



October 6, 2023

Build Nova Scotia
45 Wabana Court
Sydney, Nova Scotia B1P 0B9

Re: FINAL Phase I Environmental Site Assessment Memo and Field Program Report
Former Widow Point Mine – South of West Side Road, Country Harbour, Guysborough,
Nova Scotia (PID 37544913)
Pinchin File: 327768

Pinchin Ltd. (Pinchin) was retained on June 27, 2023, through a Service Agreement signed by Pinchin and Build Nova Scotia (Client), to conduct a Phase I Environmental Site Assessment (ESA) of the property located at Former Widow Point Mine – South of West Side Road, Country Harbour, Guysborough, Nova Scotia (PID 37544913), (hereafter referred to as the Site).

The Site is undeveloped and forested, free of any permanent structures and/or buildings.

Pinchin was advised by the Client that the purpose of the Phase I ESA was to assess potential issues of environmental concern in relation to the former mine operations associated with the Widow Point Gold Mine workings.

Pinchin is providing the Client with this memo of the findings of the Phase I ESA currently underway, as well as an update to the proposed Phase II ESA field program, as identified in the Request for Proposal prepared for the Site entitled, "Request for Proposal – Former Widow Point Mine Site Phase I/II ESA. RFP No: RFQ BNS-2324-0205" prepared by the Client, dated May 25, 2023 (2023 Build Nova Scotia RFP).

1.0 SCOPE OF WORK

The Phase I ESA is being completed in general accordance with the Canadian Standards Association (CSA) document entitled "*Phase I Environmental Site Assessment, CSA Standard Z768-01*" dated November 2001 (reaffirmed 2022), including a review of readily-available historical records, a review of readily-accessible regulatory records, a Site reconnaissance, interviews, an evaluation of information and reporting, subject to the limitations outlined in the Standard Limitations portion of this letter.

The scope of work of the phase I ESA does not include a health and safety, engineering or structural evaluation of the Site. The scope of a Phase I ESA does not include sampling or testing of any kind including that of air, soil, groundwater, surface water or building materials. However, a portion of the Phase II ESA scope was completed concurrently with the Phase I ESA Site reconnaissance and consisted of the following:



- Collection of soil samples by means of hand-dug test pits from strategic locations targeting the potential tailings area, the former inferred mill area, abandoned mine openings (AMOs) and/or waste rock piles, where observed, to assess soil quality and to provide information on Site-specific geological characteristics. One sample was collected from an area assumed to have not been impacted by former mine operations to provide background soil quality information;
- The soil samples collected from the hand dug test pits were field screened by completing Sobek paste pH tests on each sample. The paste pH results were used during the selection of samples for laboratory analyses;
- Soil samples collected from the hand-dug test pits representing “worst case” conditions from the field screening and field observations were submitted for pH (8 samples including one duplicate) and standard available metals including mercury (8 samples including one duplicate). In addition, one (1) sample collected from the inferred tailings area was submitted for leachable metals including mercury and acid rock drainage (ARD) including modified acid-base accounting (ABA);
- Collection of seven (7) sediment samples including one duplicate from the surface water bodies (Country Harbour (2), Fenton Brook (2) and an unnamed brook (2)) identified in the vicinity of the former mine operations and inferred tailings location. One upgradient sediment sample was collected from an area assumed to have not been impacted from former mine operations to provide background sediment quality information;
- Three (3) sediment samples from the immediate vicinity of the former mine operations and inferred tailings location were submitted for analysis of pH and standard total metals including mercury;
- Collected seven (7) surface water samples including one duplicate from areas located upgradient and downgradient of the former mine operations and tailings location from the three identified surface water bodies, Country Harbour (2), Fenton Brook (2) and an unnamed brook (2). One upgradient surface water sample was collected from an area assumed to have not been impacted from former mine operations to provide background surface water quality information;
- Three (3) surface water samples from the immediate vicinity of the former mine operations and inferred tailings location were analyzed for standard total metals including mercury, major ions, hardness, pH, alkalinity, and sulphate;
- Prior to mobilization of clearing and drilling subcontractors, Pinchin staff completed a Site reconnaissance at the Site to identify potential sampling locations. The Site



reconnaissance included a visual survey to assess areas suspected of containing historic tailings, waste rock etc. Proposed borehole and monitoring well locations were identified and flagged for clearance;

- Complete public utility services to identify the locations of buried and overhead utility services prior to any drilling/excavation activities in the vicinity of the proposed borehole locations; and
- Pinchin marked and labeled each hand dug sample location using a wooden stake for follow-up topographic survey.

The results of the preliminary Phase II ESA field program are discussed below. Analytical results from soil, surface water and sediment samples collected during the preliminary Phase II ESA field program can be provided upon request.

2.0 PRELIMINARY PHASE I ESA FINDINGS

2.1 Site Reconnaissance and Interviews

Pinchin conducted a Site reconnaissance on July 24 and July 25, 2023, and was unaccompanied.

The Site reconnaissance included a walk-through of accessible areas of the Site. At the time of the Site reconnaissance, the ground surface was dry and the weather was sunny. The Site reconnaissance was documented with notes and photographs. Photographs of some of the features noted during the Site reconnaissance are attached.

As indicated on Figure 1 (Key Map), the Site is located approximately 175 m south of the intersection of West Side road and the adjacent logging road in Country Harbour Mines, Nova Scotia. Pinchin observed that the Site and surrounding area appeared to be generally forested with logging/fire roads throughout. Figure 2 illustrates the Site and surrounding area.

Formerly, the Site operated as a gold mine. Two AMOs were observed on the west side of the road. It was reported that there is a tailings area remaining on-Site. Pinchin observed the potential tailings pile north of AMO1. A potential waste rock pile was observed east of AMO1. Based on information reviewed, a five stamp mill operated on-Site between 1949 and 1951, however, no indication of the location of the reported mill was observed at the Site. The locations of the above noted features are provided on Figures 2 - 4, located in Appendix I.

2.2 Historical Records Review

Pinchin reviewed and is providing the Client with a summary of the findings of the following reports as provided by the Client in the Request for Proposal No: RFQ BNS-2324-0205:



- Report issued to Copper-Gold Mines Ltd prepared by J. F. Wright, Mining Geologist, and issued June 15, 1946 (1946 J. F. Wright Report); and
- Report entitled “*Geotechnical Report on the Widow Point Property, Guysborough County, Nova Scotia*” prepared by D. Forgeron for Outland Resources Corporation and issued September 1984 (1984 D. Forgeron Geotechnical Report)

1946 J. F. Wright Report

During the week of June 10, 1946 J. F. Wright conducted a borehole drilling program at the Site using a Continental Diamond Drill. Four representative chip samples were taken using the diamond drill. Sample 1 was taken near the top of a mountain about 400 ft west of the “shaft” which is assumed to be mine opening AMO1. Bedrock at this location consisted of “slightly schistose fine-grained slatey quartzite and slate with a few narrow stringers of quartz. Only slight pyrite mineralization was observed. As well “this zone would not appear to be mineralized enough to make ore”. Sample 2 was taken northwest of AMO1, where bedrock consisted of “4’2” of black slatey schist vein quartz with a few quartz stringers of quartz and schist intermixed”. Sample 3 was taken southwest of AMO1, and the bedrock consisted of 4’ of schist with quartz stringers and very little mineralization”. Sample 4 was taken east of AMO1, and bedrock consisted of 3’ of schist with quartz stringers”. J. F. Wright concluded that there is gold in the vein exposed and there is a possibility of a deposit.

1984 D. Forgeron Geotechnical Report

From June 1 to October 1, 1983 D. Forgeron conducted work on the Site which consisted of the following as described in the report:

- Construction of 47 line km of flagged grid at 200 x 50m;
- Grid coverage by soil sampling-analysed for gold and arsenic;
- Electromagnetic and magnetic coverage;
- Trenching;
- Auger drilling of geological information (55 holes);
- Diamond drilling (13 holes – 1571 m); and
- Bulk sampling of rock near the highland shaft and lynch showing.

D. Forgeron reported that the general geology of the Site consisted of greywackes and slates, as well as their metamorphic equivalents, of the Goldenville formation. Graphite schists of the Halifax Formation underlie the Site south of Fentons Brook. The Bull Ridge granite pluton underlies the greater part of the western section of the Site and is cut off to the east by the Country Harbour Fault. It was reported that



gold at Widow Point occurs in white granular glassy quartz within chlorite schist bands, white granular to dark oily quartz with garnet and staurolite in chloritized greywacke, and as streaks in the chlorite schist.

According to the 1984 D. Forgeron Geotechnical Report, prospecting and sampling was carried out at the Site from 1944 - 1948 by Copper Gold Limited. Highland Gold Mines Limited acquired the Site in 1948. In 1949 a five-stamp mill was installed and an eight-ton sample of shaft material was milled sometime between 1949 and 1951. It was reported that this sample yielded 12.7 ounces of gold. Macson Development Company conducted additional tests in 1954. The Site then remained idle until Quebec Uranium staked in the Site in 1975. Prospecting activities have occurred occasionally since 1975.

It is reported that the Client assumes no milling has taken place on the Site, with the exception of the eight-ton sample of shaft material milled sometime between 1949 and 1951. The Client reported it is assumed that wet milling using mercury amalgam was utilized. The Client assumes that there are small rock dump(s) on site associated with the reported abandoned mine opening. Pinchin was able to identify potential rock dumps as well as a potential tailings pile during the July 24 and July 25, 2023 Site Reconnaissance. In addition, it has been reported that the Site contains two known abandoned mine openings (AMOs). The first AMO is located approximately 211 m south of the intersection between West Side Road and the adjacent logging trail and is hereafter referred to as AMO1. The second is located approximately 750 m south of the intersection between West Side Road and the adjacent logging trail and is hereafter referred to as AMO2. AMO2 was reportedly backfilled in the summer of 2022 by NSDNRR. During the Site visit AMO1 was observed to be filled with water and wood debris and marked with snow fencing. These AMOs, along with the potential rock dumps and tailings pile, allowed Pinchin to determine hand dug sampling locations which were completed as part of the Phase II ESA portion of the assessment, further details below (Section 3.7).

2.3 Regulatory Information and Correspondence

2.3.1 Site Regulatory Information

Pinchin requested copies of permits, approvals and registrations from the Client and was advised that there is no regulatory information with respect to the Site. However, the Phase I ESA work is being completed under a Letter of Authority (LOA) issued by the Department of Natural Resources and Renewables (No. ER-23-RE-23-01) and dated June 26, 2023. An application for a second LOA to complete the remaining Phase II ESA field program (i.e drilling investigation) has been submitted by the Client.

2.3.2 Nova Scotia Environment and Climate Change

A request for information was submitted to Nova Scotia Environment and Climate Change (NSECC) for the Site and neighbouring properties: 1214 West Side Road (PID 37544913), West Side Road (PID



35030576), West Side Road (PID 35030592) and West Side Road (PID 35030618). This department maintains an Environmental Registry containing information on Ministerial Orders, contaminated sites, petroleum storage tanks and other pertinent issues.

Based on Pinchin’s review of information provided by NSECC, the following was noted for the Site:

An Approval (Approval #2022-2934305-00, File #95100-30-ANT-2022-2934305) issued on June 27, 2022 to Atlantic Mining NS Inc., for the alteration of a wetland. A water resources file (File #95100-30-ANT-2022-2934305) pertaining to the approval are on file with NSECC and are subject to the Freedom of Information and Protection of Privacy (FOIPOP) Act. Pinchin requested and reviewed these files and determined they are not related to the Site and pertain to a different portion of the PID 37544913, approximately 17 km west of the study area. A copy of the response received from NSECC may be provided upon request.

2.3.3 Regulatory Information Summary

Based on the regulatory information reviewed, nothing was identified that is likely to result in potential subsurface impacts at the Site.

2.3.4 Topographic, Geologic and Hydrogeological Setting

Topic	Findings
Topography of Site and Surrounding Area	The Site and surrounding area are generally sloping to the northeast.
Subsurface Soils	Mapping indicates that the surficial geology of the area consists of glacial till (Surficial Geology of the Province of Nova Scotia, Map 92-3, 1:500,000 scale). Glacial till is a heterogeneous, unsorted mixture of various grain sizes from silt and clay to cobbles and boulders.
Fill Materials	None observed and none reported by the Site representative. However, the north abandoned mine opening (AMO2) was reportedly backfilled with brush and timbers.
Bedrock Type	Cambrian-aged rocks of the Goldenville Formation (Meguma Group) consisting of sandstone turbidites and slate. In places, the bedrock has metamorphosed to schist and gneiss (Geological Map of the Province of Nova Scotia, Map ME 2000-1, Scale 1:500,000). Potential acid-generating rock has been identified in this rock unit. This does not represent a significant environmental concern but should be considered in the event of excavation activities on the Site which may expose the bedrock.



Topic	Findings
	Previous reports indicate that bedrock consists of greywackes and slates, as well as their metamorphic equivalents, of the Goldenville formation. Graphite schists of the Halifax Formation underlie the Site south of Fentons Brook. The Bull Ridge granite pluton underlies the greater part of the western section of the Site and is cut off to the east by the Country Harbour Fault. It was reported that gold at Widow Point occurs in white granular glassy quartz within chlorite schist bands, white granular to dark oily quartz with garnet and staurolite in chloritized greywacke, and as streaks in the chlorite schist.
Inferred Bedrock Depth	Previous reports indicate bedrock depth varies from 2 – 15 m below ground surface.
Inferred Groundwater Depth	Unknown based on the information reviewed.
Nearest Open Water Body	An unnamed stream flows adjacent to the inferred former tailings area in a northeast direction and discharges into Country Harbour located approximately 204 m northeast of the Site.
Inferred Groundwater Flow Direction	Northeast based on the nearest body of water (Country Harbour).

2.4 Aerial Photographs and Satellite Imagery

Copies of aerial photographs dated 1971, 1980, 1991, 1998 and 2008 were obtained from SNSMR Land Information Centre and were reviewed by Pinchin. In addition, Pinchin reviewed Google Earth™ satellite imagery dated 2015 and 2022.

A summary of information inferred with respect to the Site is provided in the following table:

Year of Photograph	Site
1971 and 1980	The Site appeared to consist of vacant forested land.
1991	Similar to 1980, except what appears to be a structure is located west of current AMO1, as well what appears to be a drill line has been cut through the forest in an east-west orientation north of current AMO1.
1998 and 2008	Similar to 1991, except the structure is no longer present and a new unpaved access route oriented in a north-south direction has been constructed.
2015 and 2022	Similar to 1991, except the drill line is no longer visible and small portions of the forest west of current AMO1 have been cleared.

A summary of information inferred with respect to the surrounding area is provided in the following table:

Year of Photograph	North	East	South	West
1971 and 1980	Unpaved access route followed by Country Harbour.	Forested land and an unpaved access route	Forested land.	Forested land.



Year of Photograph	North	East	South	West
1991	Similar to 1980.	Similar to 1980.	Similar to 1980.	Similar to 1980, except portions of the forest have been cleared.
1998	Similar to 1991.	Similar to 1991.	Similar to 1991, except an unpaved access route has been constructed.	Similar to 1991, except portions of the cleared area have regrown.
2008	Similar to 1998.	Similar to 1998, except the access route has been made wider.	Similar to 1998.	Similar to 1998, except additional areas of the forest have been cleared and an unpaved access route has been constructed.
2015 and 2022	Similar to 2008.	Similar to 2008, except what appears to be a residential dwelling has been constructed.	Similar to 2008.	Similar to 2008.

2.5 Hazardous Materials

Topic	Findings
Chemicals	None observed.
Compressed Gases	None observed.
Hazardous Waste	None observed.

It was reported that waste rock and historic tailings are present on-Site. Pinchin observed potential waste rock north of AMO1 as well as an area assumed to be the location associated with the former tailings area was observed east of AMO1. Pinchin conducted hand dug test pits in the vicinity of these two potential areas of hazardous materials. Please see Section 3.7 for further details regarding these features.



2.6 Historical Mining Features

Pinchin was able to identify potential rock dumps and an inferred tailings area during the July 24 and July 25, 2023 Site Reconnaissance. It was reported that the Site contains two known abandoned mine openings (AMOs). The first AMO is located approximately 211 m south of the intersection between West Side Road and the adjacent logging trail and is hereafter referred to as AMO1. The second is located approximately 750 m south of the intersection between West Side Road and the adjacent logging trail and is hereafter referred to as AMO2. AMO2 was reportedly backfilled in the summer of 2022 by NSDNRR. During the Site visit AMO1 was observed to be filled with water and wood debris and marked with snow fencing. These AMOs, along with the potential rock dumps and inferred tailings pile, allowed Pinchin to determine hand dug sampling locations which were completed as part of the Phase II ESA portion of the assessment. A summary of the features identified during the Phase I ESA Site Reconnaissance and assumed to have been associated with the former mine operations is provided below:

Feature	Location	Description	Samples
Potential Waste Rock	North of AMO1	Brown sand with cobbles and brown silty sand with cobbles	HS05 - HS09
Mine Shaft 1	AMO1	Brown silty sand with cobbles.	HS01 – HS04
Mine Shaft 2	AMO2	Light brown silty sand with clay and more cobbles and brown silty sand with clay and organics.	HS18 to HS21
Depression/Inferred Tailings	East of AMO1	Brown silty sand with clay and cobbles and Brown silty sand with clay and more cobbles.	HS10 to HS17

The locations of the features are provided on Figure 2 to 4, located in Appendix I.

2.7 Additional Information

Polychlorinated Biphenyls	Since no building are present on Site, PCBs are not expected to be present.
Asbestos-Containing Materials	Since no buildings are present on the Site, ACMs are not expected to be present.



Lead-Containing Paints	Since no buildings or painted structures are present on the Site, lead based paints are not expected to be present.
Radon	Since no buildings are present on the Site, radon is not a concern.
Mould or Microbial Contamination	Since no buildings are present on the Site, mould is not a concern.
Heating and Cooling Systems	Since no buildings are present on the Site, there are no heating or cooling systems on-Site.
Oil/Water Separators	None observed.
Ozone-Depleting Substance	The bulk storage of ozone-depleting substances was not observed.

3.0 PRELIMINARY PHASE II ESA FINDINGS

3.1 General

Although the standard scope of a Phase I ESA does not include intrusive sampling or testing of any kind, a portion of the Phase II ESA scope was completed during the Phase I ESA Site reconnaissance as stipulated in the Scope of Work of the RFP. Soil, sediment and surface water samples were submitted to Bureau Veritas Laboratories. (BV Labs) in Bedford, Nova Scotia, for analysis. BV Labs is certified by the Standards Council of Canada. Where applicable, analyses were performed in accordance with the protocols stipulated in the Nova Scotia Contaminated Sites Regulations – 2013. A copy of the laboratory certificates may be provided upon request.

The following section presents a summary of the preliminary Phase II ESA findings. All fieldwork was completed by Pinchin staff.

3.2 Regulatory Framework

Analytical data have been assessed in comparison to recognized guidelines. The criteria selected for use in this assessment are detailed in this section.

3.2.1 Contaminated Sites Regulations – Tier I EQSs

Actions on the Site are governed by the Nova Scotia Contaminated Sites Regulations (NSCSR, the Regulations).



Compound concentrations in soil and sediment have been assessed using the Tier I Environmental Quality Standards (EQSs) (revised September 2021, updated September 2022) presented in the Notification of Contamination Protocol (PRO-100) of the Regulations. The Tier I EQSs provide numerical criteria that are used along with exemption conditions outlined in protocol PRO-100 of the Regulations to determine the need for regulatory notification.

The Tier I EQSs have been developed as generic standards that represent a standardized level of risk to human health for contributing exposure pathways, using land use and other factors. Additionally, the Tier I EQSs for agricultural land use / undeveloped wild lands include direct ecological pathways, in addition to human health exposure pathways in the derivation of criteria.

Criteria applicable to the Site are the Tier I EQSs for an agricultural, potable site with coarse-grained soil. The agricultural criteria were chosen in accordance with the Regulations as the Site is undeveloped forested ecological habitat (i.e. undeveloped, wild or natural land). The potable criteria have been selected since surrounding properties obtain potable water from private water wells.

3.2.2 Atlantic Risk-Based Corrective Action

Soil and sediment have also been assessed using Atlantic Risk-Based Corrective Action (RBCA) Version 4.0 (revised July 2021, updated July 2022) Tier I Ecological EQSs. It should be noted that the RBCA Tier I ESLs are generally equivalent to the NSCSR Tier I Ecological EQSs.

3.3 Soil Sample Collection and Analysis

Twenty one (21) shallow hand samples were collected between July 24 and 25, 2023 to address potential impacts associated with the former gold mine operations. All sample collection was done in accordance to Pinchin Standard Operating Procedures. Four (4) hand samples (HS01 to HS04) were advanced in the vicinity of the mine opening referred to as AMO1. Five (5) hand samples (HS05 to HS09) were collected in the vicinity of a possible waste rock north of AMO1. Eight hand samples (HS10 to HS17) were collected in the vicinity of the observed depression and possible tailings area east of AMO1. Four hand samples (HS18 to HS21) were collected in the vicinity of a second mine opening observed by Pinchin, and referred to as AMO2.

The soil samples were collected by hand from 0.0 – 0.3 metres below ground surface (mbgs). The samples were placed in clean containers supplied by the laboratory. The samples were stored in a secure ice-filled cooler.

Eight soil samples were submitted for analysis of standard total metals including mercury and pH.

One (1) sample collected from the tailings area was submitted for leachable metals, including mercury.



Two samples, one each near AMO1 and AMO2, were submitted for analysis of acid rock drainage (ARD), including modified acid-base accounting (ABA). The locations of the soil hand samples are shown on Figures 2-4 in Appendix I.

3.4 Sediment Sample Collection and Analysis

Three (3) sediment samples (including one QA/QC duplicate) were collected on July 25, 2023. All sediment samples (SD01, SD02 and SD DUP A) were collected from the unnamed stream located in the vicinity of AMO1 and the inferred tailings.

The samples were collected from two areas observed to be upstream and downstream of the historical mine operations.

The sediment samples were collected by hand from 0.0 – 0.6 metres below the water sediment interface. The samples were placed in clean containers supplied by the laboratory. The samples were stored in a secure ice-filled cooler.

Sediment samples collected from the unnamed stream adjacent to the Site were submitted for analysis of metals and pH.

The locations of the sediment samples are shown on Figure 3 in Appendix I.

3.5 Surface Water Sample Collection and Analysis

Two surface water samples (SW01 and SW02) were collected on July 25, 2023 from the unnamed stream near AMO1.

The samples were collected from two areas observed to be upstream and downstream of the historical mine operations.

The surface water samples were collected by hand. The samples were placed in clean containers supplied by the laboratory. The samples were stored in a secure ice-filled cooler.

Surface water samples collected from the unnamed stream adjacent to the Site were submitted for analysis of general chemistry, total metals and pH.

The locations of the surface water samples are shown on Figure 3 in Appendix I.

3.6 Quality Assurance/Quality Control

During fieldwork, various Quality Assurance/Quality Control (QA/QC) measures were taken.

These included:

- Maintaining a clean work area for sample handling/logging;



- Use of disposable gloves when handling samples;
- Discarding of gloves between sampling events;
- Use of laboratory-supplied/prepared containers for soil samples;
- Maintaining samples in cool storage in a secure location;
- Maintaining direct custody of samples until delivery to the laboratory; and
- Completing chain-of-custody documentation.

BV Labs maintains the following QA/QC procedures:

- Chain of Custody and sample integrity inspection;
- Strict document control and filing;
- Using only personnel trained to prepare and analyze in accordance with Standard Operating Procedures;
- Analytical methods based on accepted procedures (e.g. MOE, USEPA, ASTM);
- Precision monitoring by performing replicate analysis;
- Calibration integrity is ensured by analyzing check standards with each run sequence;
- Matrix effects in organic analyses are assessed with surrogate fortification of each sample;
- Extensive use of reference material for routine procedure evaluation;
- Highest available purity standards;
- Predefined analytical sequences to ensure all results are traceable to calibrate QC data;
- Hard copy reports displaying all data are generated for each instrument;
- Analytical QC performance must be demonstrated prior to data authorization;
- Data are subject to three levels of review;
- Method and instrumentation performance records maintained for all analyses; and
- A fully-certified Quality Assurance Scientist evaluates QA program on an on-going basis.

In terms of laboratory testing, our review of the BV Lab's Quality Assurance report indicates all laboratory QA/QC standards were acceptable. The soil analytical work conducted for this project is therefore considered an accurate reflection of Site conditions.



Soil Sample Analytical Results

3.6.1 Metals

- Eight soil samples were analyzed for analysis of standard metals including mercury. The following is a summary of samples which exceeded the applicable guidelines. Arsenic and iron concentrations exceeded the Nova Scotia Contaminated Sites Regulations (NSCSR) Tier I Environmental Quality Standards (EQSs) in all soil samples submitted. Naturally elevated levels of these metals are common in soils in this region, however, some concentrations (i.e. HS04 (0.0 – 0.3M) and HS11 (0.0 – 0.3M)) were observed to be elevated above inferred background conditions.
- Aluminum and Beryllium exceeded the Tier I EQS in three soils samples HS04 (0.0 – 0.3M), HS11 (0.0 – 0.3M) and HS DUP A (a duplicate of HS11) ;
- Cobalt exceeded the Tier I EQS in one soil sample HS04 (0.0 – 0.3M);
- Manganese exceeded the Tier I EQS in all three sediment samples and in three soil samples HS04 (0.0 – 0.3M), HS11 (0.0 – 0.3M) and HS DUP A;
- Selenium exceeded the Tier I EQS in one sediment sample SD-01 (0.0 – 0.6M) and in one soil sample HS19 (0.0 – 0.3M); and
- Vanadium exceeded the Tier I EQS in the SD02 Lab Dup, the laboratory duplicate sample of SD-02 (0.0 – 0.6M) and in soil samples HS04 (0.0 – 0.3M), HS11 (0.0 – 0.3M), HS DUP A and HS13 (0.0 – 0.3M). It should be noted that the reported HS13 vanadium concentration of 20 mg/kg (exceeding the Tier I EQS of 18 mg/kg) is in the range that may be attributable to background conditions.

3.6.2 Leachable Metals

One soil samples (HS-09) collected from the area near the potential waste rock pile was submitted for leachable metals, including mercury. Manganese exceeded the Nova Scotia Tier I EQSs in sample HS-09. All other results were either non-detect or below guidelines.

3.6.3 Soluble pH

All samples submitted for soluble pH were considered acceptable. Pinchin notes that there is no applicable NSCSR Tier I EQS for soluble pH.

3.6.4 Acid Rock Drainage

Two soil samples (HS-09 and HS-17) collected from the area near the potential waste rock pile and the potential tailings area, respectively, were submitted for modified Acid-Base Accounting (ABA). Both samples (HS-09 and HS-17) submitted for analysis of acid generating potential contained less than 2%



sulfur content and exhibited an acid producing potential of less than 0.8. This suggests that the samples submitted for analysis are non acid generating.

3.7 Sediment Sample Analytical Results

3.7.1 Metals

Three sediment samples were analyzed for analysis of standard metals including mercury. The following is a summary of samples which exceeded the applicable guidelines. Arsenic and iron concentrations exceeded the NSCSR Tier I EQSs in all sediment samples submitted. Naturally elevated levels of these metals are common in soils in this region, however, further assessment may be required to confirm whether these exceedances are in the range that can be attributed to background conditions.

3.7.2 Soluble pH

All samples submitted for soluble pH were considered acceptable. Pinchin notes that there is no applicable NSCSR Tier I EQS for soluble pH.

3.8 Surface Water Sample Analytical Results

3.8.1 Metals

Both samples (SW01 and SW02) collected upstream and downstream, respectively of the study area, as well as the laboratory duplicate (SW02 DUP), and submitted for metals analysis met the Tier I EQSs.

3.8.2 General Chemistry

Both samples (SW01 and SW02) collected upstream and downstream, respectively of the study area, as well as the laboratory duplicate (SW02 DUP), were outside the Tier I EQS acceptable range; The pH in these samples ranged between 6.14 and 6.45 compared to the applicable guidelines of 6.5-9.0.

4.0 RESULTS AND FINAL PROPOSED FIELD PROGRAM

Based on the results of the Phase I ESA and the analytical results of the preliminary Phase II ESA sampling program, no additional sources have been identified that were not included in the original proposed field program. Potential indicators of mine-related impacts include elevated concentrations of aluminum, beryllium, cobalt, iron, manganese and vanadium, and slightly depressed arsenic and pH (as compared to background ranges identified to date).

The observed locations of the unnamed stream in the vicinity of the inferred tailings area as well as the mine shaft identified as AMO1 during the Phase I ESA Site Reconnaissance were different than locations indicated in the information provided by the Client. Further verification will be required to confirm the location of these observed features.



As such, the remaining scope to be completed as part of the Phase II ESA portion of the work consists of the following:

- Complete further reconnaissance and ground truthing of watercourse(s) adjacent the investigation area;
- Complete further reconnaissance and ground truthing of AMOs adjacent to the investigation area;
- Desktop of any client-provided additional background soil environmental condition information/resources;
- Three (3) additional hand dug surface soil samples for analysis of standard available metals (including mercury) and pH, to further evaluate “background conditions”;
- Two (2) additional hand dug surface soil samples (plus one QA/QC duplicate sample) in the vicinity of HS-19 (adjacent AMO2) for analysis of standard available metals (including mercury) and pH, plus one leachable metals analysis on the worst-case sample;
- Submission of three existing archived samples (HS02, HS10 and HS12) for standard available metals (including mercury);
- Complete a ground disturbance safe clearance to confirm public utility clearances in the vicinity and to an area greater than 1.0 m from the proposed borehole locations (Figure 3);
- Three (3) boreholes will be drilled to approximately 1.5 m below the water table in areas located upgradient, near and downgradient to the observed potential tailings area (assumed maximum depth of 6 metres below ground surface (mbgs)) to assess soil and groundwater quality and to provide information on Site-specific geological and hydrogeological characteristics;
- All three (3) of the boreholes will be instrumented with 50 mm diameter PVC monitoring wells complete with lockable wellhead protection above surface casing with the screened section spanning the water table;
- The soil samples collected from boreholes will be field screened by doing Sobek paste pH tests on each sample. The paste pH results will be used to select samples for laboratory analyses;
- Soil samples from the boreholes representing “worst case” conditions from the field screening and field observations will be submitted for standard available metals (including mercury) and pH (all locations), leachable metals (including mercury – tailings area);



- After development and purging of the three new groundwater monitoring wells, collect four (one per well including one duplicate) representative groundwater samples for laboratory analyses for standard dissolved metals, leachable metals (one sample), major ions, hardness, pH, alkalinity and sulphate, using Pinchin’s standard operating procedures for groundwater sampling;
- Complete a relative elevation survey (using a temporary benchmark) of the newly installed groundwater monitoring wells using a survey apparatus and/or GPS; and
- Soil and groundwater water quality will be assessed using the NSCSR Tier I EQS for agricultural (i.e. includes ecological) properties with potable groundwater.

A summary of the remaining proposed Phase II ESA Field sampling program is as follows:

Sample Type	Phase	Source	Rationale	Analysis
Soil	II	Proposed Borehole (BH1)	Background/upgradient of inferred tailings location	Standard Available Metals including mercury, pH
Soil	II	Proposed Borehole (BH2)	Location of inferred tailings	Standard Available Metals including mercury, pH
Soil	II	Proposed Borehole (BH3)	Downgradient of inferred tailings location	Standard Available Metals including mercury, pH
Soil	II	Existing Hand Sample HS02	Delineation of NSCSR Tier I Exceedances in HS04	Standard Available Metals including mercury, pH
Soil	II	Existing Hand Sample HS10	Delineation of NSCSR Tier I Exceedances in HS04 and HS11	Standard Available Metals including mercury, pH
Soil	II	Existing Hand Sample HS12	Delineation of NSCSR Tier I Exceedances in HS11	Standard Available Metals including mercury, pH
Soil	II	Proposed Hand Samples (HS22 and HS23)	Delineation of NSCSR Tier I Exceedances in HS19	Standard Available Metals including mercury, pH
Soil	II	Proposed Hand Samples (H24 – H26)	Background soil analytical data	Standard Available Metals including mercury, pH



Sample Type	Phase	Source	Rationale	Analysis
Groundwater	II	Proposed Monitoring Well (MW1)	Background/upgradient of inferred tailings	Standard Dissolved metals including mercury, major ions, hardness, pH, alkalinity and sulphate
Groundwater	II	Proposed Monitoring Well (MW2)	Location of inferred tailings	Standard Dissolved metals including mercury, major ions, hardness, pH, alkalinity and sulphate
Groundwater	II	Proposed Monitoring Well (MW3)	Downgradient of inferred tailings	Standard Dissolved metals including mercury, major ions, hardness, pH, alkalinity and sulphate

Pinchin notes that the field program outlined above represents a change from the original proposed scope of work and includes additional sampling points, including submission of archived soil samples (HS02, HS10 and HS12) as well as the collection of new hand dug soil samples (HS22 to HS26), not considered as part of the original proposed budget. Pinchin will prepare a change order to reflect the additional cost associated with the above revised field program and issue to BNS for their review and approval prior to completing the field program.

The proposed sampling locations are shown on Figures 2-4 included in Appendix I.

5.0 TERMS AND LIMITATIONS

This Phase I ESA was performed in order to identify potential issues of environmental concern associated with the Site located at Former Widow Point Mine, at the time of the Site reconnaissance. This Phase I ESA was performed in general compliance with currently acceptable practices for environmental site investigations, and specific Client requests, as applicable to this Site.

This report was prepared for the exclusive use of Build Nova Scotia, subject to the terms, conditions and limitations contained within the duly authorized proposal for this project. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, is the sole responsibility of such third parties. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted.

If additional parties require reliance on this report, written authorization from Pinchin will be required. Such reliance will only be provided by Pinchin following written authorization from the Client. Pinchin disclaims responsibility of consequential financial effects on transactions or property values, or



requirements for follow-up actions and costs. No other warranties are implied or expressed. Furthermore, this report should not be construed as legal advice. Pinchin will not provide results or information to any party unless disclosure by Pinchin is required by law.

The information provided in this report is based upon analysis of available documents, records and drawings, and personal interviews. In evaluating the Site, Pinchin has relied in good faith on information provided by other individuals noted in this report. Pinchin has assumed that the information provided is factual and accurate. In addition, the findings in this report are based, to a large degree, upon information provided by the current owner/occupant. Pinchin 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, or contained in reports that were reviewed. The scope of work for this Phase I ESA did not include an intrusive investigation for designated substances (i.e., asbestos, mould, etc.) and, therefore, these materials may be present in concealed areas.

Pinchin 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 these interpretations may change over time.

The CSA document entitled "*Phase I Environmental Site Assessment, CSA Standard Z768-01*" dated November 2001 (reaffirmed 2022), does not apply to environmental auditing or environmental management systems. Therefore, with respect to Site operations and conditions, compliance with applicable Federal, Provincial or Municipal acts, regulations, laws and/or statutes was not evaluated as part of the Phase I ESA.

6.0 CLOSURE

The conclusions and recommendations represent the best judgment of the assessor based on the current Phase I ESA findings completed by Pinchin, as well as the current environmental standards.



We trust that the information provided in this report meets your current requirements. If you have any questions or concerns, please do not hesitate to contact the undersigned.

Pinchin Ltd.

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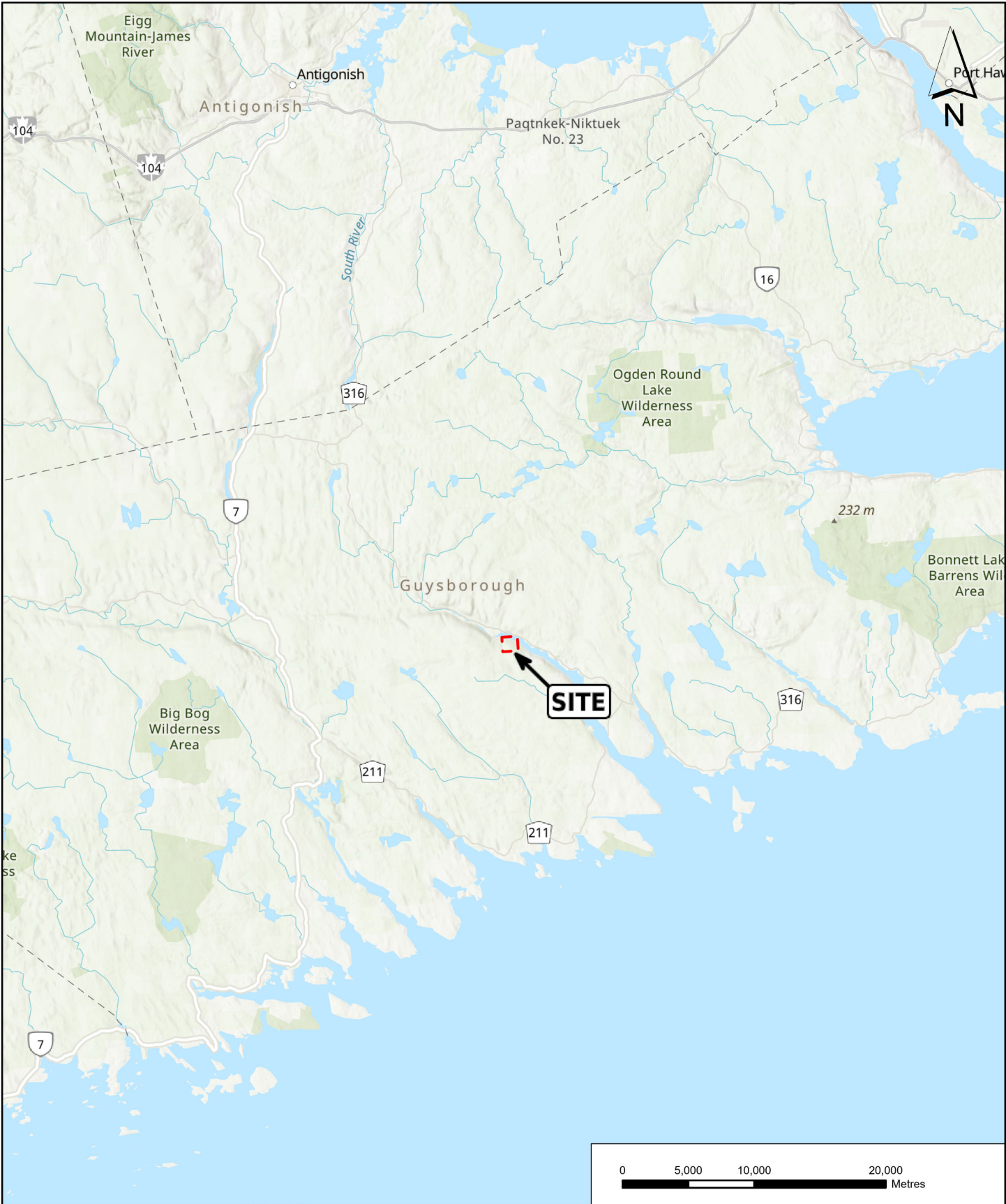
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Encl: Appendix I - Figures

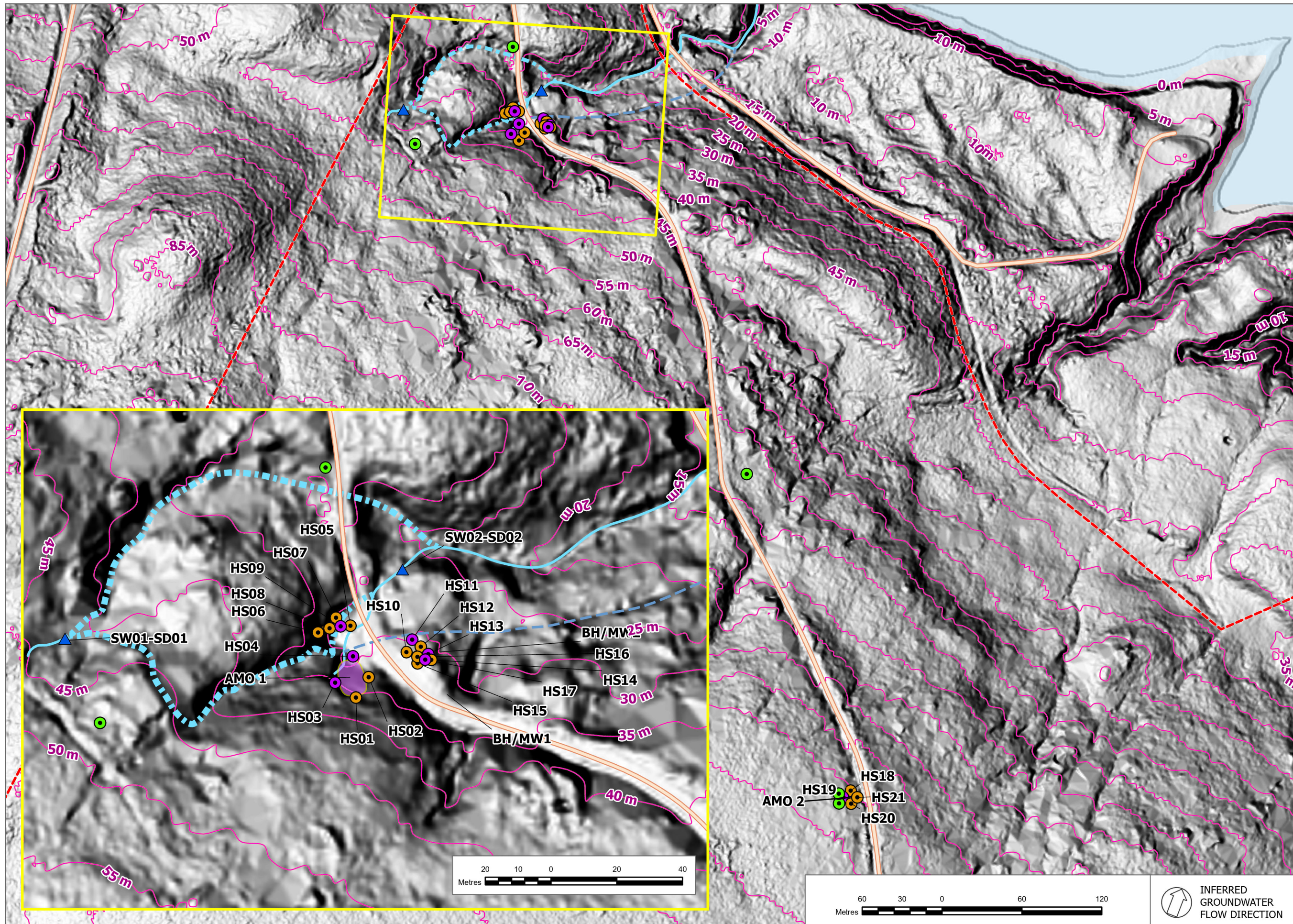
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Template: Phase I ESA Stage 1 PSI Update Report Template, EDR, June 6, 2023

FIGURES















PROJECT NAME:		PHASE I ENVIRONMENTAL SITE ASSESSMENT		
CLIENT NAME:		BUILD NOVA SCOTIA		
PROJECT LOCATION:		WIDOW POINT MINE SITE, GUYSBOUROUGH COUNTY, NOVA SCOTIA		
FIGURE NAME:		KEY MAP		FIGURE NUMBER
PROJECT NUMBER: 327768	SCALE: AS SHOWN	DRAWN BY: YP	REVIEWED BY: JP	DATE: SEPTEMBER 2023
				1






LEGEND

-  SURFACE WATER SAMPLE LOCATION
-  SOIL SAMPLE LOCATION
-  SOIL SAMPLE LOCATION (SAMPLE SUBMITTED FOR ANALYSIS)
-  PROPOSED SOIL SAMPLE LOCATION
-  REPORTED/INFERRED WATERCOURSE
-  OBSERVED WATER BODY
-  CLIENT PROVIDED WATER BODY LOCATION
-  ROAD NETWORK
-  ELEVATION CONTOURS (MASL)
-  PROPERTY BOUNDARIES
-  OBSERVED AMO LOCATIONS
-  WATER BODIES

MASL = METERS ABOVE SEA LEVEL

NOTES:

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- 4) Coordinate system: NAD 1983 CSRS UTM Zone 20N.
- 5) Source: Pinchin Ltd., .



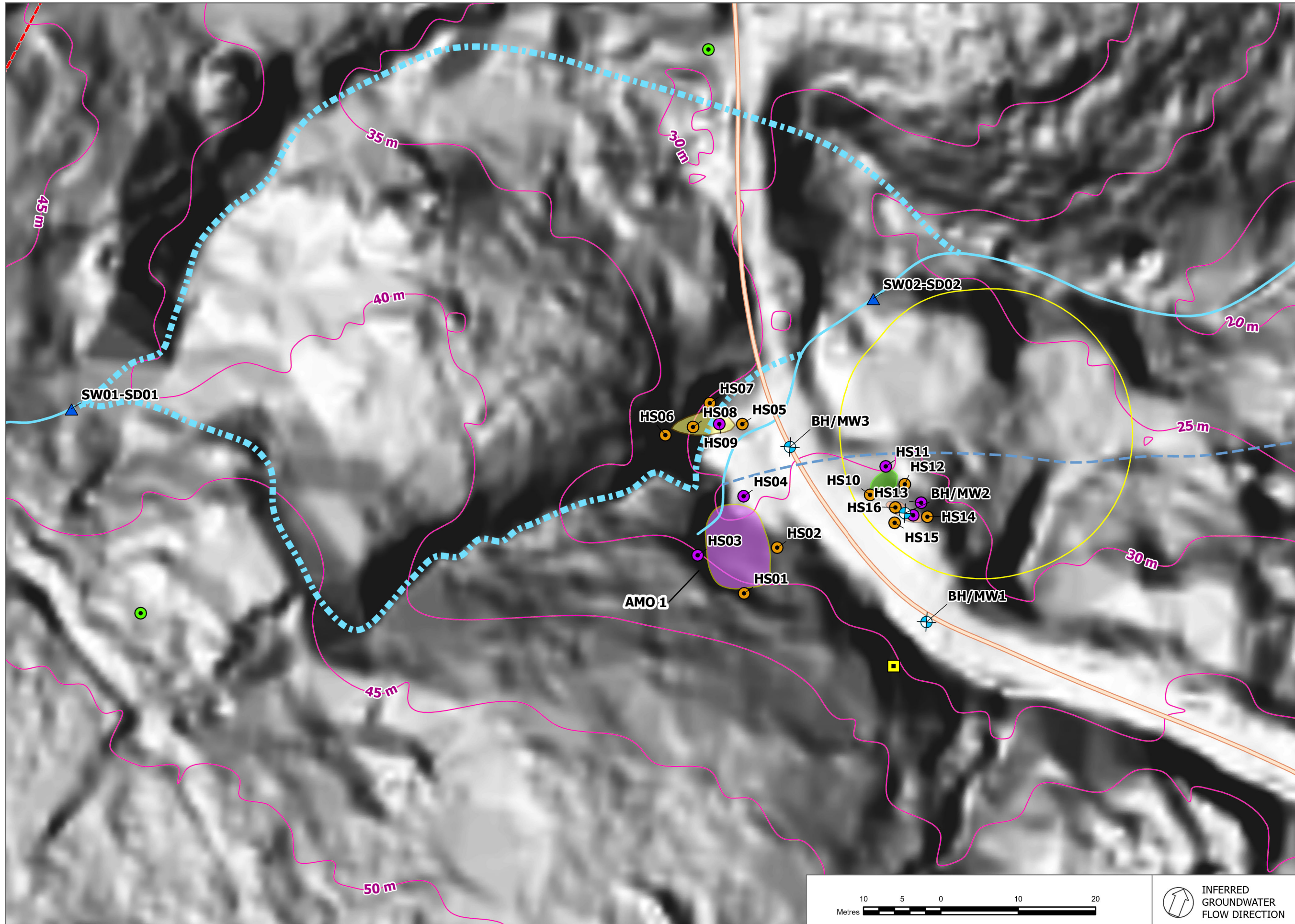
PROJECT NAME
PHASE I ENVIRONMENTAL SITE ASSESSMENT

CLIENT NAME
BUILD NOVA SCOTIA

PROJECT LOCATION
WIDOW POINT MINE SITE, GUYSBOUROUGH COUNTY, NOVA SCOTIA

FIGURE NAME
SAMPLE LOCATIONS

PROJECT NUMBER: 327768	SCALE AS SHOWN
DRAWN BY YP	REVIEWED BY JP
DATE SEPTEMBER 2023	FIGURE NUMBER 2



LEGEND

- PROPOSED BOREHOLE LOCATION
- SURFACE WATER SAMPLE LOCATION
- SOIL SAMPLE LOCATION
- SOIL SAMPLE LOCATION (SAMPLE SUBMITTED FOR ANALYSIS)
- PROPOSED SOIL SAMPLE LOCATION
- CLIENT PROVIDED AMO1 LOCATION
- REPORTED/INFERRED WATERCOURSE
- OBSERVED WATER BODY
- CLIENT PROVIDED WATER BODY LOCATION
- ELEVATION CONTOURS (MASL)
- ROAD NETWORK
- PROPERTY BOUNDARIES
- WIDOW POINT TAILING AREA (AS REPORTED BY BNS)
- OBSERVED AMO LOCATIONS
- DEPRESSION
- POTENTIAL WASTE ROCK
- POTENTIAL TAILINGS AREA

MASL = METERS ABOVE SEA LEVEL

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- 5) Source: Pinchin Ltd., Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community.

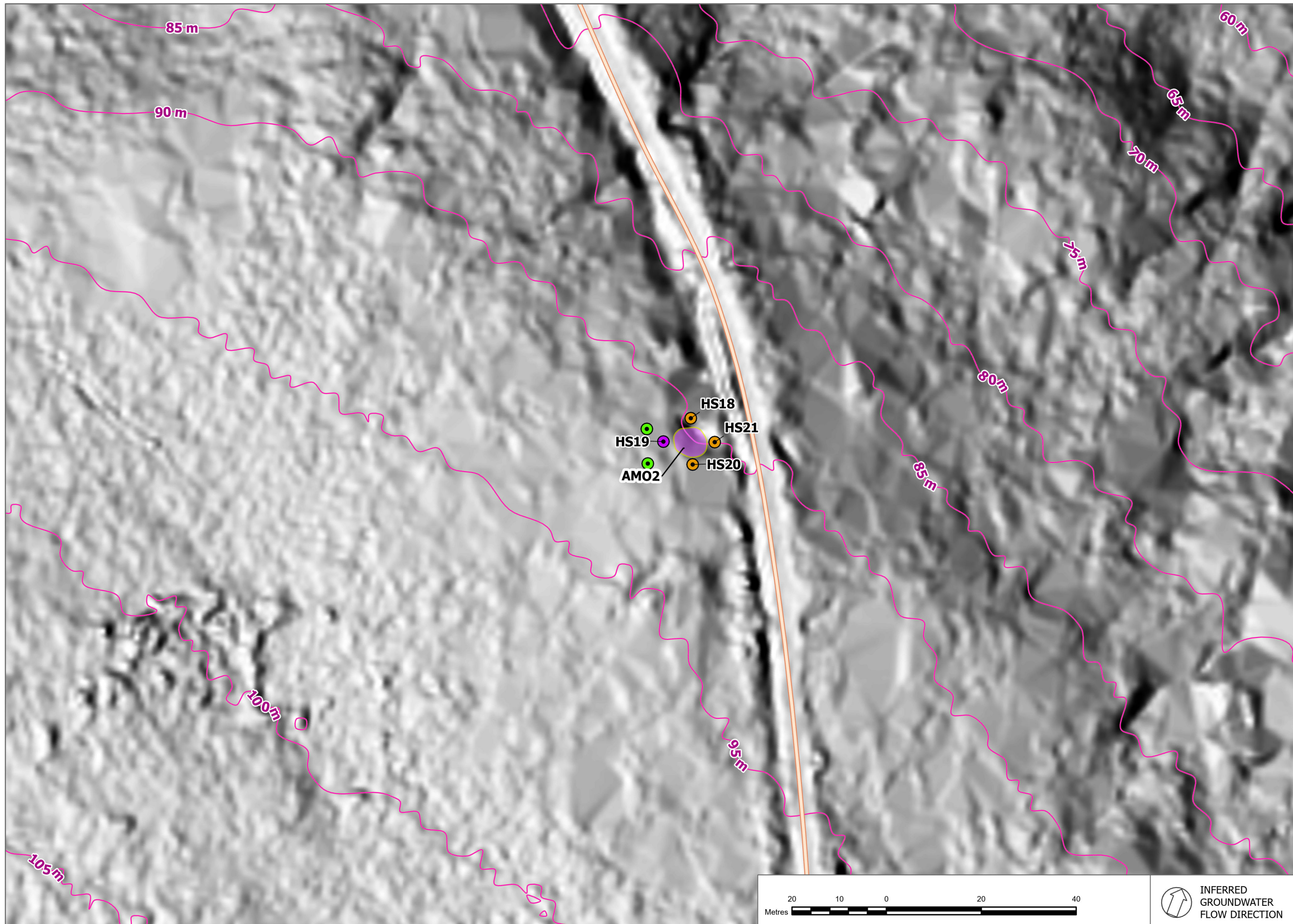








PROJECT NAME	
PHASE I ENVIRONMENTAL SITE ASSESSMENT	
CLIENT NAME	
BUILD NOVA SCOTIA	
PROJECT LOCATION	
WIDOW POINT MINE SITE, GUYSBOUROUGH COUNTY, NOVA SCOTIA	
FIGURE NAME	
SAMPLING LOCATIONS AND SITE FEATURES - AMO1 AREA	

PROJECT NUMBER: 327768	SCALE: AS SHOWN
DRAWN BY: JP	REVIEWED BY: JP
DATE: SEPTEMBER 2023	FIGURE NUMBER: 3



INFERRED GROUNDWATER FLOW DIRECTION



- LEGEND
-  SOIL SAMPLE LOCATION
 -  SOIL SAMPLE LOCATION (SAMPLE SUBMITTED FOR ANALYSIS)
 -  PROPOSED SOIL SAMPLE LOCATION
 -  ELEVATION CONTOURS (MASL)
 -  ROAD NETWORK
 -  OBSERVED AMO LOCATIONS

MASL = METERS ABOVE SEA LEVEL

NOTES:

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PROJECT NAME
PHASE I ENVIRONMENTAL SITE ASSESSMENT

CLIENT NAME
BUILD NOVA SCOTIA

PROJECT LOCATION
**WIDOW POINT MINE SITE,
GUYSBOUROUGH COUNTY, NOVA SCOTIA**

FIGURE NAME
SAMPLING LOCATIONS AND SITE FEATURES - AMO2 AREA

PROJECT NUMBER: 327768	SCALE AS SHOWN
DRAWN BY YP	REVIEWED BY JP
DATE SEPTEMBER 2023	FIGURE NUMBER 4

