/ delineation of potential metals impacts in soil around the property boundary.





- Areas within the Crown land property boundaries not previously investigated to determine the presence/ absence of metals impacts in soil.
- Areas of known historical infrastructure to determine the presence/ absence of metals and petroleum hydrocarbon impacts in soil.
- Areas observed to be undelineated for metals impacts within the Crown land boundary to attempt to achieve delineation in soil.
- Areas of known tailings to determine the presence/ absence of potential cyanide impacts in soil.
- Limited groundwater data exists for the Site, with the only groundwater samples on Crown land located within the main tailings area. Additional groundwater data is required across the Site to determine the presence/ absence of metals impacts in groundwater at the Site.

A detailed scope of work for the Phase II ESA is discussed in Section 4.0.



## 2.0 SITE BACKGROUND AND PHYSICAL SETTING

### 2.1 Site Description

The Crown portion of the former Montague Gold Mines property (PIDs 00315085, 00252478, 00018002, 40306029, and 41294646) is located near the community of Montague Gold Mines, near Waverley, NS, as shown on the General Site Location (Figure 1a, Appendix A). The Site extends to the north and south of Montague Mines Road, and a small portion of the Site is located to the south of the Highway 107. The intersection of Montague Road and Montague Mines Road is located in the central area of the Site. Privately owned, residential properties are located along these two roads, creating off-Site pockets within the overall boundaries of the Crown land (the Site). Site property details are shown on Figure 1b, Appendix A).

The Site consists of a total area of approximately 363 acres over the five PIDs. Four of the five land parcels, PIDs 00315085, 00252478, 00018002, and 40306029, are located on the east side of Highway 107 with the remaining parcel, PID 41294646, located on the west side of Highway 107. The Site is mainly surrounded by treed and forested lands, or residential properties located along Montague Road and Montague Mines Road. The Site is bounded to the north and south by treed and undeveloped lands. To the east, of a portion of the Site boundary is bound by privately owned residential properties along Montague Road. To the west, the Site is bound by treed lands extending to and across to the opposite (further west) side of Highway 107 (Forest Hills Extension).

There are no potable water wells present on the Site, however the surrounding residential properties adjacent to the Site have a mix of private potable water wells (Montague Mines Road area) and supplied municipal water (Montague Road area), as such the Site is considered potable.

### 2.2 Historical and Current Land Use

The Montague Mine District was a collection of historical gold mining operations that produced gold at the Site from 1863 to 1939 and involved several different mines using open trenching and underground mining methods. The Site produced over 68,000 ounces of gold, from approximately 134,000 tons of mined ore. Ore was milled on-Site, using a variety of stamp mills to crush and pulverize mined rock and utilizing mercury amalgamation and cyanide processes to recover gold from the crushed ore. As a result, the area remains heavily disturbed with numerous open mine shafts, subsidence features and a number of uncontained tailings disposal areas. There are known environmental legacies associated with past mining activities at the Site, largely related to the presence of elevated levels of arsenic and mercury in the tailings as well as physical hazards from open mine workings.

Details of the historic mining operations are provided in the Phase I ESA (Wood 2020). Although a large nugget was found on the property following Hurricane Juan in 2003 (previously hidden by mature tree), mining activities have not re-commenced at the property since 1939.

Currently, most of the property is treed and forested lands. There are walking paths and all-terrain vehicle (ATV) paths throughout the site, as well as a large, cleared area that appears to be used by local recreational vehicles (ATVs and dirt bikes). The large, cleared area has been previously identified as part of the main tailings area. However, as described above, the Site was a historical gold mining operation that involved several different mine companies using open trenches and underground mining methods. As a result, the area remains heavily disturbed with numerous unreclaimed open mine shafts, subsidence features, and several uncontained tailings areas (some of which extend onto neighbouring land to the north, west, and south of the Site). There are also concrete and rock foundation remnants in various areas of the Site. Wetlands and streams are also located on the Site.

### 2.3 Geology, Topography, and Drainage

According to the Surficial Geology Map of the Province of Nova Scotia (Map 92-3) by the NS Department of Energy and Mines, the Montague Mines area consists of stony till plain and drumlins. The till typically consists of stony, sandy, matrix derived from local bedrock sources while the drumlin facies consist of siltier till, due to erosion and incorporation of older till units by glaciers.

According to the Geological Map of the Province of Nova Scotia (Map ME 2000-1) by the NS Department of Natural Resources, Minerals and Energy Branch, the study area appears to be underlain by the Goldenville Formation of the Meguma Group, which consists of sandstone turbidities and slate.

As indicated by the surficial Geology Map of the Province of Nova Scotia, Map 92-3 by the NS Department of Energy and Mines, the topography of the area is flat to rolling, with many surface boulders, drumlins, or oval hills veneered by stony till with underlying multiple till layers.

Locally, the Site lies at an approximate elevation of 50 to 80 metres above sea level (masl). The area of the intersection of Montague Road and Montague Mines Road appears to have the higher elevation of 80 masl, with the topography sloping radially away from this area towards Lake Major (northeast of the Site), Loon Lake (south of the Site), and Lake Charles (northwest of the Site).

### 2.4 Hydrology and Hydrogeology

In a previous study completed by Intrinsik, EcoMetrix, Klohn Crippen Berger, and Wood, dated July 2019, high level hydrological assessment was completed at the Site. The area within and around the Site boundaries is relatively flat and is dominated by wetlands, making it challenging to determine flow direction and flow connections. High resolution Light Detection and Ranging (LiDAR) survey and aerial photography was used to make assumptions on flow direction and location of hydraulic connections. In general, surface water flows from Loon Lake northwest via Mitchell Brook through Montague Mines and continues via Mitchell Brook that flows south through discharging into Lake Charles. As previously noted, the area is relatively flat and floods seasonally. During seasonal flooding, a portion of the northern section of the Site flows north.

According to the NS well log database, approximately 60 private drilled water wells are located within the Montague Gold Mines community. The wells range in depth from 15 feet (drilled in 1969) to 500 feet (drilled in 1984). It should be noted that besides the 15 foot well, the shallowest well is 85 feet. The 15 foot well was drilled at "129 Bellavista Drive, Montague Road" and the address could not be verified in the area.

It should be noted that there may be more private water wells present in the area than what is registered within the NS well log database.

According to Hydrogeologic characterization of Nova Scotia's groundwater regions (Kennedy, G.W. & Drage, J., 2009), the area of the Site is within the Metamorphic region for bedrock groundwater. Bedrock in this region includes rocks such as quartzite and slate and wells located in the metamorphic groundwater region tend to have lower water yields than those in the alternative NS bedrock groundwater regions. The Site is within the "Other" region for surficial groundwater. Surficial geology in the "Other" region consists of colluvial, glaciolacustrine, and silty/stony till deposits. Wells located in the "Other" surficial groundwater region tend to have lower water yields than those in the alternative NS bedrock groundwater regions.

Hydrogeological Site conditions were assessed as part of this Phase II ESA investigation and described in greater detail elsewhere in this report. Local (on-Site) groundwater elevations were determined from

observations in new groundwater monitoring wells (see Section 6.2.5 for details). Groundwater elevations were used to infer the groundwater flow direction on Site, as shown on Figure 3, Appendix A. Note that because the six wells are so far apart (500 metres plus), contours were not able to be interpolated. However, based on elevations, with three monitoring wells on the north side of Montague Road and three on the south side of Montague Road, there appears to potentially be a groundwater divide in the area of Montague Road. Based on the three wells north of Montague Road, the groundwater flow direction appears to be towards the northeast, whereas, on the wells south of Montague Road appear to show a groundwater flow direction towards the southwest, although it is expected to be more so west, toward Lake Charles. Based on well recharge measurements observed during bail tests the hydraulic conductivity in the Site soils was calculated to be as follows: (method described in Section 6.2.6):

- 2021-MW3 –  $2.3 \times 10^{-2}$  m/day ( $2.7 (10^{-5})$  cm/sec)
- 2021-MW5 –  $1.7 \times 10^{-2}$  m/day ( $2.0 (10^{-5})$  cm/sec)



### 3.0 PREVIOUS INVESTIGATIONS

Numerous investigations have been performed at the Site, including considerable geochemical characterization of the main tailings area and surrounding soils, with early studies starting in the late 1970s and early 1980s, and extensive research from 2005 to present. Pivotal studies include the 2005-2006 geochemical characterization work conducted by the Geological Survey of Canada (Parsons et al, 2012), subsequent studies stemming from this early work through 2015-2016, which include a 3-year study examining potential remediation strategies for the Site.

Some of the more notable studies/investigations relevant to this Phase II ESA include the following:

- Maritime Testing Consulting Engineering & Environmental Services. 2009. Modified Phase II Environmental Site Assessment, Former Gold Mine Site, Montague Mines, Nova Scotia.
- Parsons, M., LeBlanc, G. Hall, A. Sangster, J. Vaive, and P. Pelchat. 2012. Environmental geochemistry of tailings, sediments and surface waters collected from 14 historical gold mining districts in Nova Scotia.
- Drage, J. 2015. Review of the Environmental Impacts of Historical Gold Mine Tailings in Nova Scotia.
- Parsons, M. and M. Little. 2015. Establishing geochemical baselines in forest soils for environmental risk assessment in the Montague and Goldenville gold districts, Nova Scotia, Canada.
- Intrinsic Corp, EcoMetrix, Klohn Crippen Berger and Wood. 2019. Conceptual Closure Study for the Historic Montague Mines Tailings Areas, Halifax, Nova Scotia.
- Wood Environment & Infrastructure Solutions (Wood). 2020. Phase I Environmental Site Assessment, Former Montague Gold Mines, Dartmouth, Nova Scotia.

#### 3.1 Conceptual Closure Study for the Historic Montague Mines Tailings Areas (Intrinsic Corp, EcoMetrix, Klohn Crippen Berger and Wood, 2019)

In 2020, the mine remediation team, made up of Intrinsic Corp, EcoMetrix, Klohn Crippen Berger and Wood completed a high-level conceptual closure plan for the mine tailings that have been deposited at the former Montague Gold Mine Site. The objectives of the project were as follows:

- Identify gaps in the available information.
- Conduct additional field investigations to address the information gaps.
- Develop criteria for closure.
- Develop a conceptual closure plan for the Site with a Class D cost estimate and level 1 schedule, recognizing that there may be more than one option available to close the Site.

As part of the project, the team completed a background review of the analytical data available for the project. This report summarizes the first four references listed above in section 4.2. The summary reads as follows:

*"Tailings geochemistry studies by Parsons et. al. (2012a) are mentioned in Section 2.0 and are discussed further in Appendix A. Historical studies prior to the Parsons et al (2012a) work are limited and are similarly discussed in Appendix A. Additional soils characterization within and off the main tailings area and some preliminary groundwater characterization within the main tailings area has also been conducted (Maritime Testing (1985) Ltd., 2009). The Maritime testing study (2009) was focused on gathering supplementary soils data in*

*areas of the tailings that had not yet been characterized in earlier studies, as well as in areas between the main tailings areas and nearby residential properties (sampling on Crown lands only). Arsenic concentrations ranged from 7 mg/kg to 12,000 mg/kg in the < 2mm fraction, with one sample taken from within the tailings area measuring 17,000 mg/kg (Maritime Testing, 2009). Mercury results from within the <2 mm fraction sized samples ranged from 0.02 mg/kg up to 25 mg/kg (sample taken in tailings area). The sampling protocol involved sampling at a 0 to 5 cm soil depth (the public health layer), as well as coring to deeper depths, with soil samples being fractionated to 2 mm size, as well as a smaller fraction of < 150 µm. A total of 54 locations were sampled with a total of 77 samples being collected (including surface and cored samples). Arsenic in the < 150 µm fraction ranged from 6 mg/kg up to 35,000 mg/kg, with the highest samples being taken from within the tailings area (Maritime Testing, 2009). Drage (2015) cites an average arsenic concentration for the main tailings of approximately 13,000 mg/kg. Additional solids investigations have been conducted in other studies within the NSERC grant previously mentioned.*

*In addition to site-related investigations, Parsons and Little (2015) conducted a study to determine possible background levels of arsenic in the Montague Mines area. Arsenic (0-5 cm; <2 mm size fraction) ranged from 4–273 mg/kg (median 42 mg/kg; median + 2 median absolute deviations 139 mg/kg; 98th percentile 264 mg/kg), with mercury ranging from 0.072– 0.490 mg/kg (median 0.164 mg/kg; median + 2 median absolute deviations 0.374 mg/kg; 98<sup>th</sup> percentile 0.447 mg/kg)."*

Appendix A of the conceptual closure plan report presents a background information review completed for the Site.

### **3.2 Phase I ESA (Wood, 2020)**

In 2020, Wood conducted a Phase I ESA of the Crown land portion of the former Montague Gold Mines property. The purpose of the Phase I ESA was to identify actual or potential environmental concerns at the Site that may have resulted from existing and previous land uses or development activities on and adjacent to the Site property, and to identify any present conditions or practices that may represent significant environmental concerns.

Historic mining activities included underground mining, crushing and processing of ore, and disposal of tailings. No additional sources of potential environmental impacts were identified during the records review that point to specific locations or activities. The following conclusions were made:

- Mercury was used in amalgamation processes at the various mines at the Site from 1865 to its close in 1939. Undocumented spills of free mercury may have occurred in and around the mill buildings occupying the Site. As evidenced by numerous environmental studies completed at the Site from the 1980s to present, mercury was present in elevated concentrations in tailings effluent discharged from the mills, including Main Tailing Areas 2 and 3. Similarly, cyanide was used at the Montague Mine Site from the 1910s to the 1930s to extract gold from the crushed ore. Zinc dust was also noted to be used in the cyanide milling process. Similar to mercury, there is potential for free cyanide and zinc spills in the area of the Montague Mine site (Boyd's Crusher or Symonds-Kaye mine area), concentrations to be present in the area of the sump at the mill, or low concentrations to be present within the tailings at the southeastern corner of the Site.
- There was very little tree growth observed in the current main tailings areas at the Site. As evidenced by the aerial photographs, it appears this area was at least partially treed prior to mining activities, eventually becoming a cleared area. A significant amount of tree growth has

not been present since prior to the mining operations in this area. The area is now a large clearing with a sandy ground cover with little plant or tree growth.

- Coal may have been used as a fuel source in steam operated equipment at the Site from 1865 to 1937 when the last steam-operated hoist was replaced with an electric-powered unit. Coal may have also been used at the Site for heating purposes. Historical Polycyclic Aromatic Hydrocarbon (PAH) concentrations may be present in surface soil at the Site due to spent coal ash potentially being disposed of on surface soil in the areas historically occupied by buildings at the Site.
- Mechanical equipment present at the historical mine buildings utilized petroleum, oils and lubricants (POLs) to operate, including gasoline and diesel for motors. There is potential for historical spills of petroleum hydrocarbons potentially containing lead and methyl tert-butyl ether (MTBE) to have occurred in the historically developed mining areas of the Site.
- Waste rock from the various mine shaft workings were deposited on surface near the mill buildings following historical hand-sorting activities. Waste rock was also used to fill voids within the mine stopes to ensure stability of the mine. The Montague gold deposit area reportedly contains naturally occurring arsenopyrite, an iron-arsenic-sulphide mineral. There is potential for acid-rock drainage to occur at waste rock areas currently present at the Site. Due to the increased surface area of waste rock stored within the mines present at the Site, there is potential for elevated arsenopyrite concentrations to be present within groundwater in the area. Due to historical milling practices including the release of effluent into nearby streams and wetlands, elevated arsenic concentrations are also present within the tailings areas of the Site. Elevated concentrations of arsenic were found to be present within three neighbouring Site potable water wells in 1976 (> 10 µg/L). The 2017 Arsenic in Well Water Risk Map indicates that 80% of the samples collected near the Montague Gold Mines Site were exceeding 10 µg/L arsenic in well water.
- An environmental study was completed in 2011 at three mine sites in Nova Scotia, including the Montague Mine Site, that were frequently visited by all-terrain vehicles. The 2011 study noted that windblown and vehicle-raised dust from unvegetated mine tailings can be a human health risk.
- Lead-based paint potentially may have been used in building construction at the Site and has the potential to be present in surface soil in historically developed areas of the Site.
- In regard to human environment, the area remains heavily disturbed with numerous un-reclaimed open mine shafts, subsidence features, and a number of uncontained tailings disposal areas posing significant safety concerns as well as human health and ecological concerns. In addition, it is known that high levels of arsenic are present in the soils in some areas of the Site, as indicated by government warning signs posted throughout the Site including the Site entrances (along walking paths). Despite these signs, there is evidence of trail biking activities, the use of ATVs, and walking/hiking activities for both humans and their domestic animals at this Site.
- PCBs were potentially present at the Site including used within two documented transformers used by the Dartmouth Power Company in 1924 to convert power from the overhead 13,000-volt transmission line.
- Environmental geochemistry of tailings, sediments and surface water sampling collected from 14 historical gold mining districts in Nova Scotia was reported by Parsons and others in 2012, based on sampling completed between 2003 and 2006. The 2012 reporting resulted in the formation of the Provincial-Federal Historic Gold Mines Advisory Committee in 2005, which has since evaluated

the ecological and human health risks associated with gold mines throughout Nova Scotia and developed recommendations for management of these tailings sites, including posting signage at the Montague Site to warn of potential human health risks. The 2012 Parsons report also spurred a significant amount of academic research related to geochemistry, bioaccessibility, and other environmental studies for historic mine sites in Nova Scotia.

- Research with respect to baseline concentrations of mercury and arsenic was conducted by Parsons and Little in 2015 and documented in a report titled, 'Establishing geochemical baselines in forest soils for environmental risk assessment in the Montague and Goldenville gold districts, Nova Scotia Canada'. This research concluded:
  - Arsenic concentrations in all soil horizons are consistently higher than the CCME soil guideline (12 mg/kg), as well as the NSE Environmental Soil Quality Standard (31 mg/kg), with a median concentration of 42 mg/kg at Montague. The median concentration of mercury was concluded to be 164 µg/kg, which is lower than the CCME soil quality guideline and NSE Environmental Soil Quality Standard of 6600 µg/kg.
  - The upper limits of baseline variation (or threshold values) as determined by median + 2MAD (median absolute deviation; 98th percentile) are: arsenic – 139 mg/kg; and mercury – 374 µg/kg. Public Health layer soils (the top 0 to 5 cm of surface soil) with arsenic and/or mercury concentrations above these thresholds may be contaminated and warrant further investigation in risk assessments or remediation activities.

The following recommendations were made:

- A gap analysis should be completed to determine if the significant issues associated with historical use of the Site and/or their environmental conditions have been previously investigated or if additional environmental investigations are warranted to meet the requirements of the NSE CSRs.
- Based on research conducted, it is evident arsenic in soil is naturally greater than applicable federal and provincial guidance. A background concentration of arsenic for the Site was developed by Parsons and Little (2015), and this value, and other Site-specific risk-based values should be discussed with regulatory stakeholders as possible remedial goals for the Site.



#### **4.0 SCOPE OF WORK**

The scope of the intrusive Phase II ESA investigation was selected in order to determine the presence or absence of COPCs in soil and/or groundwater, and/ or attempt to delineate known areas of impacts (i.e. tailings) at the Site. Although various investigations have been completed at the Site, collection of further analytical data was necessary to meet the requirements of the NS CSR process. The scope of work included the following tasks:

- Completed a gap analysis of all previous sampling and analytical data to identify areas at the Site that require further investigation;
- Completed a site-specific health and safety plan (HASP).
- Conducted underground utility locates with a hired sub-contractor.
- Advanced six drilled boreholes, completed as monitoring wells (2021-MW1 through 2021-MW6), and collected continuous soil samples every 0.6 metres submitting two to four samples from each monitoring well for analysis of metals, including mercury.
- Developed the six newly installed monitoring wells and collected groundwater samples using a low-flow sampling pump for analysis of petroleum hydrocarbons (PHCs), dissolved metals, including both total and dissolved mercury, cyanide and general chemistry.
- Collected soil samples at 68 locations, by hand auger for analysis of metals, including mercury with select samples from known tailings areas also analyzed for cyanide. Soil samples were collected from the following three depths: A- 0.05 mbgs, B – 0.6 mbgs, C – 2 mbgs, or until refusal.
- Performed a groundwater bail test in two of the new monitoring wells (2021-MW3– north of Montague Road, and 2021-MW5 -south of Montague Road).
- Recorded GPS coordinates (sub-metres) for all monitoring well and oil sample locations.
- Conducted an elevation survey of the top of casing (TOC) elevation of each of the six new monitoring wells, using an RTK survey equipment.
- Calculated the hydraulic conductivity, and interpreted flow direction, based on groundwater elevations in monitoring wells and groundwater recharge data from the bail test.
- Evaluated the laboratory analytical results against the applicable Tier I EQS as provided by the NSE CSRs.
- Prepared a report to discuss findings of the Phase II ESA, complete with Site figures, analytical summary tables and analytical laboratory certificates of analyses.

## 5.0 SITE CLASSIFICATION/GUIDELINES

The applicable regulatory criteria are determined, in part, by features of the Site such as land use, soil grain size, presence of potable water supplies, and distance to possible receptors. A large portion of the Site is considered to be agricultural land, as per the NS CSRs, as agricultural land use also includes areas that provide habitat for resident and transitory wildlife and native flora. As much of the Site is forested agricultural land use category is considered applicable. Portions of the Site also border existing residential properties, therefore residential land use EQSs are appropriate in those areas.

The groundwater is potable as the majority, if not all of the homes adjacent to the Site have individual potable water wells. The Site soils are considered to be coarse-grained, based on soil descriptions recorded during the Phase II ESA investigative program. The following sections describe the applicable guidelines/criteria used to evaluate laboratory analytical results in soil, groundwater, and drinking water.

### 5.1 Soil

Soil samples collected were submitted for laboratory analyses including metals, mercury, and cyanide, and petroleum hydrocarbons (PHCs) including benzene, toluene, ethylbenzene, and xylenes (BTEX).

Laboratory results were compared to the following criteria:

- NSE Tier I EQS for Soil at a Potable Site (agricultural land use, coarse-grained soil), July 2013 (accessed online September 2021).
- NSE Tier I EQS for Soil at a Potable Site (residential land use, coarse-grained soil), July 2013 (accessed online September 2021).

### 5.2 Groundwater

Groundwater samples collected were submitted for laboratory analyses including BTEX/PHCs, dissolved metals, including dissolved and total mercury, cyanide and general chemistry. Laboratory results were compared to the following criteria:

- NSE Tier I EQS for Groundwater (potable groundwater, coarse-grained soil, agricultural/residential land use), July 2013 (accessed online September 2021).

## 6.0 PHASE II METHODOLOGY

The following Sections present the methodologies for the completing the Phase II ESA scope of work.

### 6.1 Gap Assessment

Historical data from the conceptual closure plan report was rescreened to NSE Tier I EQS guidelines for both agricultural and residential land use and was the basis of the Phase II ESA scope planning. A summary of historical data is found in Appendix E. Exceedances to the Tier I EQSs are shown on the figures in Appendix A.

### 6.2 Field Program

Field activities were performed in accordance with the Site-specific Phase II ESA HASP (Wood, 2021). As required in the HASP, field investigation activities were conducted with appropriate personal protective equipment. An initial safety kickoff meeting, followed by daily field team safety meetings, were held on-Site with Wood personnel and subcontractors to familiarize field workers with Site history, health and safety requirements, and other field procedures. Wood personnel conducted a field investigation from 16 to 26 August 2021, which included soil sampling via hand auger, and split spoon sampling; installing boreholes/monitoring wells, groundwater sampling; surveying, and performing a hydraulic conductivity test. Site photos are available in Appendix C. The following Sections describe the field program methodology.

#### 6.2.1 Soil Sampling

A total of 200 soil samples, including 18 duplicates were collected from 86 hand auger locations, and six borehole locations. All soil samples collected were submitted for metals including mercury. Select samples were also submitted for cyanide (sample locations within known areas of tailings) and BTEX/ TPH (sample locations of known historical infrastructure). A summary of laboratory analyses for each sample collected during the Phase II ESA is provided in Table 1, in Section 6.2.4, and laboratory analytical results are summarized in Section 7.0.

Sample collection methods included a hand auger sampler (surface soil sampling), and a track-mounted drill rig (split-spoon sampling), which are described further below. Each soil sample was placed directly into pre-cleaned laboratory-supplied glass jars and stored in a cooler on ice. Soil descriptions were recorded for each sample, including the sample ID, colour, grain size, observations of staining or odour, depth to water table, and OVM readings); these are presented in Appendix B. Soil sample locations are shown on Figure 2a and 2b, Appendix A.

##### Hand Auger Soil Sampling

A total of 183 soil samples (including 18 field duplicates) were collected from 86 locations using a hand auger sampler between 16 and 23 August 2021. Soil samples were attempted to be collected from three depths (A = 0-0.05 mbgs), B = 0.05-0.6 mbgs), C = 2.0 mbgs or refusal). However, at all but 11 of the 86 hand auger locations, refusal was realized in the 0.05-0.6 mbgs range. Surface soil sample descriptions are provided in Table B-1, Appendix B.

##### Split Spoon Sampling

A total of 17 soil samples were collected at depth from drilled boreholes between 16 and 19 August 2021. Under the supervision of Wood personnel, Nova Drilling advanced boreholes at six locations using a track mounted drill rig. Boreholes were drilled to a depth of approximately 6.0 mbgs to install groundwater monitoring wells. Soil samples were collected using a two-inch (51 mm) diameter split spoon sampler and samples were collected continuously in 0.6 m intervals, unless rock coring was required to achieve the

depth to the groundwater table. Soil sample interval from each borehole were placed into pre-cleaned laboratory-supplied glass jars for submission for laboratory analyses. Note that all boreholes drilled as part of the investigation were completed as monitoring wells (MWs) and therefore soil samples collected from boreholes use the naming convention 2021-MW# associated with monitoring wells. All samples were submitted for laboratory analyses of metals including mercury. Detailed borehole/monitoring well logs were recorded for each location, and are provided in Appendix D.

### 6.2.2 Monitoring Well Installation and Groundwater Sampling

All six boreholes were completed as groundwater monitoring wells immediately following borehole drilling at each location between 16 and 19 August 2021. Monitoring well locations are shown on Figure 3, Appendix A. The monitoring wells were constructed using 51 mm PVC screen (No. 10) and casing, with silica sand filter pack, and bentonite seal. Two monitoring wells located near driveways or pathways (2021-MW1, 2021-MW2) were installed with flush mount protective covers. The remaining four monitoring wells (2021-MW3, 2021-MW4, 2021-MW5, 2021-MW6) were installed with PVC stick-ups and protective steel casings. Borehole drilling and monitoring well construction logs for each well are included in Appendix D.

Each newly installed monitoring well was developed between 19 and 23 August 2021. Four of the monitoring wells (2021-MW1, 2021-MW2, 2021-MW4, and 2021-MW6) were developed using a submersible pump by removing a minimum of three well volumes of water, plus the volume of water used during rock coring. The remaining two monitoring wells (2021-MW3 and 2021-MW5), due to slow groundwater recharge, were developed by purging dry a minimum of three times, using a foot valve and Waterra tubing. Following development, each monitoring well was purged by removing an additional three well volumes of water using a peristaltic pump while monitoring water quality parameters. Water quality measurements (including temperature, pH, dissolved oxygen (DO), electrical conductivity (EC), and oxidation-reduction potential (ORP)) were recorded once per minute using a YSI water quality multimeter equipped with a flow through cell, until stabilization was achieved. Groundwater samples were collected from each well on 24 and 25 August 2021, using (where possible) a low-flow peristaltic pump and dedicated silicone tubing.

Monitoring well construction details, GPS coordinates, water table depths, and surveyed TOC elevations are provided in Table B-2, Appendix B. Groundwater observations and field parameters at stabilization are provided in Table B-3, Appendix B.

Groundwater samples from all six monitoring wells were submitted for laboratory analysis of dissolved metals (including both dissolved and total mercury), cyanide, BTEX/PHCs, and general chemistry.

### 6.2.3 Surface Water Sampling

Three surface water samples were collected from the small tailings area on the southern portion of the Site. These three samples were collected for analysis of total metals, including total and dissolved mercury, and general chemistry. Samples were collected by field staff submersing laboratory supplied bottles into the surface water and filling the bottle. For bottles containing preservative, these bottles were filled from another non-preservative bottle. The three surface water samples (2021-SW66 through 2021-SW68), correspond with surface soil sample locations (2021-SS66 through 2021-SS68). The surface water was collected to support an on-going risk assessment. Results will be presented in this report; however, they will not be discussed.

### 6.2.4 Sample Collection Summary

The following table presents a summary of samples collected for each of the areas of potential concern at the Site, and identifies the media, collection method, and laboratory analyses associated with each sample.

**Table 1 Summary of Samples Collected**

Area of Potential Concern (APEC)	Media Sampled	Sample Collection Method	Samples Collected	Laboratory Analyses
Historic Infrastructure	Soil	Hand Auger	2021-SS25	BTEX/PHCs, Metals, including mercury
			2021-SS26	
			2021-SS27	
			2021-SS63	
			2021-SS75	
Within Areas of Known Tailings	Soil	Hand Auger	2021-SS1	Cyanide, Metals, including mercury
			2021-SS3	
			2021-SS4	
			2021-SS7	
			2021-SS12	
			2021-SS13	
			2021-SS21	
			2021-SS22	
			2021-SS23	
			2021-SS24	
			2021-SS52	
			2021-SS53	
			2021-SS54	
			2021-SS55	
			2021-SS56	
			2021-SS57	
2021-SS63				
2021-SS66				
2021-SS67				
2021-SS68				
Near Crown Land Boundaries & Areas Not Previously Investigated	Soil	Hand Auger	All 2021-SSxx sample locations not listed above. (61 sample locations)	Metals, including mercury
Small Tailings Area on Southern Portion of Site	Surface Water	-	2021-SW66	Total Metals, including Total and Dissolved mercury, general chemistry
			2021-SW67	
			2021-SW68	
Limited Groundwater Data Across Site	Soil	Split Spoon	2021-MW1 (0-2 ft)	Metals, including mercury
			2021-MW1 (2-4 ft)	
			2021-MW1 (6'10"-7'1 ft)	
			2021-MW2 (0-2 ft)	
			2021-MW2 (2-4 ft)	
			2021-MW2 (9'6"-11'6 ft)	
			2021-MW3 (0-2 ft)	
			2021-MW3 (5-6'1 ft)	
			2021-MW4 (0-2 ft)	
2021-MW4 (2-4 ft)				



**Table 1 Summary of Samples Collected**

Area of Potential Concern (APEC)	Media Sampled	Sample Collection Method	Samples Collected	Laboratory Analyses
			2021-MW4 (5-7 ft)	
			2021-MW4 (7'5-8 ft)	
			2021-MW5 (0-2 ft)	
			2021-MW5 (2-4 ft)	
			2021-MW6 (0-2 ft)	
			2021-MW6 (2-4 ft)	
	Groundwater	Peristaltic Pump	2021-MW6 (15-16 ft)	Dissolved Metals, including Total and Dissolved mercury, cyanide, BTEX/TPH, general chemistry
			2021-MW1	
			2021-MW2	
			2021-MW3	
			2021-MW4	
			2021-MW5	
2021-MW6				

### 6.2.5 Elevation Surveying

Following monitoring well installation, Wood personnel conducted an elevation survey of the top of casing (TOC) elevations for each monitoring well using a real-time kinetic (RTK) global positioning system (GPS). The depth to groundwater in each well was then measured using an oil-water interface probe and used along with surveyed TOC elevations to calculate the groundwater elevations in each well, from which the Site groundwater flow direction was inferred. The distance from TOC to ground surface at each well was measured using a tape measure. The elevation of the ground surface, top of casing, and groundwater table at each monitoring well location is provided in Table B-2, Appendix B. Groundwater elevations were used to infer the groundwater flow direction on Site, as shown on Figure 3, Appendix A. Note that because the six wells are so far apart (500 metres plus), contours were not able to be interpolated. However, based on elevations, with three monitoring wells on the north side of Montague Road and three on the south side of Montague Road, there appears to potentially be a groundwater divide in the area of Montague Road. Based on the three wells north of Montague Road, the groundwater flow direction appears to be towards the northeast, whereas, on the wells south of Montague Road appear to show a groundwater flow direction towards the southwest, although it is expected to be more so west, toward Lake Charles.

### 6.2.6 Bail Test /Hydraulic Conductivity

#### Bail Test:

Wood personnel performed a bail test at two monitoring wells (2021-MW3 and 2021-MW5) on 26 and 27 August 2021. To perform the test, a fluid level monitor interface probe was used to measure the initial static water depth (H) in both monitoring wells, and a foot valve and Waterra tubing was used to purge the monitoring wells dry (depth to water at time zero). The initial displacement  $H_0$  was calculated by the subtracting the initial static water level (H) from the measured depth to water at time zero. Fluid level measurements were then recorded in 0.2-minute intervals until the well returned to equilibrium.

#### Hydraulic Conductivity Calculation:

Following the collection of field data, Wood used the Dagan method (Dagan, 1978) in AQTESOLV version 4.50.002. The software incorporated water level data collected during the bail testing as well as the



monitoring well construction details, and the estimate of hydraulic conductivity. The estimated hydraulic conductivity is as follows:

- 2021-MW3 –  $2.3 \times 10^{-2}$  m/day ( $2.7 (10^{-5})$  cm/sec)
- 2021-MW5 –  $1.7 \times 10^{-2}$  m/day ( $2.0 (10^{-5})$  cm/sec)

AQTESOLV analysis results and input parameters are attached in Appendix B.

### 6.3 Quality Assurance/Quality Control (QA/QC)

#### 6.3.1 Field QA/QC Program

To minimize cross contamination during sampling, a field QA/QC program was followed which included the following measures:

- Disposable gloves were used to collect each sample and discarded following collection of each sample.
- Samples were collected in pre-cleaned laboratory-supplied sample containers.
- Wherever possible, dedicated and/or disposable sampling equipment was used.
- Non-disposable sampling instruments and equipment (such as the soil sampling hand auger) were decontaminated before and after the collection of each sample. Equipment was decontaminated by scrubbing with potable water and Alconox, rinsing with potable water, rinsing with methyl hydrate, rinsing again with potable water, and then allowing the equipment to air dry.
- Blind field duplicate samples were collected and submitted for laboratory analysis to assess the validity of the data received from the analytical laboratory.
- Samples were stored in coolers with ice during storage and transported to the laboratory with the appropriate Chain of Custody documentation for tracking purposes.
- Precautionary measures were implemented to avoid introducing contaminants from external sources into the soil samples.

Blind field duplicates were collected for approximately 10% of parameters that were analyzed. The analytical results of these were used to evaluate the reliability of the sampling. A summary of blind field duplicate sampling is provided in Table 2 below. QA/QC results are provided in Section 8.1.

**Table 2 Summary of Blind Field Duplicate Samples**

Media	QA/QC Samples	
	Original Sample	Blind Field Duplicate
Soil	2021-SS09	2021-SS-Dup C
	2021-SS16	2021-SS-Dup B
	2021-SS29	2021-Dup A
	2021-SS36	2021-DUP-2
	2021-SS49	2021-DUP-3
	2021-SS69	2021-DUP-1
	2021-SS82	2021-SS-Dup D
	2021-SS84	2021-SS-Dup E
	2021-SS86	2021-DUP-4
Groundwater	2021-MW4	2021-MW-DUP1



Note that A and B depth samples were collected from all soil field duplicate locations, for a total of 18 field duplicates.

### **6.3.2 Laboratory QA/QC Program**

All samples were submitted to AGAT Laboratories (AGAT) in Dartmouth, NS. AGAT is accredited by the Standards Council of Canada for each of the analysis methods utilized and has in-house QA/QC programs to govern sample analysis, including replicates, do ensure that reliable results are consistently obtained. Specific laboratory QA/QC measures include the following:

- Chain of Custody and sample integrity inspection;
- Documentation control and files;
- Trained personnel prepare and analyze samples according to Standard Operating Procedures;
- All analytical methods are based on accepted (e.g., OMOE, US EPA, ASTM) procedures and are fully validated prior to use;
- Precision is monitored by performing replicated analysis of samples within each batch;
- Instrument calibration integrity is ensured by analyzing calibration check standards within each run sequence;
- Matrix effects in organic analysis are assessed with surrogate fortification of each sample;
- Extensive use is made of blank spikes, matrix spikes and certified reference material for routine procedure evaluation
- Highest available purity analytical standards;
- Predefined analytical sequences ensure all results are traceable to calibrate QC data;
- Hard copy reports displaying all the required data are generated for each instrument;
- Analytical QC performance must be demonstrated prior to data authorization (data area subject to three levels of QC review: chemist, supervisor and manager);
- On-going method and instrumentation performance records are maintained for all analysis;
- Records containing all pertinent data are securely archived for 3 years;
- AGAT Laboratory is accredited to ISO 17025 standards by the Canadian Association for Laboratory Accreditation Inc. (CALA), formerly known as CAEAL, for specific tests at specific locations;
- AGAT Laboratory employs continuous improvement procedures including internal audits, external audits and Management review meetings; and
- A full-time Quality Assurance Scientist evaluates the QA program on an on-going basis.

A summary of laboratory QA/QC results including lab duplicates are discussed in Section 8.2, and laboratory QA/QC reports are included in certificates of analysis in Appendix F.



## 7.0 ANALYTICAL RESULTS

This section provides a summary of the laboratory analytical results for soil, groundwater, and surface water samples collected at the Site. Summary analytical data tables are presented in Tables E-2 through E-8, Appendix E. Laboratory certificates of analysis are presented in Appendix F.

### 7.1 Soil Analysis

A total of 200 soil samples from 86 hand auger locations and 6 borehole locations, were collected during the Phase II ESA investigation, and submitted for various laboratory analyses as shown in Table 1 above. Sample locations and soil exceedances are illustrated on Figure 2a and 2b and Figures 4a through 19b, respectively, Appendix A. The following subsections summarize the laboratory analytical results compared to applicable guidelines for soil at the Site.

#### 7.1.1 Metals

A total of 200 soil samples (including 18 field duplicates), from 86 hand auger locations and six borehole locations were analyzed for metals, including mercury. A total of 168 samples reported metals exceedances at the Site. The table below summarizes the metals in soil exceeding the NSE Tier I EQS for a site with potable water and coarse-grained soil for both agricultural and residential land use classifications.

**Table 3 Summary of Metals Exceedances in Soil (Current Program Only)**

Metal	NSE Tier I Agricultural Guideline (mg/kg)	NSE Tier I Residential Guideline (mg/kg)	Number of Samples/ Locations Exceeding Agricultural	Number of Samples/ Locations Exceeding Residential	Max Concentration (mg/kg)	Average** Concentration (mg/kg)
Aluminum	15,400	15,400	95/60	95/60	34,000	11,347
Antimony	7.5	7.5	8/5	8/5	24	2.1
Arsenic*	17	31	168/81	155/73	18,000	1,075
Cobalt*	20	22	11/8	9/7	160	7.9
Copper*	63	1,100	20/14	1/1	490	32.5
Iron	11,000	11,000	143/70	143/70	110,000	21,969
Lead*	70	140	33/22	12/7	470	48.1
Mercury*	6.6	6.6	18/9	18/9	79	3.1
Nickel	50	330	5/5	-	100	15
Selenium*	1	80	47/33	1/1	8	0.96
Silver	20	77	2/1	-	34	0.59
Tin	5	9,400	5/3	-	5	2.7
Vanadium	39	39	16/12	16/12	240	24.6
Zinc	200	5,600	11/8	-	400	53.5
Cyanide*	0.9	29	6/5	-	4.9	1.3

\* Metals for which figures were available.

\*\* Averages are calculated using the current program data set, replacing less than detection limit with half detection limit

Soil metals results are presented in Table E-2, Appendix E. Soil metals exceedances are shown for arsenic, cobalt, copper, lead, mercury, selenium and cyanide on Figures 4a through 19b, Appendix A. Only these metals are shown on figures as they are identified as the COPCs for the site.



### 7.1.2 Petroleum Hydrocarbons (BTEX/PHCs)

A total of 11 soil samples, from five locations were analyzed for BTEX/PHCs. Results of the BTEX/TPH analysis were compared to the NSE Tier I EQS for a site with potable water and coarse-grained soil for both agricultural and residential land classifications. All samples had BTEX parameters below reportable detection limits (RDL), except for one sample (2021-SS63-A) which had a concentration below the applicable guidelines. Seven of the 11 samples had concentrations of TPH, with only one (2021-SS63A) of these samples exceeding the applicable guideline with a concentration of 510 mg/kg. Soil BTEX/PHC results are presented in Table E-3, Appendix E.

## 7.2 Groundwater Analysis

A total of seven groundwater samples (including one blind field duplicate), were collected from six newly installed monitoring wells during the Phase II ESA investigation and submitted for various laboratory analyses as shown in Table 1 above. The following subsections summarize the laboratory analytical results compared to applicable guidelines for groundwater at the Site. Monitoring well locations are shown on Figure 3, Appendix A.

### 7.2.1 Metals

A total of seven groundwater samples (including one blind field duplicate) were analyzed for metals. Of these, three of the samples were reported to have arsenic concentrations greater than the NSE Tier I EQS for a site with potable water and coarse-grained soil for both agricultural and residential land classifications. Samples with arsenic exceedances are summarized below.

**Table 4 Summary of Arsenic Exceedances in Groundwater**

Sample ID	NSE Tier I EQS Agricultural / Residential (mg/L)	Concentration (mg/L)
2021-MW3	10	88.7
2021-MW5		34
2021-MW6		90

All other metals were below applicable guidelines or laboratory detection limits. Groundwater metals results are presented in Table E-4, Appendix E.

### 7.2.2 Petroleum Hydrocarbons (BTEX/PHCs)

A total of seven groundwater samples (including one blind field duplicate) were analyzed for BTEX/PHCs. All seven samples were reported to have BTEX/PHC concentrations less than laboratory RDLs. Groundwater BTEX/PHC results are presented in Table E-5, Appendix E.

### 7.2.3 General Chemistry

A total of seven groundwater samples (including one blind field duplicate) were submitted for a standard water (general chemistry) analysis. Of these, all seven samples were reported to have general chemistry concentrations or parameters either less than laboratory RDLs or less than the NSE Tier I EQS for a site with potable water and coarse-grained soil for both agricultural and residential land classifications. Groundwater general chemistry results are presented in Table E-6, Appendix E.

## 7.3 Surface Water Analysis

A total of three surface water samples were submit for total metals, including total mercury and dissolved mercury, and standard water (general chemistry) analysis. Each of the three surface water samples exceeded NSE freshwater Tier I EQS for aluminum, arsenic, copper, iron, lead, and mercury. In addition,



two of the samples (2021-SW67 and 2021-SW68) exceeded the NSE freshwater Tier I EQS for cadmium. One sample (2021-SW67) also exceeded NSE freshwater Tier I EQS for cobalt and manganese. A figure has not been prepared to illustrate these samples; however, they correspond to soil sample locations (2021-SS67, 2021-SS68 and 2021-SS69). Surface water metals and general chemistry results are presented in Table E-7 and E-8, respectively, Appendix E. As these samples were collected to support an ongoing risk assessment, they will not be part of the discussion in Section 7.4.

#### 7.4 Summary/ Discussion of Exceedances

The following section discusses exceedances of applicable guidelines at the Site, combining analytical data from the current program with historical data. Figures 4a through 20 provide an illustration of the discussion. Note that the figures show both historical data, represented as unlabelled red and green circles, and current data, represented by labelled red and green circles.

##### 7.4.1 Soil

###### Arsenic

As illustrated on Figure 4a and 4b, arsenic impacts at the Site exceeding NSE Tier I EQS – agricultural are widespread. Similar is true for arsenic impacts at the Site exceeding NSE Tier I EQS – residential use, which is illustrated on Figures 11a and b. Arsenic impacts from both, previous sampling programs, and the current program are shown on both sets of figures. Most of the previous sampling at the Site was conducted within known tailings areas, where exceedances of arsenic are expected, as a waste by-product of the historic mining operations. Exceedances to NSE Tier I EQS, both residential and agricultural also exist beyond the boundaries of the known tailings areas. Delineation of arsenic, to NSE Tier I EQS has not been achieved at the property boundaries of the Site, except for an area to the west of the north portion (north of Montague Road) of the Site. It is noted, that due to the geology of Nova Scotia, arsenic is often identified in elevated concentrations throughout the province and often background concentrations for such elevated metals are considered, in areas where historic activities are not expected to have contributed to elevated concentrations.

###### Mercury

As illustrated on Figures 5a and 5b, mercury impacts at the Site exceeding NSE Tier I EQS – agricultural generally appear to be associated with the historic tailings areas. The same is true for mercury impacts at the Site exceeding NSE Tier I – residential, shown on Figures 12a and 12b, as the guideline is the same for both land uses. Historical samples and current program samples are shown on the figures. The main tailings area, and the small tailings area on the south portion of the Site, South of Montague Road, have several historical and current mercury exceedances associated with them, as does the most northern tailings on the northern portion of the Site. As the mercury NSE Tier I EQS exceedances are contained to the tailings, mercury is generally considered delineated on Site, except for two areas as the tailings cross the Site boundary where they are considered not delineated. These areas include on the southern portion of the Site, the most south piece of the tailings crossing the Site boundary, near the former engine house, and on the northern portion of the Site, the largest tailings northwest property boundary.

###### Cyanide

As illustrated on Figures 6a and 6b, a total of 20 locations as part of the current program were sampled for cyanide analysis. All twenty locations were located within historic tailings areas, due to the cyanide use as part of the mining operations. Previous sampling programs completed only limited sampling for cyanide. Cyanide exceedances of NSE Tier I EQS – agricultural are present within both tailings piles located on the southern portion of the Site. Based on limited sampling for cyanide, it appears there may be an undelineated area within the main tailings pile on the south portion of the Site. No exceedances of

cyanide were reported within tailings on the north portion of the Site. Cyanide impacts are only expected within the tailings piles due to the use of cyanide in the extraction process of the mine operations, hence cyanide was not sampled for outside of the tailings areas. No impacts were identified to the NSE Tier I EQS – residential.

#### Cobalt

As illustrated on Figure 7a and 7b, cobalt impacts at the Site exceeding NSE Tier I EQS – agricultural are widespread. Similar is true for cobalt impacts at the Site exceeding NSE Tier I EQS – residential use, which is illustrated on Figures 14a and 14b. The impacts between the two land uses are the same, as the guideline is similar (agricultural = 20 mg/kg, residential = 22 mg/kg). The exceedances to NSE Tier I EQS are mostly contained to tailings except for a few sporadic exceedances across the Site. Cobalt at the Site appears to be delineated within the tailings.

#### Copper

As illustrated on Figures 8a and 8b, copper impacts at the Site exceeding NSE Tier I EQS – agricultural generally appear to be associated with the historic tailings areas. Historical samples and current program samples are shown on the figures. As the copper NSE Tier I EQS exceedances are contained to the tailings, copper is generally considered delineated on Site, except for two areas where the tailings cross the Site boundary and are considered not delineated. These areas include on the southern portion of the Site, the furthest south piece of the tailings crossing the Site boundary, near the former engine house, and on the northern portion of the Site, the largest tailings northwest property boundary. No copper exceedances of NSE Tier I EQS – residential are present at the Site.

#### Lead

As illustrated on Figures 9a and 9b, lead impacts at the Site exceeding NSE Tier I EQS – agricultural generally appear to be associated with the historic tailings areas. Historical samples and current program samples are shown on the figures. As the lead NSE Tier I EQS exceedances are contained to the tailings, lead is generally considered delineated on Site, except for two areas where the tailings cross the Site boundary and are considered not delineated. These areas include on the southern portion of the Site, the furthest south piece of the tailings crossing the Site boundary, near the former engine house, and on the northern portion of the Site, the largest tailings northwest property boundary. Exceedances of NSE Tier I EQS – residential are also associated with the historical tailings areas, with far fewer exceedances, as the residential guideline is greater than the agricultural guideline. All areas appear to be delineated except for the furthest south piece of the tailings crossing the Site boundary, on the southern portion of the Site.

#### Selenium

As illustrated on Figures 10a and 10b, selenium exceedances to NSE Tier I EQS - agricultural are located within the historic tailings at the Site and sporadically across the Site. Selenium does not appear to be delineated along various areas of the Site boundaries. As illustrated on Figures 17a and 17b, there is only one selenium exceedance to NSE Tier I EQS – residential at the Site, in the area of the largest tailings on the north portion of the Site.

#### PHCs

Limited PHC sampling has been completed at the Site, with the current investigation focusing on areas of known historic buildings, as PHCs sources may have been used in these areas, more likely than in areas of historic tailings. Only one exceedance, to NSE Tier I EQS – agricultural was identified, near the Symonds-Kaye, Oland and Boyd's Crusher area, as illustrated on Figure 18b. No exceedances of PHCs to NSE Tier I EQS – residential were identified.

### Other Metals

The following metals: antimony, nickel, silver, tin, vanadium and zinc had minimal to no previous sampling data, as much the previous sampling was specific to the priority COPCs, mainly arsenic and mercury. As part of the current program, the metals mentioned above were identified in a few sporadic sample locations at the Site, exceeding both NSE Tier I – agricultural and residential land classifications. Due to the sporadic nature of these exceedances, it is likely they are not associated with the historic mining activities, as such they are not provided on figures.

### Aluminum / Iron

As part of the current program, elevated concentrations of aluminum (max = 34,000 mg/kg, average = 11,347 mg/kg) and iron (max = 110,000 mg/kg, average = 21,969 mg/kg) were identified in soil samples above the Tier I EQS over most of the Site.

Elevated background concentrations of aluminium and iron are commonly identified in the native soils throughout Nova Scotia.

### **7.4.2 Groundwater**

As illustrated on Figure 20, the only exceedance to NSE Tier I – residential/agricultural reported in groundwater as part of the current program is arsenic in three groundwater samples. Two of these groundwater samples are located in the largest tailings on portion of the Site. The third is located in a western portion of the Site, just north of Montague Road. Very limited shallow groundwater water sampling was conducted as part of previous investigations, however only in the main tailings area on the south part of the Site, and all were reported to exceed the residential/agricultural NSE Tier I EQS.

## 8.0 QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

The following sections present the results of field and laboratory QA/QC programs. Laboratory QC standard samples were analyzed with the samples to assess the reliability of the analysis. The QA/QC results are reported on the Certificates of Analysis included in Appendix F.

### 8.1 Field QA/QC Program

Field duplicate samples are generally collected at a frequency of approximately one in ten (10%). Field duplicate analytical data were compared as relative percent differences (RPDs), which are given by the absolute difference in two results multiplied by 100, divided by the arithmetic mean of the two results:

$$RPD = \frac{(\text{Original Concentration} - \text{Duplicate Concentration}) * 100}{(\text{Original Concentration} + \text{Duplicate Concentration}) / 2}$$

These evaluations are applicable only when both results are at least five times the RDL. For soil, where there is no theoretical reason for the samples to be equivalent, RPDs of 100% or less are considered to be acceptable proof of equivalency and for water, RPDs of 60% or less are considered to be acceptable. RPDs were calculated for 19 original samples (18 soil and one groundwater) and their corresponding blind field duplicates, including the following:

**Table 5 Field Duplicates**

Original Sample ID	Field Duplicate ID
2021-SS09	2021-SS-DupC
2021-SS16	2021-SS-DupB
2021-SS29	2021-SS-DupA
2021-SS36	2021-DUP-2
2021-SS49	2021-DUP-3
2021-SS69	2021-DUP-1
2021-SS82	2021-SS-DupD
2021-SS84	2021-SS-DupE
2021-SS86	2021-SS-Dup-4
2021-MW4	2021-MW-DUP

Note multiple samples depths collected at each location, for a total of 18 soil field duplicates.

RPD calculation tables for soil and groundwater are presented in Tables E-9 through E-11, Appendix E.

RPDs for all soil parameters were within the maximum acceptable value of 100%, indicating an acceptable correlation between analytical results for the soil samples and their corresponding blind field duplicates.

RPDs for groundwater parameters were within the maximum acceptable value of 60%, indicating an acceptable correlation between analytical results for the soil samples and their corresponding blind field duplicates.

### 8.2 Laboratory QA/QC Program

AGAT Laboratories has a QA/QC program in place to ensure that reliable results are consistently obtained, which includes laboratory duplicates, method blanks, method blank spikes, matrix spikes, and surrogate recoveries. A review of the laboratory QA/QC data (as presented in the Laboratory Certificates of Analysis, Attachment F) indicated the following:

- All laboratory duplicate sample analyses indicated RPD values were within the acceptable ranges.
- All method blanks were within the acceptable ranges.
- All spiked blanks were within the acceptable ranges, except for the following:



- Metals in Water: spiked blank of 73% was outside of the acceptable range of 80-120% for dissolved silver for groundwater sample 2021-MW1 through 2021-MW3.
- All matrix spikes were within the acceptable ranges, except for the following:
  - Metals in Water: matrix spike of 73% was outside of the acceptable range of 80-120% for dissolved silver for groundwater samples under QA batch 7556283.
  - Metals in soil: matrix spike of 73% was outside of the acceptable range of 75-125% for boron QA batch 753719.
- All surrogate recoveries were within the acceptable ranges, including the following:
  - BTEX/PHCs in soil: surrogate recoveries were 86-115%, within the acceptable range of 60-140%.
  - BTEX/PHCs in water: surrogate recoveries were 82-127%, within the acceptable range of 70-130%.

As noted on the laboratory COAs (Appendix F), the laboratory QA violations listed above (method blank spikes and matrix spikes outside of the acceptable limits) occurred in less than 10% of elements analyzed (Metals in Water or Soil), which is the QA limit set by the CCME. Therefore, the laboratory QA/QC program indicated that the analytical results are reliable.

### **8.3 Summary of QA/QC Review**

Overall, based on the QA/QC review, the analytical results are considered representative of the site conditions in the immediate vicinity of the sample locations, at the time of the sampling program.

## 9.0 CONCEPTUAL SITE MODEL

The conceptual site model (CSM) for the site is critical to understanding the sources from which the chemical constituents of potential concern (COPC) originate, the pathways through which the COPCs travel and the receptors that are potentially exposed to the COPCs. The CSM therefore, includes a description of processes that release COPCs at the sources, the processes that result in movement of the COPCs in the environment and the modes of exposures of receptors to the COPCs. The objective of the CSM is to understand the components that contribute to the potential risks associated with the sources of COPCs, as well as to identify strategies that will mitigate the sources and/or connections between the sources and receptors. A schematic of the CSM is shown in Figure 9-1.

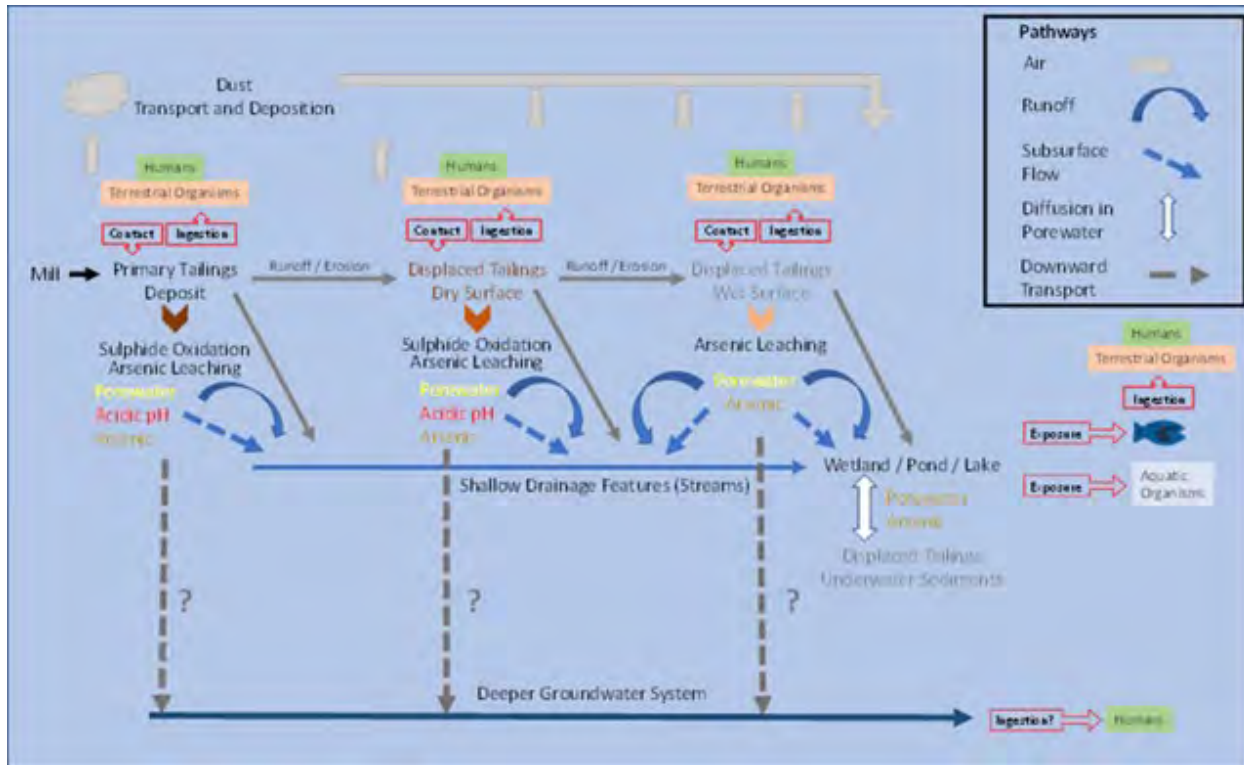


Figure 9-1: Conceptual Site Model

At the Montague site, the gold tailings originally deposited at the end of pipe from the milling operations are the original source of COPCs. Although there were likely two or more milling operations at the Site, the CSM does not require any differentiation of those source areas. The tailings would have been discharged as a slurry into low-lying areas at the site. There is no evidence of any containment structures for the original tailings deposition and therefore the solids in the tailings were distributed downstream as far as the water flow carried the solids load.

From the original tailings source areas, there are two primary pathways that are associated with constituent transport; air and water. The tailings solids are relatively fine grained and are subject to dusting that can be carried with ground-level winds and dispersed along the direction of the prevailing wind. Dispersed tailings dust can then represent a secondary source of tailings and associated COPCs. The air pathway is recognized herein as being a potentially important one, although it is considered to be secondary to that of water.

Water represents the primary pathway for dispersing both tailings solids and dissolved COPCs at the Montague site. Originally, the water in the tailings slurry, that was released from the milling operations,



would have carried the fine-grained material farthest from the mill while depositing the coarser-grained material closest to the discharge point.

After primary deposition, runoff during precipitation and snowmelt events will have also been responsible for erosion of tailings and translocation of solids from upstream to downstream areas beyond the Crown land areas close to the original mining areas. Areas that had no vegetation growth to stabilize the tailings solids, with fully exposed material at surface, would have been subjected to ongoing erosion by runoff to the local streams or to local depressions without drainage features. Tailings that enter the streams may eventually be transported to the ponds along Barry's Run and to Lake Charles to the west and to a small stream north of the power transmission corridor to the east toward Lake Major.

Water also serves as a pathway for dissolved COPCs both on surface and underground. The soluble or dissolved COPCs originate when the solids leach constituents into the porewater that typically originate as infiltrating water resulting from rainfall and snowmelt events. Shallow porewaters in the tailings typically have higher concentrations of COPCs originating from sulfide minerals oxidation reactions that occur when oxygen enters the tailings pores that are only partially filled with water. Oxygen moves readily downward through the air filled pores and supports oxidation reactions that release soluble constituents, including acid and arsenic, to the porewater. During rainfall or snowmelt events, shallow porewater can be flushed from the tailings and enter the runoff to follow natural hydrologic pathways downstream

The natural water table within the tailings is only a short distance below ground surface, typically within 1 to 2 m of the surface. Tailings that are below the water table surface will be fully saturated, with all pores filled with water, protecting the sulfide minerals from oxidation by oxygen. Therefore, oxidation and the production of oxidation products, including arsenic, will be very limited to negligible below the water table. However, the oxidation products that form in the zone below ground surface and above the water table, will typically percolate downward through the tailings and laterally toward local drainage features such as streams or ponds. This subsurface pathway typically represents a small flow component but can represent higher concentrations that form in the zone above the water table. The subsurface flow is driven by the input of water from rainfall events and snowmelt. In this area with a shallow water table and abundant surface water features, interaction of the porewaters affected by contact with the tailings with deeper subsurface water or groundwater is highly unlikely. Therefore, the shallow subsurface pathways toward local drainage features should be the focus for any mitigation.

Displaced tailings that have been deposited in wet areas and maintain a wet surface will likely be water saturated much of the time. The saturated tailings with water filled pore spaces prevents or substantially limits oxygen access to the tailings and oxidation of the sulfide minerals that result in the production of acid and/or arsenic in porewater. Therefore, the tailings that are effectively saturated with water at the surface have a low to negligible risk of further oxidation and production of acid. The wet tailings, however, can contain arsenic in porewater at elevated concentrations as a result of the release of arsenic from secondary solid phases.

Fine grained tailings that have been transported downstream to ponds in Barry's Run and Lake Charles will have been deposited as lake sediments and will be characterized with elevated concentrations in the solids. In addition, elevated concentrations in the surface water can partition to natural particulates suspended in the water column that will settle and also become a component of the sediment accumulating on the bottom of the ponds and lakes. As sediments accumulate in the pond and lake, the history of deposition will be evident in sediment cores that show changes in arsenic concentration with depth that reflect the influence of sediment originating from the tailings. The porewater within the lake sediments will be elevated with respect to background concentrations as a result of the release of arsenic from the secondary solid phases on the tailings particles. The concentrations of arsenic in the sediment porewater can then be transported up into the water column as a result of diffusive processes in which



arsenic will migrate from the higher concentrations zone in the porewater to the lower concentration in the lake water column.

The tailings solids and the waters containing elevated concentrations of arsenic can represent potential exposures for organisms, including humans. Tailings at ground surface represent two possible types of exposure, including contact with skin, for humans, and potential incidental ingestion for other terrestrial organisms including humans. All surface water represents a potential exposure for terrestrial organisms by way of ingestion as well as contact with skin, for humans. Water with elevated arsenic concentrations in streams ponds and lakes represents a potential exposure to aquatic organisms. Ingestion of arsenic by organisms can result in exposure to other biota via the food web if those original organisms are ingested as food sources.

The CSM shows that tailings that remain dry and exposed at the ground surface represent an ongoing source of arsenic and risk of exposure to terrestrial and aquatic organisms, including humans. While the surface tailings represent a potential for contact, the more important source is related to the ongoing production of dissolved arsenic, and/or acid, that occurs in the porewater and can be transported by runoff and shallow subsurface flow to the downstream environment. Reduction of risk related to arsenic in the tailings needs to consider the processes that produce the soluble arsenic and/or the pathways that transport the porewaters, with elevated arsenic concentrations, out of the tailings and into the receiving environment.

In tailings that are dry at surface, porewater migration is related to infiltration of percolating water resulting from rainfall and snowmelt. In tailings that are wet at surface, the runoff will remain as a potentially important pathway as a result of flushing of the shallow porewater from the tailings. However, lateral movement of porewater through the subsurface may not be as important a pathway to the receiving environment. While tailings that are saturated at the surface are not likely to produce acid from sulfide mineral oxidation, arsenic leaching from secondary solid phases may continue to be a source of arsenic in the wet tailings porewater.

The tailings that become sediment in the downstream ponds and lakes will be protected against oxidation of sulfide minerals. Some leaching of secondary arsenic solids may occur into the sediment porewater. With mitigation of the sources of arsenic from tailings in the upstream areas, the arsenic concentrations in sediment porewater would be expected to decrease naturally over time rather than to continue to accumulate in the sediments. This behaviour can be evaluated through modelling of the arsenic from the source areas to the receiving environment

## 10.0 CONCLUSIONS

Based on the information collected during this investigation, Wood provides the following conclusions:

- Elevated concentrations of arsenic greater than applicable NSE Tier I are widespread at the Site. Delineation is not achieved at all property boundaries. It is likely that due to the geology of the Site, there may be a naturally elevated arsenic concentrations (outside of the concentrated tailings area), as is common in Nova Scotia.
- Elevated concentrations of mercury greater than applicable NSE Tier I appear to be associated with the historical tailings. Mercury is generally considered delineated on Site, except for areas where the tailings cross the Site boundaries.
- Elevated concentrations of cyanide greater than applicable NSE Tier I appear to be associated with the historical tailings. Cyanide is not delineated within the tailings piles and is not expected in other areas of the Site.
- Elevated concentrations of cobalt greater than applicable NSE Tier I are widespread at the Site, mostly contained within the historic tailings, and appears to be mainly delineated within the tailings.
- Elevated concentrations of copper greater than applicable NSE Tier I appear to be contained within the historic tailings at the Site. Copper is generally considered delineated on Site, except for areas where the tailings cross the Site boundaries.
- Elevated concentrations of lead greater than applicable NSE Tier I generally appear to be contained within historic tailings at the Site, Lead is generally considered delineated on Site, except for areas where the tailings cross the Site boundaries.
- Elevated concentrations of selenium greater than applicable NSE Tier I are located within historic tailings at the Site and sporadically across the Site. Selenium has not been delineated along various areas of the Site boundaries.
- The following metals: antimony, nickel, silver, tin, vanadium and zinc were identified in a few sporadic sample locations at the Site, exceeding NSE Tier I EQSs. Due to the sporadic nature of these exceedances, it is likely they are not associated with the historic mining activities.
- Numerous aluminum and iron samples had concentrations that exceeded the Tier I EQSs for soil. Naturally elevated concentrations of aluminum and iron are common throughout Nova Scotia.
- Only one PHC exceedance, to NSE Tier I EQS I was identified, near the Symonds- Kaye, Oland and Boyd's Crusher area. It is not likely PHCs are a concern in soil at the Site.
- Elevated concentrations of arsenic greater than NSE Tier I are present in groundwater in the area of the main tailings, which is likely to be associated with mining activities. Elevated arsenic in groundwater and drinking water is known to occur in areas surrounding the Site, as a result of the local geology.

## **11.0 RECOMMENDATIONS**

Based on the conclusions of this investigation, the following recommendations are presented for consideration:

- Use the information collected during this investigation and previous investigations to prepare an ecological and human health risk assessment to identify appropriate risk-based remediation criteria;
- Based on the risk-based remediation criteria, update the conceptual closure plan to identify feasible and effective risk mitigation strategies.



## 12.0 CLOSURE

This report was prepared for the exclusive use of Nova Scotia Lands Incorporated and is intended to provide a Phase II ESA for the Site. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of the third party. Should additional parties require reliance on this report, written authorization from Wood will be required. With respect to third parties, Wood has no liability or responsibility for losses of any kind whatsoever, including direct or consequential financial effects on transactions or property values, or requirements for follow-up actions and costs.

The report is based on data and information collected during the Phase II ESA of the property conducted by Wood. It is based solely on the conditions of the Site encountered during field investigations conducted in August 2021. Except as otherwise maybe specified, Wood disclaims any obligation to update this report for events taking place, or with respect to information that becomes available to Wood after the time during which Wood conducted the Phase II ESA. In evaluating the property, Wood has relied in good faith on information provided by other individuals noted in this report. Wood has assumed that the information provided is factual and accurate. Wood accepts no responsibility for any deficiency, misstatement or inaccuracy contained in this report as a result of omissions, misinterpretations or fraudulent acts of persons interviewed or contacted.

Wood makes no other representations whatsoever, including those concerning the legal significance of its findings, or as to other legal matters touched on in this report, including, but not limited to, ownership of any property, or the application of any law to the facts set forth herein. With respect to regulatory compliance issues, regulatory statutes are subject to interpretation and change. Such interpretations and regulatory changes should be reviewed with legal counsel.

### Wood Environment & Infrastructure Solutions, a Division of Wood Canada Limited

Prepared by:



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Reviewed by:



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**Chris Elliot, P.Eng.**  
Principal Engineer

### **13.0 REFERENCES**

Canadian Standards Association (CSA). (2000). Phase II Environmental Site Assessment (CSA Z769-00, reaffirmed 2013).

Drage, J. (2015). Review of the Environmental Impacts of Historical Gold Mine Tailings in Nova Scotia.

Keppie. (2000). Geological Map of the Province of Nova Scotia, Map ME 2000-1, Nova Scotia Department of Natural Resources Minerals and Energy Branch, scale 1:500,000.

Maritime Testing Consulting Engineering & Environmental Services. (2009). Modified Phase II Environmental Site Assessment, Former Gold Mine Site, Montague Mines, Nova Scotia.

Intrinsic Corp, EcoMetrix, Klohn Crippen Berger and Wood. (2019, July). Conceptual Closure Study for the Historic Montague Mines Tailings Areas, Halifax, Nova Scotia.

Nova Scotia Environment (NSE). (2014, April). Environmental Quality Standard for Contaminated Sites Rationale and Guidance Document.

Nova Scotia Environment (NSE). (2013). Ministerial Protocols, Contaminated Sites Regulations, Adopted by the Minister of the Environment.

Parsons, M., LeBlanc, G. Hall, A. Sangster, J. Vaive, and P. Pelchat. (2012). Environmental geochemistry of tailings, sediments and surface waters collected from 14 historical gold mining districts in Nova Scotia.

Parsons, M. and M. Little. 2015. Establishing geochemical baselines in forest soils for environmental risk assessment in the Montague and Goldenville gold districts, Nova Scotia, Canada.

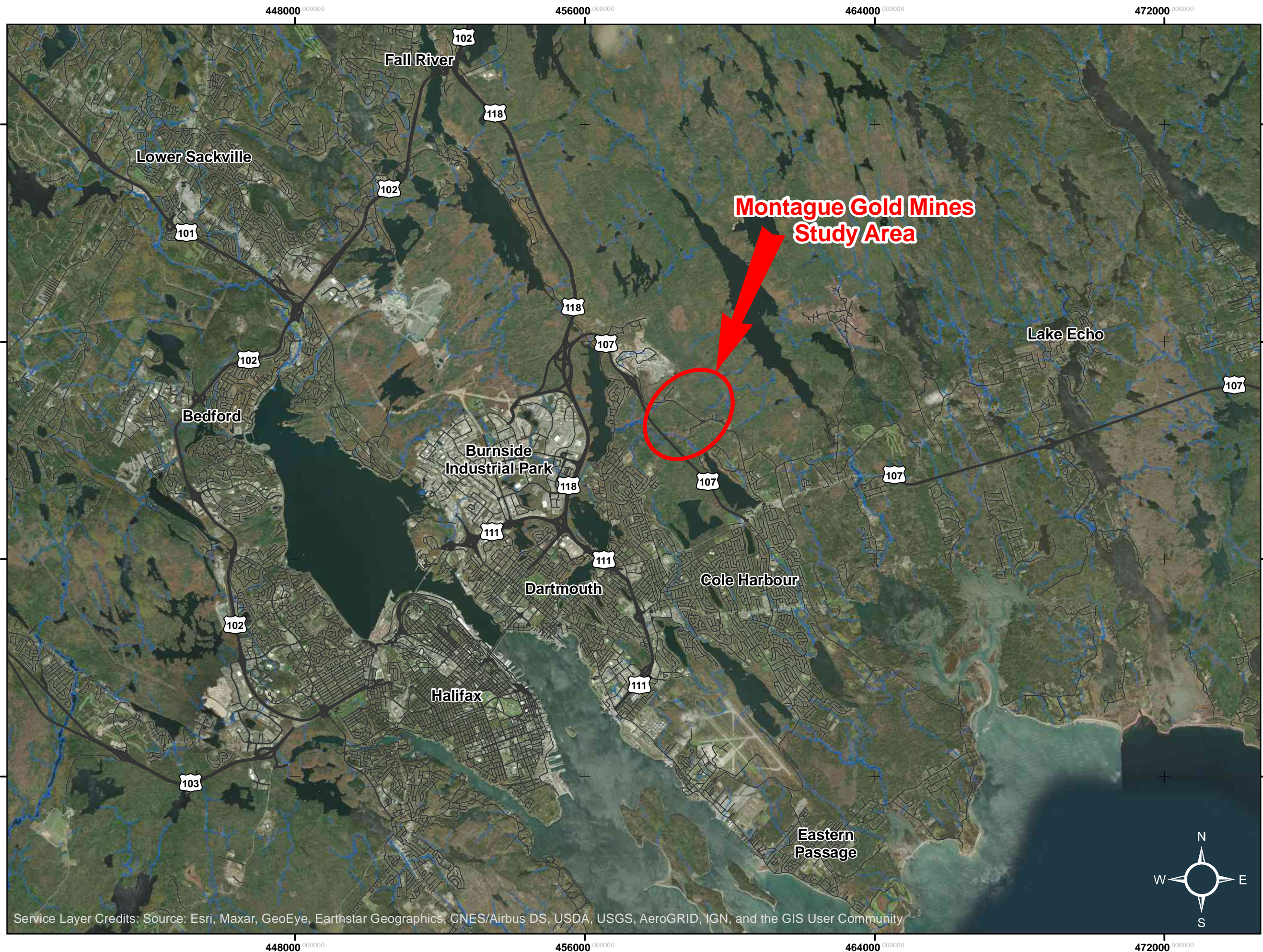
Province of Nova Scotia. (2020). Nova Scotia Well Database. Retrieved from <https://novascotia.ca/nse/welldatabase/wellresults.asp>.

Stea, R. R., Conley, H., and Brown, Y. (compilers). (1992). Surficial Geology of the Province of Nova Scotia, Nova Scotia Department of Natural Resources, Map 92-3, scale 1:500,000.

Wood Environment & Infrastructure Solutions (Wood). (2020, December). Phase I Environmental Site Assessment, Former Montague Gold Mines, Dartmouth, Nova Scotia.

**Appendix A**  
**Figures**





**LEGEND:**

- Major Road
- Local Road
- Streams/Creeks

**KEYMAP**

**CLIENT:**  
NS LANDS INC.

**wood.**

**TITLE:**  
MONTAGUE GOLD MINES  
SITE LOCATION

**PROJECT:**  
MONTAGUE DATA GAP ANALYSIS

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN BY: <b>CM</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20N</b>

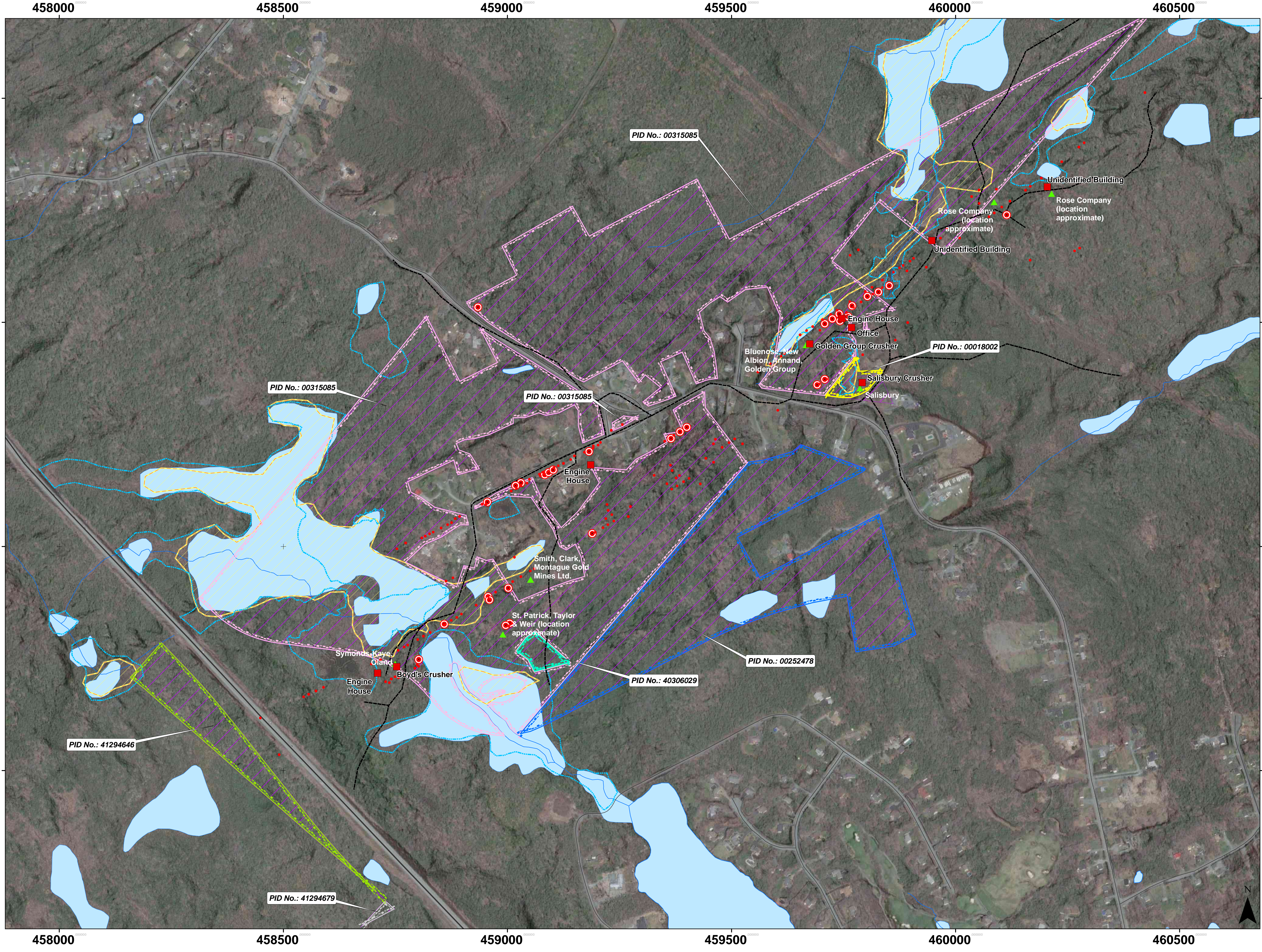
**FIGURE:**  
**FIGURE 1A**

**SCALE:** 1:100,000

0 1,250 2,500 5,000  
Metres

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community





- LEGEND:**
- 1902 Map - Buildings
  - 1902 Map - Potential Abandoned Shaft
  - ▲ Crusher
  - Abandoned Mine Openings
  - 1902 Map - Roadways
  - Major Road
  - Local Road
  - ~ Stream/Creek
  - Lake
  - Wetlands
  - Possible Tailings Traces
  - Crown Parcel
- Property Boundary - PID**
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  - 00018002
  - 40306029
  - 41294646
  - 41294679

CLIENT:  
**NS LANDS INC.**

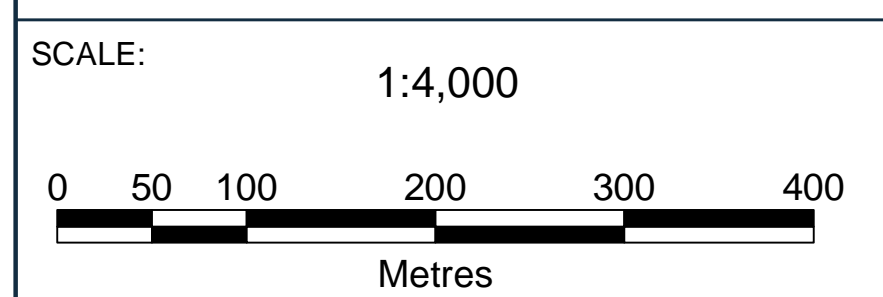


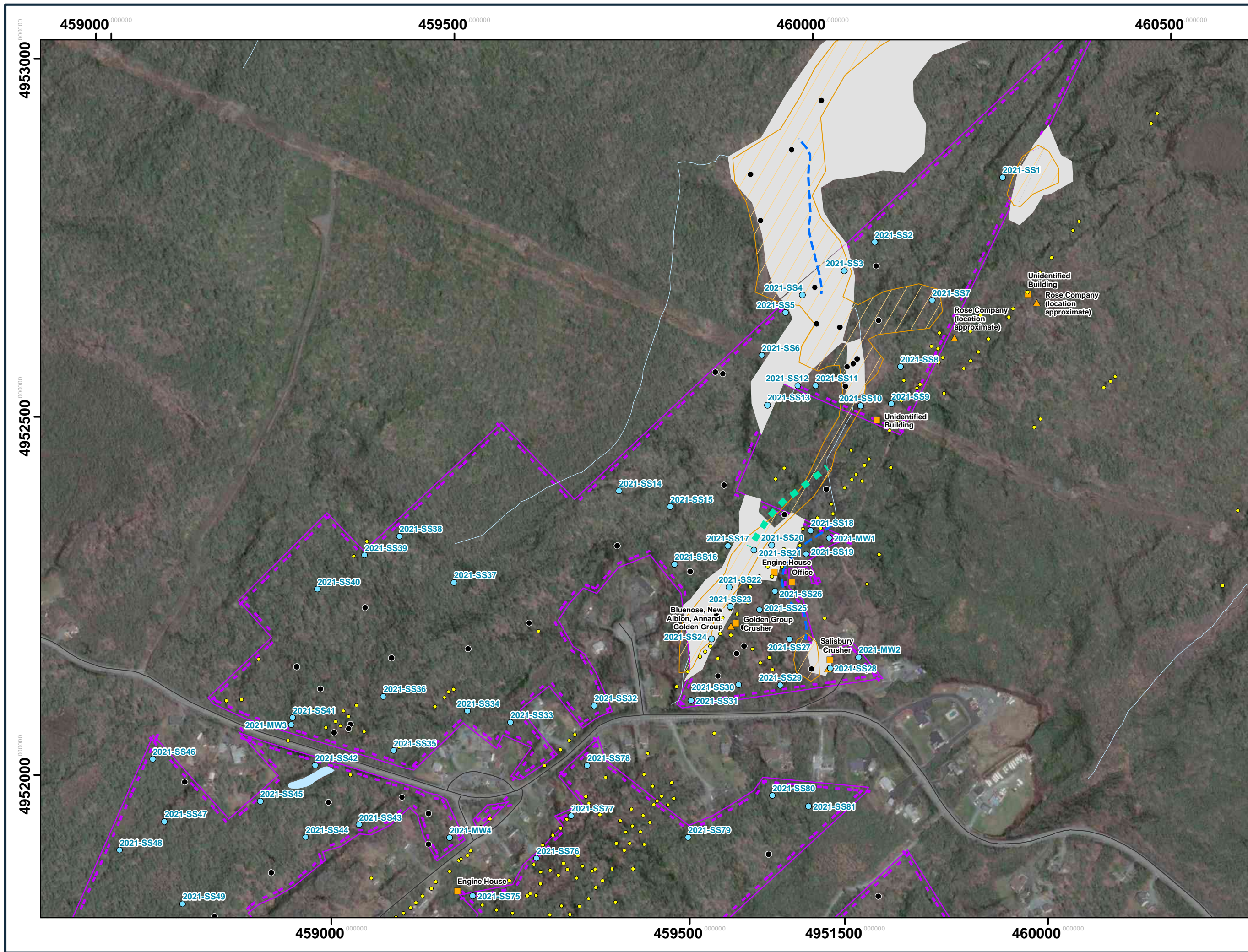
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PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

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REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 1B**





- LEGEND:**
- 2021 Sample Location
  - Historic Sample Location
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - Intermittent Drainage
  - Manmade Trench
  - ~ Streams/Creeks
  - Lakes
  - ~ Mitchell's Brook
  - ~ Barry's Run
  - Crown Parcel
  - Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**

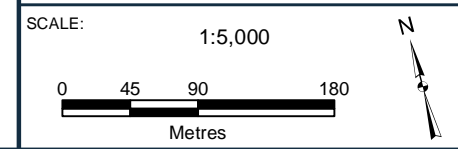


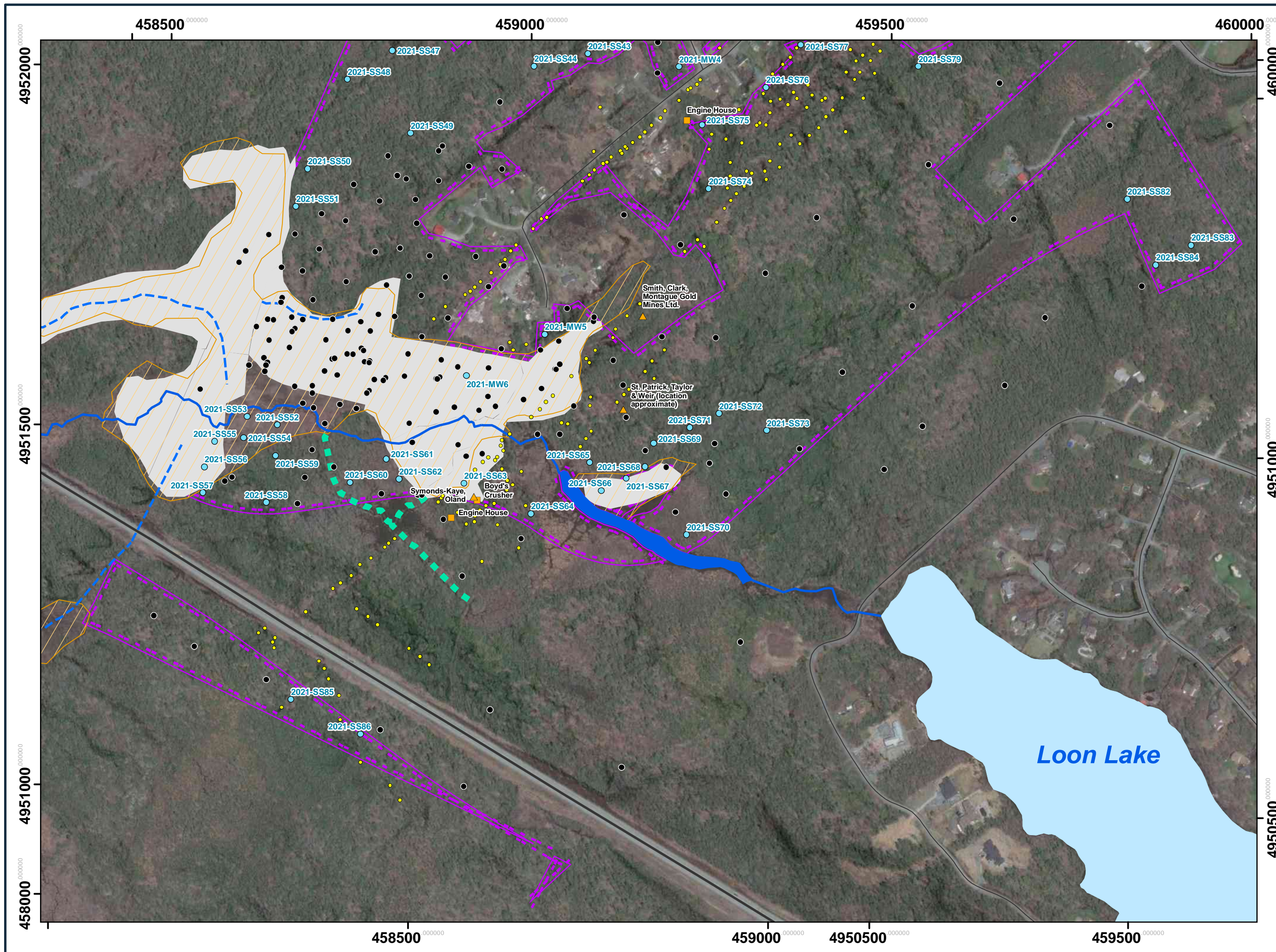
TITLE:  
**CURRENT AND HISTORIC  
SAMPLE LOCATIONS  
NORTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 2A**





**LEGEND:**

- 2021 Sample Location
- Historic Sample Location
- Abandoned Mine Opening
- ▲ Crusher
- 1902 Building
- Major Road
- Local Road
- Intermittent Drainage
- Manmade Trench
- ~ Streams/Creeks
- █ Lakes
- ~ Mitchell's Brook
- ~ Barry's Run
- Crown Parcel
- Possible Tailings Traces
- Tailings

CLIENT:  
**NS LANDS INC.**



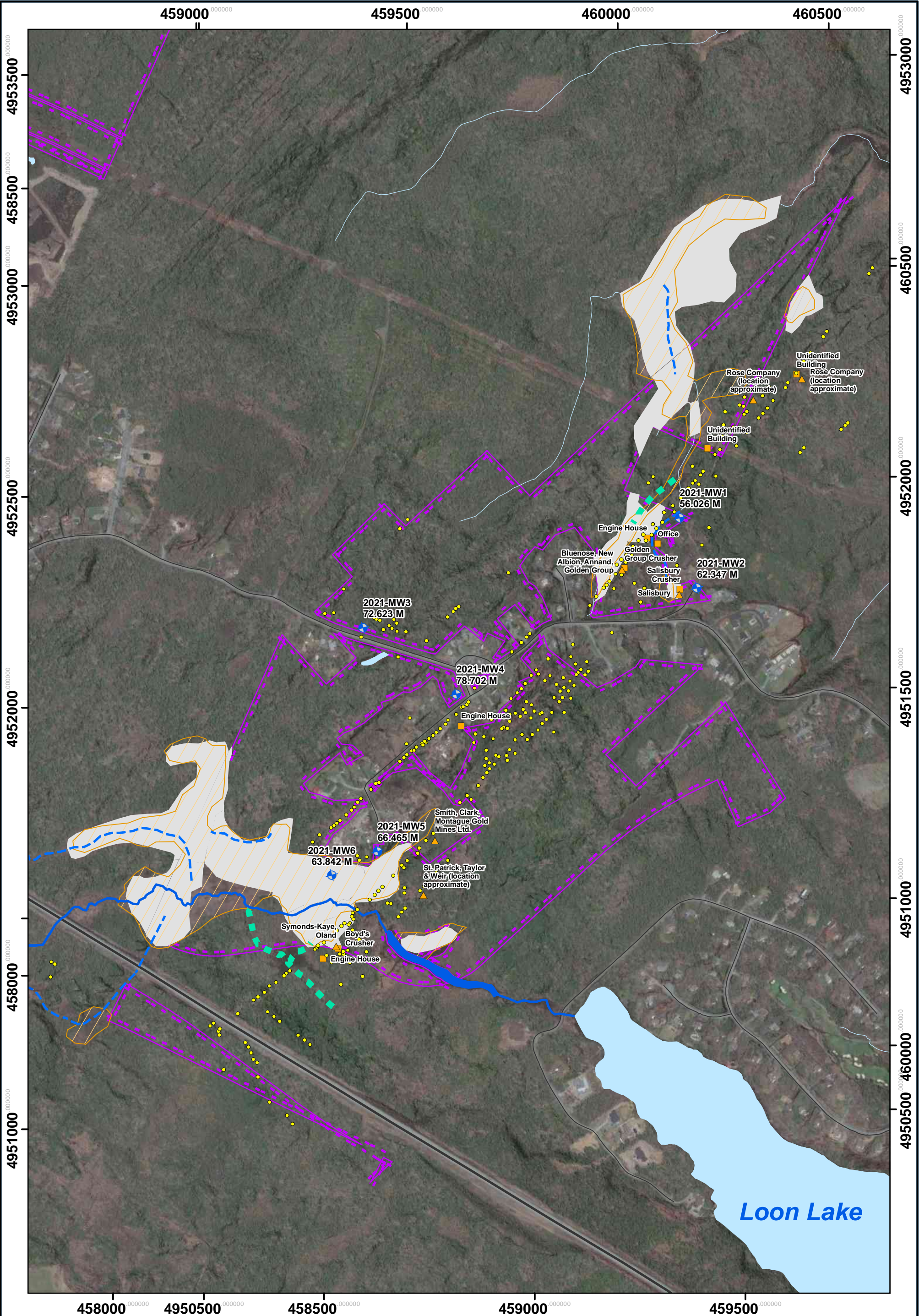
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**CURRENT AND HISTORIC  
SAMPLE LOCATIONS  
SOUTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 2B**

SCALE: 1:5,000

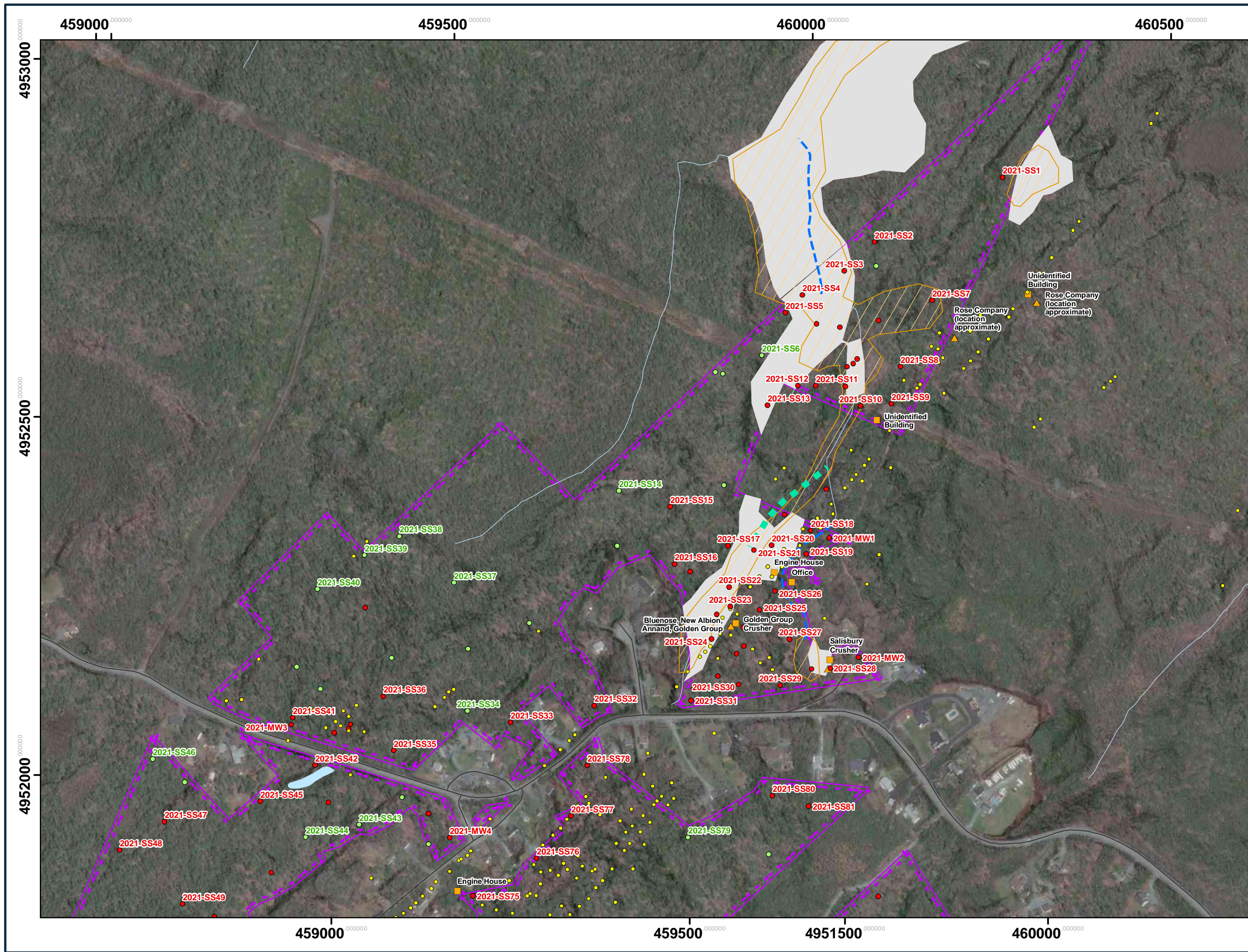


LEGEND:		
	Monitoring Well	
	Abandoned Mine Opening	
	Crusher	
	1902 Building	
	Major Road	
	Local Road	
	Intermittent Drainage	
	Manmade Trench	
	Streams/Creeks	
	Lakes	
	Mitchell's Brook	
	Barry's Run	
	Crown Parcel	
	Possible Tailings Traces	
	Tailings	

CLIENT:	TITLE:
NS LANDS INC.	GROUNDWATER ELEVATIONS

PROJECT:	DATUM:	PROJECTION:
MONTAGUE DATA GAP ANALYSIS	NAD83 CSRS 2010	UTM Z 20 N
PROJECT NO:	DATE:	FIGURE:
TV183013	OCTOBER 2021	FIGURE 3
REV NO:	DWN BY:	SCALE:
1	CM	1:8,500

PROJECT:		DATUM:	PROJECTION:
MONTAGUE DATA GAP ANALYSIS		NAD83 CSRS 2010	UTM Z 20 N
PROJECT NO:	DATE:	FIGURE:	
TV183013	OCTOBER 2021	FIGURE 3	
REV NO:	DWN BY:	SCALE:	
1	CM	1:8,500	



- LEGEND:**
- Does not exceed
  - Exceeds
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - Intermittent Drainage
  - Manmade Trench
  - Streams/Creeks
  - Lakes
  - Mitchell's Brook
  - Barry's Run
  - Crown Parcel
  - Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**

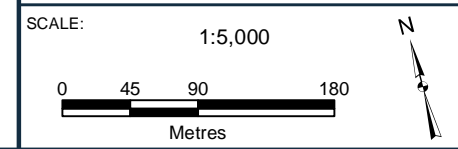


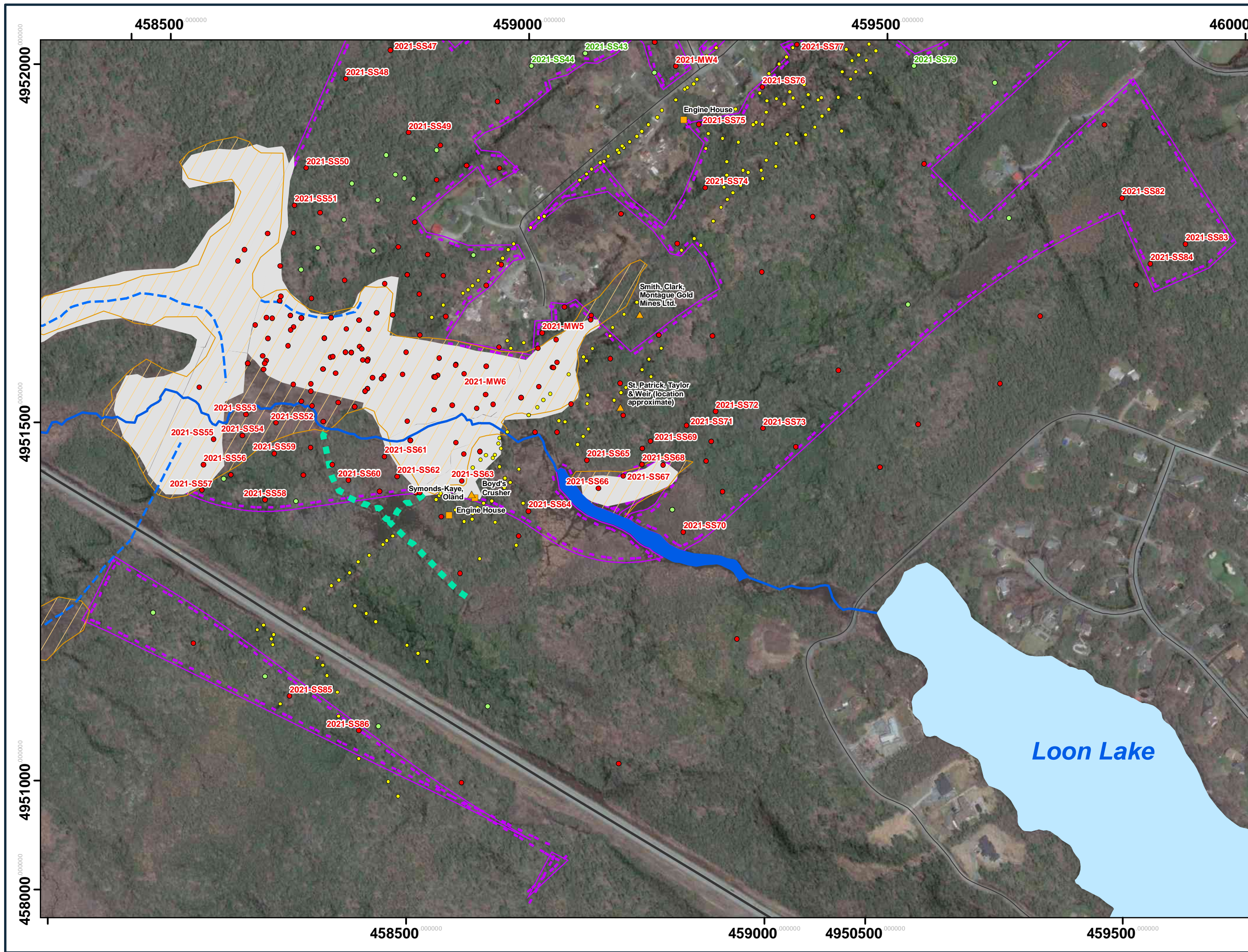
TITLE:  
**ARSENIC EXCEEDING SOIL GUIDELINES (AGRICULTURAL) NORTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 4A**





- LEGEND:**
- Does not exceed
  - Exceeds
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - Intermittent Drainage
  - Manmade Trench
  - ~ Streams/Creeks
  - █ Lakes
  - █ Mitchell's Brook
  - █ Barry's Run
  - Crown Parcel
  - Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**



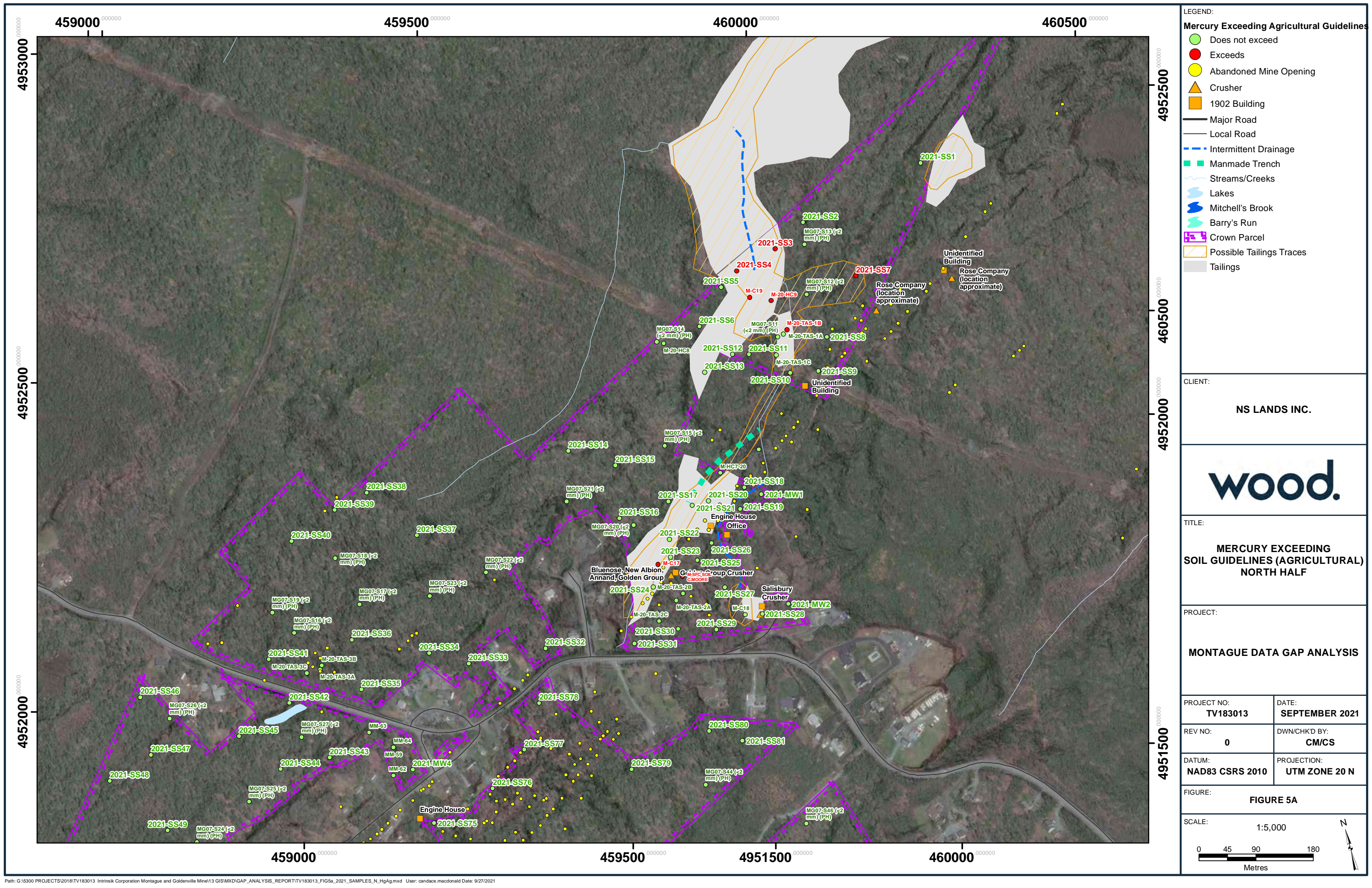
TITLE:  
**ARSENIC EXCEEDING SOIL GUIDELINES (AGRICULTURAL) SOUTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 4B**

SCALE: 1:5,000



- LEGEND:**
- Does not exceed
  - Exceeds
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - - - Intermittent Drainage
  - Manmade Trench
  - ~ Streams/Creeks
  - Lakes
  - ~ Mitchell's Brook
  - ~ Barry's Run
  - - - Crown Parcel
  - ▨ Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**

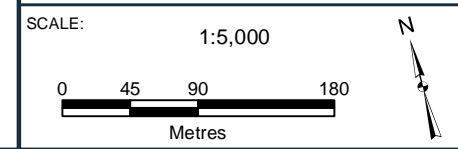


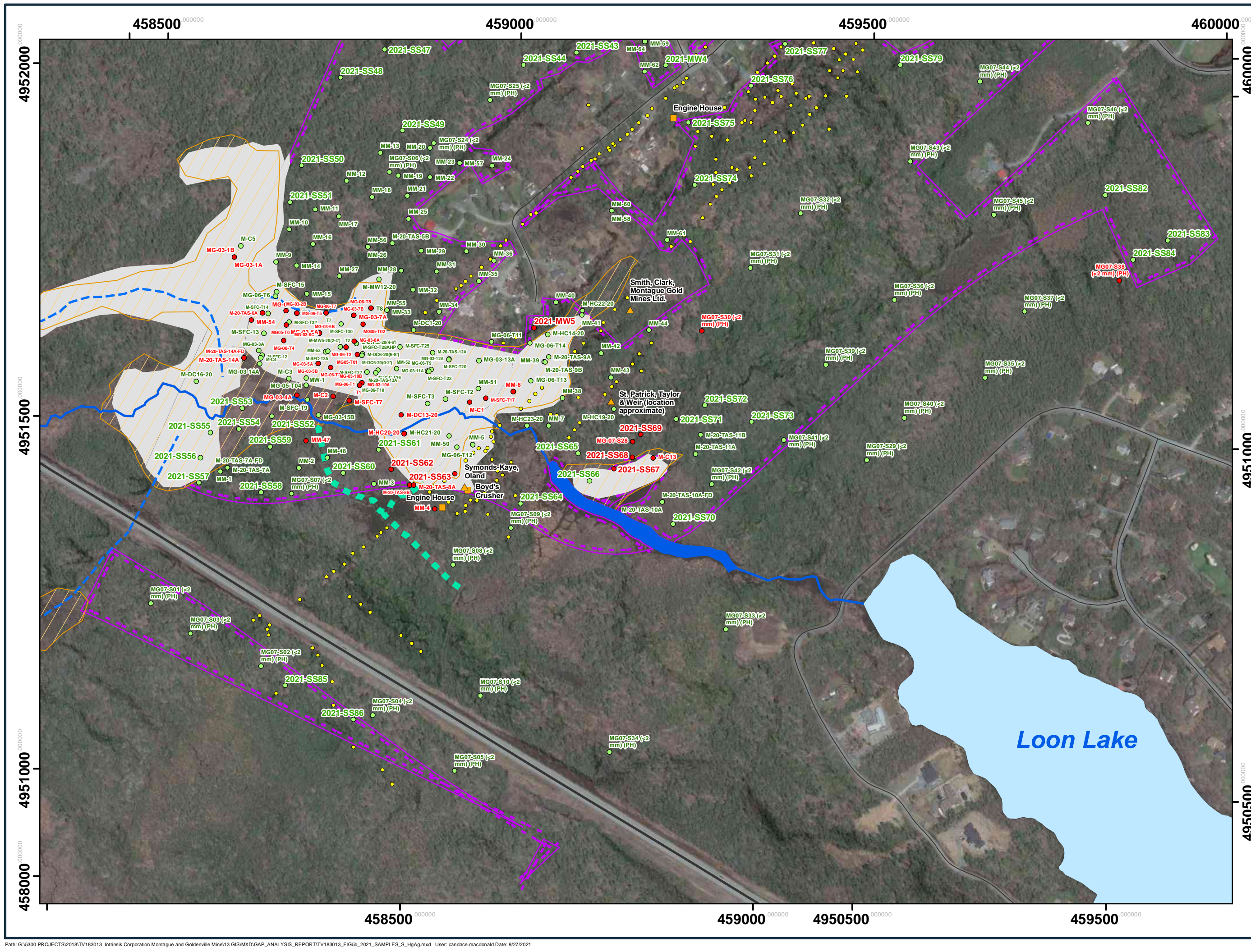
TITLE:  
**MERCURY EXCEEDING SOIL GUIDELINES (AGRICULTURAL) NORTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 5A**





- LEGEND:**
- Does not exceed
  - Exceeds
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - Intermittent Drainage
  - Manmade Trench
  - Streams/Creeks
  - Lakes
  - Mitchell's Brook
  - Barry's Run
  - Crown Parcel
  - Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**



TITLE:  
**MERCURY EXCEEDING SOIL GUIDELINES (AGRICULTURAL) SOUTH HALF**

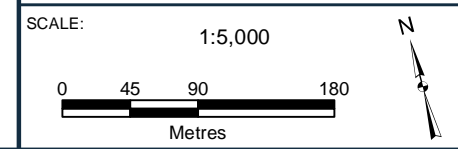
PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
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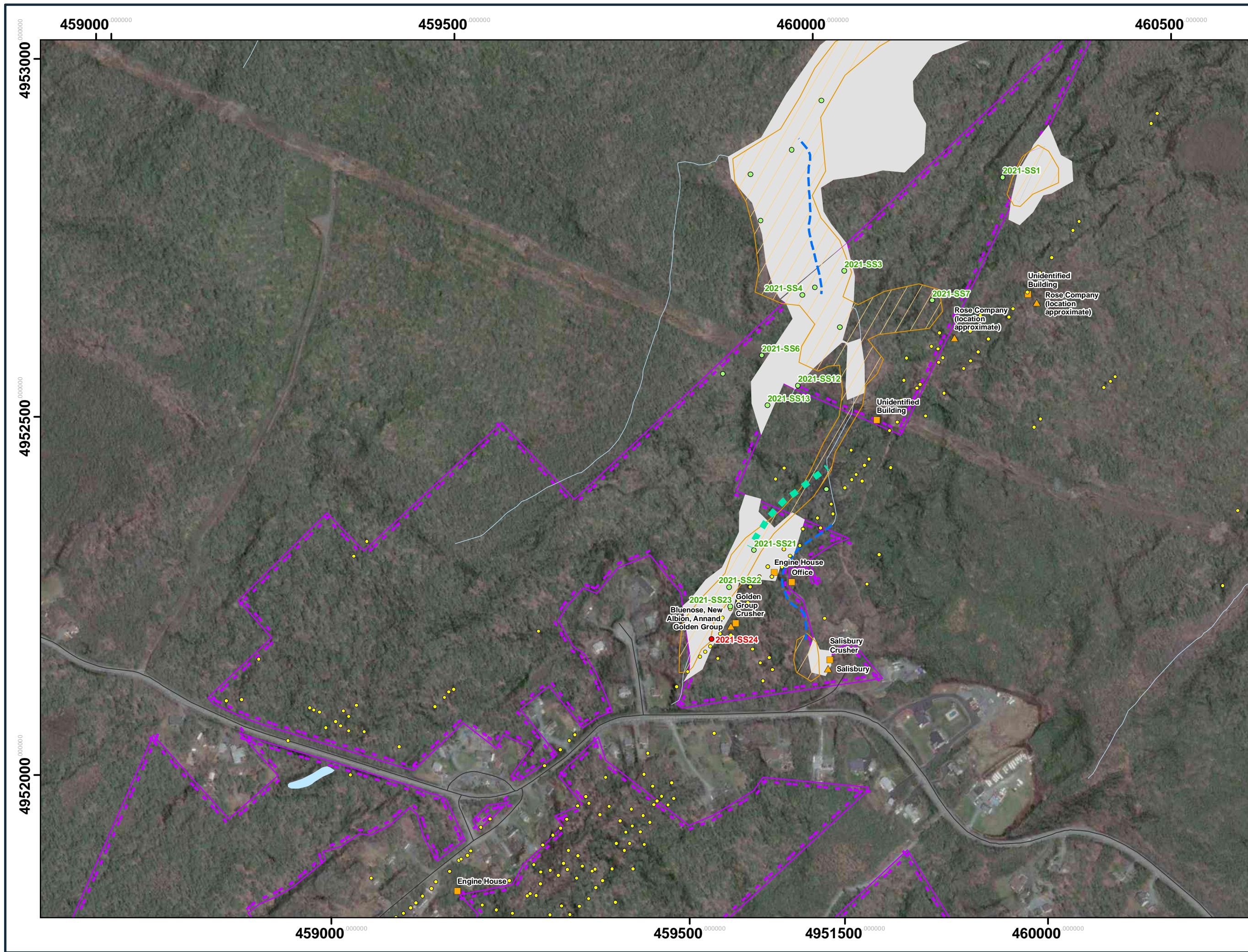
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
---------------------	-------------------------------

DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>
----------------------------------	-------------------------------------

FIGURE:  
**FIGURE 5B**







- LEGEND:**
- Does not exceed
  - Exceeds
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - Intermittent Drainage
  - Manmade Trench
  - Streams/Creeks
  - Lakes
  - Mitchell's Brook
  - Barry's Run
  - Crown Parcel
  - Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**

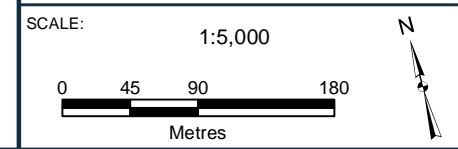


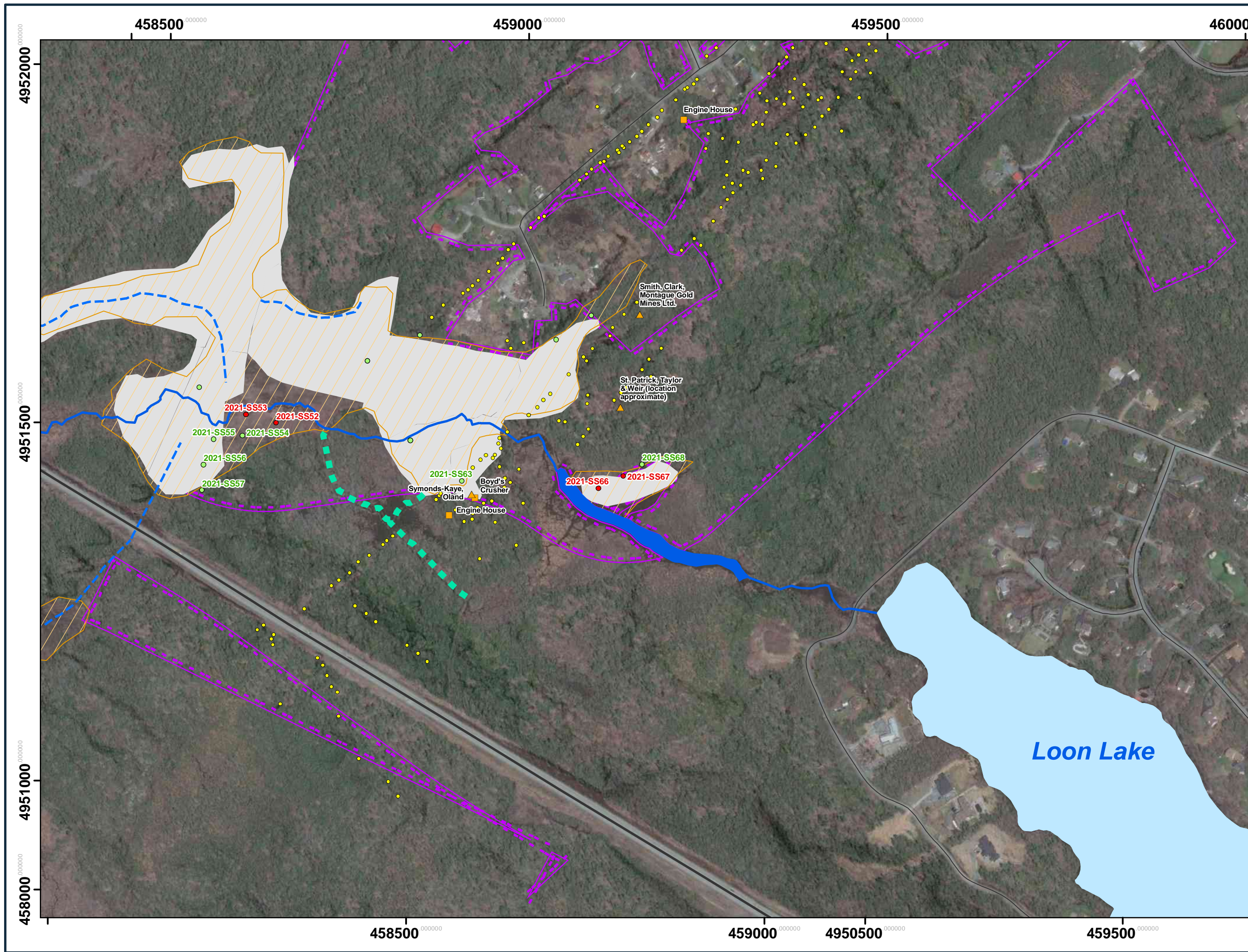
TITLE:  
**CYANIDE EXCEEDING  
SOIL GUIDELINES (AGRICULTURAL)  
NORTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 6A**





- LEGEND:**
- Does not exceed
  - Exceeds
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - Intermittent Drainage
  - Manmade Trench
  - Streams/Creeks
  - █ Lakes
  - █ Mitchell's Brook
  - █ Barry's Run
  - Crown Parcel
  - Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**



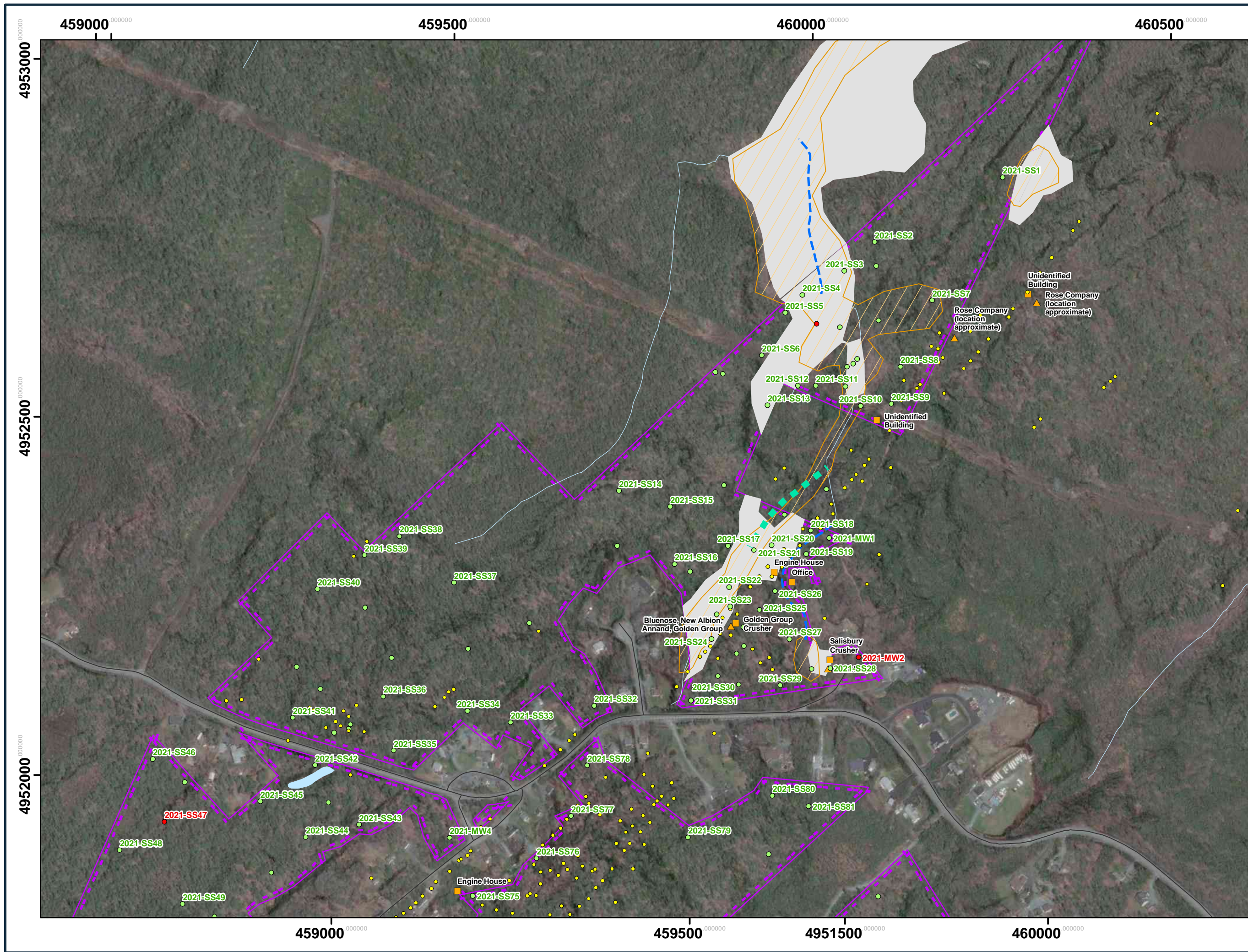
TITLE:  
**CYANIDE EXCEEDING  
SOIL GUIDELINES (AGRICULTURAL)  
SOUTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 6B**

SCALE: 1:5,000



- LEGEND:**
- Does not exceed
  - Exceeds
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - Intermittent Drainage
  - Manmade Trench
  - Streams/Creeks
  - Lakes
  - Mitchell's Brook
  - Barry's Run
  - Crown Parcel
  - Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**

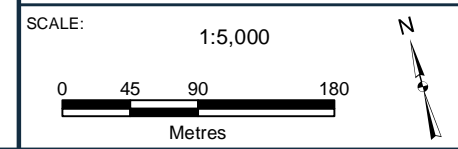


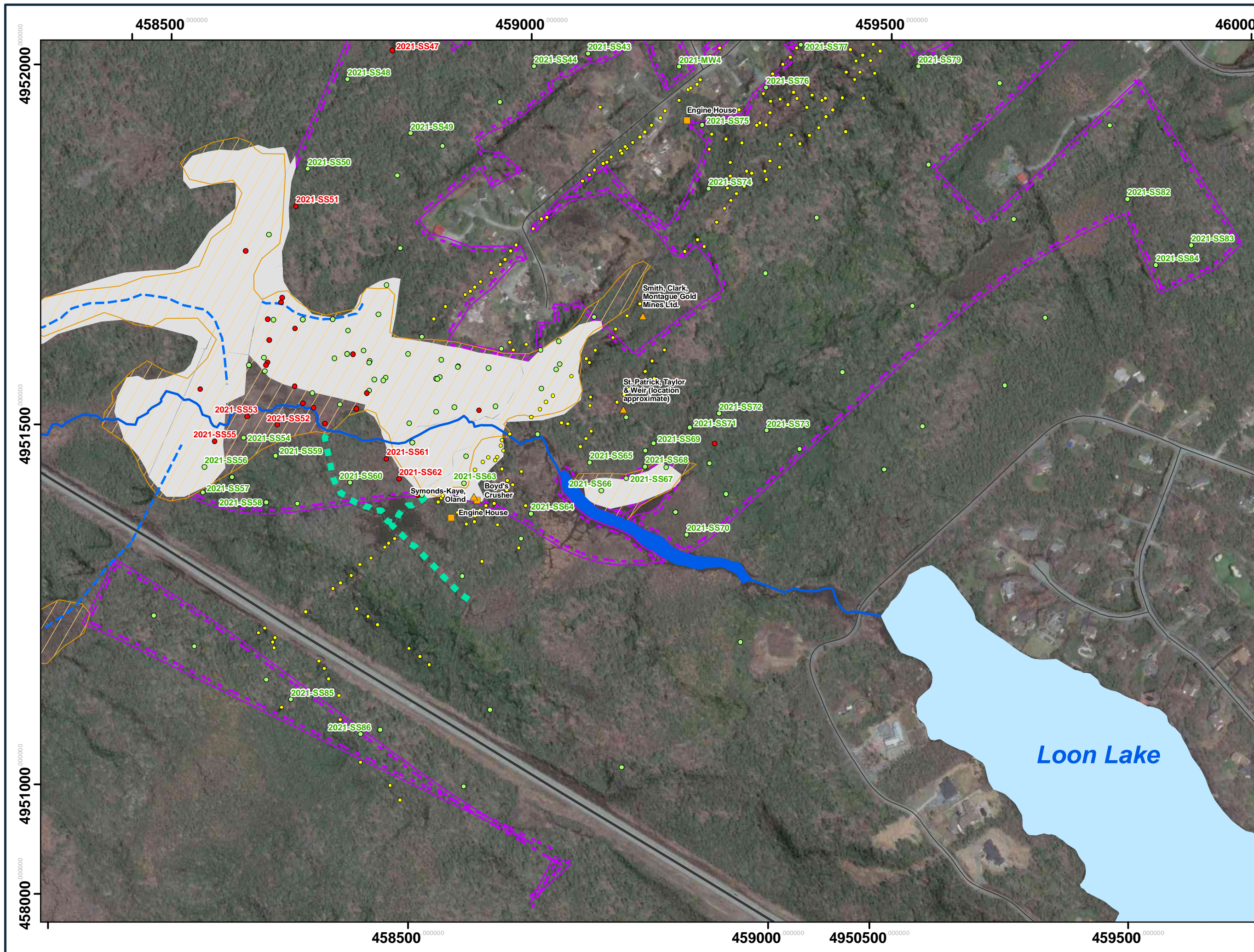
TITLE:  
**COBALT EXCEEDING SOIL GUIDELINES (AGRICULTURAL) NORTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 7A**





- LEGEND:**
- Does not exceed
  - Exceeds
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - Intermittent Drainage
  - Manmade Trench
  - Streams/Creeks
  - Lakes
  - Mitchell's Brook
  - Barry's Run
  - Crown Parcel
  - Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**



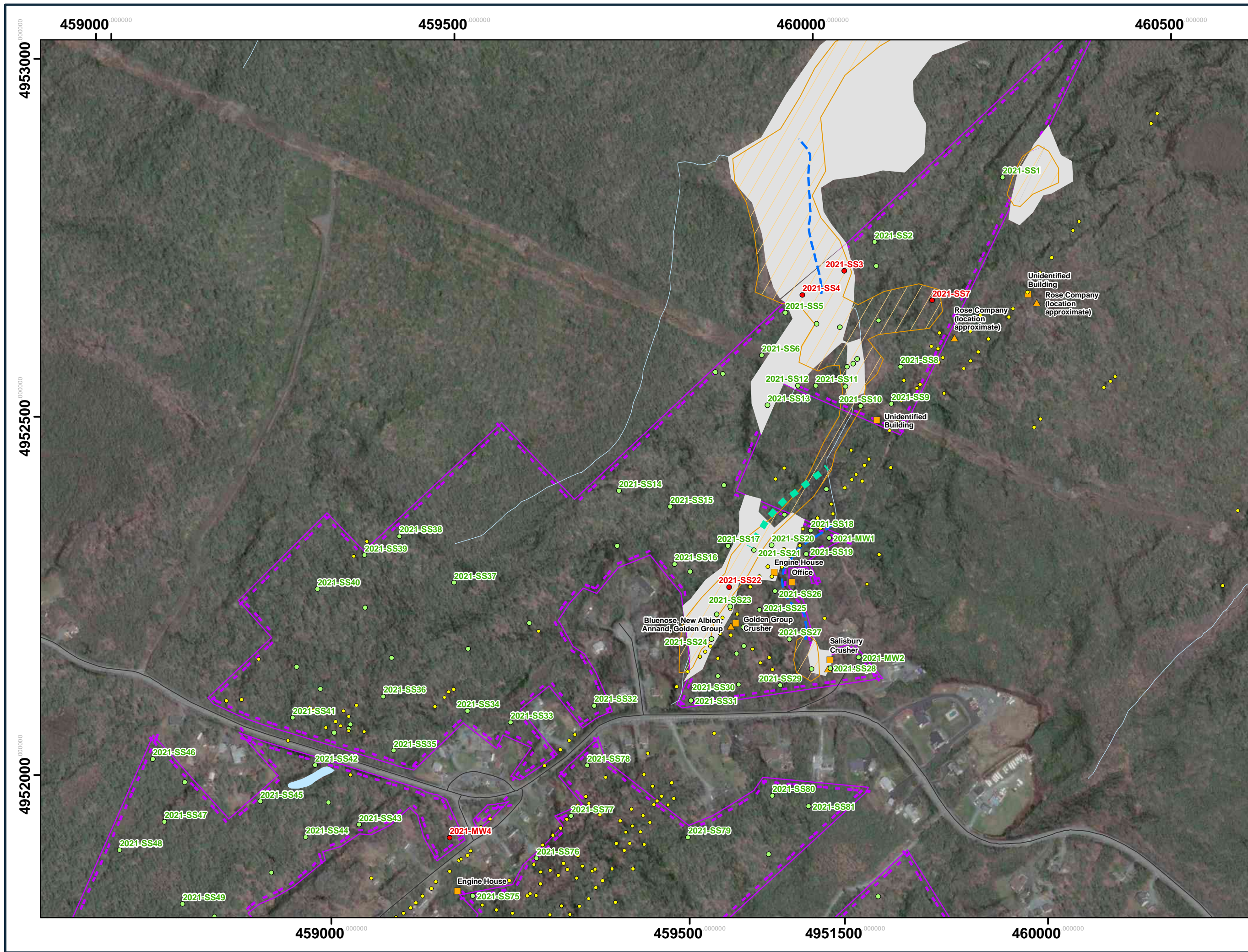
TITLE:  
**COBALT EXCEEDING SOIL GUIDELINES (AGRICULTURAL) SOUTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 7B**

SCALE: 1:5,000



- LEGEND:**
- Does not exceed
  - Exceeds
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - - - Intermittent Drainage
  - Manmade Trench
  - ~ Streams/Creeks
  - Lakes
  - ~ Mitchell's Brook
  - ~ Barry's Run
  - - - Crown Parcel
  - / / / Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**

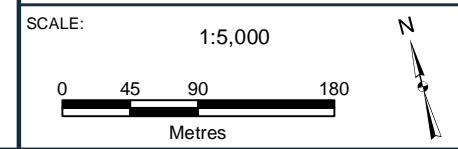


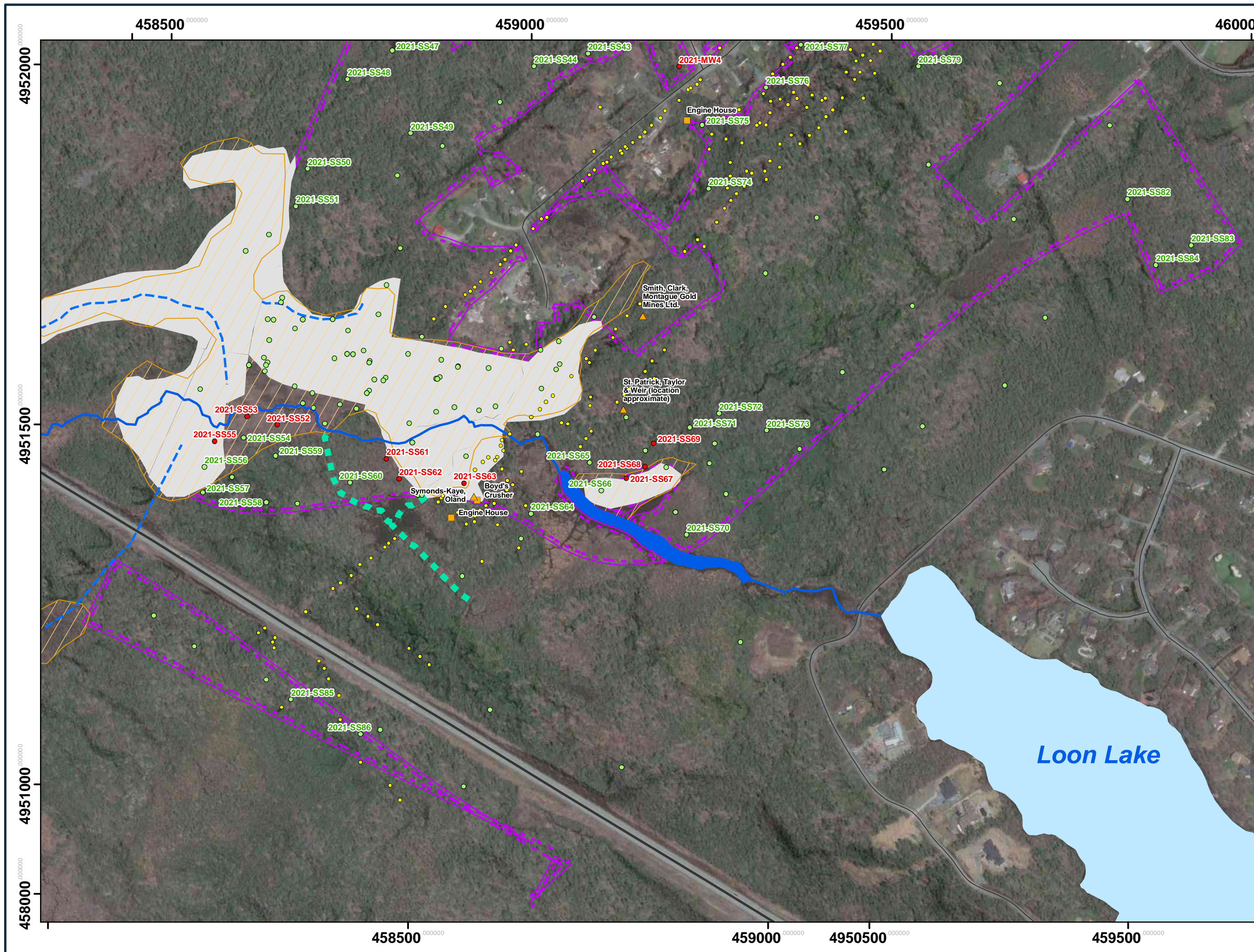
TITLE:  
**COPPER EXCEEDING SOIL GUIDELINES (AGRICULTURAL) NORTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 8A**





- LEGEND:**
- Does not exceed
  - Exceeds
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - Intermittent Drainage
  - Manmade Trench
  - Streams/Creeks
  - Lakes
  - Mitchell's Brook
  - Barry's Run
  - Crown Parcel
  - Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**

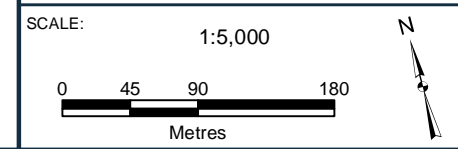


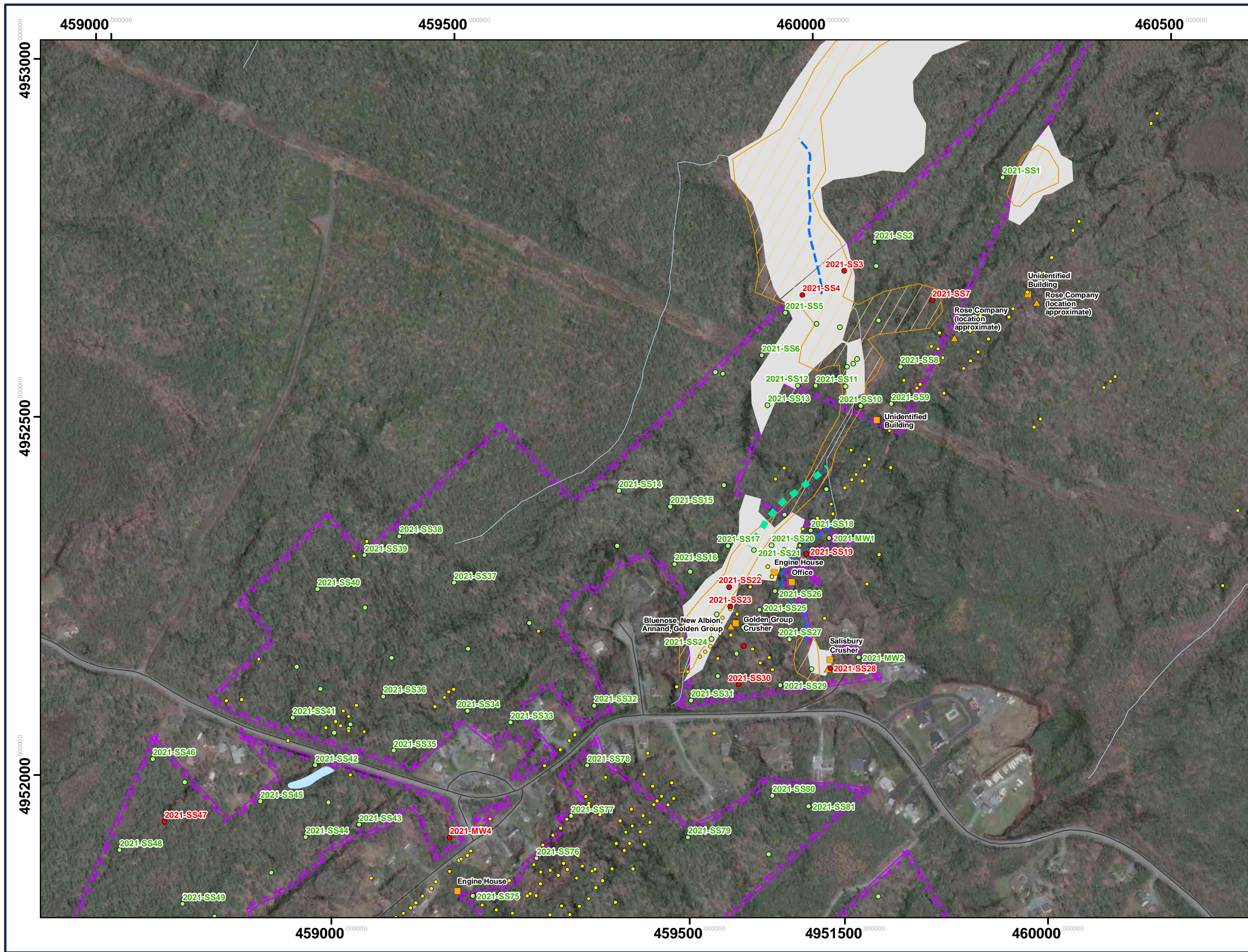
TITLE:  
**COPPER EXCEEDING SOIL GUIDELINES (AGRICULTURAL) SOUTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 8B**





- LEGEND:**
- Lead Exceeding Agricultural Guidelines: Does not exceed
  - Lead Exceeding Agricultural Guidelines: Exceeds
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - Intermittent Drainage
  - Manmade Trench
  - Streams/Creeks
  - Lakes
  - Mitchell's Brook
  - Barry's Run
  - Crown Parcel
  - Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**

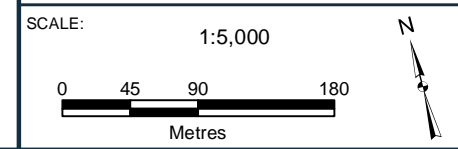


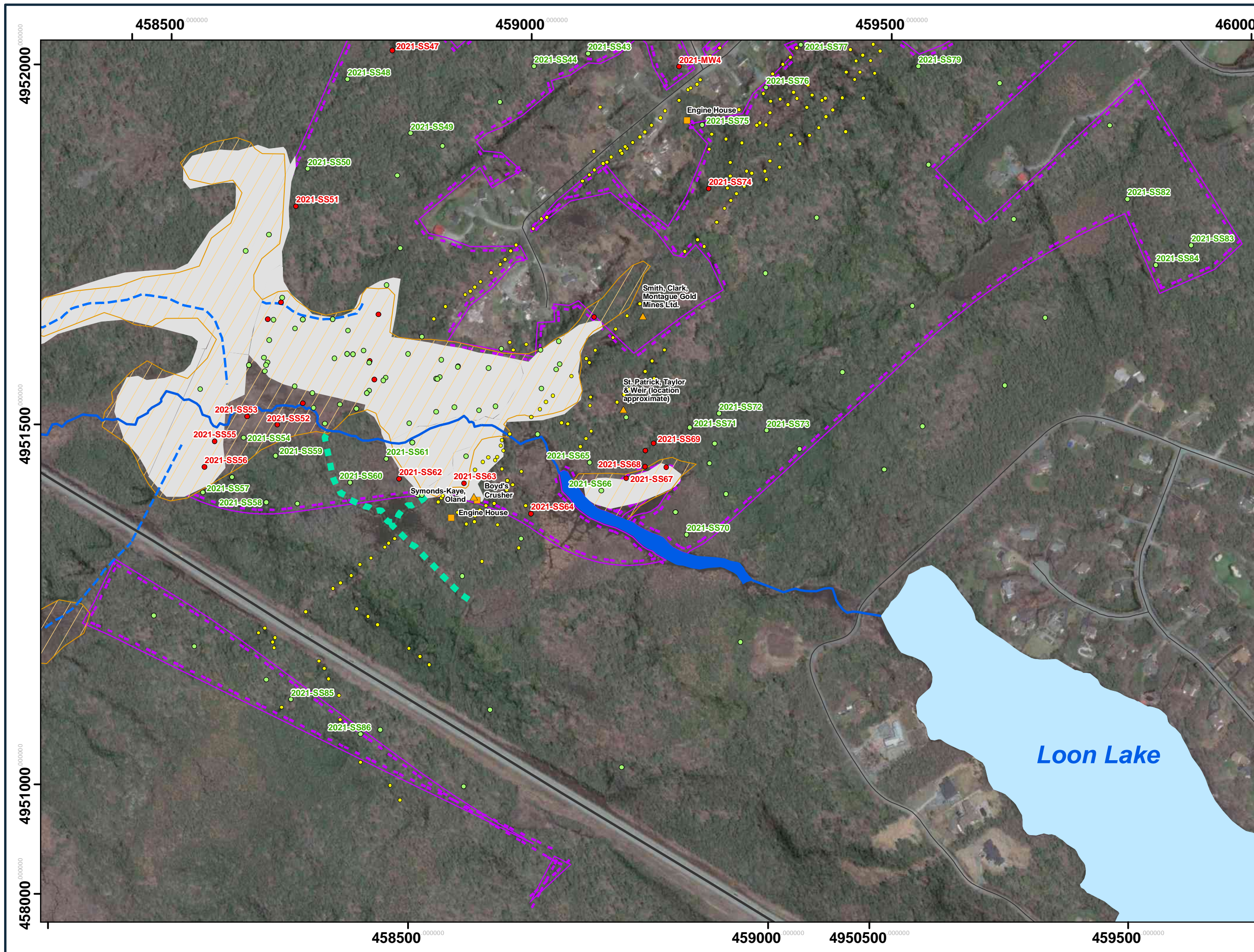
TITLE:  
**LEAD EXCEEDING SOIL GUIDELINES (AGRICULTURAL) NORTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 9A**





- LEGEND:**
- Does not exceed
  - Exceeds
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - Intermittent Drainage
  - Manmade Trench
  - ~ Streams/Creeks
  - ~ Lakes
  - Mitchell's Brook
  - ~ Barry's Run
  - Crown Parcel
  - Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**

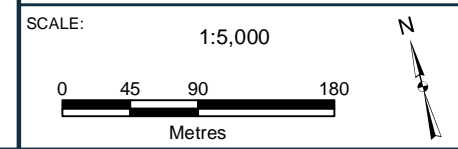


TITLE:  
**LEAD EXCEEDING SOIL GUIDELINES (AGRICULTURAL) SOUTH HALF**

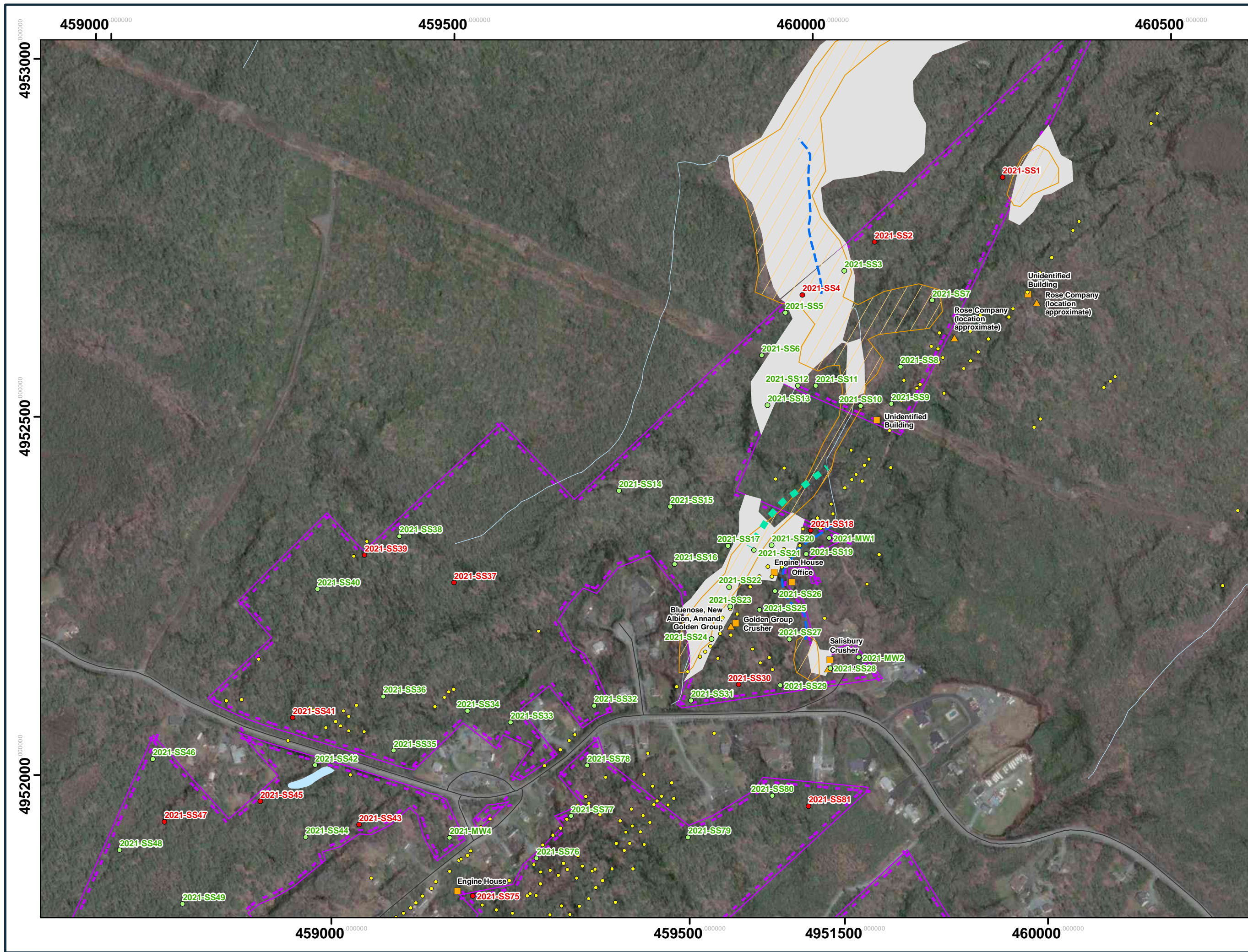
PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 9B**







**LEGEND:**

- Does not exceed
- Exceeds
- Abandoned Mine Opening
- ▲ Crusher
- 1902 Building
- Major Road
- Local Road
- Intermittent Drainage
- Manmade Trench
- ~ Streams/Creeks
- Lakes
- ~ Mitchell's Brook
- ~ Barry's Run
- Crown Parcel
- Possible Tailings Traces
- Tailings

CLIENT:  
**NS LANDS INC.**



TITLE:  
**SELENIUM EXCEEDING SOIL GUIDELINES (AGRICULTURAL) NORTH HALF**

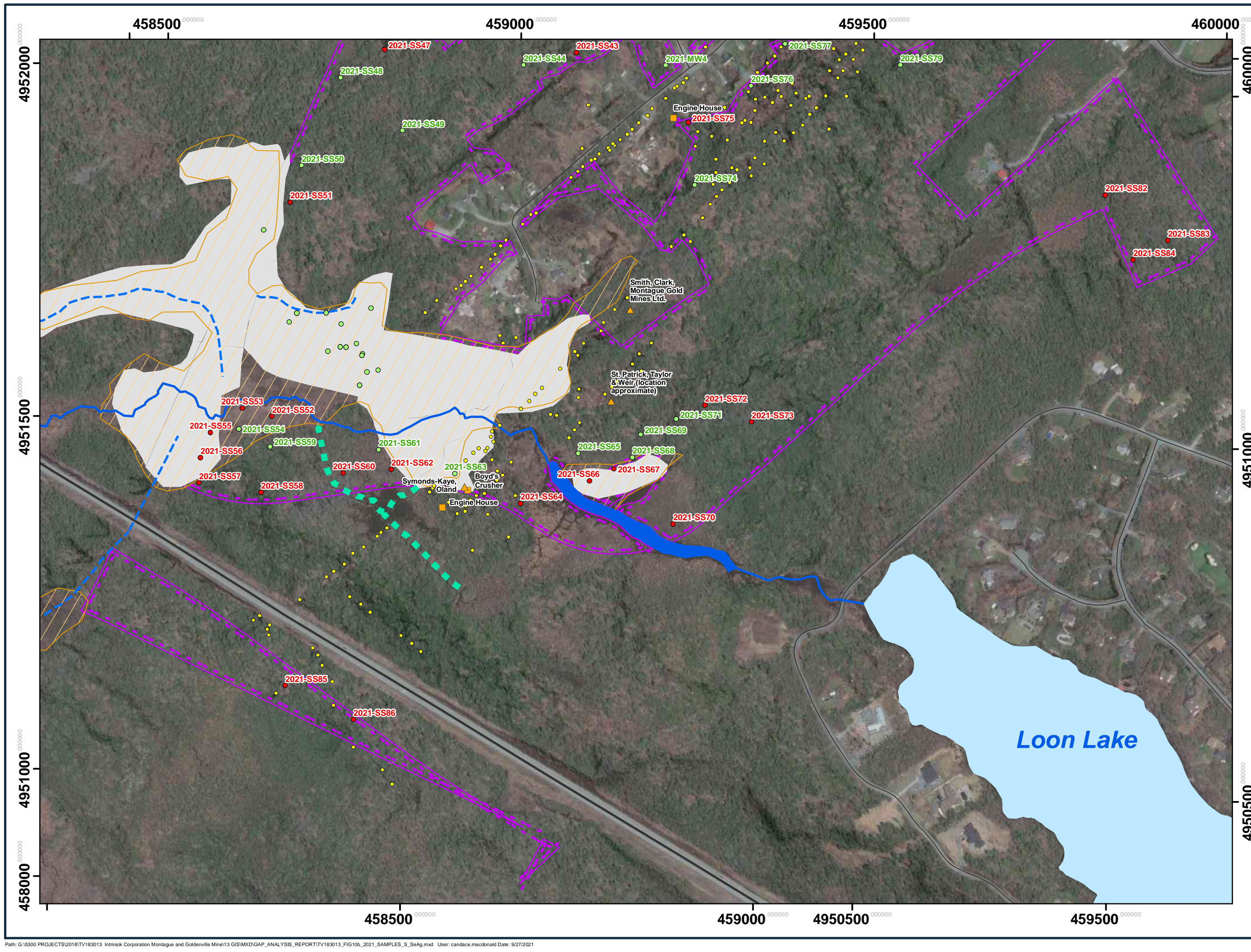
PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 10A**

SCALE: 1:5,000

N



**LEGEND:**

- Does not exceed
- Exceeds
- Abandoned Mine
- ▲ Crusher
- 1902 Building
- Major Road
- Local Road
- Intermittent Drainage
- Manmade
- ~ Streams/Creeks
- █ Lakes
- █ Mitchell's Brook
- █ Barry's Run
- Crown Parcel
- Possible Tailings
- Tailings

CLIENT:  
**NS LANDS INC.**



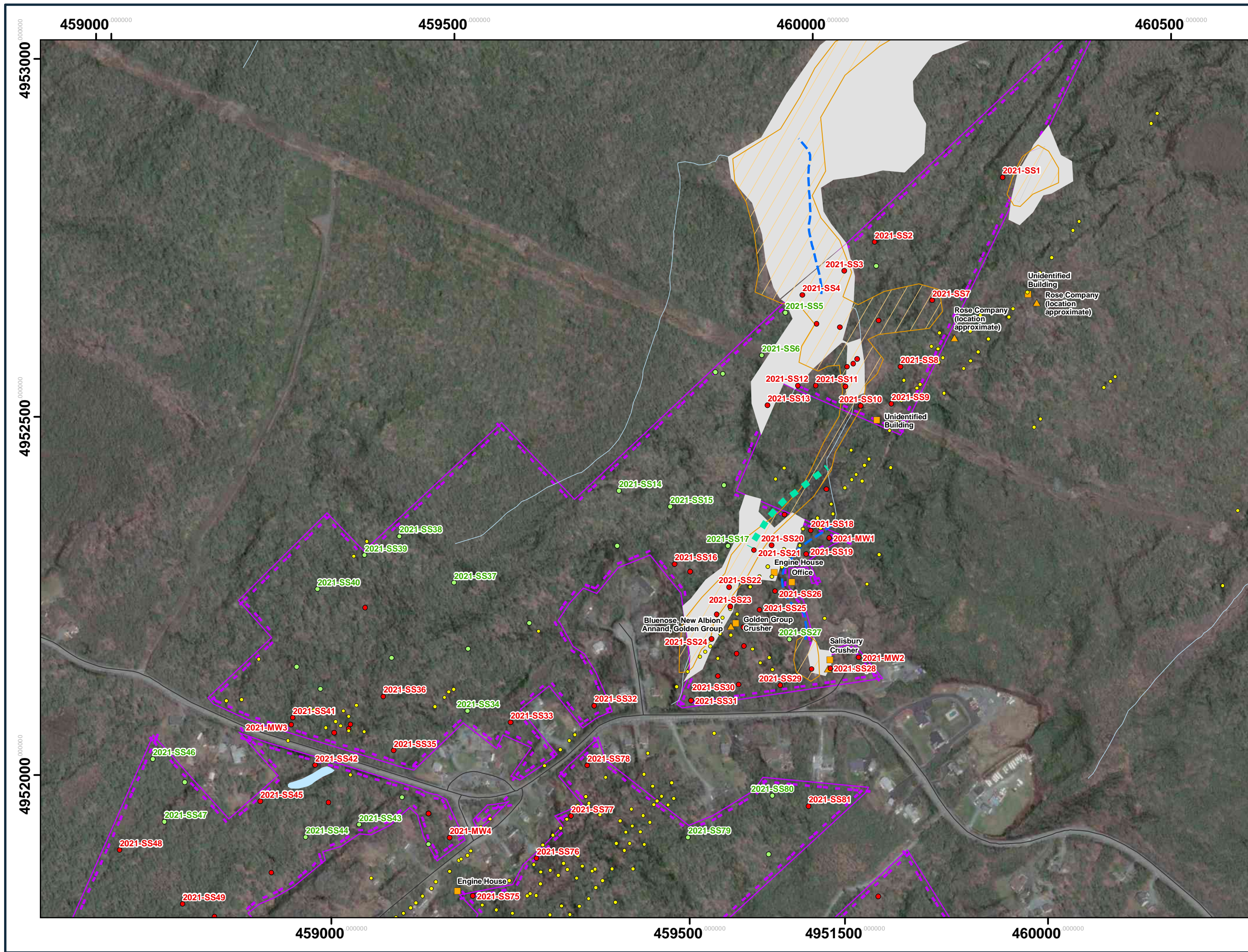
TITLE:  
**SELENIUM EXCEEDING SOIL GUIDELINES (AGRICULTURAL) SOUTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 10B**

SCALE: 1:5,000



- LEGEND:**
- Does not exceed
  - Exceeds
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - - - Intermittent Drainage
  - Manmade Trench
  - ~ Streams/Creeks
  - ☪ Lakes
  - ☪ Mitchell's Brook
  - ☪ Barry's Run
  - ▭ Crown Parcel
  - ▨ Possible Tailings Traces
  - ▭ Tailings

CLIENT:  
**NS LANDS INC.**

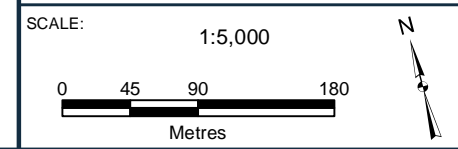


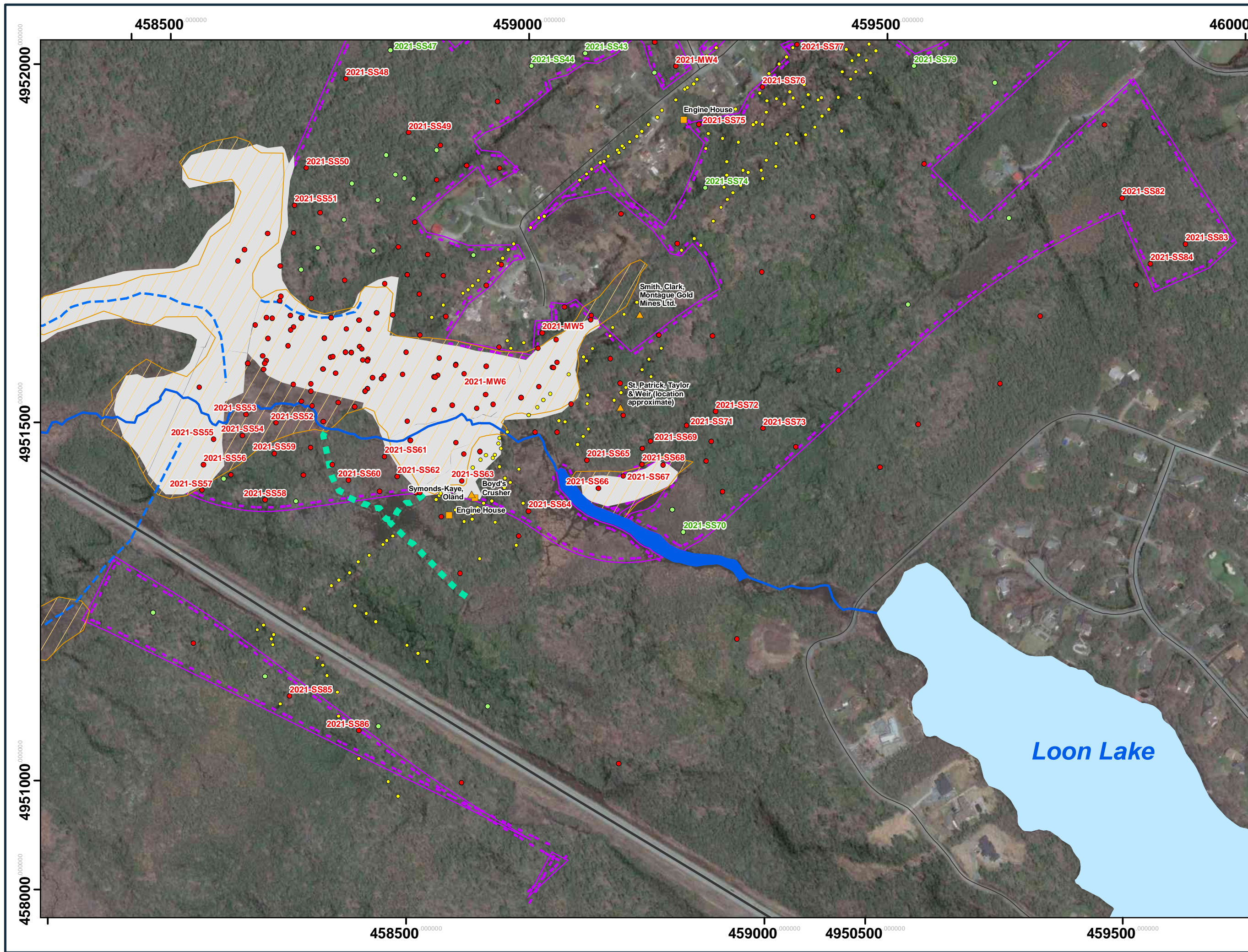
TITLE:  
**ARSENIC EXCEEDING SOIL GUIDELINES (RESIDENTIAL) NORTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 11A**





- LEGEND:**
- Does not exceed
  - Exceeds
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - Intermittent Drainage
  - Manmade Trench
  - ~ Streams/Creeks
  - █ Lakes
  - █ Mitchell's Brook
  - █ Barry's Run
  - Crown Parcel
  - Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**



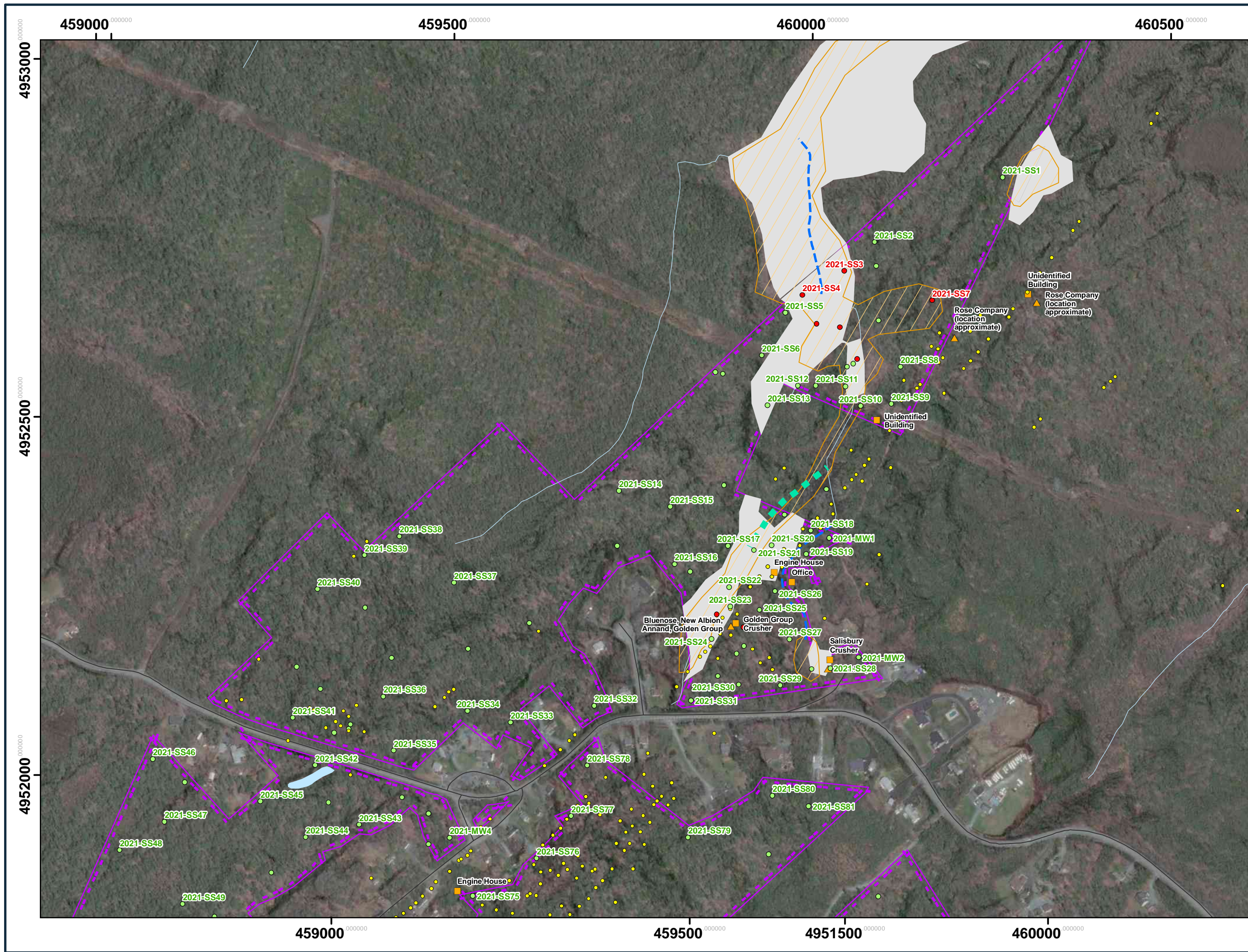
TITLE:  
**ARSENIC EXCEEDING SOIL GUIDELINES (RESIDENTIAL) SOUTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 11B**

SCALE: 1:5,000



- LEGEND:**
- Does not exceed
  - Exceeds
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - Intermittent Drainage
  - Manmade Trench
  - Streams/Creeks
  - Lakes
  - Mitchell's Brook
  - Barry's Run
  - Crown Parcel
  - Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**

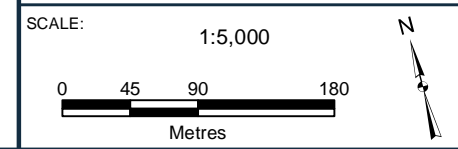


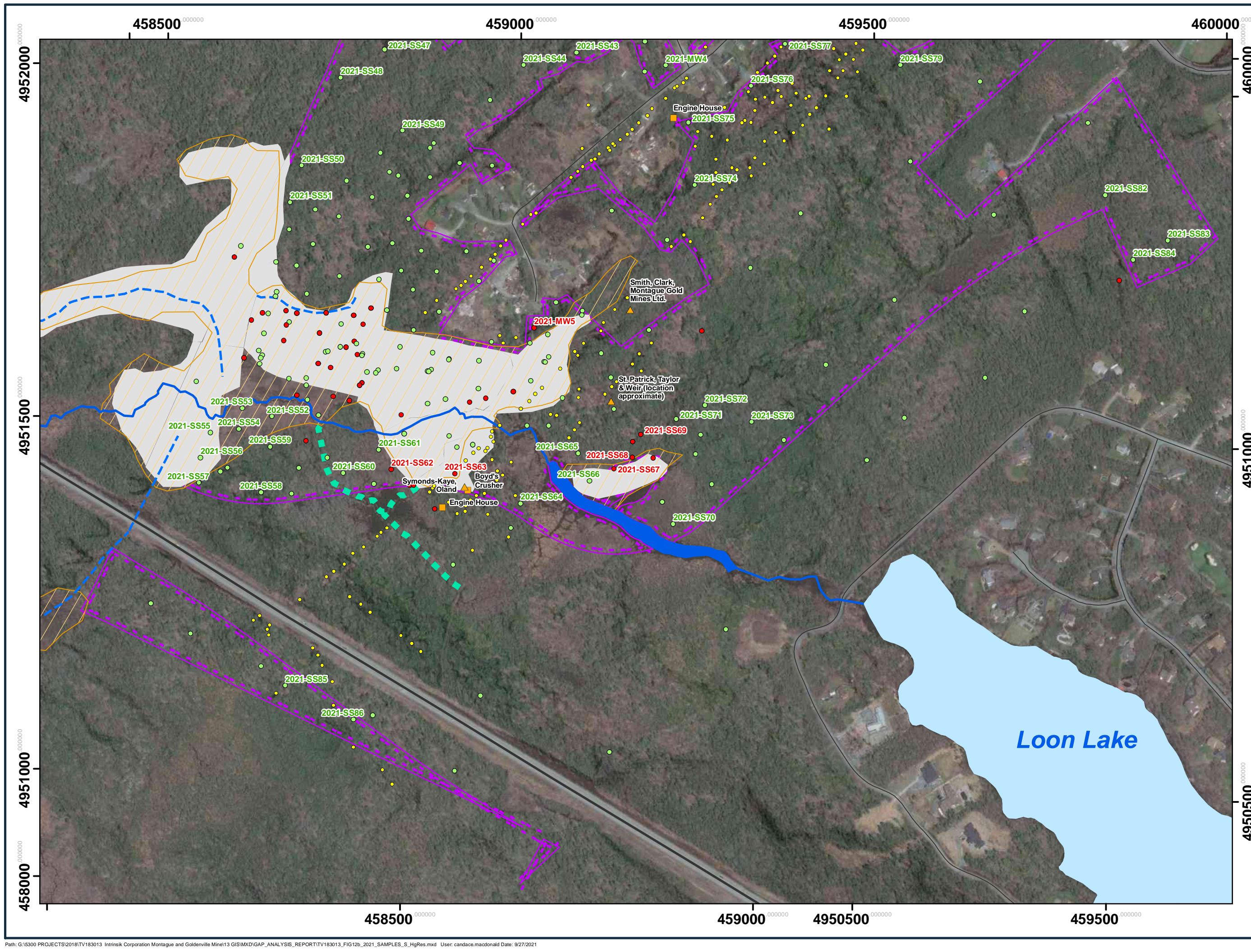
TITLE:  
**MERCURY EXCEEDING SOIL GUIDELINES (RESIDENTIAL) NORTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 12A**





- LEGEND:**
- Does not exceed
  - Exceeds
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - Intermittent Drainage
  - Manmade Trench
  - ~ Streams/Creeks
  - █ Lakes
  - █ Mitchell's Brook
  - █ Barry's Run
  - Crown Parcel
  - Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**

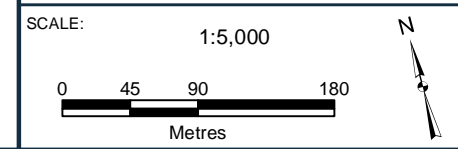


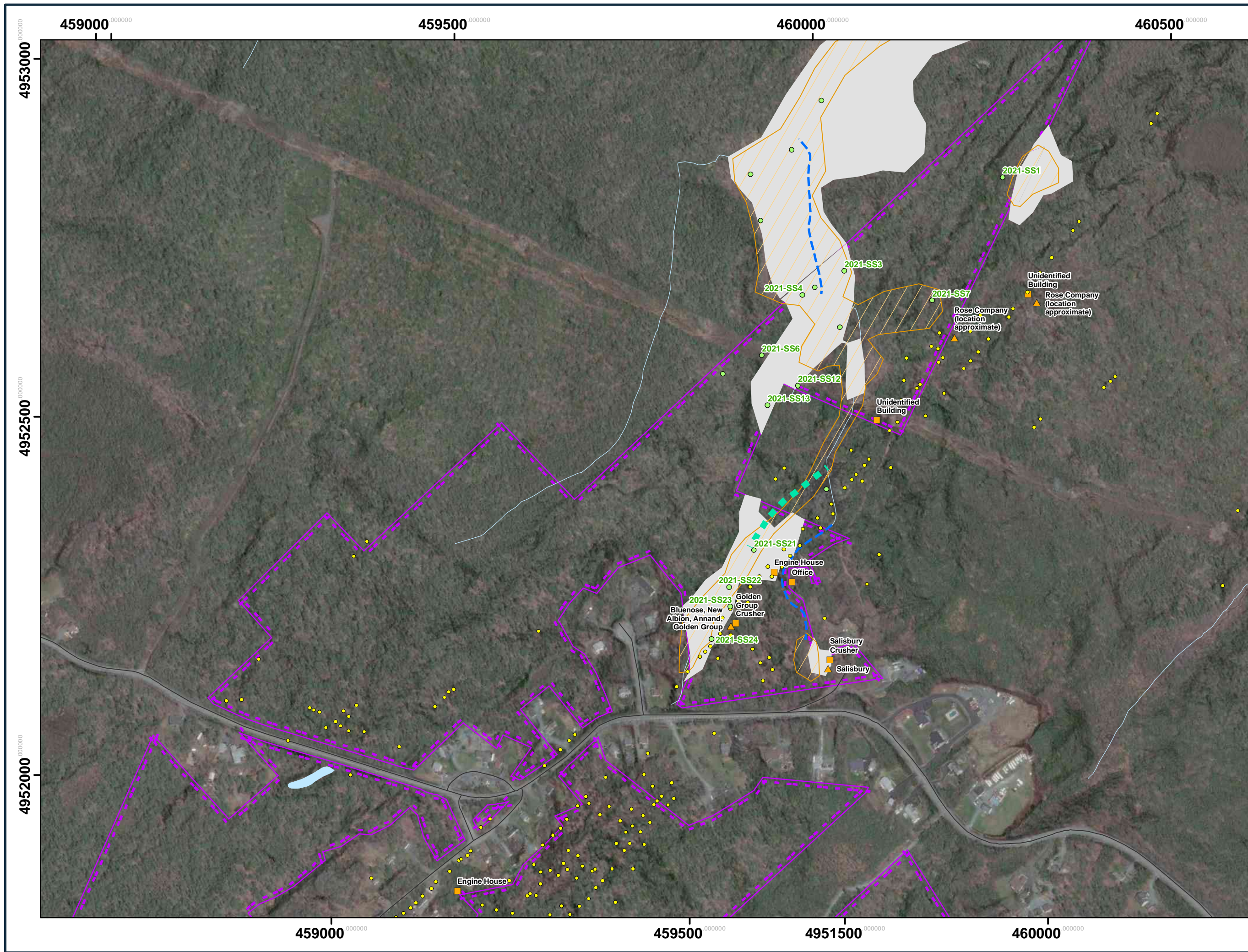
TITLE:  
**MERCURY EXCEEDING SOIL GUIDELINES (RESIDENTIAL) SOUTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 12B**





- LEGEND:**
- Does not exceed
  - Exceeds
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - Intermittent Drainage
  - Manmade Trench
  - ~ Streams/Creeks
  - ☾ Lakes
  - ~ Mitchell's Brook
  - ~ Barry's Run
  - Crown Parcel
  - Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**

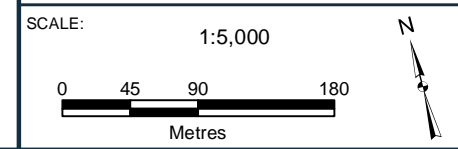


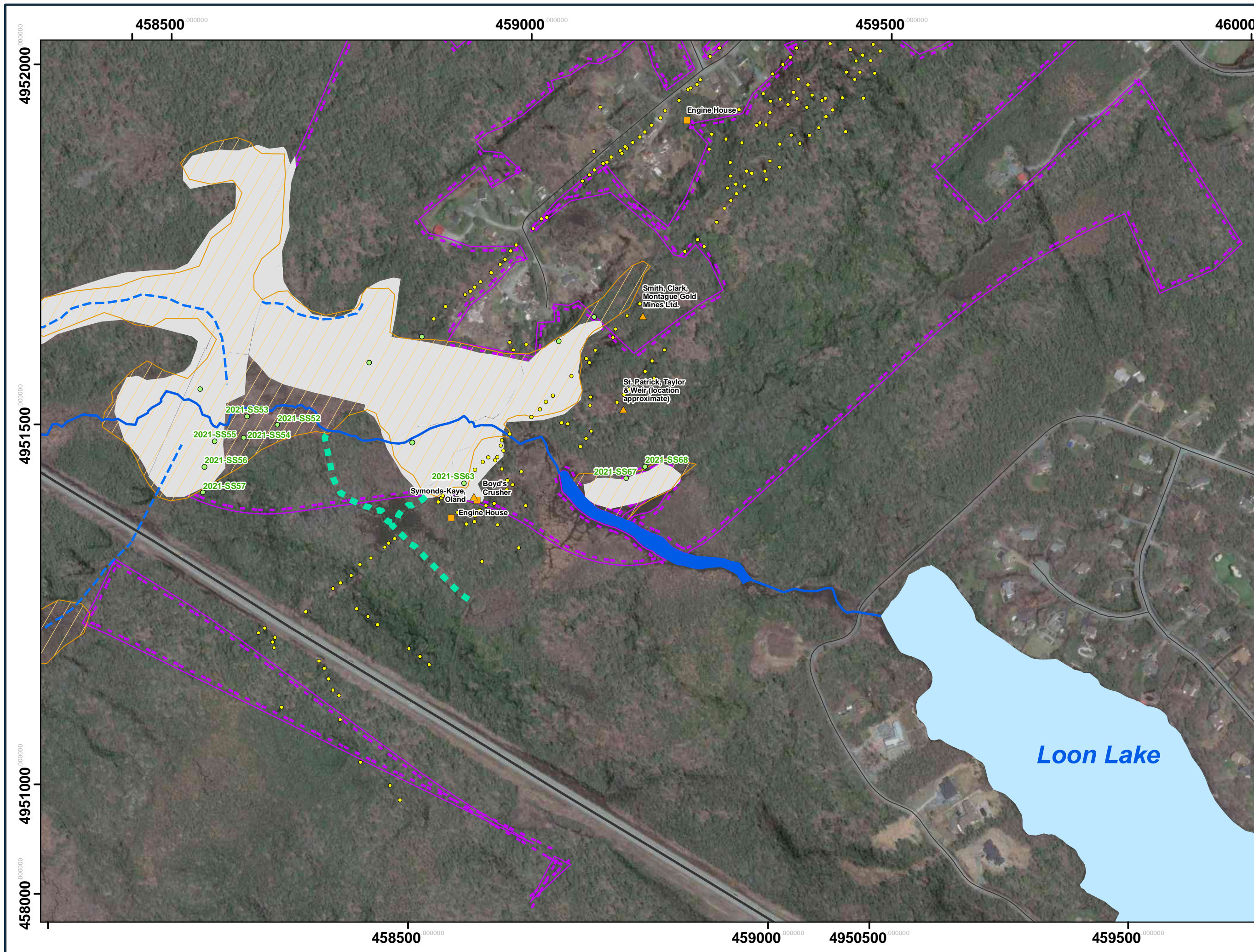
TITLE:  
**CYANIDE EXCEEDING  
SOIL GUIDELINES (RESIDENTIAL)  
NORTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 13A**





- LEGEND:**
- Does not exceed
  - Exceeds
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - Intermittent Drainage
  - Manmade Trench
  - ~ Streams/Creeks
  - █ Lakes
  - ~ Mitchell's Brook
  - ~ Barry's Run
  - Crown Parcel
  - Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**

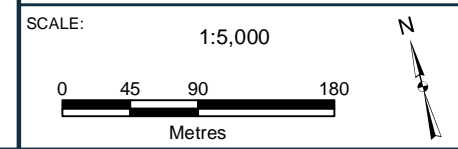


TITLE:  
**CYANIDE EXCEEDING  
SOIL GUIDELINES (RESIDENTIAL)  
SOUTH HALF**

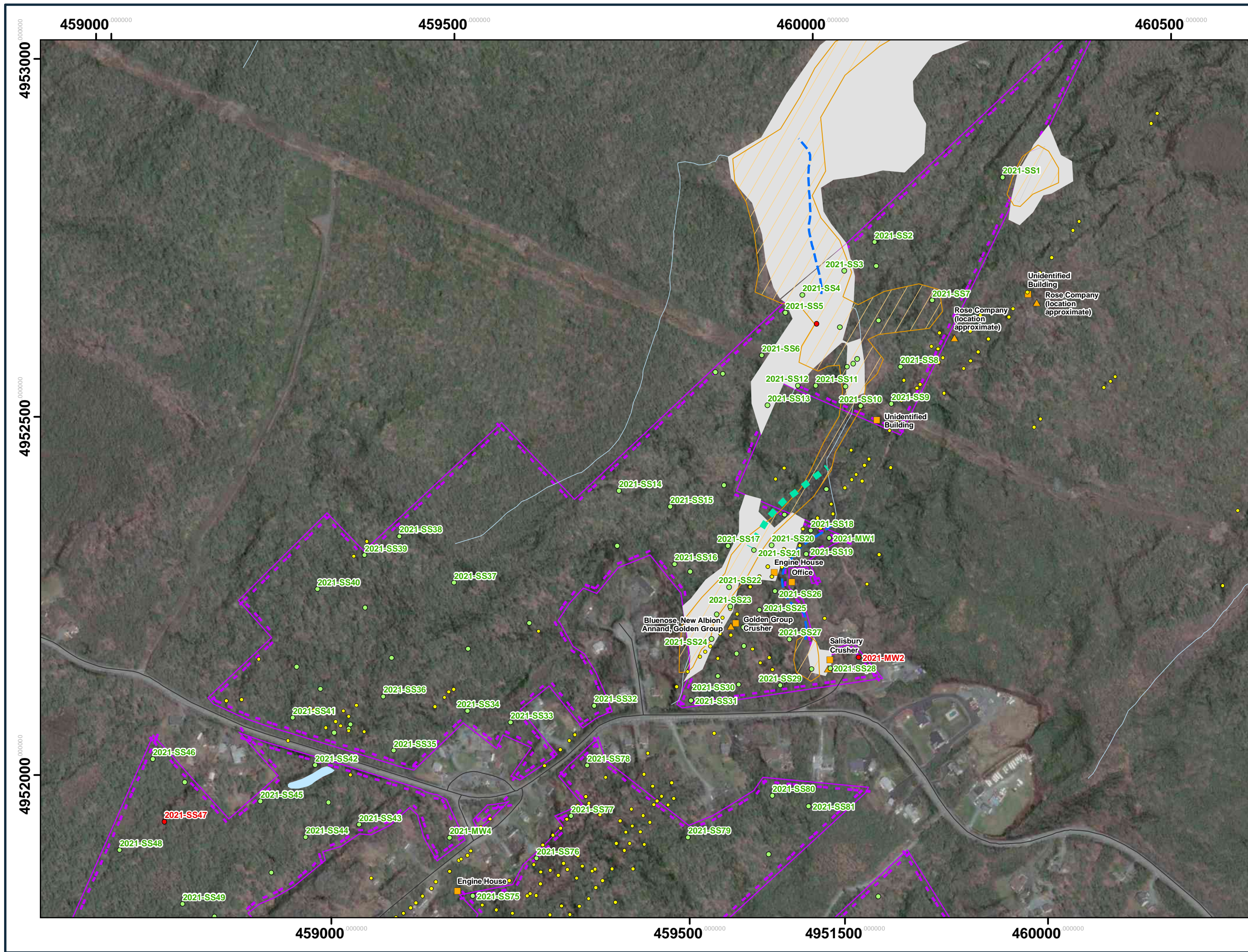
PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 13B**







- LEGEND:**
- Does not exceed
  - Exceeds
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - Intermittent Drainage
  - Manmade Trench
  - Streams/Creeks
  - Lakes
  - Mitchell's Brook
  - Barry's Run
  - Crown Parcel
  - Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**

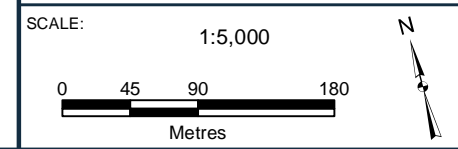


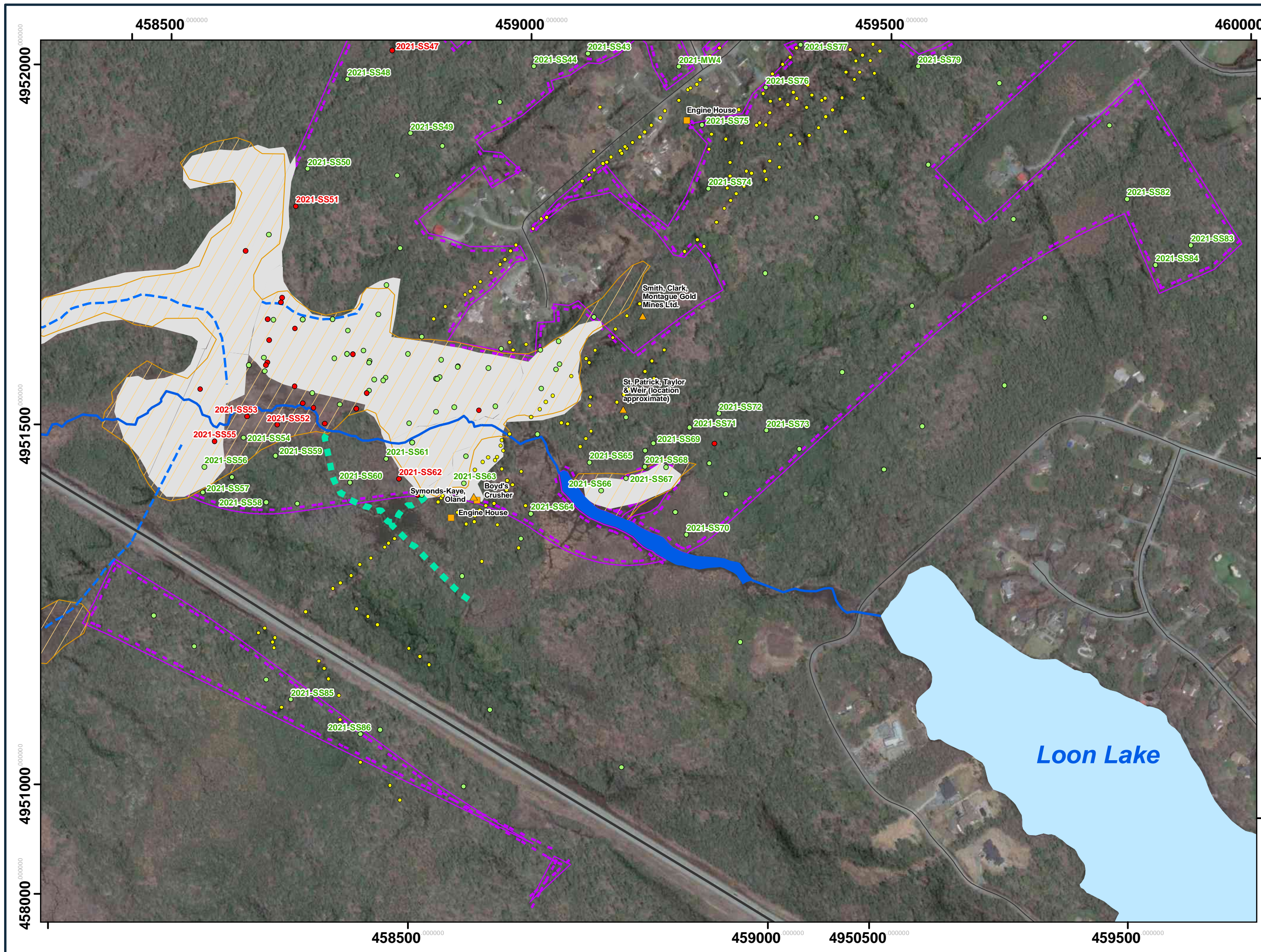
TITLE:  
**COBALT EXCEEDING SOIL GUIDELINES (RESIDENTIAL) NORTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 14A**





- LEGEND:**
- Does not exceed
  - Exceeds
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - Intermittent Drainage
  - Manmade Trench
  - ~ Streams/Creeks
  - Lakes
  - ~ Mitchell's Brook
  - ~ Barry's Run
  - Crown Parcel
  - Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**



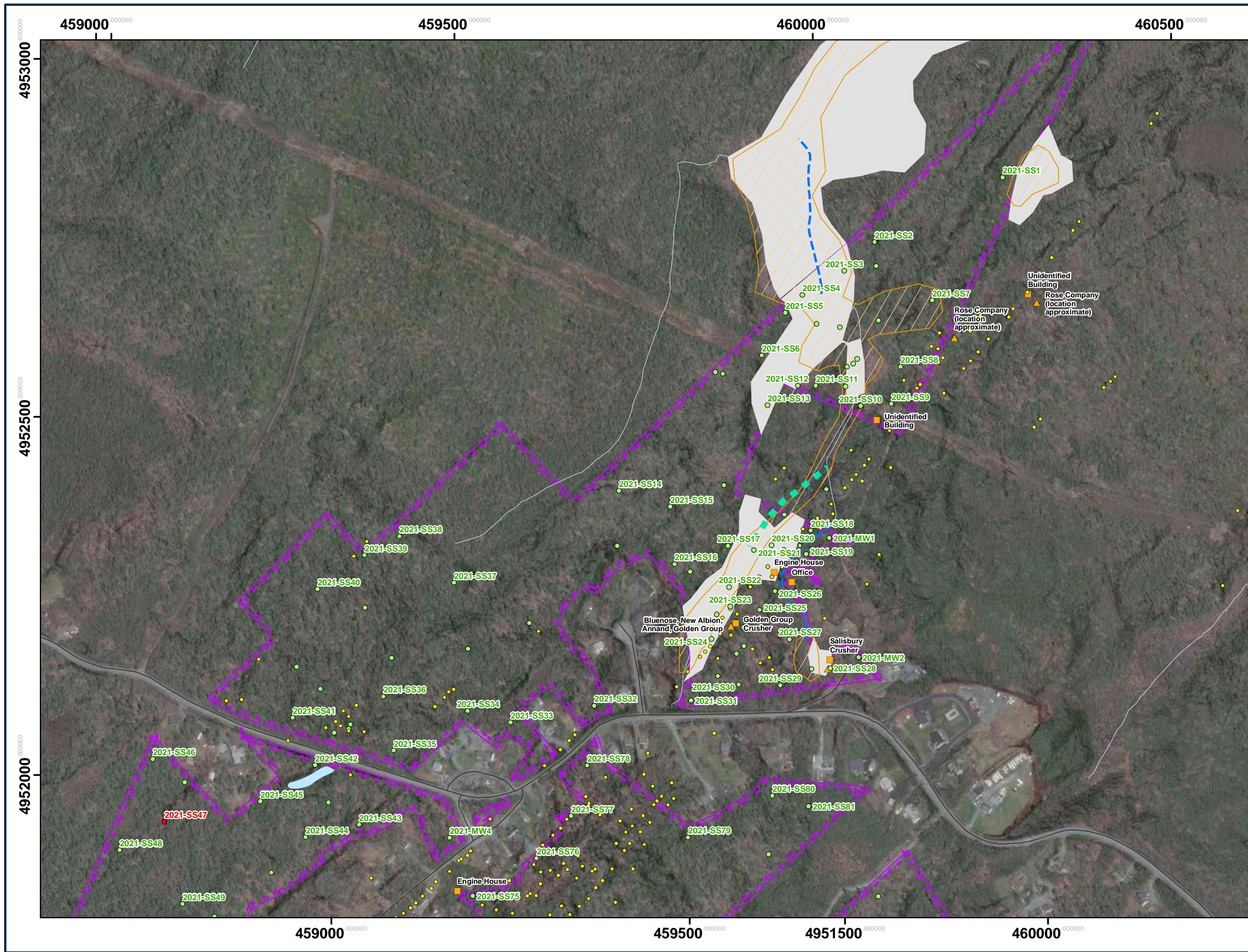
TITLE:  
**COBALT EXCEEDING SOIL GUIDELINES (RESIDENTIAL) SOUTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 14B**

SCALE: 1:5,000



- LEGEND:**
- Does not exceed
  - Exceeds
  - ▲ Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - Intermittent Drainage
  - Manmade Trench
  - Streams/Creeks
  - Lakes
  - Mitchell's Brook
  - Barry's Run
  - Crown Parcel
  - Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**

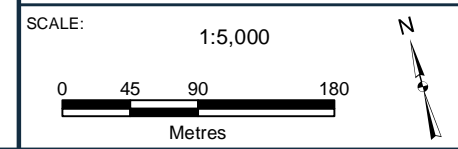


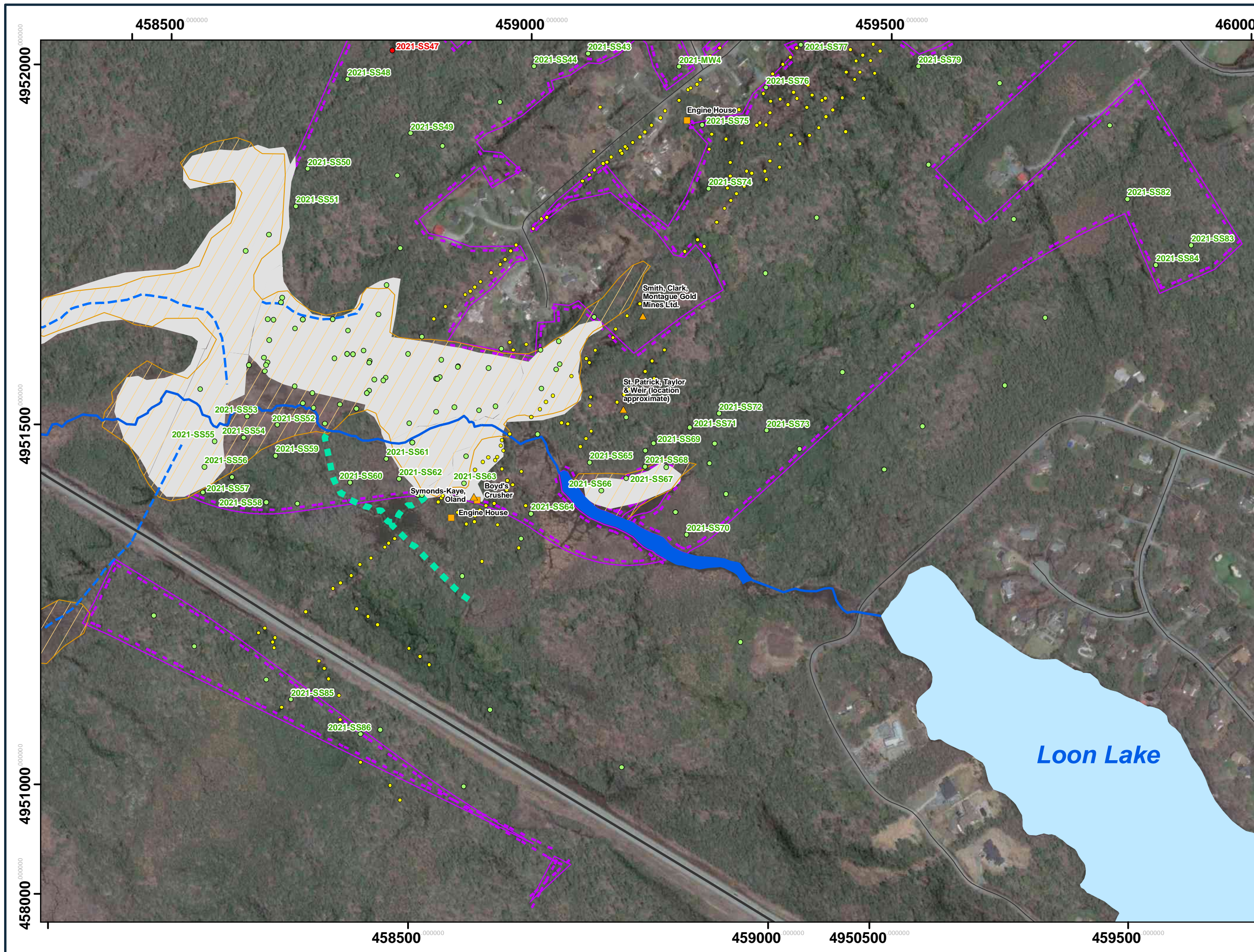
TITLE:  
**COPPER EXCEEDING SOIL GUIDELINES (RESIDENTIAL) NORTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 15A**





**LEGEND:**

- Does not exceed
- Exceeds
- Abandoned Mine Opening
- ▲ Crusher
- 1902 Building
- Major Road
- Local Road
- Intermittent Drainage
- Manmade Trench
- ~ Streams/Creeks
- █ Lakes
- █ Mitchell's Brook
- █ Barry's Run
- Crown Parcel
- Possible Tailings Traces
- Tailings

CLIENT:  
**NS LANDS INC.**



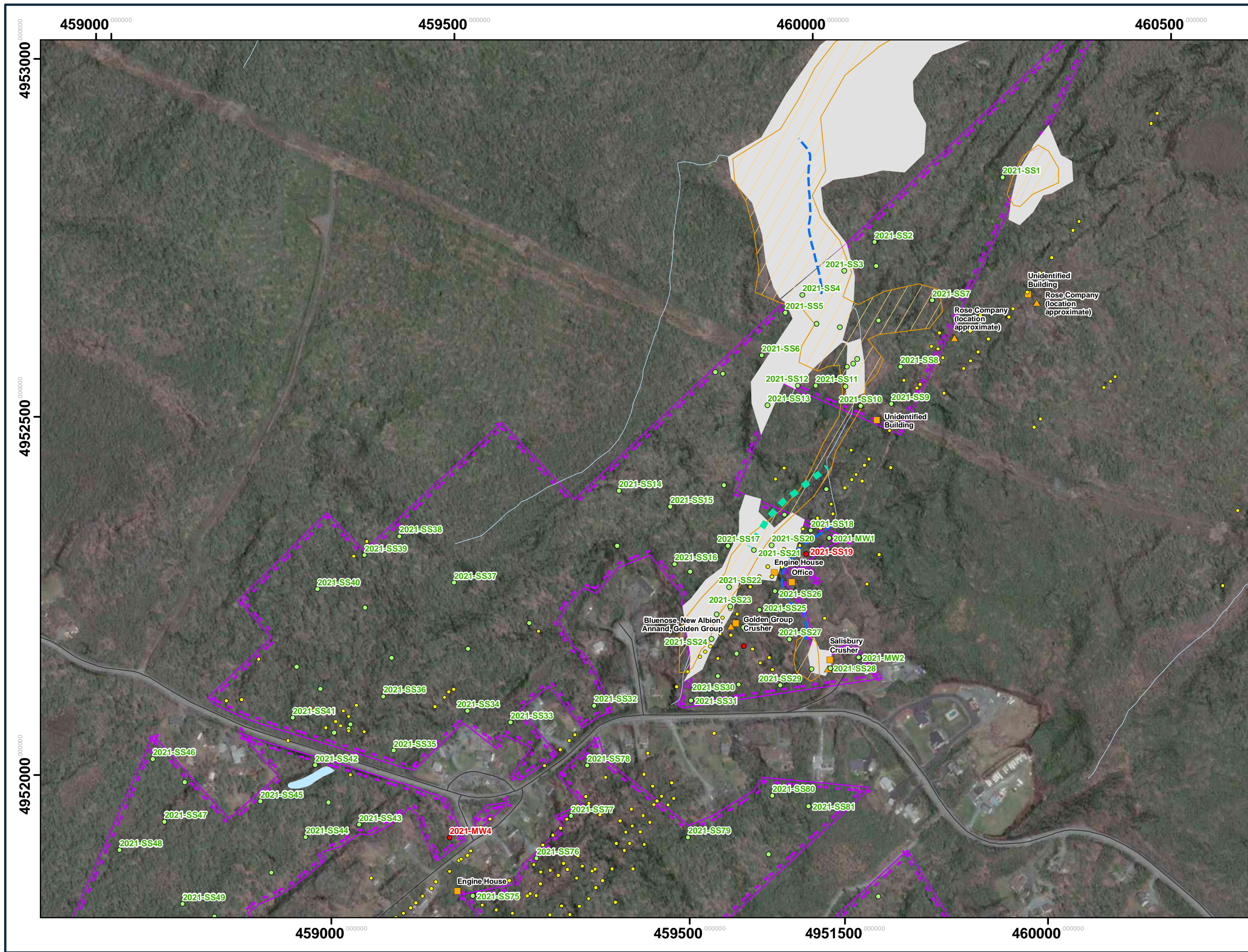
TITLE:  
**COPPER EXCEEDING SOIL GUIDELINES (RESIDENTIAL) SOUTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 15B**

SCALE: 1:5,000



- LEGEND:**
- Does not exceed
  - Exceeds
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - Intermittent Drainage
  - Manmade Trench
  - Streams/Creeks
  - Lakes
  - Mitchell's Brook
  - Barry's Run
  - Crown Parcel
  - Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**

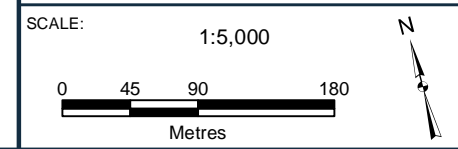


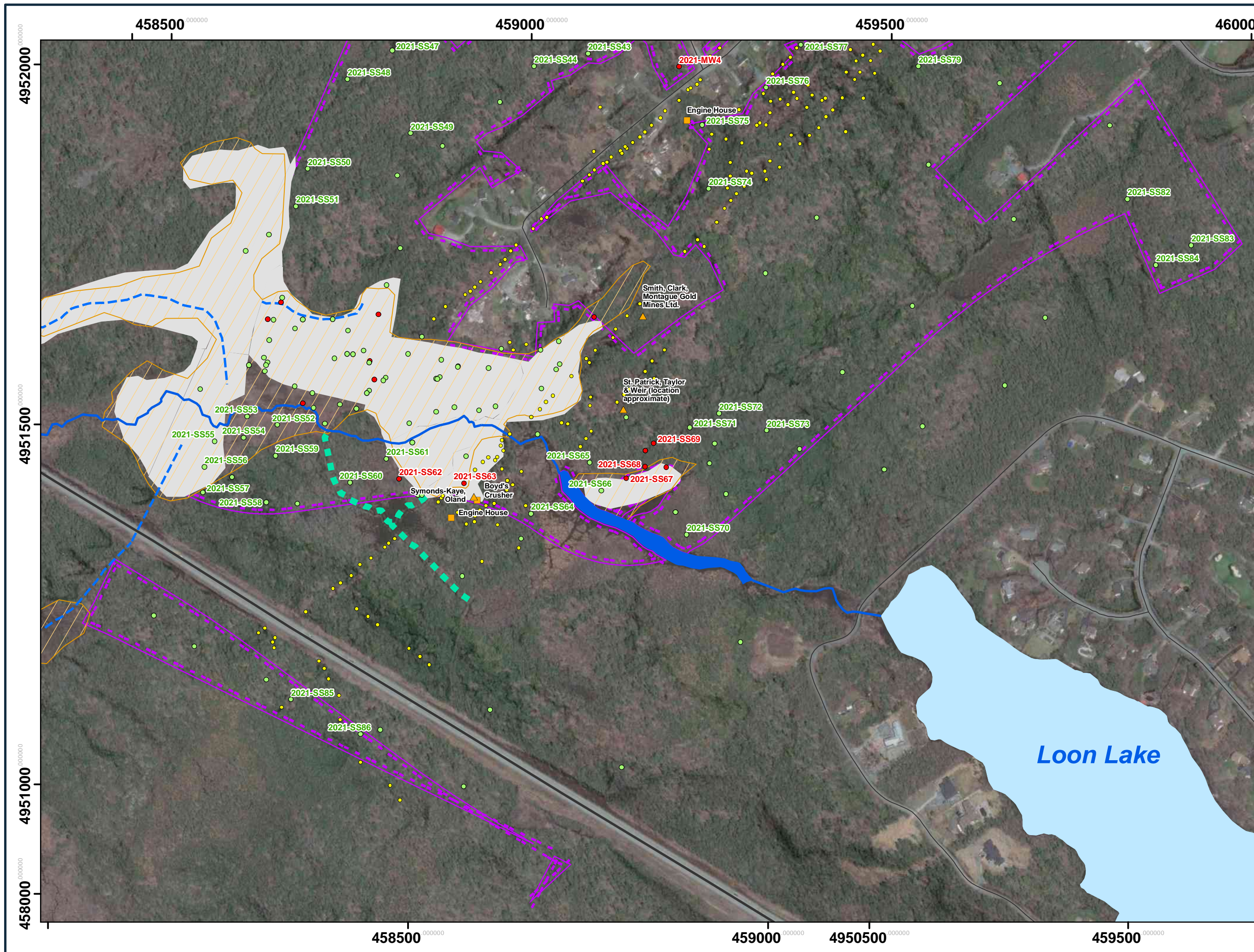
TITLE:  
**LEAD EXCEEDING SOIL GUIDELINES (RESIDENTIAL) NORTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 16A**





- LEGEND:**
- Does not exceed
  - Exceeds
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - Intermittent Drainage
  - Manmade Trench
  - ~~~~~ Streams/Creeks
  - Lakes
  - ~~~~~ Mitchell's Brook
  - Barry's Run
  - Crown Parcel
  - Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**

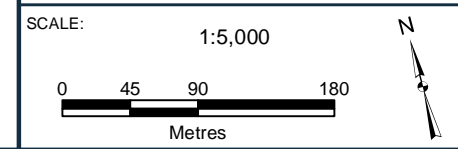


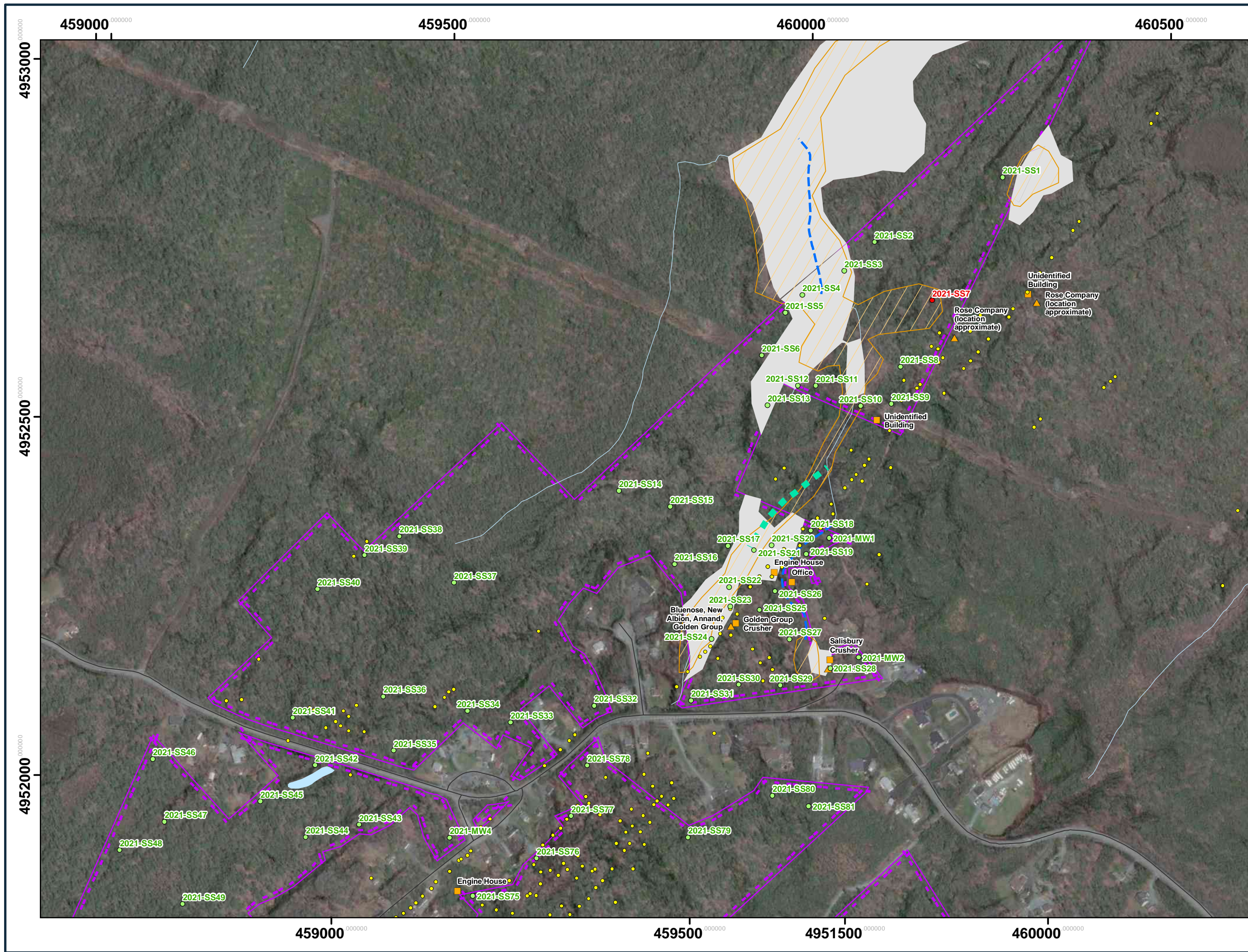
TITLE:  
**LEAD EXCEEDING  
SOIL GUIDELINES (RESIDENTIAL)  
SOUTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 16B**





**LEGEND:**

- Does not exceed
- Exceeds
- Abandoned Mine Opening
- ▲ Crusher
- 1902 Building
- Major Road
- Local Road
- Intermittent Drainage
- Manmade Trench
- ~ Streams/Creeks
- ▭ Lakes
- ~ Mitchell's Brook
- ~ Barry's Run
- Crown Parcel
- Possible Tailings Traces
- Tailings

CLIENT:  
**NS LANDS INC.**



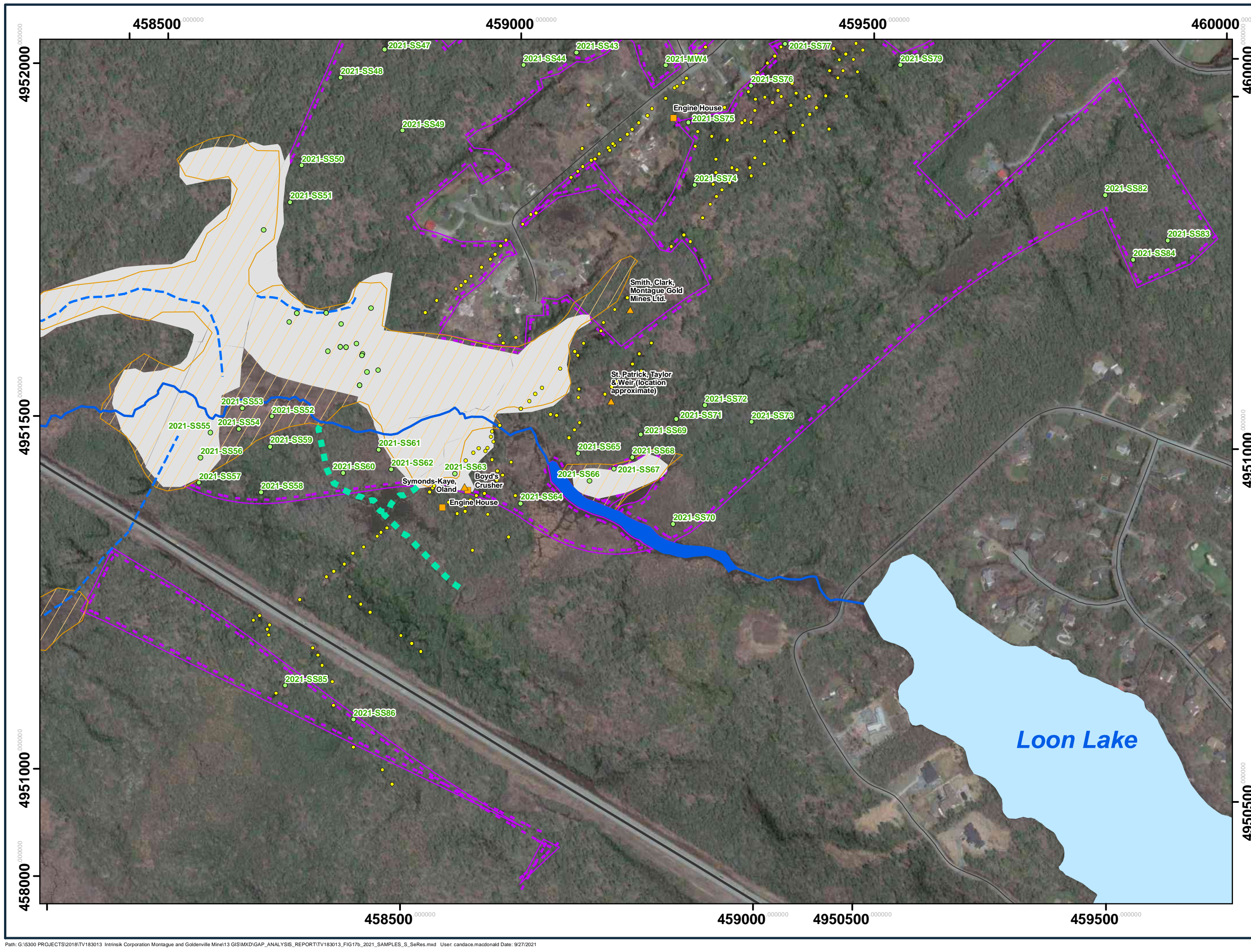
TITLE:  
**SELENIUM EXCEEDING SOIL GUIDELINES (RESIDENTIAL) NORTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 17A**

SCALE: 1:5,000



**LEGEND:**

- Does not exceed
- Exceeds
- Abandoned Mine
- ▲ Crusher
- 1902 Building
- Major Road
- Local Road
- Intermittent Drainage
- Manmade
- ~ Streams/Creeks
- ~ Lakes
- ~ Mitchell's Brook
- ~ Barry's Run
- Crown Parcel
- Possible Tailings
- Tailings

CLIENT:  
**NS LANDS INC.**



TITLE:  
**SELENIUM EXCEEDING SOIL GUIDELINES (RESIDENTIAL) SOUTH HALF**

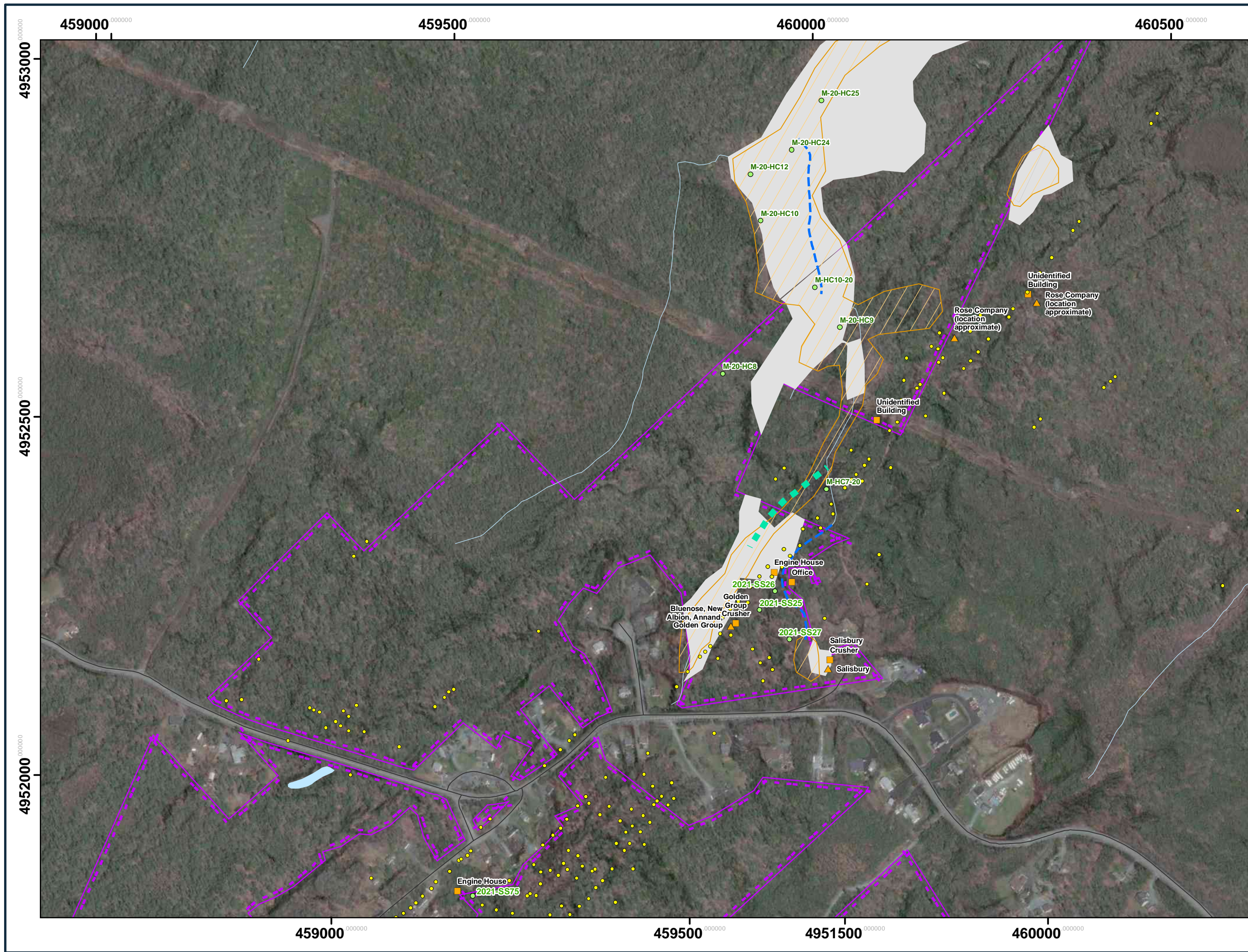
PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 17B**

SCALE: 1:5,000





- LEGEND:**
- Does not exceed
  - Exceeds
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - Intermittent Drainage
  - Manmade Trench
  - ~ Streams/Creeks
  - █ Lakes
  - ~ Mitchell's Brook
  - ~ Barry's Run
  - Crown Parcel
  - Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**

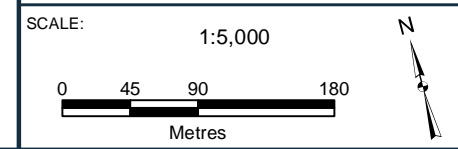


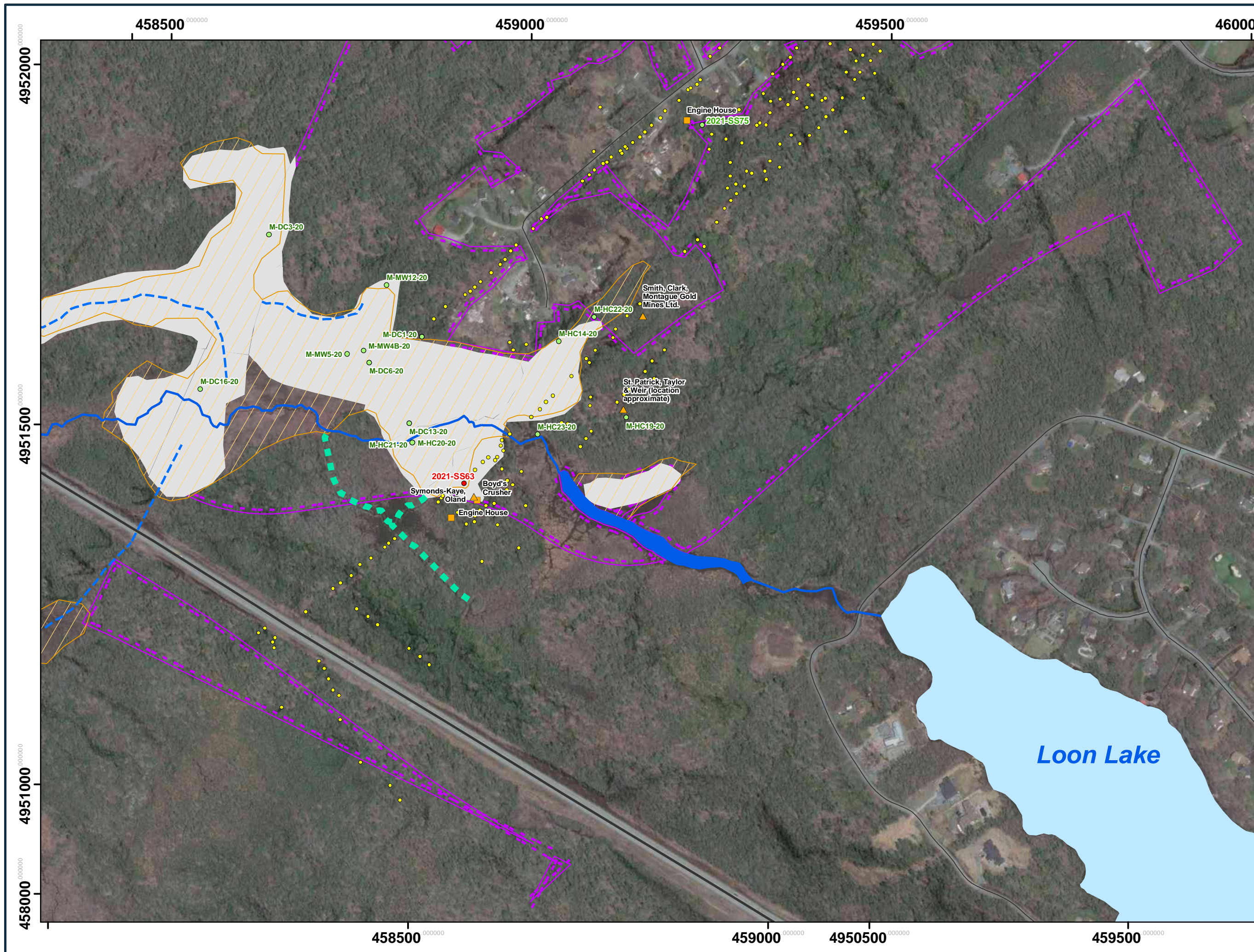
TITLE:  
**PHC EXCEEDING SOIL GUIDELINES (AGRICULTURAL) NORTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 18A**





- LEGEND:**
- Does not exceed
  - Exceeds
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - Intermittent Drainage
  - Manmade Trench
  - Streams/Creeks
  - Lakes
  - M Mitchell's Brook
  - B Barry's Run
  - Crown Parcel
  - Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**

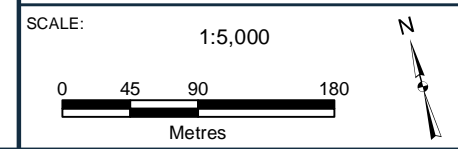


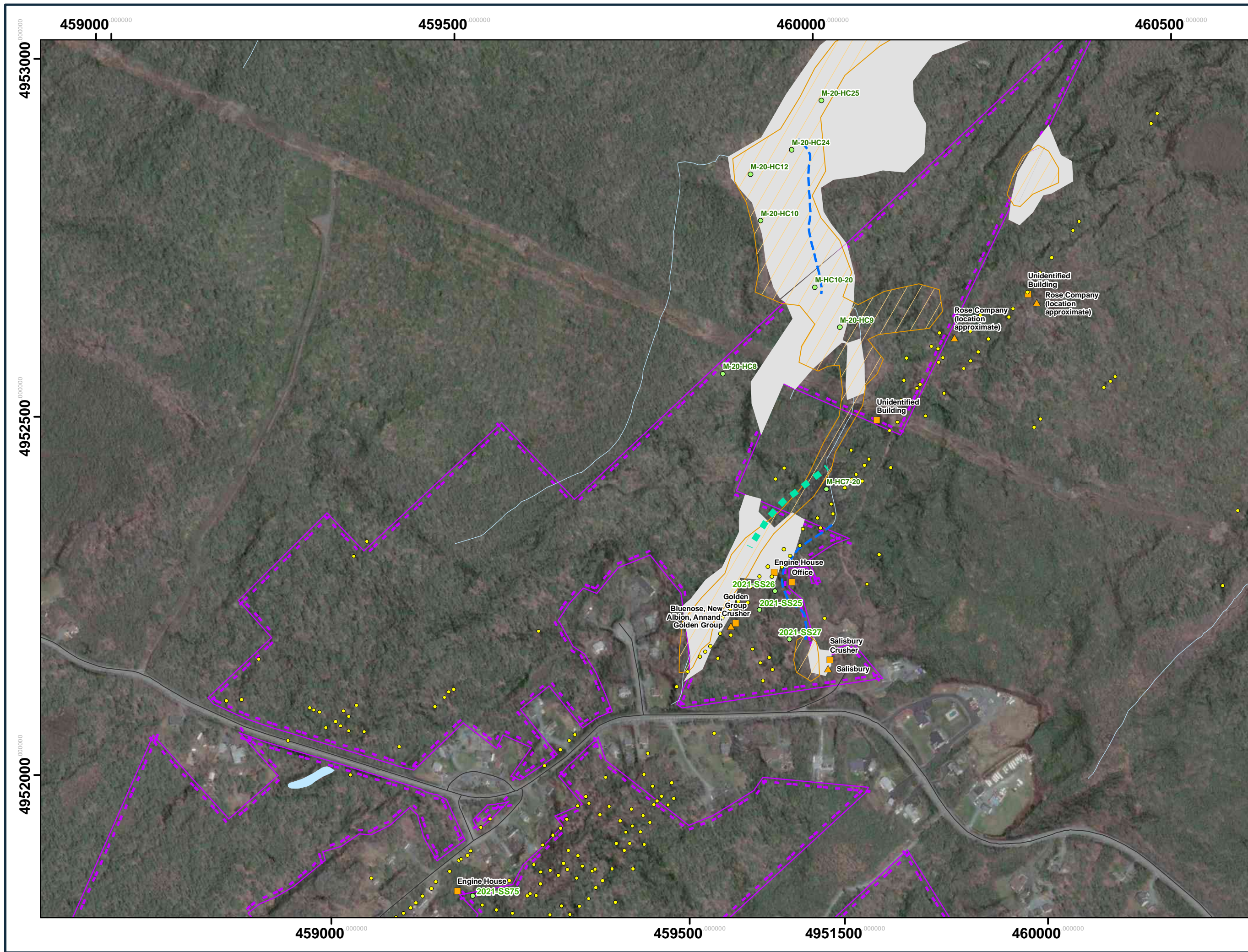
TITLE:  
**PHC EXCEEDING SOIL GUIDELINES (AGRICULTURAL) SOUTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 18B**





**LEGEND:**

- Does not exceed
- Exceeds
- Abandoned Mine Opening
- ▲ Crusher
- 1902 Building
- Major Road
- Local Road
- Intermittent Drainage
- Manmade Trench
- ~ Streams/Creeks
- █ Lakes
- █ Mitchell's Brook
- █ Barry's Run
- Crown Parcel
- Possible Tailings Traces
- Tailings

CLIENT:  
**NS LANDS INC.**



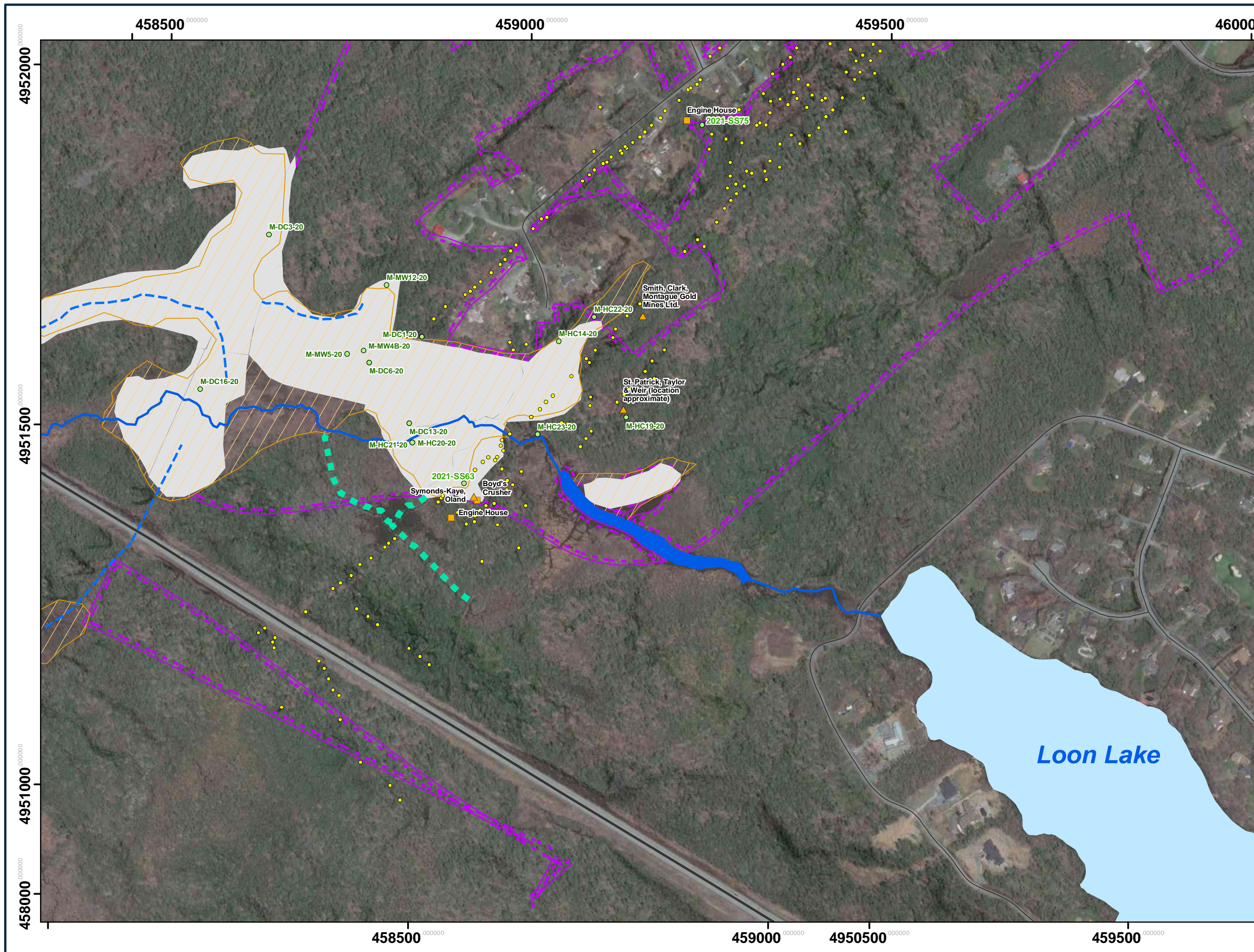
TITLE:  
**PHC EXCEEDING SOIL GUIDELINES (RESIDENTIAL) NORTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 19A**

SCALE: 1:5,000



- LEGEND:**
- Does not exceed
  - Exceeds
  - Abandoned Mine Opening
  - ▲ Crusher
  - 1902 Building
  - Major Road
  - Local Road
  - Intermittent Drainage
  - Manmade Trench
  - ~ Streams/Creeks
  - █ Lakes
  - ~ Mitchell's Brook
  - ~ Barry's Run
  - Crown Parcel
  - Possible Tailings Traces
  - Tailings

CLIENT:  
**NS LANDS INC.**

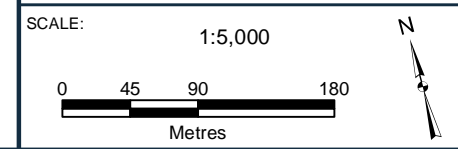


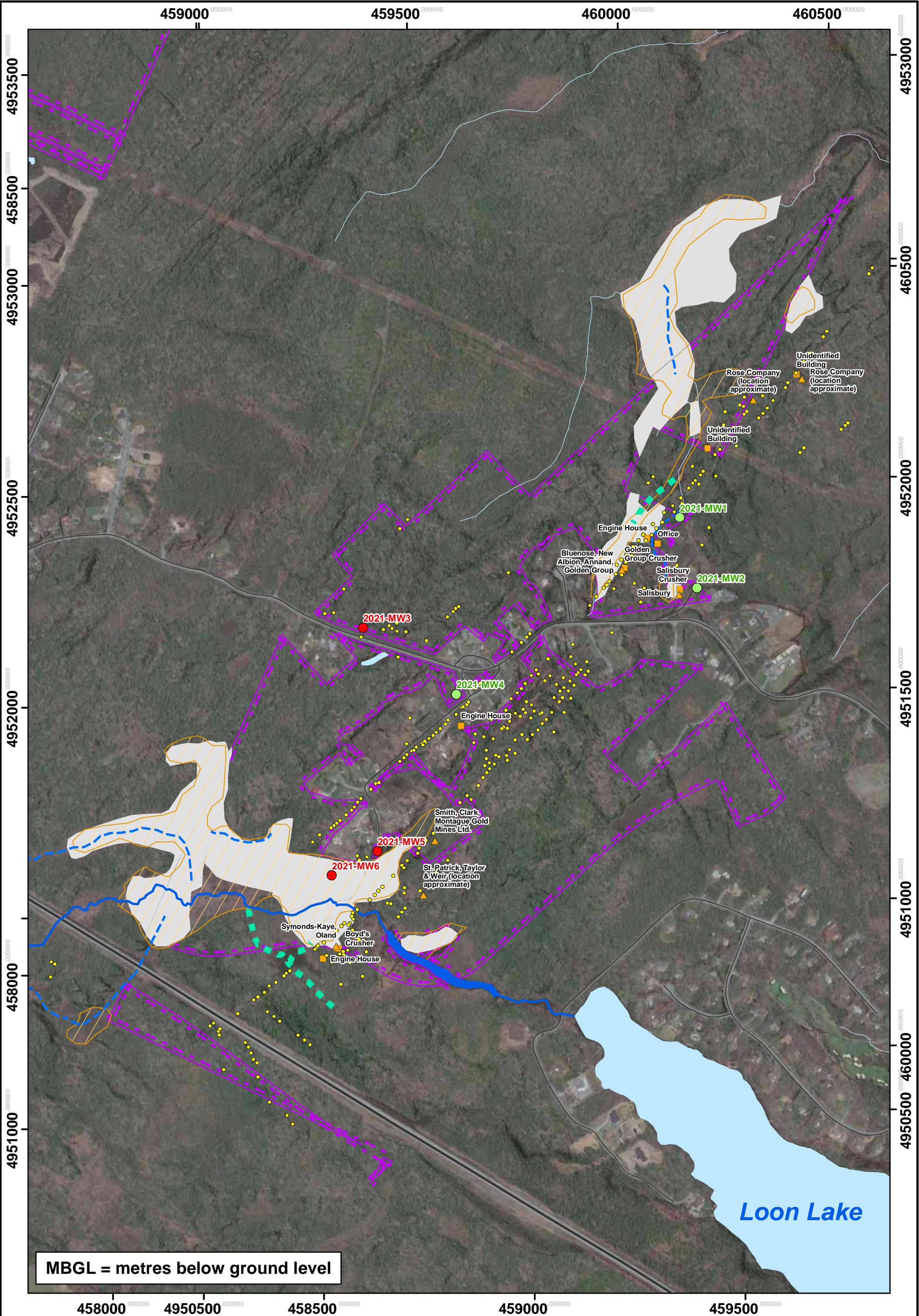
TITLE:  
**PHC EXCEEDING  
SOIL GUIDELINES (RESIDENTIAL)  
SOUTH HALF**

PROJECT:  
**MONTAGUE DATA GAP ANALYSIS**

PROJECT NO: <b>TV183013</b>	DATE: <b>SEPTEMBER 2021</b>
REV NO: <b>0</b>	DWN/CHK'D BY: <b>CM/CS</b>
DATUM: <b>NAD83 CSRS 2010</b>	PROJECTION: <b>UTM ZONE 20 N</b>

FIGURE:  
**FIGURE 19B**





**MBGL = metres below ground level**

<b>LEGEND:</b> <b>Monitoring Well</b> Arsenic Does Not Exceed Groundwater Guidelines Arsenic Exceeds Groundwater Guidelines Abandoned Mine Opening Crusher	1902 Building Major Road Local Road Intermittent Drainage Manmade Trench Streams/Creeks Lakes	Mitchell's Brook Barry's Run Crown Parcel Possible Tailings Traces Tailings	CLIENT:	TITLE:	PROJECT:	DATUM:	PROJECTION:
			NS LANDS INC.	ARSENIC EXCEEDING GROUNDWATER GUIDELINES	MONTAGUE DATA GAP ANALYSIS	NAD83 CSRS 2010	UTM Z 20 N
			PROJECT NO:	DATE:	SCALE: 1:8,500 		
			TV183013	SEPTEMBER 2021			
			REV NO:	DWN BY:			
			0	CM			

**Appendix B**  
**Field Descriptions**

**Table B1 - Surface Soil Descriptions**  
**Phase II ESA - Montague Gold Mines, Montague Rd, Dartmouth, NS**

**Project No. TV183013**

Sample Location			Sample Date	Easting	Northing	Depth (mbgs)	Media	Colour	Description	Stains Y/N	Odours Y/N	Duplicate ID		
2021-SS	1	A	20-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Saturated silty organics	N	N	N		
2021-SS		B				0.05 - 0.6	Soil	dark brown	Less saturated clayey silt	N	N	N		
2021-SS		C				0.6 - 1.0	Soil	dark brown	Saturated clayey silt. Ref @ 1m	N	N	N		
2021-SS	2	A	20-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Black	Organics w/ brown silty sand	N	N	N		
2021-SS		B				0.05 - 0.59	Soil	Light brown	Silty sand w/ trace gravel	N	N	N		
2021-SS		C				No C depth collected. Refusal at 0.59m								
2021-SS	3	A	20-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Saturated organics w/ silty sand	N	N	N		
2021-SS		B				0.05 - 0.6	Soil	Brown	Saturated silty sand w/ grey silty sand	N	N	N		
2021-SS		C				0.6 - 1.3	Soil	Grey/brown	Saturated silty sand. Ref @ 1.3 m	N	N	N		
2021-SS	4	A	20-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Saturated organics and silty sand	N	N	N		
2021-SS		B				0.05 - 0.6	Soil	Brown/grey	Saturated silty sand	N	N	N		
2021-SS		C				0.6 - 1.0	Soil	Brown/grey	Saturated silty sand. Ref @ 1.0m	N	N	N		
2021-SS	5	A	20-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Black	Organisc w/ light brown silty sand	N	N	N		
2021-SS		B				0.05 - 0.65	Soil	Light brown	Silty sand	N	N	N		
2021-SS		C				No C depth collected. Refusal at 0.65m								
2021-SS	6	A	20-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Dark brown	Organics w/ grey silty sand	N	N	N		
2021-SS		B				0.05 - 0.25	Soil	Brown/grey	Silty sand. Ref @ 0.25	N	N	N		
2021-SS		C				No C depth retrieved. Refusal at 0.25m								
2021-SS	7	A	20-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Orgaics w/ grey/brown sand	N	N	N		
2021-SS		B				0.05 - 0.6	Soil	Grey/brown	Medium grain sand	N	N	N		
2021-SS		C				0.6 - 1.10	Soil	Light grey	Saturated silt, water table encountered. Ref @ 1.10m	N	N	N		
2021-SS	8	A	20-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Light brown	Sandy silt w/ roots	N	N	N		
2021-SS		B				0.05 - 0.4	Soil	light brown	Silt and sand (fine - coarse) Ref @ 0.4 m	N	N	N		
2021-SS		C				No C depth recovered. Refusal at 0.4m								
2021-SS	9	A	19-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Light brown	Silty fine sand, some pebbles/gravel	N	N	Dup-C		
2021-SS		B				0.05 - 0.55	Soil	Light grey	Fine sand/silt with larger granular pieces throughout	N	N			
2021-SS		C				No C depth collected, refusal at 0.55m								
2021-SS	10	A	20-Aug-2021	449537.949	4924399.243	0 - 0.1	Soil	Light grey	(Location under water) Organics and sand	N	N	N		
2021-SS		B				0.05 - 0.6	No B or C depth recovered. Refusal at 0.1 m							
2021-SS		C				0.6 - 2.0								
2021-SS	11	A	20-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Orange/brown	Sandy silt w/ dark brown organics	N	N	N		
2021-SS		B				0.05 - 0.4	Soil	Orange/brown	Sandy silt. Ref @ 0.4m	N	N	N		
2021-SS		C				No C depth recovered. Refusal at 0.4m								

**Table B1 - Surface Soil Descriptions**  
**Phase II ESA - Montague Gold Mines, Montague Rd, Dartmouth, NS**

**Project No. TV183013**

Sample Location			Sample Date	Easting	Northing	Depth (mbgs)	Media	Colour	Description	Stains Y/N	Odours Y/N	Duplicate ID	
2021-SS	12	A	20-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	—	Sample irretrievable (under water table)	N	N	N	
2021-SS		B				0.05 - 0.6	Soil	Black	Saturated organics w/ silty sand	N	N	N	
2021-SS		C				0.6 - 1.5	Soil	Black	Saturated organics w/ silty sand. Ref @ 1.5m	N	N	N	
2021-SS	13	A	20-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Black	Organics w/ grey silty sand	N	N	N	
2021-SS		B				0.05 - 0.64	Soil	Grey	Mix of grey and red/brown silty sand	N	N	N	
2021-SS		C				No C depth collected. Refusal at 0.64m							
2021-SS	14	A	19-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Fine sand w/ lots of organics	N	N	N	
2021-SS		B				No B or C depth collected. Very rocky area							
2021-SS		C											
2021-SS	15	A	19-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Organics w/ light grey silty sand	N	N	N	
2021-SS		B				0.05 - 0.65	Soil	orange/brown	Fine-med silty sand w/ some pebbles	N	N	N	
2021-SS		C				No C depth collected. Refusal @ 0.65m							
2021-SS	16	A	19-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Dry organics w/ grey and brown fine sand	N	N	DUP-B	
2021-SS		B				0.05 - 0.65	Soil	yellow/brown	Dry fine-med sand w/light brown silt	N	N		
2021-SS		C				No C depth collected. Refusal at 0.65m							
2021-SS	17	A	18-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Silt w/roots and organics	N	N	N	
2021-SS		B				0.05 - 0.6	Soil	Grey/brown	Fine-med silty sand	N	N	N	
2021-SS		C				No C depth collected. Refusal at 0.6m							
2021-SS	18	A	18-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Moist clayey silt w/ lots of organics	N	N	N	
2021-SS		B				0.05 - 0.5	Soil	dark brown	Silt (w/grey) and fine-med sand. Ref @ 0.5m	N	N	N	
2021-SS		C				No C depth recovered. Refusal at 0.5m							
2021-SS	19	A	18-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Organics. (Some fragments of porcelain)	N	N	N	
2021-SS		B				0.05 - 0.35	Soil	Light grey/brown	Silt w/ fine-med sand, trace gravel. Ref @ 0.35m	N	N	N	
2021-SS		C				No C depth recovered. Refusal at 0.35m							
2021-SS	20	A	18-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Light brown	Silt w/ fine sand	N	N	N	
2021-SS		B				0.05 - 0.4	Soil	Light brown	Silt w/ med sand. Ref @ 0.4m	N	N	N	
2021-SS		C				No C depth collected. Refusal at 0.4m							
2021-SS	21	A	18-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Light brown	Dry fine to med sand, organics. Lots of broken shale	N	N	N	
2021-SS		B				No B or C depth recovered due to cobble, void spaces and water table							
2021-SS		C											
2021-SS	22	A	19-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Light brown	Wet silty sand. Water table just below surface	N	N	N	
2021-SS		B				0.05 - 0.6	Soil	Light brown	Saturated silty sand, becoming fine-med sand	N	N	N	
2021-SS		C				0.6 - 1.35	Soil	Grey	Saturated grey coarse sand. Ref @ 1.35m	N	N	N	



Table B1 - Surface Soil Descriptions

Phase II ESA - Montague Gold Mines, Montague Rd, Dartmouth, NS

Sample Location			Sample Date	Easting	Northing	Depth (mbgs)	Media	Colour	Description	Stains Y/N	Odours Y/N	Duplicate ID			
2021-SS	23	A	17-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Brown	Dry fine-med silty sand w/ crushed up quartz. Some organics	N	N	N			
		B				0.05 - 0.6	Soil	Light brown	Damp clayey silt/fine sand. Trace gravel.	N	N	N			
		C				0.6 - 1.05	Soil	Light brown	Saturated fine-coarse sand and silt. Ref @ 1.05m	N	N	N			
2021-SS	24	A	17-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Organics w/ gravel	N	N	N			
		B				No B or C depth collected. No material to recover before refusal									
		C				No B or C depth collected. No material to recover before refusal									
2021-SS	25	A	17-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Brown	Dry fine-to-med sand, organics, some orange. Gravel	N	N	N			
		B				0.05 - 0.45	Soil	Orange	Dry fine sand, some light grey. Gravel	N	N	N			
		C				No C depth recovered. Refusal at 0.45m									
2021-SS	26	A	18-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Brown	Dry fine to med sand. Gravel and organics. Change to orange-brown at 0.08m	N	N	N			
		B				0.05 - 0.32	Soil	Orange/brown	Dry fine sand, lots of gravel. Ref @ 0.32m	N	N	N			
		C				No C depth recovered. Refusal at 0.32 m									
2021-SS	27	A	18-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Brown	Silt and fine sand. Organics, some gravel	N	N	N			
		B				0.05 - 0.6	Soil	Light brown	Silt with fine sand	N	N	N			
		C				No C depth recovered. Refusal at 0.6m									
2021-SS	28	A	17-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Light brown	Silty clay w/ some organics	N	N	N			
		B				0.05 - 0.6	Soil	Red/brown	Clayey silt w/ grey fine sand	N	N	N			
		C				No C depth collected. Refusal at 0.6m									
2021-SS	29	A	17-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Moist organics w/ fine sand and grey fine sand	N	N	Dup-A			
		B				0.05 - 0.7	Soil	grey/brown	Dry silty fine sand. Some gravel	N	N				
		C				No C depth collected. Refusal at 0.7m									
2021-SS	30	A	17-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Moist organics w/ fine sand	N	N	N			
		B				0.05 - 0.66	Soil	Grey/black	Silt w/trace gravel/pebbles and fine sand	N	N	N			
		C				No C depth collected. Refusal @ 0.66m									
2021-SS	31	A	17-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Light brown	Silty sand with dark organics	N	N	N			
		B				0.05 - 0.6	Soil	No B or C depth recovered due to encountered cobbles and glass							
		C				0.6 - 2.0	Soil	No B or C depth recovered due to encountered cobbles and glass							
2021-SS	32	A	18-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Dry organics w/ brown silty sand	N	N	N			
		B				0.05 - 0.6	Soil	light brown	Dry silty sand	N	N	N			
		C				0.6 - 0.73	Soil	light brown	Dry silty sand. Ref @ 0.73m	N	N	N			
2021-SS	33	A	18-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Dry silty sand w/organics	N	N	N			
		B				0.05 - 0.55	Soil	light brown	Silty sand w/some red. Trace gravel. Ref @ 0.55m	N	N	N			
		C				No C depth collected. Refusal at 0.55m									

**Table B1 - Surface Soil Descriptions**  
**Phase II ESA - Montague Gold Mines, Montague Rd, Dartmouth, NS**

**Project No. TV183013**

Sample Location			Sample Date	Easting	Northing	Depth (mbgs)	Media	Colour	Description	Stains Y/N	Odours Y/N	Duplicate ID			
2021-SS	34	A	18-Aug-2021	449537.949	4924399.243	0 - 0.1	Soil	dark brown	Dry organics with grey silty sand	N	N	N			
2021-SS		B				No B or C depth collected. Refusal at 0.1m									
2021-SS		C													
2021-SS	35	A	18-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Dry silt w/black organics	N	N	N			
2021-SS		B				0.05 - 0.5	Soil	Grey/brown	Dry, loose silt w/ some red. Ref @ 0.5m	N	N	N			
2021-SS		C				No C depth collected. Refusal at 0.5 m									
2021-SS	36	A	18-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Black	Organics w/ grey silty sand	N	N	DUP-2			
2021-SS		B				0.05 - 0.58	Soil	Grey	Moist silty sand. Ref@ 0.58m	N	N				
2021-SS		C				No C depth collected. Refusal @ 0.58m									
2021-SS	37	A	21-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Organics, some light grey silt	N	N	N			
2021-SS		B				0.05 - 0.4	Soil	Orange/brown	Silt and sand w/trace pebbles. Ref @ 0.4 m	N	N	N			
2021-SS		C				No C depth recovered. Refusal at 0.4m									
2021-SS	38	A	21-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Organics and silt w/light grey silt and fine sand	N	N	N			
2021-SS		B				0.05 - 0.4	Soil	Light grey	Silt w/ fine-med sand, trace coarse sand w/pebbles. Ref @ 0.4m	N	N	N			
2021-SS		C				No C depth recovered. Refusal at 0.4 m									
2021-SS	39	A	21-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Light brown	Dry organics, silt, light grey fine sand	N	N	N			
2021-SS		B				0.05 - 0.3	Soil	Light grey	Silt and some fine sand. Some orange/brown. Ref @ 0.3m	N	N	N			
2021-SS		C				No C depth recovered. Refusal @ 0.3m									
2021-SS	40	A	18-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Black	Organics w/ some silty	N	N	N			
2021-SS		B				0.05 - 0.4	Soil	light grey	Silt and fine sand. Some orange/red. Ref@ 0.4m	N	N	N			
2021-SS		C				No C depth recovered. Refusal at 0.4m									
2021-SS	41	A	18-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Brown	Silty sand w/ black organics	N	N	N			
2021-SS		B				0.05 - 0.55	Soil	Red/brown	Silty sand. Ref @ 0.55m	N	N	N			
2021-SS		C				No C-depth recovered. Refusal at 0.55m									
2021-SS	42	A	18-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Dry peaty organics w/ some silty sand	N	N	N			
2021-SS		B				0.05 - 0.2	Soil	Light brown	Silty sand w/some gravel. Ref @ 0.2m	N	N	N			
2021-SS		C				No C depth recovered. Refusal at 0.2m									
2021-SS	43	A	19-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Black	Organics w/ some silty sand	N	N	N			
2021-SS		B				0.05 - 0.55	Soil	Brown	Wet silty sand. Ref @ 0.55m	N	N	N			
2021-SS		C				No C depth recovered. Refusal at 0.55m									
2021-SS	44	A	19-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Black	Dry organics w/ brown silty sand	N	N	N			
2021-SS		B				No B or C depth recovered. Refusal at 0.15m									
2021-SS		C													

**Table B1 - Surface Soil Descriptions**  
**Phase II ESA - Montague Gold Mines, Montague Rd, Dartmouth, NS**

**Project No. TV183013**

Sample Location			Sample Date	Easting	Northing	Depth (mbgs)	Media	Colour	Description	Stains Y/N	Odours Y/N	Duplicate ID		
2021-SS	45	A	19-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Organics w/ grey and yellow silty sand	N	N	N		
		B				0.05 - 0.62	Soil	Yellow	Dry silty sand	N	N	N		
		C				No C depth recovered. Refusal at 0.62m								
2021-SS	46	A	19-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Black	Organics w/brown and grey silty sand	N	N	N		
		B				No B or C depth recovered. Refusal at 0.1m								
		C				No B or C depth recovered. Refusal at 0.1m								
2021-SS	47	A	19-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Black	Organics w/trace brown silty sand	N	N	N		
		B				No B or C depth recovered. Refusal @ 0.1m								
		C				No B or C depth recovered. Refusal @ 0.1m								
2021-SS	48	A	19-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Light yellow/brown	Silty sand w/ some orange	N	N	N		
		B				0.05 - 0.3	Soil	yellow/brown	Silty sand. Ref @ 0.3m	N	N	N		
		C				No C depth recovered. Refusal at 0.3m								
2021-SS	49	A	19-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Yellow/brown	Dry silty sand, grey on top, mostly yellow/brown	N	N	DUP-3		
		B				0.05 - 0.58	Soil	Yellow/brown	Dry silty sand. Mostly yellow/brown with some grey. Ref @ 0.58m	N	N			
		C				No C depth recovered. Refusal at 0.58m								
2021-SS	50	A	19-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	yellow/brown	Silty sand w/black organics	N	N	N		
		B				0.05 - 0.6	Soil	Yellow/brown	Silty sand w/ some grey. Ref @ 0.55m	N	N	N		
		C				No C depth collected. Refusal at 0.55m								
2021-SS	51	A	19-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Black	Organics w/trace silty sand (Edge of old tailings pond)	N	N	N		
		B				0.05 - 0.3	Soil	Dark brown	Silty sand w/black organics. Ref @ 0.3m	N	N	N		
		C				No C depth recovered. Refusal at 0.3m								
2021-SS	52	A	16-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	black	Saturated root matter and organics	N	N	N		
		B				0.05 - 0.6	Soil	grey	Saturated silty sand	N	N	N		
		C				No retrievable sample								
2021-SS	53	A	16-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	black	Saturated silty organics	N	N	N		
		B				0.05 - 0.6	Soil	dark brown	Saturated silty organics	N	N	N		
		C				Under water table; no retrievable sample								
2021-SS	54	A	16-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Saturated organics w/ fine-med grin grey sand	N	N	N		
		B				0.05 - 0.9	Soil	Grey	Saturated fine sand w/ some organics	N	N	N		
		C				C depth not recovered. Refusal at 0.9m								
2021-SS	55	A	16-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Brown	Saturated fine sand w/ organics	N	N	N		
		B				0.05 - 0.6	Soil	Grey	Wet clayey silt w/ some cobbles	N	N	N		
		C				Unable to recover C depth due to water table								

**Table B1 - Surface Soil Descriptions**  
**Phase II ESA - Montague Gold Mines, Montague Rd, Dartmouth, NS**

**Project No. TV183013**

Sample Location			Sample Date	Easting	Northing	Depth (mbgs)	Media	Colour	Description	Stains Y/N	Odours Y/N	Duplicate ID		
2021-SS	56	A	16-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Black	Saturated organics and silt	N	N	N		
2021-SS		B				Water table at surface; no viable B or C depths retrieved.								
2021-SS		C												
2021-SS	57	A	16-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Black/grey	Black organics w/ grey silty clay	N	N	N		
2021-SS		B				0.05 - 0.65	Soil	Brown	Moist silt w/ some organics	N	N	N		
2021-SS		C				No C depth collected. Refusal at 0.65 m								
2021-SS	58	A	16-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Brown/grey	Clayey silt w/ black organics	N	N	N		
2021-SS		B				0.05 - 0.55	Soil	Brown/grey	Clayey silt w/ black organics. Ref @ 0.55m	N	N	N		
2021-SS		C				No C depth recovered. Refusal at 0.55m								
2021-SS	59	A	16-Aug-2021	449537.949	4924399.243	0 - 0.1	Soil	light brown	Silty sand. Ref @ 0.1 m	N	N	N		
2021-SS		B				No B or C depth collected; Refusal at 0.1 m								
2021-SS		C												
2021-SS	60	A	16-Aug-2021	449537.949	4924399.243	0 - 0.1	Soil	Black	Organics w/ grey clayey silt	N	N	N		
2021-SS		B				No B or C depth collected. Refusal at 0.1m								
2021-SS		C												
2021-SS	61	A	16-Aug-2021	449537.949	4924399.243	0 - 0.1	Soil	Light grey	Wet organics w/ light grey clayey silt	N	N	N		
2021-SS		B				No B or C depth collected. Refusal at 0.1m								
2021-SS		C												
2021-SS	62	A	16-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Wet organics	N	N	N		
2021-SS		B				0.05 - 0.5	Soil	Light grey	Silt w/ dark brown silt and sand. Ref @ 0.5m	N	N	N		
2021-SS		C				No C depth recovered. Refusal at 0.5m								
2021-SS	63	A	23-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Sand and silt, some roots (Site right off ATV trail from HW	N	N	N		
2021-SS		B				0.05 - 0.6	Soil	Light grey	Silt w/trace sand, some bright red sediment (possible rust)	N	N	N		
2021-SS		C				0.6 - 1.3	Soil	Light grey	Wet silt w/ sand. Ref @ 1.3m	N	N	N		
2021-SS	64	A	21-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Silty organics	N	N	N		
2021-SS		B				0.05 - 0.4	Soil	dark brown	Silt w/trace pebbles and cobbles. Ref @ 0.4m	N	N	N		
2021-SS		C				No C depth recovered. Refusal at 0.4m								
2021-SS	65	A	17-Aug-2021	449537.949	4924399.243	0 - 0.1	Soil	Black	Saturated organics w/ trace silty sand	N	N	N		
2021-SS		B				No B or C depth recovered. Refusal at 0.1m								
2021-SS		C												
2021-SS	66	A	17-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Black	Saturated organics with silty sand (Submerged under 0.2m water)	N	N	N		
2021-SS		B				0.05 - 0.6	Soil	Brown	Saturated silty sand	N	N	N		
2021-SS		C				0.6 - 1.0	Soil	brown	Saturated silty sand. Refusal @ 1m	N	N	N		

**Table B1 - Surface Soil Descriptions**  
**Phase II ESA - Montague Gold Mines, Montague Rd, Dartmouth, NS**

**Project No. TV183013**

Sample Location			Sample Date	Easting	Northing	Depth (mbgs)	Media	Colour	Description	Stains Y/N	Odours Y/N	Duplicate ID		
2021-SS	67	A	17-Aug-2021	449537.949	4924399.243	0 - 0.15	Soil	dark brown	Saturated silty sand and organics (Submerged...moved to accessible point)	N	N	N		
		B				No B or C depth recovered. Refusal at 0.15m								
		C												
2021-SS	68	A	17-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Grey	Saturated silty sand. (Submerged; under 10cm water).	N	N	N		
		B				0.05 - 0.15	Soil	Grey	Saturated silty sand. Ref @ 0.15m	N	N	N		
		C				No C depth recovered. Refusal at 0.15 m								
2021-SS	69	A	17-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Brown/grey	Wet silty sand	N	N	DUP-1		
		B				0.05 - 0.4	Soil	Brown/grey	Saturated silty sand. Ref @ 0.4m	N	N			
		C				No C depth recovered. Refusal at 0.4 m								
2021-SS	70	A	17-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Saturated organics w/silty sand (At water table)	N	N	N		
		B				0.05 - 0.6	Soil	dark brown	Saturated organics w/silty sand	N	N	N		
		C				0.6 - 1.2	Soil	Dark brown	Saturated silty sand w/organics. Ref @ 1.2m	N	N	N		
2021-SS	71	A	17-Aug-2021	449537.949	4924399.243	0 - 0.1	Soil	Light brown	Silty sand w/gravel. (Some debris at surface; old tire, glass, bucket)	N	N	N		
		B				No B or C depth retrieved. Refusal at 0.1m								
		C												
2021-SS	72	A	17-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Black	Organics with grey silty sand	N	N	N		
		B				0.05 - 0.4	Soil	Grey	Moist silty sand w/trace gravel	N	N	N		
		C				No C depth collected. Refusal at 0.4 m								
2021-SS	73	A	17-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Black	Organics w/ grey-brown silty sand	N	N	N		
		B				0.05 - 0.45	Soil	Grey/brwn	Moist silty sand. Ref @0.45m	N	N	N		
		C				No C depth collected. Refusal at 0.45m								
2021-SS	74	A	18-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Black	Organics w/dark brown silty sand	N	N	N		
		B				0.05 - 0.4	Soil	dark brown	Organics w/grey silty sand. Ref @ 0.4m	N	N	N		
		C				No c depth recovered. Refusal at 0.4m								
2021-SS	75	A	18-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	light brown	Dry silty sand w/black organics	N	N	N		
		B				0.05 - 0.6	Soil	light brown	Dry silty sand. Ref @ 0.58m	N	N	N		
		C				No c depth collected. Refusal at 0.58m								
2021-SS	76	A	18-Aug-2021	449537.949	4924399.243	0 - 0.1	Soil	light brown	Silty sand. Ref @ 0.1 m	N	N	N		
		B				No B or C depth recovered. Refusal at 0.1m								
		C												
2021-SS	77	A	18-Aug-2021	449537.949	4924399.243	0 - 0.1	Soil	light brown	Silty sand w/ black organics	N	N	N		
		B				No B or C depth recovered. Refusal @ 0.1m								
		C												

**Table B1 - Surface Soil Descriptions**  
**Phase II ESA - Montague Gold Mines, Montague Rd, Dartmouth, NS**

**Project No. TV183013**

Sample Location			Sample Date	Easting	Northing	Depth (mbgs)	Media	Colour	Description	Stains Y/N	Odours Y/N	Duplicate ID
2021-SS	78	A	18-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Organics w/ silty sand and gravel. (Close to property. Some dumping nearby)	N	N	N
		B				0.05 - 0.55	Soil	light brown	Dry silty sand. Ref @ 0.55 m	N	N	N
		C				No C depth collected. Refusal at 0.55m						
2021-SS	79	A	21-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Organics w/moss on top. Rocky	N	N	N
		B				0.05 - 0.4	Soil	Grey/brown	Silt w/fine sand w/ trace pebbles and rocks. Ref @ 0.4 m	N	N	N
		C				No C depth recovered. Refusal at 0.4m						
2021-SS	80	A	21-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Organics w/silt	N	N	N
		B				0.05 - 0.6	Soil	grey/brown	Silt and sand (fine-med). Ref @ 0.3m	N	N	N
		C				No C depth collected. Ref @ 0.3 m						
2021-SS	81	A	21-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Organics, silt and rocks	N	N	N
		B				0.05 - 0.25	Soil	Light grey	Silt and fine sand. Ref @ 0.25m	N	N	N
		C				No C depth recovered. Refusal at 0.25m						
2021-SS	82	A	21-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Silt and rock, w/ light grey silt/sand, some light brown med sand	N	N	DUP-D
		B				0.05 - 0.4	Soil	Orange/brown	Sand/fine silt w/ trace pebbles and cobbles. Ref @ 0.4m	N	N	
		C				No C depth recovered. Refusal at 0.4m						
2021-SS	83	A	21-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Light brown	Moist silty clay w/ some organics, lots of cobbles	N	N	N
		B				0.05 - 0.2	Soil	Light brown	Moist silty clay, lots of cobbles. Ref @ 0.2m	N	N	N
		C				No C depth recovered. Refusal at 0.2m						
2021-SS	84	A	21-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	dark brown	Organics w/ light grey silty sand. Roots present	N	N	DUP-E
		B				0.05 - 0.4	Soil	Brown	Moist silty clay. Ref @ 0.4m	N	N	
		C				No C depth recovered. Refusal at 0.4m						
2021-SS	85	A	19-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Light brown	Silty sand w/black organics	N	N	N
		B				0.05 - 0.55	Soil	Yellow/brown	Silty sand w/ some gravel. Ref @ 0.55m	N	N	N
		C				No C depth recovered. Refusal at 0.55m						
2021-SS	86	A	19-Aug-2021	449537.949	4924399.243	0 - 0.05	Soil	Light brown	Dry silty sand w/organics	N	N	DUP-4
		B				0.05 - 0.65	Soil	Light brown	Wet silty sand	N	N	
		C				No C depth recovered. Refusal at 0.65m						

NOTES:

All coordinates in NAD83 UTM Zone 20N

Soil descriptions based on visual estimation of proportion of particle sizes as follows: Trace: < 10 %; Some: 10 - 20%; Adjective (i.e. silty or sandy): 20 - 35 %; And (i.e. silt and sand): 35 - 50 %.

mbgs = metres below ground surface

Refusal = deeper depths not able to be reached as sampling equipment encountered large cobbles/boulders or bedrock.

Sample not retained > x mbgs = sample could not be brought to surface in sampling equipment, due to water present in the sample.

**TABLE B-2: Monitoring Well Construction Details and Fluid Level Measurements**  
**Phase II Environmental Site Assessment**  
**Phase II ESA - Montague Gold Mines, Montague Rd, Dartmouth, NS**

Well ID	Date Measured	COORDINATES <sup>1</sup>		Top of Casing Elevation <sup>2</sup> (m, relative)	Stick-up Height (m)	Ground Surface Elevation <sup>3</sup> (m, relative)	Well Depth <sup>4</sup> (mbtoc)	Depth to LPH <sup>4</sup> (mbtoc)	Depth to Water <sup>4</sup> (mbtoc)	LPH Thickness <sup>4</sup> (m)	Water Table Elevation <sup>5</sup> (m, relative)
		Easting (m)	Northing (m)								
2021-MW1	18-Aug-2021	459855.322	4952031.23	58.176	-0.100	58.276	5.875	---	2.150	0.000	56.026
2021-MW2	18-Aug-2021	459823.797	4951863.975	64.627	-0.100	64.727	5.860	---	2.280	0.000	62.347
2021-MW3	17-Aug-2021	458948.529	4952019.759	75.913	0.900	75.013	6.774	---	3.290	0.000	72.623
2021-MW4	18-Aug-2021	459186.675	4951741.489	82.202	0.990	81.212	6.855	---	3.500	0.000	78.702
2021-MW5	17-Aug-2021	458911.19	4951440.744	71.145	1.020	70.125	7.200	---	4.680	0.000	66.465
2021-MW6	17-Aug-2021	458783.654	4951409.377	65.782	0.860	64.922	5.725	---	1.940	0.000	63.842

Notes:

<sup>1</sup> = Coordinates are in NAD83, UTM Zone 20N.

<sup>2</sup> = Top of Casing (TOC) elevations were surveyed using an RTK.

<sup>3</sup> = Ground Surface Elevation obtained by subtracting surveyed stick up height from surveyed TOC elevations. Negative stick-up heights indicate flush mount installations.

<sup>4</sup> = Depths measured using an oil-water interface probe on 24-25 August 2021.

<sup>5</sup> = Obtained by subtracting Depth to Water from TOC elevations.

**TABLE B-3: Groundwater Sampling Field Parameters**  
**Phase II Environmental Site Assessment**  
**Phase II ESA - Montague Gold Mines, Montague Rd, Dartmouth, NS**

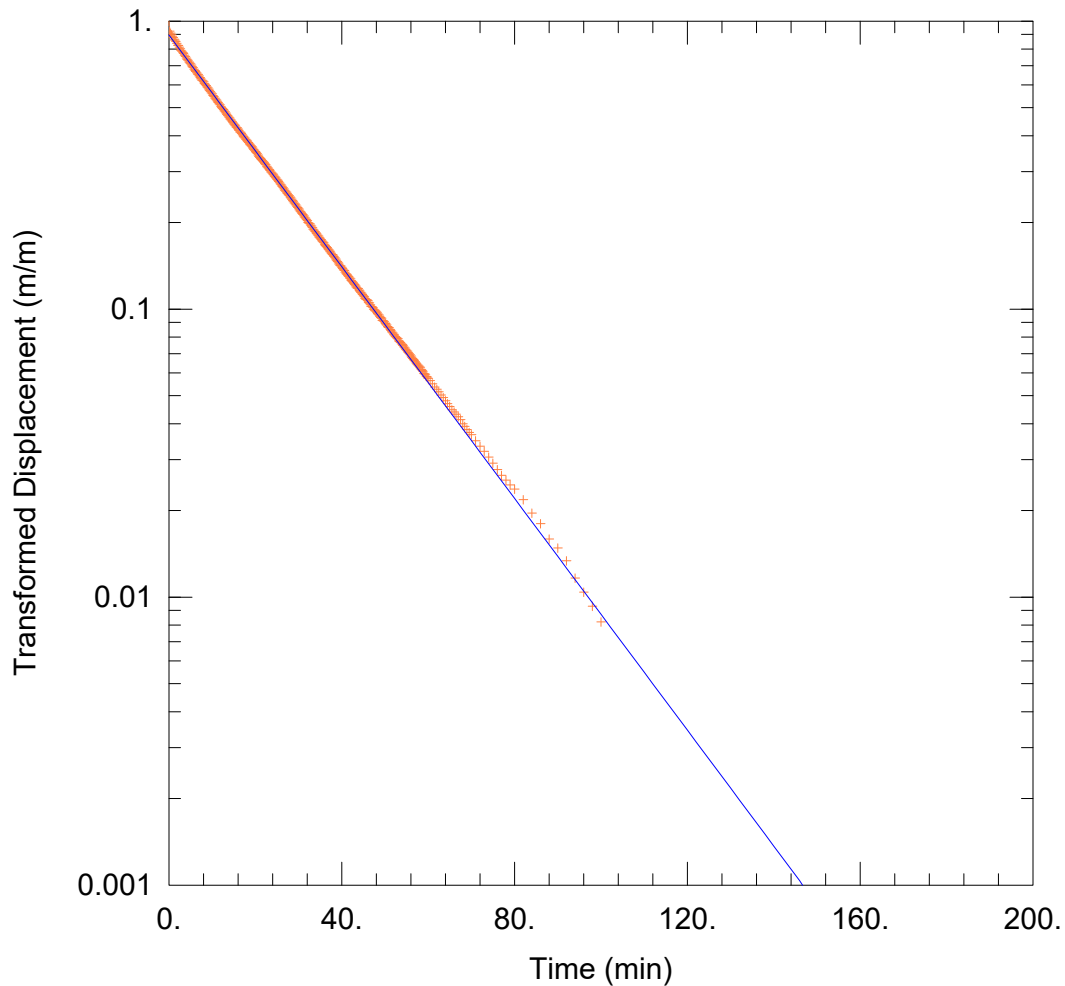
Well ID	Date	Required Purge Volume (L)	Volume Purged <sup>1</sup> (L)	Water Quality Indicator Parameters <sup>2</sup>						Purge Method	Sample Method	Observations
				Temp. (°C)	DO (mg/L)	EC (µS/cm)	TDS (mg/L)	pH (pH units)	ORP (mV)			
2021-MW1	25-Aug-2021	23.6	22.4	12.0	1.93	0.1	--	4.98	-233.00	Peristaltic Pump	Peristaltic Pump	Water clear from start of pumping, no sheen or odour
2021-MW2	25-Aug-2021	21.9	22.0	12.3	5.34	0.1	--	5.11	-191.50	Peristaltic Pump	Peristaltic Pump	Water clear from start of pumping, no sheen or odour
2021-MW3	25-Aug-2021	21.5	22.0	10.9	3.10	0.6	--	5.94	-252.70	Peristaltic Pump	Peristaltic Pump	Water light grey, partially clear from start. No sheen, no odour.
2021-MW4	24-Aug-2021	20.9	30.0	11.4	1.72	0.3	--	5.54	-168.20	Peristaltic Pump	Peristaltic Pump	Light grey, mostly clear. Fully clear after 15-20L
2021-MW5	24-Aug-2021	16.4	16.0	12.9	4.08	0.3	--	6.09	-128.40	Foot Valve (8L) & Peristaltic Pump (8L)	Peristaltic Pump	Light grey partially clear. Mostly clear @ 10L
2021-MW6	24-Aug-2021	22.7	25.0	14.2	0.73	0.4	--	5.97	-33.10	Peristaltic Pump	Peristaltic Pump	Mostly clear, fully clear after 10L. No sheen, odour

**Notes:**

<sup>1</sup> = Volume purged is the volume of water removed from the well before field parameters became stable and sample collection commenced.

<sup>2</sup> = Field parameters were measured in approximate 1 minute intervals and only the final, stable readings are presented in this table.





### WELL TEST ANALYSIS

Data Set: M:\AMEC\_Jobs\Hydrogeo\TV183013.3000.52\_MontagueMines\2021-MW3.aqt  
 Date: 09/27/21 Time: 11:44:36

### AQUIFER DATA

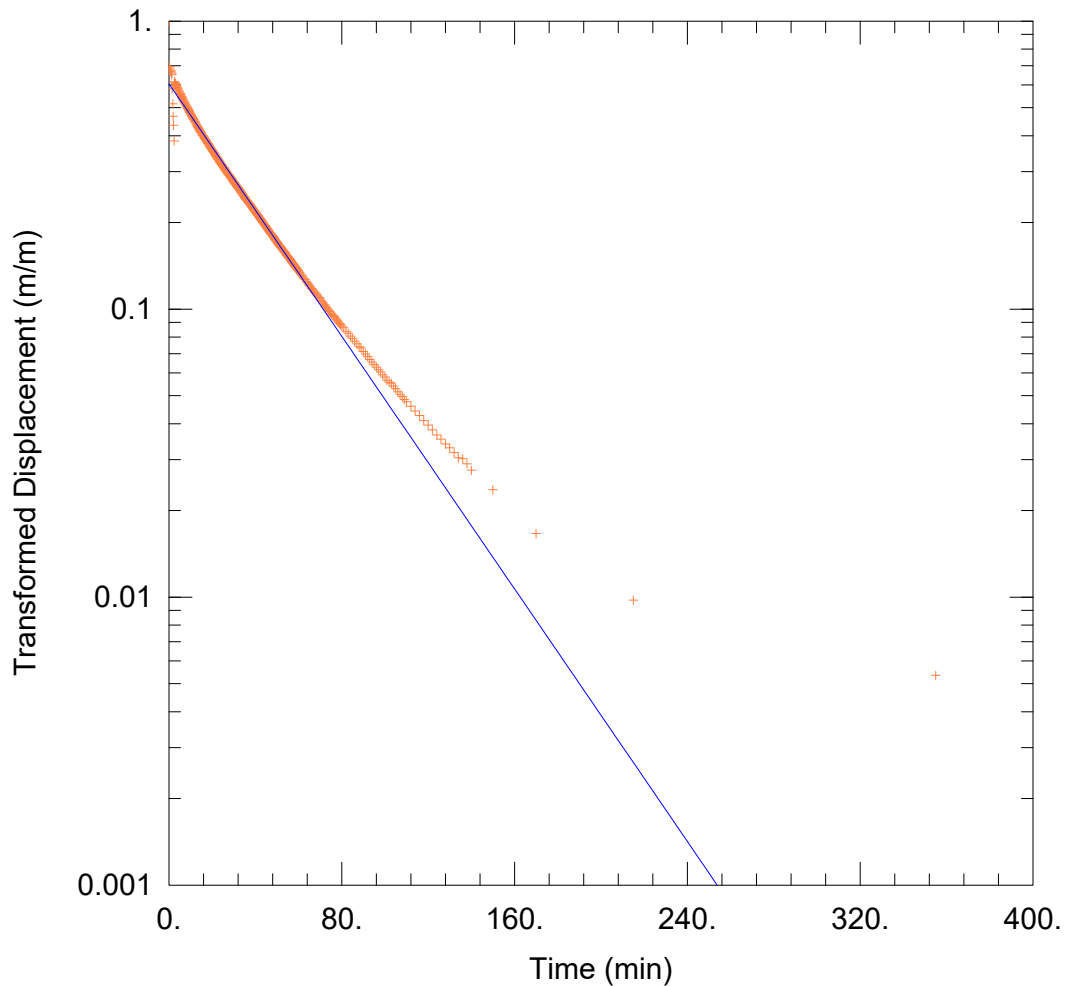
Saturated Thickness: 3.675 m Anisotropy Ratio (Kz/Kr): 1.

### WELL DATA (2021-MW3)

Initial Displacement: 3.45 m Static Water Column Height: 3.675 m  
 Total Well Penetration Depth: 3.675 m Screen Length: 3.675 m  
 Casing Radius: 0.0254 m Well Radius: 0.0508 m

### SOLUTION

Aquifer Model: Unconfined Solution Method: Dagan  
 K = 0.02311 m/day y0 = 3.245 m



WELL TEST ANALYSIS

Data Set: M:\AMEC\_Jobs\Hydrogeo\TV183013.3000.52\_MontagueMines\2021-MW5.aqt  
 Date: 09/27/21 Time: 11:57:41

AQUIFER DATA

Saturated Thickness: 2.536 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (2021-MW5)

Initial Displacement: 2.536 m Static Water Column Height: 2.536 m  
 Total Well Penetration Depth: 2.536 m Screen Length: 2.536 m  
 Casing Radius: 0.0254 m Well Radius: 0.0508 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Dagan  
 K = 0.01671 m/day y0 = 1.913 m



**wood.**

**Appendix C**  
**Site Photos**

**Appendix C - Field Program Photo Log Phase II ESA  
Montague Gold Mines, Dartmouth, NS  
Site Visit Dates: 16 Aug 2021 to 23 Aug 2021**



**Photo 1:**  
Photo taken from Site 2021 - SS52 showing general topography in and around southern tailings area.

16 Aug 2021

**Direction:**  
South



**Photo 2:**  
Specific soil sample location for 2021 - SS52 showing marshy saturated soil conditions typical in southern tailings area.

16 Aug 2021

**Direction:**  
N/A

**Appendix C - Field Program Photo Log Phase II ESA  
Montague Gold Mines, Dartmouth, NS  
Site Visit Dates: 16 Aug 2021 to 23 Aug 2021**



**Photo 3:**  
Photo taken from sample location 2021-SS69, showing topography of forested regions surrounding southern tailings area.  
  
17 Aug 2021  
  
**Direction:**  
N/A



**Photo 4:**  
Sample site of 2021-SS69 showing typical forest floor for forested southern regions.  
  
17 Aug 2021  
  
**Direction:**  
N/A

**Appendix C - Field Program Photo Log Phase II ESA  
Montague Gold Mines, Dartmouth, NS  
Site Visit Dates: 16 Aug 2021 to 23 Aug 2021**



**Photo 5:**  
Photo taken from soil and surface water sample location 2021-SS68.

17 Aug 2021

**Direction:**  
South



**Photo 6:**  
Sample and specific location for 2021-SS68.

17 Aug 2021

**Direction:**  
East

**Appendix C - Field Program Photo Log Phase II ESA  
Montague Gold Mines, Dartmouth, NS  
Site Visit Dates: 16 Aug 2021 to 23 Aug 2021**



**Photo 7:**  
Photo taken from sample location 2021-SS77 showing typical rocky and dead-fall covered ground typical in middle regions of the site.

18 Aug 2021

**Direction:**  
N/A



**Photo 8:**  
Photo of specific sample location and soil for 2021-SS77.

18 Aug 2021

**Direction:**  
N/A

**Appendix C - Field Program Photo Log Phase II ESA  
Montague Gold Mines, Dartmouth, NS  
Site Visit Dates: 16 Aug 2021 to 23 Aug 2021**



**Photo 9:**  
Beaver dam located at sample location 2021-SS22.  
  
23 Aug 2021

**Direction:**  
N/A



**Photo 10:**  
2021-SS22 specific sample location and soil conditions.  
  
23 Aug 2021

**Direction:**  
N/A



**Appendix C - Field Program Photo Log Phase II ESA  
Montague Gold Mines, Dartmouth, NS  
Site Visit Dates: 16 Aug 2021 to 23 Aug 2021**



**Photo 11:**  
Soil conditions and water at site 2021-SS62.

23 Aug 2021

**Direction:**  
N/A



**Photo 17:**  
Photo of apparent deer bait device. Not pictured are two deer stands nearby, one old and disused, one newer with recently used footpath. Between sites 2021-SS49 and 2021-SS50.

19 Aug 2021

**Direction:**  
N/A



**Photo 18:**  
Photo of marshy region typical of northernmost tailings area. Taken from 2021-SS3.

20 Aug 2021

**Direction:**  
N/A



**Photo 19:**  
Photo of sample and specific sampling site of 2021-SS3. Conditions typical of northern region, north of NS Power cut-line.

20 Aug 2021

**Direction:**  
N/A



**Appendix D**  
**Monitoring Well Logs**

# LOG OF BOREHOLE 2021-MW1

PROJECT No.: <b>TV183013</b> CLIENT: <b>Nova Scotia Lands</b> PROJECT NAME: <b>Montague Gold Mines Phase II</b> LOCATION: <b>Montague Gold Mines</b> DATE DRILLED: <b>8-18-21</b> LOGGED BY: <b>B.Carter</b>	ELEVATION: <b>58.27 m</b> DATUM: <b>NAD83 Zone 20</b> METHOD: <b>SS/AU/RC</b> DIAMETER: <b>102 mm</b> WATER LEVEL: <b>2.15 m / Aug 25</b> CONTRACTOR: <b>Nova Drilling</b>	
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DEPTH (m)	ELEVATION (m)	STRATIGRAPHIC DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES					WELL CONSTRUCTION
					TYPE	NUMBER	RECOVERY (mm)	N-VALUE or RQD%	QVM (PPM)	
0	58.27									
1	57.05	Silty <b>SAND</b> /w gravel - some organics (plant material) - dry			SS	1	305	8		Date Completed : 8-18-21  <u>PROTECTIVE WELL CASING</u> Material : Flush Mount Diameter : 152 mm Joints : NA  <u>WELL &amp; PIPE SCREEN</u> Material : Sch. 40 PVC Diameter : 50 mm Joints : Flush Opening : 10 Slot  SAND PACK : Silica Sand ANNULUS SEAL : Bentonite
2	56.19	<b>GRAVEL</b> /w cobbles and rock fragments			SS	2	203	40		
2	56.11	Silty <b>SAND</b> /w gravel - refusal @ 7'1" (2.16m) <b>FRACTURED ROCK</b> - cobbles and boulders			RC			0%		
3					SS	3	360	36		
4					RC			50/3"		
5					RC			0%		
5					RC			82%		
5					RC			33%		
5					RC			81%		
6	52.28	End of Borehole @ 6 m								NOTES:

ENVIRONMENTAL BOREHOLE\_TV183013\_MONTAGUE GOLD MINE.GPJ AMEC HALIFAX.GDT\_9/17/21

# LOG OF BOREHOLE 2021-MW2

PROJECT No.: <b>TV183013</b> CLIENT: <b>Nova Scotia Lands</b> PROJECT NAME: <b>Montague Gold Mines Phase II</b> LOCATION: <b>Montague Gold Mines</b> DATE DRILLED: <b>8-18-21</b> LOGGED BY: <b>B.Carter</b>	ELEVATION: <b>64.72 m</b> DATUM: <b>NAD83 Zone 20</b> METHOD: <b>SS/AU/RC</b> DIAMETER: <b>102 mm</b> WATER LEVEL: <b>2.28 m / Aug 25</b> CONTRACTOR: <b>Nova Drilling</b>	
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DEPTH (m)	ELEVATION (m)	STRATIGRAPHIC DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES					WELL CONSTRUCTION		
					TYPE	NUMBER	RECOVERY (mm)	N-VALUE or RQD%	OWI (PPM)			
0	64.72	<b>GRAVEL</b> /w silt and trace organics			SS	1	254	17			Date Completed : 8-18-21	
1	63.83				Silty <b>SAND</b> /w gravel	SS	2	430	68			<b>PROTECTIVE WELL CASING</b> Material : Flush Mount Diameter : 152 mm Joints : NA  <b>WELL &amp; PIPE SCREEN</b> Material : Sch. 40 PVC Diameter : 50 mm Joints : Flush Opening : 10 Slot  SAND PACK : Silica Sand  ANNULUS SEAL : Bentonite
2	63.42	<b>FRACTURED ROCK</b> - cobbles and boulders - silty sand between boulders - borehole terminated @ 20' (6.1m)			SS	3	76	50/ 3"			NOTES:	
					RC				0%			
					RC				0%			
					SS	4	305	59				
					SS	5	203	50/ 5"				
					RC				11%			
4												
5												
6	58.62	End of Borehole @ 6.1 m										

ENVIRONMENTAL BOREHOLE\_TV183013\_MONTAGUE GOLD MINE.GPJ AMEC HALIFAX.GDT\_9/17/21

# LOG OF BOREHOLE 2021-MW3

PROJECT No.: <b>TV183013</b> CLIENT: <b>Nova Scotia Lands</b> PROJECT NAME: <b>Montague Gold Mines Phase II</b> LOCATION: <b>Montague Gold Mines</b> DATE DRILLED: <b>8-17-21</b> LOGGED BY: <b>B.Carter</b>	ELEVATION: <b>75.00 m</b> DATUM: <b>NAD83 Zone 20</b> METHOD: <b>SS/AU/RC</b> DIAMETER: <b>102 mm</b> WATER LEVEL: <b>3.29 m / Aug 25</b> CONTRACTOR: <b>Nova Drilling</b>	
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DEPTH O (m)	ELEVATION (m)	STRATIGRAPHIC DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES					WELL CONSTRUCTION
					TYPE	NUMBER	RECOVERY (mm)	N-VALUE or RQD%	QVM (PPM)	
0	75.00									
	74.82	Silty <b>SAND</b> /w gravel - organics top 3" <b>FRACTURED ROCK</b> - cobbles and boulders - silty sand between boulders - borehole terminated @ 20' (6.1m)		▽	SS	1	178	3, 50/ 0"		Date Completed : 8-17-21 <b>PROTECTIVE WELL CASING</b> Material : Steel Casing Diameter : 152 mm Joints : NA <b>WELL &amp; PIPE SCREEN</b> Material : Sch. 40 PVC Diameter : 50 mm Joints : Flush Opening : 10 Slot SAND PACK : Silica Sand ANNULUS SEAL : Bentonite
1					RC			0%		
2					SS	2	229	34, 50/ 1"		
					RC			58%		
3					RC			74%		
4					RC			83%		
5					RC					
6	68.90	End of Borehole @ 6.1 m								NOTES:

ENVIRONMENTAL BOREHOLE\_TV183013\_MONTAGUE GOLD MINE.GPJ AMEC HALIFAX.GDT 9/17/21

# LOG OF BOREHOLE 2021-MW4

PROJECT No.: <b>TV183013</b> CLIENT: <b>Nova Scotia Lands</b> PROJECT NAME: <b>Montague Gold Mines Phase II</b> LOCATION: <b>Montague Gold Mines</b> DATE DRILLED: <b>8-18-21</b> LOGGED BY: <b>B.Carter</b>	ELEVATION: <b>81.20 m</b> DATUM: <b>NAD83 Zone 20</b> METHOD: <b>SS/AU/RC</b> DIAMETER: <b>102 mm</b> WATER LEVEL: <b>3.50 m / Aug 25</b> CONTRACTOR: <b>Nova Drilling</b>	
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DEPTH (m)	ELEVATION (m)	STRATIGRAPHIC DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES					WELL CONSTRUCTION
					TYPE	NUMBER	RECOVERY (mm)	N-VALUE or RQD%	OWI (PPM)	
0	81.20	Silty <b>SAND</b> /w gravel and rock fragments - some organics top 2" of spoon			SS	1	203	3		Date Completed : 8-18-21  <b>PROTECTIVE WELL CASING</b> Material : Steel Casing Diameter : 152 mm Joints : NA  <b>WELL &amp; PIPE SCREEN</b> Material : Sch. 40 PVC Diameter : 50 mm Joints : Flush Opening : 10 Slot  SAND PACK : Silica Sand  ANNULUS SEAL : Bentonite
1	80.26				<b>FRACTURED ROCK</b> - cobbles and boulders - silty sand between boulders - borehole terminated @ 19'9" (6.02m)	SS	2	305	57	
2		RC				55%				
		SS	3	51		50/ 3"				
		RC				17%				
		SS	4	102		50/ 5"				
3				RC			75%			
4				RC			48%			
5				RC			90%			
6	75.18	End of Borehole @ 6 m							NOTES:	

ENVIRONMENTAL BOREHOLE\_TV183013\_MONTAGUE GOLD MINE.GPJ AMEC HALIFAX.GDT\_9/17/21

# LOG OF BOREHOLE 2021-MW5

PROJECT No.: <b>TV183013</b> CLIENT: <b>Nova Scotia Lands</b> PROJECT NAME: <b>Montague Gold Mines Phase II</b> LOCATION: <b>Montague Gold Mines</b> DATE DRILLED: <b>8-17-21</b> LOGGED BY: <b>B.Carter</b>	ELEVATION: <b>70.10 m</b> DATUM: <b>NAD83 Zone 20</b> METHOD: <b>SS/AU/RC</b> DIAMETER: <b>102 mm</b> WATER LEVEL: <b>4.68 m / Aug 25</b> CONTRACTOR: <b>Nova Drilling</b>	
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DEPTH (m)	ELEVATION (m)	STRATIGRAPHIC DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES					WELL CONSTRUCTION
					TYPE	NUMBER	RECOVERY (mm)	N-VALUE or RQD%	OWI (PPM)	
0	70.10									
1	69.03	Silty <b>SAND</b> /w gravel - some rock fragments - brown to grey/brown			SS	1	254	30		Date Completed : 8-17-21  <u>PROTECTIVE WELL CASING</u> Material : Steel Casing Diameter : 152 mm Joints : NA  <u>WELL &amp; PIPE SCREEN</u> Material : Sch. 40 PVC Diameter : 50 mm Joints : Flush Opening : 10 Slot  SAND PACK : Silica Sand  ANNULUS SEAL : Bentonite  NOTES:
2		<b>FRACTURED ROCK</b> - cobbles and boulders - silty sand between boulders - borehole terminated @ 21' (6.3m)			SS	2	406	64		
					RC			53%		
					RC			32%		
					RC			0%		
					RC			39%		
					RC			87%		
5					RC			87%		
6	63.80				RC			75%		
		End of Borehole @ 6.3 m								

ENVIRONMENTAL BOREHOLE\_TV183013\_MONTAGUE GOLD MINE.GPJ AMEC HALIFAX.GDT 9/27/21



# LOG OF BOREHOLE 2021-MW6

PROJECT No.: <b>TV183013</b> CLIENT: <b>Nova Scotia Lands</b> PROJECT NAME: <b>Montague Gold Mines Phase II</b> LOCATION: <b>Montague Gold Mines</b> DATE DRILLED: <b>8-17-21</b> LOGGED BY: <b>B.Carter</b>	ELEVATION: <b>64.92 m</b> DATUM: <b>NAD83 Zone 20</b> METHOD: <b>SS/AU/RC</b> DIAMETER: <b>102 mm</b> WATER LEVEL: <b>1.94 m / Aug 25</b> CONTRACTOR: <b>Nova Drilling</b>	
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DEPTH O (m)	ELEVATION (m)	STRATIGRAPHIC DESCRIPTION	STRATA PLOT	WATER LEVEL	SAMPLES					WELL CONSTRUCTION
					TYPE	NUMBER	RECOVERY (mm)	N-VALUE or RQD%	OWM (PPM)	
0	64.92	Clayey <b>SAND</b> /w organics - alternating bands of brown/grey - becomes saturated @ 3'6" (1.07m)		▽	SS	1	508	5		Date Completed : 8-17-21  <b>PROTECTIVE WELL CASING</b> Material : Steel Casing Diameter : 152 mm Joints : NA  <b>WELL &amp; PIPE SCREEN</b> Material : Sch. 40 PVC Diameter : 50 mm Joints : Flush Opening : 10 Slot  SAND PACK : Silica Sand ANNULUS SEAL : Bentonite  NOTES:
1	63.68				SS	2	305	5		
	63.60	Sandy <b>CLAY</b> - grey/black - refusal @ 4'4" (1.32m)  <b>FRACTURED ROCK</b> - cobbles and boulders		▽	SS	3	102	50/ 3"		
2					RC			38%		
3		FRACURED ROCK - cobbles and boulders		▽	RC			10%		
4	61.26				SS	4	25	34		
	60.65	Clayey <b>SAND</b> /w gravel and rock fragments		▽	SS	5	432	50		
	60.35				RC			0%		
	60.04	<b>GRAVEL</b> /w silt and sand - brown		▽	SS	6	152	73		
		End of Borehole @ 4.9 m								

ENVIRONMENTAL BOREHOLE\_TV183013\_MONTAGUE GOLD MINE.GPJ AMEC HALIFAX.GDT\_9/17/21

**Appendix E**  
**Analytical Tables**























































Table E-1 Historical Data (Multiple

Data		2020													
		(blank)													
Metal	Units	M-DC6-20(6-8')	M-HC10-20(0.05-1M)	M-HC10-200.05-1M)	M-HC14-20(0.05-1M)	M-HC17-20(0.05-1M)	M-HC19-20(0.05-1M)	M-HC20-20(0.05-1M)	M-HC21-20(0.05-1M)	M-HC22-20(0.05-1M)	M-HC23-20(0.05-1M)	M-HC7-20(0.05-1M)	M-MW12-(2-4')	M-MW18-20(10-12')	M-MW4B-20(4-6')
Antimony	mg/kg														
Arsenic	mg/kg														
Benzene	mg/kg	0.03		0.03	0.03	0.03	0.03	0.03	0.03	0.18	0.03	0.03	0.03	0.03	0.03
Cobalt	mg/kg														
Copper	mg/kg														
cyanide	mg/kg	0.50	0.50		0.50	1.80		0.50	0.50	1.30		0.50		0.50	
Ethylbenzene	mg/kg	0.03		0.03	0.03	0.05	0.05	0.03	0.03	0.05	0.03	0.03	0.03	0.03	0.03
Lead	mg/kg														
Manganese	mg/kg														
Mercury	mg/kg														
Modified TPH	mg/kg	43.00		44.00	20.00	220.00	55.00	20.00	40.00	200.00	20.00	20.00	20.00	20.00	20.00
Selenium	mg/kg														
Thallium	mg/kg														
Toluene	mg/kg	0.05		0.05	0.05	0.10	0.10	0.05	0.05	0.38	0.05	0.05	0.05	0.05	0.05
xylene	mg/kg	0.05		0.05	0.05	0.10	0.10	0.05	0.05	0.23	0.05	0.05	0.05	0.05	0.05

Table E-1 Historical Data (Multiple

Data		2020
		(blank)
Metal	Units	M-MW5-20(2-4')
Antimony	mg/kg	
Arsenic	mg/kg	
Benzene	mg/kg	0.03
Cobalt	mg/kg	
Copper	mg/kg	
cyanide	mg/kg	
Ethylbenzene	mg/kg	0.03
Lead	mg/kg	
Manganese	mg/kg	
Mercury	mg/kg	
Modified TPH	mg/kg	38.00
Selenium	mg/kg	
Thallium	mg/kg	
Toluene	mg/kg	0.05
xylene	mg/kg	0.05

**TABLE E-2: Metals Concentrations in Soil**  
**Phase II Environmental Site Assessment**  
**Montague Gold Mines, Montague Rd, Dartmouth, NS**

Parameter	Units	Guidelines		MIN	MAX	Sample ID										
		NSE Tier I EQS <sup>1</sup> Agricultural	NSE Tier I EQS <sup>2</sup> Residential/ Parkland			2021-SS01-A	2021-SS01-B	2021-SS01-C	2021-SS02-A	2021-SS02-B	2021-SS03-A	2021-SS03-B	2021-SS03-C	2021-SS04-A	2021-SS04-B	2021-SS04-C
						21-Aug-2021 0 - 0.05	21-Aug-2021 0.05-0.60	21-Aug-2021 0.6-1.0	Aug 21 2021 0 - 0.05	Aug 21 2021 0.05-0.59	Aug 21 2021 0 - 0.05	Aug 21 2021 0.05-0.60	Aug 21 2021 0.6-1.3	Aug 21 2021 0 - 0.05	Aug 21 2021 0.05-0.60	Aug 21 2021 0.6-1.0
Aluminum	mg/kg	15400	15400	570	34000	4800	<b>8900</b>	14000	<b>7500</b>	<b>25000</b>	5900	<b>7600</b>	9900	<b>12000</b>	<b>11000</b>	<b>11000</b>
Antimony	mg/kg	7.5	7.5	<2	24	<2	<2	<2	<2	<2	5	5	4	<2	<2	<2
Arsenic	mg/kg	17	31	2	18000	<b>40</b>	<b>19</b>	<b>39</b>	<b>42</b>	<b>39</b>	<b>3900</b>	<b>4300</b>	<b>3000</b>	<b>1200</b>	<b>510</b>	<b>91</b>
Barium	mg/kg	400	10000	6	1300	28	32	57	24	16	19	15	33	54	28	18
Beryllium	mg/kg	5	38	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Bismuth	mg/kg	-	-	<2	6	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Boron	mg/kg	4300	4300	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Cadmium	mg/kg	1.4	14	<0.3	3.9	<0.3	<0.3	<0.3	<0.3	<0.3	0.9	0.6	0.5	0.7	<0.3	<0.3
Chromium	mg/kg	52	220	2	30	4	6	17	10	21	6	7	9	11	11	13
Cobalt	mg/kg	20	22	<1	160	6	3	4	1	5	6	9	10	13	7	7
Copper	mg/kg	63	1100	<2	490	10	17	24	6	13	<b>73</b>	<b>74</b>	<b>73</b>	58	14	14
Iron	mg/kg	11000	11000	990	110000	2500	1500	3700	<b>23000</b>	<b>30000</b>	<b>13000</b>	<b>19000</b>	<b>21000</b>	<b>19000</b>	<b>16000</b>	<b>17000</b>
Lead	mg/kg	70	140	3.3	470	14	10	19	26	16	66	<b>80</b>	<b>80</b>	<b>76</b>	13	9
Lithium	mg/kg	-	-	<2	44	<2	<2	8	5	25	10	16	20	17	12	19
Manganese	mg/kg	-	-	12	100000	770	270	330	98	260	310	260	320	610	290	280
Mercury	mg/kg	6.6	6.6	<0.1	79	0.4	0.3	0.5	0.1	0.2	<b>15</b>	<b>16</b>	<b>16</b>	<b>13</b>	1.6	0.1
Molybdenum	mg/kg	40	110	<2	8	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	50	330	<2	100	6	6	9	6	16	15	22	23	21	10	16
Rubidium	mg/kg	-	-	<2	41	5	6	12	8	9	5	11	12	9	6	5
Selenium	mg/kg	1	80	<0.5	8	<b>1.2</b>	<b>2.4</b>	<b>3.1</b>	0.6	<b>1.3</b>	0.7	<0.5	<0.5	<b>1.2</b>	0.7	<0.5
Silver	mg/kg	20	77	<0.5	34	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Strontium	mg/kg	9400	9400	<5	62	12	16	21	<5	<5	8	11	14	12	6	<5
Thallium	mg/kg	1	1	<0.1	0.8	<0.1	<0.1	0.2	<0.1	<0.1	0.2	0.2	0.2	0.2	<0.1	<0.1
Tin	mg/kg	5	9400	<1	150	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1
Uranium	mg/kg	23	23	0.1	2.4	0.8	1.4	2.4	0.3	0.5	0.4	0.4	0.6	0.7	0.4	0.6
Vanadium	mg/kg	39	39	4	240	5	4	6	<b>44</b>	25	13	9	11	32	26	16
Zinc	mg/kg	200	5600	6	400	22	10	21	17	44	130	130	110	110	33	31
Total Cyanide	mg/kg	0.9	29	<0.05	4.9	<5.0	<5.0	<5.0	-	-	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50

**Bold text** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (agricultural land use, coarse-grained soil).

**Bold text / Shaded cell** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (Residential/Parkland land use, coarse-grained soil).

**TABLE E-2: Metals Concentrations in Soil**  
**Phase II Environmental Site Assessment**  
**Montague Gold Mines, Montague Rd, Dartmouth, NS**

Parameter	Units	Guidelines		MIN	MAX	2021-SS05-A	2021-SS05-B	2021-SS06-A	2021-SS06-B	2021-SS07-A	2021-SS07-B	2021-SS07-C	2021-SS08-A	2021-SS08-B	2021-SS09-A	2021-SS09-B	
		NSE Tier I EQS <sup>1</sup> Agricultural	NSE Tier I EQS <sup>2</sup> Residential/Parkland			21-Aug-2021	21-Aug-2021	21-Aug-2021	21-Aug-2021	21-Aug-2021	21-Aug-2021	21-Aug-2021	21-Aug-2021	21-Aug-2021	21-Aug-2021	19-Aug-2021	19-Aug-2021
		Sample Date (d/m/y)	Sample Depth (m)			0 - 0.05	0.05-0.65	0 - 0.05	0.05-0.25	0 - 0.05	0.05-0.60	0.6-1.2	0 - 0.05	0.05-0.4	0 - 0.05	0.05-0.55	
Aluminum	mg/kg	15400	15400	570	34000	9300	<b>16000</b>	1300	1900	8500	<b>4700</b>	<b>13000</b>	<b>18000</b>	<b>13000</b>	13000	12000	
Antimony	mg/kg	7.5	7.5	<2	24	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Arsenic	mg/kg	17	31	2	18000	<b>19</b>	9	3	2	<b>470</b>	<b>840</b>	<b>530</b>	<b>93</b>	<b>71</b>	<b>220</b>	<b>54</b>	
Barium	mg/kg	400	10000	6	1300	12	14	8	6	13	9	34	34	72	23	16	
Beryllium	mg/kg	5	38	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Bismuth	mg/kg	-	-	<2	6	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Boron	mg/kg	4300	4300	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	
Cadmium	mg/kg	1.4	14	<0.3	3.9	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.5	<0.3	<0.3	<0.3	<0.3	
Chromium	mg/kg	52	220	2	30	10	16	4	3	10	5	15	19	14	14	12	
Cobalt	mg/kg	20	22	<1	160	2	4	1	<1	4	4	11	3	3	5	3	
Copper	mg/kg	63	1100	<2	490	6	12	<2	<2	33	59	<b>120</b>	19	17	23	7	
Iron	mg/kg	11000	11000	990	110000	<b>17000</b>	<b>21000</b>	3500	4600	<b>18000</b>	<b>13000</b>	<b>28000</b>	<b>30000</b>	<b>27000</b>	<b>23000</b>	<b>18000</b>	
Lead	mg/kg	70	140	3.3	470	9.7	12	10	5.4	<b>82</b>	54	<b>110</b>	66	62	39	11	
Lithium	mg/kg	-	-	<2	44	7	19	<2	2	14	10	27	20	11	16	11	
Manganese	mg/kg	-	-	12	100000	77	210	40	74	150	160	310	160	390	230	150	
Mercury	mg/kg	6.6	6.6	<0.1	79	0.1	0.1	<0.1	<0.1	<b>18</b>	6.1	<b>20</b>	0.2	0.3	0.3	0.1	
Molybdenum	mg/kg	40	110	<2	8	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Nickel	mg/kg	50	330	<2	100	4	11	<2	<2	10	9	29	10	9	15	9	
Rubidium	mg/kg	-	-	<2	41	3	6	<2	<2	10	7	23	15	11	10	8	
Selenium	mg/kg	1	80	<0.5	8	0.7	0.8	<0.5	<0.5	0.5	<0.5	<0.5	0.9	0.6	0.6	0.6	
Silver	mg/kg	20	77	<0.5	34	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Strontium	mg/kg	9400	9400	<5	62	<5	<5	<5	<5	<5	7	8	<5	5	5	<5	
Thallium	mg/kg	1	1	<0.1	0.8	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.2	0.2	0.1	0.1	<0.1	
Tin	mg/kg	5	9400	<1	150	<1	<1	<1	<1	<1	<1	<1	3	2	<1	<1	
Uranium	mg/kg	23	23	0.1	2.4	0.3	0.5	0.2	0.2	0.5	0.2	0.7	0.5	0.3	0.4	0.4	
Vanadium	mg/kg	39	39	4	240	25	22	15	15	15	5	14	32	24	25	19	
Zinc	mg/kg	200	5600	6	400	11	26	<5	<5	67	66	190	58	50	50	25	
Total Cyanide	mg/kg	0.9	29	<0.05	4.9	-	-	<5	<5	<2.5	<0.50	<0.50	-	-	-	-	

**Bold text** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (agricultural land use, coarse-grained soil).

**Bold text / Shaded cell** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (Residential/Parkland land use, coarse-grained soil).

**TABLE E-2: Metals Concentrations in Soil**  
**Phase II Environmental Site Assessment**  
**Montague Gold Mines, Montague Rd, Dartmouth, NS**

Parameter	Units	Guidelines		MIN	MAX	2021-SS-Dup	2021-SS-Dup	2021-SS10-A	2021-SS11-A	2021-SS11-B	2021-SS12-B	2021-SS12-C	2021-SS13-A	2021-SS13-B	2021-SS14-A	2021-SS15-A
		2021-SS-Dup	2021-SS-Dup			2021-SS11-B	2021-SS12-B			2021-SS12-C						
		C - A (Dup of SS09-A)	C - B (Dup of SS09-B)													
Sample Date (d/m/y)	NSE Tier I EQS <sup>1</sup> Agricultural	NSE Tier I EQS <sup>2</sup> Residential/Parkland			19-Aug-2021	19-Aug-2021	21-Aug-2021	21-Aug-2021	20-Jan-2021	21-Aug-2021	21-Aug-2021	21-Aug-2021	21-Aug-2021	19-Aug-2021	19-Aug-2021	
Sample Depth (m)					0 - 0.05	0.05-0.55	0-0.1	0 - 0.05	0.05-0.4	0.05-0.6	0.6-1.5	0 - 0.05	0.05-0.64	0 - 0.05	0 - 0.05	
Aluminum	mg/kg	15400	15400	570	34000	13000.00	13000.00	6300	12000	<b>23000</b>	<b>16000</b>	<b>15000</b>	570	9600	1700	<b>1000</b>
Antimony	mg/kg	7.5	7.5	<2	24	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic	mg/kg	17	31	2	18000	<b>210.00</b>	<b>75.00</b>	<b>260</b>	<b>58</b>	<b>86</b>	<b>39</b>	<b>79</b>	<2	<b>40</b>	4	4
Barium	mg/kg	400	10000	6	1300	22.00	19.00	36	15	17	88	85	10	9	39	6
Beryllium	mg/kg	5	38	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Bismuth	mg/kg	-	-	<2	6	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Boron	mg/kg	4300	4300	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Cadmium	mg/kg	1.4	14	<0.3	3.9	<0.3	<0.3	<0.3	<0.3	<0.3	0.9	0.8	<0.3	<0.3	<0.3	<0.3
Chromium	mg/kg	52	220	2	30	14.00	13.00	7	13	19	11	9	<2	13	2	<2
Cobalt	mg/kg	20	22	<1	160	5.00	4.00	6	2	5	5	5	<1	3	<1	<1
Copper	mg/kg	63	1100	<2	490	21.00	8.00	6	13	14	19	19	<2	5	8	<2
Iron	mg/kg	11000	11000	990	110000	<b>23000.00</b>	<b>19000.00</b>	9800	<b>22000</b>	<b>24000</b>	2500	3000	1400	<b>24000</b>	2100	1600
Lead	mg/kg	70	140	3.3	470	37.00	12.00	20	17	18	18	18	4.9	8.6	25	5
Lithium	mg/kg	-	-	<2	44	16.00	12.00	5	7	21	2	<2	<2	11	<2	<2
Manganese	mg/kg	-	-	12	100000	220.00	180.00	590	91	190	290	300	18	150	84	20
Mercury	mg/kg	6.6	6.6	<0.1	79	0.30	0.10	0.3	0.4	0.2	0.3	0.3	<0.1	<0.1	0.2	<0.1
Molybdenum	mg/kg	40	110	<2	8	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	50	330	<2	100	15.00	10.00	10	6	15	11	11	<2	8	6	<2
Rubidium	mg/kg	-	-	<2	41	11.00	10.00	8	6	10	4	3	<2	5	2	<2
Selenium	mg/kg	1	80	<0.5	8	0.70	0.70	<0.5	0.8	<b>1.2</b>	<b>4.8</b>	<b>4.2</b>	<0.5	0.9	0.5	<0.5
Silver	mg/kg	20	77	<0.5	34	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Strontium	mg/kg	9400	9400	<5	62	6.00	<5	12	<5	<5	51	53	<5	<5	16	<5
Thallium	mg/kg	1	1	<0.1	0.8	0.10	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Tin	mg/kg	5	9400	<1	150	1.00	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Uranium	mg/kg	23	23	0.1	2.4	0.40	0.40	0.3	0.3	0.5	1.6	1.5	0.1	0.4	<0.1	0.1
Vanadium	mg/kg	39	39	4	240	24.00	21.00	16	38	22	7	9	5	22	15	9
Zinc	mg/kg	200	5600	6	400	51.00	29.00	30	19	41	20	22	<5	17	29	6
Total Cyanide	mg/kg	0.9	29	<0.05	4.9	-	-	-	-	-	<5.0	<5.0	<2.5	<0.5	-	-

**Bold text** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (agricultural land use, coarse-grained soil).

**Bold text / Shaded cell** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (Residential/Parkland land use, coarse-grained soil).

**TABLE E-2: Metals Concentrations in Soil**  
**Phase II Environmental Site Assessment**  
**Montague Gold Mines, Montague Rd, Dartmouth, NS**

Parameter	Units	Guidelines		MIN	MAX	2021-SS15-B	2021-SS16-A	2021-SS16-B	2021-SS-Dup B - A (Dup of SS16-A)	2021-SS-Dup B - B (Dup of SS16-B)	2021-SS17-A	2021-SS17-B	2021-SS18-A	2021-SS18-B	2021-SS19-A	2021-SS19-B
		NSE Tier I EQS <sup>1</sup> Agricultural	NSE Tier I EQS <sup>2</sup> Residential/ Parkland													
		Sample Date (d/m/y)	Sample Depth (m)													
						19-Aug-2021	19-Aug-2021	19-Aug-2021	19-Aug-2021	19-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021
						0.05-0.65	0 - 0.05	0.05-0.65	0 - 0.05	0.05-0.65	0 - 0.05	0.05-0.60	0 - 0.05	0.05-0.5	0 - 0.05	0.05-0.35
Aluminum	mg/kg	15400	15400	570	34000	<b>18000</b>	<b>7000</b>	<b>16000</b>	6200	<b>14000</b>	2600	4300	13000	<b>13000</b>	2800	4700
Antimony	mg/kg	7.5	7.5	<2	24	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic	mg/kg	17	31	2	18000	<b>25</b>	<b>43</b>	<b>37</b>	<b>37</b>	<b>34</b>	13	<b>27</b>	<b>410</b>	<b>1000</b>	<b>43</b>	<b>78</b>
Barium	mg/kg	400	10000	6	1300	14	12	17	10	15	42	8	53	32	58	14
Beryllium	mg/kg	5	38	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Bismuth	mg/kg	-	-	<2	6	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Boron	mg/kg	4300	4300	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Cadmium	mg/kg	1.4	14	<0.3	3.9	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium	mg/kg	52	220	2	30	15	10	17	8	16	4	4	19	18	5	5
Cobalt	mg/kg	20	22	<1	160	4	1	3	1	3	1	1	12	11	2	1
Copper	mg/kg	63	1100	<2	490	12	4	<2	3	<2	8	<2	16	7	13	2
Iron	mg/kg	11000	11000	990	110000	<b>18000</b>	<b>16000</b>	<b>25000</b>	<b>15000</b>	<b>24000</b>	5200	5600	<b>22000</b>	<b>30000</b>	<b>20000</b>	7600
Lead	mg/kg	70	140	3.3	470	11	9.1	6.7	8	6.1	64	5.2	58	20	<b>170</b>	12
Lithium	mg/kg	-	-	<2	44	12	4	13	3	12	<2	2	22	26	<2	4
Manganese	mg/kg	-	-	12	100000	180	77	160	67	150	60	63	490	690	92	53
Mercury	mg/kg	6.6	6.6	<0.1	79	<0.1	0.1	0.1	<0.1	<0.1	0.6	0.1	0.6	0.2	1.3	0.4
Molybdenum	mg/kg	40	110	<2	8	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	50	330	<2	100	11	7	13	6	13	9	3	19	16	7	4
Rubidium	mg/kg	-	-	<2	41	6	10	17	9	15	5	8	20	23	4	8
Selenium	mg/kg	1	80	<0.5	8	0.8	<0.5	0.5	<0.5	<0.5	1	<0.5	<b>1.3</b>	0.6	<0.5	<0.5
Silver	mg/kg	20	77	<0.5	34	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Strontium	mg/kg	9400	9400	<5	62	<5	<5	<5	<5	<5	11	<5	9	<5	13	<5
Thallium	mg/kg	1	1	<0.1	0.8	<0.1	0.1	0.2	<0.1	0.2	<0.1	<0.1	0.4	0.2	<0.1	<0.1
Tin	mg/kg	5	9400	<1	150	<1	<1	<1	<1	<1	2	<1	1	<1	<b>150</b>	2
Uranium	mg/kg	23	23	0.1	2.4	0.5	0.4	0.6	0.3	0.5	0.1	0.2	1	0.7	0.2	0.2
Vanadium	mg/kg	39	39	4	240	19	26	23	23	22	22	9	30	24	24	11
Zinc	mg/kg	200	5600	6	400	29	20	39	16	35	24	8	51	57	35	13
Total Cyanide	mg/kg	0.9	29	<0.05	4.9	-	-	-	-	-	-	-	-	-	-	-

**Bold text** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (agricultural land use, coarse-grained soil).

**Bold text / Shaded cell** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (Residential/Parkland land use, coarse-grained soil).



**TABLE E-2: Metals Concentrations in Soil**  
**Phase II Environmental Site Assessment**  
**Montague Gold Mines, Montague Rd, Dartmouth, NS**

Parameter	Units	Guidelines		MIN	MAX	2021-SS20-A	2021-SS20-B	2021-SS21-A	2021-SS22-A	2021-SS22-B	2021-SS22-C	2021-SS23-A	2021-SS23-B	2021-SS23-C	2021-SS24-A	2021-SS25-A
		NSE Tier I EQS <sup>1</sup> Agricultural	NSE Tier I EQS <sup>2</sup> Residential/Parkland			18-Aug-2021	18-Aug-2021	18-Aug-2021	19-Aug-2021	19-Aug-2021	19-Aug-2021	17-Aug-2021	17-Aug-2021	17-Aug-2021	17-Aug-2021	17-Aug-2021
		Sample Date (d/m/y)	Sample Depth (m)			0 - 0.05	0.05-0.4	0 - 0.05	0 - 0.05	0.05-0.60	0.6-1.35	0 - 0.05	0.05-0.60	0.6-1.05	0 - 0.05	0 - 0.05
Aluminum	mg/kg	15400	15400	570	34000	13000	<b>14000</b>	<b>14000</b>	5400	6000	4800	<b>10000</b>	<b>16000</b>	<b>11000</b>	9000	13000
Antimony	mg/kg	7.5	7.5	<2	24	<2	<2	<2	<b>24</b>	<b>11</b>	<b>11</b>	3	2	4	<2	<2
Arsenic	mg/kg	17	31	2	18000	<b>800</b>	<b>1100</b>	<b>570</b>	<b>18000</b>	<b>10000</b>	<b>8700</b>	<b>4800</b>	<b>1800</b>	<b>4200</b>	<b>490</b>	<b>760</b>
Barium	mg/kg	400	10000	6	1300	19	24	60	10	10	7	30	48	37	51	26
Beryllium	mg/kg	5	38	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Bismuth	mg/kg	-	-	<2	6	<2	<2	<2	2	2	<2	<2	<2	<2	<2	<2
Boron	mg/kg	4300	4300	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Cadmium	mg/kg	1.4	14	<0.3	3.9	<0.3	<0.3	<0.3	<0.3	1	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium	mg/kg	52	220	2	30	14	15	16	6	6	5	10	16	12	12	16
Cobalt	mg/kg	20	22	<1	160	10	16	18	1	4	3	12	12	10	4	8
Copper	mg/kg	63	1100	<2	490	17	31	24	7	<b>110</b>	95	38	37	42	17	25
Iron	mg/kg	11000	11000	990	110000	<b>29000</b>	<b>31000</b>	<b>33000</b>	<b>30000</b>	<b>21000</b>	<b>18000</b>	<b>25000</b>	<b>31000</b>	<b>27000</b>	<b>20000</b>	<b>30000</b>
Lead	mg/kg	70	140	3.3	470	25	17	62	<b>130</b>	<b>110</b>	<b>110</b>	<b>72</b>	42	56	59	32
Lithium	mg/kg	-	-	<2	44	20	21	25	8	9	8	20	29	21	11	21
Manganese	mg/kg	-	-	12	100000	250	360	410	87	100	84	520	590	370	190	330
Mercury	mg/kg	6.6	6.6	<0.1	79	0.1	0.2	0.5	9.5	13	19	3.3	2.1	4.3	1.1	1.1
Molybdenum	mg/kg	40	110	<2	8	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	50	330	<2	100	23	30	34	7	13	11	23	26	25	19	18
Rubidium	mg/kg	-	-	<2	41	18	14	20	9	8	6	13	18	14	15	11
Selenium	mg/kg	1	80	<0.5	8	<0.5	0.5	<0.5	0.9	0.5	0.5	<0.5	<0.5	<0.5	0.7	0.6
Silver	mg/kg	20	77	<0.5	34	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Strontium	mg/kg	9400	9400	<5	62	10	13	15	6	7	6	9	10	11	14	6
Thallium	mg/kg	1	1	<0.1	0.8	0.2	0.2	0.3	0.1	0.2	<0.1	0.1	0.2	0.2	0.2	0.1
Tin	mg/kg	5	9400	<1	150	<1	<1	<1	<1	<1	<1	<1	1	<1	1	<1
Uranium	mg/kg	23	23	0.1	2.4	0.6	0.6	0.7	0.2	0.3	0.2	0.6	0.6	0.5	0.4	0.6
Vanadium	mg/kg	39	39	4	240	25	21	30	8	6	5	18	18	13	36	24
Zinc	mg/kg	200	5600	6	400	46	50	73	42	67	57	65	79	71	46	53
Total Cyanide	mg/kg	0.9	29	<0.05	4.9	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<b>1.8</b>	-

**Bold text** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (agricultural land use, coarse-grained soil).

**Bold text / Shaded cell** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (Residential/Parkland land use, coarse-grained soil).

**TABLE E-2: Metals Concentrations in Soil**  
**Phase II Environmental Site Assessment**  
**Montague Gold Mines, Montague Rd, Dartmouth, NS**

Parameter	Units	Guidelines		MIN	MAX	2021-SS25-B	2021-SS26-A	2021-SS26-B	2021-SS27-A	2021-SS27-B	2021-SS28-A	2021-SS28-B	2021-SS29-A	2021-SS29-B	2021-Dup A - A (Dup of SS29-A)	2021-Dup A - B (Dup of SS29-B)		
		NSE Tier I EQS <sup>1</sup> Agricultural	NSE Tier I EQS <sup>2</sup> Residential/Parkland			17-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021	17-Aug-2021	17-Aug-2021	17-Aug-2021	17-Aug-2021	17-Aug-2021	17-Aug-2021	17-Aug-2021	17-Aug-2021
		Sample Date (d/m/y)	Sample Depth (m)			0.05-0.45	0 - 0.05	0.05-0.32	0 - 0.05	0.05-0.60	0 - 0.05	0.05-0.60	0 - 0.05	0.05-0.60	0 - 0.05	0.05-0.7	0 - 0.05	0.05-0.7
Aluminum	mg/kg	15400	15400	570	34000	<b>15000</b>	3500	<b>17000</b>	3600	<b>3800</b>	<b>21000</b>	<b>24000</b>	3100	15000	4000	<b>13000</b>		
Antimony	mg/kg	7.5	7.5	<2	24	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2		
Arsenic	mg/kg	17	31	2	18000	<b>390</b>	<b>33</b>	<b>36</b>	<b>31</b>	5	<b>400</b>	<b>490</b>	<b>59</b>	<b>250</b>	<b>65</b>	<b>180</b>		
Barium	mg/kg	400	10000	6	1300	24	24	17	35	13	48	28	24	23	42	22		
Beryllium	mg/kg	5	38	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2		
Bismuth	mg/kg	-	-	<2	6	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2		
Boron	mg/kg	4300	4300	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50		
Cadmium	mg/kg	1.4	14	<0.3	3.9	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3		
Chromium	mg/kg	52	220	2	30	15	5	15	3	4	23	23	4	15	6	13		
Cobalt	mg/kg	20	22	<1	160	3	<1	3	2	1	11	8	1	5	1	4		
Copper	mg/kg	63	1100	<2	490	12	6	5	9	<2	33	22	7	11	10	10		
Iron	mg/kg	11000	11000	990	110000	<b>30000</b>	6100	<b>21000</b>	4700	3300	<b>34000</b>	<b>44000</b>	5700	<b>25000</b>	6900	<b>20000</b>		
Lead	mg/kg	70	140	3.3	470	7.6	29	17	43	5.6	<b>71</b>	26	21	12	34	11		
Lithium	mg/kg	-	-	<2	44	17	<2	14	<2	4	28	24	3	24	4	21		
Manganese	mg/kg	-	-	12	100000	120	56	110	160	69	520	450	60	210	91	160		
Mercury	mg/kg	6.6	6.6	<0.1	79	0.1	0.2	0.1	0.3	<0.1	0.7	0.4	0.2	<0.1	0.3	<0.1		
Molybdenum	mg/kg	40	110	<2	8	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2		
Nickel	mg/kg	50	330	<2	100	11	7	10	8	3	28	17	6	18	9	14		
Rubidium	mg/kg	-	-	<2	41	11	6	13	5	9	21	14	5	22	7	19		
Selenium	mg/kg	1	80	<0.5	8	0.8	<0.5	0.7	0.6	<0.5	0.6	2	<0.5	<0.5	0.6	<0.5		
Silver	mg/kg	20	77	<0.5	34	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
Strontium	mg/kg	9400	9400	<5	62	<5	5	<5	11	<5	12	<5	5	<5	10	<5		
Thallium	mg/kg	1	1	<0.1	0.8	0.1	0.1	0.2	0.1	<0.1	0.2	0.2	<0.1	0.2	<0.1	0.2		
Tin	mg/kg	5	9400	<1	150	<1	<1	<1	<1	<1	3	1	1	<1	1	1		
Uranium	mg/kg	23	23	0.1	2.4	0.4	0.2	0.5	0.2	0.2	0.7	0.9	0.2	0.5	0.2	0.4		
Vanadium	mg/kg	39	39	4	240	19	25	27	10	4	32	34	17	18	25	15		
Zinc	mg/kg	200	5600	6	400	28	16	23	18	10	93	61	18	45	30	37		
Total Cyanide	mg/kg	0.9	29	<0.05	4.9	-	-	-	-	-	-	-	-	-	-	-		

**Bold text** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (agricultural land use, coarse-grained soil).

**Bold text / Shaded cell** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (Residential/Parkland land use, coarse-grained soil).

**TABLE E-2: Metals Concentrations in Soil**  
**Phase II Environmental Site Assessment**  
**Montague Gold Mines, Montague Rd, Dartmouth, NS**

Parameter	Units	Guidelines		MIN	MAX	2021-SS30-A	2021-SS30-B	2021-SS31-A	2021-SS31-B	2021-SS32-A	2021-SS32-B	2021-SS32-C	2021-SS33-A	2021-SS33-B	2021-SS34-A	2021-SS35-A
		NSE Tier I EQS <sup>1</sup> Agricultural	NSE Tier I EQS <sup>2</sup> Residential/Parkland			17-Aug-2021	17-Aug-2021	17-Aug-2021	17-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021
		Sample Date (d/m/y)	Sample Depth (m)			0 - 0.05	0.05- 0.66	0 - 0.05	0.05-0.60	0 - 0.05	0.05-0.60	0.6-0.73	0 - 0.05	0.05-0.55	0 - 0.05	0 - 0.05
Aluminum	mg/kg	15400	15400	570	34000	4700	<b>12000</b>	<b>16000</b>	<b>17000</b>	6900	<b>22000</b>	<b>20000</b>	6200	11000	900	3500
Antimony	mg/kg	7.5	7.5	<2	24	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic	mg/kg	17	31	2	18000	<b>18</b>	<b>130</b>	<b>460</b>	<b>480</b>	<b>120</b>	<b>160</b>	<b>150</b>	<b>110</b>	<b>570</b>	2	<b>33</b>
Barium	mg/kg	400	10000	6	1300	43	32	31	35	14	21	22	20	17	16	24
Beryllium	mg/kg	5	38	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Bismuth	mg/kg	-	-	<2	6	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Boron	mg/kg	4300	4300	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Cadmium	mg/kg	1.4	14	<0.3	3.9	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium	mg/kg	52	220	2	30	6	16	17	19	6	23	19	6	14	<2	5
Cobalt	mg/kg	20	22	<1	160	3	6	8	9	1	6	5	2	4	<1	<1
Copper	mg/kg	63	1100	<2	490	18	9	19	22	4	6	6	9	9	<2	6
Iron	mg/kg	11000	11000	990	110000	8000	<b>19000</b>	<b>29000</b>	<b>31000</b>	<b>15000</b>	<b>43000</b>	<b>34000</b>	7200	<b>22000</b>	1400	6100
Lead	mg/kg	70	140	3.3	470	<b>120</b>	14	34	36	16	12	14	30	16	32	29
Lithium	mg/kg	-	-	<2	44	2	19	22	24	3	23	24	4	14	<2	<2
Manganese	mg/kg	-	-	12	100000	97	240	450	500	83	390	360	72	190	12	56
Mercury	mg/kg	6.6	6.6	<0.1	79	0.7	0.1	0.4	0.5	0.1	<0.1	<0.1	0.1	<0.1	0.1	0.2
Molybdenum	mg/kg	40	110	<2	8	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	50	330	<2	100	16	15	20	21	4	21	15	5	11	<2	7
Rubidium	mg/kg	-	-	<2	41	4	21	22	24	13	31	30	16	10	2	6
Selenium	mg/kg	1	80	<0.5	8	<b>1.5</b>	0.7	0.5	0.6	<0.5	0.8	0.8	<0.5	0.8	<0.5	<0.5
Silver	mg/kg	20	77	<0.5	34	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Strontium	mg/kg	9400	9400	<5	62	10	5	7	5	<5	<5	<5	8	5	<5	5
Thallium	mg/kg	1	1	<0.1	0.8	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.1	<0.1	<0.1	0.1
Tin	mg/kg	5	9400	<1	150	2	<1	2	2	<1	<1	<1	<1	<1	<1	<1
Uranium	mg/kg	23	23	0.1	2.4	0.5	0.8	0.6	0.7	0.3	0.6	0.5	0.3	0.4	0.1	0.2
Vanadium	mg/kg	39	39	4	240	43	16	29	30	27	29	25	16	30	5	25
Zinc	mg/kg	200	5600	6	400	43	37	51	54	14	65	53	27	36	7	16
Total Cyanide	mg/kg	0.9	29	<0.05	4.9	-	-	-	-	-	-	-	-	-	-	-

**Bold text** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (agricultural land use, coarse-grained soil).

**Bold text / Shaded cell** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (Residential/Parkland land use, coarse-grained soil).

**TABLE E-2: Metals Concentrations in Soil**  
**Phase II Environmental Site Assessment**  
**Montague Gold Mines, Montague Rd, Dartmouth, NS**

Parameter	Units	Guidelines		MIN	MAX	2021-SS35-B	2021-SS36-A	2021-SS36-B	2021-DUP-2-A (Dup of SS36-A)	2021-DUP-2-B (Dup of SS36-B)	2021-SS37-A	2021-SS37-B	2021-SS38-A	2021-SS38-B	2021-SS39-A	2021-SS39-B		
		NSE Tier I EQS <sup>1</sup> Agricultural	NSE Tier I EQS <sup>2</sup> Residential/Parkland			18-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021	21-Aug-2021	21-Aug-2021	21-Aug-2021	21-Aug-2021	21-Aug-2021	21-Aug-2021	21-Aug-2021	21-Aug-2021
		Sample Date (d/m/y)	Sample Depth (m)			0.05-0.5	0 - 0.05	0.05-0.58	0 - 0.05	0.05-0.58	0 - 0.05	0.05-0.4	0 - 0.05	0.05-0.4	0 - 0.05	0.05-0.4	0 - 0.05	0.05-0.3
Aluminum	mg/kg	15400	15400	570	34000	<b>17000</b>	<b>3600</b>	<b>3800</b>	3400	<b>5600</b>	2100	<b>34000</b>	3100	<b>6200</b>	1800	<b>19000</b>		
Antimony	mg/kg	7.5	7.5	<2	24	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2		
Arsenic	mg/kg	17	31	2	18000	<b>36</b>	<b>37</b>	5	<b>49</b>	6	8	16	3	15	8	36		
Barium	mg/kg	400	10000	6	1300	17	35	13	25	15	33	11	19	10	23	11		
Beryllium	mg/kg	5	38	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2		
Bismuth	mg/kg	-	-	<2	6	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2		
Boron	mg/kg	4300	4300	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50		
Cadmium	mg/kg	1.4	14	<0.3	3.9	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3		
Chromium	mg/kg	52	220	2	30	15	3	4	3	7	3	25	3	10	3	19		
Cobalt	mg/kg	20	22	<1	160	3	2	1	2	2	<1	4	<1	2	<1	1		
Copper	mg/kg	63	1100	<2	490	5	9	<2	6	2	5	9	6	3	5	8		
Iron	mg/kg	11000	11000	990	110000	<b>21000</b>	4700	3300	4300	7300	4500	<b>31000</b>	2300	<b>12000</b>	3300	<b>43000</b>		
Lead	mg/kg	70	140	3.3	470	17	43	5.6	32	7.6	40	12	25	4.9	37	10		
Lithium	mg/kg	-	-	<2	44	14	<2	4	<2	10	<2	14	<2	6	<2	10		
Manganese	mg/kg	-	-	12	100000	110	160	69	130	100	33	180	63	210	50	48		
Mercury	mg/kg	6.6	6.6	<0.1	79	0.1	0.3	<0.1	0.2	<0.1	0.2	0.2	0.1	<0.1	0.2	0.1		
Molybdenum	mg/kg	40	110	<2	8	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2		
Nickel	mg/kg	50	330	<2	100	10	8	3	6	7	4	10	3	8	4	4		
Rubidium	mg/kg	-	-	<2	41	13	5	9	6	11	<2	5	4	9	<2	4		
Selenium	mg/kg	1	80	<0.5	8	0.7	0.6	<0.5	<0.5	<0.5	<0.5	<b>1.9</b>	<0.5	<0.5	<0.5	<b>1.2</b>		
Silver	mg/kg	20	77	<0.5	34	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
Strontium	mg/kg	9400	9400	<5	62	<5	11	<5	7	<5	<5	<5	5	<5	<5	<5		
Thallium	mg/kg	1	1	<0.1	0.8	0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
Tin	mg/kg	5	9400	<1	150	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1		
Uranium	mg/kg	23	23	0.1	2.4	0.5	0.2	0.2	0.2	0.4	0.2	0.7	0.2	0.3	0.1	0.5		
Vanadium	mg/kg	39	39	4	240	27	10	4	12	6	23	30	10	11	22	<b>56</b>		
Zinc	mg/kg	200	5600	6	400	23	18	10	10	21	7	30	12	16	9	11		
Total Cyanide	mg/kg	0.9	29	<0.05	4.9	-	-	-	-	-	-	-	-	-	-	-		

**Bold text** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (agricultural land use, coarse-grained soil).

**Bold text / Shaded cell** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (Residential/Parkland land use, coarse-grained soil).

**TABLE E-2: Metals Concentrations in Soil**  
**Phase II Environmental Site Assessment**  
**Montague Gold Mines, Montague Rd, Dartmouth, NS**

Parameter	Units	Guidelines		MIN	MAX											
		NSE Tier I EQS <sup>1</sup> Agricultural	NSE Tier I EQS <sup>2</sup> Residential/ Parkland			2021-SS40-A	2021-SS40-B	2021-SS41-A	2021-SS41-B	2021-SS42-A	2021-SS42-B	2021-SS43-A	2021-SS43-B	2021-SS44-A	2021-SS45-A	2021-SS45-B
						21-Aug-2021 0 - 0.05	21-Aug-2021 0.05-0.4	18-Aug-2021 0 - 0.05	18-Aug-2021 0.05-0.55	18-Aug-2021 0 - 0.05	18-Aug-2021 0.05-0.2	19-Aug-2021 0 - 0.05	19-Aug-2021 0.05-0.55	19-Aug-2021 0 - 0.15	19-Aug-2021 0 - 0.05	19-Aug-2021 0.05-0.62
Aluminum	mg/kg	15400	15400	570	34000	1400	<b>3200</b>	5000	<b>20000</b>	3000	<b>15000</b>	9700	<b>17000</b>	2000	<b>12000</b>	<b>23000</b>
Antimony	mg/kg	7.5	7.5	<2	24	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic	mg/kg	17	31	2	18000	6	4	<b>19</b>	<b>40</b>	13	<b>39</b>	12	14	14	<b>51</b>	<b>49</b>
Barium	mg/kg	400	10000	6	1300	59	9	9	12	25	17	12	13	34	17	19
Beryllium	mg/kg	5	38	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Bismuth	mg/kg	-	-	<2	6	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Boron	mg/kg	4300	4300	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Cadmium	mg/kg	1.4	14	<0.3	3.9	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium	mg/kg	52	220	2	30	<2	3	7	20	5	16	5	16	3	11	20
Cobalt	mg/kg	20	22	<1	160	<1	<1	<1	3	1	6	<1	3	<1	1	4
Copper	mg/kg	63	1100	<2	490	9	<2	3	10	6	16	4	8	11	5	10
Iron	mg/kg	11000	11000	990	110000	2200	2000	<b>12000</b>	32000	5100	<b>24000</b>	990	8200	2900	<b>30000</b>	<b>32000</b>
Lead	mg/kg	70	140	3.3	470	51	3.3	9.8	14	24	12	21	20	68	13	11
Lithium	mg/kg	-	-	<2	44	<2	<2	<2	15	<2	16	<2	16	<2	4	22
Manganese	mg/kg	-	-	12	100000	66	14	54	150	67	240	12	91	38	91	180
Mercury	mg/kg	6.6	6.6	<0.1	79	0.2	<0.1	<0.1	0.2	0.1	<0.1	0.2	<0.1	0.2	<0.1	0.1
Molybdenum	mg/kg	40	110	<2	8	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	50	330	<2	100	8	<2	3	9	7	16	4	9	12	4	13
Rubidium	mg/kg	-	-	<2	41	3	<2	3	6	7	10	3	6	4	9	13
Selenium	mg/kg	1	80	<0.5	8	0.7	<0.5	<0.5	<b>1.4</b>	<0.5	0.7	<b>1.9</b>	1	0.8	0.7	<b>1.2</b>
Silver	mg/kg	20	77	<0.5	34	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Strontium	mg/kg	9400	9400	<5	62	16	<5	<5	<5	6	<5	<5	<5	8	<5	<5
Thallium	mg/kg	1	1	<0.1	0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.1
Tin	mg/kg	5	9400	<1	150	1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1
Uranium	mg/kg	23	23	0.1	2.4	0.1	0.1	0.2	0.5	0.2	0.5	0.5	0.7	0.2	0.3	0.6
Vanadium	mg/kg	39	39	4	240	12	7	23	31	15	22	10	13	22	<b>47</b>	32
Zinc	mg/kg	200	5600	6	400	22	<5	7	26	24	34	9	19	27	18	39
Total Cyanide	mg/kg	0.9	29	<0.05	4.9	-	-	-	-	-	-	-	-	-	-	-

**Bold text** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (agricultural land use, coarse-grained soil).

**Bold text / Shaded cell** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (Residential/Parkland land use, coarse-grained soil).

**TABLE E-2: Metals Concentrations in Soil**  
**Phase II Environmental Site Assessment**  
**Montague Gold Mines, Montague Rd, Dartmouth, NS**

Parameter	Units	Guidelines		MIN	MAX	2021-SS46-A	2021-SS47-A	2021-SS48-A	2021-SS48-B	2021-SS49-A	2021-SS49-B	2021-DUP-3-A (Dup of SS49-A)	2021-DUP-3-B (Dup of SS49-B)	2021-SS50-A	2021-SS50-B	2021-SS51-A
		NSE Tier I EQS <sup>1</sup> Agricultural	NSE Tier I EQS <sup>2</sup> Residential/Parkland													
		Sample Date (d/m/y)	Sample Depth (m)													
						19-Aug-2021	19-Aug-2021	19-Aug-2021	19-Aug-2021	19-Aug-2021	19-Aug-2021	19-Aug-2021	19-Aug-2021	19-Aug-2021	19-Aug-2021	19-Aug-2021
						0-0.1	0 - 0.1	0 - 0.05	0.05 - 0.3	0 - 0.05	0.05 - 0.58	0 - 0.05	0.05 - 0.58	0 - 0.05	0.05 - 0.55	0 - 0.05
Aluminum	mg/kg	15400	15400	570	34000	1600	5400	11000	<b>16000</b>	<b>13000</b>	<b>23000</b>	14000	<b>23000</b>	9500	<b>17000</b>	<b>26000</b>
Antimony	mg/kg	7.5	7.5	<2	24	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic	mg/kg	17	31	2	18000	4	<b>24</b>	<b>51</b>	<b>46</b>	<b>73</b>	<b>65</b>	<b>59</b>	<b>63</b>	<b>53</b>	<b>86</b>	<b>1500</b>
Barium	mg/kg	400	10000	6	1300	23	65	11	10	13	27	12	28	12	15	74
Beryllium	mg/kg	5	38	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Bismuth	mg/kg	-	-	<2	6	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Boron	mg/kg	4300	4300	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Cadmium	mg/kg	1.4	14	<0.3	3.9	<0.3	0.6	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium	mg/kg	52	220	2	30	2	6	11	16	15	22	16	22	11	17	26
Cobalt	mg/kg	20	22	<1	160	<1	<b>22</b>	1	2	1	8	1	9	1	3	<b>160</b>
Copper	mg/kg	63	1100	<2	490	7	27	6	8	6	35	5	33	6	10	16
Iron	mg/kg	11000	11000	990	110000	2300	9200	<b>21000</b>	<b>29000</b>	<b>32000</b>	<b>29000</b>	<b>32000</b>	<b>29000</b>	<b>28000</b>	<b>37000</b>	<b>110000</b>
Lead	mg/kg	70	140	3.3	470	32	<b>110</b>	12	6.9	13	19	11	20	10	9	<b>110</b>
Lithium	mg/kg	-	-	<2	44	<2	<2	7	11	6	35	6	34	7	16	26
Manganese	mg/kg	-	-	12	100000	130	1600	67	88	49	1500	56	1600	66	160	13000
Mercury	mg/kg	6.6	6.6	<0.1	79	0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.5
Molybdenum	mg/kg	40	110	<2	8	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	4
Nickel	mg/kg	50	330	<2	100	8	30	6	6	5	27	5	26	5	11	11
Rubidium	mg/kg	-	-	<2	41	3	4	5	7	5	8	6	8	7	10	27
Selenium	mg/kg	1	80	<0.5	8	<0.5	<b>1.4</b>	0.5	1	0.6	0.5	<0.5	0.5	0.7	0.9	<b>3.2</b>
Silver	mg/kg	20	77	<0.5	34	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7
Strontium	mg/kg	9400	9400	<5	62	8	27	<5	<5	<5	<5	<5	<5	<5	<5	8
Thallium	mg/kg	1	1	<0.1	0.8	<0.1	0.2	<0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	0.1	0.6
Tin	mg/kg	5	9400	<1	150	<1	3	<1	<1	<1	<1	<1	<1	<1	<1	3
Uranium	mg/kg	23	23	0.1	2.4	0.1	0.3	0.3	0.4	0.4	0.6	0.4	0.6	0.3	0.4	1.2
Vanadium	mg/kg	39	39	4	240	14	<b>53</b>	25	29	<b>49</b>	18	<b>52</b>	19	30	37	<b>240</b>
Zinc	mg/kg	200	5600	6	400	25	40	19	21	14	52	13	53	16	32	58
Total Cyanide	mg/kg	0.9	29	<0.05	4.9	-	-	-	-	-	-	-	-	-	-	-

**Bold text** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (agricultural land use, coarse-grained soil).

**Bold text / Shaded cell** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (Residential/Parkland land use, coarse-grained soil).

**TABLE E-2: Metals Concentrations in Soil**  
**Phase II Environmental Site Assessment**  
**Montague Gold Mines, Montague Rd, Dartmouth, NS**

Parameter	Units	Guidelines		MIN	MAX	2021-SS51-B	2021-SS52-A	2021-SS52-B	2021-SS53-A	2021-SS53-B	2021-SS54-A	2021-SS54-B	2021-SS55-A	2021-SS55-B	2021-SS56-A	2021-SS57-A		
		NSE Tier I EQS <sup>1</sup> Agricultural	NSE Tier I EQS <sup>2</sup> Residential/ Parkland			19-Aug-2021	16, Aug 2021	16, Aug 2021	16, Aug 2021	16, Aug 2021	16, Aug 2021	16, Aug 2021	16, Aug 2021	16, Aug 2021	16, Aug 2021	16, Aug 2021	16, Aug 2021	16, Aug 2021
		Sample Date (d/m/y)	Sample Depth (m)			0.05 - 0.3	0 - 0.05	0.05-0.60	0 - 0.05	0.05-0.60	0 - 0.05	0.05-0.60	0 - 0.05	0.05-0.60	0 - 0.05	0.05-0.60	0 - 0.05	0 - 0.05
Aluminum	mg/kg	15400	15400	570	34000	<b>30000</b>	4600	13000	18000	<b>14000</b>	13000	15000	<b>15000</b>	<b>15000</b>	15000	6000		
Antimony	mg/kg	7.5	7.5	<2	24	<2	<2	<b>18</b>	4	14	4	6	7	<b>18</b>	4	<2		
Arsenic	mg/kg	17	31	2	18000	<b>1000</b>	<b>4500</b>	<b>11000</b>	<b>7500</b>	<b>9300</b>	<b>2200</b>	<b>3900</b>	<b>5000</b>	<b>11000</b>	<b>6300</b>	<b>41</b>		
Barium	mg/kg	400	10000	6	1300	76	<b>1300</b>	34	520	40	41	46	68	55	310	10		
Beryllium	mg/kg	5	38	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2		
Bismuth	mg/kg	-	-	<2	6	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2		
Boron	mg/kg	4300	4300	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50		
Cadmium	mg/kg	1.4	14	<0.3	3.9	<0.3	2.7	0.4	3.9	0.4	0.4	<0.3	1.6	0.4	1	<0.3		
Chromium	mg/kg	52	220	2	30	30	4	15	15	16	13	17	15	16	16	5		
Cobalt	mg/kg	20	22	<1	160	<b>120</b>	<b>85</b>	19	<b>96</b>	20	9	16	<b>27</b>	<b>22</b>	19	1		
Copper	mg/kg	63	1100	<2	490	12	38	<b>91</b>	<b>83</b>	<b>84</b>	53	60	<b>65</b>	<b>94</b>	47	3		
Iron	mg/kg	11000	11000	990	110000	<b>88000</b>	<b>47000</b>	<b>40000</b>	<b>100000</b>	<b>40000</b>	<b>28000</b>	<b>35000</b>	<b>31000</b>	<b>41000</b>	<b>94000</b>	11000		
Lead	mg/kg	70	140	3.3	470	<b>73</b>	17	<b>90</b>	<b>79</b>	<b>85</b>	34	34	68	<b>94</b>	<b>78</b>	13		
Lithium	mg/kg	-	-	<2	44	43	3	26	11	27	24	28	24	27	18	3		
Manganese	mg/kg	-	-	12	100000	7000	100000	470	20000	550	1000	610	790	540	14000	73		
Mercury	mg/kg	6.6	6.6	<0.1	79	0.3	0.8	5	4.4	5.3	2.2	2.2	4.5	5	5.3	0.1		
Molybdenum	mg/kg	40	110	<2	8	3	6	<2	8	<2	<2	<2	<2	<2	3	<2		
Nickel	mg/kg	50	330	<2	100	10	<b>100</b>	46	<b>83</b>	46	28	38	<b>61</b>	49	<b>62</b>	4		
Rubidium	mg/kg	-	-	<2	41	41	4	33	7	36	19	41	17	32	12	3		
Selenium	mg/kg	1	80	<0.5	8	<b>2.6</b>	<b>1.6</b>	0.6	<b>3.7</b>	0.6	<0.5	<0.5	<b>1.1</b>	0.6	<b>2</b>	<0.5		
Silver	mg/kg	20	77	<0.5	34	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
Strontium	mg/kg	9400	9400	<5	62	6	62	18	31	19	10	16	12	17	31	<5		
Thallium	mg/kg	1	1	<0.1	0.8	0.8	0.6	0.3	0.6	0.4	0.2	0.3	0.4	0.3	0.2	<0.1		
Tin	mg/kg	5	9400	<1	150	2	<1	<1	1	<1	<1	<1	<1	<1	<1	<1		
Uranium	mg/kg	23	23	0.1	2.4	1.5	0.4	0.5	1.3	0.6	0.5	0.6	0.7	0.7	0.6	0.2		
Vanadium	mg/kg	39	39	4	240	<b>140</b>	29	16	<b>130</b>	18	17	18	30	17	<b>70</b>	18		
Zinc	mg/kg	200	5600	6	400	57	<b>340</b>	190	<b>400</b>	180	110	130	<b>210</b>	<b>210</b>	<b>210</b>	10		
Total Cyanide	mg/kg	0.9	29	<0.05	4.9	-	<b>1.6</b>	<0.5	<b>3.7</b>	<b>1.2</b>	<1.0	<0.5	<1.0	<0.50	<1.0	<1.0		

**Bold text** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (agricultural land use, coarse-grained soil).

**Bold text / Shaded cell** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (Residential/Parkland land use, coarse-grained soil).

**TABLE E-2: Metals Concentrations in Soil**  
**Phase II Environmental Site Assessment**  
**Montague Gold Mines, Montague Rd, Dartmouth, NS**

Parameter	Units	Guidelines		MIN	MAX	2021-SS57-B	2021-SS58-A	2021-SS58-B	2021-SS59-A	2021-SS60-A	2021-SS61-A	2021-SS62-A	2021-SS62-B	2021-SS63-A	2021-SS63-B	2021-SS63-C
		NSE Tier I EQS <sup>1</sup> Agricultural	NSE Tier I EQS <sup>2</sup> Residential/ Parkland			16, Aug 2021	16, Aug 2021	16, Aug 2021	16, Aug 2021	16, Aug 2021	16, Aug 2021	23-Aug-2021	23-Aug-2021	21-Aug-2021	21-Aug-2021	21-Aug-2021
		Sample Date (d/m/y)	Sample Depth (m)			0.05 - 0.65	0 - 0.05	0.05 - 0.55	0 - 0.05	0 - 0.1	0 - 0.1	0 - 0.05	0.05 - 0.5	0 - 0.05	0.05-0.60	0.6 - 1.5
Aluminum	mg/kg	15400	15400	570	34000	<b>22000</b>	10000	<b>27000</b>	8400	<b>19000</b>	20000	<b>18000</b>	13000	11000	9100	12000
Antimony	mg/kg	7.5	7.5	<2	24	<2	<2	<2	<2	<2	3	2	<2	<b>13</b>	<b>22</b>	<b>13</b>
Arsenic	mg/kg	17	31	2	18000	<b>120</b>	<b>380</b>	<b>340</b>	<b>220</b>	<b>330</b>	<b>2500</b>	<b>3100</b>	<b>2500</b>	<b>6400</b>	<b>15000</b>	<b>7300</b>
Barium	mg/kg	400	10000	6	1300	23	16	24	16	140	81	310	250	160	76	43
Beryllium	mg/kg	5	38	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Bismuth	mg/kg	-	-	<2	6	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Boron	mg/kg	4300	4300	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Cadmium	mg/kg	1.4	14	<0.3	3.9	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	3	1.1	0.6	<0.3	<0.3
Chromium	mg/kg	52	220	2	30	22	12	23	9	19	21	14	14	14	12	12
Cobalt	mg/kg	20	22	<1	160	4	3	8	2	10	<b>21</b>	<b>60</b>	<b>53</b>	12	7	16
Copper	mg/kg	63	1100	<2	490	7	8	31	6	13	<b>67</b>	<b>66</b>	34	<b>80</b>	33	<b>110</b>
Iron	mg/kg	11000	11000	990	110000	<b>37000</b>	<b>35000</b>	<b>33000</b>	<b>18000</b>	11000	<b>47000</b>	<b>37000</b>	<b>27000</b>	<b>62000</b>	<b>43000</b>	<b>33000</b>
Lead	mg/kg	70	140	3.3	470	10	24	12	19	33	51	<b>170</b>	<b>86</b>	<b>160</b>	<b>100</b>	43
Lithium	mg/kg	-	-	<2	44	23	9	34	7	44	33	14	21	17	16	25
Manganese	mg/kg	-	-	12	100000	200	170	260	160	660	800	12000	6100	1400	390	320
Mercury	mg/kg	6.6	6.6	<0.1	79	0.1	0.1	0.1	<0.1	0.6	5.1	3.5	<b>8.8</b>	6.3	<b>16</b>	<b>14</b>
Molybdenum	mg/kg	40	110	<2	8	<2	<2	<2	<2	<2	<2	3	2	3	<2	<2
Nickel	mg/kg	50	330	<2	100	11	6	29	5	15	32	<b>76</b>	30	24	12	44
Rubidium	mg/kg	-	-	<2	41	11	16	16	17	31	36	13	17	11	18	28
Selenium	mg/kg	1	80	<0.5	8	<b>1.4</b>	<b>1.1</b>	0.9	<0.5	<b>1.6</b>	0.7	<b>4.8</b>	<b>2.2</b>	0.6	0.8	<0.5
Silver	mg/kg	20	77	<0.5	34	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Strontium	mg/kg	9400	9400	<5	62	5	<5	<5	<5	19	17	62	16	24	11	11
Thallium	mg/kg	1	1	<0.1	0.8	0.2	0.2	0.2	0.1	0.4	0.4	0.4	0.5	0.3	0.3	0.3
Tin	mg/kg	5	9400	<1	150	<1	1	<1	1	<1	<1	3	<1	3	<b>14</b>	<b>8</b>
Uranium	mg/kg	23	23	0.1	2.4	0.5	0.4	0.7	0.3	1.6	1.2	1.3	1.2	0.4	0.5	0.7
Vanadium	mg/kg	39	39	4	240	37	<b>47</b>	22	<b>40</b>	23	34	<b>100</b>	24	24	14	13
Zinc	mg/kg	200	5600	6	400	30	18	56	18	44	100	<b>210</b>	110	170	100	<b>220</b>
Total Cyanide	mg/kg	0.9	29	<0.05	4.9	<1.0	-	-	-	-	-	-	-	<2.5	<0.50	<0.50

**Bold text** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (agricultural land use, coarse-grained soil).

**Bold text / Shaded cell** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (Residential/Parkland land use, coarse-grained soil).



**TABLE E-2: Metals Concentrations in Soil**  
**Phase II Environmental Site Assessment**  
**Montague Gold Mines, Montague Rd, Dartmouth, NS**

Parameter	Units	Guidelines		MIN	MAX	2021-SS64-A	2021-SS64-B	2021-SS65-A	2021-SS66-A	2021-SS66-B	2021-SS66-C	2021-SS67-A	2021-SS68-A	2021-SS68-B	2021-SS69-A	2021-SS69-B		
		NSE Tier I EQS <sup>1</sup> Agricultural	NSE Tier I EQS <sup>2</sup> Residential/Parkland			21-Aug-2021	21-Aug-2021	17-Aug-2021	17-Aug-2021	17-Aug-2021	17-Aug-2021	17-Aug-2021	17-Aug-2021	17-Aug-2021	17-Aug-2021	17-Aug-2021	17-Aug-2021	17-Aug-2021
		Sample Date (d/m/y)	Sample Depth (m)			0 - 0.05	0.05 - 0.4	0 - 0.05	0 - 0.1	0.05-0.60	0.6 - 1.0	0 - 0.15	0 - 0.05	0.05 - 0.15	0 - 0.05	0.05 - 0.4		
Aluminum	mg/kg	15400	15400	570	34000	2700	6000	1900	<b>6600</b>	<b>9200</b>	<b>10000</b>	<b>8000</b>	<b>11000</b>	10000	6100	4900		
Antimony	mg/kg	7.5	7.5	<2	24	<2	<2	<2	<2	<2	<2	<2	2	2	<2	<2		
Arsenic	mg/kg	17	31	2	18000	<b>31</b>	<b>55</b>	<b>50</b>	<b>31</b>	<b>29</b>	<b>37</b>	<b>160</b>	<b>780</b>	<b>460</b>	<b>1100</b>	<b>2400</b>		
Barium	mg/kg	400	10000	6	1300	54	6	34	60	32	34	33	34	36	9	13		
Beryllium	mg/kg	5	38	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2		
Bismuth	mg/kg	-	-	<2	6	<2	<2	<2	<2	<2	<2	<2	5	5	5	5		
Boron	mg/kg	4300	4300	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50		
Cadmium	mg/kg	1.4	14	<0.3	3.9	<0.3	<0.3	0.3	0.4	0.3	0.3	0.4	0.6	0.7	<0.3	0.9		
Chromium	mg/kg	52	220	2	30	3	3	3	<2	9	9	8	10	9	5	4		
Cobalt	mg/kg	20	22	<1	160	1	<1	2	2	1	1	2	8	7	4	4		
Copper	mg/kg	63	1100	<2	490	17	<2	14	12	21	21	<b>96</b>	<b>450</b>	<b>450</b>	<b>250</b>	<b>490</b>		
Iron	mg/kg	11000	11000	990	110000	5900	2900	4800	3100	1900	2600	6000	<b>25000</b>	<b>20000</b>	<b>15000</b>	<b>13000</b>		
Lead	mg/kg	70	140	3.3	470	<b>130</b>	3.6	64	12	9.9	13	<b>250</b>	<b>420</b>	<b>400</b>	<b>400</b>	<b>450</b>		
Lithium	mg/kg	-	-	<2	44	<2	<2	<2	<2	<2	<2	<2	17	15	9	8		
Manganese	mg/kg	-	-	12	100000	20	15	47	130	83	81	35	200	190	170	190		
Mercury	mg/kg	6.6	6.6	<0.1	79	0.9	<0.1	1.3	0.7	0.3	0.4	<b>23</b>	<b>79</b>	<b>73</b>	<b>26</b>	<b>28</b>		
Molybdenum	mg/kg	40	110	<2	8	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2		
Nickel	mg/kg	50	330	<2	100	10	<2	12	7	8	8	9	25	26	12	9		
Rubidium	mg/kg	-	-	<2	41	3	4	3	<2	<2	2	<2	14	12	8	6		
Selenium	mg/kg	1	80	<0.5	8	<b>1.3</b>	<0.5	0.7	<b>2.6</b>	<b>6.5</b>	<b>7.9</b>	<b>8</b>	<0.5	0.9	<0.5	<0.5		
Silver	mg/kg	20	77	<0.5	34	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	1.3	1.2	1	1.2		
Strontium	mg/kg	9400	9400	<5	62	10	<5	15	24	12	11	12	10	11	<5	<5		
Thallium	mg/kg	1	1	<0.1	0.8	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	0.2	0.3		
Tin	mg/kg	5	9400	<1	150	2	<1	1	<1	<1	<1	<1	<1	<1	<1	<1		
Uranium	mg/kg	23	23	0.1	2.4	0.2	0.2	0.2	0.7	2	2.1	1.9	0.7	0.7	0.3	0.3		
Vanadium	mg/kg	39	39	4	240	24	9	25	6	5	7	10	12	9	7	4		
Zinc	mg/kg	200	5600	6	400	16	<5	29	28	12	18	36	<b>350</b>	<b>360</b>	<b>220</b>	180		
Total Cyanide	mg/kg	0.9	29	<0.05	4.9	-	-	-	<4.0	<4.0	<b>4.5</b>	<b>4.9</b>	<1.0	<1.0	-	-		

**Bold text** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (agricultural land use, coarse-grained soil).

**Bold text / Shaded cell** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (Residential/Parkland land use, coarse-grained soil).

**TABLE E-2: Metals Concentrations in Soil**  
**Phase II Environmental Site Assessment**  
**Montague Gold Mines, Montague Rd, Dartmouth, NS**

Parameter	Units	Guidelines		MIN	MAX	2021-DUP-1-	2021-DUP-1-	2021-SS70-A	2021-SS70-B	2021-SS70-C	2021-SS71 - A	2021-SS72-A	2021-SS72-B	2021-SS73-A	2021-SS73-B	2021-SS74-A
		A (Dup of SS69-A)	B (Dup of SS69-B)													
		17-Aug-2021	17-Aug-2021			17-Aug-2021	17-Aug-2021		17-Aug-2021	17-Aug-2021			17-Aug-2021		17-Aug-2021	
Sample Date (d/m/y)	NSE Tier I EQS <sup>1</sup> Agricultural	NSE Tier I EQS <sup>2</sup> Residential/Parkland	Sample Depth (m)	0 - 0.05	0.05 - 0.4	0 - 0.05	0.05-0.60	0.6 - 1.2	0 - 0.1	0 - 0.05	0.05 - 0.4	0 - 0.05	0.05 - 0.45	0 - 0.05		
Aluminum				mg/kg	15400	15400	570	34000	6200	4900	1700	3000	2500	<b>17000</b>	<b>6800</b>	<b>24000</b>
Antimony	mg/kg	7.5	7.5	<2	24	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic	mg/kg	17	31	2	18000	<b>1300</b>	<b>2400</b>	<b>21</b>	12	14	<b>400</b>	<b>54</b>	<b>130</b>	<b>84</b>	<b>64</b>	<b>30</b>
Barium	mg/kg	400	10000	6	1300	10	15	65	35	34	23	13	27	28	19	22
Beryllium	mg/kg	5	38	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Bismuth	mg/kg	-	-	<2	6	6	4	<2	<2	<2	<2	<2	<2	<2	<2	<2
Boron	mg/kg	4300	4300	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Cadmium	mg/kg	1.4	14	<0.3	3.9	<0.3	1	0.6	0.3	0.4	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium	mg/kg	52	220	2	30	5	4	<2	3	2	20	5	22	12	17	3
Cobalt	mg/kg	20	22	<1	160	5	3	<1	<1	<1	16	2	7	3	8	<1
Copper	mg/kg	63	1100	<2	490	<b>300</b>	<b>440</b>	9	10	7	36	5	14	11	25	11
Iron	mg/kg	11000	11000	990	110000	<b>16000</b>	<b>14000</b>	2400	1700	1700	<b>33000</b>	<b>7700</b>	<b>37000</b>	<b>21000</b>	<b>28000</b>	4200
Lead	mg/kg	70	140	3.3	470	<b>470</b>	<b>400</b>	44	18	12	43	15	11	16	6.4	<b>280</b>
Lithium	mg/kg	-	-	<2	44	9	8	<2	<2	<2	29	4	21	17	22	<2
Manganese	mg/kg	-	-	12	100000	200	150	46	51	51	540	49	170	110	260	24
Mercury	mg/kg	6.6	6.6	<0.1	79	<b>30</b>	<b>24</b>	0.5	0.3	0.3	1	0.3	0.1	0.3	<0.1	1.3
Molybdenum	mg/kg	40	110	<2	8	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	50	330	<2	100	12	10	7	5	5	34	4	20	12	25	9
Rubidium	mg/kg	-	-	<2	41	8	6	<2	<2	<2	14	9	18	20	19	2
Selenium	mg/kg	1	80	<0.5	8	<0.5	<0.5	<b>1.8</b>	<b>4.5</b>	<b>3.4</b>	<0.5	<0.5	<b>1.5</b>	<b>1.5</b>	0.6	1
Silver	mg/kg	20	77	<0.5	34	1.2	1.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Strontium	mg/kg	9400	9400	<5	62	<5	<5	29	21	23	7	<5	<5	<5	<5	7
Thallium	mg/kg	1	1	<0.1	0.8	0.2	0.2	<0.1	<0.1	<0.1	0.2	0.1	0.2	0.2	0.2	<0.1
Tin	mg/kg	5	9400	<1	150	<1	<1	<1	<1	<1	6	<1	<1	<1	<1	2
Uranium	mg/kg	23	23	0.1	2.4	0.3	0.3	0.2	0.9	0.7	0.9	0.3	0.8	0.4	0.5	0.2
Vanadium	mg/kg	39	39	4	240	8	4	32	10	8	25	17	37	21	17	28
Zinc	mg/kg	200	5600	6	400	<b>220</b>	180	31	21	24	67	12	50	29	56	19
Total Cyanide	mg/kg	0.9	29	<0.05	4.9	-	-	-	-	-	-	-	-	-	-	-

**Bold text** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (agricultural land use, coarse-grained soil).

**Bold text / Shaded cell** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (Residential/Parkland land use, coarse-grained soil).

**TABLE E-2: Metals Concentrations in Soil**  
**Phase II Environmental Site Assessment**  
**Montague Gold Mines, Montague Rd, Dartmouth, NS**

Parameter	Units	Guidelines		MIN	MAX	2021-SS74-B	2021-SS75-A	2021-SS75-B	2021-SS76-A	2021-SS77-A	2021-SS78-A	2021-SS78-B	2021-SS79-A	2021-SS79-B	2021-SS80-A	2021-SS80-B
		NSE Tier I EQS <sup>1</sup> Agricultural	NSE Tier I EQS <sup>2</sup> Residential/Parkland			18-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021	21-Aug-2021	21-Aug-2021	21-Aug-2021	21-Aug-2021
		Sample Date (d/m/y)	Sample Depth (m)			0.05 - 0.4	0 - 0.05	0.05 - 0.58	0 - 0.1	0 - 0.1	0 - 0.05	0.05 - 0.55	0 - 0.05	0.05 - 0.4	0 - 0.05	0.05 - 0.4
Aluminum	mg/kg	15400	15400	570	34000	1000	8800	<b>21000</b>	<b>7400</b>	<b>11000</b>	9000	<b>15000</b>	2500	3900	7900	<b>11000</b>
Antimony	mg/kg	7.5	7.5	<2	24	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic	mg/kg	17	31	2	18000	10	<b>62</b>	<b>39</b>	<b>350</b>	<b>910</b>	<b>450</b>	<b>530</b>	16	14	9	<b>25</b>
Barium	mg/kg	400	10000	6	1300	13	12	16	15	27	19	23	30	9	92	26
Beryllium	mg/kg	5	38	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Bismuth	mg/kg	-	-	<2	6	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Boron	mg/kg	4300	4300	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Cadmium	mg/kg	1.4	14	<0.3	3.9	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.3	<0.3
Chromium	mg/kg	52	220	2	30	2	10	17	8	12	10	13	4	4	3	11
Cobalt	mg/kg	20	22	<1	160	<1	2	4	1	6	5	5	1	<1	6	3
Copper	mg/kg	63	1100	<2	490	4	6	7	3	23	17	8	10	<2	10	5
Iron	mg/kg	11000	11000	990	110000	1800	<b>19000</b>	<b>23000</b>	<b>18000</b>	<b>27000</b>	<b>20000</b>	<b>28000</b>	5400	5500	4300	<b>13000</b>
Lead	mg/kg	70	140	3.3	470	17	29	12	10	46	29	9.1	94	3.9	49	25
Lithium	mg/kg	-	-	<2	44	<2	7	16	2	14	11	23	<2	3	<2	7
Manganese	mg/kg	-	-	12	100000	13	100	170	65	160	160	180	27	45	59	160
Mercury	mg/kg	6.6	6.6	<0.1	79	0.2	0.2	0.1	<0.1	0.2	0.2	0.1	0.4	<0.1	0.3	0.1
Molybdenum	mg/kg	40	110	<2	8	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	50	330	<2	100	3	7	12	4	26	14	9	12	4	13	10
Rubidium	mg/kg	-	-	<2	41	<2	6	6	5	12	14	12	3	7	4	11
Selenium	mg/kg	1	80	<0.5	8	<0.5	0.8	<b>1.7</b>	<0.5	<0.5	<0.5	0.9	0.8	<0.5	0.8	0.5
Silver	mg/kg	20	77	<0.5	34	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5
Strontium	mg/kg	9400	9400	<5	62	<5	<5	<5	<5	9	5	<5	9	<5	19	<5
Thallium	mg/kg	1	1	<0.1	0.8	<0.1	0.1	<0.1	<0.1	0.2	0.1	0.2	<0.1	<0.1	0.1	0.1
Tin	mg/kg	5	9400	<1	150	<1	<1	<1	<1	2	<1	<1	2	<1	<1	<1
Uranium	mg/kg	23	23	0.1	2.4	0.1	0.3	0.5	0.3	0.8	0.4	0.6	0.2	0.2	0.2	0.5
Vanadium	mg/kg	39	39	4	240	10	39	23	39	29	24	25	28	8	16	15
Zinc	mg/kg	200	5600	6	400	6	31	36	14	49	32	26	26	17	19	26
Total Cyanide	mg/kg	0.9	29	<0.05	4.9	-	-	-	-	-	-	-	-	-	-	-

**Bold text** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (agricultural land use, coarse-grained soil).

**Bold text / Shaded cell** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (Residential/Parkland land use, coarse-grained soil).

**TABLE E-2: Metals Concentrations in Soil**  
**Phase II Environmental Site Assessment**  
**Montague Gold Mines, Montague Rd, Dartmouth, NS**

Parameter	Units	Guidelines		MIN	MAX	2021-SS81-A	2021-SS81-B	2021-SS82-A	2021-SS82-B	2021-SS-Dup D - A (Dup of SS82-A)	2021-SS-Dup D - B (Dup of SS82-B)	2021-SS83-A	2021-SS83-B	2021-SS84-A	2021-SS84-B	2021-SS84 - A (Dup of SS84-A)
		NSE Tier I EQS <sup>1</sup> Agricultural	NSE Tier I EQS <sup>2</sup> Residential/ Parkland													
		Sample Date (d/m/y)	Sample Depth (m)													
						21-Aug-2021	21-Aug-2021	21-Aug-2021	21-Aug-2021	21-Aug-2021	21-Aug-2021	21-Aug-2021	21-Aug-2021	22-Aug-2021	22-Aug-2021	21-Aug-2021
						0 - 0.05	0.05 - 0.25	0 - 0.05	0.05 - 0.4	0 - 0.05	0.05 - 0.4	0 - 0.05	0.05 - 0.2	0 - 0.05	0.05 - 0.4	0 - 0.05
Aluminum	mg/kg	15400	15400	570	34000	<b>8800</b>	4500	2700	<b>13000</b>	2800	<b>15000</b>	<b>15000</b>	<b>13000</b>	11000	13000	10000
Antimony	mg/kg	7.5	7.5	<2	24	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic	mg/kg	17	31	2	18000	<b>1400</b>	<b>240</b>	<b>24</b>	<b>150</b>	<b>21</b>	<b>140</b>	<b>110</b>	<b>100</b>	<b>63</b>	<b>76</b>	<b>60</b>
Barium	mg/kg	400	10000	6	1300	30	13	18	10	21	12	25	21	19	16	21
Beryllium	mg/kg	5	38	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Bismuth	mg/kg	-	-	<2	6	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Boron	mg/kg	4300	4300	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Cadmium	mg/kg	1.4	14	<0.3	3.9	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium	mg/kg	52	220	2	30	10	4	4	17	4	19	16	16	8	14	8
Cobalt	mg/kg	20	22	<1	160	6	1	<1	2	<1	2	7	11	2	3	2
Copper	mg/kg	63	1100	<2	490	13	3	7	7	6	8	7	6	7	5	8
Iron	mg/kg	11000	11000	990	110000	<b>60000</b>	<b>12000</b>	5700	<b>39000</b>	5600	<b>41000</b>	<b>23000</b>	<b>23000</b>	<b>14000</b>	<b>23000</b>	<b>14000</b>
Lead	mg/kg	70	140	3.3	470	48	16	22	5.4	25	6.1	21	16	25	10	28
Lithium	mg/kg	-	-	<2	44	<2	<2	2	10	2	10	25	24	6	20	7
Manganese	mg/kg	-	-	12	100000	87	40	25	98	25	110	310	600	120	170	180
Mercury	mg/kg	6.6	6.6	<0.1	79	0.3	0.1	0.1	<0.1	0.2	<0.1	0.2	0.1	0.2	0.1	0.2
Molybdenum	mg/kg	40	110	<2	8	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	50	330	<2	100	8	2	5	8	6	9	7	8	5	10	6
Rubidium	mg/kg	-	-	<2	41	3	9	3	8	3	9	20	19	16	14	13
Selenium	mg/kg	1	80	<0.5	8	<b>2.8</b>	0.5	<0.5	1	0.6	<b>1.1</b>	<b>1.4</b>	1	1	0.8	<b>1.1</b>
Silver	mg/kg	20	77	<0.5	34	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Strontium	mg/kg	9400	9400	<5	62	7	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Thallium	mg/kg	1	1	<0.1	0.8	<0.1	0.1	<0.1	<0.1	<0.1	0.1	0.2	0.2	0.2	0.1	0.1
Tin	mg/kg	5	9400	<1	150	2	<1	<1	<1	<1	<1	<1	<1	1	<1	1
Uranium	mg/kg	23	23	0.1	2.4	0.4	0.3	0.2	0.3	0.1	0.4	0.8	0.7	0.5	0.5	0.5
Vanadium	mg/kg	39	39	4	240	82	22	21	<b>41</b>	21	<b>40</b>	34	28	39	26	38
Zinc	mg/kg	200	5600	6	400	11	<5	8	19	9	22	25	24	24	27	30
Total Cyanide	mg/kg	0.9	29	<0.05	4.9	-	-	-	-	-	-	-	-	-	-	-

**Bold text** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (agricultural land use, coarse-grained soil).

**Bold text / Shaded cell** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (Residential/Parkland land use, coarse-grained soil).

**TABLE E-2: Metals Concentrations in Soil**  
**Phase II Environmental Site Assessment**  
**Montague Gold Mines, Montague Rd, Dartmouth, NS**

Parameter	Units	Guidelines		MIN	MAX	2021-SS-Dup E - B (Dup of SS84-B)	2021-SS85-A	2021-SS85-B	2021-SS86-A	2021-SS86-B	2021-DUP-4- A (Dup of SS86-A)	2021-DUP-4- B (Dup of SS86-B)	2021-MW1 (0- 2ft)	2021-MW1 (2- 4ft)	2021-MW1 (6'10'-7'1ft)
		NSE Tier I EQS <sup>1</sup> Agricultural	NSE Tier I EQS <sup>2</sup> Residential/ Parkland			21-Aug-2021	19-Aug-2021	19-Aug-2021	19-Aug-2021	19-Aug-2021	19-Aug-2021	19-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021
		Sample Date (d/m/y)	Sample Depth (m)			0.05 - 0.4	0 - 0.05	0.5 - 0.55	0 - 0.05	0.05 - 0.65	0 - 0.05	0.05 - 0.65	0 - 0.6096	0.6096 - 1.2192	1.8288 - 2.1336
Aluminum	mg/kg	15400	15400	570	34000	<b>12000</b>	<b>23000</b>	<b>26000</b>	<b>25000</b>	<b>31000</b>	<b>28000</b>	<b>31000</b>	15000	14000	9700
Antimony	mg/kg	7.5	7.5	<2	24	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic	mg/kg	17	31	2	18000	<b>78</b>	<b>150</b>	<b>140</b>	<b>160</b>	<b>220</b>	<b>170</b>	<b>200</b>	<b>240</b>	<b>140</b>	<b>770</b>
Barium	mg/kg	400	10000	6	1300	15	17	25	17	17	16	18	21	28	22
Beryllium	mg/kg	5	38	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Bismuth	mg/kg	-	-	<2	6	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Boron	mg/kg	4300	4300	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Cadmium	mg/kg	1.4	14	<0.3	3.9	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium	mg/kg	52	220	2	30	13	22	23	24	29	25	29	19	20	17
Cobalt	mg/kg	20	22	<1	160	3	4	6	4	5	5	6	5	8	8
Copper	mg/kg	63	1100	<2	490	5	14	20	15	16	16	19	19	16	63
Iron	mg/kg	11000	11000	990	110000	<b>24000</b>	<b>35000</b>	<b>31000</b>	<b>38000</b>	<b>50000</b>	<b>40000</b>	<b>47000</b>	<b>35000</b>	<b>23000</b>	<b>21000</b>
Lead	mg/kg	70	140	3.3	470	10	15	14	14	13	13	13	19	13	15
Lithium	mg/kg	-	-	<2	44	18	25	38	24	30	27	32	18	19	16
Manganese	mg/kg	-	-	12	100000	180	170	230	250	260	250	260	260	340	660
Mercury	mg/kg	6.6	6.6	<0.1	79	<0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.2	<0.1	<0.1
Molybdenum	mg/kg	40	110	<2	8	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	50	330	<2	100	9	14	21	13	17	13	19	15	35	20
Rubidium	mg/kg	-	-	<2	41	13	9	13	11	12	11	13	18	14	11
Selenium	mg/kg	1	80	<0.5	8	0.8	1	<b>1.2</b>	<b>2.2</b>	<b>2.3</b>	<b>2.4</b>	<b>2.2</b>	0.8	<0.5	<0.5
Silver	mg/kg	20	77	<0.5	34	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1	<0.5	5.1
Strontium	mg/kg	9400	9400	<5	62	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Thallium	mg/kg	1	1	<0.1	0.8	0.1	<0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Tin	mg/kg	5	9400	<1	150	<1	<1	<1	<1	<1	<1	<1	1	<1	<1
Uranium	mg/kg	23	23	0.1	2.4	0.5	0.4	0.6	0.6	0.8	0.7	0.8	0.4	0.5	0.5
Vanadium	mg/kg	39	39	4	240	26	37	26	36	36	36	34	30	<b>40</b>	12
Zinc	mg/kg	200	5600	6	400	27	43	64	38	45	42	49	49	51	36
Total Cyanide	mg/kg	0.9	29	<0.05	4.9	-	-	-	-	-	-	-	-	-	-

**Bold text** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (agricultural land use, coarse-grained soil).

**Bold text / Shaded cell** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (Residential/Parkland land use, coarse-grained soil).

**TABLE E-2: Metals Concentrations in Soil**  
**Phase II Environmental Site Assessment**  
**Montague Gold Mines, Montague Rd, Dartmouth, NS**

Parameter	Units	Guidelines		MIN	MAX	2021-MW2 (0-2ft)	2021-MW2 (2-4ft)	2021-MW2 (9'6-11'6ft)	2021-MW3 (0-2ft)	2021-MW3 (5-6'1ft)	2021-MW4 (0-2ft)	2021-MW4 (2-4ft)	2021-MW4 (5-7ft)	2021-MW4 (7'5-8ft)	2021-MW5 (0-2ft)
		NSE Tier I EQS <sup>1</sup> Agricultural	NSE Tier I EQS <sup>2</sup> Residential/Parkland			18-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021
		Sample Date (d/m/y)	Sample Depth (m)			0 - 0.6096	0.6096 - 1.2192	2.7432 - 3.3528	0 - 0.6096	1.524 - 1.8288	0 - 0.6096	0.6096 - 1.2192	1.524 - 2.1336	2.1336 - 2.4384	0 - 0.6096
Aluminum	mg/kg	15400	15400	570	34000	8600	<b>16000</b>	<b>17000</b>	<b>17000</b>	13000	8600	9600	8000	12000	11000
Antimony	mg/kg	7.5	7.5	<2	24	<2	<2	<2	<2	<2	5	<2	<2	<2	<b>14</b>
Arsenic	mg/kg	17	31	2	18000	<b>75</b>	<b>150</b>	<b>140</b>	<b>110</b>	<b>81</b>	<b>410</b>	<b>300</b>	<b>130</b>	<b>130</b>	<b>7700</b>
Barium	mg/kg	400	10000	6	1300	45	32	39	11	19	32	33	18	41	26
Beryllium	mg/kg	5	38	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Bismuth	mg/kg	-	-	<2	6	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Boron	mg/kg	4300	4300	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Cadmium	mg/kg	1.4	14	<0.3	3.9	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium	mg/kg	52	220	2	30	13	18	21	19	17	16	17	13	16	11
Cobalt	mg/kg	20	22	<1	160	4	11	<b>24</b>	3	14	10	10	6	9	3
Copper	mg/kg	63	1100	<2	490	7	21	43	9	42	16	14	<b>97</b>	<b>88</b>	20
Iron	mg/kg	11000	11000	990	110000	<b>16000</b>	<b>25000</b>	<b>31000</b>	<b>23000</b>	<b>28000</b>	<b>33000</b>	<b>24000</b>	<b>19000</b>	<b>24000</b>	<b>29000</b>
Lead	mg/kg	70	140	3.3	470	7.2	11	6.4	13	14	17	<b>260</b>	9.5	7.6	61
Lithium	mg/kg	-	-	<2	44	10	25	31	12	22	10	12	12	17	14
Manganese	mg/kg	-	-	12	100000	270	440	750	140	540	500	520	320	490	180
Mercury	mg/kg	6.6	6.6	<0.1	79	0.1	<0.1	<0.1	0.5	<0.1	<0.1	0.1	<0.1	<0.1	<b>34</b>
Molybdenum	mg/kg	40	110	<2	8	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nickel	mg/kg	50	330	<2	100	10	26	36	9	31	24	21	16	24	10
Rubidium	mg/kg	-	-	<2	41	10	25	37	4	14	27	31	9	21	12
Selenium	mg/kg	1	80	<0.5	8	<0.5	<0.5	<0.5	<b>1.4</b>	<b>&lt;0.5</b>	<0.5	<0.5	<0.5	<0.5	1
Silver	mg/kg	20	77	<0.5	34	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<b>34</b>	<b>22</b>	<0.5
Strontium	mg/kg	9400	9400	<5	62	28	9	9	<5	7	14	10	10	9	5
Thallium	mg/kg	1	1	<0.1	0.8	0.1	0.2	0.3	<0.1	0.1	0.2	0.2	<0.1	0.2	0.1
Tin	mg/kg	5	9400	<1	150	<1	<1	<1	<1	<1	<b>68</b>	<b>150</b>	<1	<1	1
Uranium	mg/kg	23	23	0.1	2.4	0.4	0.6	0.8	0.4	0.6	0.5	0.4	0.4	0.5	0.4
Vanadium	mg/kg	39	39	4	240	17	18	18	21	14	16	17	13	15	14
Zinc	mg/kg	200	5600	6	400	47	66	59	21	55	43	44	29	41	42
Total Cyanide	mg/kg	0.9	29	<0.05	4.9	-	-	-	-	-	-	-	-	-	-

**Bold text** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (agricultural land use, coarse-grained soil).

**Bold text / Shaded cell** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (Residential/Parkland land use, coarse-grained soil).

**TABLE E-2: Metals Concentrations in Soil**  
**Phase II Environmental Site Assessment**  
**Montague Gold Mines, Montague Rd, Dartmouth, NS**

Parameter	Units	Guidelines		MIN	MAX				
		NSE Tier I EQS <sup>1</sup> Agricultural	NSE Tier I EQS <sup>2</sup> Residential/ Parkland			2021-MW5 (2-4ft)	2021-MW6 (0-2ft)	2021-MW6 (2-4ft)	2021-MW6 (15-16ft)
						18-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021
Sample Date (d/m/y)	Sample Depth (m)								
Aluminum	mg/kg	15400	15400	570	34000	13000	<b>11000</b>	<b>13000</b>	11000
Antimony	mg/kg	7.5	7.5	<2	24	7	6	5	6
Arsenic	mg/kg	17	31	2	18000	<b>3600</b>	<b>3600</b>	<b>2900</b>	<b>3000</b>
Barium	mg/kg	400	10000	6	1300	23	28	31	27
Beryllium	mg/kg	5	38	<2	<2	<2	<2	<2	<2
Bismuth	mg/kg	-	-	<2	6	<2	<2	<2	<2
Boron	mg/kg	4300	4300	<50	<50	<50	<50	<50	<50
Cadmium	mg/kg	1.4	14	<0.3	3.9	<0.3	<0.3	<0.3	<0.3
Chromium	mg/kg	52	220	2	30	17	12	15	18
Cobalt	mg/kg	20	22	<1	160	6	10	12	11
Copper	mg/kg	63	1100	<2	490	21	26	81	20
Iron	mg/kg	11000	11000	990	110000	<b>31000</b>	<b>31000</b>	<b>30000</b>	<b>28000</b>
Lead	mg/kg	70	140	3.3	470	32	20	20	18
Lithium	mg/kg	-	-	<2	44	23	20	25	21
Manganese	mg/kg	-	-	12	100000	290	380	300	350
Mercury	mg/kg	6.6	6.6	<0.1	79	<b>14</b>	0.9	4.1	<0.1
Molybdenum	mg/kg	40	110	<2	8	<2	<2	<2	<2
Nickel	mg/kg	50	330	<2	100	17	19	34	27
Rubidium	mg/kg	-	-	<2	41	12	33	31	19
Selenium	mg/kg	1	80	<0.5	8	0.6	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>
Silver	mg/kg	20	77	<0.5	34	<0.5	<0.5	<0.5	<0.5
Strontium	mg/kg	9400	9400	<5	62	<5	10	10	11
Thallium	mg/kg	1	1	<0.1	0.8	0.1	0.3	0.3	0.1
Tin	mg/kg	5	9400	<1	150	2	<1	<1	<1
Uranium	mg/kg	23	23	0.1	2.4	0.4	0.3	0.6	1
Vanadium	mg/kg	39	39	4	240	16	14	15	15
Zinc	mg/kg	200	5600	6	400	39	67	110	52
Total Cyanide	mg/kg	0.9	29	<0.05	4.9	-	-	-	-

**Bold text** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (agricultural land use, coarse-grained soil).

**Bold text / Shaded cell** = denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (Residential/Parkland land use, coarse-grained soil).

**TABLE E-3: Petroleum Hydrocarbon Concentrations in Soil  
Phase II Environmental Site Assessment  
Montague Gold Mines, Montague Rd, Dartmouth, NS**

Parameter	Units	Guidelines		Sample ID										
		NSE Tier I EQS <sup>1</sup> Agricultural	NSE Tier I EQS <sup>2</sup> Residential/Parkland	2021-SS25-A	2021-SS25-B	2021-SS26-A	2021-SS26-B	2021-SS27-A	2021-SS27-B	2021-SS63-A	2021-SS63-B	2021-SS63-C	2021-SS75-A	2021-SS75-B
		Sample Date	Sample Depth (mbgs)	17-Aug-2021	17-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021	21-Aug-2021	21-Aug-2021	21-Aug-2021	18-Aug-2021	18-Aug-2021
Benzene	mg/kg	0.042	0.042	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.050	<0.025
Toluene	mg/kg	0.35	0.35	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.050
Ethylbenzene	mg/kg	0.065	0.065	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.050	<0.025
Xylene (Total)	mg/kg	8.8	8.8	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.067	<0.050	<0.050	<0.10	<0.050
C6-C10 (less BTEX)	mg/kg	--	--	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	8.9	<2.5	<2.5	<5.0	<2.5
>C10-C16 Hydrocarbons	mg/kg	--	--	<10	<10	<10	<10	<10	<10	25	<10	<10	13	<10
>C16-C21 Hydrocarbons	mg/kg	--	--	<10	<10	<10	<10	<10	<10	160	<10	<10	25	<10
>C21-C32 Hydrocarbons	mg/kg	--	--	<20	<20	24	<20	21	<20	320	40	61	180	59
Modified TPH (Tier 1)	mg/kg	74(Gas) 150 (Fuel) 300 (Lube)	74 (Gas) 270 (Fuel) 1100 (Lube)	<20	<20	24	<20	21	<20	<b>510</b>	40	61	220	59
Resemblance Comment	NA	--	--	NA	NA	LR, UC	NA	LR, UC	NA	LOF, I	LOF, UC	LR, UC	LR, UC, FR	LR
Return to Baseline at C32	NA	--	--	NA	NA	Y	NA	Y	NA	N	Y	Y	N	Y

Notes:

1. NSE Tier I Environmental Quality Standards (EQS) for Soil at a Potable Site (agricultural land use, coarse-grained soil), July 2013. Accessed Online August 2021.
2. NSE Tier I Environmental Quality Standards (EQS) for Soil at a Potable Site (Residential/Parkland land use, coarse-grained soil), July 2013. Accessed Online August 2021.

"--" = no guideline exists

RDL = Reportable Detection Limit

NA = Not Applicable

<Value denotes concentration less than the laboratory RDL.

**Bold text / Shaded cell** denotes exceedance of NSE Tier I EQS for Soil at a Potable Site (agricultural/residential land use, coarse-grained soil).

Resemblance Comment Key:

- GF - Gasoline Fraction
- WGF - Weathered Gasoline Fraction
- GR - Product in Gasoline Range
- FOF - Fuel Oil Fraction
- WFOF - Weathered Fuel Oil Fraction
- FR - Product in Fuel Oil Range
- LOF - Lube Oil Fraction
- LR - Lube Range
- UC - Unidentified Compounds
- NR - No Resemblance
- NA - Not Applicable
- I - Possible interference from PAH's



**TABLE E-4: Dissolved Metals Concentrations in Groundwater  
Phase II Environmental Site Assessment  
Montague Gold Mines, Montague Rd, Dartmouth, NS**

Parameter	Units	RDL	Guidelines	Sample ID						
			NSE Tier I EQS <sup>1</sup> Agricultural/ residential	2021-MW1	2021-MW2	2021-MW3	2021-MW4	2021-MW-DUP1 (Dup of 2021- MW4)	2021-MW5	2021-MW6
				25-Aug-2021	25-Aug-2021	25-Aug-2021	25-Aug-2021	25-Aug-2021	25-Aug-2021	25-Aug-2021
Sample Date (d/m/y)										
Dissolved Aluminum	µg/L	4	--	8.3	19.2	8.2	49.1	48.1	5.6	<5.0
Dissolved Antimony	µg/L	1	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Arsenic	µg/L	1	10	4.1	1.9	<b>88.7</b>	5.6	5.7	<b>34</b>	<b>90</b>
Dissolved Barium	µg/L	2	1000	13.1	14.3	8.6	10.3	10.3	13	13
Dissolved Beryllium	µg/L	0.5	4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Bismuth	µg/L	2	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Boron	µg/L	10	5000	<50	<50	<50	<50	<50	<50	<50
Dissolved Cadmium	µg/L	0.1	5	0.035	0.058	0.035	0.19	0.173	0.015	0.017
Dissolved Calcium	µg/L	250	--	4570	13000	15400	13300	13400	30000	39000
Dissolved Chromium	µg/L	2	50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Cobalt	µg/L	0.5	10	5.29	7.28	1.68	1.93	2.09	<0.40	1.3
Dissolved Copper	µg/L	1	--	1.43	3.89	0.72	3.61	3.82	0.98	0.71
Dissolved Iron	µg/L	10	--	272	513	<50	197	197	<50	<50
Dissolved Lead	µg/L	0.5	10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Magnesium	µg/L	250	--	2210	4870	2360	2840	2860	9300	13000
Dissolved Manganese	µg/L	2	--	185	569	227	376	379	58	1200
Dissolved Mercury	µg/L	0.013	1	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013
Total Mercury	µg/L	0.013	-	<0.013	<0.013	<0.013	<0.013	<0.013	0.05	<0.013
Dissolved Molybdenum	µg/L	2	70	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Nickel	µg/L	3	100	2.7	3.4	<2.0	8	8.2	<2.0	3
Dissolved Phosphorus	µg/L	3	--	<100	<100	<100	<100	<100	<100	<100
Dissolved Potassium	µg/L	250	--	1720	1350	1910	3050	3060	3300	2300
Dissolved Selenium	µg/L	1	10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Silver	µg/L	0.1	100	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Sodium	µg/L	250	--	3270	8480	88400	33300	33100	23000	19000
Dissolved Strontium	µg/L	5	4400	15.1	47.3	46	46.9	48.4	67	140
Dissolved Thallium	µg/L	0.5	2	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Tin	µg/L	2	4400	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Titanium	µg/L	2	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Uranium	µg/L	0.5	20	<0.10	0.2	<0.10	0.1	0.11	0.55	0.36
Dissolved Vanadium	µg/L	2	6.2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Zinc	µg/L	5	5000	<5.0	6.6	7.3	<5.0	<5.0	<5.0	<5.0

**Notes:**

1. NSE Tier I Environmental Quality Standards (EQS) for Groundwater (potable groundwater, coarse-grained soil, commercial/industrial land use), July 2013. Accessed Online February 2021.

"--" = no guideline exists

RDL = Reportable Detection Limit

<Value denotes concentration less than the laboratory RDL.

**Bold text / Shaded cell** denotes exceedance of NSE Tier I EQS for Potable Groundwater (commercial/industrial land use, coarse-grained soil).

**TABLE E-5: Petroleum Hydrocarbon Concentrations in Groundwater  
Phase II Environmental Site Assessment  
Montague Gold Mines, Montague Rd, Dartmouth, NS**

Parameter	Units	RDL	Guidelines	Sample ID						
			NSE Tier I EQS <sup>1</sup> Agricultural/ Residential	2021-MW1	2021-MW2	2021-MW3	2021-MW4	2021-MW- DUP1 (Dup of 2021-MW4)	2021-MW5	2021-MW6
				25-Aug-2021	25-Aug-2021	25-Aug-2021	25-Aug-2021	25-Aug-2021	25-Aug-2021	25-Aug-2021
Sample Date										
Benzene	mg/L	0.001	0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	0.001	0.024	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Ethylbenzene	mg/L	0.001	0.0024	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Xylene (Total)	mg/L	0.002	0.3	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
C6-C10 (less BTEX)	mg/L	0.09	--	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
>C10-C16 Hydrocarbons	mg/L	0.05	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
>C16-C21 Hydrocarbons	mg/L	0.05	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
>C21-C32 Hydrocarbons	mg/L	0.09	--	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09
Modified TPH (Tier 1)	mg/L	0.09	4.4 (Gas) 3.2 (Fuel) 7.8 (Lube)	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09
Resemblance Comment	NA	NA	--	NA	NA	NA	NA	NA	NA	NA
Return to Baseline at C32	NA	NA	--	NA	NA	NA	NA	NA	NA	NA

Notes:

1. NSE Tier I Environmental Quality Standards (EQS) for Groundwater (potable groundwater, coarse-grained soil, Agricultural/Residential land use), July 2013. Accessed Online August 2021.

--" = no guideline exists

RDL = Reportable Detection Limit

NA = Not Applicable

<Value denotes concentration less than the laboratory RDL.

**Bold text / Shaded cell** denotes exceedance of NSE Tier I EQS for Potable Groundwater (agricultural/ residential land use, coarse-grained soil).

Resemblance Comment Key:

GF - Gasoline Fraction

WGF - Weathered Gasoline Fraction

GR - Product in Gasoline Range

FOF - Fuel Oil Fraction

WFOF - Weathered Fuel Oil Fraction

FR - Product in Fuel Oil Range

LOF - Lube Oil Fraction

LR - Lube Range

UC - Unidentified Compounds

NR - No Resemblance

NA - Not Applicable

**TABLE E-64: Standard Water Analysis (General Chemistry) in Groundwater  
Phase II Environmental Site Assessment  
Montague Gold Mines, Montague Rd, Dartmouth, NS**

Parameter	Units	RDL	Guidelines	Sample ID						
			NSE Tier I EQS <sup>1</sup> Agricultural / Residential	2021-MW1	2021-MW2	2021-MW3	2021-MW4	2021-MWDUP-1 (Dup of 2021- MW4)	2021-MW5	2021-MW6
				25-Aug-2021	25-Aug-2021	25-Aug-2021	25-Aug-2021	25-Aug-2021	25-Aug-2021	25-Aug-2021
Sample Date (d/m/y)										
pH	NA	NA	--	6.64	6.73	6.95	7.06	6.97	7.5	7.15
Reactive Silica as SiO2	mg/L	0.5	--	8.2	5.5	4.9	11.9	5.5	9.3	5.7
Chloride	mg/L	1	250	5	25	130	42	42	33	29
Fluoride	mg/L	0.12	--	0.13	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
Sulphate	mg/L	2	--	5	11	20	10	9	15	45
Alkalinity (Total as CaCO3)	mg/L	5	--	24	32	56	67	66	100	110
True Color	TCU	5	--	<5	11	<5	13	12	<5	<5
Turbidity	NTU	0.5	--	14	14	200	5.6	3.3	18	0.6
Electrical Conductivity	umho/cm	1	--	71	180	620	270	270	330	380
Nitrate + Nitrite as N	mg/L	0.05	--	<0.05	0.72	0.06	0.05	0.06	0.45	<0.05
Nitrate as N	mg/L	0.05	--	<0.05	0.72	0.06	0.05	0.06	0.45	<0.05
Nitrite as N	mg/L	0.05	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
Ammonia as N	mg/L	0.03	--	<0.05	0.06	0.07	<0.05	<0.05	<0.05	<0.05
Total Organic Carbon	mg/L	0.5	--	0.62	0.88	1.6	2.8	2.7	2.4	2.2
Ortho-Phosphate as P	mg/L	0.01	--	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.03
Bicarb. Alkalinity (as CaCO3)	mg/L	5	--	24	32	56	67	66	99	110
Carb. Alkalinity (as CaCO3)	mg/L	10	--	<1	<1	<1	<1	<1	<1	<1
Calculated TDS	mg/L	1	--	45	93	301	152	151	182	224
Hardness	mg/L	NA	--	21	53	48	45	45	110	150
Langelier Index (@20C)	NA	NA	--	-2.62	-1.99	-1.53	-1.36	-1.45	-0.417	-0.62
Langelier Index (@ 4C)	NA	NA	--	-2.87	-2.24	-1.78	-1.61	-1.7	-0.668	-0.87
Saturation pH (@ 20C)	NA	NA	--	9.26	8.72	8.48	8.42	8.42	7.91	7.77
Saturation pH (@ 4C)	NA	NA	--	9.51	8.97	8.73	8.67	8.67	8.16	8.02
Anion Sum	me/L	NA	--	0.72	1.63	5.3	2.72	2.69	3.28	3.93
Cation sum	me/L	NA	--	0.61	1.48	4.86	2.43	2.43	3.33	3.91
Total Cyanide	mg/L	0.005	200	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
% Difference/ Ion Balance	%	NA	--	8.27	4.82	4.33	5.63	5.08	0.76	0.26

**Notes:**

1. NSE Tier I Environmental Quality Standards (EQS) for Groundwater (potable groundwater, coarse-grained soil, agricultural/residential land use), July 2013. Accessed Online August 2021.

--" = no guideline exists

RDL = Reportable Detection Limit

NA = Not Applicable

<Value denotes concentration less than the laboratory RDL.

**Bold text / Shaded cell** denotes exceedance of NSE Tier I EQS for Potable Groundwater agricultural/ residential land use, coarse-grained soil).

**TABLE E-7: Total Metals Concentrations in Surface Water**  
**Phase II Environmental Site Assessment**  
**Montague Gold Mines, Montague Rd, Dartmouth, NS**

Parameter	Units	RDL	Guidelines	Sample ID		
			NSE Tier I EQS <sup>1</sup>	2021-SW66 17-Aug-2021	2021-SW67 17-Aug-2021	2021-SW68 17-Aug-2021
Sample Date (d/m/y)						
Total Aluminum (Al)	µg/L	5	5	<b>178</b>	<b>361</b>	<b>137</b>
Total Antimony (Sb)	µg/L	1	20	<1.0	<1.0	1.2
Total Arsenic (As)	µg/L	10	5	<b>647</b>	<b>3350</b>	<b>4520</b>
Total Barium (Ba)	µg/L	1	1000	21.3	18.6	6.6
Total Beryllium (Be)	µg/L	1	5.3	<1.0	<1.0	<1.0
Total Bismuth (Bi)	µg/L	2	--	<2.0	<2.0	<2.0
Total Boron (B)	µg/L	50	1200	<50	<50	<50
Total Cadmium (Cd)	µg/L	0.01	0.01	<0.010	<b>0.045</b>	<b>0.039</b>
Total Calcium (Ca)	µg/L	100	--	1750	2450	2800
Total Chromium (Cr)	µg/L	1	--	<1.0	<1.0	<1.0
Total Cobalt (Co)	µg/L	0.4	10	0.71	<b>10.7</b>	1.78
Total Copper (Cu)	µg/L	0.5	2	<b>2.23</b>	<b>3.23</b>	<b>15.8</b>
Total Iron (Fe)	µg/L	50	300	<b>4100</b>	<b>8940</b>	<b>7280</b>
Total Lead (Pb)	µg/L	0.5	1	<b>2.55</b>	<b>4.26</b>	<b>46.6</b>
Total Magnesium (Mg)	µg/L	100	--	811	1560	1410
Total Manganese (Mn)	µg/L	2	820	57.8	<b>1280</b>	243
Dissolved Mercury	µg/L	0.013	--	0.023	0.028	0.05
Total Mercury	µg/L	0.013	0.026	<b>0.048</b>	<b>0.09</b>	<b>0.69</b>
Total Molybdenum (Mo)	µg/L	2	73	<2.0	<2.0	<2.0
Total Nickel (Ni)	µg/L	2	25	2.2	3.1	<2.0
Total Phosphorus (P)	µg/L	100	--	121	109	<100
Total Potassium (K)	µg/L	100	--	381	426	1050
Total Selenium (Se)	µg/L	0.5	1	<0.50	<0.50	<0.50
Total Silver (Ag)	µg/L	0.1	0.1	<0.10	<0.10	<0.10
Total Sodium (Na)	µg/L	100	--	10800	12800	17600
Total Strontium (Sr)	µg/L	2	21000	11.8	11	13.2
Total Thallium (Tl)	µg/L	0.1	0.8	<0.10	<0.10	<0.10
Total Tin (Sn)	µg/L	2	300	<2.0	<2.0	<2.0
Total Titanium (Ti)	µg/L	2	--	3.2	3.2	<2.0
Total Uranium (U)	µg/L	0.1	300	<0.10	<0.10	<0.10
Total Vanadium (V)	µg/L	2	6	<2.0	2.1	3.5
Total Zinc (Zn)	µg/L	5	30	11.8	<b>35.1</b>	8.8

Notes:

1. NSE Tier I Environmental Quality Standards (EQS) for Surface water (Fresh water), July 2013. Accessed Online September 2021.

"--" = no guideline exists

RDL = Reportable Detection Limit

<Value denotes concentration less than the laboratory RDL.

**Bold text / Shaded cell** denotes exceedance of NSE Tier I EQS

**TABLE E-8: Standard Water Analysis (General Chemistry) in Surface Water  
Phase II Environmental Site Assessment  
Montague Gold Mines, Montague Rd, Dartmouth, NS**

Parameter	Units	RDL	Guidelines	Sample ID		
			NSE Tier I EQS <sup>1</sup> Agricultural /	2021-SW66 17-Aug-2021	2021-SW67 17-Aug-2021	2021-SW68 17-Aug-2021
Sample Date (d/m/y)						
pH	NA	NA	--	5.76	6.5	6.55
Reactive Silica as SiO2	mg/L	0.5	--	1.2	2.7	2.8
Chloride	mg/L	1	--	22	23	30
Fluoride	mg/L	0.12	--	--	--	--
Sulphate	mg/L	2	--	<2	<2	3
Alkalinity (Total as CaCO3)	mg/L	5	--	6	<1	12
True Color	TCU	5	--	6	73	42
Turbidity	NTU	0.5	--	34	20	25
Electrical Conductivity	umho/cm	1	--	75	91	120
Nitrate + Nitrite as N	mg/L	0.05	--	<0.05	<0.05	<0.05
Nitrate as N	mg/L	0.05	--	<0.05	<0.05	<0.05
Nitrite as N	mg/L	0.05	--	<0.01	<0.01	<0.01
Ammonia as N	mg/L	0.03	--	<0.05	<0.05	<0.05
Total Organic Carbon	mg/L	0.5	--	22	16	9.6
Ortho-Phosphate as P	mg/L	0.01	--	0.04	0.17	<0.5
Bicarb. Alkalinity (as CaCO3)	mg/L	5	--	6	11	12
Carb. Alkalinity (as CaCO3)	mg/L	10	--	<1	<1	<1
Calculated TDS	mg/L	1	--	44	60	73
Hardness	mg/L	NA	--	8	13	13
Langelier Index (@20C)	NA	NA	--	-4.52	-3.4	-3.24
Langelier Index (@ 4C)	NA	NA	--	-4.78	-3.65	-3.49
Saturation pH (@ 20C)	NA	NA	--	10.3	9.9	9.79
Saturation pH (@ 4C)	NA	NA	--	10.5	10.2	10
Anion Sum	me/L	NA	--	0.73	0.87	1.15
Cation sum	me/L	NA	--	0.78	1.14	1.31
Total Cyanide	mg/L	0.005	5	<0.0050	<0.0050	<0.0050
% Difference/ Ion Balance	%	NA	--	3.31	13.4	4.33

**Notes:**

1. NSE Tier I Environmental Quality Standards (EQS) for Surface water (Fresh water), July 2013. Accessed Online September 2021.

2. Elevated reporting due to sample matrix

"--" = no guideline exists

RDL = Reportable Detection Limit

NA = Not Applicable

<Value denotes concentration less than the laboratory RDL.

**Bold text / Shaded cell** denotes exceedance of NSE Tier I EQS for Potable Groundwater (agricultural/ residential land use, coarse-grained soil).

TABLE E-9: RPD Calculations for Metals in Soil

Parameter	RDL (mg/kg)	2021-SS09-A	2021-SS-Dup C - A	RPD	2021-SS09-B	2021-SS-Dup C - B	RPD	2021-SS16-A	2021-SS-Dup B - A	RPD	2021-SS16-B	2021-SS-Dup B - B	RPD	2021-SS29-A	2021-Dup A - A	RPD	2021-SS29-B	2021-Dup A - B	RPD	2021-SS36-A	2021-DUP-2- A	RPD							
		19-Aug-2021	19-Aug-2021		19-Aug-2021	19-Aug-2021		19-Aug-2021	19-Aug-2021		19-Aug-2021	19-Aug-2021		19-Aug-2021	19-Aug-2021		19-Aug-2021	19-Aug-2021		19-Aug-2021	19-Aug-2021		19-Aug-2021	19-Aug-2021	19-Aug-2021	19-Aug-2021	19-Aug-2021	19-Aug-2021	19-Aug-2021
		mg/kg	mg/kg		mg/kg	mg/kg		mg/kg	mg/kg		mg/kg	mg/kg		mg/kg	mg/kg		mg/kg	mg/kg		mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	100	13000	13000	0%	12000	13000	8%	7000	6200	12%	16000	14000	13%	3100	4000	25%	15000	13000	14%	3600	3400	6%							
Antimony	0.8	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC							
Arsenic	1	220	210	5%	54	75	33%	43	37	15%	37	34	8%	59	65	10%	250	180	33%	31	49	45%							
Barium	2	23	22	4%	16	19	17%	12	10	18%	17	15	13%	24	42	55%	23	22	4%	35	25	33%							
Beryllium	0.4	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC							
Boron	5	<50	<50	NC	<50	<50	NC	<50	<50	NC	<50	<50	NC	<50	<50	NC	<50	<50	NC	<50	<50	NC							
Bismuth	100	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC							
Cadmium	0.5	<0.3	<0.3	NC	<0.3	<0.3	NC	<0.3	<0.3	NC	<0.3	<0.3	NC	<0.3	<0.3	NC	<0.3	<0.3	NC	<0.3	<0.3	NC							
Chromium	5	14	14	NC	12	13	NC	10	8	NC	17	16	NC	4	6	NC	15	13	NC	3	3	NC							
Cobalt	0.5	5	5	0%	3	4	29%	1	1	NC	3	3	0%	1	1	NC	5	4	22%	2	2	NC							
Copper	1	23	21	9%	7	8	13%	4	3	NC	<2	<2	NC	7	10	35%	11	10	10%	9	6	40%							
Iron	500	23000	23000	0%	18000	19000	5%	16000	15000	6%	25000	24000	4%	5700	6900	19%	25000	20000	22%	4700	4300	9%							
Lead	1	39	37	5%	11	12	9%	9.1	8	13%	6.7	6.1	9%	21	34	47%	12	11	9%	43	32	29%							
Lithium	0.5	16	16	0%	11	12	9%	4	3	29%	13	12	8%	3	4	29%	24	21	13%	<2	<2	NC							
Manganese	5	230	220	4%	150	180	18%	77	67	14%	160	150	6%	60	91	41%	210	160	27%	160	130	21%							
Mercury	0.1	0	0	NC	0.1	0.1	0%	0	<0.1	NC	0.1	<0.1	NC	0	0	40%	<0.1	<0.1	NC	<2	<2	NC							
Molybdenum	0.5	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC							
Nickel	1	15	15	0%	9	10	11%	7	6	15%	13	13	0%	6	9	40%	18	14	25%	8	6	29%							
Rubidium	1	10	11	10%	8	10	22%	10	9	11%	17	15	13%	5	7	33%	22	19	15%	5	6	18%							
Selenium	0.8	0.6	0.7	NC	0.6	0.7	NC	<0.5	<0.5	NC	0.5	<0.5	NC	<0.5	0.6	NC	<0.5	<0.5	NC	0.6	<0.5	NC							
Silver	0.5	<0.5	<0.5	NC	<0.5	<0.5	NC	<0.5	<0.5	NC	<0.5	<0.5	NC	<0.5	<0.5	NC	<0.5	<0.5	NC	<0.5	<0.5	NC							
Strontium	5	5	6	NC	<5	<5	NC	<5	<5	NC	<5	<5	NC	5	10	NC	<5	<5	NC	11	7	NC							
Thallium	0.5	0.1	0.1	NC	<0.1	0.1	NC	0.1	<0.1	NC	0.2	0.2	NC	<0.1	<0.1	NC	0.2	0.2	NC	0.1	<0.1	NC							
Tin	1	<1	1	NC	<1	<1	NC	<1	<1	NC	<1	<1	NC	1	1	NC	<1	1	NC	<1	<1	NC							
Uranium	0.5	0.4	0.4	NC	0.4	0.4	NC	0.4	0.3	NC	0.6	0.5	NC	0.2	0.2	NC	0.5	0.4	NC	0.2	0.2	NC							
Vanadium	0.4	25	24	4%	19	21	10%	26	23	12%	23	22	4%	17	25	38%	18	15	18%	10	12	18%							
Zinc	5	50	51	2%	25	29	15%	20	16	NC	39	35	11%	18	30	NC	45	37	20%	18	10	NC							

NOTES:

RPD = the difference in two results, divided by the mean of the two results, multiplied by 100.

NC = Not Calculated. RPDs can only be calculated when both results are at least five times the RDL.

An RPD of 60 % is considered acceptable for groundwater, and an

RPD of 100% is considered acceptable for soil.

**Bold** = RPD value is outside of acceptable range.

**TABLE E-9: RPD Calculations for Metals in Soil**

Parameter	RDL (mg/kg)	2021-SS36-B	2021-DUP-2-B	RPD	2021-SS49-A	2021-DUP-3-A	RPD	2021-SS49-B	2021-DUP-3-B	RPD	2021-SS69-A	2021-DUP-1-A	RPD	2021-SS69-B	2021-DUP-1-B	RPD	2021-SS82-A	2021-SS-Dup D - A	RPD
		18-Aug-2021	18-Aug-2021		19-Aug-2021	19-Aug-2021		19-Aug-2021	19-Aug-2021		17-Aug-2021	17-Aug-2021		17-Aug-2021	17-Aug-2021		21-Aug-2021	21-Aug-2021	
		mg/kg	mg/kg		mg/kg	mg/kg		mg/kg	mg/kg		mg/kg	mg/kg		mg/kg	mg/kg		mg/kg	mg/kg	
Aluminum	100	3800	5600	38%	13000	14000	7%	23000	23000	0%	6100	6200	2%	4900	4900	0%	2700	2800	4%
Antimony	0.8	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC
Arsenic	1	5	6	18%	73	59	21%	65	63	3%	1100	1300	17%	2400	2400	0%	24	21	13%
Barium	2	13	15	14%	13	12	8%	27	28	4%	9	10	NC	13	15	14%	18	21	15%
Beryllium	0.4	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC
Boron	5	<50	<50	NC	<50	<50	NC	<50	<50	NC	5	6	NC	5	4	NC	<2	<2	NC
Bismuth	100	<2	<2	NC	<2	<2	NC	<2	<2	NC	<50	<50	NC	<50	<50	NC	<50	<50	NC
Cadmium	0.5	<0.3	<0.3	NC	<0.3	<0.3	NC	<0.3	<0.3	NC	<0.3	<0.3	NC	0.9	1	NC	<0.3	<0.3	NC
Chromium	5	4	7	NC	15	16	NC	22	22	NC	5	5	NC	4	4	NC	4	4	NC
Cobalt	0.5	1	2	NC	1	1	NC	8	9	12%	4	5	22%	4	3	29%	<1	<1	NC
Copper	1	<2	2	NC	6	5	18%	35	33	6%	250	300	18%	490	440	11%	7	6	15%
Iron	500	3300	7300	75%	32000	32000	0%	29000	29000	0%	15000	16000	6%	13000	14000	7%	5700	5600	2%
Lead	1	5.6	7.6	30%	13	11	17%	19	20	5%	400	470	16%	450	400	12%	22	25	13%
Lithium	0.5	4	10	86%	6	6	0%	35	34	3%	9	9	0%	8	8	0%	2	2	NC
Manganese	5	69	100	37%	49	56	13%	1500	1600	6%	170	200	16%	190	150	24%	25	25	0%
Mercury	0.1	<2	<2	NC	<0.1	<0.1	NC	<0.1	<0.1	NC	26	30	14%	28	24	15%	0.1	0.2	NC
Molybdenum	0.5	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC
Nickel	1	3	7	NC	5	5	0%	27	26	4%	12	12	0%	9	10	11%	5	6	18%
Rubidium	1	9	11	20%	5	6	18%	8	8	0%	8	8	0%	6	6	0%	3	3	NC
Selenium	0.8	<0.5	<0.5	NC	0.6	<0.5	NC	0.5	0.5	NC	<0.5	<0.5	NC	<0.5	<0.5	NC	<0.5	0.6	NC
Silver	0.5	<0.5	<0.5	NC	<0.5	<0.5	NC	<0.5	<0.5	NC	1	1.2	NC	1.2	1.1	NC	<0.5	<0.5	NC
Strontium	5	<5	<5	NC	<5	<5	NC	<5	<5	NC	<5	<5	NC	<5	<5	NC	<5	<5	NC
Thallium	0.5	<0.1	<0.1	NC	0.1	0.1	NC	0.1	0.1	NC	0.2	0.2	NC	0.3	0.2	NC	<0.1	<0.1	NC
Tin	1	<1	<1	NC	<1	<1	NC	<1	<1	NC	<1	<1	NC	<1	<1	NC	<1	<1	NC
Uranium	0.5	0.2	0.4	NC	0.4	0.4	NC	0.6	0.6	NC	0.3	0.3	NC	0.3	0.3	NC	0.2	0.1	NC
Vanadium	0.4	4	6	40%	49	52	6%	18	19	5%	7	8	13%	4	4	0%	21	21	0%
Zinc	5	10	21	NC	14	13	NC	52	53	2%	220	220	0%	180	180	0%	8	9	NC

**NOTES:**

RPD = the difference in two results, divided by the mean of the two results, multiplied by 100.

NC = Not Calculated. RPDs can only be calculated when both results are at least five times the RDL.

An RPD of 60 % is considered acceptable for groundwater, and an

RPD of 100% is considered acceptable for soil.

**Bold** = RPD value is outside of acceptable range.

**TABLE E-9: RPD Calculations for Metals in Soil**

Parameter	RDL (mg/kg)	2021-SS82-B		RPD	2021-SS84-A		RPD	2021-SS84-B		RPD	2021-SS86-A		RPD	2021-DUP-4-B		RPD
		2021-SS-Dup D - B			2021-SS-Dup E - A			2021-SS-Dup E - B			2021-DUP-4- A					
		21-Aug-2021	21-Aug-2021		22-Aug-2021	22-Aug-2021		22-Aug-2021	22-Aug-2021		19-Aug-2021	19-Aug-2021		19-Aug-2021	19-Aug-2021	
mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Aluminum	100	13000	15000	14%	11000	10000	10%	13000	12000	8%	25000	28000	11%	31000	31000	0%
Antimony	0.8	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC
Arsenic	1	150	140	7%	63	60	5%	76	78	3%	160	170	6%	220	200	10%
Barium	2	10	12	18%	19	21	10%	16	15	6%	17	16	6%	17	18	6%
Beryllium	0.4	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC
Boron	5	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC
Bismuth	100	<50	<50	NC	<50	<50	NC	<50	<50	NC	<50	<50	NC	<50	<50	NC
Cadmium	0.5	<0.3	<0.3	NC	<0.3	<0.3	NC	<0.3	<0.3	NC	<0.3	<0.3	NC	<0.3	<0.3	NC
Chromium	5	17	19	NC	8	8	NC	14	13	NC	24	25	NC	29	29	0%
Cobalt	0.5	2	2	NC	2	2	NC	3	3	0%	4	5	22%	5	6	18%
Copper	1	7	8	13%	7	8	13%	5	5	0%	15	16	6%	16	19	17%
Iron	500	39000	41000	5%	14000	14000	0%	23000	24000	4%	38000	40000	5%	50000	47000	6%
Lead	1	5.4	6.1	12%	25	28	11%	10	10	0%	14	13	7%	13	13	0%
Lithium	0.5	10	10	0%	6	7	15%	20	18	11%	24	27	12%	30	32	6%
Manganese	5	98	110	12%	120	180	40%	170	180	6%	250	250	0%	260	260	0%
Mercury	0.1	<0.1	<0.1	NC	0.2	0.2	0%	0	<0.1	NC	0.2	0.2	0%	0.2	0.1	67%
Molybdenum	0.5	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC	<2	<2	NC
Nickel	1	8	9	12%	5	6	18%	10	9	11%	13	13	0%	17	19	11%
Rubidium	1	8	9	12%	16	13	21%	14	13	7%	11	11	0%	12	13	8%
Selenium	0.8	1	1.1	NC	1	1.1	NC	0.8	0.8	NC	2.2	2.4	NC	2.3	2.2	NC
Silver	0.5	<0.5	<0.5	NC	<0.5	<0.5	NC	<0.5	<0.5	NC	<0.5	<0.5	NC	<0.5	<0.5	NC
Strontium	5	<5	<5	NC	<5	<5	NC	<5	<5	NC	<5	<5	NC	<5	<5	NC
Thallium	0.5	<0.1	0.1	NC	0.2	0.1	NC	0.1	0.1	NC	0.1	0.1	NC	0.1	0.1	NC
Tin	1	<1	<1	NC	1	1	NC	<1	<1	NC	<1	<1	NC	<1	<1	NC
Uranium	0.5	0.3	0.4	NC	0.5	0.5	NC	0.5	0.5	NC	0.6	0.7	NC	0.8	0.8	NC
Vanadium	0.4	41	40	2%	39	38	3%	26	26	0%	36	36	0%	36	34	6%
Zinc	5	19	22	NC	24	30	NC	27	27	0%	38	42	10%	45	49	9%

**NOTES:**

RPD = the difference in two results, divided by the mean of the two results, multiplied by 100.

NC = Not Calculated. RPDs can only be calculated when both results are at least five times the RDL.

An RPD of 60 % is considered acceptable for groundwater, and an

RPD of 100% is considered acceptable for soil.

**Bold** = RPD value is outside of acceptable range.



**TABLE E-10: RPD Calculations for PHCs in Groundwater**

Parameter	RDL (mg/L)	2021-MW4	2021-MW-DUP1	RPD
		25-Aug-2021	25-Aug-2021	
		mg/L	mg/L	
Benzene	0.001	<0.0010	<0.0010	NC
Toluene	0.001	<0.0010	<0.0010	NC
Ethylbenzene	0.001	<0.0010	<0.0010	NC
Xylene (Total)	0.002	<0.0020	<0.0020	NC
C6-C10 (less BTEX)	0.09	<0.090	<0.090	NC
>C10-C16 Hydrocarbons	0.05	<0.05	<0.05	NC
>C16-C21 Hydrocarbons	0.05	<0.05	<0.05	NC
>C21-C32 Hydrocarbons	0.09	<0.09	<0.09	NC
Modified TPH (Tier 1)	0.09	<0.09	<0.09	NC

**TABLE E-11: RPD Calculations for Metals in Groundwater**

Parameter	RDL (µg/L)	2021-MW4	2021-MW-DUP1	RPD
		25-Aug-2021	25-Aug-2021	
		µg/L	µg/L	
Dissolved Aluminum	4	49	48	2%
Dissolved Antimony	1	<1.0	<1.0	NC
Dissolved Arsenic	1	5.6	5.7	2%
Dissolved Barium	2	10.3	10.3	0%
Dissolved Beryllium	0.5	<1.0	<1.0	NC
Dissolved Bismuth	2	<2.0	<2.0	NC
Dissolved Boron	10	<50	<50	NC
Dissolved Cadmium	0.1	0.19	0.173	NC
Dissolved Calcium	250	13300	13400	1%
Dissolved Chromium	2	<1.0	<1.0	NC
Dissolved Cobalt	0.5	1.93	2.09	NC
Dissolved Copper	1	3.61	3.82	NC
Dissolved Iron	10	197	197	0%
Dissolved Lead	0.5	<0.50	<0.50	NC
Dissolved Magnesium	250	2840	2860	1%
Dissolved Mercury	2	376	379	1%
Total Mercury	2	<0.013	<0.013	NC
Dissolved Manganese	2	<0.013	<0.013	NC
Dissolved Molybdenum	2	<2.0	<2.0	NC
Dissolved Phosphorus	2	8	8.2	NC
Dissolved Nickel	3	<100	<100	NC
Dissolved Potassium	250	3050	3060	0%
Dissolved Selenium	1	<0.50	<0.50	NC
Dissolved Silver	0.1	<0.10	<0.10	NC
Dissolved Sodium	250	33300	33100	1%
Dissolved Strontium	5	46.9	48.4	3%
Dissolved Thallium	0.5	<0.10	<0.10	NC
Dissolved Tin	2	<2.0	<2.0	NC
Dissolved Titanium	2	<2.0	<2.0	NC
Dissolved Uranium	0.5	0.1	0.11	NC
Dissolved Vanadium	2	<2.0	<2.0	NC
Dissolved Zinc	5	<5.0	<5.0	NC

NOTES:

RPD = the difference in two results, divided by the mean of the two results, multiplied by 100.

NC = Not Calculated. RPDs can only be calculated when both results are at least five times the RDL.

An RPD of 60 % is considered acceptable for groundwater, and an RPD of 100% is considered acceptable for soil.

**Bold** = RPD value is outside of acceptable range.

NC = Not Calculated. RPDs can only be calculated when both results are at least five times the RDL.

An RPD of 60 % is considered acceptable for groundwater, and an RPD of 100% is considered acceptable for soil.

**Bold** = RPD value is outside of acceptable range.

**Appendix F**  
**Laboratory Certificates of Analysis**





Your P.O. #: TV.183013.30.52  
 Your Project #: TV183013.30.52.5290.573000  
 Site Location: WAVERLY (MONTAGUE)  
 Your C.O.C. #: 00016v0

**Attention: Candace Stephens**

Wood Environment & Infrastructure Solutions, a division of Wood  
 Canada Limited  
 50 Troop Ave  
 Unit 300  
 Dartmouth, NS  
 CANADA B3B 1Z1

**Report Date: 2021/08/27**  
 Report #: R6785233  
 Version: 2 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C1N5496**

**Received: 2021/08/17, 13:13**

Sample Matrix: Soil  
 # Samples Received: 16

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Metals Solids Acid Extr. ICPMS	6	2021/08/23	2021/08/23	ATL SOP 00058	EPA 6020B R2 m
Metals Solids Acid Extr. ICPMS	10	2021/08/23	2021/08/24	ATL SOP 00058	EPA 6020B R2 m
Total Cyanide (1)	9	2021/08/24	2021/08/25	STL SOP-00035	MA300-CN 1.2 R4 m
Total Cyanide (1)	2	2021/08/24	2021/08/26	STL SOP-00035	MA300-CN 1.2 R4 m
Water Content (Subcontracted) (1, 2)	11	N/A	2021/08/25	STL SOP-00021	MA.100-S.T. 1.1 R5 m

**Remarks:**

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

- (1) This test was performed by Bureau Veritas Montreal via Bedford
- (2) Offsite analysis requires that subcontracted moisture be reported.



Your P.O. #: TV.183013.30.52  
Your Project #: TV183013.30.52.5290.573000  
Site Location: WAVERLY (MONTAGUE)  
Your C.O.C. #: 00016v0

**Attention: Candace Stephens**

Wood Environment & Infrastructure Solutions, a division of Wood  
Canada Limited  
50 Troop Ave  
Unit 300  
Dartmouth, NS  
CANADA B3B 1Z1

**Report Date: 2021/08/27**  
Report #: R6785233  
Version: 2 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C1N5496**  
**Received: 2021/08/17, 13:13**

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Atena Georgescu, Project Manager II  
Email: Atena.Georgescu@bureauveritas.com  
Phone# (902)420-0203 Ext:239

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BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



BUREAU  
VERITAS

BV Labs Job #: C1N5496  
Report Date: 2021/08/27

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: WAVERLY (MONTAGUE)  
Your P.O. #: TV.183013.30.52  
Sampler Initials: CB

### RESULTS OF ANALYSES OF SOIL

<b>BV Labs ID</b>		QKN642	QKN643	QKN644	QKN645	QKN647	QKN648	QKN649		
<b>Sampling Date</b>		2021/08/16	2021/08/16	2021/08/16	2021/08/16	2021/08/16	2021/08/16	2021/08/16		
<b>COC Number</b>		00016v0	00016v0	00016v0	00016v0	00016v0	00016v0	00016v0		
	<b>UNITS</b>	<b>2021-SS55-A</b>	<b>2021-SS55-B</b>	<b>2021-SS54-A</b>	<b>2021-SS54-B</b>	<b>2021-SS57-A</b>	<b>2021-SS57-B</b>	<b>2021-SS56-A</b>	<b>RDL</b>	<b>QC Batch</b>

#### Physical Testing

Moisture-Subcontracted	%w/w	72	45	59	28	39	38	68	0.50	7545139
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RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

<b>BV Labs ID</b>		QKN650	QKN651	QKN652	QKN653		
<b>Sampling Date</b>		2021/08/16	2021/08/16	2021/08/16	2021/08/16		
<b>COC Number</b>		00016v0	00016v0	00016v0	00016v0		
	<b>UNITS</b>	<b>2021-SS53-A</b>	<b>2021-SS53-B</b>	<b>2021-SS52-A</b>	<b>2021-SS52-B</b>	<b>RDL</b>	<b>QC Batch</b>

#### Physical Testing

Moisture-Subcontracted	%w/w	86	33	91	28	0.50	7545139
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RDL = Reportable Detection Limit

QC Batch = Quality Control Batch



BV Labs Job #: C1N5496  
 Report Date: 2021/08/27

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.30.52.5290.573000  
 Site Location: WAVERLY (MONTAGUE)  
 Your P.O. #: TV.183013.30.52  
 Sampler Initials: CB

**CONVENTIONALS (SOIL)**

BV Labs ID		QKN642		QKN643		QKN644		QKN645		QKN647		
Sampling Date		2021/08/16		2021/08/16		2021/08/16		2021/08/16		2021/08/16		
COC Number		00016v0		00016v0		00016v0		00016v0		00016v0		
	UNITS	2021-SS55-A	RDL	2021-SS55-B	RDL	2021-SS54-A	RDL	2021-SS54-B	RDL	2021-SS57-A	RDL	QC Batch
<b>Inorganics</b>												
Total Cyanide (CN)	mg/kg	<1.0	1.0	<0.50	0.50	<1.0	1.0	<0.50	0.50	<1.0	1.0	7545138
RDL = Reportable Detection Limit												
QC Batch = Quality Control Batch												

BV Labs ID		QKN648	QKN649	QKN650		QKN651		QKN652		
Sampling Date		2021/08/16	2021/08/16	2021/08/16		2021/08/16		2021/08/16		
COC Number		00016v0	00016v0	00016v0		00016v0		00016v0		
	UNITS	2021-SS57-B	2021-SS56-A	2021-SS53-A	RDL	2021-SS53-B	RDL	2021-SS52-A	RDL	QC Batch
<b>Inorganics</b>										
Total Cyanide (CN)	mg/kg	<1.0	<1.0	3.7	1.0	1.2	0.50	1.6	1.0	7545138
RDL = Reportable Detection Limit										
QC Batch = Quality Control Batch										

BV Labs ID		QKN653		
Sampling Date		2021/08/16		
COC Number		00016v0		
	UNITS	2021-SS52-B	RDL	QC Batch
<b>Inorganics</b>				
Total Cyanide (CN)	mg/kg	<0.50	0.50	7545140
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



BV Labs Job #: C1N5496  
Report Date: 2021/08/27

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
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Site Location: WAVERLY (MONTAGUE)  
Your P.O. #: TV.183013.30.52  
Sampler Initials: CB

### ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		QKN638		QKN639		QKN640		QKN641		QKN642			
Sampling Date		2021/08/16		2021/08/16		2021/08/16		2021/08/16		2021/08/16			
COC Number		00016v0		00016v0		00016v0		00016v0		00016v0			
	UNITS	2021-SS61-A	RDL	2021-SS60-A	2021-SS58-A	2021-SS58-B	RDL	2021-SS55-A	RDL	QC Batch			
<b>Metals</b>													
Acid Extractable Aluminum (Al)	mg/kg	20000	10	19000	10000	27000	10	15000	10	7535012			
Acid Extractable Antimony (Sb)	mg/kg	3	2	<2	<2	<2	2	7	2	7535012			
Acid Extractable Arsenic (As)	mg/kg	2500	20	330	380	340	2	5000	200	7535012			
Acid Extractable Barium (Ba)	mg/kg	81	5	140	16	24	5	68	5	7535012			
Acid Extractable Beryllium (Be)	mg/kg	<2	2	<2	<2	<2	2	<2	2	7535012			
Acid Extractable Bismuth (Bi)	mg/kg	<2	2	<2	<2	<2	2	<2	2	7535012			
Acid Extractable Boron (B)	mg/kg	<50	50	<50	<50	<50	50	<50	50	7535012			
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	0.3	<0.3	<0.3	<0.3	0.3	1.6	0.3	7535012			
Acid Extractable Chromium (Cr)	mg/kg	21	2	19	12	23	2	15	2	7535012			
Acid Extractable Cobalt (Co)	mg/kg	21	1	10	3	8	1	27	1	7535012			
Acid Extractable Copper (Cu)	mg/kg	67	2	13	8	31	2	65	2	7535012			
Acid Extractable Iron (Fe)	mg/kg	47000	50	11000	35000	33000	50	31000	50	7535012			
Acid Extractable Lead (Pb)	mg/kg	51	0.5	33	24	12	0.5	68	0.5	7535012			
Acid Extractable Lithium (Li)	mg/kg	33	2	44	9	34	2	24	2	7535012			
Acid Extractable Manganese (Mn)	mg/kg	800	2	660	170	260	2	790	2	7535012			
Acid Extractable Mercury (Hg)	mg/kg	5.1	0.1	0.6	0.1	0.1	0.1	4.5	0.1	7535012			
Acid Extractable Molybdenum (Mo)	mg/kg	<2	2	<2	<2	<2	2	<2	2	7535012			
Acid Extractable Nickel (Ni)	mg/kg	32	2	15	6	29	2	61	2	7535012			
Acid Extractable Rubidium (Rb)	mg/kg	36	2	31	16	16	2	17	2	7535012			
Acid Extractable Selenium (Se)	mg/kg	0.7	0.5	1.6	1.1	0.9	0.5	1.1	0.5	7535012			
Acid Extractable Silver (Ag)	mg/kg	<0.5	0.5	<0.5	<0.5	<0.5	0.5	<0.5	0.5	7535012			
Acid Extractable Strontium (Sr)	mg/kg	17	5	19	<5	<5	5	12	5	7535012			
Acid Extractable Thallium (Tl)	mg/kg	0.4	0.1	0.4	0.2	0.2	0.1	0.4	0.1	7535012			
Acid Extractable Tin (Sn)	mg/kg	<1	1	<1	1	<1	1	<1	1	7535012			
Acid Extractable Uranium (U)	mg/kg	1.2	0.1	1.6	0.4	0.7	0.1	0.7	0.1	7535012			
Acid Extractable Vanadium (V)	mg/kg	34	2	23	47	22	2	30	2	7535012			
Acid Extractable Zinc (Zn)	mg/kg	100	5	44	18	56	5	210	5	7535012			
RDL = Reportable Detection Limit QC Batch = Quality Control Batch													



BV Labs Job #: C1N5496  
Report Date: 2021/08/27

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: WAVERLY (MONTAGUE)  
Your P.O. #: TV.183013.30.52  
Sampler Initials: CB

### ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		QKN643		QKN644	QKN645		QKN646	QKN647		
Sampling Date		2021/08/16		2021/08/16	2021/08/16		2021/08/16	2021/08/16		
COC Number		00016v0		00016v0	00016v0		00016v0	00016v0		
	UNITS	2021-SS55-B	RDL	2021-SS54-A	2021-SS54-B	RDL	2021-SS59-A	2021-SS57-A	RDL	QC Batch
<b>Metals</b>										
Acid Extractable Aluminum (Al)	mg/kg	15000	10	13000	15000	10	8400	6000	10	7535012
Acid Extractable Antimony (Sb)	mg/kg	18	2	4	6	2	<2	<2	2	7535012
Acid Extractable Arsenic (As)	mg/kg	11000	200	2200	3900	20	220	41	2	7535012
Acid Extractable Barium (Ba)	mg/kg	55	5	41	46	5	16	10	5	7535012
Acid Extractable Beryllium (Be)	mg/kg	<2	2	<2	<2	2	<2	<2	2	7535012
Acid Extractable Bismuth (Bi)	mg/kg	<2	2	<2	<2	2	<2	<2	2	7535012
Acid Extractable Boron (B)	mg/kg	<50	50	<50	<50	50	<50	<50	50	7535012
Acid Extractable Cadmium (Cd)	mg/kg	0.4	0.3	0.4	<0.3	0.3	<0.3	<0.3	0.3	7535012
Acid Extractable Chromium (Cr)	mg/kg	16	2	13	17	2	9	5	2	7535012
Acid Extractable Cobalt (Co)	mg/kg	22	1	9	16	1	2	1	1	7535012
Acid Extractable Copper (Cu)	mg/kg	94	2	53	60	2	6	3	2	7535012
Acid Extractable Iron (Fe)	mg/kg	41000	50	28000	35000	50	18000	11000	50	7535012
Acid Extractable Lead (Pb)	mg/kg	94	0.5	34	34	0.5	19	13	0.5	7535012
Acid Extractable Lithium (Li)	mg/kg	27	2	24	28	2	7	3	2	7535012
Acid Extractable Manganese (Mn)	mg/kg	540	2	1000	610	2	160	73	2	7535012
Acid Extractable Mercury (Hg)	mg/kg	5.0	0.1	2.2	2.2	0.1	<0.1	0.1	0.1	7535012
Acid Extractable Molybdenum (Mo)	mg/kg	<2	2	<2	<2	2	<2	<2	2	7535012
Acid Extractable Nickel (Ni)	mg/kg	49	2	28	38	2	5	4	2	7535012
Acid Extractable Rubidium (Rb)	mg/kg	32	2	19	41	2	17	3	2	7535012
Acid Extractable Selenium (Se)	mg/kg	0.6	0.5	<0.5	<0.5	0.5	<0.5	<0.5	0.5	7535012
Acid Extractable Silver (Ag)	mg/kg	<0.5	0.5	<0.5	<0.5	0.5	<0.5	<0.5	0.5	7535012
Acid Extractable Strontium (Sr)	mg/kg	17	5	10	16	5	<5	<5	5	7535012
Acid Extractable Thallium (Tl)	mg/kg	0.3	0.1	0.2	0.3	0.1	0.1	<0.1	0.1	7535012
Acid Extractable Tin (Sn)	mg/kg	<1	1	<1	<1	1	1	<1	1	7535012
Acid Extractable Uranium (U)	mg/kg	0.7	0.1	0.5	0.6	0.1	0.3	0.2	0.1	7535012
Acid Extractable Vanadium (V)	mg/kg	17	2	17	18	2	40	18	2	7535012
Acid Extractable Zinc (Zn)	mg/kg	210	5	110	130	5	18	10	5	7535012
RDL = Reportable Detection Limit										
QC Batch = Quality Control Batch										





BV Labs Job #: C1N5496  
 Report Date: 2021/08/27

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.30.52.5290.573000  
 Site Location: WAVERLY (MONTAGUE)  
 Your P.O. #: TV.183013.30.52  
 Sampler Initials: CB

**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QKN648		QKN649		QKN650		QKN651		
Sampling Date		2021/08/16		2021/08/16		2021/08/16		2021/08/16		
COC Number		00016v0		00016v0		00016v0		00016v0		
	UNITS	2021-SS57-B	RDL	2021-SS56-A	2021-SS56-A Lab-Dup	2021-SS53-A	RDL	2021-SS53-B	RDL	QC Batch

<b>Metals</b>										
Acid Extractable Aluminum (Al)	mg/kg	22000	10	15000	14000	18000	10	14000	10	7535012
Acid Extractable Antimony (Sb)	mg/kg	<2	2	4	4	4	2	14	2	7535012
Acid Extractable Arsenic (As)	mg/kg	120	2	6300	6600	7500	200	9300	200	7535012
Acid Extractable Barium (Ba)	mg/kg	23	5	310	310	520	5	40	5	7535012
Acid Extractable Beryllium (Be)	mg/kg	<2	2	<2	<2	<2	2	<2	2	7535012
Acid Extractable Bismuth (Bi)	mg/kg	<2	2	<2	<2	<2	2	<2	2	7535012
Acid Extractable Boron (B)	mg/kg	<50	50	<50	<50	<50	50	<50	50	7535012
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	0.3	1.0	1.1	3.9	0.3	0.4	0.3	7535012
Acid Extractable Chromium (Cr)	mg/kg	22	2	16	16	15	2	16	2	7535012
Acid Extractable Cobalt (Co)	mg/kg	4	1	19	19	96	1	20	1	7535012
Acid Extractable Copper (Cu)	mg/kg	7	2	47	46	83	2	84	2	7535012
Acid Extractable Iron (Fe)	mg/kg	37000	50	94000	100000	100000	500	40000	50	7535012
Acid Extractable Lead (Pb)	mg/kg	10	0.5	78	76	79	0.5	85	0.5	7535012
Acid Extractable Lithium (Li)	mg/kg	23	2	18	18	11	2	27	2	7535012
Acid Extractable Manganese (Mn)	mg/kg	200	2	14000	14000	20000	2	550	2	7535012
Acid Extractable Mercury (Hg)	mg/kg	0.1	0.1	5.3	5.2	4.4	0.1	5.3	0.1	7535012
Acid Extractable Molybdenum (Mo)	mg/kg	<2	2	3	3	8	2	<2	2	7535012
Acid Extractable Nickel (Ni)	mg/kg	11	2	62	60	83	2	46	2	7535012
Acid Extractable Rubidium (Rb)	mg/kg	11	2	12	12	7	2	36	2	7535012
Acid Extractable Selenium (Se)	mg/kg	1.4	0.5	2.0	2.1	3.7	0.5	0.6	0.5	7535012
Acid Extractable Silver (Ag)	mg/kg	<0.5	0.5	<0.5	<0.5	<0.5	0.5	<0.5	0.5	7535012
Acid Extractable Strontium (Sr)	mg/kg	5	5	31	30	31	5	19	5	7535012
Acid Extractable Thallium (Tl)	mg/kg	0.2	0.1	0.2	0.2	0.6	0.1	0.4	0.1	7535012
Acid Extractable Tin (Sn)	mg/kg	<1	1	<1	<1	1	1	<1	1	7535012
Acid Extractable Uranium (U)	mg/kg	0.5	0.1	0.6	0.6	1.3	0.1	0.6	0.1	7535012
Acid Extractable Vanadium (V)	mg/kg	37	2	70	68	130	2	18	2	7535012
Acid Extractable Zinc (Zn)	mg/kg	30	5	210	210	400	5	180	5	7535012

RDL = Reportable Detection Limit  
 QC Batch = Quality Control Batch  
 Lab-Dup = Laboratory Initiated Duplicate



### ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		QKN652		QKN653		
Sampling Date		2021/08/16		2021/08/16		
COC Number		00016v0		00016v0		
	UNITS	2021-SS52-A	RDL	2021-SS52-B	RDL	QC Batch
<b>Metals</b>						
Acid Extractable Aluminum (Al)	mg/kg	4600	10	13000	10	7535012
Acid Extractable Antimony (Sb)	mg/kg	<2	2	18	2	7535012
Acid Extractable Arsenic (As)	mg/kg	4500	20	11000	200	7535012
Acid Extractable Barium (Ba)	mg/kg	1300	5	34	5	7535012
Acid Extractable Beryllium (Be)	mg/kg	<2	2	<2	2	7535012
Acid Extractable Bismuth (Bi)	mg/kg	<2	2	<2	2	7535012
Acid Extractable Boron (B)	mg/kg	<50	50	<50	50	7535012
Acid Extractable Cadmium (Cd)	mg/kg	2.7	0.3	0.4	0.3	7535012
Acid Extractable Chromium (Cr)	mg/kg	4	2	15	2	7535012
Acid Extractable Cobalt (Co)	mg/kg	85	1	19	1	7535012
Acid Extractable Copper (Cu)	mg/kg	38	2	91	2	7535012
Acid Extractable Iron (Fe)	mg/kg	47000	50	40000	50	7535012
Acid Extractable Lead (Pb)	mg/kg	17	0.5	90	0.5	7535012
Acid Extractable Lithium (Li)	mg/kg	3	2	26	2	7535012
Acid Extractable Manganese (Mn)	mg/kg	100000	20	470	2	7535012
Acid Extractable Mercury (Hg)	mg/kg	0.8	0.1	5.0	0.1	7535012
Acid Extractable Molybdenum (Mo)	mg/kg	6	2	<2	2	7535012
Acid Extractable Nickel (Ni)	mg/kg	100	2	46	2	7535012
Acid Extractable Rubidium (Rb)	mg/kg	4	2	33	2	7535012
Acid Extractable Selenium (Se)	mg/kg	1.6	0.5	0.6	0.5	7535012
Acid Extractable Silver (Ag)	mg/kg	<0.5	0.5	<0.5	0.5	7535012
Acid Extractable Strontium (Sr)	mg/kg	62	5	18	5	7535012
Acid Extractable Thallium (Tl)	mg/kg	0.6	0.1	0.3	0.1	7535012
Acid Extractable Tin (Sn)	mg/kg	<1	1	<1	1	7535012
Acid Extractable Uranium (U)	mg/kg	0.4	0.1	0.5	0.1	7535012
Acid Extractable Vanadium (V)	mg/kg	29	2	16	2	7535012
Acid Extractable Zinc (Zn)	mg/kg	340	5	190	5	7535012
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						



BUREAU  
VERITAS

BV Labs Job #: C1N5496

Report Date: 2021/08/27

Wood Environment & Infrastructure Solutions, a division of

Wood Canada Limited

Client Project #: TV183013.30.52.5290.573000

Site Location: WAVERLY (MONTAGUE)

Your P.O. #: TV.183013.30.52

Sampler Initials: CB

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	2.0°C
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**Results relate only to the items tested.**



BUREAU  
VERITAS

BV Labs Job #: C1N5496  
Report Date: 2021/08/27

### QUALITY ASSURANCE REPORT

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: WAVERLY (MONTAGUE)  
Your P.O. #: TV.183013.30.52  
Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7535012	Acid Extractable Aluminum (Al)	2021/08/24					<10	mg/kg	3.3	35
7535012	Acid Extractable Antimony (Sb)	2021/08/24	105	75 - 125	102	75 - 125	<2	mg/kg	6.3	35
7535012	Acid Extractable Arsenic (As)	2021/08/24	NC	75 - 125	100	75 - 125	<2	mg/kg	4.8	35
7535012	Acid Extractable Barium (Ba)	2021/08/24	NC	75 - 125	99	75 - 125	<5	mg/kg	0.92	35
7535012	Acid Extractable Beryllium (Be)	2021/08/24	108	75 - 125	96	75 - 125	<2	mg/kg	NC	35
7535012	Acid Extractable Bismuth (Bi)	2021/08/24	107	75 - 125	98	75 - 125	<2	mg/kg	NC	35
7535012	Acid Extractable Boron (B)	2021/08/24	100	75 - 125	96	75 - 125	<50	mg/kg	NC	35
7535012	Acid Extractable Cadmium (Cd)	2021/08/24	109	75 - 125	99	75 - 125	<0.3	mg/kg	1.6	35
7535012	Acid Extractable Chromium (Cr)	2021/08/24	107	75 - 125	99	75 - 125	<2	mg/kg	2.8	35
7535012	Acid Extractable Cobalt (Co)	2021/08/24	106	75 - 125	98	75 - 125	<1	mg/kg	2.3	35
7535012	Acid Extractable Copper (Cu)	2021/08/24	107	75 - 125	99	75 - 125	<2	mg/kg	2.8	35
7535012	Acid Extractable Iron (Fe)	2021/08/24					<50	mg/kg	6.4	35
7535012	Acid Extractable Lead (Pb)	2021/08/24	NC	75 - 125	97	75 - 125	<0.5	mg/kg	1.6	35
7535012	Acid Extractable Lithium (Li)	2021/08/24	115	75 - 125	102	75 - 125	<2	mg/kg	1.4	35
7535012	Acid Extractable Manganese (Mn)	2021/08/24	NC	75 - 125	100	75 - 125	<2	mg/kg	1.2	35
7535012	Acid Extractable Mercury (Hg)	2021/08/24	105	75 - 125	104	75 - 125	<0.1	mg/kg	2.2	35
7535012	Acid Extractable Molybdenum (Mo)	2021/08/24	113	75 - 125	102	75 - 125	<2	mg/kg	1.8	35
7535012	Acid Extractable Nickel (Ni)	2021/08/24	NC	75 - 125	100	75 - 125	<2	mg/kg	2.1	35
7535012	Acid Extractable Rubidium (Rb)	2021/08/24	109	75 - 125	99	75 - 125	<2	mg/kg	4.1	35
7535012	Acid Extractable Selenium (Se)	2021/08/24	110	75 - 125	100	75 - 125	<0.5	mg/kg	4.9	35
7535012	Acid Extractable Silver (Ag)	2021/08/24	109	75 - 125	99	75 - 125	<0.5	mg/kg	NC	35
7535012	Acid Extractable Strontium (Sr)	2021/08/24	110	75 - 125	99	75 - 125	<5	mg/kg	4.0	35
7535012	Acid Extractable Thallium (Tl)	2021/08/24	108	75 - 125	98	75 - 125	<0.1	mg/kg	6.7	35
7535012	Acid Extractable Tin (Sn)	2021/08/24	106	75 - 125	98	75 - 125	<1	mg/kg	NC	35
7535012	Acid Extractable Uranium (U)	2021/08/24	111	75 - 125	101	75 - 125	<0.1	mg/kg	1.2	35
7535012	Acid Extractable Vanadium (V)	2021/08/24	NC	75 - 125	100	75 - 125	<2	mg/kg	2.0	35
7535012	Acid Extractable Zinc (Zn)	2021/08/24	NC	75 - 125	101	75 - 125	<5	mg/kg	0.18	35
7545138	Total Cyanide (CN)	2021/08/25			100	80 - 120	<0.50	mg/kg		



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BV Labs Job #: C1N5496

Report Date: 2021/08/27

### QUALITY ASSURANCE REPORT(CONT'D)

Wood Environment & Infrastructure Solutions, a division of

Wood Canada Limited

Client Project #: TV183013.30.52.5290.573000

Site Location: WAVERLY (MONTAGUE)

Your P.O. #: TV.183013.30.52

Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7545140	Total Cyanide (CN)	2021/08/25			99	80 - 120	<0.50	mg/kg		

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference  $\leq 2x$  RDL).



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BV Labs Job #: C1N5496

Report Date: 2021/08/27

Wood Environment & Infrastructure Solutions, a division of

Wood Canada Limited

Client Project #: TV183013.30.52.5290.573000

Site Location: WAVERLY (MONTAGUE)

Your P.O. #: TV.183013.30.52

Sampler Initials: CB

### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Faouzi Sarsi, B.Sc. Chemist



Miryam Assayag

Mike MacGillivray, Scientific Specialist (Inorganics)



Nouredine Chafiaai, B.Sc., Chemist



Shu Yang, Analyst 2

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Your P.O. #: TV183013.30.52  
 Your Project #: TV183013.30.52.5290.573000  
 Site#: MONTAGUE GOLD MINES  
 Site Location: MONTAGUE  
 Your C.O.C. #: N/A

**Attention: Candace Stephens**

Wood Environment & Infrastructure Solutions, a division of Wood  
 Canada Limited  
 50 Troop Ave  
 Unit 300  
 Dartmouth, NS  
 CANADA B3B 1Z1

**Report Date: 2021/08/25**  
 Report #: R6781267  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C1N6976**

**Received: 2021/08/18, 12:15**

Sample Matrix: Soil  
 # Samples Received: 7

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Metals Solids Acid Extr. ICPMS	2	2021/08/23	2021/08/23	ATL SOP 00058	EPA 6020B R2 m
Metals Solids Acid Extr. ICPMS	5	2021/08/23	2021/08/24	ATL SOP 00058	EPA 6020B R2 m

**Remarks:**

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

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Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.



Your P.O. #: TV183013.30.52  
Your Project #: TV183013.30.52.5290.573000  
Site#: MONTAGUE GOLD MINES  
Site Location: MONTAGUE  
Your C.O.C. #: N/A

**Attention: Candace Stephens**

Wood Environment & Infrastructure Solutions, a division of Wood  
Canada Limited  
50 Troop Ave  
Unit 300  
Dartmouth, NS  
CANADA B3B 1Z1

**Report Date: 2021/08/25**  
Report #: R6781267  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C1N6976**  
**Received: 2021/08/18, 12:15**

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.  
Atena Georgescu, Project Manager II  
Email: Atena.Georgescu@bureauveritas.com  
Phone# (902)420-0203 Ext:239

=====  
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BV Labs Job #: C1N6976  
 Report Date: 2021/08/25

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.30.52.5290.573000  
 Site Location: MONTAGUE  
 Your P.O. #: TV183013.30.52  
 Sampler Initials: CB

**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QKV302	QKV303	QKV304		QKV305		
Sampling Date		2021/08/16	2021/08/16	2021/08/16		2021/08/17		
COC Number		N/A	N/A	N/A		N/A		
	UNITS	2021-MW6(0-2)	2021-MW6(2-4)	2021-MW6(15-16)	RDL	2021-MW5(0-2)	RDL	QC Batch
<b>Metals</b>								
Acid Extractable Aluminum (Al)	mg/kg	11000	13000	11000	10	11000	10	7535480
Acid Extractable Antimony (Sb)	mg/kg	6	5	6	2	14	2	7535480
Acid Extractable Arsenic (As)	mg/kg	3600	2900	3000	20	7700	200	7535480
Acid Extractable Barium (Ba)	mg/kg	28	31	27	5	26	5	7535480
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	<2	2	<2	2	7535480
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	<2	2	<2	2	7535480
Acid Extractable Boron (B)	mg/kg	<50	<50	<50	50	<50	50	7535480
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	<0.3	<0.3	0.3	<0.3	0.3	7535480
Acid Extractable Chromium (Cr)	mg/kg	12	15	18	2	11	2	7535480
Acid Extractable Cobalt (Co)	mg/kg	10	12	11	1	3	1	7535480
Acid Extractable Copper (Cu)	mg/kg	26	81	20	2	20	2	7535480
Acid Extractable Iron (Fe)	mg/kg	31000	30000	28000	50	29000	50	7535480
Acid Extractable Lead (Pb)	mg/kg	20	20	18	0.5	61	0.5	7535480
Acid Extractable Lithium (Li)	mg/kg	20	25	21	2	14	2	7535480
Acid Extractable Manganese (Mn)	mg/kg	380	300	350	2	180	2	7535480
Acid Extractable Mercury (Hg)	mg/kg	0.9	4.1	<0.1	0.1	34	0.1	7535480
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	<2	2	<2	2	7535480
Acid Extractable Nickel (Ni)	mg/kg	19	34	27	2	10	2	7535480
Acid Extractable Rubidium (Rb)	mg/kg	33	31	19	2	12	2	7535480
Acid Extractable Selenium (Se)	mg/kg	<0.5	<0.5	<0.5	0.5	1.0	0.5	7535480
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	<0.5	0.5	<0.5	0.5	7535480
Acid Extractable Strontium (Sr)	mg/kg	10	10	11	5	5	5	7535480
Acid Extractable Thallium (Tl)	mg/kg	0.3	0.3	0.1	0.1	0.1	0.1	7535480
Acid Extractable Tin (Sn)	mg/kg	<1	<1	<1	1	1	1	7535480
Acid Extractable Uranium (U)	mg/kg	0.3	0.6	1.0	0.1	0.4	0.1	7535480
Acid Extractable Vanadium (V)	mg/kg	14	15	15	2	14	2	7535480
Acid Extractable Zinc (Zn)	mg/kg	67	110	52	5	42	5	7535480
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								



BV Labs Job #: C1N6976  
 Report Date: 2021/08/25

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.30.52.5290.573000  
 Site Location: MONTAGUE  
 Your P.O. #: TV183013.30.52  
 Sampler Initials: CB

**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QKV306		QKV307		QKV308		
Sampling Date		2021/08/17		2021/08/17		2021/08/17		
COC Number		N/A		N/A		N/A		
	UNITS	2021-MW5(2-4)	RDL	2021-MW3(0-2)	QC Batch	2021-MW3(5-6'1)	RDL	QC Batch
<b>Metals</b>								
Acid Extractable Aluminum (Al)	mg/kg	13000	10	17000	7535480	13000	10	7535491
Acid Extractable Antimony (Sb)	mg/kg	7	2	<2	7535480	<2	2	7535491
Acid Extractable Arsenic (As)	mg/kg	3600	20	110	7535480	81	2	7535491
Acid Extractable Barium (Ba)	mg/kg	23	5	11	7535480	19	5	7535491
Acid Extractable Beryllium (Be)	mg/kg	<2	2	<2	7535480	<2	2	7535491
Acid Extractable Bismuth (Bi)	mg/kg	<2	2	<2	7535480	<2	2	7535491
Acid Extractable Boron (B)	mg/kg	<50	50	<50	7535480	<50	50	7535491
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	0.3	<0.3	7535480	<0.3	0.3	7535491
Acid Extractable Chromium (Cr)	mg/kg	17	2	19	7535480	17	2	7535491
Acid Extractable Cobalt (Co)	mg/kg	6	1	3	7535480	14	1	7535491
Acid Extractable Copper (Cu)	mg/kg	21	2	9	7535480	42	2	7535491
Acid Extractable Iron (Fe)	mg/kg	31000	50	23000	7535480	28000	50	7535491
Acid Extractable Lead (Pb)	mg/kg	32	0.5	13	7535480	14	0.5	7535491
Acid Extractable Lithium (Li)	mg/kg	23	2	12	7535480	22	2	7535491
Acid Extractable Manganese (Mn)	mg/kg	290	2	140	7535480	540	2	7535491
Acid Extractable Mercury (Hg)	mg/kg	14	0.1	0.5	7535480	<0.1	0.1	7535491
Acid Extractable Molybdenum (Mo)	mg/kg	<2	2	<2	7535480	<2	2	7535491
Acid Extractable Nickel (Ni)	mg/kg	17	2	9	7535480	31	2	7535491
Acid Extractable Rubidium (Rb)	mg/kg	12	2	4	7535480	14	2	7535491
Acid Extractable Selenium (Se)	mg/kg	0.6	0.5	1.4	7535480	<0.5	0.5	7535491
Acid Extractable Silver (Ag)	mg/kg	<0.5	0.5	<0.5	7535480	<0.5	0.5	7535491
Acid Extractable Strontium (Sr)	mg/kg	<5	5	<5	7535480	7	5	7535491
Acid Extractable Thallium (Tl)	mg/kg	0.1	0.1	<0.1	7535480	0.1	0.1	7535491
Acid Extractable Tin (Sn)	mg/kg	2	1	<1	7535480	<1	1	7535491
Acid Extractable Uranium (U)	mg/kg	0.4	0.1	0.4	7535480	0.6	0.1	7535491
Acid Extractable Vanadium (V)	mg/kg	16	2	21	7535480	14	2	7535491
Acid Extractable Zinc (Zn)	mg/kg	39	5	21	7535480	55	5	7535491
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								



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BV Labs Job #: C1N6976

Report Date: 2021/08/25

Wood Environment & Infrastructure Solutions, a division of

Wood Canada Limited

Client Project #: TV183013.30.52.5290.573000

Site Location: MONTAGUE

Your P.O. #: TV183013.30.52

Sampler Initials: CB

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	3.3°C
Package 2	3.0°C
Package 3	1.7°C

**Results relate only to the items tested.**



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BV Labs Job #: C1N6976  
Report Date: 2021/08/25

### QUALITY ASSURANCE REPORT

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.52  
Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7535480	Acid Extractable Aluminum (Al)	2021/08/23					<10	mg/kg		
7535480	Acid Extractable Antimony (Sb)	2021/08/23	108	75 - 125	108	75 - 125	<2	mg/kg		
7535480	Acid Extractable Arsenic (As)	2021/08/23	101	75 - 125	102	75 - 125	<2	mg/kg		
7535480	Acid Extractable Barium (Ba)	2021/08/23	102	75 - 125	99	75 - 125	<5	mg/kg		
7535480	Acid Extractable Beryllium (Be)	2021/08/23	98	75 - 125	96	75 - 125	<2	mg/kg		
7535480	Acid Extractable Bismuth (Bi)	2021/08/23	102	75 - 125	97	75 - 125	<2	mg/kg		
7535480	Acid Extractable Boron (B)	2021/08/23	88	75 - 125	96	75 - 125	<50	mg/kg		
7535480	Acid Extractable Cadmium (Cd)	2021/08/23	103	75 - 125	101	75 - 125	<0.3	mg/kg		
7535480	Acid Extractable Chromium (Cr)	2021/08/23	100	75 - 125	100	75 - 125	<2	mg/kg		
7535480	Acid Extractable Cobalt (Co)	2021/08/23	100	75 - 125	98	75 - 125	<1	mg/kg		
7535480	Acid Extractable Copper (Cu)	2021/08/23	99	75 - 125	98	75 - 125	<2	mg/kg		
7535480	Acid Extractable Iron (Fe)	2021/08/23					<50	mg/kg		
7535480	Acid Extractable Lead (Pb)	2021/08/23	NC	75 - 125	100	75 - 125	<0.5	mg/kg	14	35
7535480	Acid Extractable Lithium (Li)	2021/08/23	111	75 - 125	107	75 - 125	<2	mg/kg		
7535480	Acid Extractable Manganese (Mn)	2021/08/23	NC	75 - 125	101	75 - 125	<2	mg/kg		
7535480	Acid Extractable Mercury (Hg)	2021/08/23	98	75 - 125	105	75 - 125	<0.1	mg/kg		
7535480	Acid Extractable Molybdenum (Mo)	2021/08/23	107	75 - 125	110	75 - 125	<2	mg/kg		
7535480	Acid Extractable Nickel (Ni)	2021/08/23	105	75 - 125	101	75 - 125	<2	mg/kg		
7535480	Acid Extractable Rubidium (Rb)	2021/08/23	102	75 - 125	100	75 - 125	<2	mg/kg		
7535480	Acid Extractable Selenium (Se)	2021/08/23	102	75 - 125	102	75 - 125	<0.5	mg/kg		
7535480	Acid Extractable Silver (Ag)	2021/08/23	103	75 - 125	101	75 - 125	<0.5	mg/kg		
7535480	Acid Extractable Strontium (Sr)	2021/08/23	103	75 - 125	102	75 - 125	<5	mg/kg		
7535480	Acid Extractable Thallium (Tl)	2021/08/23	101	75 - 125	101	75 - 125	<0.1	mg/kg		
7535480	Acid Extractable Tin (Sn)	2021/08/23	104	75 - 125	106	75 - 125	<1	mg/kg		
7535480	Acid Extractable Uranium (U)	2021/08/23	104	75 - 125	102	75 - 125	<0.1	mg/kg		
7535480	Acid Extractable Vanadium (V)	2021/08/23	101	75 - 125	101	75 - 125	<2	mg/kg		
7535480	Acid Extractable Zinc (Zn)	2021/08/23	NC	75 - 125	103	75 - 125	<5	mg/kg		
7535491	Acid Extractable Aluminum (Al)	2021/08/24					<10	mg/kg	8.3	35
7535491	Acid Extractable Antimony (Sb)	2021/08/24	107	75 - 125	108	75 - 125	<2	mg/kg	14	35
7535491	Acid Extractable Arsenic (As)	2021/08/24	NC	75 - 125	104	75 - 125	<2	mg/kg	9.9	35



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BV Labs Job #: C1N6976  
Report Date: 2021/08/25

### QUALITY ASSURANCE REPORT(CONT'D)

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.52  
Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7535491	Acid Extractable Barium (Ba)	2021/08/24	105	75 - 125	102	75 - 125	<5	mg/kg	9.8	35
7535491	Acid Extractable Beryllium (Be)	2021/08/24	98	75 - 125	99	75 - 125	<2	mg/kg	NC	35
7535491	Acid Extractable Bismuth (Bi)	2021/08/24	100	75 - 125	100	75 - 125	<2	mg/kg	NC	35
7535491	Acid Extractable Boron (B)	2021/08/24	93	75 - 125	99	75 - 125	<50	mg/kg	NC	35
7535491	Acid Extractable Cadmium (Cd)	2021/08/24	103	75 - 125	103	75 - 125	<0.3	mg/kg	NC	35
7535491	Acid Extractable Chromium (Cr)	2021/08/24	103	75 - 125	101	75 - 125	<2	mg/kg	7.4	35
7535491	Acid Extractable Cobalt (Co)	2021/08/24	100	75 - 125	100	75 - 125	<1	mg/kg	3.6	35
7535491	Acid Extractable Copper (Cu)	2021/08/24	100	75 - 125	101	75 - 125	<2	mg/kg	1.4	35
7535491	Acid Extractable Iron (Fe)	2021/08/24					<50	mg/kg	6.5	35
7535491	Acid Extractable Lead (Pb)	2021/08/24	NC	75 - 125	102	75 - 125	<0.5	mg/kg	18	35
7535491	Acid Extractable Lithium (Li)	2021/08/24	108	75 - 125	110	75 - 125	<2	mg/kg	2.7	35
7535491	Acid Extractable Manganese (Mn)	2021/08/24	NC	75 - 125	106	75 - 125	<2	mg/kg	12	35
7535491	Acid Extractable Mercury (Hg)	2021/08/24	96	75 - 125	107	75 - 125	<0.1	mg/kg	9.7	35
7535491	Acid Extractable Molybdenum (Mo)	2021/08/24	104	75 - 125	106	75 - 125	<2	mg/kg	NC	35
7535491	Acid Extractable Nickel (Ni)	2021/08/24	94	75 - 125	104	75 - 125	<2	mg/kg	18	35
7535491	Acid Extractable Rubidium (Rb)	2021/08/24	102	75 - 125	103	75 - 125	<2	mg/kg	7.4	35
7535491	Acid Extractable Selenium (Se)	2021/08/24	103	75 - 125	103	75 - 125	<0.5	mg/kg	NC	35
7535491	Acid Extractable Silver (Ag)	2021/08/24	109	75 - 125	104	75 - 125	<0.5	mg/kg	NC	35
7535491	Acid Extractable Strontium (Sr)	2021/08/24	106	75 - 125	103	75 - 125	<5	mg/kg	5.1	35
7535491	Acid Extractable Thallium (Tl)	2021/08/24	102	75 - 125	103	75 - 125	<0.1	mg/kg	5.3	35
7535491	Acid Extractable Tin (Sn)	2021/08/24	106	75 - 125	103	75 - 125	<1	mg/kg	NC	35
7535491	Acid Extractable Uranium (U)	2021/08/24	104	75 - 125	104	75 - 125	<0.1	mg/kg	11	35
7535491	Acid Extractable Vanadium (V)	2021/08/24	104	75 - 125	104	75 - 125	<2	mg/kg	7.0	35



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BV Labs Job #: C1N6976  
Report Date: 2021/08/25

### QUALITY ASSURANCE REPORT(CONT'D)

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.52  
Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7535491	Acid Extractable Zinc (Zn)	2021/08/24	NC	75 - 125	106	75 - 125	<5	mg/kg	8.3	35

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



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BV Labs Job #: C1N6976

Report Date: 2021/08/25

Wood Environment & Infrastructure Solutions, a division of

Wood Canada Limited

Client Project #: TV183013.30.52.5290.573000

Site Location: MONTAGUE

Your P.O. #: TV183013.30.52

Sampler Initials: CB

### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

---

Mike MacGillivray, Scientific Specialist (Inorganics)



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Automated Statchk

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Your P.O. #: TV183013.30.52  
 Your Project #: TV183013.30.52.5290.573000  
 Site#: MONTAGUE GOLD MINES  
 Site Location: MONTAGUE  
 Your C.O.C. #: N/A

**Attention: Candace Stephens**

Wood Environment & Infrastructure Solutions, a division of Wood  
 Canada Limited  
 50 Troop Ave  
 Unit 300  
 Dartmouth, NS  
 CANADA B3B 1Z1

**Report Date: 2021/09/01**  
 Report #: R6792639  
 Version: 2 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C1N6988**

**Received: 2021/08/18, 12:15**

Sample Matrix: Soil  
 # Samples Received: 35

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
TEH in Soil (PIRI) (2)	2	2021/08/20	2021/08/20	ATL SOP 00111	Atl. RBCA v3.1 m
Metals Solids Acid Extr. ICPMS	9	2021/08/23	2021/08/23	ATL SOP 00058	EPA 6020B R2 m
Metals Solids Acid Extr. ICPMS	7	2021/08/23	2021/08/24	ATL SOP 00058	EPA 6020B R2 m
Metals Solids Acid Extr. ICPMS	4	2021/08/24	2021/08/24	ATL SOP 00058	EPA 6020B R2 m
Metals Solids Acid Extr. ICPMS	15	2021/08/24	2021/08/25	ATL SOP 00058	EPA 6020B R2 m
Total Cyanide (1)	6	2021/08/25	2021/08/26	STL SOP-00035	MA300-CN 1.2 R4 m
Total Cyanide (1)	4	2021/08/25	2021/08/30	STL SOP-00035	MA300-CN 1.2 R4 m
Water Content (Subcontracted) (1, 3)	6	N/A	2021/08/27	STL SOP-00021	MA.100-S.T. 1.1 R5 m
Water Content (Subcontracted) (1, 3)	4	N/A	2021/08/31	STL SOP-00021	MA.100-S.T. 1.1 R5 m
Moisture	2	N/A	2021/08/20	ATL SOP 00001	OMOE Handbook 1983 m
ModTPH (T1) Calc. for Soil	2	N/A	2021/08/24	N/A	Atl. RBCA v3.1 m
VPH in Soil (PIRI) - Field Preserved (4)	2	N/A	2021/08/23	ATL SOP 00119	Atl. RBCA v3.1 m

**Remarks:**

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.





Your P.O. #: TV183013.30.52  
Your Project #: TV183013.30.52.5290.573000  
Site#: MONTAGUE GOLD MINES  
Site Location: MONTAGUE  
Your C.O.C. #: N/A

**Attention: Candace Stephens**

Wood Environment & Infrastructure Solutions, a division of Wood  
Canada Limited  
50 Troop Ave  
Unit 300  
Dartmouth, NS  
CANADA B3B 1Z1

**Report Date: 2021/09/01**  
Report #: R6792639  
Version: 2 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C1N6988**

**Received: 2021/08/18, 12:15**

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

- (1) This test was performed by Bureau Veritas Montreal via Bedford
- (2) Soils are reported on a dry weight basis unless otherwise specified.
- (3) Offsite analysis requires that subcontracted moisture be reported.
- (4) No lab extraction date is given for C6-C10/BTEX and VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.

**Encryption Key**

Please direct all questions regarding this Certificate of Analysis to your Project Manager.  
Atena Georgescu, Project Manager II  
Email: Atena.Georgescu@bureauveritas.com  
Phone# (902)420-0203 Ext:239

=====  
BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



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BV Labs Job #: C1N6988  
Report Date: 2021/09/01

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.52  
Sampler Initials: CB

### RESULTS OF ANALYSES OF SOIL

<b>BV Labs ID</b>		QKV402	QKV403	QKV404	QKV405	QKV415	QKV416	QKV417		
<b>Sampling Date</b>		2021/08/17	2021/08/17	2021/08/17	2021/08/17	2021/08/17	2021/08/17	2021/08/17		
<b>COC Number</b>		N/A	N/A	N/A	N/A	N/A	N/A	N/A		
	<b>UNITS</b>	<b>2021-SS24-A</b>	<b>2021-SS23-A</b>	<b>2021-SS23-B</b>	<b>2021-SS23-C</b>	<b>2021-SS68-A</b>	<b>2021-SS68-B</b>	<b>2021-SS67-A</b>	<b>RDL</b>	<b>QC Batch</b>

#### Physical Testing

Moisture-Subcontracted	%w/w	36	15	20	15	46	43	82	0.50	7554472
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RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

<b>BV Labs ID</b>		QKV418	QKV419	QKV420			QKV425	QKV426		
<b>Sampling Date</b>		2021/08/17	2021/08/17	2021/08/17			2021/08/17	2021/08/17		
<b>COC Number</b>		N/A	N/A	N/A			N/A	N/A		
	<b>UNITS</b>	<b>2021-SS66-A</b>	<b>2021-SS66-B</b>	<b>2021-SS66-C</b>	<b>RDL</b>	<b>QC Batch</b>	<b>2021-SS25-A</b>	<b>2021-SS25-B</b>	<b>RDL</b>	<b>QC Batch</b>

#### Inorganics

Moisture	%						14	18	1	7531440
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#### Physical Testing

Moisture-Subcontracted	%w/w	82	87	87	0.50	7554472				
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RDL = Reportable Detection Limit

QC Batch = Quality Control Batch



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BV Labs Job #: C1N6988

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Wood Environment & Infrastructure Solutions, a division of

Wood Canada Limited

Client Project #: TV183013.30.52.5290.573000

Site Location: MONTAGUE

Your P.O. #: TV183013.30.52

Sampler Initials: CB

### CONVENTIONALS (SOIL)

<b>BV Labs ID</b>		QKV402		QKV403	QKV404	QKV405		QKV415	QKV416		
<b>Sampling Date</b>		2021/08/17		2021/08/17	2021/08/17	2021/08/17		2021/08/17	2021/08/17		
<b>COC Number</b>		N/A		N/A	N/A	N/A		N/A	N/A		
	<b>UNITS</b>	<b>2021-SS24-A</b>	<b>RDL</b>	<b>2021-SS23-A</b>	<b>2021-SS23-B</b>	<b>2021-SS23-C</b>	<b>RDL</b>	<b>2021-SS68-A</b>	<b>2021-SS68-B</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Inorganics</b>											
Total Cyanide (CN)	mg/kg	1.8	1.0	<0.50	<0.50	<0.50	0.50	<1.0	<1.0	1.0	7554473
RDL = Reportable Detection Limit											
QC Batch = Quality Control Batch											

<b>BV Labs ID</b>		QKV417	QKV418	QKV419	QKV420		
<b>Sampling Date</b>		2021/08/17	2021/08/17	2021/08/17	2021/08/17		
<b>COC Number</b>		N/A	N/A	N/A	N/A		
	<b>UNITS</b>	<b>2021-SS67-A</b>	<b>2021-SS66-A</b>	<b>2021-SS66-B</b>	<b>2021-SS66-C</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Inorganics</b>							
Total Cyanide (CN)	mg/kg	4.9	<4.0	<4.0	4.5	4.0	7554473
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							



**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QKV392	QKV393	QKV394	QKV395	QKV396	QKV397		
Sampling Date		2021/08/17	2021/08/17	2021/08/17	2021/08/17	2021/08/17	2021/08/17		
COC Number		N/A	N/A	N/A	N/A	N/A	N/A		
	UNITS	2021-SS30-A	2021-SS30-B	2021-SS29-A	2021-SS29-B	2021-SS28-A	2021-SS28-B	RDL	QC Batch
<b>Metals</b>									
Acid Extractable Aluminum (Al)	mg/kg	4700	12000	3100	15000	21000	24000	10	7535491
Acid Extractable Antimony (Sb)	mg/kg	<2	<2	<2	<2	<2	<2	2	7535491
Acid Extractable Arsenic (As)	mg/kg	18	130	59	250	400	490	2	7535491
Acid Extractable Barium (Ba)	mg/kg	43	32	24	23	48	28	5	7535491
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	<2	<2	<2	<2	2	7535491
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	<2	<2	<2	<2	2	7535491
Acid Extractable Boron (B)	mg/kg	<50	<50	<50	<50	<50	<50	50	7535491
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.3	7535491
Acid Extractable Chromium (Cr)	mg/kg	6	16	4	15	23	23	2	7535491
Acid Extractable Cobalt (Co)	mg/kg	3	6	1	5	11	8	1	7535491
Acid Extractable Copper (Cu)	mg/kg	18	9	7	11	33	22	2	7535491
Acid Extractable Iron (Fe)	mg/kg	8000	19000	5700	25000	34000	44000	50	7535491
Acid Extractable Lead (Pb)	mg/kg	120	14	21	12	71	26	0.5	7535491
Acid Extractable Lithium (Li)	mg/kg	2	19	3	24	28	24	2	7535491
Acid Extractable Manganese (Mn)	mg/kg	97	240	60	210	520	450	2	7535491
Acid Extractable Mercury (Hg)	mg/kg	0.7	0.1	0.2	<0.1	0.7	0.4	0.1	7535491
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	<2	<2	<2	<2	2	7535491
Acid Extractable Nickel (Ni)	mg/kg	16	15	6	18	28	17	2	7535491
Acid Extractable Rubidium (Rb)	mg/kg	4	21	5	22	21	14	2	7535491
Acid Extractable Selenium (Se)	mg/kg	1.5	0.7	<0.5	<0.5	0.6	2.0	0.5	7535491
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	7535491
Acid Extractable Strontium (Sr)	mg/kg	10	5	5	<5	12	<5	5	7535491
Acid Extractable Thallium (Tl)	mg/kg	0.1	0.2	<0.1	0.2	0.2	0.2	0.1	7535491
Acid Extractable Tin (Sn)	mg/kg	2	<1	1	<1	3	1	1	7535491
Acid Extractable Uranium (U)	mg/kg	0.5	0.8	0.2	0.5	0.7	0.9	0.1	7535491
Acid Extractable Vanadium (V)	mg/kg	43	16	17	18	32	34	2	7535491
Acid Extractable Zinc (Zn)	mg/kg	43	37	18	45	93	61	5	7535491
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									



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BV Labs Job #: C1N6988  
Report Date: 2021/09/01

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.52  
Sampler Initials: CB

### ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		QKV398	QKV399	QKV400		QKV401		QKV402		
Sampling Date		2021/08/17	2021/08/17	2021/08/17		2021/08/17		2021/08/17		
COC Number		N/A	N/A	N/A		N/A		N/A		
	UNITS	2021-SS-DUPA-A	2021-SS-DUPA-B	2021-SS31-A	RDL	2021-SS31-B	RDL	2021-SS24-A	RDL	QC Batch
<b>Metals</b>										
Acid Extractable Aluminum (Al)	mg/kg	4000	13000	16000	10	17000	10	9000	10	7535491
Acid Extractable Antimony (Sb)	mg/kg	<2	<2	<2	2	<2	2	<2	2	7535491
Acid Extractable Arsenic (As)	mg/kg	65	180	460	2	480	20	490	2	7535491
Acid Extractable Barium (Ba)	mg/kg	42	22	31	5	35	5	51	5	7535491
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	<2	2	<2	2	<2	2	7535491
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	<2	2	<2	2	<2	2	7535491
Acid Extractable Boron (B)	mg/kg	<50	<50	<50	50	<50	50	<50	50	7535491
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	<0.3	<0.3	0.3	<0.3	0.3	<0.3	0.3	7535491
Acid Extractable Chromium (Cr)	mg/kg	6	13	17	2	19	2	12	2	7535491
Acid Extractable Cobalt (Co)	mg/kg	1	4	8	1	9	1	4	1	7535491
Acid Extractable Copper (Cu)	mg/kg	10	10	19	2	22	2	17	2	7535491
Acid Extractable Iron (Fe)	mg/kg	6900	20000	29000	50	31000	50	20000	50	7535491
Acid Extractable Lead (Pb)	mg/kg	34	11	34	0.5	36	0.5	59	0.5	7535491
Acid Extractable Lithium (Li)	mg/kg	4	21	22	2	24	2	11	2	7535491
Acid Extractable Manganese (Mn)	mg/kg	91	160	450	2	500	2	190	2	7535491
Acid Extractable Mercury (Hg)	mg/kg	0.3	<0.1	0.4	0.1	0.5	0.1	1.1	0.1	7535491
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	<2	2	<2	2	<2	2	7535491
Acid Extractable Nickel (Ni)	mg/kg	9	14	20	2	21	2	19	2	7535491
Acid Extractable Rubidium (Rb)	mg/kg	7	19	22	2	24	2	15	2	7535491
Acid Extractable Selenium (Se)	mg/kg	0.6	<0.5	0.5	0.5	0.6	0.5	0.7	0.5	7535491
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	7535491
Acid Extractable Strontium (Sr)	mg/kg	10	<5	7	5	5	5	14	5	7535491
Acid Extractable Thallium (Tl)	mg/kg	<0.1	0.2	0.2	0.1	0.2	0.1	0.2	0.1	7535491
Acid Extractable Tin (Sn)	mg/kg	1	1	2	1	2	1	1	1	7535491
Acid Extractable Uranium (U)	mg/kg	0.2	0.4	0.6	0.1	0.7	0.1	0.4	0.1	7535491
Acid Extractable Vanadium (V)	mg/kg	25	15	29	2	30	2	36	2	7535491
Acid Extractable Zinc (Zn)	mg/kg	30	37	51	5	54	5	46	5	7535491
RDL = Reportable Detection Limit QC Batch = Quality Control Batch										



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BV Labs Job #: C1N6988  
Report Date: 2021/09/01

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.52  
Sampler Initials: CB

### ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		QKV403	QKV404		QKV405	QKV405		QKV406		
Sampling Date		2021/08/17	2021/08/17		2021/08/17	2021/08/17		2021/08/17		
COC Number		N/A	N/A		N/A	N/A		N/A		
	UNITS	2021-SS23-A	2021-SS23-B	RDL	2021-SS23-C	2021-SS23-C Lab-Dup	RDL	2021-SS71-A	RDL	QC Batch

Metals										
Acid Extractable Aluminum (Al)	mg/kg	10000	16000	10	11000	12000	10	17000	10	7535491
Acid Extractable Antimony (Sb)	mg/kg	3	2	2	4	4	2	<2	2	7535491
Acid Extractable Arsenic (As)	mg/kg	4800	1800	20	4200	4600	200	400	2	7535491
Acid Extractable Barium (Ba)	mg/kg	30	48	5	37	41	5	23	5	7535491
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	2	<2	<2	2	<2	2	7535491
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	2	<2	<2	2	<2	2	7535491
Acid Extractable Boron (B)	mg/kg	<50	<50	50	<50	<50	50	<50	50	7535491
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	<0.3	0.3	<0.3	<0.3	0.3	<0.3	0.3	7535491
Acid Extractable Chromium (Cr)	mg/kg	10	16	2	12	13	2	20	2	7535491
Acid Extractable Cobalt (Co)	mg/kg	12	12	1	10	11	1	16	1	7535491
Acid Extractable Copper (Cu)	mg/kg	38	37	2	42	42	2	36	2	7535491
Acid Extractable Iron (Fe)	mg/kg	25000	31000	50	27000	29000	50	33000	50	7535491
Acid Extractable Lead (Pb)	mg/kg	72	42	0.5	56	67	0.5	43	0.5	7535491
Acid Extractable Lithium (Li)	mg/kg	20	29	2	21	22	2	29	2	7535491
Acid Extractable Manganese (Mn)	mg/kg	520	590	2	370	410	2	540	2	7535491
Acid Extractable Mercury (Hg)	mg/kg	3.3	2.1	0.1	4.3	4.7	0.1	1.0	0.1	7535491
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	2	<2	<2	2	<2	2	7535491
Acid Extractable Nickel (Ni)	mg/kg	23	26	2	25	21	2	34	2	7535491
Acid Extractable Rubidium (Rb)	mg/kg	13	18	2	14	15	2	14	2	7535491
Acid Extractable Selenium (Se)	mg/kg	<0.5	<0.5	0.5	<0.5	<0.5	0.5	<0.5	0.5	7535491
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	0.5	<0.5	<0.5	0.5	<0.5	0.5	7535491
Acid Extractable Strontium (Sr)	mg/kg	9	10	5	11	11	5	7	5	7535491
Acid Extractable Thallium (Tl)	mg/kg	0.1	0.2	0.1	0.2	0.2	0.1	0.2	0.1	7535491
Acid Extractable Tin (Sn)	mg/kg	<1	1	1	<1	<1	1	6	1	7535491
Acid Extractable Uranium (U)	mg/kg	0.6	0.6	0.1	0.5	0.6	0.1	0.9	0.1	7535491
Acid Extractable Vanadium (V)	mg/kg	18	18	2	13	14	2	25	2	7535491
Acid Extractable Zinc (Zn)	mg/kg	65	79	5	71	78	5	67	5	7535491

RDL = Reportable Detection Limit  
QC Batch = Quality Control Batch  
Lab-Dup = Laboratory Initiated Duplicate



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BV Labs Job #: C1N6988  
Report Date: 2021/09/01

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.52  
Sampler Initials: CB

### ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		QKV407		QKV408	QKV409	QKV410		QKV411		
Sampling Date		2021/08/17		2021/08/17	2021/08/17	2021/08/17		2021/08/17		
COC Number		N/A		N/A	N/A	N/A		N/A		
	UNITS	2021-SS72-A	QC Batch	2021-SS72-B	2021-SS73-A	2021-SS73-B	RDL	2021-SS69-A	RDL	QC Batch
<b>Metals</b>										
Acid Extractable Aluminum (Al)	mg/kg	6800	7535491	24000	19000	16000	10	6100	10	7537319
Acid Extractable Antimony (Sb)	mg/kg	<2	7535491	<2	<2	<2	2	<2	2	7537319
Acid Extractable Arsenic (As)	mg/kg	54	7535491	130	84	64	2	1100	20	7537319
Acid Extractable Barium (Ba)	mg/kg	13	7535491	27	28	19	5	9	5	7537319
Acid Extractable Beryllium (Be)	mg/kg	<2	7535491	<2	<2	<2	2	<2	2	7537319
Acid Extractable Bismuth (Bi)	mg/kg	<2	7535491	<2	<2	<2	2	5	2	7537319
Acid Extractable Boron (B)	mg/kg	<50	7535491	<50	<50	<50	50	<50	50	7537319
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	7535491	<0.3	<0.3	<0.3	0.3	<0.3	0.3	7537319
Acid Extractable Chromium (Cr)	mg/kg	5	7535491	22	12	17	2	5	2	7537319
Acid Extractable Cobalt (Co)	mg/kg	2	7535491	7	3	8	1	4	1	7537319
Acid Extractable Copper (Cu)	mg/kg	5	7535491	14	11	25	2	250	2	7537319
Acid Extractable Iron (Fe)	mg/kg	7700	7535491	37000	21000	28000	50	15000	50	7537319
Acid Extractable Lead (Pb)	mg/kg	15	7535491	11	16	6.4	0.5	400	0.5	7537319
Acid Extractable Lithium (Li)	mg/kg	4	7535491	21	17	22	2	9	2	7537319
Acid Extractable Manganese (Mn)	mg/kg	49	7535491	170	110	260	2	170	2	7537319
Acid Extractable Mercury (Hg)	mg/kg	0.3	7535491	0.1	0.3	<0.1	0.1	26	0.1	7537319
Acid Extractable Molybdenum (Mo)	mg/kg	<2	7535491	<2	<2	<2	2	<2	2	7537319
Acid Extractable Nickel (Ni)	mg/kg	4	7535491	20	12	25	2	12	2	7537319
Acid Extractable Rubidium (Rb)	mg/kg	9	7535491	18	20	19	2	8	2	7537319
Acid Extractable Selenium (Se)	mg/kg	<0.5	7535491	1.5	1.5	0.6	0.5	<0.5	0.5	7537319
Acid Extractable Silver (Ag)	mg/kg	<0.5	7535491	<0.5	<0.5	<0.5	0.5	1.0	0.5	7537319
Acid Extractable Strontium (Sr)	mg/kg	<5	7535491	<5	<5	<5	5	<5	5	7537319
Acid Extractable Thallium (Tl)	mg/kg	0.1	7535491	0.2	0.2	0.2	0.1	0.2	0.1	7537319
Acid Extractable Tin (Sn)	mg/kg	<1	7535491	<1	<1	<1	1	<1	1	7537319
Acid Extractable Uranium (U)	mg/kg	0.3	7535491	0.8	0.4	0.5	0.1	0.3	0.1	7537319
Acid Extractable Vanadium (V)	mg/kg	17	7535491	37	21	17	2	7	2	7537319
Acid Extractable Zinc (Zn)	mg/kg	12	7535491	50	29	56	5	220	5	7537319
RDL = Reportable Detection Limit QC Batch = Quality Control Batch										



BV Labs Job #: C1N6988  
 Report Date: 2021/09/01

Wood Environment & Infrastructure Solutions, a division of  
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 Client Project #: TV183013.30.52.5290.573000  
 Site Location: MONTAGUE  
 Your P.O. #: TV183013.30.52  
 Sampler Initials: CB

**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QKV412	QKV413	QKV414		QKV415		QKV416		
Sampling Date		2021/08/17	2021/08/17	2021/08/17		2021/08/17		2021/08/17		
COC Number		N/A	N/A	N/A		N/A		N/A		
	UNITS	2021-SS69-B	2021-DUP-1-A	2021-DUP-1-B	RDL	2021-SS68-A	RDL	2021-SS68-B	RDL	QC Batch
<b>Metals</b>										
Acid Extractable Aluminum (Al)	mg/kg	4900	6200	4900	10	11000	10	10000	10	7537319
Acid Extractable Antimony (Sb)	mg/kg	<2	<2	<2	2	2	2	2	2	7537319
Acid Extractable Arsenic (As)	mg/kg	2400	1300	2400	20	780	20	460	2	7537319
Acid Extractable Barium (Ba)	mg/kg	13	10	15	5	34	5	36	5	7537319
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	<2	2	<2	2	<2	2	7537319
Acid Extractable Bismuth (Bi)	mg/kg	5	6	4	2	5	2	5	2	7537319
Acid Extractable Boron (B)	mg/kg	<50	<50	<50	50	<50	50	<50	50	7537319
Acid Extractable Cadmium (Cd)	mg/kg	0.9	<0.3	1.0	0.3	0.6	0.3	0.7	0.3	7537319
Acid Extractable Chromium (Cr)	mg/kg	4	5	4	2	10	2	9	2	7537319
Acid Extractable Cobalt (Co)	mg/kg	4	5	3	1	8	1	7	1	7537319
Acid Extractable Copper (Cu)	mg/kg	490	300	440	2	450	2	450	2	7537319
Acid Extractable Iron (Fe)	mg/kg	13000	16000	14000	50	25000	50	20000	50	7537319
Acid Extractable Lead (Pb)	mg/kg	450	470	400	0.5	420	0.5	400	0.5	7537319
Acid Extractable Lithium (Li)	mg/kg	8	9	8	2	17	2	15	2	7537319
Acid Extractable Manganese (Mn)	mg/kg	190	200	150	2	200	2	190	2	7537319
Acid Extractable Mercury (Hg)	mg/kg	28	30	24	0.1	79	1	73	1	7537319
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	<2	2	<2	2	<2	2	7537319
Acid Extractable Nickel (Ni)	mg/kg	9	12	10	2	25	2	26	2	7537319
Acid Extractable Rubidium (Rb)	mg/kg	6	8	6	2	14	2	12	2	7537319
Acid Extractable Selenium (Se)	mg/kg	<0.5	<0.5	<0.5	0.5	<0.5	0.5	0.9	0.5	7537319
Acid Extractable Silver (Ag)	mg/kg	1.2	1.2	1.1	0.5	1.3	0.5	1.2	0.5	7537319
Acid Extractable Strontium (Sr)	mg/kg	<5	<5	<5	5	10	5	11	5	7537319
Acid Extractable Thallium (Tl)	mg/kg	0.3	0.2	0.2	0.1	0.2	0.1	0.2	0.1	7537319
Acid Extractable Tin (Sn)	mg/kg	<1	<1	<1	1	<1	1	<1	1	7537319
Acid Extractable Uranium (U)	mg/kg	0.3	0.3	0.3	0.1	0.7	0.1	0.7	0.1	7537319
Acid Extractable Vanadium (V)	mg/kg	4	8	4	2	12	2	9	2	7537319
Acid Extractable Zinc (Zn)	mg/kg	180	220	180	5	350	5	360	5	7537319
RDL = Reportable Detection Limit QC Batch = Quality Control Batch										





BV Labs Job #: C1N6988  
Report Date: 2021/09/01

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.52  
Sampler Initials: CB

### ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		QKV417	QKV418	QKV419	QKV420	QKV421	QKV422		
Sampling Date		2021/08/17	2021/08/17	2021/08/17	2021/08/17	2021/08/17	2021/08/17		
COC Number		N/A	N/A	N/A	N/A	N/A	N/A		
	UNITS	2021-SS67-A	2021-SS66-A	2021-SS66-B	2021-SS66-C	2021-SS65-A	2021-SS70-A	RDL	QC Batch
<b>Metals</b>									
Acid Extractable Aluminum (Al)	mg/kg	8000	6600	9200	10000	1900	1700	10	7537319
Acid Extractable Antimony (Sb)	mg/kg	<2	<2	<2	<2	<2	<2	2	7537319
Acid Extractable Arsenic (As)	mg/kg	160	31	29	37	50	21	2	7537319
Acid Extractable Barium (Ba)	mg/kg	33	60	32	34	34	65	5	7537319
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	<2	<2	<2	<2	2	7537319
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	<2	<2	<2	<2	2	7537319
Acid Extractable Boron (B)	mg/kg	<50	<50	<50	<50	<50	<50	50	7537319
Acid Extractable Cadmium (Cd)	mg/kg	0.4	0.4	0.3	0.3	0.3	0.6	0.3	7537319
Acid Extractable Chromium (Cr)	mg/kg	8	<2	9	9	3	<2	2	7537319
Acid Extractable Cobalt (Co)	mg/kg	2	2	1	1	2	<1	1	7537319
Acid Extractable Copper (Cu)	mg/kg	96	12	21	21	14	9	2	7537319
Acid Extractable Iron (Fe)	mg/kg	6000	3100	1900	2600	4800	2400	50	7537319
Acid Extractable Lead (Pb)	mg/kg	250	12	9.9	13	64	44	0.5	7537319
Acid Extractable Lithium (Li)	mg/kg	<2	<2	<2	<2	<2	<2	2	7537319
Acid Extractable Manganese (Mn)	mg/kg	35	130	83	81	47	46	2	7537319
Acid Extractable Mercury (Hg)	mg/kg	23	0.7	0.3	0.4	1.3	0.5	0.1	7537319
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	<2	<2	<2	<2	2	7537319
Acid Extractable Nickel (Ni)	mg/kg	9	7	8	8	12	7	2	7537319
Acid Extractable Rubidium (Rb)	mg/kg	<2	<2	<2	2	3	<2	2	7537319
Acid Extractable Selenium (Se)	mg/kg	8.0	2.6	6.5	7.9	0.7	1.8	0.5	7537319
Acid Extractable Silver (Ag)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	7537319
Acid Extractable Strontium (Sr)	mg/kg	12	24	12	11	15	29	5	7537319
Acid Extractable Thallium (Tl)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	7537319
Acid Extractable Tin (Sn)	mg/kg	<1	<1	<1	<1	1	<1	1	7537319
Acid Extractable Uranium (U)	mg/kg	1.9	0.7	2.0	2.1	0.2	0.2	0.1	7537319
Acid Extractable Vanadium (V)	mg/kg	10	6	5	7	25	32	2	7537319
Acid Extractable Zinc (Zn)	mg/kg	36	28	12	18	29	31	5	7537319
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									



**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QKV423	QKV424			QKV425			QKV426		
Sampling Date		2021/08/17	2021/08/17			2021/08/17			2021/08/17		
COC Number		N/A	N/A			N/A			N/A		
	UNITS	2021-SS70-B	2021-SS70-C	RDL	QC Batch	2021-SS25-A	RDL	QC Batch	2021-SS25-B	RDL	QC Batch
<b>Metals</b>											
Acid Extractable Aluminum (Al)	mg/kg	3000	2500	10	7537319	13000	10	7537321	15000	10	7537319
Acid Extractable Antimony (Sb)	mg/kg	<2	<2	2	7537319	<2	2	7537321	<2	2	7537319
Acid Extractable Arsenic (As)	mg/kg	12	14	2	7537319	760	20	7537321	390	2	7537319
Acid Extractable Barium (Ba)	mg/kg	35	34	5	7537319	26	5	7537321	24	5	7537319
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	2	7537319	<2	2	7537321	<2	2	7537319
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	2	7537319	<2	2	7537321	<2	2	7537319
Acid Extractable Boron (B)	mg/kg	<50	<50	50	7537319	<50	50	7537321	<50	50	7537319
Acid Extractable Cadmium (Cd)	mg/kg	0.3	0.4	0.3	7537319	<0.3	0.3	7537321	<0.3	0.3	7537319
Acid Extractable Chromium (Cr)	mg/kg	3	2	2	7537319	16	2	7537321	15	2	7537319
Acid Extractable Cobalt (Co)	mg/kg	<1	<1	1	7537319	8	1	7537321	3	1	7537319
Acid Extractable Copper (Cu)	mg/kg	10	7	2	7537319	25	2	7537321	12	2	7537319
Acid Extractable Iron (Fe)	mg/kg	1700	1700	50	7537319	30000	50	7537321	30000	50	7537319
Acid Extractable Lead (Pb)	mg/kg	18	12	0.5	7537319	32	0.5	7537321	7.6	0.5	7537319
Acid Extractable Lithium (Li)	mg/kg	<2	<2	2	7537319	21	2	7537321	17	2	7537319
Acid Extractable Manganese (Mn)	mg/kg	51	51	2	7537319	330	2	7537321	120	2	7537319
Acid Extractable Mercury (Hg)	mg/kg	0.3	0.3	0.1	7537319	1.1	0.1	7537321	0.1	0.1	7537319
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	2	7537319	<2	2	7537321	<2	2	7537319
Acid Extractable Nickel (Ni)	mg/kg	5	5	2	7537319	18	2	7537321	11	2	7537319
Acid Extractable Rubidium (Rb)	mg/kg	<2	<2	2	7537319	11	2	7537321	11	2	7537319
Acid Extractable Selenium (Se)	mg/kg	4.5	3.4	0.5	7537319	0.6	0.5	7537321	0.8	0.5	7537319
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	0.5	7537319	<0.5	0.5	7537321	<0.5	0.5	7537319
Acid Extractable Strontium (Sr)	mg/kg	21	23	5	7537319	6	5	7537321	<5	5	7537319
Acid Extractable Thallium (Tl)	mg/kg	<0.1	<0.1	0.1	7537319	0.1	0.1	7537321	0.1	0.1	7537319
Acid Extractable Tin (Sn)	mg/kg	<1	<1	1	7537319	<1	1	7537321	<1	1	7537319
Acid Extractable Uranium (U)	mg/kg	0.9	0.7	0.1	7537319	0.6	0.1	7537321	0.4	0.1	7537319
Acid Extractable Vanadium (V)	mg/kg	10	8	2	7537319	24	2	7537321	19	2	7537319
Acid Extractable Zinc (Zn)	mg/kg	21	24	5	7537319	53	5	7537321	28	5	7537319
RDL = Reportable Detection Limit QC Batch = Quality Control Batch											



BV Labs Job #: C1N6988  
 Report Date: 2021/09/01

Wood Environment & Infrastructure Solutions, a division of  
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 Your P.O. #: TV183013.30.52  
 Sampler Initials: CB

**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QKV426		
Sampling Date		2021/08/17		
COC Number		N/A		
	UNITS	2021-SS25-B Lab-Dup	RDL	QC Batch
<b>Metals</b>				
Acid Extractable Aluminum (Al)	mg/kg	17000	10	7537319
Acid Extractable Antimony (Sb)	mg/kg	<2	2	7537319
Acid Extractable Arsenic (As)	mg/kg	400	2	7537319
Acid Extractable Barium (Ba)	mg/kg	26	5	7537319
Acid Extractable Beryllium (Be)	mg/kg	<2	2	7537319
Acid Extractable Bismuth (Bi)	mg/kg	<2	2	7537319
Acid Extractable Boron (B)	mg/kg	<50	50	7537319
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	0.3	7537319
Acid Extractable Chromium (Cr)	mg/kg	17	2	7537319
Acid Extractable Cobalt (Co)	mg/kg	3	1	7537319
Acid Extractable Copper (Cu)	mg/kg	14	2	7537319
Acid Extractable Iron (Fe)	mg/kg	36000	50	7537319
Acid Extractable Lead (Pb)	mg/kg	8.3	0.5	7537319
Acid Extractable Lithium (Li)	mg/kg	19	2	7537319
Acid Extractable Manganese (Mn)	mg/kg	130	2	7537319
Acid Extractable Mercury (Hg)	mg/kg	0.1	0.1	7537319
Acid Extractable Molybdenum (Mo)	mg/kg	<2	2	7537319
Acid Extractable Nickel (Ni)	mg/kg	13	2	7537319
Acid Extractable Rubidium (Rb)	mg/kg	13	2	7537319
Acid Extractable Selenium (Se)	mg/kg	0.9	0.5	7537319
Acid Extractable Silver (Ag)	mg/kg	<0.5	0.5	7537319
Acid Extractable Strontium (Sr)	mg/kg	<5	5	7537319
Acid Extractable Thallium (Tl)	mg/kg	0.1	0.1	7537319
Acid Extractable Tin (Sn)	mg/kg	<1	1	7537319
Acid Extractable Uranium (U)	mg/kg	0.4	0.1	7537319
Acid Extractable Vanadium (V)	mg/kg	22	2	7537319
Acid Extractable Zinc (Zn)	mg/kg	33	5	7537319
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate				



BV Labs Job #: C1N6988  
 Report Date: 2021/09/01

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 Your P.O. #: TV183013.30.52  
 Sampler Initials: CB

**ATLANTIC RBCA HYDROCARBONS (SOIL)**

BV Labs ID		QKV425	QKV426		
Sampling Date		2021/08/17	2021/08/17		
COC Number		N/A	N/A		
	UNITS	2021-SS25-A	2021-SS25-B	RDL	QC Batch
<b>Petroleum Hydrocarbons</b>					
Benzene	mg/kg	<0.025	<0.025	0.025	7535611
Toluene	mg/kg	<0.050	<0.050	0.050	7535611
Ethylbenzene	mg/kg	<0.025	<0.025	0.025	7535611
Total Xylenes	mg/kg	<0.050	<0.050	0.050	7535611
C6 - C10 (less BTEX)	mg/kg	<2.5	<2.5	2.5	7535611
>C10-C16 Hydrocarbons	mg/kg	<10	<10	10	7532043
>C16-C21 Hydrocarbons	mg/kg	<10	<10	10	7532043
>C21-<C32 Hydrocarbons	mg/kg	<20	<20	20	7532043
Modified TPH (Tier1)	mg/kg	<20	<20	20	7531416
Reached Baseline at C32	mg/kg	NA	NA	N/A	7532043
Hydrocarbon Resemblance	mg/kg	NA	NA	N/A	7532043
<b>Surrogate Recovery (%)</b>					
Isobutylbenzene - Extractable	%	86	91		7532043
n-Dotriacontane - Extractable	%	89	90		7532043
Isobutylbenzene - Volatile	%	90	93		7535611
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable					



BUREAU  
VERITAS

BV Labs Job #: C1N6988

Report Date: 2021/09/01

Wood Environment & Infrastructure Solutions, a division of

Wood Canada Limited

Client Project #: TV183013.30.52.5290.573000

Site Location: MONTAGUE

Your P.O. #: TV183013.30.52

Sampler Initials: CB

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	3.3°C
Package 2	3.0°C
Package 3	1.7°C

**Results relate only to the items tested.**



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BV Labs Job #: C1N6988

Report Date: 2021/09/01

### QUALITY ASSURANCE REPORT

Wood Environment & Infrastructure Solutions, a division of

Wood Canada Limited

Client Project #: TV183013.30.52.5290.573000

Site Location: MONTAGUE

Your P.O. #: TV183013.30.52

Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7532043	Isobutylbenzene - Extractable	2021/08/20	89	60 - 130	90	60 - 130	93	%		
7532043	n-Dotriacontane - Extractable	2021/08/20	92	60 - 130	88	60 - 130	99	%		
7535611	Isobutylbenzene - Volatile	2021/08/23	91	60 - 130	96	60 - 130	94	%		
7531440	Moisture	2021/08/20							8.1	25
7532043	>C10-C16 Hydrocarbons	2021/08/20	99	30 - 130	99	60 - 130	<10	mg/kg	NC	50
7532043	>C16-C21 Hydrocarbons	2021/08/20	99	30 - 130	98	60 - 130	<10	mg/kg	4.3	50
7532043	>C21-<C32 Hydrocarbons	2021/08/20	NC	30 - 130	96	60 - 130	<20	mg/kg	8.3	50
7535491	Acid Extractable Aluminum (Al)	2021/08/24					<10	mg/kg	8.3	35
7535491	Acid Extractable Antimony (Sb)	2021/08/24	107	75 - 125	108	75 - 125	<2	mg/kg	14	35
7535491	Acid Extractable Arsenic (As)	2021/08/24	NC	75 - 125	104	75 - 125	<2	mg/kg	9.9	35
7535491	Acid Extractable Barium (Ba)	2021/08/24	105	75 - 125	102	75 - 125	<5	mg/kg	9.8	35
7535491	Acid Extractable Beryllium (Be)	2021/08/24	98	75 - 125	99	75 - 125	<2	mg/kg	NC	35
7535491	Acid Extractable Bismuth (Bi)	2021/08/24	100	75 - 125	100	75 - 125	<2	mg/kg	NC	35
7535491	Acid Extractable Boron (B)	2021/08/24	93	75 - 125	99	75 - 125	<50	mg/kg	NC	35
7535491	Acid Extractable Cadmium (Cd)	2021/08/24	103	75 - 125	103	75 - 125	<0.3	mg/kg	NC	35
7535491	Acid Extractable Chromium (Cr)	2021/08/24	103	75 - 125	101	75 - 125	<2	mg/kg	7.4	35
7535491	Acid Extractable Cobalt (Co)	2021/08/24	100	75 - 125	100	75 - 125	<1	mg/kg	3.6	35
7535491	Acid Extractable Copper (Cu)	2021/08/24	100	75 - 125	101	75 - 125	<2	mg/kg	1.4	35
7535491	Acid Extractable Iron (Fe)	2021/08/24					<50	mg/kg	6.5	35
7535491	Acid Extractable Lead (Pb)	2021/08/24	NC	75 - 125	102	75 - 125	<0.5	mg/kg	18	35
7535491	Acid Extractable Lithium (Li)	2021/08/24	108	75 - 125	110	75 - 125	<2	mg/kg	2.7	35
7535491	Acid Extractable Manganese (Mn)	2021/08/24	NC	75 - 125	106	75 - 125	<2	mg/kg	12	35
7535491	Acid Extractable Mercury (Hg)	2021/08/24	96	75 - 125	107	75 - 125	<0.1	mg/kg	9.7	35
7535491	Acid Extractable Molybdenum (Mo)	2021/08/24	104	75 - 125	106	75 - 125	<2	mg/kg	NC	35
7535491	Acid Extractable Nickel (Ni)	2021/08/24	94	75 - 125	104	75 - 125	<2	mg/kg	18	35
7535491	Acid Extractable Rubidium (Rb)	2021/08/24	102	75 - 125	103	75 - 125	<2	mg/kg	7.4	35
7535491	Acid Extractable Selenium (Se)	2021/08/24	103	75 - 125	103	75 - 125	<0.5	mg/kg	NC	35
7535491	Acid Extractable Silver (Ag)	2021/08/24	109	75 - 125	104	75 - 125	<0.5	mg/kg	NC	35
7535491	Acid Extractable Strontium (Sr)	2021/08/24	106	75 - 125	103	75 - 125	<5	mg/kg	5.1	35
7535491	Acid Extractable Thallium (Tl)	2021/08/24	102	75 - 125	103	75 - 125	<0.1	mg/kg	5.3	35



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BV Labs Job #: C1N6988

Report Date: 2021/09/01

### QUALITY ASSURANCE REPORT(CONT'D)

Wood Environment & Infrastructure Solutions, a division of

Wood Canada Limited

Client Project #: TV183013.30.52.5290.573000

Site Location: MONTAGUE

Your P.O. #: TV183013.30.52

Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7535491	Acid Extractable Tin (Sn)	2021/08/24	106	75 - 125	103	75 - 125	<1	mg/kg	NC	35
7535491	Acid Extractable Uranium (U)	2021/08/24	104	75 - 125	104	75 - 125	<0.1	mg/kg	11	35
7535491	Acid Extractable Vanadium (V)	2021/08/24	104	75 - 125	104	75 - 125	<2	mg/kg	7.0	35
7535491	Acid Extractable Zinc (Zn)	2021/08/24	NC	75 - 125	106	75 - 125	<5	mg/kg	8.3	35
7535611	Benzene	2021/08/23	73	60 - 130	82	60 - 140	<0.025	mg/kg	NC	50
7535611	C6 - C10 (less BTEX)	2021/08/23					<2.5	mg/kg	NC	50
7535611	Ethylbenzene	2021/08/23	81	60 - 130	88	60 - 140	<0.025	mg/kg	NC	50
7535611	Toluene	2021/08/23	76	60 - 130	84	60 - 140	<0.050	mg/kg	NC	50
7535611	Total Xylenes	2021/08/23	79	60 - 130	84	60 - 140	<0.050	mg/kg	NC	50
7537319	Acid Extractable Aluminum (Al)	2021/08/24					<10	mg/kg	16	35
7537319	Acid Extractable Antimony (Sb)	2021/08/24	88	75 - 125	102	75 - 125	<2	mg/kg	NC	35
7537319	Acid Extractable Arsenic (As)	2021/08/24	NC	75 - 125	101	75 - 125	<2	mg/kg	2.3	35
7537319	Acid Extractable Barium (Ba)	2021/08/24	112	75 - 125	99	75 - 125	<5	mg/kg	7.3	35
7537319	Acid Extractable Beryllium (Be)	2021/08/24	100	75 - 125	100	75 - 125	<2	mg/kg	NC	35
7537319	Acid Extractable Bismuth (Bi)	2021/08/24	99	75 - 125	98	75 - 125	<2	mg/kg	NC	35
7537319	Acid Extractable Boron (B)	2021/08/24	73 (1)	75 - 125	102	75 - 125	<50	mg/kg	NC	35
7537319	Acid Extractable Cadmium (Cd)	2021/08/24	98	75 - 125	98	75 - 125	<0.3	mg/kg	NC	35
7537319	Acid Extractable Chromium (Cr)	2021/08/24	103	75 - 125	100	75 - 125	<2	mg/kg	15	35
7537319	Acid Extractable Cobalt (Co)	2021/08/24	101	75 - 125	101	75 - 125	<1	mg/kg	11	35
7537319	Acid Extractable Copper (Cu)	2021/08/24	104	75 - 125	102	75 - 125	<2	mg/kg	17	35
7537319	Acid Extractable Iron (Fe)	2021/08/24					<50	mg/kg	17	35
7537319	Acid Extractable Lead (Pb)	2021/08/24	99	75 - 125	99	75 - 125	<0.5	mg/kg	9.3	35
7537319	Acid Extractable Lithium (Li)	2021/08/24	104	75 - 125	101	75 - 125	<2	mg/kg	13	35
7537319	Acid Extractable Manganese (Mn)	2021/08/24	NC	75 - 125	100	75 - 125	<2	mg/kg	9.0	35
7537319	Acid Extractable Mercury (Hg)	2021/08/24	93	75 - 125	100	75 - 125	<0.1	mg/kg	2.0	35
7537319	Acid Extractable Molybdenum (Mo)	2021/08/24	101	75 - 125	102	75 - 125	<2	mg/kg	NC	35
7537319	Acid Extractable Nickel (Ni)	2021/08/24	103	75 - 125	104	75 - 125	<2	mg/kg	14	35
7537319	Acid Extractable Rubidium (Rb)	2021/08/24	94	75 - 125	99	75 - 125	<2	mg/kg	16	35
7537319	Acid Extractable Selenium (Se)	2021/08/24	102	75 - 125	105	75 - 125	<0.5	mg/kg	15	35
7537319	Acid Extractable Silver (Ag)	2021/08/24	100	75 - 125	99	75 - 125	<0.5	mg/kg	NC	35



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BV Labs Job #: C1N6988

Report Date: 2021/09/01

### QUALITY ASSURANCE REPORT(CONT'D)

Wood Environment & Infrastructure Solutions, a division of

Wood Canada Limited

Client Project #: TV183013.30.52.5290.573000

Site Location: MONTAGUE

Your P.O. #: TV183013.30.52

Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7537319	Acid Extractable Strontium (Sr)	2021/08/24	100	75 - 125	99	75 - 125	<5	mg/kg	NC	35
7537319	Acid Extractable Thallium (Tl)	2021/08/24	99	75 - 125	99	75 - 125	<0.1	mg/kg	19	35
7537319	Acid Extractable Tin (Sn)	2021/08/24	101	75 - 125	99	75 - 125	<1	mg/kg	NC	35
7537319	Acid Extractable Uranium (U)	2021/08/24	100	75 - 125	97	75 - 125	<0.1	mg/kg	21	35
7537319	Acid Extractable Vanadium (V)	2021/08/24	103	75 - 125	100	75 - 125	<2	mg/kg	13	35
7537319	Acid Extractable Zinc (Zn)	2021/08/24	107	75 - 125	103	75 - 125	<5	mg/kg	17	35
7537321	Acid Extractable Aluminum (Al)	2021/08/24					<10	mg/kg	6.4	35
7537321	Acid Extractable Antimony (Sb)	2021/08/24	95	75 - 125	100	75 - 125	<2	mg/kg	NC	35
7537321	Acid Extractable Arsenic (As)	2021/08/24	NC	75 - 125	100	75 - 125	<2	mg/kg	16	35
7537321	Acid Extractable Barium (Ba)	2021/08/24	101	75 - 125	96	75 - 125	<5	mg/kg	12	35
7537321	Acid Extractable Beryllium (Be)	2021/08/24	103	75 - 125	99	75 - 125	<2	mg/kg	NC	35
7537321	Acid Extractable Bismuth (Bi)	2021/08/24	101	75 - 125	94	75 - 125	<2	mg/kg	NC	35
7537321	Acid Extractable Boron (B)	2021/08/24	98	75 - 125	99	75 - 125	<50	mg/kg	NC	35
7537321	Acid Extractable Cadmium (Cd)	2021/08/24	101	75 - 125	97	75 - 125	<0.3	mg/kg	NC	35
7537321	Acid Extractable Chromium (Cr)	2021/08/24	104	75 - 125	100	75 - 125	<2	mg/kg	3.5	35
7537321	Acid Extractable Cobalt (Co)	2021/08/24	106	75 - 125	101	75 - 125	<1	mg/kg	3.3	35
7537321	Acid Extractable Copper (Cu)	2021/08/24	103	75 - 125	103	75 - 125	<2	mg/kg	10	35
7537321	Acid Extractable Iron (Fe)	2021/08/24					<50	mg/kg	4.9	35
7537321	Acid Extractable Lead (Pb)	2021/08/24	98	75 - 125	97	75 - 125	<0.5	mg/kg	12	35
7537321	Acid Extractable Lithium (Li)	2021/08/24	104	75 - 125	100	75 - 125	<2	mg/kg	0.11	35
7537321	Acid Extractable Manganese (Mn)	2021/08/24	NC	75 - 125	101	75 - 125	<2	mg/kg	4.4	35
7537321	Acid Extractable Mercury (Hg)	2021/08/24	97	75 - 125	97	75 - 125	<0.1	mg/kg	NC	35
7537321	Acid Extractable Molybdenum (Mo)	2021/08/24	105	75 - 125	99	75 - 125	<2	mg/kg	NC	35
7537321	Acid Extractable Nickel (Ni)	2021/08/24	105	75 - 125	103	75 - 125	<2	mg/kg	4.3	35
7537321	Acid Extractable Rubidium (Rb)	2021/08/24	102	75 - 125	98	75 - 125	<2	mg/kg	7.8	35
7537321	Acid Extractable Selenium (Se)	2021/08/24	108	75 - 125	105	75 - 125	<0.5	mg/kg	NC	35
7537321	Acid Extractable Silver (Ag)	2021/08/24	105	75 - 125	100	75 - 125	<0.5	mg/kg	NC	35
7537321	Acid Extractable Strontium (Sr)	2021/08/24	104	75 - 125	98	75 - 125	<5	mg/kg	4.2	35
7537321	Acid Extractable Thallium (Tl)	2021/08/24	103	75 - 125	97	75 - 125	<0.1	mg/kg	9.9	35
7537321	Acid Extractable Tin (Sn)	2021/08/24	98	75 - 125	97	75 - 125	<1	mg/kg	NC	35





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BV Labs Job #: C1N6988  
Report Date: 2021/09/01

### QUALITY ASSURANCE REPORT(CONT'D)

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.52  
Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7537321	Acid Extractable Uranium (U)	2021/08/24	107	75 - 125	96	75 - 125	<0.1	mg/kg	6.3	35
7537321	Acid Extractable Vanadium (V)	2021/08/24	103	75 - 125	101	75 - 125	<2	mg/kg	7.7	35
7537321	Acid Extractable Zinc (Zn)	2021/08/24	NC	75 - 125	103	75 - 125	<5	mg/kg	8.7	35
7554473	Total Cyanide (CN)	2021/08/26			100	80 - 120	<0.50	mg/kg		

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery is within QC acceptance limits. < 10 % of compounds in multi-component analysis in violation.



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BV Labs Job #: C1N6988

Report Date: 2021/09/01

Wood Environment & Infrastructure Solutions, a division of

Wood Canada Limited

Client Project #: TV183013.30.52.5290.573000

Site Location: MONTAGUE

Your P.O. #: TV183013.30.52

Sampler Initials: CB

### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Alan Stewart, Organics Manager, Bedford



Faouzi Sarsi, B.Sc. Chemist



Marie-Claude Poupart, B.Sc., Chemist

Mike MacGillivray, Scientific Specialist (Inorganics)



Shu Yang, Analyst 2

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Your P.O. #: TV183013.30.52  
 Your Project #: TV183013.30.52.5290.573000  
 Site Location: MONTAGUE GOLD MINES  
 Your C.O.C. #: n/a

**Attention: Candace Stephens**

Wood Environment & Infrastructure Solutions, a division of Wood  
 Canada Limited  
 50 Troop Ave  
 Unit 300  
 Dartmouth, NS  
 CANADA B3B 1Z1

**Report Date: 2021/08/26**  
 Report #: R6782825  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C1N7017**

**Received: 2021/08/19, 12:10**

Sample Matrix: Soil  
 # Samples Received: 7

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Metals Solids Acid Extr. ICPMS	7	2021/08/24	2021/08/25	ATL SOP 00058	EPA 6020B R2 m

**Remarks:**

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.



Your P.O. #: TV183013.30.52  
Your Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE GOLD MINES  
Your C.O.C. #: n/a

**Attention: Candace Stephens**

Wood Environment & Infrastructure Solutions, a division of Wood  
Canada Limited  
50 Troop Ave  
Unit 300  
Dartmouth, NS  
CANADA B3B 1Z1

**Report Date: 2021/08/26**  
Report #: R6782825  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C1N7017**  
**Received: 2021/08/19, 12:10**

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.  
Atena Georgescu, Project Manager II  
Email: Atena.Georgescu@bureauveritas.com  
Phone# (902)420-0203 Ext:239

=====

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**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QKV654	QKV655	QKV656	QKV657		
Sampling Date		2021/08/18	2021/08/18	2021/08/18	2021/08/18		
COC Number		n/a	n/a	n/a	n/a		
	UNITS	2021-MW4 (0-2)	2021-MW4 (2-4)	2021-MW4 (5-7)	2021-MW4 (7'5-8)	RDL	QC Batch
<b>Metals</b>							
Acid Extractable Aluminum (Al)	mg/kg	8600	9600	8000	12000	10	7537622
Acid Extractable Antimony (Sb)	mg/kg	5	<2	<2	<2	2	7537622
Acid Extractable Arsenic (As)	mg/kg	410	300	130	130	2	7537622
Acid Extractable Barium (Ba)	mg/kg	32	33	18	41	5	7537622
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	<2	<2	2	7537622
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	<2	<2	2	7537622
Acid Extractable Boron (B)	mg/kg	<50	<50	<50	<50	50	7537622
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	<0.3	<0.3	<0.3	0.3	7537622
Acid Extractable Chromium (Cr)	mg/kg	16	17	13	16	2	7537622
Acid Extractable Cobalt (Co)	mg/kg	10	10	6	9	1	7537622
Acid Extractable Copper (Cu)	mg/kg	16	14	97	88	2	7537622
Acid Extractable Iron (Fe)	mg/kg	33000	24000	19000	24000	50	7537622
Acid Extractable Lead (Pb)	mg/kg	17	260	9.5	7.6	0.5	7537622
Acid Extractable Lithium (Li)	mg/kg	10	12	12	17	2	7537622
Acid Extractable Manganese (Mn)	mg/kg	500	520	320	490	2	7537622
Acid Extractable Mercury (Hg)	mg/kg	<0.1	0.1	<0.1	<0.1	0.1	7537622
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	<2	<2	2	7537622
Acid Extractable Nickel (Ni)	mg/kg	24	21	16	24	2	7537622
Acid Extractable Rubidium (Rb)	mg/kg	27	31	9	21	2	7537622
Acid Extractable Selenium (Se)	mg/kg	<0.5	<0.5	<0.5	<0.5	0.5	7537622
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	34	22	0.5	7537622
Acid Extractable Strontium (Sr)	mg/kg	14	10	10	9	5	7537622
Acid Extractable Thallium (Tl)	mg/kg	0.2	0.2	<0.1	0.2	0.1	7537622
Acid Extractable Tin (Sn)	mg/kg	68	150	<1	<1	1	7537622
Acid Extractable Uranium (U)	mg/kg	0.5	0.4	0.4	0.5	0.1	7537622
Acid Extractable Vanadium (V)	mg/kg	16	17	13	15	2	7537622
Acid Extractable Zinc (Zn)	mg/kg	43	44	29	41	5	7537622
RDL = Reportable Detection Limit QC Batch = Quality Control Batch							



BV Labs Job #: C1N7017  
 Report Date: 2021/08/26

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.30.52.5290.573000  
 Site Location: MONTAGUE GOLD MINES  
 Your P.O. #: TV183013.30.52  
 Sampler Initials: CB

### ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		QKV658	QKV659		QKV660		
Sampling Date		2021/08/18	2021/08/18		2021/08/18		
COC Number		n/a	n/a		n/a		
	UNITS	2021-MW1 (0-2)	2021-MW1 (2-4)	RDL	2021-MW1 (6'10-7'1)	RDL	QC Batch
<b>Metals</b>							
Acid Extractable Aluminum (Al)	mg/kg	15000	14000	10	9700	10	7537622
Acid Extractable Antimony (Sb)	mg/kg	<2	<2	2	<2	2	7537622
Acid Extractable Arsenic (As)	mg/kg	240	140	2	770	20	7537622
Acid Extractable Barium (Ba)	mg/kg	21	28	5	22	5	7537622
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	2	<2	2	7537622
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	2	<2	2	7537622
Acid Extractable Boron (B)	mg/kg	<50	<50	50	<50	50	7537622
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	<0.3	0.3	<0.3	0.3	7537622
Acid Extractable Chromium (Cr)	mg/kg	19	20	2	17	2	7537622
Acid Extractable Cobalt (Co)	mg/kg	5	8	1	8	1	7537622
Acid Extractable Copper (Cu)	mg/kg	19	16	2	63	2	7537622
Acid Extractable Iron (Fe)	mg/kg	35000	23000	50	21000	50	7537622
Acid Extractable Lead (Pb)	mg/kg	19	13	0.5	15	0.5	7537622
Acid Extractable Lithium (Li)	mg/kg	18	19	2	16	2	7537622
Acid Extractable Manganese (Mn)	mg/kg	260	340	2	660	2	7537622
Acid Extractable Mercury (Hg)	mg/kg	0.2	<0.1	0.1	<0.1	0.1	7537622
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	2	<2	2	7537622
Acid Extractable Nickel (Ni)	mg/kg	15	35	2	20	2	7537622
Acid Extractable Rubidium (Rb)	mg/kg	18	14	2	11	2	7537622
Acid Extractable Selenium (Se)	mg/kg	0.8	<0.5	0.5	<0.5	0.5	7537622
Acid Extractable Silver (Ag)	mg/kg	1.0	<0.5	0.5	5.1	0.5	7537622
Acid Extractable Strontium (Sr)	mg/kg	<5	<5	5	<5	5	7537622
Acid Extractable Thallium (Tl)	mg/kg	0.1	0.1	0.1	0.1	0.1	7537622
Acid Extractable Tin (Sn)	mg/kg	1	<1	1	<1	1	7537622
Acid Extractable Uranium (U)	mg/kg	0.4	0.5	0.1	0.5	0.1	7537622
Acid Extractable Vanadium (V)	mg/kg	30	40	2	12	2	7537622
Acid Extractable Zinc (Zn)	mg/kg	49	51	5	36	5	7537622
RDL = Reportable Detection Limit QC Batch = Quality Control Batch							



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BV Labs Job #: C1N7017

Report Date: 2021/08/26

Wood Environment & Infrastructure Solutions, a division of

Wood Canada Limited

Client Project #: TV183013.30.52.5290.573000

Site Location: MONTAGUE GOLD MINES

Your P.O. #: TV183013.30.52

Sampler Initials: CB

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	2.3°C
Package 2	4.3°C
Package 3	4.7°C

**Results relate only to the items tested.**



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BV Labs Job #: C1N7017  
Report Date: 2021/08/26

### QUALITY ASSURANCE REPORT

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE GOLD MINES  
Your P.O. #: TV183013.30.52  
Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7537622	Acid Extractable Aluminum (Al)	2021/08/24					<10	mg/kg	7.0	35
7537622	Acid Extractable Antimony (Sb)	2021/08/24	91	75 - 125	97	75 - 125	<2	mg/kg	NC	35
7537622	Acid Extractable Arsenic (As)	2021/08/24	89	75 - 125	98	75 - 125	<2	mg/kg	5.1	35
7537622	Acid Extractable Barium (Ba)	2021/08/24	106	75 - 125	94	75 - 125	<5	mg/kg	49 (1)	35
7537622	Acid Extractable Beryllium (Be)	2021/08/24	102	75 - 125	84	75 - 125	<2	mg/kg	NC	35
7537622	Acid Extractable Bismuth (Bi)	2021/08/24	99	75 - 125	95	75 - 125	<2	mg/kg	NC	35
7537622	Acid Extractable Boron (B)	2021/08/24	100	75 - 125	85	75 - 125	<50	mg/kg	NC	35
7537622	Acid Extractable Cadmium (Cd)	2021/08/24	100	75 - 125	83	75 - 125	<0.3	mg/kg	12	35
7537622	Acid Extractable Chromium (Cr)	2021/08/24	101	75 - 125	97	75 - 125	<2	mg/kg	9.1	35
7537622	Acid Extractable Cobalt (Co)	2021/08/24	107	75 - 125	99	75 - 125	<1	mg/kg	16	35
7537622	Acid Extractable Copper (Cu)	2021/08/24	99	75 - 125	100	75 - 125	<2	mg/kg	7.6	35
7537622	Acid Extractable Iron (Fe)	2021/08/24					<50	mg/kg	3.1	35
7537622	Acid Extractable Lead (Pb)	2021/08/24	103	75 - 125	95	75 - 125	<0.5	mg/kg	17	35
7537622	Acid Extractable Lithium (Li)	2021/08/24	105	75 - 125	84	75 - 125	<2	mg/kg	15	35
7537622	Acid Extractable Manganese (Mn)	2021/08/24	NC	75 - 125	98	75 - 125	<2	mg/kg	50 (1)	35
7537622	Acid Extractable Mercury (Hg)	2021/08/24	98	75 - 125	96	75 - 125	<0.1	mg/kg	NC	35
7537622	Acid Extractable Molybdenum (Mo)	2021/08/24	102	75 - 125	98	75 - 125	<2	mg/kg	28	35
7537622	Acid Extractable Nickel (Ni)	2021/08/24	110	75 - 125	101	75 - 125	<2	mg/kg	17	35
7537622	Acid Extractable Rubidium (Rb)	2021/08/24	100	75 - 125	94	75 - 125	<2	mg/kg	8.4	35
7537622	Acid Extractable Selenium (Se)	2021/08/24	106	75 - 125	103	75 - 125	<0.5	mg/kg	NC	35
7537622	Acid Extractable Silver (Ag)	2021/08/24	101	75 - 125	97	75 - 125	<0.5	mg/kg	NC	35
7537622	Acid Extractable Strontium (Sr)	2021/08/24	105	75 - 125	95	75 - 125	<5	mg/kg	11	35
7537622	Acid Extractable Thallium (Tl)	2021/08/24	102	75 - 125	96	75 - 125	<0.1	mg/kg	NC	35
7537622	Acid Extractable Tin (Sn)	2021/08/24	100	75 - 125	93	75 - 125	<1	mg/kg	NC	35
7537622	Acid Extractable Uranium (U)	2021/08/24	107	75 - 125	94	75 - 125	<0.1	mg/kg	4.3	35
7537622	Acid Extractable Vanadium (V)	2021/08/24	103	75 - 125	97	75 - 125	<2	mg/kg	4.8	35





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BV Labs Job #: C1N7017  
Report Date: 2021/08/26

### QUALITY ASSURANCE REPORT(CONT'D)

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE GOLD MINES  
Your P.O. #: TV183013.30.52  
Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7537622	Acid Extractable Zinc (Zn)	2021/08/24	NC	75 - 125	98	75 - 125	<5	mg/kg	11	35

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Poor RPD due to sample inhomogeneity. Verified by repeat digestion and analysis.



BV Labs Job #: C1N7017  
Report Date: 2021/08/26

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE GOLD MINES  
Your P.O. #: TV183013.30.52  
Sampler Initials: CB

### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

---

Eric Dearman, Scientific Specialist

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Mike MacGillivray, Scientific Specialist (Inorganics)

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Your P.O. #: TV183013.30.52  
 Your Project #: TV183013.30.52.5290.573000  
 Site#: MONTAGUE GOLD MINES  
 Site Location: MONTAGUE  
 Your C.O.C. #: N/A

**Attention: Candace Stephens**

Wood Environment & Infrastructure Solutions, a division of Wood  
 Canada Limited  
 50 Troop Ave  
 Unit 300  
 Dartmouth, NS  
 CANADA B3B 1Z1

**Report Date: 2021/08/26**  
 Report #: R6782518  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C1N7019**

**Received: 2021/08/18, 12:15**

Sample Matrix: Water  
 # Samples Received: 3

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Carbonate, Bicarbonate and Hydroxide	3	N/A	2021/08/23	N/A	SM 23 4500-CO2 D
Alkalinity	3	N/A	2021/08/24	ATL SOP 00013	EPA 310.2 R1974 m
Chloride	3	N/A	2021/08/24	ATL SOP 00014	SM 23 4500-Cl- E m
Colour	3	N/A	2021/08/24	ATL SOP 00020	SM 23 2120C m
Conductance - water	3	N/A	2021/08/23	ATL SOP 00004	SM 23 2510B m
Hardness (calculated as CaCO3)	3	N/A	2021/08/25	ATL SOP 00048	Auto Calc
Mercury - Dissolved (CVAA,LL)	3	2021/08/24	2021/08/24	ATL SOP 00026	EPA 245.1 R3 m
Mercury - Total (CVAA,LL)	3	2021/08/24	2021/08/24	ATL SOP 00026	EPA 245.1 R3 m
Metals Water Total MS	3	2021/08/23	2021/08/24	ATL SOP 00058	EPA 6020B R2 m
Ion Balance (% Difference)	3	N/A	2021/08/25	N/A	Auto Calc.
Anion and Cation Sum	3	N/A	2021/08/25	N/A	Auto Calc.
Nitrogen Ammonia - water	3	N/A	2021/08/24	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	3	N/A	2021/08/24	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	3	N/A	2021/08/24	ATL SOP 00017	SM 23 4500-NO2- B m
Nitrogen - Nitrate (as N)	3	N/A	2021/08/24	ATL SOP 00018	ASTM D3867-16
pH (1)	3	N/A	2021/08/23	ATL SOP 00003	SM 23 4500-H+ B m
Phosphorus - ortho	3	N/A	2021/08/24	ATL SOP 00021	SM 23 4500-P E m
Sat. pH and Langelier Index (@ 20C)	3	N/A	2021/08/25	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	3	N/A	2021/08/25	ATL SOP 00049	Auto Calc.
Reactive Silica	3	N/A	2021/08/24	ATL SOP 00022	EPA 366.0 m
Sulphate	3	N/A	2021/08/24	ATL SOP 00023	ASTM D516-16 m
Total Dissolved Solids (TDS calc)	3	N/A	2021/08/25	N/A	Auto Calc.
Organic carbon - Total (TOC) (2)	3	N/A	2021/08/23	ATL SOP 00203	SM 23 5310B m
Turbidity	3	N/A	2021/08/23	ATL SOP 00011	EPA 180.1 R2 m

**Remarks:**

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in



Your P.O. #: TV183013.30.52  
Your Project #: TV183013.30.52.5290.573000  
Site#: MONTAGUE GOLD MINES  
Site Location: MONTAGUE  
Your C.O.C. #: N/A

**Attention: Candace Stephens**

Wood Environment & Infrastructure Solutions, a division of Wood  
Canada Limited  
50 Troop Ave  
Unit 300  
Dartmouth, NS  
CANADA B3B 1Z1

**Report Date: 2021/08/26**  
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**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C1N7019**

**Received: 2021/08/18, 12:15**

writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) The APHA Standard Method require pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.

(2) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

**Encryption Key**

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Atena Georgescu, Project Manager II  
Email: Atena.Georgescu@bureauveritas.com  
Phone# (902)420-0203 Ext:239

=====  
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**RESULTS OF ANALYSES OF WATER**

BV Labs ID		QKV670			QKV671			QKV672		
Sampling Date		2021/08/17			2021/08/17			2021/08/17		
COC Number		N/A			N/A			N/A		
	UNITS	2021-SW68	RDL	QC Batch	2021-SW67	QC Batch	2021-SW66	RDL	QC Batch	
<b>Calculated Parameters</b>										
Anion Sum	me/L	1.15	N/A	7531382	0.870	7531382	0.730	N/A	7531382	
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	12	1	7531379	11	7531379	6	1	7531379	
Calculated TDS	mg/L	73	1	7531387	60	7531387	44	1	7531387	
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1	1	7531379	<1	7531379	<1	1	7531379	
Cation Sum	me/L	1.31	N/A	7531382	1.14	7531382	0.780	N/A	7531382	
Hardness (CaCO3)	mg/L	13	1	7531380	13	7531380	8	1	7531380	
Ion Balance (% Difference)	%	6.50	N/A	7531381	13.4	7531381	3.31	N/A	7531381	
Langelier Index (@ 20C)	N/A	-3.24		7531385	-3.40	7531385	-4.52		7531385	
Langelier Index (@ 4C)	N/A	-3.49		7531386	-3.65	7531386	-4.78		7531386	
Nitrate (N)	mg/L	<0.05	0.05	7531383	<0.05	7531383	<0.05	0.05	7531383	
Saturation pH (@ 20C)	N/A	9.79		7531385	9.90	7531385	10.3		7531385	
Saturation pH (@ 4C)	N/A	10.0		7531386	10.2	7531386	10.5		7531386	
<b>Inorganics</b>										
Total Alkalinity (Total as CaCO3)	mg/L	12	5	7535364	11	7535364	6	5	7535364	
Dissolved Chloride (Cl-)	mg/L	30	1	7535367	23	7535367	22	1	7535367	
Colour	TCU	42	5	7535375	73	7535375	120	30	7535375	
Nitrate + Nitrite (N)	mg/L	<0.05	0.05	7535377	<0.05	7535377	<0.05	0.05	7535377	
Nitrite (N)	mg/L	<0.01	0.01	7535379	<0.01	7535379	<0.01	0.01	7535379	
Nitrogen (Ammonia Nitrogen)	mg/L	<0.05	0.05	7537376	<0.05	7537376	<0.05	0.05	7537376	
Total Organic Carbon (C)	mg/L	9.6	0.50	7535076	16	7535076	22	0.50	7535076	
Orthophosphate (P)	mg/L	<0.5 (1)	0.5	7535376	0.17	7535376	0.04	0.01	7535376	
pH	pH	6.55		7535063	6.50	7535063	5.76		7535063	
Reactive Silica (SiO2)	mg/L	2.8	0.5	7535372	2.7	7535372	1.2	0.5	7535372	
Dissolved Sulphate (SO4)	mg/L	3	2	7535369	<2	7535369	<2	2	7535369	
Turbidity	NTU	25	0.1	7535275	20	7535286	34	0.1	7535275	
Conductivity	uS/cm	120	1	7535061	91	7535061	75	1	7535061	
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable (1) Elevated reporting limit due to sample matrix.										



BV Labs Job #: C1N7019  
 Report Date: 2021/08/26

Wood Environment & Infrastructure Solutions, a division of  
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 Client Project #: TV183013.30.52.5290.573000  
 Site Location: MONTAGUE  
 Your P.O. #: TV183013.30.52  
 Sampler Initials: CB

**MERCURY BY COLD VAPOUR AA (WATER)**

BV Labs ID		QKV670				QKV670				QKV671				QKV672			
Sampling Date		2021/08/17				2021/08/17				2021/08/17				2021/08/17			
COC Number		N/A				N/A				N/A				N/A			
	UNITS	2021-SW68	RDL	QC Batch	2021-SW68 Lab-Dup	RDL	QC Batch	2021-SW67	2021-SW66	RDL	QC Batch						
<b>Metals</b>																	
Dissolved Mercury (Hg)	ug/L	0.050	0.013	7535444	0.052	0.013	7535444	0.028	0.023	0.013	7535444						
Total Mercury (Hg)	ug/L	0.69	0.013	7535415				0.090	0.048	0.013	7535415						
RDL = Reportable Detection Limit																	
QC Batch = Quality Control Batch																	
Lab-Dup = Laboratory Initiated Duplicate																	



**ELEMENTS BY ICP/MS (WATER)**

BV Labs ID		QKV670		QKV671	QKV672		
Sampling Date		2021/08/17		2021/08/17	2021/08/17		
COC Number		N/A		N/A	N/A		
	UNITS	2021-SW68	QC Batch	2021-SW67	2021-SW66	RDL	QC Batch
<b>Metals</b>							
Total Aluminum (Al)	ug/L	137	7535027	361	178	5.0	7535038
Total Antimony (Sb)	ug/L	1.2	7535027	<1.0	<1.0	1.0	7535038
Total Arsenic (As)	ug/L	4520	7535027	3350	647	10	7535038
Total Barium (Ba)	ug/L	6.6	7535027	18.6	21.3	1.0	7535038
Total Beryllium (Be)	ug/L	<1.0	7535027	<1.0	<1.0	1.0	7535038
Total Bismuth (Bi)	ug/L	<2.0	7535027	<2.0	<2.0	2.0	7535038
Total Boron (B)	ug/L	<50	7535027	<50	<50	50	7535038
Total Cadmium (Cd)	ug/L	0.039	7535027	0.045	<0.010	0.010	7535038
Total Calcium (Ca)	ug/L	2800	7535027	2450	1750	100	7535038
Total Chromium (Cr)	ug/L	<1.0	7535027	<1.0	<1.0	1.0	7535038
Total Cobalt (Co)	ug/L	1.78	7535027	10.7	0.71	0.40	7535038
Total Copper (Cu)	ug/L	15.8	7535027	3.23	2.23	0.50	7535038
Total Iron (Fe)	ug/L	7280	7535027	8940	4100	50	7535038
Total Lead (Pb)	ug/L	46.6	7535027	4.26	2.55	0.50	7535038
Total Magnesium (Mg)	ug/L	1410	7535027	1560	811	100	7535038
Total Manganese (Mn)	ug/L	243	7535027	1280	57.8	2.0	7535038
Total Molybdenum (Mo)	ug/L	<2.0	7535027	<2.0	<2.0	2.0	7535038
Total Nickel (Ni)	ug/L	<2.0	7535027	3.1	2.2	2.0	7535038
Total Phosphorus (P)	ug/L	<100	7535027	109	121	100	7535038
Total Potassium (K)	ug/L	1050	7535027	426	381	100	7535038
Total Selenium (Se)	ug/L	<0.50	7535027	<0.50	<0.50	0.50	7535038
Total Silver (Ag)	ug/L	<0.10	7535027	<0.10	<0.10	0.10	7535038
Total Sodium (Na)	ug/L	17600	7535027	12800	10800	100	7535038
Total Strontium (Sr)	ug/L	13.2	7535027	11.0	11.8	2.0	7535038
Total Thallium (Tl)	ug/L	<0.10	7535027	<0.10	<0.10	0.10	7535038
Total Tin (Sn)	ug/L	<2.0	7535027	<2.0	<2.0	2.0	7535038
Total Titanium (Ti)	ug/L	<2.0	7535027	3.2	3.2	2.0	7535038
Total Uranium (U)	ug/L	<0.10	7535027	<0.10	<0.10	0.10	7535038
Total Vanadium (V)	ug/L	3.5	7535027	2.1	<2.0	2.0	7535038
Total Zinc (Zn)	ug/L	8.8	7535027	35.1	11.8	5.0	7535038
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							



BV Labs Job #: C1N7019  
Report Date: 2021/08/26

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.52  
Sampler Initials: CB

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	3.3°C
Package 2	3.0°C
Package 3	1.7°C

Sample QKV670 [2021-SW68] : RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

Sample QKV671 [2021-SW67] : ortho-Phosphate > Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Poor RCap Ion Balance due to sample matrix. Excess cations due to presence of turbidity.

**Results relate only to the items tested.**





BV Labs Job #: C1N7019  
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### QUALITY ASSURANCE REPORT

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.52  
Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7535027	Total Aluminum (Al)	2021/08/23	102	80 - 120	101	80 - 120	<5.0	ug/L	4.8	20		
7535027	Total Antimony (Sb)	2021/08/23	102	80 - 120	96	80 - 120	<1.0	ug/L	NC	20		
7535027	Total Arsenic (As)	2021/08/23	97	80 - 120	93	80 - 120	<1.0	ug/L	2.1	20		
7535027	Total Barium (Ba)	2021/08/23	NC	80 - 120	93	80 - 120	<1.0	ug/L	4.6	20		
7535027	Total Beryllium (Be)	2021/08/23	100	80 - 120	97	80 - 120	<1.0	ug/L	NC	20		
7535027	Total Bismuth (Bi)	2021/08/23	95	80 - 120	97	80 - 120	<2.0	ug/L	NC	20		
7535027	Total Boron (B)	2021/08/23	98	80 - 120	95	80 - 120	<50	ug/L	8.3	20		
7535027	Total Cadmium (Cd)	2021/08/23	99	80 - 120	97	80 - 120	<0.010	ug/L	NC	20		
7535027	Total Calcium (Ca)	2021/08/23	NC	80 - 120	98	80 - 120	<100	ug/L	4.2	20		
7535027	Total Chromium (Cr)	2021/08/23	97	80 - 120	96	80 - 120	<1.0	ug/L	NC	20		
7535027	Total Cobalt (Co)	2021/08/23	97	80 - 120	97	80 - 120	<0.40	ug/L	NC	20		
7535027	Total Copper (Cu)	2021/08/23	96	80 - 120	97	80 - 120	<0.50	ug/L	NC	20		
7535027	Total Iron (Fe)	2021/08/23	NC	80 - 120	100	80 - 120	<50	ug/L	4.6	20		
7535027	Total Lead (Pb)	2021/08/23	97	80 - 120	98	80 - 120	<0.50	ug/L	NC	20		
7535027	Total Magnesium (Mg)	2021/08/23	NC	80 - 120	103	80 - 120	<100	ug/L	3.7	20		
7535027	Total Manganese (Mn)	2021/08/23	NC	80 - 120	98	80 - 120	<2.0	ug/L	6.1	20		
7535027	Total Molybdenum (Mo)	2021/08/23	106	80 - 120	101	80 - 120	<2.0	ug/L	NC	20		
7535027	Total Nickel (Ni)	2021/08/23	95	80 - 120	99	80 - 120	<2.0	ug/L	NC	20		
7535027	Total Phosphorus (P)	2021/08/23	105	80 - 120	101	80 - 120	<100	ug/L	NC	20		
7535027	Total Potassium (K)	2021/08/23	103	80 - 120	99	80 - 120	<100	ug/L	2.6	20		
7535027	Total Selenium (Se)	2021/08/23	101	80 - 120	100	80 - 120	<0.50	ug/L	NC	20		
7535027	Total Silver (Ag)	2021/08/23	97	80 - 120	95	80 - 120	<0.10	ug/L	NC	20		
7535027	Total Sodium (Na)	2021/08/23	NC	80 - 120	100	80 - 120	136, RDL=100 (1)	ug/L	4.0	20		
7535027	Total Strontium (Sr)	2021/08/23	95	80 - 120	94	80 - 120	<2.0	ug/L	5.6	20		
7535027	Total Thallium (Tl)	2021/08/23	98	80 - 120	97	80 - 120	<0.10	ug/L	NC	20		
7535027	Total Tin (Sn)	2021/08/23	100	80 - 120	97	80 - 120	<2.0	ug/L	NC	20		
7535027	Total Titanium (Ti)	2021/08/23	100	80 - 120	99	80 - 120	<2.0	ug/L	NC	20		
7535027	Total Uranium (U)	2021/08/23	103	80 - 120	100	80 - 120	<0.10	ug/L	NC	20		
7535027	Total Vanadium (V)	2021/08/23	99	80 - 120	98	80 - 120	<2.0	ug/L	NC	20		
7535027	Total Zinc (Zn)	2021/08/23	97	80 - 120	97	80 - 120	<5.0	ug/L	NC	20		



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BV Labs Job #: C1N7019  
Report Date: 2021/08/26

### QUALITY ASSURANCE REPORT(CONT'D)

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.52  
Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7535038	Total Aluminum (Al)	2021/08/23	106	80 - 120	98	80 - 120	<5.0	ug/L				
7535038	Total Antimony (Sb)	2021/08/23	110	80 - 120	102	80 - 120	<1.0	ug/L				
7535038	Total Arsenic (As)	2021/08/23	95	80 - 120	94	80 - 120	<1.0	ug/L				
7535038	Total Barium (Ba)	2021/08/23	98	80 - 120	96	80 - 120	<1.0	ug/L				
7535038	Total Beryllium (Be)	2021/08/23	96	80 - 120	94	80 - 120	<1.0	ug/L				
7535038	Total Bismuth (Bi)	2021/08/23	93	80 - 120	98	80 - 120	<2.0	ug/L				
7535038	Total Boron (B)	2021/08/23	NC	80 - 120	95	80 - 120	<50	ug/L				
7535038	Total Cadmium (Cd)	2021/08/23	97	80 - 120	96	80 - 120	<0.010	ug/L				
7535038	Total Calcium (Ca)	2021/08/23	NC	80 - 120	99	80 - 120	<100	ug/L				
7535038	Total Chromium (Cr)	2021/08/23	97	80 - 120	96	80 - 120	<1.0	ug/L				
7535038	Total Cobalt (Co)	2021/08/23	90	80 - 120	95	80 - 120	<0.40	ug/L				
7535038	Total Copper (Cu)	2021/08/23	91	80 - 120	95	80 - 120	<0.50	ug/L				
7535038	Total Iron (Fe)	2021/08/23	NC	80 - 120	100	80 - 120	<50	ug/L	3.3	20		
7535038	Total Lead (Pb)	2021/08/23	93	80 - 120	99	80 - 120	<0.50	ug/L				
7535038	Total Magnesium (Mg)	2021/08/23	NC	80 - 120	101	80 - 120	<100	ug/L				
7535038	Total Manganese (Mn)	2021/08/23	NC	80 - 120	98	80 - 120	<2.0	ug/L	5.9	20		
7535038	Total Molybdenum (Mo)	2021/08/23	113	80 - 120	101	80 - 120	<2.0	ug/L				
7535038	Total Nickel (Ni)	2021/08/23	95	80 - 120	98	80 - 120	<2.0	ug/L				
7535038	Total Phosphorus (P)	2021/08/23	102	80 - 120	102	80 - 120	<100	ug/L				
7535038	Total Potassium (K)	2021/08/23	NC	80 - 120	98	80 - 120	<100	ug/L				
7535038	Total Selenium (Se)	2021/08/23	97	80 - 120	95	80 - 120	<0.50	ug/L				
7535038	Total Silver (Ag)	2021/08/23	97	80 - 120	97	80 - 120	<0.10	ug/L				
7535038	Total Sodium (Na)	2021/08/23	NC	80 - 120	97	80 - 120	<100	ug/L				
7535038	Total Strontium (Sr)	2021/08/23	NC	80 - 120	98	80 - 120	<2.0	ug/L				
7535038	Total Thallium (Tl)	2021/08/23	96	80 - 120	99	80 - 120	<0.10	ug/L				
7535038	Total Tin (Sn)	2021/08/23	105	80 - 120	101	80 - 120	<2.0	ug/L				
7535038	Total Titanium (Ti)	2021/08/23	104	80 - 120	99	80 - 120	<2.0	ug/L				
7535038	Total Uranium (U)	2021/08/23	95	80 - 120	100	80 - 120	<0.10	ug/L				
7535038	Total Vanadium (V)	2021/08/23	100	80 - 120	98	80 - 120	<2.0	ug/L				
7535038	Total Zinc (Zn)	2021/08/23	94	80 - 120	98	80 - 120	<5.0	ug/L				



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BV Labs Job #: C1N7019  
Report Date: 2021/08/26

### QUALITY ASSURANCE REPORT(CONT'D)

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.52  
Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7535061	Conductivity	2021/08/23			99	80 - 120	<1	uS/cm	0.73	10		
7535063	pH	2021/08/23			100	97 - 103			0.83	N/A		
7535076	Total Organic Carbon (C)	2021/08/23	94	85 - 115	97	80 - 120	<0.50	mg/L	2.6	15		
7535275	Turbidity	2021/08/23			105	80 - 120	<0.1	NTU	3.4	20	100	80 - 120
7535286	Turbidity	2021/08/23			106	80 - 120	<0.1	NTU	5.0	20	101	80 - 120
7535364	Total Alkalinity (Total as CaCO3)	2021/08/24	NC	80 - 120	111	80 - 120	<5	mg/L	7.1	20		
7535367	Dissolved Chloride (Cl-)	2021/08/24	98	80 - 120	98	80 - 120	<1	mg/L	NC	20		
7535369	Dissolved Sulphate (SO4)	2021/08/24	100	80 - 120	100	80 - 120	<2	mg/L	NC	20		
7535372	Reactive Silica (SiO2)	2021/08/24	97	80 - 120	106	80 - 120	<0.5	mg/L	2.2	20		
7535375	Colour	2021/08/24			94	80 - 120	<5	TCU	NC	20		
7535376	Orthophosphate (P)	2021/08/24	96	80 - 120	102	80 - 120	<0.01	mg/L	NC	20		
7535377	Nitrate + Nitrite (N)	2021/08/24	94	80 - 120	87	80 - 120	<0.05	mg/L	NC	20		
7535379	Nitrite (N)	2021/08/24	97	80 - 120	100	80 - 120	<0.01	mg/L	NC	20		
7535415	Total Mercury (Hg)	2021/08/24	101	80 - 120	103	80 - 120	<0.013	ug/L	NC	20		
7535444	Dissolved Mercury (Hg)	2021/08/24	101	80 - 120	102	80 - 120	<0.013	ug/L	3.3	20		
7537376	Nitrogen (Ammonia Nitrogen)	2021/08/24	98	80 - 120	102	80 - 120	<0.05	mg/L	9.8	20		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Low level lab contamination.



BV Labs Job #: C1N7019  
Report Date: 2021/08/26

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.52  
Sampler Initials: CB

### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

A handwritten signature in black ink that reads 'Mike MacGillivray'.

---

Mike MacGillivray, Scientific Specialist (Inorganics)

---

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Your P.O. #: TV183.013.30.51.5290  
 Your Project #: TV183013.30.52.5290.573000  
 Site#: MONTAGUE GOLD MINES  
 Site Location: MONTAGUE  
 Your C.O.C. #: N/A

**Attention: Candace Stephens**

Wood Environment & Infrastructure Solutions, a division of Wood  
 Canada Limited  
 50 Troop Ave  
 Unit 300  
 Dartmouth, NS  
 CANADA B3B 1Z1

**Report Date: 2021/09/01**  
 Report #: R6792651  
 Version: 2 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C1N7089**

**Received: 2021/08/19, 12:10**

Sample Matrix: Soil  
 # Samples Received: 37

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
TEH in Soil (PIRI) (2)	4	2021/08/23	2021/08/24	ATL SOP 00111	Atl. RBCA v3.1 m
TEH in Soil (PIRI) (2)	2	2021/08/24	2021/08/24	ATL SOP 00111	Atl. RBCA v3.1 m
Metals Solids Acid Extr. ICPMS	21	2021/08/24	2021/08/24	ATL SOP 00058	EPA 6020B R2 m
Metals Solids Acid Extr. ICPMS	14	2021/08/24	2021/08/25	ATL SOP 00058	EPA 6020B R2 m
Metals Solids Acid Extr. ICPMS	2	2021/08/25	2021/08/26	ATL SOP 00058	EPA 6020B R2 m
Total Cyanide (1)	1	2021/08/26	2021/08/30	STL SOP-00035	MA300-CN 1.2 R4 m
Water Content (Subcontracted) (1, 3)	1	N/A	2021/08/31	STL SOP-00021	MA.100-S.T. 1.1 R5 m
Moisture	4	N/A	2021/08/20	ATL SOP 00001	OMOE Handbook 1983 m
Moisture	2	N/A	2021/08/23	ATL SOP 00001	OMOE Handbook 1983 m
ModTPH (T1) Calc. for Soil	4	N/A	2021/08/25	N/A	Atl. RBCA v3.1 m
ModTPH (T1) Calc. for Soil	2	N/A	2021/08/26	N/A	Atl. RBCA v3.1 m
VPH in Soil (PIRI) - Field Preserved (4)	6	N/A	2021/08/24	ATL SOP 00119	Atl. RBCA v3.1 m

**Remarks:**

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.



Your P.O. #: TV183.013.30.51.5290  
Your Project #: TV183013.30.52.5290.573000  
Site#: MONTAGUE GOLD MINES  
Site Location: MONTAGUE  
Your C.O.C. #: N/A

**Attention: Candace Stephens**

Wood Environment & Infrastructure Solutions, a division of Wood  
Canada Limited  
50 Troop Ave  
Unit 300  
Dartmouth, NS  
CANADA B3B 1Z1

**Report Date: 2021/09/01**  
Report #: R6792651  
Version: 2 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C1N7089**

**Received: 2021/08/19, 12:10**

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

- (1) This test was performed by Bureau Veritas Montreal via Bedford
- (2) Soils are reported on a dry weight basis unless otherwise specified.
- (3) Offsite analysis requires that subcontracted moisture be reported.
- (4) No lab extraction date is given for C6-C10/BTEX and VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.

**Encryption Key**

Please direct all questions regarding this Certificate of Analysis to your Project Manager.  
Atena Georgescu, Project Manager II  
Email: Atena.Georgescu@bureauveritas.com  
Phone# (902)420-0203 Ext:239

=====  
BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



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BV Labs Job #: C1N7089  
Report Date: 2021/09/01

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE  
Your P.O. #: TV183.013.30.51.5290  
Sampler Initials: CB

**RESULTS OF ANALYSES OF SOIL**

BV Labs ID		QKV979	QKV980	QKV981	QKV982			QKV989		
Sampling Date		2021/08/18	2021/08/18	2021/08/18	2021/08/18			2021/08/18		
COC Number		N/A	N/A	N/A	N/A			N/A		
	UNITS	2021-SS27-A	2021-SS27-B	2021-SS26-A	2021-SS26-B	RDL	QC Batch	2021-SS21-A	RDL	QC Batch
<b>Inorganics</b>										
Moisture	%	15	8	10	11	1	7532341			
<b>Physical Testing</b>										
Moisture-Subcontracted	%w/w							7.7	0.50	7554472
RDL = Reportable Detection Limit QC Batch = Quality Control Batch										

BV Labs ID		QKW008	QKW009		
Sampling Date		2021/08/18	2021/08/18		
COC Number		N/A	N/A		
	UNITS	2021-SS75-A	2021-SS75-B	RDL	QC Batch
<b>Inorganics</b>					
Moisture	%	18	20	1	7535167
RDL = Reportable Detection Limit QC Batch = Quality Control Batch					



BV Labs Job #: C1N7089  
 Report Date: 2021/09/01

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.30.52.5290.573000  
 Site Location: MONTAGUE  
 Your P.O. #: TV183.013.30.51.5290  
 Sampler Initials: CB

**CONVENTIONALS (SOIL)**

<b>BV Labs ID</b>		QKV989		
<b>Sampling Date</b>		2021/08/18		
<b>COC Number</b>		N/A		
	<b>UNITS</b>	<b>2021-SS21-A</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Inorganics</b>				
Total Cyanide (CN)	mg/kg	<0.50	0.50	7554471
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				





**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QKV979	QKV979		QKV980	QKV981	QKV982		
Sampling Date		2021/08/18	2021/08/18		2021/08/18	2021/08/18	2021/08/18		
COC Number		N/A	N/A		N/A	N/A	N/A		
	UNITS	2021-SS27-A	2021-SS27-A Lab-Dup	RDL	2021-SS27-B	2021-SS26-A	2021-SS26-B	RDL	QC Batch
<b>Metals</b>									
Acid Extractable Aluminum (Al)	mg/kg	17000	16000	10	17000	12000	19000	10	7537321
Acid Extractable Antimony (Sb)	mg/kg	<2	<2	2	<2	4	<2	2	7537321
Acid Extractable Arsenic (As)	mg/kg	390	330	2	1100	3800	870	20	7537321
Acid Extractable Barium (Ba)	mg/kg	29	26	5	45	40	31	5	7537321
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	2	<2	<2	<2	2	7537321
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	2	<2	<2	<2	2	7537321
Acid Extractable Boron (B)	mg/kg	<50	<50	50	<50	<50	<50	50	7537321
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	<0.3	0.3	<0.3	<0.3	<0.3	0.3	7537321
Acid Extractable Chromium (Cr)	mg/kg	19	19	2	18	13	20	2	7537321
Acid Extractable Cobalt (Co)	mg/kg	9	8	1	17	14	9	1	7537321
Acid Extractable Copper (Cu)	mg/kg	40	36	2	40	59	25	2	7537321
Acid Extractable Iron (Fe)	mg/kg	34000	32000	50	31000	32000	29000	50	7537321
Acid Extractable Lead (Pb)	mg/kg	26	23	0.5	28	52	25	0.5	7537321
Acid Extractable Lithium (Li)	mg/kg	28	28	2	29	19	27	2	7537321
Acid Extractable Manganese (Mn)	mg/kg	320	310	2	520	430	310	2	7537321
Acid Extractable Mercury (Hg)	mg/kg	<0.1	<0.1	0.1	<0.1	3.5	0.8	0.1	7537321
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	2	<2	<2	<2	2	7537321
Acid Extractable Nickel (Ni)	mg/kg	31	30	2	32	29	28	2	7537321
Acid Extractable Rubidium (Rb)	mg/kg	35	33	2	24	19	17	2	7537321
Acid Extractable Selenium (Se)	mg/kg	<0.5	<0.5	0.5	<0.5	0.5	0.6	0.5	7537321
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	0.5	7537321
Acid Extractable Strontium (Sr)	mg/kg	9	8	5	7	10	5	5	7537321
Acid Extractable Thallium (Tl)	mg/kg	0.3	0.3	0.1	0.2	0.2	0.2	0.1	7537321
Acid Extractable Tin (Sn)	mg/kg	<1	<1	1	<1	1	<1	1	7537321
Acid Extractable Uranium (U)	mg/kg	0.9	0.8	0.1	0.9	0.5	0.5	0.1	7537321
Acid Extractable Vanadium (V)	mg/kg	24	22	2	17	24	21	2	7537321
Acid Extractable Zinc (Zn)	mg/kg	70	64	5	61	80	76	5	7537321
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate									



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BV Labs Job #: C1N7089  
Report Date: 2021/09/01

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE  
Your P.O. #: TV183.013.30.51.5290  
Sampler Initials: CB

### ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		QKV983	QKV984	QKV985		QKV986	QKV987	QKV988		
Sampling Date		2021/08/18	2021/08/18	2021/08/18		2021/08/18	2021/08/18	2021/08/18		
COC Number		N/A	N/A	N/A		N/A	N/A	N/A		
	UNITS	2021-SS19-A	2021-SS19-B	2021-SS18-A	RDL	2021-SS18-B	2021-SS20-A	2021-SS20-B	RDL	QC Batch
<b>Metals</b>										
Acid Extractable Aluminum (Al)	mg/kg	2800	4700	13000	10	13000	13000	14000	10	7537321
Acid Extractable Antimony (Sb)	mg/kg	<2	<2	<2	2	<2	<2	<2	2	7537321
Acid Extractable Arsenic (As)	mg/kg	43	78	410	2	1000	800	1100	20	7537321
Acid Extractable Barium (Ba)	mg/kg	58	14	53	5	32	19	24	5	7537321
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	<2	2	<2	<2	<2	2	7537321
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	<2	2	<2	<2	<2	2	7537321
Acid Extractable Boron (B)	mg/kg	<50	<50	<50	50	<50	<50	<50	50	7537321
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	<0.3	<0.3	0.3	<0.3	<0.3	<0.3	0.3	7537321
Acid Extractable Chromium (Cr)	mg/kg	5	5	19	2	18	14	15	2	7537321
Acid Extractable Cobalt (Co)	mg/kg	2	1	12	1	11	10	16	1	7537321
Acid Extractable Copper (Cu)	mg/kg	13	2	16	2	7	17	31	2	7537321
Acid Extractable Iron (Fe)	mg/kg	20000	7600	22000	50	30000	29000	31000	50	7537321
Acid Extractable Lead (Pb)	mg/kg	170	12	58	0.5	20	25	17	0.5	7537321
Acid Extractable Lithium (Li)	mg/kg	<2	4	22	2	26	20	21	2	7537321
Acid Extractable Manganese (Mn)	mg/kg	92	53	490	2	690	250	360	2	7537321
Acid Extractable Mercury (Hg)	mg/kg	1.3	0.4	0.6	0.1	0.2	0.1	0.2	0.1	7537321
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	<2	2	<2	<2	<2	2	7537321
Acid Extractable Nickel (Ni)	mg/kg	7	4	19	2	16	23	30	2	7537321
Acid Extractable Rubidium (Rb)	mg/kg	4	8	20	2	23	18	14	2	7537321
Acid Extractable Selenium (Se)	mg/kg	<0.5	<0.5	1.3	0.5	0.6	<0.5	0.5	0.5	7537321
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	0.5	7537321
Acid Extractable Strontium (Sr)	mg/kg	13	<5	9	5	<5	10	13	5	7537321
Acid Extractable Thallium (Tl)	mg/kg	<0.1	<0.1	0.4	0.1	0.2	0.2	0.2	0.1	7537321
Acid Extractable Tin (Sn)	mg/kg	150	2	1	1	<1	<1	<1	1	7537321
Acid Extractable Uranium (U)	mg/kg	0.2	0.2	1.0	0.1	0.7	0.6	0.6	0.1	7537321
Acid Extractable Vanadium (V)	mg/kg	24	11	30	2	24	25	21	2	7537321
Acid Extractable Zinc (Zn)	mg/kg	35	13	51	5	57	46	50	5	7537321
RDL = Reportable Detection Limit QC Batch = Quality Control Batch										



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BV Labs Job #: C1N7089  
Report Date: 2021/09/01

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE  
Your P.O. #: TV183.013.30.51.5290  
Sampler Initials: CB

### ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		QKV989		QKV990		QKV991		QKV992		QKV993	
Sampling Date		2021/08/18		2021/08/18		2021/08/18		2021/08/18		2021/08/18	
COC Number		N/A		N/A		N/A		N/A		N/A	
	UNITS	2021-SS21-A	RDL	2021-SS17-A	QC Batch	2021-SS17-B	2021-SS35-A	2021-SS35-B	RDL	QC Batch	
<b>Metals</b>											
Acid Extractable Aluminum (Al)	mg/kg	14000	10	2600	7537321	4300	3500	17000	10	7537614	
Acid Extractable Antimony (Sb)	mg/kg	<2	2	<2	7537321	<2	<2	<2	2	7537614	
Acid Extractable Arsenic (As)	mg/kg	570	20	13	7537321	27	33	36	2	7537614	
Acid Extractable Barium (Ba)	mg/kg	60	5	42	7537321	8	24	17	5	7537614	
Acid Extractable Beryllium (Be)	mg/kg	<2	2	<2	7537321	<2	<2	<2	2	7537614	
Acid Extractable Bismuth (Bi)	mg/kg	<2	2	<2	7537321	<2	<2	<2	2	7537614	
Acid Extractable Boron (B)	mg/kg	<50	50	<50	7537321	<50	<50	<50	50	7537614	
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	0.3	<0.3	7537321	<0.3	<0.3	<0.3	0.3	7537614	
Acid Extractable Chromium (Cr)	mg/kg	16	2	4	7537321	4	5	15	2	7537614	
Acid Extractable Cobalt (Co)	mg/kg	18	1	1	7537321	1	<1	3	1	7537614	
Acid Extractable Copper (Cu)	mg/kg	24	2	8	7537321	<2	6	5	2	7537614	
Acid Extractable Iron (Fe)	mg/kg	33000	50	5200	7537321	5600	6100	21000	50	7537614	
Acid Extractable Lead (Pb)	mg/kg	62	0.5	64	7537321	5.2	29	17	0.5	7537614	
Acid Extractable Lithium (Li)	mg/kg	25	2	<2	7537321	2	<2	14	2	7537614	
Acid Extractable Manganese (Mn)	mg/kg	410	2	60	7537321	63	56	110	2	7537614	
Acid Extractable Mercury (Hg)	mg/kg	0.5	0.1	0.6	7537321	0.1	0.2	0.1	0.1	7537614	
Acid Extractable Molybdenum (Mo)	mg/kg	<2	2	<2	7537321	<2	<2	<2	2	7537614	
Acid Extractable Nickel (Ni)	mg/kg	34	2	9	7537321	3	7	10	2	7537614	
Acid Extractable Rubidium (Rb)	mg/kg	20	2	5	7537321	8	6	13	2	7537614	
Acid Extractable Selenium (Se)	mg/kg	<0.5	0.5	1.0	7537321	<0.5	<0.5	0.7	0.5	7537614	
Acid Extractable Silver (Ag)	mg/kg	<0.5	0.5	<0.5	7537321	<0.5	<0.5	<0.5	0.5	7537614	
Acid Extractable Strontium (Sr)	mg/kg	15	5	11	7537321	<5	5	<5	5	7537614	
Acid Extractable Thallium (Tl)	mg/kg	0.3	0.1	<0.1	7537321	<0.1	0.1	0.2	0.1	7537614	
Acid Extractable Tin (Sn)	mg/kg	<1	1	2	7537321	<1	<1	<1	1	7537614	
Acid Extractable Uranium (U)	mg/kg	0.7	0.1	0.1	7537321	0.2	0.2	0.5	0.1	7537614	
Acid Extractable Vanadium (V)	mg/kg	30	2	22	7537321	9	25	27	2	7537614	
Acid Extractable Zinc (Zn)	mg/kg	73	5	24	7537321	8	16	23	5	7537614	
RDL = Reportable Detection Limit QC Batch = Quality Control Batch											



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BV Labs Job #: C1N7089  
Report Date: 2021/09/01

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE  
Your P.O. #: TV183.013.30.51.5290  
Sampler Initials: CB

**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QKV994	QKV995	QKV996	QKV997	QKV998	QKV999		
Sampling Date		2021/08/18	2021/08/18	2021/08/18	2021/08/18	2021/08/18	2021/08/18		
COC Number		N/A	N/A	N/A	N/A	N/A	N/A		
	UNITS	2021-SS36-A	2021-SS36-B	2021-DUP-2-A	2021-DUP-2-B	2021-SS34-A	2021-SS33-A	RDL	QC Batch
<b>Metals</b>									
Acid Extractable Aluminum (Al)	mg/kg	3600	3800	3400	5600	900	6200	10	7537614
Acid Extractable Antimony (Sb)	mg/kg	<2	<2	<2	<2	<2	<2	2	7537614
Acid Extractable Arsenic (As)	mg/kg	31	5	49	6	2	110	2	7537614
Acid Extractable Barium (Ba)	mg/kg	35	13	25	15	16	20	5	7537614
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	<2	<2	<2	<2	2	7537614
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	<2	<2	<2	<2	2	7537614
Acid Extractable Boron (B)	mg/kg	<50	<50	<50	<50	<50	<50	50	7537614
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.3	7537614
Acid Extractable Chromium (Cr)	mg/kg	3	4	3	7	<2	6	2	7537614
Acid Extractable Cobalt (Co)	mg/kg	2	1	2	2	<1	2	1	7537614
Acid Extractable Copper (Cu)	mg/kg	9	<2	6	2	<2	9	2	7537614
Acid Extractable Iron (Fe)	mg/kg	4700	3300	4300	7300	1400	7200	50	7537614
Acid Extractable Lead (Pb)	mg/kg	43	5.6	32	7.6	32	30	0.5	7537614
Acid Extractable Lithium (Li)	mg/kg	<2	4	<2	10	<2	4	2	7537614
Acid Extractable Manganese (Mn)	mg/kg	160	69	130	100	12	72	2	7537614
Acid Extractable Mercury (Hg)	mg/kg	0.3	<0.1	0.2	<0.1	0.1	0.1	0.1	7537614
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	<2	<2	<2	<2	2	7537614
Acid Extractable Nickel (Ni)	mg/kg	8	3	6	7	<2	5	2	7537614
Acid Extractable Rubidium (Rb)	mg/kg	5	9	6	11	2	16	2	7537614
Acid Extractable Selenium (Se)	mg/kg	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	7537614
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	7537614
Acid Extractable Strontium (Sr)	mg/kg	11	<5	7	<5	<5	8	5	7537614
Acid Extractable Thallium (Tl)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	7537614
Acid Extractable Tin (Sn)	mg/kg	<1	<1	<1	<1	<1	<1	1	7537614
Acid Extractable Uranium (U)	mg/kg	0.2	0.2	0.2	0.4	0.1	0.3	0.1	7537614
Acid Extractable Vanadium (V)	mg/kg	10	4	12	6	5	16	2	7537614
Acid Extractable Zinc (Zn)	mg/kg	18	10	10	21	7	27	5	7537614
RDL = Reportable Detection Limit QC Batch = Quality Control Batch									



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BV Labs Job #: C1N7089  
Report Date: 2021/09/01

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE  
Your P.O. #: TV183.013.30.51.5290  
Sampler Initials: CB

### ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		QKV999			QKW000			QKW001	QKW002		
Sampling Date		2021/08/18			2021/08/18			2021/08/18	2021/08/18		
COC Number		N/A			N/A			N/A	N/A		
	UNITS	2021-SS33-A Lab-Dup	RDL	QC Batch	2021-SS33-B	RDL	QC Batch	2021-SS32-A	2021-SS32-B	RDL	QC Batch

Metals											
Acid Extractable Aluminum (Al)	mg/kg	6400	10	7537614	11000	10	7539875	6900	22000	10	7537614
Acid Extractable Antimony (Sb)	mg/kg	<2	2	7537614	<2	2	7539875	<2	<2	2	7537614
Acid Extractable Arsenic (As)	mg/kg	120	2	7537614	570	20	7539875	120	160	2	7537614
Acid Extractable Barium (Ba)	mg/kg	21	5	7537614	17	5	7539875	14	21	5	7537614
Acid Extractable Beryllium (Be)	mg/kg	<2	2	7537614	<2	2	7539875	<2	<2	2	7537614
Acid Extractable Bismuth (Bi)	mg/kg	<2	2	7537614	<2	2	7539875	<2	<2	2	7537614
Acid Extractable Boron (B)	mg/kg	<50	50	7537614	<50	50	7539875	<50	<50	50	7537614
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	0.3	7537614	<0.3	0.3	7539875	<0.3	<0.3	0.3	7537614
Acid Extractable Chromium (Cr)	mg/kg	6	2	7537614	14	2	7539875	6	23	2	7537614
Acid Extractable Cobalt (Co)	mg/kg	2	1	7537614	4	1	7539875	1	6	1	7537614
Acid Extractable Copper (Cu)	mg/kg	9	2	7537614	9	2	7539875	4	6	2	7537614
Acid Extractable Iron (Fe)	mg/kg	7200	50	7537614	22000	50	7539875	15000	43000	50	7537614
Acid Extractable Lead (Pb)	mg/kg	32	0.5	7537614	16	0.5	7539875	16	12	0.5	7537614
Acid Extractable Lithium (Li)	mg/kg	3	2	7537614	14	2	7539875	3	23	2	7537614
Acid Extractable Manganese (Mn)	mg/kg	74	2	7537614	190	2	7539875	83	390	2	7537614
Acid Extractable Mercury (Hg)	mg/kg	0.1	0.1	7537614	<0.1	0.1	7539875	0.1	<0.1	0.1	7537614
Acid Extractable Molybdenum (Mo)	mg/kg	<2	2	7537614	<2	2	7539875	<2	<2	2	7537614
Acid Extractable Nickel (Ni)	mg/kg	5	2	7537614	11	2	7539875	4	21	2	7537614
Acid Extractable Rubidium (Rb)	mg/kg	17	2	7537614	10	2	7539875	13	31	2	7537614
Acid Extractable Selenium (Se)	mg/kg	<0.5	0.5	7537614	0.8	0.5	7539875	<0.5	0.8	0.5	7537614
Acid Extractable Silver (Ag)	mg/kg	<0.5	0.5	7537614	<0.5	0.5	7539875	<0.5	<0.5	0.5	7537614
Acid Extractable Strontium (Sr)	mg/kg	8	5	7537614	5	5	7539875	<5	<5	5	7537614
Acid Extractable Thallium (Tl)	mg/kg	0.1	0.1	7537614	<0.1	0.1	7539875	0.1	0.2	0.1	7537614
Acid Extractable Tin (Sn)	mg/kg	<1	1	7537614	<1	1	7539875	<1	<1	1	7537614
Acid Extractable Uranium (U)	mg/kg	0.3	0.1	7537614	0.4	0.1	7539875	0.3	0.6	0.1	7537614
Acid Extractable Vanadium (V)	mg/kg	17	2	7537614	30	2	7539875	27	29	2	7537614
Acid Extractable Zinc (Zn)	mg/kg	28	5	7537614	36	5	7539875	14	65	5	7537614

RDL = Reportable Detection Limit  
QC Batch = Quality Control Batch  
Lab-Dup = Laboratory Initiated Duplicate



BV Labs Job #: C1N7089  
 Report Date: 2021/09/01

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.30.52.5290.573000  
 Site Location: MONTAGUE  
 Your P.O. #: TV183.013.30.51.5290  
 Sampler Initials: CB

**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QKW003	QKW003		QKW004		QKW005		QKW006		
Sampling Date		2021/08/18	2021/08/18		2021/08/18		2021/08/18		2021/08/18		
COC Number		N/A	N/A		N/A		N/A		N/A		
	UNITS	2021-SS32-C	2021-SS32-C Lab-Dup	QC Batch	2021-SS78-A	RDL	2021-SS78-B	RDL	2021-SS74-A	RDL	QC Batch

<b>Metals</b>											
Acid Extractable Aluminum (Al)	mg/kg	20000	20000	7539875	9000	10	15000	10	2100	10	7537614
Acid Extractable Antimony (Sb)	mg/kg	<2	<2	7539875	<2	2	<2	2	<2	2	7537614
Acid Extractable Arsenic (As)	mg/kg	150	160	7539875	450	2	530	20	30	2	7537614
Acid Extractable Barium (Ba)	mg/kg	22	22	7539875	19	5	23	5	22	5	7537614
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	7539875	<2	2	<2	2	<2	2	7537614
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	7539875	<2	2	<2	2	<2	2	7537614
Acid Extractable Boron (B)	mg/kg	<50	<50	7539875	<50	50	<50	50	<50	50	7537614
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	<0.3	7539875	<0.3	0.3	<0.3	0.3	<0.3	0.3	7537614
Acid Extractable Chromium (Cr)	mg/kg	19	19	7539875	10	2	13	2	3	2	7537614
Acid Extractable Cobalt (Co)	mg/kg	5	5	7539875	5	1	5	1	<1	1	7537614
Acid Extractable Copper (Cu)	mg/kg	6	6	7539875	17	2	8	2	11	2	7537614
Acid Extractable Iron (Fe)	mg/kg	34000	34000	7539875	20000	50	28000	50	4200	50	7537614
Acid Extractable Lead (Pb)	mg/kg	14	15	7539875	29	0.5	9.1	0.5	280	0.5	7537614
Acid Extractable Lithium (Li)	mg/kg	24	24	7539875	11	2	23	2	<2	2	7537614
Acid Extractable Manganese (Mn)	mg/kg	360	390	7539875	160	2	180	2	24	2	7537614
Acid Extractable Mercury (Hg)	mg/kg	<0.1	<0.1	7539875	0.2	0.1	0.1	0.1	1.3	0.1	7537614
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	7539875	<2	2	<2	2	<2	2	7537614
Acid Extractable Nickel (Ni)	mg/kg	15	15	7539875	14	2	9	2	9	2	7537614
Acid Extractable Rubidium (Rb)	mg/kg	30	30	7539875	14	2	12	2	2	2	7537614
Acid Extractable Selenium (Se)	mg/kg	0.8	0.8	7539875	<0.5	0.5	0.9	0.5	1.0	0.5	7537614
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	7539875	<0.5	0.5	0.7	0.5	<0.5	0.5	7537614
Acid Extractable Strontium (Sr)	mg/kg	<5	<5	7539875	5	5	<5	5	7	5	7537614
Acid Extractable Thallium (Tl)	mg/kg	0.2	0.2	7539875	0.1	0.1	0.2	0.1	<0.1	0.1	7537614
Acid Extractable Tin (Sn)	mg/kg	<1	<1	7539875	<1	1	<1	1	2	1	7537614
Acid Extractable Uranium (U)	mg/kg	0.5	0.5	7539875	0.4	0.1	0.6	0.1	0.2	0.1	7537614
Acid Extractable Vanadium (V)	mg/kg	25	26	7539875	24	2	25	2	28	2	7537614
Acid Extractable Zinc (Zn)	mg/kg	53	52	7539875	32	5	26	5	19	5	7537614

RDL = Reportable Detection Limit  
 QC Batch = Quality Control Batch  
 Lab-Dup = Laboratory Initiated Duplicate



BV Labs Job #: C1N7089  
 Report Date: 2021/09/01

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.30.52.5290.573000  
 Site Location: MONTAGUE  
 Your P.O. #: TV183.013.30.51.5290  
 Sampler Initials: CB

**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QKW007	QKW008	QKW009	QKW010		QKW011		
Sampling Date		2021/08/18	2021/08/18	2021/08/18	2021/08/18		2021/08/18		
COC Number		N/A	N/A	N/A	N/A		N/A		
	UNITS	2021-SS74-B	2021-SS75-A	2021-SS75-B	2021-SS76-A	RDL	2021-SS77-A	RDL	QC Batch
<b>Metals</b>									
Acid Extractable Aluminum (Al)	mg/kg	1000	8800	21000	7400	10	11000	10	7537614
Acid Extractable Antimony (Sb)	mg/kg	<2	<2	<2	<2	2	<2	2	7537614
Acid Extractable Arsenic (As)	mg/kg	10	62	39	350	2	910	20	7537614
Acid Extractable Barium (Ba)	mg/kg	13	12	16	15	5	27	5	7537614
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	<2	<2	2	<2	2	7537614
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	<2	<2	2	<2	2	7537614
Acid Extractable Boron (B)	mg/kg	<50	<50	<50	<50	50	<50	50	7537614
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	<0.3	<0.3	<0.3	0.3	<0.3	0.3	7537614
Acid Extractable Chromium (Cr)	mg/kg	2	10	17	8	2	12	2	7537614
Acid Extractable Cobalt (Co)	mg/kg	<1	2	4	1	1	6	1	7537614
Acid Extractable Copper (Cu)	mg/kg	4	6	7	3	2	23	2	7537614
Acid Extractable Iron (Fe)	mg/kg	1800	19000	23000	18000	50	27000	50	7537614
Acid Extractable Lead (Pb)	mg/kg	17	29	12	10	0.5	46	0.5	7537614
Acid Extractable Lithium (Li)	mg/kg	<2	7	16	2	2	14	2	7537614
Acid Extractable Manganese (Mn)	mg/kg	13	100	170	65	2	160	2	7537614
Acid Extractable Mercury (Hg)	mg/kg	0.2	0.2	0.1	<0.1	0.1	0.2	0.1	7537614
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	<2	<2	2	<2	2	7537614
Acid Extractable Nickel (Ni)	mg/kg	3	7	12	4	2	26	2	7537614
Acid Extractable Rubidium (Rb)	mg/kg	<2	6	6	5	2	12	2	7537614
Acid Extractable Selenium (Se)	mg/kg	<0.5	0.8	1.7	<0.5	0.5	<0.5	0.5	7537614
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	0.5	7537614
Acid Extractable Strontium (Sr)	mg/kg	<5	<5	<5	<5	5	9	5	7537614
Acid Extractable Thallium (Tl)	mg/kg	<0.1	0.1	<0.1	<0.1	0.1	0.2	0.1	7537614
Acid Extractable Tin (Sn)	mg/kg	<1	<1	<1	<1	1	2	1	7537614
Acid Extractable Uranium (U)	mg/kg	0.1	0.3	0.5	0.3	0.1	0.8	0.1	7537614
Acid Extractable Vanadium (V)	mg/kg	10	39	23	39	2	29	2	7537614
Acid Extractable Zinc (Zn)	mg/kg	6	31	36	14	5	49	5	7537614
RDL = Reportable Detection Limit QC Batch = Quality Control Batch									



**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QKW012		QKW013	QKW014	QKW015		
Sampling Date		2021/08/18		2021/08/18	2021/08/18	2021/08/18		
COC Number		N/A		N/A	N/A	N/A		
	UNITS	2021-SS41-A	QC Batch	2021-SS41-B	2021-SS42-A	2021-SS42-B	RDL	QC Batch
<b>Metals</b>								
Acid Extractable Aluminum (Al)	mg/kg	5000	7537614	20000	3000	15000	10	7537622
Acid Extractable Antimony (Sb)	mg/kg	<2	7537614	<2	<2	<2	2	7537622
Acid Extractable Arsenic (As)	mg/kg	19	7537614	40	13	39	2	7537622
Acid Extractable Barium (Ba)	mg/kg	9	7537614	12	25	17	5	7537622
Acid Extractable Beryllium (Be)	mg/kg	<2	7537614	<2	<2	<2	2	7537622
Acid Extractable Bismuth (Bi)	mg/kg	<2	7537614	<2	<2	<2	2	7537622
Acid Extractable Boron (B)	mg/kg	<50	7537614	<50	<50	<50	50	7537622
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	7537614	<0.3	<0.3	<0.3	0.3	7537622
Acid Extractable Chromium (Cr)	mg/kg	7	7537614	20	5	16	2	7537622
Acid Extractable Cobalt (Co)	mg/kg	<1	7537614	3	1	6	1	7537622
Acid Extractable Copper (Cu)	mg/kg	3	7537614	10	6	16	2	7537622
Acid Extractable Iron (Fe)	mg/kg	12000	7537614	32000	5100	24000	50	7537622
Acid Extractable Lead (Pb)	mg/kg	9.8	7537614	14	24	12	0.5	7537622
Acid Extractable Lithium (Li)	mg/kg	<2	7537614	15	<2	16	2	7537622
Acid Extractable Manganese (Mn)	mg/kg	54	7537614	150	67	240	2	7537622
Acid Extractable Mercury (Hg)	mg/kg	<0.1	7537614	0.2	0.1	<0.1	0.1	7537622
Acid Extractable Molybdenum (Mo)	mg/kg	<2	7537614	<2	<2	<2	2	7537622
Acid Extractable Nickel (Ni)	mg/kg	3	7537614	9	7	16	2	7537622
Acid Extractable Rubidium (Rb)	mg/kg	3	7537614	6	7	10	2	7537622
Acid Extractable Selenium (Se)	mg/kg	<0.5	7537614	1.4	<0.5	0.7	0.5	7537622
Acid Extractable Silver (Ag)	mg/kg	<0.5	7537614	<0.5	<0.5	<0.5	0.5	7537622
Acid Extractable Strontium (Sr)	mg/kg	<5	7537614	<5	6	<5	5	7537622
Acid Extractable Thallium (Tl)	mg/kg	<0.1	7537614	<0.1	<0.1	<0.1	0.1	7537622
Acid Extractable Tin (Sn)	mg/kg	<1	7537614	<1	<1	<1	1	7537622
Acid Extractable Uranium (U)	mg/kg	0.2	7537614	0.5	0.2	0.5	0.1	7537622
Acid Extractable Vanadium (V)	mg/kg	23	7537614	31	15	22	2	7537622
Acid Extractable Zinc (Zn)	mg/kg	7	7537614	26	24	34	5	7537622
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								





BV Labs Job #: C1N7089  
 Report Date: 2021/09/01

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.30.52.5290.573000  
 Site Location: MONTAGUE  
 Your P.O. #: TV183.013.30.51.5290  
 Sampler Initials: CB

### ATLANTIC RBCA HYDROCARBONS (SOIL)

BV Labs ID		QKV979	QKV980	QKV981	QKV982		
Sampling Date		2021/08/18	2021/08/18	2021/08/18	2021/08/18		
COC Number		N/A	N/A	N/A	N/A		
	UNITS	2021-SS27-A	2021-SS27-B	2021-SS26-A	2021-SS26-B	RDL	QC Batch
<b>Petroleum Hydrocarbons</b>							
Benzene	mg/kg	<0.025	<0.025	<0.025	<0.025	0.025	7535962
Toluene	mg/kg	<0.050	<0.050	<0.050	<0.050	0.050	7535962
Ethylbenzene	mg/kg	<0.025	<0.025	<0.025	<0.025	0.025	7535962
Total Xylenes	mg/kg	<0.050	<0.050	<0.050	<0.050	0.050	7535962
C6 - C10 (less BTEX)	mg/kg	<2.5	<2.5	<2.5	<2.5	2.5	7535962
>C10-C16 Hydrocarbons	mg/kg	<10	<10	<10	<10	10	7535849
>C16-C21 Hydrocarbons	mg/kg	<10	<10	<10	<10	10	7535849
>C21-<C32 Hydrocarbons	mg/kg	21	<20	24	<20	20	7535849
Modified TPH (Tier1)	mg/kg	21	<20	24	<20	20	7531416
Reached Baseline at C32	mg/kg	Yes	NA	Yes	NA	N/A	7535849
Hydrocarbon Resemblance	mg/kg	COMMENT (1)	NA	COMMENT (1)	NA	N/A	7535849
<b>Surrogate Recovery (%)</b>							
Isobutylbenzene - Extractable	%	93	98	103	96		7535849
n-Dotriacontane - Extractable	%	96	102	114	101		7535849
Isobutylbenzene - Volatile	%	115	101	104	99		7535962
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable (1) Unidentified compound(s) in lube oil range.							



BV Labs Job #: C1N7089  
 Report Date: 2021/09/01

Wood Environment & Infrastructure Solutions, a division of  
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 Your P.O. #: TV183.013.30.51.5290  
 Sampler Initials: CB

**ATLANTIC RBCA HYDROCARBONS (SOIL)**

BV Labs ID		QKW008		QKW009		
Sampling Date		2021/08/18		2021/08/18		
COC Number		N/A		N/A		
	UNITS	2021-SS75-A	RDL	2021-SS75-B	RDL	QC Batch
<b>Petroleum Hydrocarbons</b>						
Benzene	mg/kg	<0.050	0.050	<0.025	0.025	7537375
Toluene	mg/kg	<0.10	0.10	<0.050	0.050	7537375
Ethylbenzene	mg/kg	<0.050	0.050	<0.025	0.025	7537375
Total Xylenes	mg/kg	<0.10	0.10	<0.050	0.050	7537375
C6 - C10 (less BTEX)	mg/kg	<5.0	5.0	<2.5	2.5	7537375
>C10-C16 Hydrocarbons	mg/kg	13	10	<10	10	7537677
>C16-C21 Hydrocarbons	mg/kg	25	10	<10	10	7537677
>C21-<C32 Hydrocarbons	mg/kg	180	20	59	20	7537677
Modified TPH (Tier1)	mg/kg	220	20	59	20	7531416
Reached Baseline at C32	mg/kg	No	N/A	Yes	N/A	7537677
Hydrocarbon Resemblance	mg/kg	COMMENT (1)	N/A	COMMENT (2)	N/A	7537677
<b>Surrogate Recovery (%)</b>						
Isobutylbenzene - Extractable	%	99		101		7537677
n-Dotriacontane - Extractable	%	100		101		7537677
Isobutylbenzene - Volatile	%	103 (3)		109		7537375
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable (1) Unidentified compound(s) in fuel / lube range. Possible lube oil fraction. (2) Possible lube oil fraction. (3) Elevated VPH RDL(s) due to limited sample.						



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BV Labs Job #: C1N7089

Report Date: 2021/09/01

Wood Environment & Infrastructure Solutions, a division of

Wood Canada Limited

Client Project #: TV183013.30.52.5290.573000

Site Location: MONTAGUE

Your P.O. #: TV183.013.30.51.5290

Sampler Initials: CB

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	2.3°C
Package 2	4.3°C
Package 3	4.7°C

**Results relate only to the items tested.**



BV Labs Job #: C1N7089  
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### QUALITY ASSURANCE REPORT

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.30.52.5290.573000  
 Site Location: MONTAGUE  
 Your P.O. #: TV183.013.30.51.5290  
 Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7535849	Isobutylbenzene - Extractable	2021/08/24	92	60 - 130	94	60 - 130	91	%		
7535849	n-Dotriacontane - Extractable	2021/08/24	105	60 - 130	98	60 - 130	97	%		
7535962	Isobutylbenzene - Volatile	2021/08/24	99	60 - 130	111	60 - 130	106	%		
7537375	Isobutylbenzene - Volatile	2021/08/24	120	60 - 130	103	60 - 130	107	%		
7537677	Isobutylbenzene - Extractable	2021/08/24	100	60 - 130	102	60 - 130	101	%		
7537677	n-Dotriacontane - Extractable	2021/08/24	100	60 - 130	106	60 - 130	105	%		
7532341	Moisture	2021/08/20							5.5	25
7535167	Moisture	2021/08/23							3.7	25
7535849	>C10-C16 Hydrocarbons	2021/08/24	108	30 - 130	104	60 - 130	<10	mg/kg	NC	50
7535849	>C16-C21 Hydrocarbons	2021/08/24	101	30 - 130	96	60 - 130	<10	mg/kg	NC	50
7535849	>C21-<C32 Hydrocarbons	2021/08/24	90	30 - 130	90	60 - 130	<20	mg/kg	NC	50
7535962	Benzene	2021/08/24	80	60 - 130	91	60 - 140	<0.025	mg/kg	NC	50
7535962	C6 - C10 (less BTEX)	2021/08/24					<2.5	mg/kg	NC	50
7535962	Ethylbenzene	2021/08/24	89	60 - 130	99	60 - 140	<0.025	mg/kg	NC	50
7535962	Toluene	2021/08/24	83	60 - 130	95	60 - 140	<0.050	mg/kg	NC	50
7535962	Total Xylenes	2021/08/24	88	60 - 130	98	60 - 140	<0.050	mg/kg	NC	50
7537321	Acid Extractable Aluminum (Al)	2021/08/24					<10	mg/kg	6.4	35
7537321	Acid Extractable Antimony (Sb)	2021/08/24	95	75 - 125	100	75 - 125	<2	mg/kg	NC	35
7537321	Acid Extractable Arsenic (As)	2021/08/24	NC	75 - 125	100	75 - 125	<2	mg/kg	16	35
7537321	Acid Extractable Barium (Ba)	2021/08/24	101	75 - 125	96	75 - 125	<5	mg/kg	12	35
7537321	Acid Extractable Beryllium (Be)	2021/08/24	103	75 - 125	99	75 - 125	<2	mg/kg	NC	35
7537321	Acid Extractable Bismuth (Bi)	2021/08/24	101	75 - 125	94	75 - 125	<2	mg/kg	NC	35
7537321	Acid Extractable Boron (B)	2021/08/24	98	75 - 125	99	75 - 125	<50	mg/kg	NC	35
7537321	Acid Extractable Cadmium (Cd)	2021/08/24	101	75 - 125	97	75 - 125	<0.3	mg/kg	NC	35
7537321	Acid Extractable Chromium (Cr)	2021/08/24	104	75 - 125	100	75 - 125	<2	mg/kg	3.5	35
7537321	Acid Extractable Cobalt (Co)	2021/08/24	106	75 - 125	101	75 - 125	<1	mg/kg	3.3	35
7537321	Acid Extractable Copper (Cu)	2021/08/24	103	75 - 125	103	75 - 125	<2	mg/kg	10	35
7537321	Acid Extractable Iron (Fe)	2021/08/24					<50	mg/kg	4.9	35
7537321	Acid Extractable Lead (Pb)	2021/08/24	98	75 - 125	97	75 - 125	<0.5	mg/kg	12	35
7537321	Acid Extractable Lithium (Li)	2021/08/24	104	75 - 125	100	75 - 125	<2	mg/kg	0.11	35



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### QUALITY ASSURANCE REPORT(CONT'D)

Wood Environment & Infrastructure Solutions, a division of

Wood Canada Limited

Client Project #: TV183013.30.52.5290.573000

Site Location: MONTAGUE

Your P.O. #: TV183.013.30.51.5290

Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7537321	Acid Extractable Manganese (Mn)	2021/08/24	NC	75 - 125	101	75 - 125	<2	mg/kg	4.4	35
7537321	Acid Extractable Mercury (Hg)	2021/08/24	97	75 - 125	97	75 - 125	<0.1	mg/kg	NC	35
7537321	Acid Extractable Molybdenum (Mo)	2021/08/24	105	75 - 125	99	75 - 125	<2	mg/kg	NC	35
7537321	Acid Extractable Nickel (Ni)	2021/08/24	105	75 - 125	103	75 - 125	<2	mg/kg	4.3	35
7537321	Acid Extractable Rubidium (Rb)	2021/08/24	102	75 - 125	98	75 - 125	<2	mg/kg	7.8	35
7537321	Acid Extractable Selenium (Se)	2021/08/24	108	75 - 125	105	75 - 125	<0.5	mg/kg	NC	35
7537321	Acid Extractable Silver (Ag)	2021/08/24	105	75 - 125	100	75 - 125	<0.5	mg/kg	NC	35
7537321	Acid Extractable Strontium (Sr)	2021/08/24	104	75 - 125	98	75 - 125	<5	mg/kg	4.2	35
7537321	Acid Extractable Thallium (Tl)	2021/08/24	103	75 - 125	97	75 - 125	<0.1	mg/kg	9.9	35
7537321	Acid Extractable Tin (Sn)	2021/08/24	98	75 - 125	97	75 - 125	<1	mg/kg	NC	35
7537321	Acid Extractable Uranium (U)	2021/08/24	107	75 - 125	96	75 - 125	<0.1	mg/kg	6.3	35
7537321	Acid Extractable Vanadium (V)	2021/08/24	103	75 - 125	101	75 - 125	<2	mg/kg	7.7	35
7537321	Acid Extractable Zinc (Zn)	2021/08/24	NC	75 - 125	103	75 - 125	<5	mg/kg	8.7	35
7537375	Benzene	2021/08/24	78	60 - 130	86	60 - 140	<0.025	mg/kg	NC	50
7537375	C6 - C10 (less BTEX)	2021/08/24					<2.5	mg/kg	NC	50
7537375	Ethylbenzene	2021/08/24	98	60 - 130	74	60 - 140	<0.025	mg/kg	NC	50
7537375	Toluene	2021/08/24	86	60 - 130	89	60 - 140	<0.050	mg/kg	NC	50
7537375	Total Xylenes	2021/08/24	95	60 - 130	79	60 - 140	<0.050	mg/kg	NC	50
7537614	Acid Extractable Aluminum (Al)	2021/08/24					<10	mg/kg	2.6	35
7537614	Acid Extractable Antimony (Sb)	2021/08/24	96	75 - 125	99	75 - 125	<2	mg/kg	NC	35
7537614	Acid Extractable Arsenic (As)	2021/08/24	NC	75 - 125	100	75 - 125	<2	mg/kg	3.2	35
7537614	Acid Extractable Barium (Ba)	2021/08/24	113	75 - 125	97	75 - 125	<5	mg/kg	4.8	35
7537614	Acid Extractable Beryllium (Be)	2021/08/24	101	75 - 125	99	75 - 125	<2	mg/kg	NC	35
7537614	Acid Extractable Bismuth (Bi)	2021/08/24	105	75 - 125	96	75 - 125	<2	mg/kg	NC	35
7537614	Acid Extractable Boron (B)	2021/08/24	84	75 - 125	101	75 - 125	<50	mg/kg	NC	35
7537614	Acid Extractable Cadmium (Cd)	2021/08/24	101	75 - 125	98	75 - 125	<0.3	mg/kg	NC	35
7537614	Acid Extractable Chromium (Cr)	2021/08/24	109	75 - 125	101	75 - 125	<2	mg/kg	1.7	35
7537614	Acid Extractable Cobalt (Co)	2021/08/24	107	75 - 125	104	75 - 125	<1	mg/kg	7.0	35
7537614	Acid Extractable Copper (Cu)	2021/08/24	108	75 - 125	104	75 - 125	<2	mg/kg	4.9	35
7537614	Acid Extractable Iron (Fe)	2021/08/24					<50	mg/kg	0.24	35



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BV Labs Job #: C1N7089  
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### QUALITY ASSURANCE REPORT(CONT'D)

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE  
Your P.O. #: TV183.013.30.51.5290  
Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7537614	Acid Extractable Lead (Pb)	2021/08/24	104	75 - 125	99	75 - 125	<0.5	mg/kg	9.1	35
7537614	Acid Extractable Lithium (Li)	2021/08/24	104	75 - 125	98	75 - 125	<2	mg/kg	10	35
7537614	Acid Extractable Manganese (Mn)	2021/08/24	NC	75 - 125	102	75 - 125	<2	mg/kg	1.9	35
7537614	Acid Extractable Mercury (Hg)	2021/08/24	100	75 - 125	101	75 - 125	<0.1	mg/kg	2.2	35
7537614	Acid Extractable Molybdenum (Mo)	2021/08/24	104	75 - 125	100	75 - 125	<2	mg/kg	NC	35
7537614	Acid Extractable Nickel (Ni)	2021/08/24	108	75 - 125	105	75 - 125	<2	mg/kg	2.3	35
7537614	Acid Extractable Rubidium (Rb)	2021/08/24	101	75 - 125	99	75 - 125	<2	mg/kg	4.7	35
7537614	Acid Extractable Selenium (Se)	2021/08/24	107	75 - 125	107	75 - 125	<0.5	mg/kg	NC	35
7537614	Acid Extractable Silver (Ag)	2021/08/24	103	75 - 125	99	75 - 125	<0.5	mg/kg	NC	35
7537614	Acid Extractable Strontium (Sr)	2021/08/24	104	75 - 125	97	75 - 125	<5	mg/kg	0.67	35
7537614	Acid Extractable Thallium (Tl)	2021/08/24	104	75 - 125	100	75 - 125	<0.1	mg/kg	8.4	35
7537614	Acid Extractable Tin (Sn)	2021/08/24	104	75 - 125	97	75 - 125	<1	mg/kg	NC	35
7537614	Acid Extractable Uranium (U)	2021/08/24	108	75 - 125	99	75 - 125	<0.1	mg/kg	0.43	35
7537614	Acid Extractable Vanadium (V)	2021/08/24	110	75 - 125	101	75 - 125	<2	mg/kg	5.6	35
7537614	Acid Extractable Zinc (Zn)	2021/08/24	107	75 - 125	104	75 - 125	<5	mg/kg	3.5	35
7537622	Acid Extractable Aluminum (Al)	2021/08/24					<10	mg/kg	7.0	35
7537622	Acid Extractable Antimony (Sb)	2021/08/24	91	75 - 125	97	75 - 125	<2	mg/kg	NC	35
7537622	Acid Extractable Arsenic (As)	2021/08/24	89	75 - 125	98	75 - 125	<2	mg/kg	5.1	35
7537622	Acid Extractable Barium (Ba)	2021/08/24	106	75 - 125	94	75 - 125	<5	mg/kg	49 (1)	35
7537622	Acid Extractable Beryllium (Be)	2021/08/24	102	75 - 125	84	75 - 125	<2	mg/kg	NC	35
7537622	Acid Extractable Bismuth (Bi)	2021/08/24	99	75 - 125	95	75 - 125	<2	mg/kg	NC	35
7537622	Acid Extractable Boron (B)	2021/08/24	100	75 - 125	85	75 - 125	<50	mg/kg	NC	35
7537622	Acid Extractable Cadmium (Cd)	2021/08/24	100	75 - 125	83	75 - 125	<0.3	mg/kg	12	35
7537622	Acid Extractable Chromium (Cr)	2021/08/24	101	75 - 125	97	75 - 125	<2	mg/kg	9.1	35
7537622	Acid Extractable Cobalt (Co)	2021/08/24	107	75 - 125	99	75 - 125	<1	mg/kg	16	35
7537622	Acid Extractable Copper (Cu)	2021/08/24	99	75 - 125	100	75 - 125	<2	mg/kg	7.6	35
7537622	Acid Extractable Iron (Fe)	2021/08/24					<50	mg/kg	3.1	35
7537622	Acid Extractable Lead (Pb)	2021/08/24	103	75 - 125	95	75 - 125	<0.5	mg/kg	17	35
7537622	Acid Extractable Lithium (Li)	2021/08/24	105	75 - 125	84	75 - 125	<2	mg/kg	15	35
7537622	Acid Extractable Manganese (Mn)	2021/08/24	NC	75 - 125	98	75 - 125	<2	mg/kg	50 (1)	35



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### QUALITY ASSURANCE REPORT(CONT'D)

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE  
Your P.O. #: TV183.013.30.51.5290  
Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7537622	Acid Extractable Mercury (Hg)	2021/08/24	98	75 - 125	96	75 - 125	<0.1	mg/kg	NC	35
7537622	Acid Extractable Molybdenum (Mo)	2021/08/24	102	75 - 125	98	75 - 125	<2	mg/kg	28	35
7537622	Acid Extractable Nickel (Ni)	2021/08/24	110	75 - 125	101	75 - 125	<2	mg/kg	17	35
7537622	Acid Extractable Rubidium (Rb)	2021/08/24	100	75 - 125	94	75 - 125	<2	mg/kg	8.4	35
7537622	Acid Extractable Selenium (Se)	2021/08/24	106	75 - 125	103	75 - 125	<0.5	mg/kg	NC	35
7537622	Acid Extractable Silver (Ag)	2021/08/24	101	75 - 125	97	75 - 125	<0.5	mg/kg	NC	35
7537622	Acid Extractable Strontium (Sr)	2021/08/24	105	75 - 125	95	75 - 125	<5	mg/kg	11	35
7537622	Acid Extractable Thallium (Tl)	2021/08/24	102	75 - 125	96	75 - 125	<0.1	mg/kg	NC	35
7537622	Acid Extractable Tin (Sn)	2021/08/24	100	75 - 125	93	75 - 125	<1	mg/kg	NC	35
7537622	Acid Extractable Uranium (U)	2021/08/24	107	75 - 125	94	75 - 125	<0.1	mg/kg	4.3	35
7537622	Acid Extractable Vanadium (V)	2021/08/24	103	75 - 125	97	75 - 125	<2	mg/kg	4.8	35
7537622	Acid Extractable Zinc (Zn)	2021/08/24	NC	75 - 125	98	75 - 125	<5	mg/kg	11	35
7537677	>C10-C16 Hydrocarbons	2021/08/24	99	30 - 130	104	60 - 130	<10	mg/kg	NC	50
7537677	>C16-C21 Hydrocarbons	2021/08/24	98	30 - 130	99	60 - 130	<10	mg/kg	NC	50
7537677	>C21-<C32 Hydrocarbons	2021/08/24	97	30 - 130	100	60 - 130	<20	mg/kg	NC	50
7539875	Acid Extractable Aluminum (Al)	2021/08/26					<10	mg/kg	0.15	35
7539875	Acid Extractable Antimony (Sb)	2021/08/26	100	75 - 125	105	75 - 125	<2	mg/kg	NC	35
7539875	Acid Extractable Arsenic (As)	2021/08/26	NC	75 - 125	101	75 - 125	<2	mg/kg	5.5	35
7539875	Acid Extractable Barium (Ba)	2021/08/26	104	75 - 125	99	75 - 125	<5	mg/kg	1.6	35
7539875	Acid Extractable Beryllium (Be)	2021/08/26	100	75 - 125	100	75 - 125	<2	mg/kg	NC	35
7539875	Acid Extractable Bismuth (Bi)	2021/08/26	106	75 - 125	100	75 - 125	<2	mg/kg	NC	35
7539875	Acid Extractable Boron (B)	2021/08/26	83	75 - 125	101	75 - 125	<50	mg/kg	NC	35
7539875	Acid Extractable Cadmium (Cd)	2021/08/26	99	75 - 125	98	75 - 125	<0.3	mg/kg	NC	35
7539875	Acid Extractable Chromium (Cr)	2021/08/26	105	75 - 125	101	75 - 125	<2	mg/kg	0.83	35
7539875	Acid Extractable Cobalt (Co)	2021/08/26	103	75 - 125	101	75 - 125	<1	mg/kg	6.8	35
7539875	Acid Extractable Copper (Cu)	2021/08/26	104	75 - 125	102	75 - 125	<2	mg/kg	4.5	35
7539875	Acid Extractable Iron (Fe)	2021/08/26					<50	mg/kg	0.35	35
7539875	Acid Extractable Lead (Pb)	2021/08/26	105	75 - 125	100	75 - 125	<0.5	mg/kg	6.2	35
7539875	Acid Extractable Lithium (Li)	2021/08/26	102	75 - 125	98	75 - 125	<2	mg/kg	1.4	35
7539875	Acid Extractable Manganese (Mn)	2021/08/26	NC	75 - 125	102	75 - 125	<2	mg/kg	8.2	35



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**QUALITY ASSURANCE REPORT(CONT'D)**

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE  
Your P.O. #: TV183.013.30.51.5290  
Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7539875	Acid Extractable Mercury (Hg)	2021/08/26	96	75 - 125	101	75 - 125	<0.1	mg/kg	NC	35
7539875	Acid Extractable Molybdenum (Mo)	2021/08/26	106	75 - 125	105	75 - 125	<2	mg/kg	NC	35
7539875	Acid Extractable Nickel (Ni)	2021/08/26	103	75 - 125	103	75 - 125	<2	mg/kg	3.0	35
7539875	Acid Extractable Rubidium (Rb)	2021/08/26	103	75 - 125	100	75 - 125	<2	mg/kg	2.1	35
7539875	Acid Extractable Selenium (Se)	2021/08/26	103	75 - 125	105	75 - 125	<0.5	mg/kg	2.6	35
7539875	Acid Extractable Silver (Ag)	2021/08/26	101	75 - 125	101	75 - 125	<0.5	mg/kg	NC	35
7539875	Acid Extractable Strontium (Sr)	2021/08/26	105	75 - 125	103	75 - 125	<5	mg/kg	NC	35
7539875	Acid Extractable Thallium (Tl)	2021/08/26	104	75 - 125	102	75 - 125	<0.1	mg/kg	1.5	35
7539875	Acid Extractable Tin (Sn)	2021/08/26	99	75 - 125	97	75 - 125	<1	mg/kg	NC	35
7539875	Acid Extractable Uranium (U)	2021/08/26	102	75 - 125	99	75 - 125	<0.1	mg/kg	4.2	35
7539875	Acid Extractable Vanadium (V)	2021/08/26	109	75 - 125	104	75 - 125	<2	mg/kg	3.5	35
7539875	Acid Extractable Zinc (Zn)	2021/08/26	NC	75 - 125	104	75 - 125	<5	mg/kg	1.6	35
7554471	Total Cyanide (CN)	2021/08/30			97	80 - 120	<0.50	mg/kg	NC	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Poor RPD due to sample inhomogeneity. Verified by repeat digestion and analysis.





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BV Labs Job #: C1N7089  
Report Date: 2021/09/01

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.30.52.5290.573000  
Site Location: MONTAGUE  
Your P.O. #: TV183.013.30.51.5290  
Sampler Initials: CB

### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Eric Dearman, Scientific Specialist

Marie-Claude Poupart, B.Sc., Chemist

Mike MacGillivray, Scientific Specialist (Inorganics)

Rosemarie MacDonald, Scientific Specialist (Organics)

Shu Yang, Analyst 2

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Your P.O. #: TV183013.30.51.5290.  
 Your Project #: TV183013.3000.51  
 Site#: MONTAGUE GOLD MINES  
 Site Location: MONTAGUE  
 Your C.O.C. #: ENV COC-00016v0

**Attention: Candace Stephens**

Wood Environment & Infrastructure Solutions, a division of Wood  
 Canada Limited  
 50 Troop Ave  
 Unit 300  
 Dartmouth, NS  
 CANADA B3B 1Z1

**Report Date: 2021/08/27**  
 Report #: R6784840  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C1N8973**

**Received: 2021/08/20, 14:02**

Sample Matrix: Soil  
 # Samples Received: 3

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Metals Solids Acid Extr. ICPMS	3	2021/08/25	2021/08/26	ATL SOP 00058	EPA 6020B R2 m

**Remarks:**

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.



Your P.O. #: TV183013.30.51.5290.  
Your Project #: TV183013.3000.51  
Site#: MONTAGUE GOLD MINES  
Site Location: MONTAGUE  
Your C.O.C. #: ENV COC-00016v0

**Attention: Candace Stephens**

Wood Environment & Infrastructure Solutions, a division of Wood  
Canada Limited  
50 Troop Ave  
Unit 300  
Dartmouth, NS  
CANADA B3B 1Z1

**Report Date: 2021/08/27**  
Report #: R6784840  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C1N8973**  
**Received: 2021/08/20, 14:02**

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.  
Atena Georgescu, Project Manager II  
Email: Atena.Georgescu@bureauveritas.com  
Phone# (902)420-0203 Ext:239

=====

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**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QLG049	QLG049	QLG050	QLG051		
Sampling Date		2021/08/18	2021/08/18	2021/08/18	2021/08/18		
COC Number		ENV COC-00016v0	ENV COC-00016v0	ENV COC-00016v0	ENV COC-00016v0		
	UNITS	2021-MW2(0-2)	2021-MW2(0-2) Lab-Dup	2021-MW2(2-4)	2021-MW2(9'6-11'6)	RDL	QC Batch
<b>Metals</b>							
Acid Extractable Aluminum (Al)	mg/kg	8600	8800	16000	17000	10	7540090
Acid Extractable Antimony (Sb)	mg/kg	<2	<2	<2	<2	2	7540090
Acid Extractable Arsenic (As)	mg/kg	75	85	150	140	2	7540090
Acid Extractable Barium (Ba)	mg/kg	45	44	32	39	5	7540090
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	<2	<2	2	7540090
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	<2	<2	2	7540090
Acid Extractable Boron (B)	mg/kg	<50	<50	<50	<50	50	7540090
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	<0.3	<0.3	<0.3	0.3	7540090
Acid Extractable Chromium (Cr)	mg/kg	13	13	18	21	2	7540090
Acid Extractable Cobalt (Co)	mg/kg	4	4	11	24	1	7540090
Acid Extractable Copper (Cu)	mg/kg	7	8	21	43	2	7540090
Acid Extractable Iron (Fe)	mg/kg	16000	17000	25000	31000	50	7540090
Acid Extractable Lead (Pb)	mg/kg	7.2	8.7	11	6.4	0.5	7540090
Acid Extractable Lithium (Li)	mg/kg	10	10	25	31	2	7540090
Acid Extractable Manganese (Mn)	mg/kg	270	270	440	750	2	7540090
Acid Extractable Mercury (Hg)	mg/kg	0.1	0.1	<0.1	<0.1	0.1	7540090
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	<2	<2	2	7540090
Acid Extractable Nickel (Ni)	mg/kg	10	10	26	36	2	7540090
Acid Extractable Rubidium (Rb)	mg/kg	10	11	25	37	2	7540090
Acid Extractable Selenium (Se)	mg/kg	<0.5	<0.5	<0.5	<0.5	0.5	7540090
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	<0.5	<0.5	0.5	7540090
Acid Extractable Strontium (Sr)	mg/kg	28	29	9	9	5	7540090
Acid Extractable Thallium (Tl)	mg/kg	0.1	0.2	0.2	0.3	0.1	7540090
Acid Extractable Tin (Sn)	mg/kg	<1	<1	<1	<1	1	7540090
Acid Extractable Uranium (U)	mg/kg	0.4	0.4	0.6	0.8	0.1	7540090
Acid Extractable Vanadium (V)	mg/kg	17	23	18	18	2	7540090
Acid Extractable Zinc (Zn)	mg/kg	47	48	66	59	5	7540090
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate							



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BV Labs Job #: C1N8973

Report Date: 2021/08/27

Wood Environment & Infrastructure Solutions, a division of

Wood Canada Limited

Client Project #: TV183013.3000.51

Site Location: MONTAGUE

Your P.O. #: TV183013.30.51.5290.

Sampler Initials: CB

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	3.3°C
Package 2	6.0°C
Package 3	4.0°C

**Results relate only to the items tested.**



BV Labs Job #: C1N8973  
 Report Date: 2021/08/27

### QUALITY ASSURANCE REPORT

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.3000.51  
 Site Location: MONTAGUE  
 Your P.O. #: TV183013.30.51.5290.  
 Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7540090	Acid Extractable Aluminum (Al)	2021/08/26					<10	mg/kg	1.9	35
7540090	Acid Extractable Antimony (Sb)	2021/08/26	104	75 - 125	102	75 - 125	<2	mg/kg	NC	35
7540090	Acid Extractable Arsenic (As)	2021/08/26	NC	75 - 125	98	75 - 125	<2	mg/kg	12	35
7540090	Acid Extractable Barium (Ba)	2021/08/26	115	75 - 125	96	75 - 125	<5	mg/kg	2.2	35
7540090	Acid Extractable Beryllium (Be)	2021/08/26	104	75 - 125	93	75 - 125	<2	mg/kg	NC	35
7540090	Acid Extractable Bismuth (Bi)	2021/08/26	108	75 - 125	99	75 - 125	<2	mg/kg	NC	35
7540090	Acid Extractable Boron (B)	2021/08/26	99	75 - 125	95	75 - 125	<50	mg/kg	NC	35
7540090	Acid Extractable Cadmium (Cd)	2021/08/26	106	75 - 125	96	75 - 125	<0.3	mg/kg	NC	35
7540090	Acid Extractable Chromium (Cr)	2021/08/26	113	75 - 125	98	75 - 125	<2	mg/kg	0.026	35
7540090	Acid Extractable Cobalt (Co)	2021/08/26	110	75 - 125	97	75 - 125	<1	mg/kg	5.6	35
7540090	Acid Extractable Copper (Cu)	2021/08/26	112	75 - 125	98	75 - 125	<2	mg/kg	8.1	35
7540090	Acid Extractable Iron (Fe)	2021/08/26					<50	mg/kg	4.2	35
7540090	Acid Extractable Lead (Pb)	2021/08/26	110	75 - 125	99	75 - 125	<0.5	mg/kg	20	35
7540090	Acid Extractable Lithium (Li)	2021/08/26	109	75 - 125	95	75 - 125	<2	mg/kg	3.0	35
7540090	Acid Extractable Manganese (Mn)	2021/08/26	NC	75 - 125	100	75 - 125	<2	mg/kg	1.3	35
7540090	Acid Extractable Mercury (Hg)	2021/08/26	105	75 - 125	98	75 - 125	<0.1	mg/kg	3.5	35
7540090	Acid Extractable Molybdenum (Mo)	2021/08/26	109	75 - 125	100	75 - 125	<2	mg/kg	NC	35
7540090	Acid Extractable Nickel (Ni)	2021/08/26	112	75 - 125	98	75 - 125	<2	mg/kg	0.70	35
7540090	Acid Extractable Rubidium (Rb)	2021/08/26	110	75 - 125	97	75 - 125	<2	mg/kg	4.7	35
7540090	Acid Extractable Selenium (Se)	2021/08/26	112	75 - 125	101	75 - 125	<0.5	mg/kg	NC	35
7540090	Acid Extractable Silver (Ag)	2021/08/26	108	75 - 125	97	75 - 125	<0.5	mg/kg	NC	35
7540090	Acid Extractable Strontium (Sr)	2021/08/26	112	75 - 125	99	75 - 125	<5	mg/kg	3.2	35
7540090	Acid Extractable Thallium (Tl)	2021/08/26	109	75 - 125	99	75 - 125	<0.1	mg/kg	6.7	35
7540090	Acid Extractable Tin (Sn)	2021/08/26	107	75 - 125	102	75 - 125	<1	mg/kg	NC	35
7540090	Acid Extractable Uranium (U)	2021/08/26	107	75 - 125	97	75 - 125	<0.1	mg/kg	3.3	35
7540090	Acid Extractable Vanadium (V)	2021/08/26	116	75 - 125	101	75 - 125	<2	mg/kg	30	35



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BV Labs Job #: C1N8973  
Report Date: 2021/08/27

### QUALITY ASSURANCE REPORT(CONT'D)

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.3000.51  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.51.5290.  
Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7540090	Acid Extractable Zinc (Zn)	2021/08/26	113	75 - 125	104	75 - 125	<5	mg/kg	0.89	35

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



BV Labs Job #: C1N8973  
Report Date: 2021/08/27

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.3000.51  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.51.5290.  
Sampler Initials: CB

### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

A handwritten signature in black ink, appearing to read "Mike MacGillivray".

---

Mike MacGillivray, Scientific Specialist (Inorganics)

---

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Your P.O. #: TV183013.30.57.5290.  
 Your Project #: TV183013.3000.51  
 Site#: MONTAGUE GOLD MINES  
 Site Location: MONTAGUE  
 Your C.O.C. #: N/A

**Attention: Candace Stephens**

Wood Environment & Infrastructure Solutions, a division of Wood  
 Canada Limited  
 50 Troop Ave  
 Unit 300  
 Dartmouth, NS  
 CANADA B3B 1Z1

**Report Date: 2021/09/03**  
 Report #: R6795673  
 Version: 3 - Revision

**CERTIFICATE OF ANALYSIS – REVISED REPORT**

**BV LABS JOB #: C1N9009**

**Received: 2021/08/20, 14:02**

Sample Matrix: Soil  
 # Samples Received: 37

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Metals Solids Acid Extr. ICPMS	37	2021/08/25	2021/08/26	ATL SOP 00058	EPA 6020B R2 m
Total Cyanide (1)	3	2021/08/26	2021/08/30	STL SOP-00035	MA300-CN 1.2 R4 m
Water Content (Subcontracted) (1, 2)	3	N/A	2021/08/31	STL SOP-00021	MA.100-S.T. 1.1 R5 m

**Remarks:**

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested. This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

- (1) This test was performed by Bureau Veritas Montreal via Bedford
- (2) Offsite analysis requires that subcontracted moisture be reported.



Your P.O. #: TV183013.30.57.5290.  
Your Project #: TV183013.3000.51  
Site#: MONTAGUE GOLD MINES  
Site Location: MONTAGUE  
Your C.O.C. #: N/A

**Attention: Candace Stephens**

Wood Environment & Infrastructure Solutions, a division of Wood  
Canada Limited  
50 Troop Ave  
Unit 300  
Dartmouth, NS  
CANADA B3B 1Z1

**Report Date: 2021/09/03**  
Report #: R6795673  
Version: 3 - Revision

**CERTIFICATE OF ANALYSIS – REVISED REPORT**

**BV LABS JOB #: C1N9009**  
**Received: 2021/08/20, 14:02**

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.  
Atena Georgescu, Project Manager II  
Email: Atena.Georgescu@bureauveritas.com  
Phone# (902)420-0203 Ext:239

=====

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BV Labs Job #: C1N9009  
 Report Date: 2021/09/03

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.3000.51  
 Site Location: MONTAGUE  
 Your P.O. #: TV183013.30.57.5290.  
 Sampler Initials: CB

**RESULTS OF ANALYSES OF SOIL**

BV Labs ID		QLG199	QLG200	QLG201		
Sampling Date		2021/08/19	2021/08/19	2021/08/19		
COC Number		N/A	N/A	N/A		
	<b>UNITS</b>	<b>2021-SS22-A</b>	<b>2021-SS22-B</b>	<b>2021-SS22-C</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Physical Testing</b>						
Moisture-Subcontracted	%w/w	23	18	18	0.50	7554523
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						



BV Labs Job #: C1N9009  
 Report Date: 2021/09/03

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.3000.51  
 Site Location: MONTAGUE  
 Your P.O. #: TV183013.30.57.5290.  
 Sampler Initials: CB

**CONVENTIONALS (SOIL)**

BV Labs ID		QLG199	QLG200	QLG201		
Sampling Date		2021/08/19	2021/08/19	2021/08/19		
COC Number		N/A	N/A	N/A		
	<b>UNITS</b>	<b>2021-SS22-A</b>	<b>2021-SS22-B</b>	<b>2021-SS22-C</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Inorganics</b>						
Total Cyanide (CN)	mg/kg	<0.50	<0.50	<0.50	0.50	7554471
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						



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BV Labs Job #: C1N9009  
Report Date: 2021/09/03

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.3000.51  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.57.5290.  
Sampler Initials: CB

**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QLG199	QLG200	QLG201		QLG202	QLG203		
Sampling Date		2021/08/19	2021/08/19	2021/08/19		2021/08/19	2021/08/19		
COC Number		N/A	N/A	N/A		N/A	N/A		
	UNITS	2021-SS22-A	2021-SS22-B	2021-SS22-C	RDL	2021-SS16-A	2021-SS16-B	RDL	QC Batch
<b>Metals</b>									
Acid Extractable Aluminum (Al)	mg/kg	5400	6000	4800	10	7000	16000	10	7540090
Acid Extractable Antimony (Sb)	mg/kg	24	11	11	2	<2	<2	2	7540090
Acid Extractable Arsenic (As)	mg/kg	18000	10000	8700	200	43	37	2	7540090
Acid Extractable Barium (Ba)	mg/kg	10	10	7	5	12	17	5	7540090
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	<2	2	<2	<2	2	7540090
Acid Extractable Bismuth (Bi)	mg/kg	2	2	<2	2	<2	<2	2	7540090
Acid Extractable Boron (B)	mg/kg	<50	<50	<50	50	<50	<50	50	7540090
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	1.0	0.3	0.3	<0.3	<0.3	0.3	7540090
Acid Extractable Chromium (Cr)	mg/kg	6	6	5	2	10	17	2	7540090
Acid Extractable Cobalt (Co)	mg/kg	1	4	3	1	1	3	1	7540090
Acid Extractable Copper (Cu)	mg/kg	7	110	95	2	4	<2	2	7540090
Acid Extractable Iron (Fe)	mg/kg	30000	21000	18000	50	16000	25000	50	7540090
Acid Extractable Lead (Pb)	mg/kg	130	110	110	0.5	9.1	6.7	0.5	7540090
Acid Extractable Lithium (Li)	mg/kg	8	9	8	2	4	13	2	7540090
Acid Extractable Manganese (Mn)	mg/kg	87	100	84	2	77	160	2	7540090
Acid Extractable Mercury (Hg)	mg/kg	9.5	13	19	0.1	0.1	0.1	0.1	7540090
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	<2	2	<2	<2	2	7540090
Acid Extractable Nickel (Ni)	mg/kg	7	13	11	2	7	13	2	7540090
Acid Extractable Rubidium (Rb)	mg/kg	9	8	6	2	10	17	2	7540090
Acid Extractable Selenium (Se)	mg/kg	0.9	0.5	0.5	0.5	<0.5	0.5	0.5	7540090
Acid Extractable Silver (Ag)	mg/kg	0.7	<0.5	<0.5	0.5	<0.5	<0.5	0.5	7540090
Acid Extractable Strontium (Sr)	mg/kg	6	7	6	5	<5	<5	5	7540090
Acid Extractable Thallium (Tl)	mg/kg	0.1	0.2	<0.1	0.1	0.1	0.2	0.1	7540090
Acid Extractable Tin (Sn)	mg/kg	<1	<1	<1	1	<1	<1	1	7540090
Acid Extractable Uranium (U)	mg/kg	0.2	0.3	0.2	0.1	0.4	0.6	0.1	7540090
Acid Extractable Vanadium (V)	mg/kg	8	6	5	2	26	23	2	7540090
Acid Extractable Zinc (Zn)	mg/kg	42	67	57	5	20	39	5	7540090
RDL = Reportable Detection Limit QC Batch = Quality Control Batch									



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BV Labs Job #: C1N9009  
Report Date: 2021/09/03

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.3000.51  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.57.5290.  
Sampler Initials: CB

### ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		QLG204	QLG205		QLG206	QLG207	QLG208		
Sampling Date		2021/08/19	2021/08/19		2021/08/19	2021/08/19	2021/08/19		
COC Number		N/A	N/A		N/A	N/A	N/A		
	UNITS	2021-SS-DUPB-A	2021-SS-DUPB-B	QC Batch	2021-SS15-A	2021-SS15-B	2021-SS14-A	RDL	QC Batch
<b>Metals</b>									
Acid Extractable Aluminum (Al)	mg/kg	6200	14000	7539875	1000	18000	1700	10	7540090
Acid Extractable Antimony (Sb)	mg/kg	<2	<2	7539875	<2	<2	<2	2	7540090
Acid Extractable Arsenic (As)	mg/kg	37	34	7539875	4	25	4	2	7540090
Acid Extractable Barium (Ba)	mg/kg	10	15	7539875	6	14	39	5	7540090
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	7539875	<2	<2	<2	2	7540090
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	7539875	<2	<2	<2	2	7540090
Acid Extractable Boron (B)	mg/kg	<50	<50	7539875	<50	<50	<50	50	7540090
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	<0.3	7539875	<0.3	<0.3	<0.3	0.3	7540090
Acid Extractable Chromium (Cr)	mg/kg	8	16	7539875	<2	15	2	2	7540090
Acid Extractable Cobalt (Co)	mg/kg	1	3	7539875	<1	4	<1	1	7540090
Acid Extractable Copper (Cu)	mg/kg	3	<2	7539875	<2	12	8	2	7540090
Acid Extractable Iron (Fe)	mg/kg	15000	24000	7539875	1600	18000	2100	50	7540090
Acid Extractable Lead (Pb)	mg/kg	8.0	6.1	7539875	5.0	11	25	0.5	7540090
Acid Extractable Lithium (Li)	mg/kg	3	12	7539875	<2	12	<2	2	7540090
Acid Extractable Manganese (Mn)	mg/kg	67	150	7539875	20	180	84	2	7540090
Acid Extractable Mercury (Hg)	mg/kg	<0.1	<0.1	7539875	<0.1	<0.1	0.2	0.1	7540090
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	7539875	<2	<2	<2	2	7540090
Acid Extractable Nickel (Ni)	mg/kg	6	13	7539875	<2	11	6	2	7540090
Acid Extractable Rubidium (Rb)	mg/kg	9	15	7539875	<2	6	2	2	7540090
Acid Extractable Selenium (Se)	mg/kg	<0.5	<0.5	7539875	<0.5	0.8	0.5	0.5	7540090
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	7539875	<0.5	<0.5	<0.5	0.5	7540090
Acid Extractable Strontium (Sr)	mg/kg	<5	<5	7539875	<5	<5	16	5	7540090
Acid Extractable Thallium (Tl)	mg/kg	<0.1	0.2	7539875	<0.1	<0.1	<0.1	0.1	7540090
Acid Extractable Tin (Sn)	mg/kg	<1	<1	7539875	<1	<1	<1	1	7540090
Acid Extractable Uranium (U)	mg/kg	0.3	0.5	7539875	0.1	0.5	<0.1	0.1	7540090
Acid Extractable Vanadium (V)	mg/kg	23	22	7539875	9	19	15	2	7540090
Acid Extractable Zinc (Zn)	mg/kg	16	35	7539875	6	29	29	5	7540090
RDL = Reportable Detection Limit QC Batch = Quality Control Batch									



BV Labs Job #: C1N9009  
 Report Date: 2021/09/03

Wood Environment & Infrastructure Solutions, a division of  
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 Client Project #: TV183013.3000.51  
 Site Location: MONTAGUE  
 Your P.O. #: TV183013.30.57.5290.  
 Sampler Initials: CB

**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QLG209	QLG210		QLG211	QLG212	QLG213		
Sampling Date		2021/08/19	2021/08/19		2021/08/19	2021/08/19	2021/08/19		
COC Number		N/A	N/A		N/A	N/A	N/A		
	UNITS	2021-SS09-A	2021-SS09-B	QC Batch	2021-DUPC-A	2021-DUPC-B	2021-SS43-A	RDL	QC Batch
<b>Metals</b>									
Acid Extractable Aluminum (Al)	mg/kg	13000	12000	7539875	13000	13000	9700	10	7540090
Acid Extractable Antimony (Sb)	mg/kg	<2	<2	7539875	<2	<2	<2	2	7540090
Acid Extractable Arsenic (As)	mg/kg	220	54	7539875	210	75	12	2	7540090
Acid Extractable Barium (Ba)	mg/kg	23	16	7539875	22	19	12	5	7540090
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	7539875	<2	<2	<2	2	7540090
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	7539875	<2	<2	<2	2	7540090
Acid Extractable Boron (B)	mg/kg	<50	<50	7539875	<50	<50	<50	50	7540090
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	<0.3	7539875	<0.3	<0.3	<0.3	0.3	7540090
Acid Extractable Chromium (Cr)	mg/kg	14	12	7539875	14	13	5	2	7540090
Acid Extractable Cobalt (Co)	mg/kg	5	3	7539875	5	4	<1	1	7540090
Acid Extractable Copper (Cu)	mg/kg	23	7	7539875	21	8	4	2	7540090
Acid Extractable Iron (Fe)	mg/kg	23000	18000	7539875	23000	19000	990	50	7540090
Acid Extractable Lead (Pb)	mg/kg	39	11	7539875	37	12	21	0.5	7540090
Acid Extractable Lithium (Li)	mg/kg	16	11	7539875	16	12	<2	2	7540090
Acid Extractable Manganese (Mn)	mg/kg	230	150	7539875	220	180	12	2	7540090
Acid Extractable Mercury (Hg)	mg/kg	0.3	0.1	7539875	0.3	0.1	0.2	0.1	7540090
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	7539875	<2	<2	<2	2	7540090
Acid Extractable Nickel (Ni)	mg/kg	15	9	7539875	15	10	4	2	7540090
Acid Extractable Rubidium (Rb)	mg/kg	10	8	7539875	11	10	3	2	7540090
Acid Extractable Selenium (Se)	mg/kg	0.6	0.6	7539875	0.7	0.7	1.9	0.5	7540090
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	7539875	<0.5	<0.5	<0.5	0.5	7540090
Acid Extractable Strontium (Sr)	mg/kg	5	<5	7539875	6	<5	<5	5	7540090
Acid Extractable Thallium (Tl)	mg/kg	0.1	<0.1	7539875	0.1	0.1	<0.1	0.1	7540090
Acid Extractable Tin (Sn)	mg/kg	<1	<1	7539875	1	<1	<1	1	7540090
Acid Extractable Uranium (U)	mg/kg	0.4	0.4	7539875	0.4	0.4	0.5	0.1	7540090
Acid Extractable Vanadium (V)	mg/kg	25	19	7539875	24	21	10	2	7540090
Acid Extractable Zinc (Zn)	mg/kg	50	25	7539875	51	29	9	5	7540090
RDL = Reportable Detection Limit QC Batch = Quality Control Batch									



BV Labs Job #: C1N9009  
Report Date: 2021/09/03

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Client Project #: TV183013.3000.51  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.57.5290.  
Sampler Initials: CB

**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QLG214		QLG215	QLG216	QLG217	QLG218		
Sampling Date		2021/08/19		2021/08/19	2021/08/19	2021/08/19	2021/08/19		
COC Number		N/A		N/A	N/A	N/A	N/A		
	UNITS	2021-SS43-B	QC Batch	2021-SS44-A	2021-SS49-A	2021-SS49-B	2021-DUP-3-A	RDL	QC Batch
<b>Metals</b>									
Acid Extractable Aluminum (Al)	mg/kg	17000	7539875	2000	13000	23000	14000	10	7540090
Acid Extractable Antimony (Sb)	mg/kg	<2	7539875	<2	<2	<2	<2	2	7540090
Acid Extractable Arsenic (As)	mg/kg	14	7539875	14	73	65	59	2	7540090
Acid Extractable Barium (Ba)	mg/kg	13	7539875	34	13	27	12	5	7540090
Acid Extractable Beryllium (Be)	mg/kg	<2	7539875	<2	<2	<2	<2	2	7540090
Acid Extractable Bismuth (Bi)	mg/kg	<2	7539875	<2	<2	<2	<2	2	7540090
Acid Extractable Boron (B)	mg/kg	<50	7539875	<50	<50	<50	<50	50	7540090
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	7539875	<0.3	<0.3	<0.3	<0.3	0.3	7540090
Acid Extractable Chromium (Cr)	mg/kg	16	7539875	3	15	22	16	2	7540090
Acid Extractable Cobalt (Co)	mg/kg	3	7539875	<1	1	8	1	1	7540090
Acid Extractable Copper (Cu)	mg/kg	8	7539875	11	6	35	5	2	7540090
Acid Extractable Iron (Fe)	mg/kg	8200	7539875	2900	32000	29000	32000	50	7540090
Acid Extractable Lead (Pb)	mg/kg	20	7539875	68	13	19	11	0.5	7540090
Acid Extractable Lithium (Li)	mg/kg	16	7539875	<2	6	35	6	2	7540090
Acid Extractable Manganese (Mn)	mg/kg	91	7539875	38	49	1500	56	2	7540090
Acid Extractable Mercury (Hg)	mg/kg	<0.1	7539875	0.2	<0.1	<0.1	<0.1	0.1	7540090
Acid Extractable Molybdenum (Mo)	mg/kg	<2	7539875	<2	<2	<2	<2	2	7540090
Acid Extractable Nickel (Ni)	mg/kg	9	7539875	12	5	27	5	2	7540090
Acid Extractable Rubidium (Rb)	mg/kg	6	7539875	4	5	8	6	2	7540090
Acid Extractable Selenium (Se)	mg/kg	1.0	7539875	0.8	0.6	0.5	<0.5	0.5	7540090
Acid Extractable Silver (Ag)	mg/kg	<0.5	7539875	<0.5	<0.5	<0.5	<0.5	0.5	7540090
Acid Extractable Strontium (Sr)	mg/kg	<5	7539875	8	<5	<5	<5	5	7540090
Acid Extractable Thallium (Tl)	mg/kg	0.1	7539875	<0.1	0.1	0.1	0.1	0.1	7540090
Acid Extractable Tin (Sn)	mg/kg	<1	7539875	1	<1	<1	<1	1	7540090
Acid Extractable Uranium (U)	mg/kg	0.7	7539875	0.2	0.4	0.6	0.4	0.1	7540090
Acid Extractable Vanadium (V)	mg/kg	13	7539875	22	49	18	52	2	7540090
Acid Extractable Zinc (Zn)	mg/kg	19	7539875	27	14	52	13	5	7540090
RDL = Reportable Detection Limit QC Batch = Quality Control Batch									





**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QLG219	QLG220		QLG221		QLG222		
Sampling Date		2021/08/19	2021/08/19		2021/08/19		2021/08/19		
COC Number		N/A	N/A		N/A		N/A		
	UNITS	2021-DUP-3-B	2021-SS50-A	QC Batch	2021-SS50-B	RDL	2021-SS51-A	RDL	QC Batch
<b>Metals</b>									
Acid Extractable Aluminum (Al)	mg/kg	23000	9500	7540090	17000	10	26000	10	7540100
Acid Extractable Antimony (Sb)	mg/kg	<2	<2	7540090	<2	2	<2	2	7540100
Acid Extractable Arsenic (As)	mg/kg	63	53	7540090	86	2	1500	20	7540100
Acid Extractable Barium (Ba)	mg/kg	28	12	7540090	15	5	74	5	7540100
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	7540090	<2	2	<2	2	7540100
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	7540090	<2	2	<2	2	7540100
Acid Extractable Boron (B)	mg/kg	<50	<50	7540090	<50	50	<50	50	7540100
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	<0.3	7540090	<0.3	0.3	<0.3	0.3	7540100
Acid Extractable Chromium (Cr)	mg/kg	22	11	7540090	17	2	26	2	7540100
Acid Extractable Cobalt (Co)	mg/kg	9	1	7540090	3	1	160	1	7540100
Acid Extractable Copper (Cu)	mg/kg	33	6	7540090	10	2	16	2	7540100
Acid Extractable Iron (Fe)	mg/kg	29000	28000	7540090	37000	50	110000	500	7540100
Acid Extractable Lead (Pb)	mg/kg	20	10	7540090	9.0	0.5	110	0.5	7540100
Acid Extractable Lithium (Li)	mg/kg	34	7	7540090	16	2	26	2	7540100
Acid Extractable Manganese (Mn)	mg/kg	1600	66	7540090	160	2	13000	2	7540100
Acid Extractable Mercury (Hg)	mg/kg	<0.1	<0.1	7540090	0.1	0.1	0.5	0.1	7540100
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	7540090	<2	2	4	2	7540100
Acid Extractable Nickel (Ni)	mg/kg	26	5	7540090	11	2	11	2	7540100
Acid Extractable Rubidium (Rb)	mg/kg	8	7	7540090	10	2	27	2	7540100
Acid Extractable Selenium (Se)	mg/kg	0.5	0.7	7540090	0.9	0.5	3.2	0.5	7540100
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	7540090	<0.5	0.5	0.7	0.5	7540100
Acid Extractable Strontium (Sr)	mg/kg	<5	<5	7540090	<5	5	8	5	7540100
Acid Extractable Thallium (Tl)	mg/kg	0.1	<0.1	7540090	0.1	0.1	0.6	0.1	7540100
Acid Extractable Tin (Sn)	mg/kg	<1	<1	7540090	<1	1	3	1	7540100
Acid Extractable Uranium (U)	mg/kg	0.6	0.3	7540090	0.4	0.1	1.2	0.1	7540100
Acid Extractable Vanadium (V)	mg/kg	19	30	7540090	37	2	240	2	7540100
Acid Extractable Zinc (Zn)	mg/kg	53	16	7540090	32	5	58	5	7540100
RDL = Reportable Detection Limit QC Batch = Quality Control Batch									



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BV Labs Job #: C1N9009  
Report Date: 2021/09/03

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Site Location: MONTAGUE  
Your P.O. #: TV183013.30.57.5290.  
Sampler Initials: CB

### ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		QLG223		QLG224	QLG225	QLG226	QLG227	QLG227		
Sampling Date		2021/08/19		2021/08/19	2021/08/19	2021/08/19	2021/08/19	2021/08/19		
COC Number		N/A		N/A	N/A	N/A	N/A	N/A		
	UNITS	2021-SS51-B	RDL	2021-SS48-A	2021-SS48-B	2021-SS47-A	2021-SS46-A	2021-SS46-A Lab-Dup	RDL	QC Batch

Metals										
Acid Extractable Aluminum (Al)	mg/kg	30000	10	11000	16000	5400	1600	1400	10	7540100
Acid Extractable Antimony (Sb)	mg/kg	<2	2	<2	<2	<2	<2	<2	2	7540100
Acid Extractable Arsenic (As)	mg/kg	1000	20	51	46	24	4	4	2	7540100
Acid Extractable Barium (Ba)	mg/kg	76	5	11	10	65	23	22	5	7540100
Acid Extractable Beryllium (Be)	mg/kg	<2	2	<2	<2	<2	<2	<2	2	7540100
Acid Extractable Bismuth (Bi)	mg/kg	<2	2	<2	<2	<2	<2	<2	2	7540100
Acid Extractable Boron (B)	mg/kg	<50	50	<50	<50	<50	<50	<50	50	7540100
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	0.3	<0.3	<0.3	0.6	<0.3	<0.3	0.3	7540100
Acid Extractable Chromium (Cr)	mg/kg	30	2	11	16	6	2	<2	2	7540100
Acid Extractable Cobalt (Co)	mg/kg	120	1	1	2	22	<1	<1	1	7540100
Acid Extractable Copper (Cu)	mg/kg	12	2	6	8	27	7	7	2	7540100
Acid Extractable Iron (Fe)	mg/kg	88000	50	21000	29000	9200	2300	2000	50	7540100
Acid Extractable Lead (Pb)	mg/kg	73	0.5	12	6.9	110	32	30	0.5	7540100
Acid Extractable Lithium (Li)	mg/kg	43	2	7	11	<2	<2	<2	2	7540100
Acid Extractable Manganese (Mn)	mg/kg	7000	2	67	88	1600	130	130	2	7540100
Acid Extractable Mercury (Hg)	mg/kg	0.3	0.1	<0.1	<0.1	0.3	0.1	0.1	0.1	7540100
Acid Extractable Molybdenum (Mo)	mg/kg	3	2	<2	<2	<2	<2	<2	2	7540100
Acid Extractable Nickel (Ni)	mg/kg	10	2	6	6	30	8	8	2	7540100
Acid Extractable Rubidium (Rb)	mg/kg	41	2	5	7	4	3	3	2	7540100
Acid Extractable Selenium (Se)	mg/kg	2.6	0.5	0.5	1.0	1.4	<0.5	<0.5	0.5	7540100
Acid Extractable Silver (Ag)	mg/kg	0.6	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	7540100
Acid Extractable Strontium (Sr)	mg/kg	6	5	<5	<5	27	8	8	5	7540100
Acid Extractable Thallium (Tl)	mg/kg	0.8	0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.1	7540100
Acid Extractable Tin (Sn)	mg/kg	2	1	<1	<1	3	<1	<1	1	7540100
Acid Extractable Uranium (U)	mg/kg	1.5	0.1	0.3	0.4	0.3	0.1	0.1	0.1	7540100
Acid Extractable Vanadium (V)	mg/kg	140	2	25	29	53	14	13	2	7540100
Acid Extractable Zinc (Zn)	mg/kg	57	5	19	21	40	25	25	5	7540100

RDL = Reportable Detection Limit  
QC Batch = Quality Control Batch  
Lab-Dup = Laboratory Initiated Duplicate



BV Labs Job #: C1N9009  
Report Date: 2021/09/03

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Sampler Initials: CB

### ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		QLG228	QLG229	QLG230	QLG231	QLG232	QLG233		
Sampling Date		2021/08/19	2021/08/19	2021/08/19	2021/08/19	2021/08/19	2021/08/19		
COC Number		N/A	N/A	N/A	N/A	N/A	N/A		
	UNITS	2021-SS45-A	2021-SS45-B	2021-SS86-A	2021-SS86-B	2021-SS85-A	2021-SS85-B	RDL	QC Batch
<b>Metals</b>									
Acid Extractable Aluminum (Al)	mg/kg	12000	23000	25000	31000	23000	26000	10	7540100
Acid Extractable Antimony (Sb)	mg/kg	<2	<2	<2	<2	<2	<2	2	7540100
Acid Extractable Arsenic (As)	mg/kg	51	49	160	220	150	140	2	7540100
Acid Extractable Barium (Ba)	mg/kg	17	19	17	17	17	25	5	7540100
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	<2	<2	<2	<2	2	7540100
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	<2	<2	<2	<2	2	7540100
Acid Extractable Boron (B)	mg/kg	<50	<50	<50	<50	<50	<50	50	7540100
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.3	7540100
Acid Extractable Chromium (Cr)	mg/kg	11	20	24	29	22	23	2	7540100
Acid Extractable Cobalt (Co)	mg/kg	1	4	4	5	4	6	1	7540100
Acid Extractable Copper (Cu)	mg/kg	5	10	15	16	14	20	2	7540100
Acid Extractable Iron (Fe)	mg/kg	30000	32000	38000	50000	35000	31000	50	7540100
Acid Extractable Lead (Pb)	mg/kg	13	11	14	13	15	14	0.5	7540100
Acid Extractable Lithium (Li)	mg/kg	4	22	24	30	25	38	2	7540100
Acid Extractable Manganese (Mn)	mg/kg	91	180	250	260	170	230	2	7540100
Acid Extractable Mercury (Hg)	mg/kg	<0.1	0.1	0.2	0.2	0.1	0.1	0.1	7540100
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	<2	<2	<2	<2	2	7540100
Acid Extractable Nickel (Ni)	mg/kg	4	13	13	17	14	21	2	7540100
Acid Extractable Rubidium (Rb)	mg/kg	9	13	11	12	9	13	2	7540100
Acid Extractable Selenium (Se)	mg/kg	0.7	1.2	2.2	2.3	1.0	1.2	0.5	7540100
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	7540100
Acid Extractable Strontium (Sr)	mg/kg	<5	<5	<5	<5	<5	<5	5	7540100
Acid Extractable Thallium (Tl)	mg/kg	0.1	0.1	0.1	0.1	<0.1	0.1	0.1	7540100
Acid Extractable Tin (Sn)	mg/kg	<1	<1	<1	<1	<1	<1	1	7540100
Acid Extractable Uranium (U)	mg/kg	0.3	0.6	0.6	0.8	0.4	0.6	0.1	7540100
Acid Extractable Vanadium (V)	mg/kg	47	32	36	36	37	26	2	7540100
Acid Extractable Zinc (Zn)	mg/kg	18	39	38	45	43	64	5	7540100
RDL = Reportable Detection Limit QC Batch = Quality Control Batch									



**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QLG234	QLG235		
Sampling Date		2021/08/19	2021/08/19		
COC Number		N/A	N/A		
	UNITS	2021-DUP-4-A	2021-DUP-4-B	RDL	QC Batch
<b>Metals</b>					
Acid Extractable Aluminum (Al)	mg/kg	28000	31000	10	7540100
Acid Extractable Antimony (Sb)	mg/kg	<2	<2	2	7540100
Acid Extractable Arsenic (As)	mg/kg	170	200	2	7540100
Acid Extractable Barium (Ba)	mg/kg	16	18	5	7540100
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	2	7540100
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	2	7540100
Acid Extractable Boron (B)	mg/kg	<50	<50	50	7540100
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	<0.3	0.3	7540100
Acid Extractable Chromium (Cr)	mg/kg	25	29	2	7540100
Acid Extractable Cobalt (Co)	mg/kg	5	6	1	7540100
Acid Extractable Copper (Cu)	mg/kg	16	19	2	7540100
Acid Extractable Iron (Fe)	mg/kg	40000	47000	50	7540100
Acid Extractable Lead (Pb)	mg/kg	13	13	0.5	7540100
Acid Extractable Lithium (Li)	mg/kg	27	32	2	7540100
Acid Extractable Manganese (Mn)	mg/kg	250	260	2	7540100
Acid Extractable Mercury (Hg)	mg/kg	0.2	0.1	0.1	7540100
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	2	7540100
Acid Extractable Nickel (Ni)	mg/kg	13	19	2	7540100
Acid Extractable Rubidium (Rb)	mg/kg	11	13	2	7540100
Acid Extractable Selenium (Se)	mg/kg	2.4	2.2	0.5	7540100
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	0.5	7540100
Acid Extractable Strontium (Sr)	mg/kg	<5	<5	5	7540100
Acid Extractable Thallium (Tl)	mg/kg	0.1	0.1	0.1	7540100
Acid Extractable Tin (Sn)	mg/kg	<1	<1	1	7540100
Acid Extractable Uranium (U)	mg/kg	0.7	0.8	0.1	7540100
Acid Extractable Vanadium (V)	mg/kg	36	34	2	7540100
Acid Extractable Zinc (Zn)	mg/kg	42	49	5	7540100
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



BV Labs Job #: C1N9009  
Report Date: 2021/09/03

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.3000.51  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.57.5290.  
Sampler Initials: CB

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	3.3°C
Package 2	6.0°C
Package 3	4.0°C

Revised report corrected ID for sample 2021-SS48-A to of 2021-SS48-B lab ID QLG225, and sample 2021-SS86-A to 2021-SS86-B.  
AGE 2021/09/03

**Results relate only to the items tested.**



BV Labs Job #: C1N9009  
 Report Date: 2021/09/03

### QUALITY ASSURANCE REPORT

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.3000.51  
 Site Location: MONTAGUE  
 Your P.O. #: TV183013.30.57.5290.  
 Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7539875	Acid Extractable Aluminum (Al)	2021/08/26					<10	mg/kg	0.15	35
7539875	Acid Extractable Antimony (Sb)	2021/08/26	100	75 - 125	105	75 - 125	<2	mg/kg	NC	35
7539875	Acid Extractable Arsenic (As)	2021/08/26	NC	75 - 125	101	75 - 125	<2	mg/kg	5.5	35
7539875	Acid Extractable Barium (Ba)	2021/08/26	104	75 - 125	99	75 - 125	<5	mg/kg	1.6	35
7539875	Acid Extractable Beryllium (Be)	2021/08/26	100	75 - 125	100	75 - 125	<2	mg/kg	NC	35
7539875	Acid Extractable Bismuth (Bi)	2021/08/26	106	75 - 125	100	75 - 125	<2	mg/kg	NC	35
7539875	Acid Extractable Boron (B)	2021/08/26	83	75 - 125	101	75 - 125	<50	mg/kg	NC	35
7539875	Acid Extractable Cadmium (Cd)	2021/08/26	99	75 - 125	98	75 - 125	<0.3	mg/kg	NC	35
7539875	Acid Extractable Chromium (Cr)	2021/08/26	105	75 - 125	101	75 - 125	<2	mg/kg	0.83	35
7539875	Acid Extractable Cobalt (Co)	2021/08/26	103	75 - 125	101	75 - 125	<1	mg/kg	6.8	35
7539875	Acid Extractable Copper (Cu)	2021/08/26	104	75 - 125	102	75 - 125	<2	mg/kg	4.5	35
7539875	Acid Extractable Iron (Fe)	2021/08/26					<50	mg/kg	0.35	35
7539875	Acid Extractable Lead (Pb)	2021/08/26	105	75 - 125	100	75 - 125	<0.5	mg/kg	6.2	35
7539875	Acid Extractable Lithium (Li)	2021/08/26	102	75 - 125	98	75 - 125	<2	mg/kg	1.4	35
7539875	Acid Extractable Manganese (Mn)	2021/08/26	NC	75 - 125	102	75 - 125	<2	mg/kg	8.2	35
7539875	Acid Extractable Mercury (Hg)	2021/08/26	96	75 - 125	101	75 - 125	<0.1	mg/kg	NC	35
7539875	Acid Extractable Molybdenum (Mo)	2021/08/26	106	75 - 125	105	75 - 125	<2	mg/kg	NC	35
7539875	Acid Extractable Nickel (Ni)	2021/08/26	103	75 - 125	103	75 - 125	<2	mg/kg	3.0	35
7539875	Acid Extractable Rubidium (Rb)	2021/08/26	103	75 - 125	100	75 - 125	<2	mg/kg	2.1	35
7539875	Acid Extractable Selenium (Se)	2021/08/26	103	75 - 125	105	75 - 125	<0.5	mg/kg	2.6	35
7539875	Acid Extractable Silver (Ag)	2021/08/26	101	75 - 125	101	75 - 125	<0.5	mg/kg	NC	35
7539875	Acid Extractable Strontium (Sr)	2021/08/26	105	75 - 125	103	75 - 125	<5	mg/kg	NC	35
7539875	Acid Extractable Thallium (Tl)	2021/08/26	104	75 - 125	102	75 - 125	<0.1	mg/kg	1.5	35
7539875	Acid Extractable Tin (Sn)	2021/08/26	99	75 - 125	97	75 - 125	<1	mg/kg	NC	35
7539875	Acid Extractable Uranium (U)	2021/08/26	102	75 - 125	99	75 - 125	<0.1	mg/kg	4.2	35
7539875	Acid Extractable Vanadium (V)	2021/08/26	109	75 - 125	104	75 - 125	<2	mg/kg	3.5	35
7539875	Acid Extractable Zinc (Zn)	2021/08/26	NC	75 - 125	104	75 - 125	<5	mg/kg	1.6	35
7540090	Acid Extractable Aluminum (Al)	2021/08/26					<10	mg/kg	1.9	35
7540090	Acid Extractable Antimony (Sb)	2021/08/26	104	75 - 125	102	75 - 125	<2	mg/kg	NC	35
7540090	Acid Extractable Arsenic (As)	2021/08/26	NC	75 - 125	98	75 - 125	<2	mg/kg	12	35



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BV Labs Job #: C1N9009  
Report Date: 2021/09/03

### QUALITY ASSURANCE REPORT(CONT'D)

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.3000.51  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.57.5290.  
Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7540090	Acid Extractable Barium (Ba)	2021/08/26	115	75 - 125	96	75 - 125	<5	mg/kg	2.2	35
7540090	Acid Extractable Beryllium (Be)	2021/08/26	104	75 - 125	93	75 - 125	<2	mg/kg	NC	35
7540090	Acid Extractable Bismuth (Bi)	2021/08/26	108	75 - 125	99	75 - 125	<2	mg/kg	NC	35
7540090	Acid Extractable Boron (B)	2021/08/26	99	75 - 125	95	75 - 125	<50	mg/kg	NC	35
7540090	Acid Extractable Cadmium (Cd)	2021/08/26	106	75 - 125	96	75 - 125	<0.3	mg/kg	NC	35
7540090	Acid Extractable Chromium (Cr)	2021/08/26	113	75 - 125	98	75 - 125	<2	mg/kg	0.026	35
7540090	Acid Extractable Cobalt (Co)	2021/08/26	110	75 - 125	97	75 - 125	<1	mg/kg	5.6	35
7540090	Acid Extractable Copper (Cu)	2021/08/26	112	75 - 125	98	75 - 125	<2	mg/kg	8.1	35
7540090	Acid Extractable Iron (Fe)	2021/08/26					<50	mg/kg	4.2	35
7540090	Acid Extractable Lead (Pb)	2021/08/26	110	75 - 125	99	75 - 125	<0.5	mg/kg	20	35
7540090	Acid Extractable Lithium (Li)	2021/08/26	109	75 - 125	95	75 - 125	<2	mg/kg	3.0	35
7540090	Acid Extractable Manganese (Mn)	2021/08/26	NC	75 - 125	100	75 - 125	<2	mg/kg	1.3	35
7540090	Acid Extractable Mercury (Hg)	2021/08/26	105	75 - 125	98	75 - 125	<0.1	mg/kg	3.5	35
7540090	Acid Extractable Molybdenum (Mo)	2021/08/26	109	75 - 125	100	75 - 125	<2	mg/kg	NC	35
7540090	Acid Extractable Nickel (Ni)	2021/08/26	112	75 - 125	98	75 - 125	<2	mg/kg	0.70	35
7540090	Acid Extractable Rubidium (Rb)	2021/08/26	110	75 - 125	97	75 - 125	<2	mg/kg	4.7	35
7540090	Acid Extractable Selenium (Se)	2021/08/26	112	75 - 125	101	75 - 125	<0.5	mg/kg	NC	35
7540090	Acid Extractable Silver (Ag)	2021/08/26	108	75 - 125	97	75 - 125	<0.5	mg/kg	NC	35
7540090	Acid Extractable Strontium (Sr)	2021/08/26	112	75 - 125	99	75 - 125	<5	mg/kg	3.2	35
7540090	Acid Extractable Thallium (Tl)	2021/08/26	109	75 - 125	99	75 - 125	<0.1	mg/kg	6.7	35
7540090	Acid Extractable Tin (Sn)	2021/08/26	107	75 - 125	102	75 - 125	<1	mg/kg	NC	35
7540090	Acid Extractable Uranium (U)	2021/08/26	107	75 - 125	97	75 - 125	<0.1	mg/kg	3.3	35
7540090	Acid Extractable Vanadium (V)	2021/08/26	116	75 - 125	101	75 - 125	<2	mg/kg	30	35
7540090	Acid Extractable Zinc (Zn)	2021/08/26	113	75 - 125	104	75 - 125	<5	mg/kg	0.89	35
7540100	Acid Extractable Aluminum (Al)	2021/08/26					<10	mg/kg	8.9	35
7540100	Acid Extractable Antimony (Sb)	2021/08/26	102	75 - 125	105	75 - 125	<2	mg/kg	NC	35
7540100	Acid Extractable Arsenic (As)	2021/08/26	102	75 - 125	101	75 - 125	<2	mg/kg	9.6	35
7540100	Acid Extractable Barium (Ba)	2021/08/26	110	75 - 125	100	75 - 125	<5	mg/kg	5.0	35
7540100	Acid Extractable Beryllium (Be)	2021/08/26	102	75 - 125	99	75 - 125	<2	mg/kg	NC	35
7540100	Acid Extractable Bismuth (Bi)	2021/08/26	107	75 - 125	102	75 - 125	<2	mg/kg	NC	35



**QUALITY ASSURANCE REPORT(CONT'D)**

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.3000.51  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.57.5290.  
Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7540100	Acid Extractable Boron (B)	2021/08/26	94	75 - 125	103	75 - 125	<50	mg/kg	NC	35
7540100	Acid Extractable Cadmium (Cd)	2021/08/26	100	75 - 125	97	75 - 125	<0.3	mg/kg	NC	35
7540100	Acid Extractable Chromium (Cr)	2021/08/26	106	75 - 125	100	75 - 125	<2	mg/kg	7.1	35
7540100	Acid Extractable Cobalt (Co)	2021/08/26	105	75 - 125	100	75 - 125	<1	mg/kg	NC	35
7540100	Acid Extractable Copper (Cu)	2021/08/26	104	75 - 125	98	75 - 125	<2	mg/kg	1.3	35
7540100	Acid Extractable Iron (Fe)	2021/08/26					<50	mg/kg	13	35
7540100	Acid Extractable Lead (Pb)	2021/08/26	105	75 - 125	101	75 - 125	<0.5	mg/kg	6.4	35
7540100	Acid Extractable Lithium (Li)	2021/08/26	102	75 - 125	98	75 - 125	<2	mg/kg	NC	35
7540100	Acid Extractable Manganese (Mn)	2021/08/26	NC	75 - 125	102	75 - 125	<2	mg/kg	0.48	35
7540100	Acid Extractable Mercury (Hg)	2021/08/26	97	75 - 125	98	75 - 125	<0.1	mg/kg	0.92	35
7540100	Acid Extractable Molybdenum (Mo)	2021/08/26	106	75 - 125	102	75 - 125	<2	mg/kg	NC	35
7540100	Acid Extractable Nickel (Ni)	2021/08/26	105	75 - 125	100	75 - 125	<2	mg/kg	3.6	35
7540100	Acid Extractable Rubidium (Rb)	2021/08/26	103	75 - 125	99	75 - 125	<2	mg/kg	12	35
7540100	Acid Extractable Selenium (Se)	2021/08/26	103	75 - 125	102	75 - 125	<0.5	mg/kg	NC	35
7540100	Acid Extractable Silver (Ag)	2021/08/26	102	75 - 125	99	75 - 125	<0.5	mg/kg	NC	35
7540100	Acid Extractable Strontium (Sr)	2021/08/26	105	75 - 125	99	75 - 125	<5	mg/kg	3.0	35
7540100	Acid Extractable Thallium (Tl)	2021/08/26	103	75 - 125	101	75 - 125	<0.1	mg/kg	NC	35
7540100	Acid Extractable Tin (Sn)	2021/08/26	109	75 - 125	104	75 - 125	<1	mg/kg	NC	35
7540100	Acid Extractable Uranium (U)	2021/08/26	103	75 - 125	98	75 - 125	<0.1	mg/kg	5.3	35
7540100	Acid Extractable Vanadium (V)	2021/08/26	109	75 - 125	103	75 - 125	<2	mg/kg	4.6	35
7540100	Acid Extractable Zinc (Zn)	2021/08/26	106	75 - 125	106	75 - 125	<5	mg/kg	1.7	35
7554471	Total Cyanide (CN)	2021/08/30			97	80 - 120	<0.50	mg/kg	NC	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).





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BV Labs Job #: C1N9009

Report Date: 2021/09/03

Wood Environment & Infrastructure Solutions, a division of

Wood Canada Limited

Client Project #: TV183013.3000.51



Site Location: MONTAGUE

Your P.O. #: TV183013.30.57.5290.

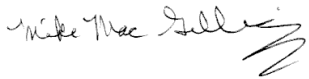
Sampler Initials: CB

### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

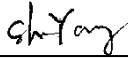
  


Marie-Claude Poupart, B.Sc., Chemist



Mike MacGillivray, Scientific Specialist (Inorganics)





Shu Yang, Analyst 2

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Your P.O. #: TV183013.30.52.5290.  
 Your Project #: TV183013.3000.52  
 Site Location: MONTAGUE GOLD MINES  
 Your C.O.C. #: n/a

**Attention: Candace Stephens**

Wood Environment & Infrastructure Solutions, a division of Wood  
 Canada Limited  
 50 Troop Ave  
 Unit 300  
 Dartmouth, NS  
 CANADA B3B 1Z1

**Report Date: 2021/09/03**  
 Report #: R6795674  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C100435**  
**Received: 2021/08/23, 13:34**

Sample Matrix: Soil  
 # Samples Received: 27

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Metals Solids Acid Extr. ICPMS	19	2021/08/26	2021/08/27	ATL SOP 00058	EPA 6020B R2 m
Metals Solids Acid Extr. ICPMS	8	2021/08/26	2021/08/30	ATL SOP 00058	EPA 6020B R2 m
Total Cyanide (1)	16	2021/08/31	2021/09/02	STL SOP-00035	MA300-CN 1.2 R4 m

**Remarks:**  
 Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested. This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Montreal via Bedford



Your P.O. #: TV183013.30.52.5290.  
Your Project #: TV183013.3000.52  
Site Location: MONTAGUE GOLD MINES  
Your C.O.C. #: n/a

**Attention: Candace Stephens**

Wood Environment & Infrastructure Solutions, a division of Wood  
Canada Limited  
50 Troop Ave  
Unit 300  
Dartmouth, NS  
CANADA B3B 1Z1

**Report Date: 2021/09/03**  
Report #: R6795674  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C100435**  
**Received: 2021/08/23, 13:34**

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.  
Atena Georgescu, Project Manager II  
Email: Atena.Georgescu@bureauveritas.com  
Phone# (902)420-0203 Ext:239

=====

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### CONVENTIONALS (SOIL)

BV Labs ID		QLN833	QLN834	QLN835		QLN836		QLN837	QLN838		
Sampling Date		2021/08/21	2021/08/21	2021/08/21		2021/08/21		2021/08/21	2021/08/21		
COC Number		n/a	n/a	n/a		n/a		n/a	n/a		
	UNITS	2021-SS01-A	2021-SS01-B	2021-SS01-C	RDL	2021-SS07-A	RDL	2021-SS07-B	2021-SS07-C	RDL	QC Batch
<b>Inorganics</b>											
Total Cyanide (CN)	mg/kg	<5.0	<5.0	<5.0	5.0	<2.5	2.5	<0.50	<0.50	0.50	7558227
RDL = Reportable Detection Limit QC Batch = Quality Control Batch											

BV Labs ID		QLN844	QLN845		QLN846		QLN847		QLN852		
Sampling Date		2021/08/21	2021/08/21		2021/08/21		2021/08/21		2021/08/21		
COC Number		n/a	n/a		n/a		n/a		n/a		
	UNITS	2021-SS12-B	2021-SS12-C	RDL	2021-SS13-A	RDL	2021-SS13-B	RDL	2021-SS04-A	RDL	QC Batch
<b>Inorganics</b>											
Total Cyanide (CN)	mg/kg	<5.0	<5.0	5.0	<2.5	2.5	<0.50	0.50	<5.0	5.0	7558227
RDL = Reportable Detection Limit QC Batch = Quality Control Batch											

BV Labs ID		QLN853	QLN854		QLN855		QLN856		QLN857		
Sampling Date		2021/08/21	2021/08/21		2021/08/21		2021/08/21		2021/08/21		
COC Number		n/a	n/a		n/a		n/a		n/a		
	UNITS	2021-SS04-B	2021-SS04-C	RDL	2021-SS03-A	RDL	2021-SS03-B	RDL	2021-SS03-C	RDL	QC Batch
<b>Inorganics</b>											
Total Cyanide (CN)	mg/kg	<0.50	<0.50	0.50	<5.0	5.0	<0.50	0.50	<5.0	5.0	7558227
RDL = Reportable Detection Limit QC Batch = Quality Control Batch											

BV Labs ID		QLN857		
Sampling Date		2021/08/21		
COC Number		n/a		
	UNITS	2021-SS03-C Lab-Dup	RDL	QC Batch
<b>Inorganics</b>				
Total Cyanide (CN)	mg/kg	<5.0	5.0	7558227
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate				



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BV Labs Job #: C100435  
Report Date: 2021/09/03

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.3000.52  
Site Location: MONTAGUE GOLD MINES  
Your P.O. #: TV183013.30.52.5290.

### ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		QLN833	QLN833	QLN834	QLN835	QLN836		QLN837		
Sampling Date		2021/08/21	2021/08/21	2021/08/21	2021/08/21	2021/08/21		2021/08/21		
COC Number		n/a	n/a	n/a	n/a	n/a		n/a		
	UNITS	2021-SS01-A	2021-SS01-A Lab-Dup	2021-SS01-B	2021-SS01-C	2021-SS07-A	RDL	2021-SS07-B	RDL	QC Batch

Metals										
Acid Extractable Aluminum (Al)	mg/kg	4800	4700	8900	14000	8500	10	4700	10	7542827
Acid Extractable Antimony (Sb)	mg/kg	<2	<2	<2	<2	<2	2	<2	2	7542827
Acid Extractable Arsenic (As)	mg/kg	40	40	19	39	470	2	840	20	7542827
Acid Extractable Barium (Ba)	mg/kg	28	28	32	57	13	5	9	5	7542827
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	<2	<2	<2	2	<2	2	7542827
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	<2	<2	<2	2	<2	2	7542827
Acid Extractable Boron (B)	mg/kg	<50	<50	<50	<50	<50	50	<50	50	7542827
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	0.3	<0.3	0.3	7542827
Acid Extractable Chromium (Cr)	mg/kg	4	4	6	17	10	2	5	2	7542827
Acid Extractable Cobalt (Co)	mg/kg	6	6	3	4	4	1	4	1	7542827
Acid Extractable Copper (Cu)	mg/kg	10	10	17	24	33	2	59	2	7542827
Acid Extractable Iron (Fe)	mg/kg	2500	2500	1500	3700	18000	50	13000	50	7542827
Acid Extractable Lead (Pb)	mg/kg	14	14	10	19	82	0.5	54	0.5	7542827
Acid Extractable Lithium (Li)	mg/kg	<2	<2	<2	8	14	2	10	2	7542827
Acid Extractable Manganese (Mn)	mg/kg	770	760	270	330	150	2	160	2	7542827
Acid Extractable Mercury (Hg)	mg/kg	0.4	0.4	0.3	0.5	18	0.1	6.1	0.1	7542827
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	<2	<2	<2	2	<2	2	7542827
Acid Extractable Nickel (Ni)	mg/kg	6	5	6	9	10	2	9	2	7542827
Acid Extractable Rubidium (Rb)	mg/kg	5	5	6	12	10	2	7	2	7542827
Acid Extractable Selenium (Se)	mg/kg	1.2	1.3	2.4	3.1	0.5	0.5	<0.5	0.5	7542827
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	<0.5	0.5	<0.5	0.5	<0.5	0.5	7542827
Acid Extractable Strontium (Sr)	mg/kg	12	12	16	21	<5	5	7	5	7542827
Acid Extractable Thallium (Tl)	mg/kg	<0.1	<0.1	<0.1	0.2	0.1	0.1	<0.1	0.1	7542827
Acid Extractable Tin (Sn)	mg/kg	<1	<1	<1	<1	<1	1	<1	1	7542827
Acid Extractable Uranium (U)	mg/kg	0.8	0.8	1.4	2.4	0.5	0.1	0.2	0.1	7542827
Acid Extractable Vanadium (V)	mg/kg	5	5	4	6	15	2	5	2	7542827
Acid Extractable Zinc (Zn)	mg/kg	22	22	10	21	67	5	66	5	7542827

RDL = Reportable Detection Limit  
QC Batch = Quality Control Batch  
Lab-Dup = Laboratory Initiated Duplicate

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BV Labs Job #: C100435

Report Date: 2021/09/03

Wood Environment &amp; Infrastructure Solutions, a division of

Wood Canada Limited

Client Project #: TV183013.3000.52

Site Location: MONTAGUE GOLD MINES

Your P.O. #: TV183013.30.52.5290.

## ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		QLN838		QLN839	QLN840	QLN841	QLN842	QLN843		
Sampling Date		2021/08/21		2021/08/21	2021/08/21	2021/08/21	2021/08/21	2021/08/21		
COC Number		n/a		n/a	n/a	n/a	n/a	n/a		
	UNITS	2021-SS07-C	RDL	2021-SS08-A	2021-SS08-B	2021-SS10-A	2021-SS11-A	2021-SS11-B	RDL	QC Batch
<b>Metals</b>										
Acid Extractable Aluminum (Al)	mg/kg	13000	10	18000	13000	6300	12000	23000	10	7542827
Acid Extractable Antimony (Sb)	mg/kg	<2	2	<2	<2	<2	<2	<2	2	7542827
Acid Extractable Arsenic (As)	mg/kg	530	20	93	71	260	58	86	2	7542827
Acid Extractable Barium (Ba)	mg/kg	34	5	34	72	36	15	17	5	7542827
Acid Extractable Beryllium (Be)	mg/kg	<2	2	<2	<2	<2	<2	<2	2	7542827
Acid Extractable Bismuth (Bi)	mg/kg	<2	2	<2	<2	<2	<2	<2	2	7542827
Acid Extractable Boron (B)	mg/kg	<50	50	<50	<50	<50	<50	<50	50	7542827
Acid Extractable Cadmium (Cd)	mg/kg	0.5	0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.3	7542827
Acid Extractable Chromium (Cr)	mg/kg	15	2	19	14	7	13	19	2	7542827
Acid Extractable Cobalt (Co)	mg/kg	11	1	3	3	6	2	5	1	7542827
Acid Extractable Copper (Cu)	mg/kg	120	2	19	17	6	13	14	2	7542827
Acid Extractable Iron (Fe)	mg/kg	28000	50	30000	27000	9800	22000	24000	50	7542827
Acid Extractable Lead (Pb)	mg/kg	110	0.5	66	62	20	17	18	0.5	7542827
Acid Extractable Lithium (Li)	mg/kg	27	2	20	11	5	7	21	2	7542827
Acid Extractable Manganese (Mn)	mg/kg	310	2	160	390	590	91	190	2	7542827
Acid Extractable Mercury (Hg)	mg/kg	20	0.1	0.2	0.3	0.3	0.4	0.2	0.1	7542827
Acid Extractable Molybdenum (Mo)	mg/kg	<2	2	<2	<2	<2	<2	<2	2	7542827
Acid Extractable Nickel (Ni)	mg/kg	29	2	10	9	10	6	15	2	7542827
Acid Extractable Rubidium (Rb)	mg/kg	23	2	15	11	8	6	10	2	7542827
Acid Extractable Selenium (Se)	mg/kg	<0.5	0.5	0.9	0.6	<0.5	0.8	1.2	0.5	7542827
Acid Extractable Silver (Ag)	mg/kg	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	7542827
Acid Extractable Strontium (Sr)	mg/kg	8	5	<5	5	12	<5	<5	5	7542827
Acid Extractable Thallium (Tl)	mg/kg	0.2	0.1	0.2	0.1	<0.1	<0.1	<0.1	0.1	7542827
Acid Extractable Tin (Sn)	mg/kg	<1	1	3	2	<1	<1	<1	1	7542827
Acid Extractable Uranium (U)	mg/kg	0.7	0.1	0.5	0.3	0.3	0.3	0.5	0.1	7542827
Acid Extractable Vanadium (V)	mg/kg	14	2	32	24	16	38	22	2	7542827
Acid Extractable Zinc (Zn)	mg/kg	190	5	58	50	30	19	41	5	7542827
RDL = Reportable Detection Limit										
QC Batch = Quality Control Batch										



**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QLN844	QLN845	QLN846	QLN847	QLN848	QLN849		
Sampling Date		2021/08/21	2021/08/21	2021/08/21	2021/08/21	2021/08/21	2021/08/21		
COC Number		n/a	n/a	n/a	n/a	n/a	n/a		
	UNITS	2021-SS12-B	2021-SS12-C	2021-SS13-A	2021-SS13-B	2021-SS06-A	2021-SS06-B	RDL	QC Batch
<b>Metals</b>									
Acid Extractable Aluminum (Al)	mg/kg	16000	15000	570	9600	1300	1900	10	7542830
Acid Extractable Antimony (Sb)	mg/kg	<2	<2	<2	<2	<2	<2	2	7542830
Acid Extractable Arsenic (As)	mg/kg	39	79	<2	40	3	2	2	7542830
Acid Extractable Barium (Ba)	mg/kg	88	85	10	9	8	6	5	7542830
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	<2	<2	<2	<2	2	7542830
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	<2	<2	<2	<2	2	7542830
Acid Extractable Boron (B)	mg/kg	<50	<50	<50	<50	<50	<50	50	7542830
Acid Extractable Cadmium (Cd)	mg/kg	0.9	0.8	<0.3	<0.3	<0.3	<0.3	0.3	7542830
Acid Extractable Chromium (Cr)	mg/kg	11	9	<2	13	4	3	2	7542830
Acid Extractable Cobalt (Co)	mg/kg	5	5	<1	3	1	<1	1	7542830
Acid Extractable Copper (Cu)	mg/kg	19	19	<2	5	<2	<2	2	7542830
Acid Extractable Iron (Fe)	mg/kg	2500	3000	1400	24000	3500	4600	50	7542830
Acid Extractable Lead (Pb)	mg/kg	18	18	4.9	8.6	10	5.4	0.5	7542830
Acid Extractable Lithium (Li)	mg/kg	2	<2	<2	11	<2	2	2	7542830
Acid Extractable Manganese (Mn)	mg/kg	290	300	18	150	40	74	2	7542830
Acid Extractable Mercury (Hg)	mg/kg	0.3	0.3	<0.1	<0.1	<0.1	<0.1	0.1	7542830
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	<2	<2	<2	<2	2	7542830
Acid Extractable Nickel (Ni)	mg/kg	11	11	<2	8	<2	<2	2	7542830
Acid Extractable Rubidium (Rb)	mg/kg	4	3	<2	5	<2	<2	2	7542830
Acid Extractable Selenium (Se)	mg/kg	4.8	4.2	<0.5	0.9	<0.5	<0.5	0.5	7542830
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	7542830
Acid Extractable Strontium (Sr)	mg/kg	51	53	<5	<5	<5	<5	5	7542830
Acid Extractable Thallium (Tl)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	7542830
Acid Extractable Tin (Sn)	mg/kg	<1	<1	<1	<1	<1	<1	1	7542830
Acid Extractable Uranium (U)	mg/kg	1.6	1.5	0.1	0.4	0.2	0.2	0.1	7542830
Acid Extractable Vanadium (V)	mg/kg	7	9	5	22	15	15	2	7542830
Acid Extractable Zinc (Zn)	mg/kg	20	22	<5	17	<5	<5	5	7542830
RDL = Reportable Detection Limit QC Batch = Quality Control Batch									



**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QLN850	QLN851		QLN852	QLN853		QLN854		
Sampling Date		2021/08/21	2021/08/21		2021/08/21	2021/08/21		2021/08/21		
COC Number		n/a	n/a		n/a	n/a		n/a		
	UNITS	2021-SS05-A	2021-SS05-B	RDL	2021-SS04-A	2021-SS04-B	RDL	2021-SS04-C	RDL	QC Batch
<b>Metals</b>										
Acid Extractable Aluminum (Al)	mg/kg	9300	16000	10	12000	11000	10	11000	10	7542830
Acid Extractable Antimony (Sb)	mg/kg	<2	<2	2	<2	<2	2	<2	2	7542830
Acid Extractable Arsenic (As)	mg/kg	19	9	2	1200	510	20	91	2	7542830
Acid Extractable Barium (Ba)	mg/kg	12	14	5	54	28	5	18	5	7542830
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	2	<2	<2	2	<2	2	7542830
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	2	<2	<2	2	<2	2	7542830
Acid Extractable Boron (B)	mg/kg	<50	<50	50	<50	<50	50	<50	50	7542830
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	<0.3	0.3	0.7	<0.3	0.3	<0.3	0.3	7542830
Acid Extractable Chromium (Cr)	mg/kg	10	16	2	11	11	2	13	2	7542830
Acid Extractable Cobalt (Co)	mg/kg	2	4	1	13	7	1	7	1	7542830
Acid Extractable Copper (Cu)	mg/kg	6	12	2	58	14	2	14	2	7542830
Acid Extractable Iron (Fe)	mg/kg	17000	21000	50	19000	16000	50	17000	50	7542830
Acid Extractable Lead (Pb)	mg/kg	9.7	12	0.5	76	13	0.5	9.0	0.5	7542830
Acid Extractable Lithium (Li)	mg/kg	7	19	2	17	12	2	19	2	7542830
Acid Extractable Manganese (Mn)	mg/kg	77	210	2	610	290	2	280	2	7542830
Acid Extractable Mercury (Hg)	mg/kg	0.1	0.1	0.1	13	1.6	0.1	0.1	0.1	7542830
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	2	<2	<2	2	<2	2	7542830
Acid Extractable Nickel (Ni)	mg/kg	4	11	2	21	10	2	16	2	7542830
Acid Extractable Rubidium (Rb)	mg/kg	3	6	2	9	6	2	5	2	7542830
Acid Extractable Selenium (Se)	mg/kg	0.7	0.8	0.5	1.2	0.7	0.5	<0.5	0.5	7542830
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	0.5	<0.5	<0.5	0.5	<0.5	0.5	7542830
Acid Extractable Strontium (Sr)	mg/kg	<5	<5	5	12	6	5	<5	5	7542830
Acid Extractable Thallium (Tl)	mg/kg	<0.1	<0.1	0.1	0.2	<0.1	0.1	<0.1	0.1	7542830
Acid Extractable Tin (Sn)	mg/kg	<1	<1	1	<1	<1	1	<1	1	7542830
Acid Extractable Uranium (U)	mg/kg	0.3	0.5	0.1	0.7	0.4	0.1	0.6	0.1	7542830
Acid Extractable Vanadium (V)	mg/kg	25	22	2	32	26	2	16	2	7542830
Acid Extractable Zinc (Zn)	mg/kg	11	26	5	110	33	5	31	5	7542830
RDL = Reportable Detection Limit										
QC Batch = Quality Control Batch										





BV Labs Job #: C100435  
 Report Date: 2021/09/03

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.3000.52  
 Site Location: MONTAGUE GOLD MINES  
 Your P.O. #: TV183013.30.52.5290.

**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QLN855	QLN856	QLN856	QLN857		QLN858	QLN859		
Sampling Date		2021/08/21	2021/08/21	2021/08/21	2021/08/21		2021/08/21	2021/08/21		
COC Number		n/a	n/a	n/a	n/a		n/a	n/a		
	UNITS	2021-SS03-A	2021-SS03-B	2021-SS03-B Lab-Dup	2021-SS03-C	RDL	2021-SS02-A	2021-SS02-B	RDL	QC Batch

<b>Metals</b>										
Acid Extractable Aluminum (Al)	mg/kg	5900	7600	7600	9900	10	7500	25000	10	7542830
Acid Extractable Antimony (Sb)	mg/kg	5	5	5	4	2	<2	<2	2	7542830
Acid Extractable Arsenic (As)	mg/kg	3900	4300	4000	3000	20	42	39	2	7542830
Acid Extractable Barium (Ba)	mg/kg	19	15	15	33	5	24	16	5	7542830
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	<2	<2	2	<2	<2	2	7542830
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	<2	<2	2	<2	<2	2	7542830
Acid Extractable Boron (B)	mg/kg	<50	<50	<50	<50	50	<50	<50	50	7542830
Acid Extractable Cadmium (Cd)	mg/kg	0.9	0.6	0.6	0.5	0.3	<0.3	<0.3	0.3	7542830
Acid Extractable Chromium (Cr)	mg/kg	6	7	8	9	2	10	21	2	7542830
Acid Extractable Cobalt (Co)	mg/kg	6	9	9	10	1	1	5	1	7542830
Acid Extractable Copper (Cu)	mg/kg	73	74	70	73	2	6	13	2	7542830
Acid Extractable Iron (Fe)	mg/kg	13000	19000	19000	21000	50	23000	30000	50	7542830
Acid Extractable Lead (Pb)	mg/kg	66	80	80	80	0.5	26	16	0.5	7542830
Acid Extractable Lithium (Li)	mg/kg	10	16	16	20	2	5	25	2	7542830
Acid Extractable Manganese (Mn)	mg/kg	310	260	250	320	2	98	260	2	7542830
Acid Extractable Mercury (Hg)	mg/kg	15	16	15	16	0.1	0.1	0.2	0.1	7542830
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	<2	<2	2	<2	<2	2	7542830
Acid Extractable Nickel (Ni)	mg/kg	15	22	21	23	2	6	16	2	7542830
Acid Extractable Rubidium (Rb)	mg/kg	5	11	11	12	2	8	9	2	7542830
Acid Extractable Selenium (Se)	mg/kg	0.7	<0.5	<0.5	<0.5	0.5	0.6	1.3	0.5	7542830
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	0.5	7542830
Acid Extractable Strontium (Sr)	mg/kg	8	11	11	14	5	<5	<5	5	7542830
Acid Extractable Thallium (Tl)	mg/kg	0.2	0.2	0.1	0.2	0.1	<0.1	<0.1	0.1	7542830
Acid Extractable Tin (Sn)	mg/kg	<1	<1	<1	<1	1	1	<1	1	7542830
Acid Extractable Uranium (U)	mg/kg	0.4	0.4	0.4	0.6	0.1	0.3	0.5	0.1	7542830
Acid Extractable Vanadium (V)	mg/kg	13	9	9	11	2	44	25	2	7542830
Acid Extractable Zinc (Zn)	mg/kg	130	130	120	110	5	17	44	5	7542830

RDL = Reportable Detection Limit  
 QC Batch = Quality Control Batch  
 Lab-Dup = Laboratory Initiated Duplicate



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BV Labs Job #: C100435

Report Date: 2021/09/03

Wood Environment & Infrastructure Solutions, a division of

Wood Canada Limited

Client Project #: TV183013.3000.52

Site Location: MONTAGUE GOLD MINES

Your P.O. #: TV183013.30.52.5290.

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.3°C
Package 2	4.3°C
Package 3	4.7°C
Package 4	2.7°C
Package 5	4.3°C
Package 6	3.0°C

**Results relate only to the items tested.**



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BV Labs Job #: C100435  
Report Date: 2021/09/03

### QUALITY ASSURANCE REPORT

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.3000.52  
Site Location: MONTAGUE GOLD MINES  
Your P.O. #: TV183013.30.52.5290.

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7542827	Acid Extractable Aluminum (Al)	2021/08/27					<10	mg/kg	1.2	35
7542827	Acid Extractable Antimony (Sb)	2021/08/27	104	75 - 125	104	75 - 125	<2	mg/kg	NC	35
7542827	Acid Extractable Arsenic (As)	2021/08/27	114	75 - 125	100	75 - 125	<2	mg/kg	1.1	35
7542827	Acid Extractable Barium (Ba)	2021/08/27	113	75 - 125	99	75 - 125	<5	mg/kg	1.7	35
7542827	Acid Extractable Beryllium (Be)	2021/08/27	105	75 - 125	96	75 - 125	<2	mg/kg	NC	35
7542827	Acid Extractable Bismuth (Bi)	2021/08/27	109	75 - 125	98	75 - 125	<2	mg/kg	NC	35
7542827	Acid Extractable Boron (B)	2021/08/27	95	75 - 125	96	75 - 125	<50	mg/kg	NC	35
7542827	Acid Extractable Cadmium (Cd)	2021/08/27	106	75 - 125	97	75 - 125	<0.3	mg/kg	NC	35
7542827	Acid Extractable Chromium (Cr)	2021/08/27	110	75 - 125	98	75 - 125	<2	mg/kg	1.2	35
7542827	Acid Extractable Cobalt (Co)	2021/08/27	110	75 - 125	100	75 - 125	<1	mg/kg	0.035	35
7542827	Acid Extractable Copper (Cu)	2021/08/27	109	75 - 125	101	75 - 125	<2	mg/kg	1.5	35
7542827	Acid Extractable Iron (Fe)	2021/08/27					<50	mg/kg	1.7	35
7542827	Acid Extractable Lead (Pb)	2021/08/27	111	75 - 125	102	75 - 125	<0.5	mg/kg	0.41	35
7542827	Acid Extractable Lithium (Li)	2021/08/27	112	75 - 125	102	75 - 125	<2	mg/kg	NC	35
7542827	Acid Extractable Manganese (Mn)	2021/08/27	NC	75 - 125	101	75 - 125	<2	mg/kg	1.4	35
7542827	Acid Extractable Mercury (Hg)	2021/08/27	104	75 - 125	106	75 - 125	<0.1	mg/kg	0.28	35
7542827	Acid Extractable Molybdenum (Mo)	2021/08/27	105	75 - 125	97	75 - 125	<2	mg/kg	NC	35
7542827	Acid Extractable Nickel (Ni)	2021/08/27	110	75 - 125	101	75 - 125	<2	mg/kg	2.2	35
7542827	Acid Extractable Rubidium (Rb)	2021/08/27	105	75 - 125	98	75 - 125	<2	mg/kg	1.4	35
7542827	Acid Extractable Selenium (Se)	2021/08/27	109	75 - 125	102	75 - 125	<0.5	mg/kg	0.23	35
7542827	Acid Extractable Silver (Ag)	2021/08/27	106	75 - 125	99	75 - 125	<0.5	mg/kg	NC	35
7542827	Acid Extractable Strontium (Sr)	2021/08/27	112	75 - 125	99	75 - 125	<5	mg/kg	5.0	35
7542827	Acid Extractable Thallium (Tl)	2021/08/27	107	75 - 125	102	75 - 125	<0.1	mg/kg	NC	35
7542827	Acid Extractable Tin (Sn)	2021/08/27	108	75 - 125	99	75 - 125	<1	mg/kg	NC	35
7542827	Acid Extractable Uranium (U)	2021/08/27	107	75 - 125	101	75 - 125	<0.1	mg/kg	1.4	35
7542827	Acid Extractable Vanadium (V)	2021/08/27	109	75 - 125	99	75 - 125	<2	mg/kg	1.0	35
7542827	Acid Extractable Zinc (Zn)	2021/08/27	111	75 - 125	106	75 - 125	<5	mg/kg	1.5	35
7542830	Acid Extractable Aluminum (Al)	2021/08/30					<10	mg/kg	0.40	35
7542830	Acid Extractable Antimony (Sb)	2021/08/30	NC	75 - 125	106	75 - 125	<2	mg/kg	1.9	35
7542830	Acid Extractable Arsenic (As)	2021/08/30	NC	75 - 125	101	75 - 125	<2	mg/kg	6.8	35
7542830	Acid Extractable Barium (Ba)	2021/08/30	102	75 - 125	100	75 - 125	<5	mg/kg	2.0	35



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BV Labs Job #: C100435  
Report Date: 2021/09/03

### QUALITY ASSURANCE REPORT(CONT'D)

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.3000.52  
Site Location: MONTAGUE GOLD MINES  
Your P.O. #: TV183013.30.52.5290.

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7542830	Acid Extractable Beryllium (Be)	2021/08/30	96	75 - 125	96	75 - 125	<2	mg/kg	NC	35
7542830	Acid Extractable Bismuth (Bi)	2021/08/30	102	75 - 125	101	75 - 125	<2	mg/kg	NC	35
7542830	Acid Extractable Boron (B)	2021/08/30	102	75 - 125	105	75 - 125	<50	mg/kg	NC	35
7542830	Acid Extractable Cadmium (Cd)	2021/08/30	95	75 - 125	97	75 - 125	<0.3	mg/kg	5.1	35
7542830	Acid Extractable Chromium (Cr)	2021/08/30	102	75 - 125	98	75 - 125	<2	mg/kg	2.9	35
7542830	Acid Extractable Cobalt (Co)	2021/08/30	101	75 - 125	99	75 - 125	<1	mg/kg	3.5	35
7542830	Acid Extractable Copper (Cu)	2021/08/30	NC	75 - 125	100	75 - 125	<2	mg/kg	5.4	35
7542830	Acid Extractable Iron (Fe)	2021/08/30					<50	mg/kg	3.7	35
7542830	Acid Extractable Lead (Pb)	2021/08/30	NC	75 - 125	100	75 - 125	<0.5	mg/kg	0.21	35
7542830	Acid Extractable Lithium (Li)	2021/08/30	104	75 - 125	103	75 - 125	<2	mg/kg	0.82	35
7542830	Acid Extractable Manganese (Mn)	2021/08/30	NC	75 - 125	102	75 - 125	<2	mg/kg	2.9	35
7542830	Acid Extractable Mercury (Hg)	2021/08/30	NC	75 - 125	107	75 - 125	<0.1	mg/kg	3.1	35
7542830	Acid Extractable Molybdenum (Mo)	2021/08/30	105	75 - 125	103	75 - 125	<2	mg/kg	NC	35
7542830	Acid Extractable Nickel (Ni)	2021/08/30	104	75 - 125	101	75 - 125	<2	mg/kg	3.6	35
7542830	Acid Extractable Rubidium (Rb)	2021/08/30	96	75 - 125	101	75 - 125	<2	mg/kg	2.0	35
7542830	Acid Extractable Selenium (Se)	2021/08/30	96	75 - 125	103	75 - 125	<0.5	mg/kg	NC	35
7542830	Acid Extractable Silver (Ag)	2021/08/30	103	75 - 125	98	75 - 125	<0.5	mg/kg	NC	35
7542830	Acid Extractable Strontium (Sr)	2021/08/30	105	75 - 125	98	75 - 125	<5	mg/kg	0.26	35
7542830	Acid Extractable Thallium (Tl)	2021/08/30	103	75 - 125	102	75 - 125	<0.1	mg/kg	5.3	35
7542830	Acid Extractable Tin (Sn)	2021/08/30	105	75 - 125	99	75 - 125	<1	mg/kg	NC	35
7542830	Acid Extractable Uranium (U)	2021/08/30	103	75 - 125	103	75 - 125	<0.1	mg/kg	9.0	35
7542830	Acid Extractable Vanadium (V)	2021/08/30	98	75 - 125	102	75 - 125	<2	mg/kg	0.19	35
7542830	Acid Extractable Zinc (Zn)	2021/08/30	NC	75 - 125	100	75 - 125	<5	mg/kg	3.4	35



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BV Labs Job #: C100435  
Report Date: 2021/09/03

### QUALITY ASSURANCE REPORT(CONT'D)

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.3000.52  
Site Location: MONTAGUE GOLD MINES  
Your P.O. #: TV183013.30.52.5290.

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7558227	Total Cyanide (CN)	2021/09/02			97	80 - 120	<0.50	mg/kg	NC	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



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BV Labs Job #: C100435

Report Date: 2021/09/03

Wood Environment & Infrastructure Solutions, a division of

Wood Canada Limited

Client Project #: TV183013.3000.52

Site Location: MONTAGUE GOLD MINES

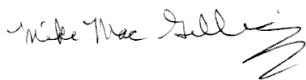
Your P.O. #: TV183013.30.52.5290.

### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:


Miryam Assayag



Mike MacGillivray, Scientific Specialist (Inorganics)

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BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Your P.O. #: TV183013.30.525290.5  
 Your Project #: TV183013.3000.52  
 Site Location: MONTAGUE GOLD MINES  
 Your C.O.C. #: n/a

**Attention: Candace Stephens**

Wood Environment & Infrastructure Solutions, a division of Wood  
 Canada Limited  
 50 Troop Ave  
 Unit 300  
 Dartmouth, NS  
 CANADA B3B 1Z1

**Report Date: 2021/09/03**  
 Report #: R6795677  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C100644**

**Received: 2021/08/23, 13:34**

Sample Matrix: Soil  
 # Samples Received: 29

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
TEH in Soil (PIRI) (2)	3	2021/08/25	2021/08/25	ATL SOP 00111	Atl. RBCA v3.1 m
Metals Solids Acid Extr. ICPMS	3	2021/08/26	2021/08/30	ATL SOP 00058	EPA 6020B R2 m
Metals Solids Acid Extr. ICPMS	22	2021/08/27	2021/08/27	ATL SOP 00058	EPA 6020B R2 m
Metals Solids Acid Extr. ICPMS	4	2021/08/27	2021/08/30	ATL SOP 00058	EPA 6020B R2 m
Total Cyanide (1)	3	2021/08/31	2021/09/02	STL SOP-00035	MA300-CN 1.2 R4 m
Moisture	3	N/A	2021/08/24	ATL SOP 00001	OMOE Handbook 1983 m
ModTPH (T1) Calc. for Soil	3	N/A	2021/08/26	N/A	Atl. RBCA v3.1 m
VPH in Soil (PIRI) - Field Preserved (3)	3	N/A	2021/08/25	ATL SOP 00119	Atl. RBCA v3.1 m

**Remarks:**

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

- (1) This test was performed by Bureau Veritas Montreal via Bedford
- (2) Soils are reported on a dry weight basis unless otherwise specified.



Your P.O. #: TV183013.30.525290.5  
Your Project #: TV183013.3000.52  
Site Location: MONTAGUE GOLD MINES  
Your C.O.C. #: n/a

**Attention: Candace Stephens**

Wood Environment & Infrastructure Solutions, a division of Wood  
Canada Limited  
50 Troop Ave  
Unit 300  
Dartmouth, NS  
CANADA B3B 1Z1

**Report Date: 2021/09/03**  
Report #: R6795677  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C100644**

**Received: 2021/08/23, 13:34**

(3) No lab extraction date is given for C6-C10/BTEX and VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.

**Encryption Key**

Please direct all questions regarding this Certificate of Analysis to your Project Manager.  
Atena Georgescu, Project Manager II  
Email: Atena.Georgescu@bureauveritas.com  
Phone# (902)420-0203 Ext:239

=====  
This report has been generated and distributed using a secure automated process.

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BV Labs Job #: C100644  
 Report Date: 2021/09/03

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.3000.52  
 Site Location: MONTAGUE GOLD MINES  
 Your P.O. #: TV183013.30.525290.5  
 Sampler Initials: CB

**RESULTS OF ANALYSES OF SOIL**

BV Labs ID		QLP089	QLP090	QLP091		
Sampling Date		2021/08/21	2021/08/21	2021/08/21		
COC Number		n/a	n/a	n/a		
	<b>UNITS</b>	<b>2021-SS63-A</b>	<b>2021-SS63-B</b>	<b>2021-SS63-C</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Inorganics</b>						
Moisture	%	24	27	23	1	7537500
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						



BV Labs Job #: C100644  
 Report Date: 2021/09/03

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.3000.52  
 Site Location: MONTAGUE GOLD MINES  
 Your P.O. #: TV183013.30.525290.5  
 Sampler Initials: CB

**CONVENTIONALS (SOIL)**

<b>BV Labs ID</b>		QLP089		QLP090	QLP091		
<b>Sampling Date</b>		2021/08/21		2021/08/21	2021/08/21		
<b>COC Number</b>		n/a		n/a	n/a		
	<b>UNITS</b>	<b>2021-SS63-A</b>	<b>RDL</b>	<b>2021-SS63-B</b>	<b>2021-SS63-C</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Inorganics</b>							
Total Cyanide (CN)	mg/kg	<2.5	2.5	<0.50	<0.50	0.50	7558227
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							



BV Labs Job #: C100644  
 Report Date: 2021/09/03

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.3000.52  
 Site Location: MONTAGUE GOLD MINES  
 Your P.O. #: TV183013.30.525290.5  
 Sampler Initials: CB

**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QLP063	QLP064	QLP065		QLP066	QLP067		
Sampling Date		2021/08/21	2021/08/21	2021/08/21		2021/08/21	2021/08/21		
COC Number		n/a	n/a	n/a		n/a	n/a		
	UNITS	2021-SS82-A	2021-SS82-B	2021-SS-DUP-D-A	QC Batch	2021-SS-DUP-D-B	2021-SS83-A	RDL	QC Batch
<b>Metals</b>									
Acid Extractable Aluminum (Al)	mg/kg	2700	13000	2800	7542830	15000	15000	10	7544917
Acid Extractable Antimony (Sb)	mg/kg	<2	<2	<2	7542830	<2	<2	2	7544917
Acid Extractable Arsenic (As)	mg/kg	24	150	21	7542830	140	110	2	7544917
Acid Extractable Barium (Ba)	mg/kg	18	10	21	7542830	12	25	5	7544917
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	<2	7542830	<2	<2	2	7544917
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	<2	7542830	<2	<2	2	7544917
Acid Extractable Boron (B)	mg/kg	<50	<50	<50	7542830	<50	<50	50	7544917
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	<0.3	<0.3	7542830	<0.3	<0.3	0.3	7544917
Acid Extractable Chromium (Cr)	mg/kg	4	17	4	7542830	19	16	2	7544917
Acid Extractable Cobalt (Co)	mg/kg	<1	2	<1	7542830	2	7	1	7544917
Acid Extractable Copper (Cu)	mg/kg	7	7	6	7542830	8	7	2	7544917
Acid Extractable Iron (Fe)	mg/kg	5700	39000	5600	7542830	41000	23000	50	7544917
Acid Extractable Lead (Pb)	mg/kg	22	5.4	25	7542830	6.1	21	0.5	7544917
Acid Extractable Lithium (Li)	mg/kg	2	10	2	7542830	10	25	2	7544917
Acid Extractable Manganese (Mn)	mg/kg	25	98	25	7542830	110	310	2	7544917
Acid Extractable Mercury (Hg)	mg/kg	0.1	<0.1	0.2	7542830	<0.1	0.2	0.1	7544917
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	<2	7542830	<2	<2	2	7544917
Acid Extractable Nickel (Ni)	mg/kg	5	8	6	7542830	9	7	2	7544917
Acid Extractable Rubidium (Rb)	mg/kg	3	8	3	7542830	9	20	2	7544917
Acid Extractable Selenium (Se)	mg/kg	<0.5	1.0	0.6	7542830	1.1	1.4	0.5	7544917
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	<0.5	7542830	<0.5	<0.5	0.5	7544917
Acid Extractable Strontium (Sr)	mg/kg	<5	<5	<5	7542830	<5	<5	5	7544917
Acid Extractable Thallium (Tl)	mg/kg	<0.1	<0.1	<0.1	7542830	0.1	0.2	0.1	7544917
Acid Extractable Tin (Sn)	mg/kg	<1	<1	<1	7542830	<1	<1	1	7544917
Acid Extractable Uranium (U)	mg/kg	0.2	0.3	0.1	7542830	0.4	0.8	0.1	7544917
Acid Extractable Vanadium (V)	mg/kg	21	41	21	7542830	40	34	2	7544917
Acid Extractable Zinc (Zn)	mg/kg	8	19	9	7542830	22	25	5	7544917
RDL = Reportable Detection Limit QC Batch = Quality Control Batch									



BV Labs Job #: C100644  
 Report Date: 2021/09/03

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.3000.52  
 Site Location: MONTAGUE GOLD MINES  
 Your P.O. #: TV183013.30.525290.5  
 Sampler Initials: CB

**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QLP068	QLP069	QLP070	QLP071	QLP072		
Sampling Date		2021/08/21	2021/08/21	2021/08/21	2021/08/21	2021/08/21		
COC Number		n/a	n/a	n/a	n/a	n/a		
	UNITS	2021-SS83-B	2021-SS84-A	2021-SS84-B	2021-SS-DUP-E-A	2021-SS-DUP-E-B	RDL	QC Batch
<b>Metals</b>								
Acid Extractable Aluminum (Al)	mg/kg	13000	11000	13000	10000	12000	10	7544917
Acid Extractable Antimony (Sb)	mg/kg	<2	<2	<2	<2	<2	2	7544917
Acid Extractable Arsenic (As)	mg/kg	100	63	76	60	78	2	7544917
Acid Extractable Barium (Ba)	mg/kg	21	19	16	21	15	5	7544917
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	<2	<2	<2	2	7544917
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	<2	<2	<2	2	7544917
Acid Extractable Boron (B)	mg/kg	<50	<50	<50	<50	<50	50	7544917
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	0.3	7544917
Acid Extractable Chromium (Cr)	mg/kg	16	8	14	8	13	2	7544917
Acid Extractable Cobalt (Co)	mg/kg	11	2	3	2	3	1	7544917
Acid Extractable Copper (Cu)	mg/kg	6	7	5	8	5	2	7544917
Acid Extractable Iron (Fe)	mg/kg	23000	14000	23000	14000	24000	50	7544917
Acid Extractable Lead (Pb)	mg/kg	16	25	10	28	10	0.5	7544917
Acid Extractable Lithium (Li)	mg/kg	24	6	20	7	18	2	7544917
Acid Extractable Manganese (Mn)	mg/kg	600	120	170	180	180	2	7544917
Acid Extractable Mercury (Hg)	mg/kg	0.1	0.2	0.1	0.2	<0.1	0.1	7544917
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	<2	<2	<2	2	7544917
Acid Extractable Nickel (Ni)	mg/kg	8	5	10	6	9	2	7544917
Acid Extractable Rubidium (Rb)	mg/kg	19	16	14	13	13	2	7544917
Acid Extractable Selenium (Se)	mg/kg	1.0	1.0	0.8	1.1	0.8	0.5	7544917
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	7544917
Acid Extractable Strontium (Sr)	mg/kg	<5	<5	<5	<5	<5	5	7544917
Acid Extractable Thallium (Tl)	mg/kg	0.2	0.2	0.1	0.1	0.1	0.1	7544917
Acid Extractable Tin (Sn)	mg/kg	<1	1	<1	1	<1	1	7544917
Acid Extractable Uranium (U)	mg/kg	0.7	0.5	0.5	0.5	0.5	0.1	7544917
Acid Extractable Vanadium (V)	mg/kg	28	39	26	38	26	2	7544917
Acid Extractable Zinc (Zn)	mg/kg	24	24	27	30	27	5	7544917
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								



**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QLP073	QLP074	QLP075	QLP076	QLP077	QLP078		
Sampling Date		2021/08/21	2021/08/21	2021/08/21	2021/08/21	2021/08/21	2021/08/21		
COC Number		n/a	n/a	n/a	n/a	n/a	n/a		
	UNITS	2021-SS64-A	2021-SS64-B	2021-SS39-A	2021-SS39-B	2021-SS38-A	2021-SS38-B	RDL	QC Batch
<b>Metals</b>									
Acid Extractable Aluminum (Al)	mg/kg	2700	6000	1800	19000	3100	6200	10	7544917
Acid Extractable Antimony (Sb)	mg/kg	<2	<2	<2	<2	<2	<2	2	7544917
Acid Extractable Arsenic (As)	mg/kg	31	55	8	36	3	15	2	7544917
Acid Extractable Barium (Ba)	mg/kg	54	6	23	11	19	10	5	7544917
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	<2	<2	<2	<2	2	7544917
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	<2	<2	<2	<2	2	7544917
Acid Extractable Boron (B)	mg/kg	<50	<50	<50	<50	<50	<50	50	7544917
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.3	7544917
Acid Extractable Chromium (Cr)	mg/kg	3	3	3	19	3	10	2	7544917
Acid Extractable Cobalt (Co)	mg/kg	1	<1	<1	1	<1	2	1	7544917
Acid Extractable Copper (Cu)	mg/kg	17	<2	5	8	6	3	2	7544917
Acid Extractable Iron (Fe)	mg/kg	5900	2900	3300	43000	2300	12000	50	7544917
Acid Extractable Lead (Pb)	mg/kg	130	3.6	37	10	25	4.9	0.5	7544917
Acid Extractable Lithium (Li)	mg/kg	<2	<2	<2	10	<2	6	2	7544917
Acid Extractable Manganese (Mn)	mg/kg	20	15	50	48	63	210	2	7544917
Acid Extractable Mercury (Hg)	mg/kg	0.9	<0.1	0.2	0.1	0.1	<0.1	0.1	7544917
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	<2	<2	<2	<2	2	7544917
Acid Extractable Nickel (Ni)	mg/kg	10	<2	4	4	3	8	2	7544917
Acid Extractable Rubidium (Rb)	mg/kg	3	4	<2	4	4	9	2	7544917
Acid Extractable Selenium (Se)	mg/kg	1.3	<0.5	<0.5	1.2	<0.5	<0.5	0.5	7544917
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	7544917
Acid Extractable Strontium (Sr)	mg/kg	10	<5	<5	<5	5	<5	5	7544917
Acid Extractable Thallium (Tl)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	7544917
Acid Extractable Tin (Sn)	mg/kg	2	<1	<1	<1	<1	<1	1	7544917
Acid Extractable Uranium (U)	mg/kg	0.2	0.2	0.1	0.5	0.2	0.3	0.1	7544917
Acid Extractable Vanadium (V)	mg/kg	24	9	22	56	10	11	2	7544917
Acid Extractable Zinc (Zn)	mg/kg	16	<5	9	11	12	16	5	7544917
RDL = Reportable Detection Limit QC Batch = Quality Control Batch									



**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QLP079	QLP079	QLP080		QLP081	QLP082		
Sampling Date		2021/08/21	2021/08/21	2021/08/21		2021/08/21	2021/08/21		
COC Number		n/a	n/a	n/a		n/a	n/a		
	UNITS	2021-SS37-A	2021-SS37-A Lab-Dup	2021-SS37-B	QC Batch	2021-SS79-A	2021-SS79-B	RDL	QC Batch
<b>Metals</b>									
Acid Extractable Aluminum (Al)	mg/kg	2100	2200	34000	7544917	2500	3900	10	7545233
Acid Extractable Antimony (Sb)	mg/kg	<2	<2	<2	7544917	<2	<2	2	7545233
Acid Extractable Arsenic (As)	mg/kg	8	8	16	7544917	16	14	2	7545233
Acid Extractable Barium (Ba)	mg/kg	33	29	11	7544917	30	9	5	7545233
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	<2	7544917	<2	<2	2	7545233
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	<2	7544917	<2	<2	2	7545233
Acid Extractable Boron (B)	mg/kg	<50	<50	<50	7544917	<50	<50	50	7545233
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	<0.3	<0.3	7544917	<0.3	<0.3	0.3	7545233
Acid Extractable Chromium (Cr)	mg/kg	3	3	25	7544917	4	4	2	7545233
Acid Extractable Cobalt (Co)	mg/kg	<1	<1	4	7544917	1	<1	1	7545233
Acid Extractable Copper (Cu)	mg/kg	5	5	9	7544917	10	<2	2	7545233
Acid Extractable Iron (Fe)	mg/kg	4500	4600	31000	7544917	5400	5500	50	7545233
Acid Extractable Lead (Pb)	mg/kg	40	41	12	7544917	94	3.9	0.5	7545233
Acid Extractable Lithium (Li)	mg/kg	<2	<2	14	7544917	<2	3	2	7545233
Acid Extractable Manganese (Mn)	mg/kg	33	32	180	7544917	27	45	2	7545233
Acid Extractable Mercury (Hg)	mg/kg	0.2	0.1	0.2	7544917	0.4	<0.1	0.1	7545233
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	<2	7544917	<2	<2	2	7545233
Acid Extractable Nickel (Ni)	mg/kg	4	4	10	7544917	12	4	2	7545233
Acid Extractable Rubidium (Rb)	mg/kg	<2	<2	5	7544917	3	7	2	7545233
Acid Extractable Selenium (Se)	mg/kg	<0.5	<0.5	1.9	7544917	0.8	<0.5	0.5	7545233
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	<0.5	7544917	<0.5	<0.5	0.5	7545233
Acid Extractable Strontium (Sr)	mg/kg	<5	<5	<5	7544917	9	<5	5	7545233
Acid Extractable Thallium (Tl)	mg/kg	<0.1	<0.1	<0.1	7544917	<0.1	<0.1	0.1	7545233
Acid Extractable Tin (Sn)	mg/kg	1	<1	<1	7544917	2	<1	1	7545233
Acid Extractable Uranium (U)	mg/kg	0.2	0.2	0.7	7544917	0.2	0.2	0.1	7545233
Acid Extractable Vanadium (V)	mg/kg	23	23	30	7544917	28	8	2	7545233
Acid Extractable Zinc (Zn)	mg/kg	7	6	30	7544917	26	17	5	7545233
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate									



**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QLP083	QLP084		QLP085		QLP086	QLP087		
Sampling Date		2021/08/21	2021/08/21		2021/08/21		2021/08/21	2021/08/21		
COC Number		n/a	n/a		n/a		n/a	n/a		
	UNITS	2021-SS80-A	2021-SS80-B	RDL	2021-SS81-A	RDL	2021-SS81-B	2021-SS40-A	RDL	QC Batch
<b>Metals</b>										
Acid Extractable Aluminum (Al)	mg/kg	7900	11000	10	8800	10	4500	1400	10	7545233
Acid Extractable Antimony (Sb)	mg/kg	<2	<2	2	<2	2	<2	<2	2	7545233
Acid Extractable Arsenic (As)	mg/kg	9	25	2	1400	20	240	6	2	7545233
Acid Extractable Barium (Ba)	mg/kg	92	26	5	30	5	13	59	5	7545233
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	2	<2	2	<2	<2	2	7545233
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	2	<2	2	<2	<2	2	7545233
Acid Extractable Boron (B)	mg/kg	<50	<50	50	<50	50	<50	<50	50	7545233
Acid Extractable Cadmium (Cd)	mg/kg	0.3	<0.3	0.3	<0.3	0.3	<0.3	<0.3	0.3	7545233
Acid Extractable Chromium (Cr)	mg/kg	3	11	2	10	2	4	<2	2	7545233
Acid Extractable Cobalt (Co)	mg/kg	6	3	1	6	1	1	<1	1	7545233
Acid Extractable Copper (Cu)	mg/kg	10	5	2	13	2	3	9	2	7545233
Acid Extractable Iron (Fe)	mg/kg	4300	13000	50	60000	50	12000	2200	50	7545233
Acid Extractable Lead (Pb)	mg/kg	49	25	0.5	48	0.5	16	51	0.5	7545233
Acid Extractable Lithium (Li)	mg/kg	<2	7	2	<2	2	<2	<2	2	7545233
Acid Extractable Manganese (Mn)	mg/kg	59	160	2	87	2	40	66	2	7545233
Acid Extractable Mercury (Hg)	mg/kg	0.3	0.1	0.1	0.3	0.1	0.1	0.2	0.1	7545233
Acid Extractable Molybdenum (Mo)	mg/kg	<2	<2	2	<2	2	<2	<2	2	7545233
Acid Extractable Nickel (Ni)	mg/kg	13	10	2	8	2	2	8	2	7545233
Acid Extractable Rubidium (Rb)	mg/kg	4	11	2	3	2	9	3	2	7545233
Acid Extractable Selenium (Se)	mg/kg	0.8	0.5	0.5	2.8	0.5	0.5	0.7	0.5	7545233
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	0.5	<0.5	0.5	<0.5	<0.5	0.5	7545233
Acid Extractable Strontium (Sr)	mg/kg	19	<5	5	7	5	<5	16	5	7545233
Acid Extractable Thallium (Tl)	mg/kg	0.1	0.1	0.1	<0.1	0.1	0.1	<0.1	0.1	7545233
Acid Extractable Tin (Sn)	mg/kg	<1	<1	1	2	1	<1	1	1	7545233
Acid Extractable Uranium (U)	mg/kg	0.2	0.5	0.1	0.4	0.1	0.3	0.1	0.1	7545233
Acid Extractable Vanadium (V)	mg/kg	16	15	2	82	2	22	12	2	7545233
Acid Extractable Zinc (Zn)	mg/kg	19	26	5	11	5	<5	22	5	7545233
RDL = Reportable Detection Limit										
QC Batch = Quality Control Batch										



**ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**

BV Labs ID		QLP088		QLP089	QLP090	QLP091		
Sampling Date		2021/08/21		2021/08/21	2021/08/21	2021/08/21		
COC Number		n/a		n/a	n/a	n/a		
	UNITS	2021-SS40-B	RDL	2021-SS63-A	2021-SS63-B	2021-SS63-C	RDL	QC Batch
<b>Metals</b>								
Acid Extractable Aluminum (Al)	mg/kg	3200	10	11000	9100	12000	10	7545233
Acid Extractable Antimony (Sb)	mg/kg	<2	2	13	22	13	2	7545233
Acid Extractable Arsenic (As)	mg/kg	4	2	6400	15000	7300	200	7545233
Acid Extractable Barium (Ba)	mg/kg	9	5	160	76	43	5	7545233
Acid Extractable Beryllium (Be)	mg/kg	<2	2	<2	<2	<2	2	7545233
Acid Extractable Bismuth (Bi)	mg/kg	<2	2	<2	<2	<2	2	7545233
Acid Extractable Boron (B)	mg/kg	<50	50	<50	<50	<50	50	7545233
Acid Extractable Cadmium (Cd)	mg/kg	<0.3	0.3	0.6	<0.3	<0.3	0.3	7545233
Acid Extractable Chromium (Cr)	mg/kg	3	2	14	12	12	2	7545233
Acid Extractable Cobalt (Co)	mg/kg	<1	1	12	7	16	1	7545233
Acid Extractable Copper (Cu)	mg/kg	<2	2	80	33	110	2	7545233
Acid Extractable Iron (Fe)	mg/kg	2000	50	62000	43000	33000	50	7545233
Acid Extractable Lead (Pb)	mg/kg	3.3	0.5	160	100	43	0.5	7545233
Acid Extractable Lithium (Li)	mg/kg	<2	2	17	16	25	2	7545233
Acid Extractable Manganese (Mn)	mg/kg	14	2	1400	390	320	2	7545233
Acid Extractable Mercury (Hg)	mg/kg	<0.1	0.1	6.3	16	14	0.1	7545233
Acid Extractable Molybdenum (Mo)	mg/kg	<2	2	3	<2	<2	2	7545233
Acid Extractable Nickel (Ni)	mg/kg	<2	2	24	12	44	2	7545233
Acid Extractable Rubidium (Rb)	mg/kg	<2	2	11	18	28	2	7545233
Acid Extractable Selenium (Se)	mg/kg	<0.5	0.5	0.6	0.8	<0.5	0.5	7545233
Acid Extractable Silver (Ag)	mg/kg	<0.5	0.5	<0.5	<0.5	<0.5	0.5	7545233
Acid Extractable Strontium (Sr)	mg/kg	<5	5	24	11	11	5	7545233
Acid Extractable Thallium (Tl)	mg/kg	<0.1	0.1	0.3	0.3	0.3	0.1	7545233
Acid Extractable Tin (Sn)	mg/kg	<1	1	3	14	8	1	7545233
Acid Extractable Uranium (U)	mg/kg	0.1	0.1	0.4	0.5	0.7	0.1	7545233
Acid Extractable Vanadium (V)	mg/kg	7	2	24	14	13	2	7545233
Acid Extractable Zinc (Zn)	mg/kg	<5	5	170	100	220	5	7545233
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								





BV Labs Job #: C100644  
 Report Date: 2021/09/03

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.3000.52  
 Site Location: MONTAGUE GOLD MINES  
 Your P.O. #: TV183013.30.525290.5  
 Sampler Initials: CB

### ATLANTIC RBCA HYDROCARBONS (SOIL)

BV Labs ID		QLP089	QLP090	QLP091		
Sampling Date		2021/08/21	2021/08/21	2021/08/21		
COC Number		n/a	n/a	n/a		
	UNITS	2021-SS63-A	2021-SS63-B	2021-SS63-C	RDL	QC Batch
<b>Petroleum Hydrocarbons</b>						
Benzene	mg/kg	<0.025	<0.025	<0.025	0.025	7540573
Toluene	mg/kg	<0.050	<0.050	<0.050	0.050	7540573
Ethylbenzene	mg/kg	<0.025	<0.025	<0.025	0.025	7540573
Total Xylenes	mg/kg	0.067	<0.050	<0.050	0.050	7540573
C6 - C10 (less BTEX)	mg/kg	8.9	<2.5	<2.5	2.5	7540573
>C10-C16 Hydrocarbons	mg/kg	25	<10	<10	10	7540371
>C16-C21 Hydrocarbons	mg/kg	160	<10	<10	10	7540371
>C21-<C32 Hydrocarbons	mg/kg	320	40	61	20	7540371
Modified TPH (Tier1)	mg/kg	510	40	61	20	7537591
Reached Baseline at C32	mg/kg	No	Yes	Yes	N/A	7540371
Hydrocarbon Resemblance	mg/kg	COMMENT (1)	COMMENT (2)	COMMENT (3)	N/A	7540371
<b>Surrogate Recovery (%)</b>						
Isobutylbenzene - Extractable	%	98	97	94		7540371
n-Dotriacontane - Extractable	%	101	107	104		7540371
Isobutylbenzene - Volatile	%	106	113	113		7540573
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable (1) Lube oil fraction; interference from possible PAHs. (2) Possible lube oil fraction. Unidentified compound(s) in lube oil range. (3) Unidentified compound(s) in lube oil range.						



BV Labs Job #: C1O0644  
Report Date: 2021/09/03

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.3000.52  
Site Location: MONTAGUE GOLD MINES  
Your P.O. #: TV183013.30.525290.5  
Sampler Initials: CB

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.3°C
Package 2	4.3°C
Package 3	4.7°C
Package 4	2.7°C
Package 5	4.3°C
Package 6	3.0°C

**Results relate only to the items tested.**



BV Labs Job #: C100644  
Report Date: 2021/09/03

### QUALITY ASSURANCE REPORT

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.3000.52  
Site Location: MONTAGUE GOLD MINES  
Your P.O. #: TV183013.30.525290.5  
Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7540371	Isobutylbenzene - Extractable	2021/08/25	95	60 - 130	98	60 - 130	96	%		
7540371	n-Dotriacontane - Extractable	2021/08/25	120	60 - 130	108	60 - 130	103	%		
7540573	Isobutylbenzene - Volatile	2021/08/25	121	60 - 130	94	60 - 130	97	%		
7537500	Moisture	2021/08/24							NC	25
7540371	>C10-C16 Hydrocarbons	2021/08/26	97	30 - 130	106	60 - 130	<10	mg/kg	NC	50
7540371	>C16-C21 Hydrocarbons	2021/08/26	97	30 - 130	104	60 - 130	<10	mg/kg	20	50
7540371	>C21-<C32 Hydrocarbons	2021/08/26	NC	30 - 130	101	60 - 130	<20	mg/kg	16	50
7540573	Benzene	2021/08/25	94	60 - 130	78	60 - 140	<0.025	mg/kg	NC	50
7540573	C6 - C10 (less BTEX)	2021/08/25					<2.5	mg/kg	NC	50
7540573	Ethylbenzene	2021/08/25	122	60 - 130	85	60 - 140	<0.025	mg/kg	NC	50
7540573	Toluene	2021/08/25	106	60 - 130	82	60 - 140	<0.050	mg/kg	NC	50
7540573	Total Xylenes	2021/08/25	119	60 - 130	86	60 - 140	<0.050	mg/kg	NC	50
7542830	Acid Extractable Aluminum (Al)	2021/08/30					<10	mg/kg	0.40	35
7542830	Acid Extractable Antimony (Sb)	2021/08/30	NC	75 - 125	106	75 - 125	<2	mg/kg	1.9	35
7542830	Acid Extractable Arsenic (As)	2021/08/30	NC	75 - 125	101	75 - 125	<2	mg/kg	6.8	35
7542830	Acid Extractable Barium (Ba)	2021/08/30	102	75 - 125	100	75 - 125	<5	mg/kg	2.0	35
7542830	Acid Extractable Beryllium (Be)	2021/08/30	96	75 - 125	96	75 - 125	<2	mg/kg	NC	35
7542830	Acid Extractable Bismuth (Bi)	2021/08/30	102	75 - 125	101	75 - 125	<2	mg/kg	NC	35
7542830	Acid Extractable Boron (B)	2021/08/30	102	75 - 125	105	75 - 125	<50	mg/kg	NC	35
7542830	Acid Extractable Cadmium (Cd)	2021/08/30	95	75 - 125	97	75 - 125	<0.3	mg/kg	5.1	35
7542830	Acid Extractable Chromium (Cr)	2021/08/30	102	75 - 125	98	75 - 125	<2	mg/kg	2.9	35
7542830	Acid Extractable Cobalt (Co)	2021/08/30	101	75 - 125	99	75 - 125	<1	mg/kg	3.5	35
7542830	Acid Extractable Copper (Cu)	2021/08/30	NC	75 - 125	100	75 - 125	<2	mg/kg	5.4	35
7542830	Acid Extractable Iron (Fe)	2021/08/30					<50	mg/kg	3.7	35
7542830	Acid Extractable Lead (Pb)	2021/08/30	NC	75 - 125	100	75 - 125	<0.5	mg/kg	0.21	35
7542830	Acid Extractable Lithium (Li)	2021/08/30	104	75 - 125	103	75 - 125	<2	mg/kg	0.82	35
7542830	Acid Extractable Manganese (Mn)	2021/08/30	NC	75 - 125	102	75 - 125	<2	mg/kg	2.9	35
7542830	Acid Extractable Mercury (Hg)	2021/08/30	NC	75 - 125	107	75 - 125	<0.1	mg/kg	3.1	35
7542830	Acid Extractable Molybdenum (Mo)	2021/08/30	105	75 - 125	103	75 - 125	<2	mg/kg	NC	35
7542830	Acid Extractable Nickel (Ni)	2021/08/30	104	75 - 125	101	75 - 125	<2	mg/kg	3.6	35



BV Labs Job #: C100644  
 Report Date: 2021/09/03

**QUALITY ASSURANCE REPORT(CONT'D)**

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.3000.52  
 Site Location: MONTAGUE GOLD MINES  
 Your P.O. #: TV183013.30.525290.5  
 Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7542830	Acid Extractable Rubidium (Rb)	2021/08/30	96	75 - 125	101	75 - 125	<2	mg/kg	2.0	35
7542830	Acid Extractable Selenium (Se)	2021/08/30	96	75 - 125	103	75 - 125	<0.5	mg/kg	NC	35
7542830	Acid Extractable Silver (Ag)	2021/08/30	103	75 - 125	98	75 - 125	<0.5	mg/kg	NC	35
7542830	Acid Extractable Strontium (Sr)	2021/08/30	105	75 - 125	98	75 - 125	<5	mg/kg	0.26	35
7542830	Acid Extractable Thallium (Tl)	2021/08/30	103	75 - 125	102	75 - 125	<0.1	mg/kg	5.3	35
7542830	Acid Extractable Tin (Sn)	2021/08/30	105	75 - 125	99	75 - 125	<1	mg/kg	NC	35
7542830	Acid Extractable Uranium (U)	2021/08/30	103	75 - 125	103	75 - 125	<0.1	mg/kg	9.0	35
7542830	Acid Extractable Vanadium (V)	2021/08/30	98	75 - 125	102	75 - 125	<2	mg/kg	0.19	35
7542830	Acid Extractable Zinc (Zn)	2021/08/30	NC	75 - 125	100	75 - 125	<5	mg/kg	3.4	35
7544917	Acid Extractable Aluminum (Al)	2021/08/27					<10	mg/kg	4.6	35
7544917	Acid Extractable Antimony (Sb)	2021/08/27	102	75 - 125	109	75 - 125	<2	mg/kg	NC	35
7544917	Acid Extractable Arsenic (As)	2021/08/27	102	75 - 125	100	75 - 125	<2	mg/kg	4.9	35
7544917	Acid Extractable Barium (Ba)	2021/08/27	88	75 - 125	99	75 - 125	<5	mg/kg	9.9	35
7544917	Acid Extractable Beryllium (Be)	2021/08/27	98	75 - 125	97	75 - 125	<2	mg/kg	NC	35
7544917	Acid Extractable Bismuth (Bi)	2021/08/27	104	75 - 125	102	75 - 125	<2	mg/kg	NC	35
7544917	Acid Extractable Boron (B)	2021/08/27	88	75 - 125	99	75 - 125	<50	mg/kg	NC	35
7544917	Acid Extractable Cadmium (Cd)	2021/08/27	101	75 - 125	99	75 - 125	<0.3	mg/kg	NC	35
7544917	Acid Extractable Chromium (Cr)	2021/08/27	104	75 - 125	101	75 - 125	<2	mg/kg	5.3	35
7544917	Acid Extractable Cobalt (Co)	2021/08/27	102	75 - 125	100	75 - 125	<1	mg/kg	NC	35
7544917	Acid Extractable Copper (Cu)	2021/08/27	101	75 - 125	101	75 - 125	<2	mg/kg	2.9	35
7544917	Acid Extractable Iron (Fe)	2021/08/27					<50	mg/kg	2.8	35
7544917	Acid Extractable Lead (Pb)	2021/08/27	83	75 - 125	101	75 - 125	<0.5	mg/kg	2.9	35
7544917	Acid Extractable Lithium (Li)	2021/08/27	102	75 - 125	100	75 - 125	<2	mg/kg	NC	35
7544917	Acid Extractable Manganese (Mn)	2021/08/27	117	75 - 125	100	75 - 125	<2	mg/kg	1.5	35
7544917	Acid Extractable Mercury (Hg)	2021/08/27	98	75 - 125	102	75 - 125	<0.1	mg/kg	12	35
7544917	Acid Extractable Molybdenum (Mo)	2021/08/27	103	75 - 125	102	75 - 125	<2	mg/kg	NC	35
7544917	Acid Extractable Nickel (Ni)	2021/08/27	100	75 - 125	101	75 - 125	<2	mg/kg	6.4	35
7544917	Acid Extractable Rubidium (Rb)	2021/08/27	101	75 - 125	100	75 - 125	<2	mg/kg	NC	35
7544917	Acid Extractable Selenium (Se)	2021/08/27	101	75 - 125	100	75 - 125	<0.5	mg/kg	NC	35
7544917	Acid Extractable Silver (Ag)	2021/08/27	102	75 - 125	102	75 - 125	<0.5	mg/kg	NC	35



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BV Labs Job #: C100644  
Report Date: 2021/09/03

### QUALITY ASSURANCE REPORT(CONT'D)

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.3000.52  
Site Location: MONTAGUE GOLD MINES  
Your P.O. #: TV183013.30.525290.5  
Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7544917	Acid Extractable Strontium (Sr)	2021/08/27	103	75 - 125	99	75 - 125	<5	mg/kg	NC	35
7544917	Acid Extractable Thallium (Tl)	2021/08/27	101	75 - 125	102	75 - 125	<0.1	mg/kg	NC	35
7544917	Acid Extractable Tin (Sn)	2021/08/27	100	75 - 125	101	75 - 125	<1	mg/kg	7.0	35
7544917	Acid Extractable Uranium (U)	2021/08/27	105	75 - 125	102	75 - 125	<0.1	mg/kg	0.71	35
7544917	Acid Extractable Vanadium (V)	2021/08/27	99	75 - 125	100	75 - 125	<2	mg/kg	0.41	35
7544917	Acid Extractable Zinc (Zn)	2021/08/27	102	75 - 125	99	75 - 125	<5	mg/kg	1.1	35
7545233	Acid Extractable Aluminum (Al)	2021/08/27					<10	mg/kg	0.34	35
7545233	Acid Extractable Antimony (Sb)	2021/08/27	96	75 - 125	102	75 - 125	<2	mg/kg	NC	35
7545233	Acid Extractable Arsenic (As)	2021/08/27	94	75 - 125	94	75 - 125	<2	mg/kg	NC	35
7545233	Acid Extractable Barium (Ba)	2021/08/27	NC	75 - 125	96	75 - 125	<5	mg/kg	0.40	35
7545233	Acid Extractable Beryllium (Be)	2021/08/27	94	75 - 125	90	75 - 125	<2	mg/kg	NC	35
7545233	Acid Extractable Bismuth (Bi)	2021/08/27	100	75 - 125	96	75 - 125	<2	mg/kg	NC	35
7545233	Acid Extractable Boron (B)	2021/08/27	92	75 - 125	92	75 - 125	<50	mg/kg	NC	35
7545233	Acid Extractable Cadmium (Cd)	2021/08/27	95	75 - 125	96	75 - 125	<0.3	mg/kg	NC	35
7545233	Acid Extractable Chromium (Cr)	2021/08/27	96	75 - 125	96	75 - 125	<2	mg/kg	0.88	35
7545233	Acid Extractable Cobalt (Co)	2021/08/27	97	75 - 125	95	75 - 125	<1	mg/kg	2.7	35
7545233	Acid Extractable Copper (Cu)	2021/08/27	97	75 - 125	96	75 - 125	<2	mg/kg	0.70	35
7545233	Acid Extractable Iron (Fe)	2021/08/27					<50	mg/kg	0.35	35
7545233	Acid Extractable Lead (Pb)	2021/08/27	99	75 - 125	97	75 - 125	<0.5	mg/kg	1.4	35
7545233	Acid Extractable Lithium (Li)	2021/08/27	99	75 - 125	96	75 - 125	<2	mg/kg	NC	35
7545233	Acid Extractable Manganese (Mn)	2021/08/27	NC	75 - 125	97	75 - 125	<2	mg/kg	0.66	35
7545233	Acid Extractable Mercury (Hg)	2021/08/27	94	75 - 125	98	75 - 125	<0.1	mg/kg	NC	35
7545233	Acid Extractable Molybdenum (Mo)	2021/08/27	NC	75 - 125	100	75 - 125	<2	mg/kg	0.63	35
7545233	Acid Extractable Nickel (Ni)	2021/08/27	97	75 - 125	95	75 - 125	<2	mg/kg	2.3	35
7545233	Acid Extractable Rubidium (Rb)	2021/08/27	99	75 - 125	96	75 - 125	<2	mg/kg	NC	35
7545233	Acid Extractable Selenium (Se)	2021/08/27	94	75 - 125	96	75 - 125	<0.5	mg/kg	NC	35
7545233	Acid Extractable Silver (Ag)	2021/08/27	97	75 - 125	97	75 - 125	<0.5	mg/kg	NC	35
7545233	Acid Extractable Strontium (Sr)	2021/08/27	100	75 - 125	95	75 - 125	<5	mg/kg	NC	35
7545233	Acid Extractable Thallium (Tl)	2021/08/27	98	75 - 125	98	75 - 125	<0.1	mg/kg	NC	35
7545233	Acid Extractable Tin (Sn)	2021/08/27	101	75 - 125	99	75 - 125	<1	mg/kg	NC	35



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BV Labs Job #: C100644  
Report Date: 2021/09/03

### QUALITY ASSURANCE REPORT(CONT'D)

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.3000.52  
Site Location: MONTAGUE GOLD MINES  
Your P.O. #: TV183013.30.525290.5  
Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7545233	Acid Extractable Uranium (U)	2021/08/27	100	75 - 125	97	75 - 125	<0.1	mg/kg	1.6	35
7545233	Acid Extractable Vanadium (V)	2021/08/27	98	75 - 125	96	75 - 125	<2	mg/kg	0.42	35
7545233	Acid Extractable Zinc (Zn)	2021/08/27	NC	75 - 125	96	75 - 125	<5	mg/kg	1.2	35
7558227	Total Cyanide (CN)	2021/09/02			97	80 - 120	<0.50	mg/kg	NC	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



BV Labs Job #: C100644  
Report Date: 2021/09/03

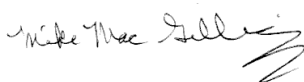
Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.3000.52  
Site Location: MONTAGUE GOLD MINES  
Your P.O. #: TV183013.30.525290.5  
Sampler Initials: CB

### VALIDATION SIGNATURE PAGE

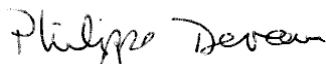
The analytical data and all QC contained in this report were reviewed and validated by:


Miryam Assayag



Mike MacGillivray, Scientific Specialist (Inorganics)



Phil Deveau, Scientific Specialist (Organics)

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For Service Group specific validation please refer to the Validation Signature Page.



Your P.O. #: TV183013.30.52.5290.  
 Your Project #: TV183013.3000.52  
 Site#: MONTAGUE GOLD MINES  
 Site Location: MONTAGUE  
 Your C.O.C. #: N/A

**Attention: Candace Stephens**

Wood Environment & Infrastructure Solutions, a division of Wood  
 Canada Limited  
 50 Troop Ave  
 Unit 300  
 Dartmouth, NS  
 CANADA B3B 1Z1

**Report Date: 2021/09/03**  
 Report #: R6795784  
 Version: 2 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C105117**

**Received: 2021/08/25, 11:52**

Sample Matrix: Soil  
 # Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Metals Solids Acid Extr. ICPMS	2	2021/09/01	2021/09/01	ATL SOP 00058	EPA 6020B R2 m

Sample Matrix: Water  
 # Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Carbonate, Bicarbonate and Hydroxide	4	N/A	2021/08/31	N/A	SM 23 4500-CO2 D
Alkalinity	4	N/A	2021/08/31	ATL SOP 00013	EPA 310.2 R1974 m
Chloride	4	N/A	2021/08/31	ATL SOP 00014	SM 23 4500-Cl- E m
Colour	4	N/A	2021/08/31	ATL SOP 00020	SM 23 2120C m
Total Cyanide (1)	4	2021/09/02	2021/09/02	CAM SOP-00457	OMOE E3015 5 m
Conductance - water	4	N/A	2021/08/31	ATL SOP 00004	SM 23 2510B m
TEH in Water (PIRI)	4	2021/08/30	2021/08/30	ATL SOP 00113	Atl. RBCA v3.1 m
Hardness (calculated as CaCO3)	2	N/A	2021/09/01	ATL SOP 00048	Auto Calc
Hardness (calculated as CaCO3)	2	N/A	2021/09/02	ATL SOP 00048	Auto Calc
Mercury - Dissolved (CVAA,LL)	4	2021/08/31	2021/08/31	ATL SOP 00026	EPA 245.1 R3 m
Mercury - Total (CVAA,LL)	4	2021/08/31	2021/08/31	ATL SOP 00026	EPA 245.1 R3 m
Metals Water Diss. MS (2)	2	N/A	2021/09/01	ATL SOP 00058	EPA 6020B R2 m
Metals Water Diss. MS (as rec'd)	2	N/A	2021/09/02	ATL SOP 00058	EPA 6020B R2 m
Ion Balance (% Difference)	2	N/A	2021/09/01	N/A	Auto Calc.
Ion Balance (% Difference)	2	N/A	2021/09/02	N/A	Auto Calc.
Anion and Cation Sum	2	N/A	2021/09/01	N/A	Auto Calc.
Anion and Cation Sum	2	N/A	2021/09/02	N/A	Auto Calc.
Nitrogen Ammonia - water	4	N/A	2021/08/31	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	4	N/A	2021/08/31	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	4	N/A	2021/08/31	ATL SOP 00017	SM 23 4500-NO2- B m
Nitrogen - Nitrate (as N)	4	N/A	2021/08/31	ATL SOP 00018	ASTM D3867-16
pH (3)	4	N/A	2021/08/31	ATL SOP 00003	SM 23 4500-H+ B m
Phosphorus - ortho	4	N/A	2021/08/31	ATL SOP 00021	SM 23 4500-P E m
Sat. pH and Langelier Index (@ 20C)	2	N/A	2021/09/01	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 20C)	2	N/A	2021/09/02	ATL SOP 00049	Auto Calc.





Your P.O. #: TV183013.30.52.5290.  
 Your Project #: TV183013.3000.52  
 Site#: MONTAGUE GOLD MINES  
 Site Location: MONTAGUE  
 Your C.O.C. #: N/A

**Attention: Candace Stephens**

Wood Environment & Infrastructure Solutions, a division of Wood  
 Canada Limited  
 50 Troop Ave  
 Unit 300  
 Dartmouth, NS  
 CANADA B3B 1Z1

**Report Date: 2021/09/03**  
 Report #: R6795784  
 Version: 2 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C105117**

**Received: 2021/08/25, 11:52**

Sample Matrix: Water  
 # Samples Received: 4

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Sat. pH and Langelier Index (@ 4C)	2	N/A	2021/09/01	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	2	N/A	2021/09/02	ATL SOP 00049	Auto Calc.
Reactive Silica	4	N/A	2021/08/31	ATL SOP 00022	EPA 366.0 m
Sulphate	4	N/A	2021/08/31	ATL SOP 00023	ASTM D516-16 m
Total Dissolved Solids (TDS calc)	2	N/A	2021/09/01	N/A	Auto Calc.
Total Dissolved Solids (TDS calc)	2	N/A	2021/09/02	N/A	Auto Calc.
Organic carbon - Total (TOC) (4)	4	N/A	2021/08/31	ATL SOP 00203	SM 23 5310B m
ModTPH (T1) Calc. for Water	4	N/A	2021/08/31	N/A	Atl. RBCA v3 m
Turbidity	3	N/A	2021/08/30	ATL SOP 00011	EPA 180.1 R2 m
Turbidity	1	N/A	2021/08/31	ATL SOP 00011	EPA 180.1 R2 m
VPH in Water (PIRI)	4	N/A	2021/08/30	ATL SOP 00130	Atl. RBCA v3.1 m

**Remarks:**

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested. This Certificate shall not be reproduced except in full, without the written approval of the laboratory.



Your P.O. #: TV183013.30.52.5290.  
Your Project #: TV183013.3000.52  
Site#: MONTAGUE GOLD MINES  
Site Location: MONTAGUE  
Your C.O.C. #: N/A

**Attention: Candace Stephens**

Wood Environment & Infrastructure Solutions, a division of Wood  
Canada Limited  
50 Troop Ave  
Unit 300  
Dartmouth, NS  
CANADA B3B 1Z1

**Report Date: 2021/09/03**  
Report #: R6795784  
Version: 2 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C105117**

**Received: 2021/08/25, 11:52**

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.  
\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

- (1) This test was performed by Bureau Veritas Mississauga
- (2) Sample filtered in laboratory prior to analysis for dissolved metals.
- (3) The APHA Standard Method require pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.
- (4) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

**Encryption Key**

Please direct all questions regarding this Certificate of Analysis to your Project Manager.  
Atena Georgescu, Project Manager II  
Email: Atena.Georgescu@bureauveritas.com  
Phone# (902)420-0203 Ext:239

=====

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



BV Labs Job #: C105117  
 Report Date: 2021/09/03

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.3000.52  
 Site Location: MONTAGUE  
 Your P.O. #: TV183013.30.52.5290.  
 Sampler Initials: CB

### ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		QMM404	QMM405		
Sampling Date		2021/08/23	2021/08/23		
COC Number		N/A	N/A		
	UNITS	2021-SS62A	2021-SS62B	RDL	QC Batch
<b>Metals</b>					
Acid Extractable Aluminum (Al)	mg/kg	18000	13000	10	7552948
Acid Extractable Antimony (Sb)	mg/kg	2	<2	2	7552948
Acid Extractable Arsenic (As)	mg/kg	3100	2500	20	7552948
Acid Extractable Barium (Ba)	mg/kg	310	250	5	7552948
Acid Extractable Beryllium (Be)	mg/kg	<2	<2	2	7552948
Acid Extractable Bismuth (Bi)	mg/kg	<2	<2	2	7552948
Acid Extractable Boron (B)	mg/kg	<50	<50	50	7552948
Acid Extractable Cadmium (Cd)	mg/kg	3.0	1.1	0.3	7552948
Acid Extractable Chromium (Cr)	mg/kg	14	14	2	7552948
Acid Extractable Cobalt (Co)	mg/kg	60	53	1	7552948
Acid Extractable Copper (Cu)	mg/kg	66	34	2	7552948
Acid Extractable Iron (Fe)	mg/kg	37000	27000	50	7552948
Acid Extractable Lead (Pb)	mg/kg	170	86	0.5	7552948
Acid Extractable Lithium (Li)	mg/kg	14	21	2	7552948
Acid Extractable Manganese (Mn)	mg/kg	12000	6100	2	7552948
Acid Extractable Mercury (Hg)	mg/kg	3.5	8.8	0.1	7552948
Acid Extractable Molybdenum (Mo)	mg/kg	3	2	2	7552948
Acid Extractable Nickel (Ni)	mg/kg	76	30	2	7552948
Acid Extractable Rubidium (Rb)	mg/kg	13	17	2	7552948
Acid Extractable Selenium (Se)	mg/kg	4.8	2.2	0.5	7552948
Acid Extractable Silver (Ag)	mg/kg	<0.5	<0.5	0.5	7552948
Acid Extractable Strontium (Sr)	mg/kg	62	16	5	7552948
Acid Extractable Thallium (Tl)	mg/kg	0.4	0.5	0.1	7552948
Acid Extractable Tin (Sn)	mg/kg	3	<1	1	7552948
Acid Extractable Uranium (U)	mg/kg	1.3	1.2	0.1	7552948
Acid Extractable Vanadium (V)	mg/kg	100	24	2	7552948
Acid Extractable Zinc (Zn)	mg/kg	210	110	5	7552948
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



### RESULTS OF ANALYSES OF WATER

BV Labs ID		QMM406		QMM407		QMM408		
Sampling Date		2021/08/25		2021/08/25		2021/08/25		
COC Number		N/A		N/A		N/A		
	UNITS	2021-MW4	RDL	2021-MW5	RDL	2021-MW6	RDL	QC Batch
<b>Calculated Parameters</b>								
Anion Sum	me/L	2.72	N/A	3.28	N/A	3.93	N/A	7544989
Bicarb. Alkalinity (calc. as CaCO <sub>3</sub> )	mg/L	67	1	99	1	110	1	7544986
Calculated TDS	mg/L	152	1	182	1	224	1	7544995
Carb. Alkalinity (calc. as CaCO <sub>3</sub> )	mg/L	<1	1	<1	1	<1	1	7544986
Cation Sum	me/L	2.43	N/A	3.33	N/A	3.91	N/A	7544989
Hardness (CaCO <sub>3</sub> )	mg/L	45	1	110	1	150	1	7544987
Ion Balance (% Difference)	%	5.63	N/A	0.760	N/A	0.260	N/A	7544988
Langelier Index (@ 20C)	N/A	-1.36		-0.417		-0.620		7544992
Langelier Index (@ 4C)	N/A	-1.61		-0.668		-0.870		7544994
Nitrate (N)	mg/L	0.05	0.05	0.45	0.05	<0.05	0.05	7544990
Saturation pH (@ 20C)	N/A	8.42		7.91		7.77		7544992
Saturation pH (@ 4C)	N/A	8.67		8.16		8.02		7544994
<b>Inorganics</b>								
Total Alkalinity (Total as CaCO <sub>3</sub> )	mg/L	67	5	100	10	110	30	7548605
Dissolved Chloride (Cl <sup>-</sup> )	mg/L	42	1	33	1	29	1	7548611
Colour	TCU	13	5	<5	5	<5	5	7548615
Nitrate + Nitrite (N)	mg/L	0.05	0.05	0.45	0.05	<0.05	0.05	7548617
Nitrite (N)	mg/L	<0.01	0.01	<0.01	0.01	0.01	0.01	7548619
Nitrogen (Ammonia Nitrogen)	mg/L	<0.05	0.05	<0.05	0.05	<0.05	0.05	7551253
Total Organic Carbon (C)	mg/L	2.8	0.50	2.4	0.50	2.2	0.50	7548722
Orthophosphate (P)	mg/L	<0.01	0.01	0.02	0.01	0.03	0.01	7548616
pH	pH	7.06		7.50		7.15		7550500
Reactive Silica (SiO <sub>2</sub> )	mg/L	7.2	0.5	6.9	0.5	10	0.5	7548614
Dissolved Sulphate (SO <sub>4</sub> )	mg/L	10	2	15	2	45	2	7548612
Total Cyanide (CN)	mg/L	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050	7556520
Turbidity	NTU	5.6	0.1	18	0.1	0.6	0.1	7549037
Conductivity	uS/cm	270	1	330	1	380	1	7550499
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable								



BV Labs Job #: C105117  
 Report Date: 2021/09/03

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.3000.52  
 Site Location: MONTAGUE  
 Your P.O. #: TV183013.30.52.5290.  
 Sampler Initials: CB

### RESULTS OF ANALYSES OF WATER

BV Labs ID		QMM409		
Sampling Date		2021/08/25		
COC Number		N/A		
	UNITS	2021-MW-DUP1	RDL	QC Batch
<b>Calculated Parameters</b>				
Anion Sum	me/L	2.69	N/A	7544989
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	66	1	7544986
Calculated TDS	mg/L	151	1	7544995
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1	1	7544986
Cation Sum	me/L	2.43	N/A	7544989
Hardness (CaCO3)	mg/L	45	1	7544987
Ion Balance (% Difference)	%	5.08	N/A	7544988
Langelier Index (@ 20C)	N/A	-1.45		7544992
Langelier Index (@ 4C)	N/A	-1.70		7544994
Nitrate (N)	mg/L	0.06	0.05	7544990
Saturation pH (@ 20C)	N/A	8.42		7544992
Saturation pH (@ 4C)	N/A	8.67		7544994
<b>Inorganics</b>				
Total Alkalinity (Total as CaCO3)	mg/L	66	5	7548605
Dissolved Chloride (Cl-)	mg/L	42	1	7548611
Colour	TCU	12	5	7548615
Nitrate + Nitrite (N)	mg/L	0.06	0.05	7548617
Nitrite (N)	mg/L	<0.01	0.01	7548619
Nitrogen (Ammonia Nitrogen)	mg/L	<0.05	0.05	7551253
Total Organic Carbon (C)	mg/L	2.7	0.50	7548722
Orthophosphate (P)	mg/L	<0.01	0.01	7548616
pH	pH	6.97		7550500
Reactive Silica (SiO2)	mg/L	7.0	0.5	7548614
Dissolved Sulphate (SO4)	mg/L	9	2	7548612
Total Cyanide (CN)	mg/L	<0.0050	0.0050	7556520
Turbidity	NTU	3.3	0.1	7550577
Conductivity	uS/cm	270	1	7550499
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable				



BV Labs Job #: C105117  
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 Sampler Initials: CB

**MERCURY BY COLD VAPOUR AA (WATER)**

BV Labs ID		QMM406	QMM407	QMM408	QMM409		
Sampling Date		2021/08/25	2021/08/25	2021/08/25	2021/08/25		
COC Number		N/A	N/A	N/A	N/A		
	UNITS	2021-MW4	2021-MW5	2021-MW6	2021-MW-DUP1	RDL	QC Batch
<b>Metals</b>							
Dissolved Mercury (Hg)	ug/L	<0.013	<0.013	<0.013	<0.013	0.013	7548398
Total Mercury (Hg)	ug/L	<0.013	0.050	<0.013	<0.013	0.013	7548387
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							



**ELEMENTS BY ICP/MS (WATER)**

BV Labs ID		QMM406		QMM407	QMM408		QMM409		
Sampling Date		2021/08/25		2021/08/25	2021/08/25		2021/08/25		
COC Number		N/A		N/A	N/A		N/A		
	UNITS	2021-MW4	QC Batch	2021-MW5	2021-MW6	QC Batch	2021-MW-DUP1	RDL	QC Batch
<b>Metals</b>									
Dissolved Aluminum (Al)	ug/L	49.1	7553775	5.6	<5.0	7551074	48.1	5.0	7553775
Dissolved Antimony (Sb)	ug/L	<1.0	7553775	<1.0	<1.0	7551074	<1.0	1.0	7553775
Dissolved Arsenic (As)	ug/L	5.6	7553775	34	90	7551074	5.7	1.0	7553775
Dissolved Barium (Ba)	ug/L	10.3	7553775	13	13	7551074	10.3	1.0	7553775
Dissolved Beryllium (Be)	ug/L	<1.0	7553775	<1.0	<1.0	7551074	<1.0	1.0	7553775
Dissolved Bismuth (Bi)	ug/L	<2.0	7553775	<2.0	<2.0	7551074	<2.0	2.0	7553775
Dissolved Boron (B)	ug/L	<50	7553775	<50	<50	7551074	<50	50	7553775
Dissolved Cadmium (Cd)	ug/L	0.190	7553775	0.015	0.017	7551074	0.173	0.010	7553775
Dissolved Calcium (Ca)	ug/L	13300	7553775	30000	39000	7551074	13400	100	7553775
Dissolved Chromium (Cr)	ug/L	<1.0	7553775	<1.0	<1.0	7551074	<1.0	1.0	7553775
Dissolved Cobalt (Co)	ug/L	1.93	7553775	<0.40	1.3	7551074	2.09	0.40	7553775
Dissolved Copper (Cu)	ug/L	3.61	7553775	0.98	0.71	7551074	3.82	0.50	7553775
Dissolved Iron (Fe)	ug/L	197	7553775	<50	<50	7551074	197	50	7553775
Dissolved Lead (Pb)	ug/L	<0.50	7553775	<0.50	<0.50	7551074	<0.50	0.50	7553775
Dissolved Magnesium (Mg)	ug/L	2840	7553775	9300	13000	7551074	2860	100	7553775
Dissolved Manganese (Mn)	ug/L	376	7553775	58	1200	7551074	379	2.0	7553775
Dissolved Molybdenum (Mo)	ug/L	<2.0	7553775	<2.0	<2.0	7551074	<2.0	2.0	7553775
Dissolved Nickel (Ni)	ug/L	8.0	7553775	<2.0	3.0	7551074	8.2	2.0	7553775
Dissolved Phosphorus (P)	ug/L	<100	7553775	<100	<100	7551074	<100	100	7553775
Dissolved Potassium (K)	ug/L	3050	7553775	3300	2300	7551074	3060	100	7553775
Dissolved Selenium (Se)	ug/L	<0.50	7553775	<0.50	<0.50	7551074	<0.50	0.50	7553775
Dissolved Silver (Ag)	ug/L	<0.10	7553775	<0.10	<0.10	7551074	<0.10	0.10	7553775
Dissolved Sodium (Na)	ug/L	33300	7553775	23000	19000	7551074	33100	100	7553775
Dissolved Strontium (Sr)	ug/L	46.9	7553775	67	140	7551074	48.4	2.0	7553775
Dissolved Thallium (Tl)	ug/L	<0.10	7553775	<0.10	<0.10	7551074	<0.10	0.10	7553775
Dissolved Tin (Sn)	ug/L	<2.0	7553775	<2.0	<2.0	7551074	<2.0	2.0	7553775
Dissolved Titanium (Ti)	ug/L	<2.0	7553775	<2.0	<2.0	7551074	<2.0	2.0	7553775
Dissolved Uranium (U)	ug/L	0.10	7553775	0.55	0.36	7551074	0.11	0.10	7553775
Dissolved Vanadium (V)	ug/L	<2.0	7553775	<2.0	<2.0	7551074	<2.0	2.0	7553775
Dissolved Zinc (Zn)	ug/L	<5.0	7553775	<5.0	<5.0	7551074	<5.0	5.0	7553775
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									



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BV Labs Job #: C105117  
Report Date: 2021/09/03

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.3000.52  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.52.5290.  
Sampler Initials: CB

**ATLANTIC RBCA HYDROCARBONS (WATER)**

<b>BV Labs ID</b>		QMM406			QMM406			QMM407	QMM408		
<b>Sampling Date</b>		2021/08/25			2021/08/25			2021/08/25	2021/08/25		
<b>COC Number</b>		N/A			N/A			N/A	N/A		
	<b>UNITS</b>	<b>2021-MW4</b>	<b>RDL</b>	<b>QC Batch</b>	<b>2021-MW4 Lab-Dup</b>	<b>RDL</b>	<b>QC Batch</b>	<b>2021-MW5</b>	<b>2021-MW6</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Petroleum Hydrocarbons</b>											
Benzene	mg/L	<0.0010	0.0010	7548280				<0.0010	<0.0010	0.0010	7548280
Toluene	mg/L	<0.0010	0.0010	7548280				<0.0010	<0.0010	0.0010	7548280
Ethylbenzene	mg/L	<0.0010	0.0010	7548280				<0.0010	<0.0010	0.0010	7548280
Total Xylenes	mg/L	<0.0020	0.0020	7548280				<0.0020	<0.0020	0.0020	7548280
C6 - C10 (less BTEX)	mg/L	<0.090	0.090	7548280				<0.090	<0.090	0.090	7548280
>C10-C16 Hydrocarbons	mg/L	<0.05	0.05	7548385	<0.05	0.05	7548385	<0.05	<0.05	0.05	7548385
>C16-C21 Hydrocarbons	mg/L	<0.05	0.05	7548385	<0.05	0.05	7548385	<0.05	<0.05	0.05	7548385
>C21-<C32 Hydrocarbons	mg/L	<0.09	0.09	7548385	<0.09	0.09	7548385	<0.09	<0.09	0.09	7548385
Modified TPH (Tier1)	mg/L	<0.09	0.09	7545020				<0.09	<0.09	0.09	7545020
Reached Baseline at C32	mg/L	NA	N/A	7548385				NA	NA	N/A	7548385
Hydrocarbon Resemblance	mg/L	NA	N/A	7548385				NA	NA	N/A	7548385

<b>Surrogate Recovery (%)</b>											
Isobutylbenzene - Extractable	%	95		7548385	94		7548385	99	96		7548385
n-Dotriacontane - Extractable	%	95		7548385	84		7548385	89	127		7548385
Isobutylbenzene - Volatile	%	102		7548280				102	102		7548280

RDL = Reportable Detection Limit  
QC Batch = Quality Control Batch  
Lab-Dup = Laboratory Initiated Duplicate  
N/A = Not Applicable





BV Labs Job #: C105117  
 Report Date: 2021/09/03

Wood Environment & Infrastructure Solutions, a division of  
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 Your P.O. #: TV183013.30.52.5290.  
 Sampler Initials: CB

**ATLANTIC RBCA HYDROCARBONS (WATER)**

BV Labs ID		QMM409		
Sampling Date		2021/08/25		
COC Number		N/A		
	UNITS	2021-MW-DUP1	RDL	QC Batch
<b>Petroleum Hydrocarbons</b>				
Benzene	mg/L	<0.0010	0.0010	7548280
Toluene	mg/L	<0.0010	0.0010	7548280
Ethylbenzene	mg/L	<0.0010	0.0010	7548280
Total Xylenes	mg/L	<0.0020	0.0020	7548280
C6 - C10 (less BTEX)	mg/L	<0.090	0.090	7548280
>C10-C16 Hydrocarbons	mg/L	<0.05	0.05	7548385
>C16-C21 Hydrocarbons	mg/L	<0.05	0.05	7548385
>C21-<C32 Hydrocarbons	mg/L	<0.09	0.09	7548385
Modified TPH (Tier1)	mg/L	<0.09	0.09	7545020
Reached Baseline at C32	mg/L	NA	N/A	7548385
Hydrocarbon Resemblance	mg/L	NA	N/A	7548385
<b>Surrogate Recovery (%)</b>				
Isobutylbenzene - Extractable	%	90		7548385
n-Dotriacontane - Extractable	%	118		7548385
Isobutylbenzene - Volatile	%	102		7548280
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable				



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BV Labs Job #: C1O5117

Report Date: 2021/09/03

Wood Environment & Infrastructure Solutions, a division of

Wood Canada Limited

Client Project #: TV183013.3000.52

Site Location: MONTAGUE

Your P.O. #: TV183013.30.52.5290.

Sampler Initials: CB

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	3.3°C
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Sample QMM406 [2021-MW4] : Poor RCap Ion Balance due to sample matrix.

Sample QMM407 [2021-MW5] : ortho-Phosphate > Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample QMM408 [2021-MW6] : NOX < NO2 : Both values fall within the method uncertainty for duplicates and are likely equivalent. ortho-Phosphate > Phosphorus: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample QMM409 [2021-MW-DUP1] : Poor RCap Ion Balance due to sample matrix.

**Results relate only to the items tested.**



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BV Labs Job #: C105117  
Report Date: 2021/09/03

### QUALITY ASSURANCE REPORT

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.3000.52  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.52.5290.  
Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7548280	Isobutylbenzene - Volatile	2021/08/30	103	70 - 130	99	70 - 130	102	%				
7548385	Isobutylbenzene - Extractable	2021/08/30	98	70 - 130	99	70 - 130	86	%				
7548385	n-Dotriacontane - Extractable	2021/08/30	88	70 - 130	106	70 - 130	128	%				
7548280	Benzene	2021/08/30	100	70 - 130	99	70 - 130	<0.0010	mg/L	NC	40		
7548280	C6 - C10 (less BTEX)	2021/08/30					<0.090	mg/L	NC	40		
7548280	Ethylbenzene	2021/08/30	92	70 - 130	91	70 - 130	<0.0010	mg/L	NC	40		
7548280	Toluene	2021/08/30	99	70 - 130	99	70 - 130	<0.0010	mg/L	NC	40		
7548280	Total Xylenes	2021/08/30	96	70 - 130	96	70 - 130	<0.0020	mg/L	NC	40		
7548385	>C10-C16 Hydrocarbons	2021/08/30	88	70 - 130	103	70 - 130	<0.05	mg/L	NC	40		
7548385	>C16-C21 Hydrocarbons	2021/08/30	86	70 - 130	104	70 - 130	<0.05	mg/L	NC	40		
7548385	>C21-<C32 Hydrocarbons	2021/08/30	87	70 - 130	111	70 - 130	<0.09	mg/L	NC	40		
7548387	Total Mercury (Hg)	2021/08/31	104	80 - 120	103	80 - 120	<0.013	ug/L	NC	20		
7548398	Dissolved Mercury (Hg)	2021/08/31	102	80 - 120	103	80 - 120	<0.013	ug/L	NC	20		
7548605	Total Alkalinity (Total as CaCO3)	2021/08/31	NC	80 - 120	106	80 - 120	<5	mg/L	1.1	20		
7548611	Dissolved Chloride (Cl-)	2021/08/31	96	80 - 120	98	80 - 120	<1	mg/L	1.4	20		
7548612	Dissolved Sulphate (SO4)	2021/08/31	NC	80 - 120	99	80 - 120	<2	mg/L	1.1	20		
7548614	Reactive Silica (SiO2)	2021/08/31	NC	80 - 120	94	80 - 120	<0.5	mg/L	0.15	20		
7548615	Colour	2021/08/31			110	80 - 120	<5	TCU	13	20		
7548616	Orthophosphate (P)	2021/08/31	92	80 - 120	95	80 - 120	<0.01	mg/L	NC	20		
7548617	Nitrate + Nitrite (N)	2021/08/31	94	80 - 120	93	80 - 120	<0.05	mg/L	1.5	20		
7548619	Nitrite (N)	2021/08/31	90	80 - 120	95	80 - 120	<0.01	mg/L	0.44	20		
7548722	Total Organic Carbon (C)	2021/08/31	96	85 - 115	100	80 - 120	<0.50	mg/L	NC	15		
7549037	Turbidity	2021/08/30			105	80 - 120	<0.1	NTU	8.7	20	101	80 - 120
7550499	Conductivity	2021/08/31			100	80 - 120	<1	uS/cm	0.16	10		
7550500	pH	2021/08/31			100	97 - 103			0.90	N/A		
7550577	Turbidity	2021/08/31			103	80 - 120	<0.1	NTU	11	20	101	80 - 120
7551074	Dissolved Aluminum (Al)	2021/08/31	106	80 - 120	106	80 - 120	<5.0	ug/L				
7551074	Dissolved Antimony (Sb)	2021/08/31	98	80 - 120	98	80 - 120	<1.0	ug/L				
7551074	Dissolved Arsenic (As)	2021/08/31	92	80 - 120	90	80 - 120	<1.0	ug/L				
7551074	Dissolved Barium (Ba)	2021/08/31	93	80 - 120	95	80 - 120	<1.0	ug/L				



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BV Labs Job #: C105117  
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### QUALITY ASSURANCE REPORT(CONT'D)

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.3000.52  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.52.5290.  
Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7551074	Dissolved Beryllium (Be)	2021/08/31	93	80 - 120	89	80 - 120	<1.0	ug/L				
7551074	Dissolved Bismuth (Bi)	2021/08/31	96	80 - 120	98	80 - 120	<2.0	ug/L				
7551074	Dissolved Boron (B)	2021/08/31	89	80 - 120	87	80 - 120	<50	ug/L				
7551074	Dissolved Cadmium (Cd)	2021/08/31	95	80 - 120	95	80 - 120	<0.010	ug/L				
7551074	Dissolved Calcium (Ca)	2021/08/31	91	80 - 120	98	80 - 120	<100	ug/L				
7551074	Dissolved Chromium (Cr)	2021/08/31	93	80 - 120	93	80 - 120	<1.0	ug/L				
7551074	Dissolved Cobalt (Co)	2021/08/31	93	80 - 120	93	80 - 120	<0.40	ug/L				
7551074	Dissolved Copper (Cu)	2021/08/31	93	80 - 120	93	80 - 120	<0.50	ug/L				
7551074	Dissolved Iron (Fe)	2021/08/31	101	80 - 120	102	80 - 120	<50	ug/L				
7551074	Dissolved Lead (Pb)	2021/08/31	96	80 - 120	97	80 - 120	<0.50	ug/L				
7551074	Dissolved Magnesium (Mg)	2021/08/31	103	80 - 120	104	80 - 120	<100	ug/L				
7551074	Dissolved Manganese (Mn)	2021/08/31	96	80 - 120	95	80 - 120	<2.0	ug/L				
7551074	Dissolved Molybdenum (Mo)	2021/08/31	99	80 - 120	100	80 - 120	<2.0	ug/L				
7551074	Dissolved Nickel (Ni)	2021/08/31	93	80 - 120	95	80 - 120	<2.0	ug/L				
7551074	Dissolved Phosphorus (P)	2021/08/31	106	80 - 120	104	80 - 120	<100	ug/L				
7551074	Dissolved Potassium (K)	2021/08/31	105	80 - 120	104	80 - 120	<100	ug/L	0.62	20		
7551074	Dissolved Selenium (Se)	2021/08/31	95	80 - 120	95	80 - 120	<0.50	ug/L				
7551074	Dissolved Silver (Ag)	2021/08/31	93	80 - 120	92	80 - 120	<0.10	ug/L				
7551074	Dissolved Sodium (Na)	2021/08/31	99	80 - 120	101	80 - 120	<100	ug/L	1.6	20		
7551074	Dissolved Strontium (Sr)	2021/08/31	88	80 - 120	95	80 - 120	<2.0	ug/L				
7551074	Dissolved Thallium (Tl)	2021/08/31	97	80 - 120	98	80 - 120	<0.10	ug/L				
7551074	Dissolved Tin (Sn)	2021/08/31	98	80 - 120	99	80 - 120	<2.0	ug/L				
7551074	Dissolved Titanium (Ti)	2021/08/31	96	80 - 120	96	80 - 120	<2.0	ug/L				
7551074	Dissolved Uranium (U)	2021/08/31	101	80 - 120	102	80 - 120	<0.10	ug/L				
7551074	Dissolved Vanadium (V)	2021/08/31	94	80 - 120	94	80 - 120	<2.0	ug/L				
7551074	Dissolved Zinc (Zn)	2021/08/31	97	80 - 120	98	80 - 120	<5.0	ug/L				
7551253	Nitrogen (Ammonia Nitrogen)	2021/08/31	104	80 - 120	104	80 - 120	<0.05	mg/L	NC	20		
7552948	Acid Extractable Aluminum (Al)	2021/09/01					<10	mg/kg	4.3	35		
7552948	Acid Extractable Antimony (Sb)	2021/09/01	102	75 - 125	103	75 - 125	<2	mg/kg	NC	35		
7552948	Acid Extractable Arsenic (As)	2021/09/01	100	75 - 125	100	75 - 125	<2	mg/kg	3.8	35		



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BV Labs Job #: C105117  
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### QUALITY ASSURANCE REPORT(CONT'D)

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.3000.52  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.52.5290.  
Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7552948	Acid Extractable Barium (Ba)	2021/09/01	105	75 - 125	100	75 - 125	<5	mg/kg	5.0	35		
7552948	Acid Extractable Beryllium (Be)	2021/09/01	100	75 - 125	98	75 - 125	<2	mg/kg	NC	35		
7552948	Acid Extractable Bismuth (Bi)	2021/09/01	103	75 - 125	103	75 - 125	<2	mg/kg	NC	35		
7552948	Acid Extractable Boron (B)	2021/09/01	91	75 - 125	103	75 - 125	<50	mg/kg	NC	35		
7552948	Acid Extractable Cadmium (Cd)	2021/09/01	100	75 - 125	95	75 - 125	<0.3	mg/kg	NC	35		
7552948	Acid Extractable Chromium (Cr)	2021/09/01	102	75 - 125	98	75 - 125	<2	mg/kg	11	35		
7552948	Acid Extractable Cobalt (Co)	2021/09/01	102	75 - 125	97	75 - 125	<1	mg/kg	1.8	35		
7552948	Acid Extractable Copper (Cu)	2021/09/01	102	75 - 125	97	75 - 125	<2	mg/kg	7.1	35		
7552948	Acid Extractable Iron (Fe)	2021/09/01					<50	mg/kg	3.7	35		
7552948	Acid Extractable Lead (Pb)	2021/09/01	103	75 - 125	100	75 - 125	<0.5	mg/kg	5.9	35		
7552948	Acid Extractable Lithium (Li)	2021/09/01	108	75 - 125	102	75 - 125	<2	mg/kg	6.4	35		
7552948	Acid Extractable Manganese (Mn)	2021/09/01	NC	75 - 125	99	75 - 125	<2	mg/kg	6.5	35		
7552948	Acid Extractable Mercury (Hg)	2021/09/01	97	75 - 125	101	75 - 125	<0.1	mg/kg	30	35		
7552948	Acid Extractable Molybdenum (Mo)	2021/09/01	105	75 - 125	102	75 - 125	<2	mg/kg	NC	35		
7552948	Acid Extractable Nickel (Ni)	2021/09/01	102	75 - 125	99	75 - 125	<2	mg/kg	3.6	35		
7552948	Acid Extractable Rubidium (Rb)	2021/09/01	101	75 - 125	98	75 - 125	<2	mg/kg	8.9	35		
7552948	Acid Extractable Selenium (Se)	2021/09/01	100	75 - 125	102	75 - 125	<0.5	mg/kg	NC	35		
7552948	Acid Extractable Silver (Ag)	2021/09/01	100	75 - 125	100	75 - 125	<0.5	mg/kg	NC	35		
7552948	Acid Extractable Strontium (Sr)	2021/09/01	102	75 - 125	100	75 - 125	<5	mg/kg	NC	35		
7552948	Acid Extractable Thallium (Tl)	2021/09/01	105	75 - 125	99	75 - 125	<0.1	mg/kg	NC	35		
7552948	Acid Extractable Tin (Sn)	2021/09/01	106	75 - 125	98	75 - 125	<1	mg/kg	NC	35		
7552948	Acid Extractable Uranium (U)	2021/09/01	102	75 - 125	100	75 - 125	<0.1	mg/kg	3.2	35		
7552948	Acid Extractable Vanadium (V)	2021/09/01	98	75 - 125	98	75 - 125	<2	mg/kg	13	35		
7552948	Acid Extractable Zinc (Zn)	2021/09/01	108	75 - 125	98	75 - 125	<5	mg/kg	1.5	35		
7553775	Dissolved Aluminum (Al)	2021/09/02	102	80 - 120	101	80 - 120	<5.0	ug/L	10	20		
7553775	Dissolved Antimony (Sb)	2021/09/02	109	80 - 120	104	80 - 120	<1.0	ug/L	NC	20		
7553775	Dissolved Arsenic (As)	2021/09/02	95	80 - 120	93	80 - 120	<1.0	ug/L	NC	20		
7553775	Dissolved Barium (Ba)	2021/09/02	NC	80 - 120	101	80 - 120	<1.0	ug/L	0.32	20		
7553775	Dissolved Beryllium (Be)	2021/09/02	100	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
7553775	Dissolved Bismuth (Bi)	2021/09/02	100	80 - 120	103	80 - 120	<2.0	ug/L	NC	20		



BV Labs Job #: C105117  
 Report Date: 2021/09/03

**QUALITY ASSURANCE REPORT(CONT'D)**

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.3000.52  
 Site Location: MONTAGUE  
 Your P.O. #: TV183013.30.52.5290.  
 Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7553775	Dissolved Boron (B)	2021/09/02	98	80 - 120	99	80 - 120	<50	ug/L	NC	20		
7553775	Dissolved Cadmium (Cd)	2021/09/02	97	80 - 120	98	80 - 120	<0.010	ug/L	4.7	20		
7553775	Dissolved Calcium (Ca)	2021/09/02	NC	80 - 120	94	80 - 120	<100	ug/L	1.2	20		
7553775	Dissolved Chromium (Cr)	2021/09/02	95	80 - 120	95	80 - 120	<1.0	ug/L	NC	20		
7553775	Dissolved Cobalt (Co)	2021/09/02	92	80 - 120	95	80 - 120	<0.40	ug/L	NC	20		
7553775	Dissolved Copper (Cu)	2021/09/02	90	80 - 120	95	80 - 120	<0.50	ug/L	NC	20		
7553775	Dissolved Iron (Fe)	2021/09/02	99	80 - 120	100	80 - 120	<50	ug/L	NC	20		
7553775	Dissolved Lead (Pb)	2021/09/02	99	80 - 120	102	80 - 120	<0.50	ug/L	NC	20		
7553775	Dissolved Magnesium (Mg)	2021/09/02	NC	80 - 120	100	80 - 120	<100	ug/L	0.35	20		
7553775	Dissolved Manganese (Mn)	2021/09/02	95	80 - 120	98	80 - 120	<2.0	ug/L	0.52	20		
7553775	Dissolved Molybdenum (Mo)	2021/09/02	107	80 - 120	101	80 - 120	<2.0	ug/L	NC	20		
7553775	Dissolved Nickel (Ni)	2021/09/02	91	80 - 120	94	80 - 120	<2.0	ug/L	NC	20		
7553775	Dissolved Phosphorus (P)	2021/09/02	104	80 - 120	101	80 - 120	<100	ug/L	NC	20		
7553775	Dissolved Potassium (K)	2021/09/02	100	80 - 120	101	80 - 120	<100	ug/L	0.40	20		
7553775	Dissolved Selenium (Se)	2021/09/02	96	80 - 120	96	80 - 120	<0.50	ug/L	NC	20		
7553775	Dissolved Silver (Ag)	2021/09/02	95	80 - 120	94	80 - 120	<0.10	ug/L	NC	20		
7553775	Dissolved Sodium (Na)	2021/09/02	NC	80 - 120	95	80 - 120	<100	ug/L	0.75	20		
7553775	Dissolved Strontium (Sr)	2021/09/02	NC	80 - 120	100	80 - 120	<2.0	ug/L	0.96	20		
7553775	Dissolved Thallium (Tl)	2021/09/02	101	80 - 120	103	80 - 120	<0.10	ug/L	NC	20		
7553775	Dissolved Tin (Sn)	2021/09/02	110	80 - 120	105	80 - 120	<2.0	ug/L	NC	20		
7553775	Dissolved Titanium (Ti)	2021/09/02	100	80 - 120	101	80 - 120	<2.0	ug/L	NC	20		
7553775	Dissolved Uranium (U)	2021/09/02	108	80 - 120	107	80 - 120	<0.10	ug/L	0.61	20		
7553775	Dissolved Vanadium (V)	2021/09/02	97	80 - 120	97	80 - 120	<2.0	ug/L	NC	20		
7553775	Dissolved Zinc (Zn)	2021/09/02	94	80 - 120	97	80 - 120	<5.0	ug/L	NC	20		



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BV Labs Job #: C105117  
Report Date: 2021/09/03

### QUALITY ASSURANCE REPORT(CONT'D)

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.3000.52  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.52.5290.  
Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7556520	Total Cyanide (CN)	2021/09/02	61 (1)	80 - 120	101	80 - 120	<0.0050	mg/L	NC	20		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.



BV Labs Job #: C105117  
Report Date: 2021/09/03

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.3000.52  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.52.5290.  
Sampler Initials: CB

### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

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Brad Newman, B.Sc., C.Chem., Scientific Service Specialist

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Mike MacGillivray, Scientific Specialist (Inorganics)

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Phil Deveau, Scientific Specialist (Organics)

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BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.  
For Service Group specific validation please refer to the Validation Signature Page.





Your P.O. #: TV183013.30.52.5290.  
 Your Project #: TV183013.3000.51  
 Site#: MONTAGUE GOLD MINES  
 Site Location: MONTAGUE  
 Your C.O.C. #: N/A

**Attention: Candace Stephens**

Wood Environment & Infrastructure Solutions, a division of Wood  
 Canada Limited  
 50 Troop Ave  
 Unit 300  
 Dartmouth, NS  
 CANADA B3B 1Z1

**Report Date: 2021/09/09**  
 Report #: R6803674  
 Version: 3 - Revision

**CERTIFICATE OF ANALYSIS – REVISED REPORT**

**BV LABS JOB #: C107104**

**Received: 2021/08/26, 12:39**

Sample Matrix: Water  
 # Samples Received: 3

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Carbonate, Bicarbonate and Hydroxide	3	N/A	2021/09/01	N/A	SM 23 4500-CO2 D
Alkalinity	3	N/A	2021/09/01	ATL SOP 00013	EPA 310.2 R1974 m
Chloride	3	N/A	2021/09/01	ATL SOP 00014	SM 23 4500-Cl- E m
Colour	3	N/A	2021/09/01	ATL SOP 00020	SM 23 2120C m
Total Cyanide (1)	3	2021/09/03	2021/09/08	CAM SOP-00457	OMOE E3015 5 m
Conductance - water	3	N/A	2021/08/31	ATL SOP 00004	SM 23 2510B m
TEH in Water (PIRI)	3	2021/09/01	2021/09/01	ATL SOP 00113	Atl. RBCA v3.1 m
Hardness (calculated as CaCO3)	3	N/A	2021/09/02	ATL SOP 00048	Auto Calc
Mercury - Dissolved (CVAA,LL)	3	2021/09/02	2021/09/02	ATL SOP 00026	EPA 245.1 R3 m
Mercury - Total (CVAA,LL)	3	2021/09/01	2021/09/01	ATL SOP 00026	EPA 245.1 R3 m
Metals Water Diss. MS (as rec'd)	3	N/A	2021/09/02	ATL SOP 00058	EPA 6020B R2 m
Ion Balance (% Difference)	3	N/A	2021/09/02	N/A	Auto Calc.
Anion and Cation Sum	3	N/A	2021/09/02	N/A	Auto Calc.
Nitrogen Ammonia - water	3	N/A	2021/09/01	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite	3	N/A	2021/09/01	ATL SOP 00016	USGS I-2547-11m
Nitrogen - Nitrite	3	N/A	2021/09/01	ATL SOP 00017	SM 23 4500-NO2- B m
Nitrogen - Nitrate (as N)	3	N/A	2021/09/01	ATL SOP 00018	ASTM D3867-16
pH (2)	3	N/A	2021/08/31	ATL SOP 00003	SM 23 4500-H+ B m
Phosphorus - ortho	3	N/A	2021/09/01	ATL SOP 00021	SM 23 4500-P E m
Sat. pH and Langelier Index (@ 20C)	3	N/A	2021/09/02	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C)	3	N/A	2021/09/02	ATL SOP 00049	Auto Calc.
Reactive Silica	3	N/A	2021/09/01	ATL SOP 00022	EPA 366.0 m
Sulphate	3	N/A	2021/09/01	ATL SOP 00023	ASTM D516-16 m
Total Dissolved Solids (TDS calc)	3	N/A	2021/09/02	N/A	Auto Calc.
Organic carbon - Total (TOC) (3)	3	N/A	2021/09/01	ATL SOP 00203	SM 23 5310B m
ModTPH (T1) Calc. for Water	3	N/A	2021/09/02	N/A	Atl. RBCA v3 m
Turbidity	3	N/A	2021/09/01	ATL SOP 00011	EPA 180.1 R2 m
VPH in Water (PIRI)	3	N/A	2021/09/01	ATL SOP 00130	Atl. RBCA v3.1 m

**Remarks:**



Your P.O. #: TV183013.30.52.5290.  
Your Project #: TV183013.3000.51  
Site#: MONTAGUE GOLD MINES  
Site Location: MONTAGUE  
Your C.O.C. #: N/A

**Attention: Candace Stephens**

Wood Environment & Infrastructure Solutions, a division of Wood  
Canada Limited  
50 Troop Ave  
Unit 300  
Dartmouth, NS  
CANADA B3B 1Z1

**Report Date: 2021/09/09**  
Report #: R6803674  
Version: 3 - Revision

**CERTIFICATE OF ANALYSIS – REVISED REPORT**

**BV LABS JOB #: C107104**

**Received: 2021/08/26, 12:39**

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Mississauga

(2) The APHA Standard Method require pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.

(3) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

**Encryption Key**

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Atena Georgescu, Project Manager II

Email: Atena.Georgescu@bureauveritas.com

Phone# (902)420-0203 Ext:239

=====

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BV Labs Job #: C107104  
 Report Date: 2021/09/09

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.3000.51  
 Site Location: MONTAGUE  
 Your P.O. #: TV183013.30.52.5290.  
 Sampler Initials: CB

### RESULTS OF ANALYSES OF WATER

BV Labs ID		QMX477	QMX478		QMX479		
Sampling Date		2021/08/25	2021/08/25		2021/08/25		
COC Number		N/A	N/A		N/A		
	UNITS	2021-MW1	2021-MW2	RDL	2021-MW3	RDL	QC Batch
<b>Calculated Parameters</b>							
Anion Sum	me/L	0.720	1.63	N/A	5.30	N/A	7548436
Bicarb. Alkalinity (calc. as CaCO <sub>3</sub> )	mg/L	24	32	1	56	1	7548432
Calculated TDS	mg/L	45	93	1	301	1	7548443
Carb. Alkalinity (calc. as CaCO <sub>3</sub> )	mg/L	<1	<1	1	<1	1	7548432
Cation Sum	me/L	0.610	1.48	N/A	4.86	N/A	7548436
Hardness (CaCO <sub>3</sub> )	mg/L	21	53	1	48	1	7548434
Ion Balance (% Difference)	%	8.27	4.82	N/A	4.33	N/A	7548435
Langelier Index (@ 20C)	N/A	-2.62	-1.99		-1.53		7548440
Langelier Index (@ 4C)	N/A	-2.87	-2.24		-1.78		7548441
Nitrate (N)	mg/L	<0.05	0.72	0.05	0.06	0.05	7548437
Saturation pH (@ 20C)	N/A	9.26	8.72		8.48		7548440
Saturation pH (@ 4C)	N/A	9.51	8.97		8.73		7548441
<b>Inorganics</b>							
Total Alkalinity (Total as CaCO <sub>3</sub> )	mg/L	24	32	5	56	5	7550605
Dissolved Chloride (Cl <sup>-</sup> )	mg/L	5	25	1	130	5	7550618
Colour	TCU	<5	11	5	<5	5	7550634
Nitrate + Nitrite (N)	mg/L	<0.05	0.72	0.05	0.06	0.05	7550637
Nitrite (N)	mg/L	<0.01	<0.01	0.01	<0.01	0.01	7550640
Nitrogen (Ammonia Nitrogen)	mg/L	<0.05	0.06	0.05	0.07	0.05	7553216
Total Organic Carbon (C)	mg/L	0.62	0.88	0.50	1.6	0.50	7552969
Orthophosphate (P)	mg/L	<0.01	<0.01	0.01	<0.01	0.01	7550631
pH	pH	6.64	6.73		6.95		7550823
Reactive Silica (SiO <sub>2</sub> )	mg/L	8.2	5.5	0.5	4.9	0.5	7550626
Dissolved Sulphate (SO <sub>4</sub> )	mg/L	5	11	2	20	2	7550623
Total Cyanide (CN)	mg/L	<0.0050	<0.0050	0.0050	<0.0050	0.0050	7559182
Turbidity	NTU	14	14	0.1	200	1	7553035
Conductivity	uS/cm	71	180	1	620	1	7550793
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable							



BV Labs Job #: C107104  
 Report Date: 2021/09/09

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.3000.51  
 Site Location: MONTAGUE  
 Your P.O. #: TV183013.30.52.5290.  
 Sampler Initials: CB

**MERCURY BY COLD VAPOUR AA (WATER)**

BV Labs ID		QMX477	QMX478	QMX479		
Sampling Date		2021/08/25	2021/08/25	2021/08/25		
COC Number		N/A	N/A	N/A		
	UNITS	2021-MW1	2021-MW2	2021-MW3	RDL	QC Batch
<b>Metals</b>						
Dissolved Mercury (Hg)	ug/L	<0.013	<0.013	<0.013	0.013	7553428
Total Mercury (Hg)	ug/L	<0.013	<0.013	<0.013	0.013	7551307
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						



**ELEMENTS BY ICP/MS (WATER)**

BV Labs ID		QMX477	QMX478	QMX479		
Sampling Date		2021/08/25	2021/08/25	2021/08/25		
COC Number		N/A	N/A	N/A		
	UNITS	2021-MW1	2021-MW2	2021-MW3	RDL	QC Batch
<b>Metals</b>						
Dissolved Aluminum (Al)	ug/L	8.3	19.2	8.2	5.0	7556283
Dissolved Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	1.0	7556283
Dissolved Arsenic (As)	ug/L	4.1	1.9	88.7	1.0	7556283
Dissolved Barium (Ba)	ug/L	13.1	14.3	8.6	1.0	7556283
Dissolved Beryllium (Be)	ug/L	<1.0	<1.0	<1.0	1.0	7556283
Dissolved Bismuth (Bi)	ug/L	<2.0	<2.0	<2.0	2.0	7556283
Dissolved Boron (B)	ug/L	<50	<50	<50	50	7556283
Dissolved Cadmium (Cd)	ug/L	0.035	0.058	0.035	0.010	7556283
Dissolved Calcium (Ca)	ug/L	4570	13000	15400	100	7556283
Dissolved Chromium (Cr)	ug/L	<1.0	<1.0	<1.0	1.0	7556283
Dissolved Cobalt (Co)	ug/L	5.29	7.28	1.68	0.40	7556283
Dissolved Copper (Cu)	ug/L	1.43	3.89	0.72	0.50	7556283
Dissolved Iron (Fe)	ug/L	272	513	<50	50	7556283
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	0.50	7556283
Dissolved Magnesium (Mg)	ug/L	2210	4870	2360	100	7556283
Dissolved Manganese (Mn)	ug/L	185	569	227	2.0	7556283
Dissolved Molybdenum (Mo)	ug/L	<2.0	<2.0	<2.0	2.0	7556283
Dissolved Nickel (Ni)	ug/L	2.7	3.4	<2.0	2.0	7556283
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	100	7556283
Dissolved Potassium (K)	ug/L	1720	1350	1910	100	7556283
Dissolved Selenium (Se)	ug/L	<0.50	<0.50	<0.50	0.50	7556283
Dissolved Silver (Ag)	ug/L	<0.10	<0.10	<0.10	0.10	7556283
Dissolved Sodium (Na)	ug/L	3270	8480	88400	100	7556283
Dissolved Strontium (Sr)	ug/L	15.1	47.3	46.0	2.0	7556283
Dissolved Thallium (Tl)	ug/L	<0.10	<0.10	<0.10	0.10	7556283
Dissolved Tin (Sn)	ug/L	<2.0	<2.0	<2.0	2.0	7556283
Dissolved Titanium (Ti)	ug/L	<2.0	<2.0	<2.0	2.0	7556283
Dissolved Uranium (U)	ug/L	<0.10	0.20	<0.10	0.10	7556283
Dissolved Vanadium (V)	ug/L	<2.0	<2.0	<2.0	2.0	7556283
Dissolved Zinc (Zn)	ug/L	<5.0	6.6	7.3	5.0	7556283
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						



**ATLANTIC RBCA HYDROCARBONS (WATER)**

BV Labs ID		QMX477	QMX478	QMX479		
Sampling Date		2021/08/25	2021/08/25	2021/08/25		
COC Number		N/A	N/A	N/A		
	UNITS	2021-MW1	2021-MW2	2021-MW3	RDL	QC Batch
<b>Petroleum Hydrocarbons</b>						
Benzene	mg/L	<0.0010	<0.0010	<0.0010	0.0010	7550449
Toluene	mg/L	<0.0010	<0.0010	<0.0010	0.0010	7550449
Ethylbenzene	mg/L	<0.0010	<0.0010	<0.0010	0.0010	7550449
Total Xylenes	mg/L	<0.0020	<0.0020	<0.0020	0.0020	7550449
C6 - C10 (less BTEX)	mg/L	<0.090	<0.090	<0.090	0.090	7550449
>C10-C16 Hydrocarbons	mg/L	<0.05	<0.05	<0.05	0.05	7553858
>C16-C21 Hydrocarbons	mg/L	<0.05	<0.05	<0.05	0.05	7553858
>C21-<C32 Hydrocarbons	mg/L	<0.09	<0.09	<0.09	0.09	7553858
Modified TPH (Tier1)	mg/L	<0.09	<0.09	<0.09	0.09	7548560
Reached Baseline at C32	mg/L	NA	NA	NA	N/A	7553858
Hydrocarbon Resemblance	mg/L	NA	NA	NA	N/A	7553858
<b>Surrogate Recovery (%)</b>						
Isobutylbenzene - Extractable	%	99	98	84		7553858
n-Dotriacontane - Extractable	%	96	96	82		7553858
Isobutylbenzene - Volatile	%	103	106	106		7550449
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable						



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BV Labs Job #: C107104

Report Date: 2021/09/09

Wood Environment & Infrastructure Solutions, a division of

Wood Canada Limited

Client Project #: TV183013.3000.51

Site Location: MONTAGUE

Your P.O. #: TV183013.30.52.5290.

Sampler Initials: CB

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.7°C
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Revised report the samples ID's corrected as indicated by the client using the ID's from the sample container.

Sample QMX477 [2021-MW1] : RCap Ion Balance acceptable. Anion/cation agreement within 0.2 meq/L.

**Results relate only to the items tested.**



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BV Labs Job #: C107104  
Report Date: 2021/09/09

### QUALITY ASSURANCE REPORT

Wood Environment & Infrastructure Solutions, a division of  
Wood Canada Limited  
Client Project #: TV183013.3000.51  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.52.5290.  
Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7550449	Isobutylbenzene - Volatile	2021/08/31	108	70 - 130	109	70 - 130	103	%				
7553858	Isobutylbenzene - Extractable	2021/09/01	93	70 - 130	98	70 - 130	94	%				
7553858	n-Dotriacontane - Extractable	2021/09/01	100	70 - 130	100	70 - 130	96	%				
7550449	Benzene	2021/08/31	99	70 - 130	97	70 - 130	<0.0010	mg/L	NC	40		
7550449	C6 - C10 (less BTEX)	2021/08/31					<0.090	mg/L	NC	40		
7550449	Ethylbenzene	2021/08/31	98	70 - 130	97	70 - 130	<0.0010	mg/L	NC	40		
7550449	Toluene	2021/08/31	97	70 - 130	97	70 - 130	<0.0010	mg/L	NC	40		
7550449	Total Xylenes	2021/08/31	98	70 - 130	97	70 - 130	<0.0020	mg/L	NC	40		
7550605	Total Alkalinity (Total as CaCO3)	2021/09/01	NC	80 - 120	109	80 - 120	<5	mg/L	1.5	20		
7550618	Dissolved Chloride (Cl-)	2021/09/01	94	80 - 120	98	80 - 120	<1	mg/L	0.60	20		
7550623	Dissolved Sulphate (SO4)	2021/09/01	NC	80 - 120	103	80 - 120	<2	mg/L	1.5	20		
7550626	Reactive Silica (SiO2)	2021/09/01	NC	80 - 120	96	80 - 120	<0.5	mg/L	0.075	20		
7550631	Orthophosphate (P)	2021/09/01	88	80 - 120	99	80 - 120	<0.01	mg/L	18	20		
7550634	Colour	2021/09/01			106	80 - 120	<5	TCU	NC	20		
7550637	Nitrate + Nitrite (N)	2021/09/01	NC	80 - 120	89	80 - 120	<0.05	mg/L	6.9	20		
7550640	Nitrite (N)	2021/09/01	94	80 - 120	101	80 - 120	<0.01	mg/L	NC	20		
7550793	Conductivity	2021/08/31			100	80 - 120	2,RDL=1	uS/cm	0.81	10		
7550823	pH	2021/08/31			102	97 - 103			0.20	N/A		
7551307	Total Mercury (Hg)	2021/09/01	101	80 - 120	103	80 - 120	<0.013	ug/L	NC	20		
7552969	Total Organic Carbon (C)	2021/09/01	97	85 - 115	100	80 - 120	<0.50	mg/L	4.7	15		
7553035	Turbidity	2021/09/01			104	80 - 120	<0.1	NTU	4.2	20	102	80 - 120
7553216	Nitrogen (Ammonia Nitrogen)	2021/09/01	97	80 - 120	102	80 - 120	<0.05	mg/L	NC	20		
7553428	Dissolved Mercury (Hg)	2021/09/02	103	80 - 120	106	80 - 120	<0.013	ug/L	NC	20		
7553858	>C10-C16 Hydrocarbons	2021/09/01	90	70 - 130	98	70 - 130	<0.05	mg/L	NC	40		
7553858	>C16-C21 Hydrocarbons	2021/09/01	92	70 - 130	97	70 - 130	<0.05	mg/L	NC	40		
7553858	>C21-<C32 Hydrocarbons	2021/09/01	86	70 - 130	92	70 - 130	<0.09	mg/L	NC	40		
7556283	Dissolved Aluminum (Al)	2021/09/02	110	80 - 120	104	80 - 120	<5.0	ug/L				
7556283	Dissolved Antimony (Sb)	2021/09/02	98	80 - 120	100	80 - 120	<1.0	ug/L				
7556283	Dissolved Arsenic (As)	2021/09/02	99	80 - 120	98	80 - 120	<1.0	ug/L				
7556283	Dissolved Barium (Ba)	2021/09/02	102	80 - 120	100	80 - 120	<1.0	ug/L				





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**QUALITY ASSURANCE REPORT(CONT'D)**

Wood Environment & Infrastructure Solutions, a division of  
 Wood Canada Limited  
 Client Project #: TV183013.3000.51  
 Site Location: MONTAGUE  
 Your P.O. #: TV183013.30.52.5290.  
 Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7556283	Dissolved Beryllium (Be)	2021/09/02	101	80 - 120	98	80 - 120	<1.0	ug/L				
7556283	Dissolved Bismuth (Bi)	2021/09/02	98	80 - 120	102	80 - 120	<2.0	ug/L				
7556283	Dissolved Boron (B)	2021/09/02	93	80 - 120	96	80 - 120	<50	ug/L				
7556283	Dissolved Cadmium (Cd)	2021/09/02	101	80 - 120	102	80 - 120	<0.010	ug/L				
7556283	Dissolved Calcium (Ca)	2021/09/02	103	80 - 120	96	80 - 120	<100	ug/L				
7556283	Dissolved Chromium (Cr)	2021/09/02	101	80 - 120	101	80 - 120	<1.0	ug/L				
7556283	Dissolved Cobalt (Co)	2021/09/02	100	80 - 120	100	80 - 120	<0.40	ug/L				
7556283	Dissolved Copper (Cu)	2021/09/02	102	80 - 120	103	80 - 120	<0.50	ug/L				
7556283	Dissolved Iron (Fe)	2021/09/02	108	80 - 120	100	80 - 120	<50	ug/L	NC	20		
7556283	Dissolved Lead (Pb)	2021/09/02	102	80 - 120	101	80 - 120	<0.50	ug/L				
7556283	Dissolved Magnesium (Mg)	2021/09/02	109	80 - 120	104	80 - 120	<100	ug/L				
7556283	Dissolved Manganese (Mn)	2021/09/02	104	80 - 120	103	80 - 120	<2.0	ug/L				
7556283	Dissolved Molybdenum (Mo)	2021/09/02	101	80 - 120	104	80 - 120	<2.0	ug/L				
7556283	Dissolved Nickel (Ni)	2021/09/02	102	80 - 120	101	80 - 120	<2.0	ug/L				
7556283	Dissolved Phosphorus (P)	2021/09/02	114	80 - 120	103	80 - 120	<100	ug/L				
7556283	Dissolved Potassium (K)	2021/09/02	113	80 - 120	103	80 - 120	<100	ug/L				
7556283	Dissolved Selenium (Se)	2021/09/02	102	80 - 120	102	80 - 120	<0.50	ug/L				
7556283	Dissolved Silver (Ag)	2021/09/02	73 (1)	80 - 120	73 (1)	80 - 120	<0.10	ug/L				
7556283	Dissolved Sodium (Na)	2021/09/02	107	80 - 120	101	80 - 120	<100	ug/L				
7556283	Dissolved Strontium (Sr)	2021/09/02	100	80 - 120	101	80 - 120	<2.0	ug/L				
7556283	Dissolved Thallium (Tl)	2021/09/02	99	80 - 120	102	80 - 120	<0.10	ug/L				
7556283	Dissolved Tin (Sn)	2021/09/02	99	80 - 120	101	80 - 120	<2.0	ug/L				
7556283	Dissolved Titanium (Ti)	2021/09/02	105	80 - 120	106	80 - 120	<2.0	ug/L				
7556283	Dissolved Uranium (U)	2021/09/02	105	80 - 120	106	80 - 120	<0.10	ug/L				
7556283	Dissolved Vanadium (V)	2021/09/02	102	80 - 120	102	80 - 120	<2.0	ug/L				
7556283	Dissolved Zinc (Zn)	2021/09/02	101	80 - 120	104	80 - 120	<5.0	ug/L				



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### QUALITY ASSURANCE REPORT(CONT'D)

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Client Project #: TV183013.3000.51  
Site Location: MONTAGUE  
Your P.O. #: TV183013.30.52.5290.  
Sampler Initials: CB

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7559182	Total Cyanide (CN)	2021/09/08	109	80 - 120	102	80 - 120	<0.0050	mg/L	NC	20		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery is within QC acceptance limits. < 10 % of compounds in multi-component analysis in violation.



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Site Location: MONTAGUE

Your P.O. #: TV183013.30.52.5290.

Sampler Initials: CB

### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

*Ewa Pranjic*  


Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

*Mike Mac Gillivray*

Mike MacGillivray, Scientific Specialist (Inorganics)

*Philippe Deveau*

Phil Deveau, Scientific Specialist (Organics)

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BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

**Appendix G**  
**Limitations**



### **Limitations**

1. The work performed in the preparation of this report and the conclusions presented are subject to the following:
  - a. The Standard Terms and Conditions which form a part of our Professional Services Contract;
  - b. The Scope of Services;
  - c. Time and Budgetary limitations as described in our Contract; and
  - d. The Limitations stated herein.
2. No other warranties or representations, either expressed or implied, are made as to the professional services provided under the terms of our Contract, or the conclusions presented.
3. The conclusions presented in this report were based, in part, on visual observations of the Site and attendant structures. Our conclusions cannot and are not extended to include those portions of the Site or structures, which are not reasonably available, in Wood's opinion, for direct observation.
4. The environmental conditions at the Site were assessed, within the limitations set out above, having due regard for applicable environmental regulations as of the date of the inspection. A review of compliance by past owners or occupants of the Site with any applicable local, provincial or federal bylaws, orders-in-council, legislative enactments and regulations was not performed.
5. The Site history research included obtaining information from third parties and employees or agents of the owner. No attempt has been made to verify the accuracy of any information provided, unless specifically noted in our report.
6. Where testing was performed, it was carried out in accordance with the terms of our contract providing for testing. Other substances, or different quantities of substances testing for, may be present on-site and may be revealed by different or other testing not provided for in our contract.
7. Because of the limitations referred to above, different environmental conditions from those stated in our report may exist. Should such different conditions be encountered, Wood must be notified in order that it may determine if modifications to the conclusions in the report are necessary.
8. The utilization of Wood's services during the implementation of any remedial measures will allow Wood to observe compliance with the conclusions and recommendations contained in the report. Wood's involvement will also allow for changes to be made as necessary to suit field conditions as they are encountered.
9. This report is for the sole use of the party to whom it is addressed unless expressly stated otherwise in the report or contract. Any use which any third party makes of the report, in whole or the part, or any reliance thereon or decisions made based on any information or conclusions in the report is the sole responsibility of such third party. Wood accepts no responsibility whatsoever for damages or loss of any nature or kind suffered by any such third party as a result of actions taken or not taken or decisions made in reliance on the report or anything set out therein.
10. This report is not to be given over to any third party for any purpose whatsoever without the written permission of Wood.
11. Provided that the report is still reliable, and less than 12 months old, Wood will issue a third-party reliance letter to parties that the client identifies in writing, upon payment of the then current fee for such letters. All third parties relying on Wood's report, by such reliance agree to be bound by our proposal and Wood's standard reliance letter. Wood's standard reliance letter indicates that in no event shall Wood be liable for any damages, howsoever arising, relating to third-party reliance on Wood's report. No reliance by any party is permitted without such agreement.