Implementation of Remedial Action Plan – Year 3, Former U.S. Military Site and Residential Subdivision, Hopedale, Labrador

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Executive Summary

Aivek Stantec Limited Partnership (Stantec) was retained by the Newfoundland and Labrador Department of Environment and Conservation (NLDEC) to supervise environmental site remediation and conduct confirmatory soil sampling during Years 1 to 3 of the Implementation of the Remedial Action Plan (RAP) at the Former U.S. Military Site and Residential Subdivision in Hopedale, Newfoundland and Labrador (NL). The remediation program was carried out in response to a Remedial Action Plan/Risk Management Plan (RAP/RMP) prepared for the site in 2010 (refer to Stantec Report No. 121410103, dated May 17, 2010) and a mutually agreeable work plan developed by the Stakeholder Scientific Advisory Working Group (referred to as the "Stakeholder Committee"), which consists of representatives from the Inuit Community Government of Hopedale (ICGH), the Nunatsiavut Government (NG), Labrador Grenfell Health, the Labrador and Aboriginal Affairs Office, NLDEC and technical advisors.

The scope of work proposed for Years 1 to 3 of the Implementation of the RAP at the Former U.S. Military Site and Residential Subdivision involved the remediation of Polychlorinated Biphenyl (PCB)-impacted soil/sediment at the following locations:

Year 1 (2011-2012)

- The stream running through the Residential Subdivision.
- The Old Dump Pond area.

Year 2 (2012-2013)

- Areas that were not finished in Year 1, if necessary.
- The Wharf Area/Pipeline area.

Year 3 (2013-2014)

- Areas that were not finished in Year 2, if necessary.
- The Ballistic Missile Early Warning System (BMEWS) area.

The scope of work was developed to be revised each year and was designed to be flexible based on the results of marine studies, risk modeling (reported under separate covers), and recommendations provided by the Stakeholder Committee. Remediation was to be conducted in accordance with site-specific target levels (SSTLs) calculated as part of a Human Health and Ecological Risk Assessment (HHERA) completed for the site by Stantec in 2010 (refer to Stantec Report No. 121410103, dated May 17, 2010). The calculated SSTLs for PCBs in soil were 9 mg/kg for the Residential Subdivision, the Old Dump Pond area and the Wharf Area/Pipeline area, and 22 mg/kg for the BMEWS area.

During Years 1 to 3 of the Implementation of the RAP, remedial activities were undertaken by RJG Construction Ltd. (RJG) of St. John's, NL and were supervised by Stantec personnel, who maintained a record of activities while on-site and collected confirmatory soil samples. Soil excavation was completed using excavators and manually using shovels. Soil was loaded into 1 tonne capacity soil enviro-bags. The bags were UN certified and had a 3 year lifespan. Any bags that were torn or punctured were double or triple-bagged to ensure that no soil could escape during transportation. The bags were tied shut and stacked at a temporary laydown area established at Pit No. 1 (referred to as the "Main Laydown Area"). Stantec personnel conducted confirmatory soil sampling along the limits of the excavations (i.e., the sidewalls and base of the excavations) as soil removal progressed to verify the concentrations of PCBs in soil remaining on the site. Following the receipt of analytical results, additional soil removal was carried out in areas where concentrations of PCBs in confirmatory soil samples exceeded the applicable SSTLs of 9 mg/kg or 22 mg/kg. Laboratory analysis was conducted by Maxxam Analytics Inc. in Bedford, NS.

In 2011 (Year 1) and 2012 (Year 2), PCB remediation was carried out in areas specified in the scope of work above. The results of confirmatory soil sampling conducted in Years 1 and 2 indicated that remediation in the stream and in the Wharf Area was complete. Additional remediation was recommended for the area adjacent to Old Dump Pond (referred to herein as the "Old Dump Pond area"), as concentrations of PCBs in several confirmatory soil samples collected along the final limits of the remedial excavation exceeded the applicable SSTL of 9 mg/kg in this area (12-ODP-BS27 – 18 mg/kg, 12-ODP-BS29 – 11 mg/kg, 12-ODP-BS30 – 18 mg/kg, 12-ODP-BS32 – 14 mg/kg, 12-ODP-BS33 – 12 mg/kg and 12-ODP-BS34 – 63 mg/kg).

In Year 2, 599.32 tonnes of PCB-impacted soil was transported off-site to a soil treatment facility. An additional 633 filled bags remained in Hopedale at the completion of the Year 2 remedial activities. These bags were stored on a liner at the Main Laydown Area over winter pending shipment in Year 3. Large pieces of buried metal debris encountered in the remedial excavation were manually segregated from the soil and were temporarily stockpiled at the Old Dump Pond site.

The following is a summary of remedial activities carried out at the site in 2013 (Year 3). The Year 3 remedial program is described in detail in this report. The Year 1 and Year 2 remedial programs are described in detail in Stantec Report Nos. 121411777.200 (dated April 30, 2012) and 121411777.300 (dated February 4, 2014), respectively.

- A total of 1,068 bags were filled with PCB-impacted material in Year 3, as follows:
  - Old Dump Pond: 363 bags of PCB-impacted soil from the remedial excavation and the upper 0.05 to 0.15 m of areas affected by the work, including the temporary soil laydown area and metal stockpile area.
  - BMEWS: 647 bags of PCB-impacted soil from the remedial excavation and the upper 0.10 to 0.15 m of the temporary laydown area used to store filled bags in this area.

  - Other: 58 bags were filled with surficial soil (0.10 to 0.15 m) removed from the temporary soil storage area the Main Laydown Area (on and beneath the liner), surficial soil (0.10 to 0.15 m) removed from areas affected by the work at the Main Laydown Area, with tarps/liners used during the handling of PCB impacted material and with a limited quantity of unsampled metal debris removed from the Old Dump Pond area in Year 3.

- Large pieces of metal debris encountered in the remedial excavations were segregated from the soil and were cleaned by shaking/brushing/scraping. The metal was cut into smaller pieces, consolidated in stockpiles at the Old Dump Pond area and swab sampled for PCBs. None of the sampled pieces of metal from the Year 1, 2 or 3 metal stockpiles contained detectable concentrations of PCBs (i.e., > 5 µg/kg per 100 cm^2) during the most recent round of sampling; therefore, the metal was shipped out of Hopedale via barge on July 28, 2013. A total of 93.6 tonnes of metal was transported to the Newco Metal and Auto Recycling Facility in St. John's, NL for recycling. A small amount of metal was unearthed at the Old Dump Pond site after the barge departure. This unsampled metal was cut up and placed in bags to be treated as PCB-impacted material.
- A total of 1,765.83 tonnes of PCB-impacted material was transported out of Hopedale in Year 3. This included all bags stored at the Main Laydown Area (filled during Years 1 and 2) and all bags filled during Year 3. No bags filled with PCB-impacted material remained in Hopedale following the completion of the three (3) year contract.
- PCB-impacted material was transported by barge/tug and tractor trailer to the Récupère Sol (a division of Benev Capital Inc. (BCI)) thermal treatment facility in St.-Ambroise, Québec (QC). Récupère Sol operates a thermal oxidation treatment unit that operates in accordance with the Quebec Ministry of Sustainable Development, Environment, Wildlife and Parks "<A" Treatment Criteria (i.e., <0.05 mg/kg). A Certificate of Destruction was not received by Stantec for Year 3 shipments at the time this report was prepared.
- The Year 3 remedial excavations and laydown areas were backfilled using a total of 1,393 tonnes of clean backfill. Backfill material was obtained from a local rock pit (owned by Max Kinden of Nain) created along the road to the landfill in Hopedale in 2011 and stockpiled at Pit No. 1.
- Based on the results of confirmatory soil sampling conducted along the limits of the remedial excavations and of soil sampling conducted as part of previous environmental site assessments by Stantec, the following conclusions are made with regards to areas remediated in Year 3:

  - Old Dump Pond: A strip of soil remaining between the remedial excavation and the pond contains concentrations of PCBs in exceedance of the applicable SSTL of 9 mg/kg. Soil removal was not possible in this area due to the proximity to the pond. This area should be assessed during the development of a remedial action/risk management plan for the pond sediments (estimated 30 m^3 of PCB-impacted soil). The maximum PCB concentration reported in this area was 290 mg/kg.

    For the remainder of the Old Dump Pond area, PCB concentrations in soil remaining on-site range from non-detect to 5.6 mg/kg (ODP-TP BS1), which are below the applicable

SSTL of 9 mg/kg. With the exception of the strip of soil located between the southwestern limits of the excavation and the pond, terrestrial remediation for PCBs in the Old Dump Pond area is deemed complete.

- o BMEWS: PCB concentrations in soil remaining in this area range from non-detect to 4.9 mg/kg (13-BMEWS-BS6), which are below the applicable SSTL of 22 mg/kg. Soil remediation for PCBs in the BMEWS area is deemed complete.

- Based on the results of soil sampling conducted as part of previous environmental site assessments by Stantec and the results of soil and groundwater sampling conducted at the Main Laydown Area near the completion of Year 3, the following conclusions are made with regards to the temporary soil storage area:
  - o Pit No. 1: No additional work is deemed necessary to address PCBs in soil or groundwater at Pit No. 1.

In summary, a total of 2,265.15 tonnes of PCB-impacted material was removed the Former U.S. Military Site and Residential Subdivision in Hopedale during the first three (3) years of the Implementation of the RAP. Soil was removed from areas located closest to the residential areas of Hopedale (the Stream, the Wharf Area and the Old Dump Pond area) and from the area located upgradient of the community water supply source (the BMEWS area). With the exception of the strip of un-remediated soil located adjacent to the Old Dump Pond, no further PCB remediation is deemed necessary in these areas in accordance with SSTLs calculated for the site as part of the HHERA (Stantec, 2010).

Recommendations

Based on the results of Years 1 to 3 of the Implementation of the RAP, Stantec makes the following recommendations:

- Complete the removal of PCB-impacted soil exceeding the SSTL of 9 mg/kg in the area located south of the limits of the Old Dump Pond remedial excavation (estimated 30 m^3). A significant amount of buried debris is anticipated to be present in this area. This work could be completed in conjunction with Old Dump Pond sediment remediation (if deemed necessary).
- Continue remediation efforts at the Former U.S. Military Site and Residential Subdivision in accordance with the RAP/RMP and considering input provided by the Stakeholder Scientific Advisory Working Group.

The statements made in the Executive Summary are subject to the same limitations included in the Closure Section 5.0 and are to be read in conjunction with the remainder of this report.

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1.0 INTRODUCTION

Aivek Stantec Limited Partnership (Stantec) was retained by the Newfoundland and Labrador Department of Environment and Conservation (NLDEC) to supervise environmental site remediation and conduct confirmatory sampling during Years 1 to 3 of the Implementation of the Remedial Action Plan (RAP) at the Former U.S. Military Site and Residential Subdivision in Hopedale, Newfoundland and Labrador (NL) (see Drawing No. 121411777-600-EE-01 in Appendix A). The remediation program was carried out in response to a Remedial Action Plan/Risk Management Plan (RAP/RMP) prepared for the site in 2010 (refer to Stantec Report No. 121410103, dated May 17, 2010) and recommendations provided by the Stakeholder Scientific Advisory Working Group.

The following report describes the work completed during Year 3 of the Implementation of the RAP field program and was prepared specifically and solely for the above project. It presents all of the factual findings and laboratory results of the work completed at the site between June and September 2013.

1.1 Site Description and History

The Inuit Community of Hopedale is located on the Labrador coast, 148 air miles to the north of Goose Bay, Labrador and has no outside road access. Coastal boat service is available to the community from mid-summer to late fall.

The Former U.S. Military Site is located north of the community of Hopedale. The Former U.S. Military Site consists of three (3) main hilltop sites (i.e., BMEWS, Main Base and Mid-Canada Line) as well as several other associated sites, as shown on Drawing No. 121411777-600-EE-02 in Appendix A. Local access to all the sites is via a gravel road network that is in varying conditions of repair.

Construction of a military base and radar site in Hopedale, NL commenced in 1952 and was completed in 1957. The Hopedale military base and radar site was a station on the United States Air Force (USAF) Pinetree Line and was also the most easterly site on the Mid-Canada Line of antennae stations which had extended across the country. The military base and radar site was one of a series of sites that functioned as a Ballistic Missile Early Warning System (BMEWS) where enemy aircraft penetrating the northeastern approaches to the continent were identified and information was communicated to the United States. It has been reported that during peak operations, the site housed 300 personnel.

The military base and radar site in Hopedale were operated from 1957 until 1969 by the United States government. The base was closed down in 1969 and the radome and radar antennae were removed. Portions of the remaining site were operated by Canadian Marconi as a telecommunications site until 1972 and by ITT as a telecommunications site until 1975. The

complex was finally closed in 1975. Most of the remaining aboveground structures were demolished and buried in several undocumented locations throughout the site in the mid-1980s. At that time, limited clean-up efforts were carried out and included the removal and disposal of PCB containing transformers. With the exception of infrastructure in the Mid-Canada Line area, only the foundations and floor slabs of buildings and the foundations and bases of antennae currently remain on the Former U.S. Military Site. Two antennae and associated operations buildings are currently being operated by Bell Aliant in the Mid-Canada Line and BMEWS areas.

The natural environment in Hopedale is typical of Labrador Coastal Barrens. Bedrock is granite and gneiss, and is largely exposed. Where present, soil cover on the hills is relatively thin (generally < 0.5 m), with accumulations of rock, gravel, sand and organic matter in low lying areas. Deeply incised U-shaped valleys occur in conjunction with steep-sided, rounded mountains and fjords that extend well inland. Large bogs can be found in the low-lying areas.

The Former U.S. Military Site is dominated by three (3) installations on hilltops elevated between 100 m and 150 m above sea level, including (from west to east): the BMEWS area, the Main Base and the Mid-Canada Line antennae area. Much of the area around the site is exposed bedrock, with limited soil cover. Drainage from the BMEWS area is in all directions (i.e., to the north, east, south and west), including to the south towards the community's main drinking water supply source, Reservoir Lake (approximately 300 m to the south). Drainage from the Main Base and Mid-Canada Line areas is in all directions, including to the south and southwest towards the Small Pond Bog, which empties into the stream that flows through the Residential Subdivision and empties into Hopedale Harbour.

During Year 3 of the Implementation of the RAP, remedial activities were carried out in three (3) areas of the Former U.S. Military Site: the Old Dump Pond area, the BMEWS area and the Helicopter Pad/Pit No. 1.

The Old Dump Pond area comprises a pond and land located east of the pond. The area is located downgradient of Reservoir Lake on the west side of the military base road. The shore of the pond is heavily vegetated with some bedrock outcroppings. During previous years of remediation, a significant amount of buried debris (steel pipes, cables and beams, vehicle parts, glass bottles and rusted drums) was encountered during excavation at Old Dump Pond. It has been reported that during demolition of the military base, the pond was used for the disposal of various metal wastes and debris. The findings of a previous geophysical survey showed that these wastes were primarily deposited at the end of the access road and along the northeast shoreline of the pond (Agra Earth & Environmental, 1998). The Old Dump Pond area is bordered by a relatively new area of residential development constructed on an elevated gravel pad to the east, by the waters of Old Dump Pond to the southwest and by undeveloped land to the northwest. The area is accessible via a narrow gravel access road to the northeast.

The BMEWS area has an area of approximately one (1) hectare and is located on top of a hill approximately 2 km northwest of Hopedale. The area formerly included four (4) troposcatter

antennae (two large and two small) that served as a Ballistic Missile Early Warning System (BMEWS). The area also included operations buildings. Historical photographs indicated the presence of two (2) large aboveground storage tanks in the BMEWS area; however, the fuel tanks and pipelines have been removed (ESG, 2007). All that currently remains in the area are the antennae bases (i.e., concrete foundations) and building foundations. Terrain at the site is moderately sloped and vegetation is limited with patches of grasses and some low bushes. Bedrock and boulder outcroppings are common in the BMEWS area.

A Main Laydown Area was established at the Pit No. 1/Helipad site during Year 1 of the Implementation of the RAP. The Pit No. 1/Helipad area is located off of the main access road. The area is a heavily worked area consisting of gravel and boulders with low vegetation along the perimeter. Terrain in the area slopes moderately to the west. Surface drainage (apparent groundwater flow direction) is expected to be to the east towards Pit No. 3. This area has been identified as a possible former waste site/drum storage area (ESG, 2007).

1.2 Previous Environmental Investigations

Several environmental assessment reports have been produced (mainly since 1996) relating to potential and actual contamination at and in the vicinity of the Former U.S. Military Site and Residential Subdivision in Hopedale, Labrador. In 2009 and 2010, Stantec conducted a Phase II/III Environmental Site Assessment (ESA), Human Health and Ecological Risk Assessment (HHERA) and Remedial Action Plan/Risk Management Plan (RAP/RMP) at the Former U.S. Military Site and Residential Subdivision on behalf of the NLDEC (refer to Stantec, 2010). Stantec also supervised limited-remediation of PCB-impacted tar in three (3) areas of the former military and radar site at that time and the removal of total of three (3) tandem dump truck loads of debris from the stream in the Residential Subdivision (surficial debris) and from test pits excavated in the Residential Subdivision (excavated debris).

Based on a review of site conditions and land uses conducted as part of the HHERA, residents of Hopedale would be expected to spend the majority of their time in the community of Hopedale. This "Residential Area" was defined as including the Residential Subdivision, the Wharf, Old Dump Pond, the Pipeline, and Small Pond Bog. Residents of Hopedale would be expected to visit the "Former Radar Site" occasionally for recreational purposes (e.g., berry picking, hunting, walking). For the purposes of the human health risk assessment, the Residential Area and the Former Radar Site were assessed separately based on the expected human exposure time (i.e., human receptors would be expected to spend less time on the Former Radar Site than in the Residential Area) and activities (e.g., hunting is expected to be limited to the Former Radar Site). The results of the HHERA indicated the potential for adverse risks to human and/or ecological receptors from exposure to total petroleum hydrocarbons (TPH), PCBs and/or metals impacts at the Former Radar Site and the Residential Area; therefore, precautionary actions, remedial activities and risk management strategies were recommended for the control of hazards identified at the overall site. Priorities were assigned to different areas requiring remediation, with the highest priority assigned to PCB-impacted areas near residential

areas and the PCB-impacted area located up-gradient of the community water supply source (the BMEWS site). The site-specific target levels (SSTLs) generated for soil at the site are provided in Table 1.1.

Table 1.1 Summary of SSTLs to be applied to soil at the Former Radar Site and Residential Area

Chemical	SSTL (mg/kg)	Source	Areas Requiring Remediation
Residential Area			
PCBs	9	HHRA	Old Dump Pond [1] Wharf Area/Pipeline [2] Residential Subdivision (Stream) [2]
Antimony	30	HHRA	Old Dump Pond
Former Radar Site			
PCBs	22	HHRA	BMEWS Old Base1 Main Base
TPH	1,700	ERA	BMEWS Main Base Pit No. 3 POL Compound
Metals	Lead: 75 Antimony: 5 Chromium: 20 Cadmium: 1.3	ERA	BMEWS Main Base Mid-Canada Line POL Compound

Notes:
[1] Area partially remediated during Years 1 and 2 of the Implementation of the RAP.
[2] Area remediated during Year 2 of the Implementation of the RAP.

It was recommended that SSTLs be used as remediation criteria for soil at the site. Based on the remedial options evaluation, the preferred options for soil remediation were as follows:

- ***PCB-Impacted Soil***: Stockpile soil and transport to a licensed soil treatment facility.
- ***TPH-Impacted Soil***: Pre-treat soil in temporary on-site biopile, then place soil in the local landfill.
- ***Metals-Impacted Soil***: Prior to selecting a remedial option, perform bioaccessibility testing on metals impacted soil requiring remediation and re-evaluate the SSTLs for metals within the HHERA.

In 2010-2011, Stantec conducted additional soil and sediment delineation, soil vapour monitoring, and a preliminary marine sampling program at the site to address data gaps and/or

actions recommended in the 2010 Phase II/III ESA and HHERA report, and recommendations provided through consultation with the Nunatsiavut Government (NG) (refer to Stantec, 2011). Volume estimates were refined for areas requiring soil remediation. Elevated concentrations of PCBs were detected in sediment and fish samples collected from Hopedale Harbour and from select sediment samples collected from freshwater ponds and streams near the Former U.S. Military Base; therefore, a comprehensive marine study was recommended.

In 2011, the Government of Newfoundland and Labrador committed funds to support ongoing remediation efforts in Hopedale and the completion of a Marine Study over the following three (3) years. During each year, site remediation and investigative work was to be conducted in accordance with NLDEC budget allowances. A Stakeholder Scientific Advisory Working Group (referred to as the "Stakeholder Committee") consisting of representatives from the Inuit Community Government of Hopedale (ICGH), NG, Labrador Grenfell Health, the Labrador and Aboriginal Affairs Office, NLDEC and technical advisors was established in 2011 to advise on go-forward work plans at the site. The data collected to date was discussed by a Stakeholder Committee in May, 2011, and a mutually-agreeable plan for Years 1 to 3 of the site remediation and investigative work was determined. The following scope of work was proposed for Years 1 to 3 of the Implementation of the RAP:

Year 1 (2011-2012)

- Conduct hot-spot removal of PCB-impacted sediment in the stream running through the Residential Subdivision (estimated 15 m^3).
- Conduct remediation of PCB-impacted soil in the vicinity of Old Dump Pond (estimated 350 m^3).

Year 2 (2012-2013)

- Complete the remediation of PCB-impacted soil in areas that were not finished in Year 1, if necessary.
- Conduct the remediation of PCB-impacted soil in the Wharf Area/Pipeline area (estimated 350 m^3).

Year 3 (2013-2014)

- Complete the remediation of PCB-impacted soil in area(s) that were not finished in Year 2, if necessary.
- Start the remediation of PCB-impacted soil in the BMEWS area (estimated 850 m^3 total).

The work scope was meant to be revised each year and was meant to be flexible based on the results of marine studies and risk modeling (reported under separate covers) and recommendations provided by the Stakeholder Committee.

INTRODUCTION
April 15, 2014

In 2011 (Year 1 of the Implementation of the RAP), 286 one (1) tonne capacity enviro-bags were filled with PCB-impacted soil from one of two areas requiring remediation at the Old Dump Pond site, referred to as "ODP-Area 1". The filled soil bags were stored at on liners at a designated "Main Laydown Area" at the Pit No. 1 site over the winter. Based on the results of confirmatory soil sampling, no further soil remediation for PCBs was deemed necessary in that area (the area surrounding former monitor well MW61 and test pit ODP-TP2, referred to as "ODP – Area 1") and the excavation was backfilled with locally obtained clean 140 mm minus sized material. A significant amount of buried metal debris was encountered in the remedial excavation in the Old Dump Pond area. The large pieces of buried metal debris were manually segregated from the soil and were placed in a temporary scrap metal stockpile in the Old Dump Pond area. Full details of Year 1 of the Implementation of the RAP are provided in Stantec Report No. 121411777.200, dated April 30, 2012.

In 2012 (Year 2 of the Implementation of the RAP), 451 bags were filled with PCB-impacted soil from the second area requiring PCB remediation in the Old Dump Pond area (ODP – Area 2), 218 bags were filled with PCB-impacted soil/sediment from the stream in the Residential Subdivision and 245 bags were filled with PCB-impacted soil from the Wharf Area. The results of confirmatory soil sampling indicated that no further soil remediation for PCBs was necessary in the stream or Wharf Area. PCB concentrations exceeding the applicable SSTL of 9 mg/kg remained in soil along the north and west limits of the ODP – Area 2 excavation; therefore, additional soil removal would be required in this area during Year 3 of the Implementation of the RAP. Following soil removal, the remedial excavations were backfilled with locally obtained clean 140 mm minus sized material. A 40 mil polyethylene liner was temporarily placed along the northern, eastern and western edges of the Year 2 excavation to prevent the potential contamination of clean backfill material along the impacted edges of the excavation. Metal debris encountered during Year 2 of the Implementation of the RAP was cleaned by shaking/brushing/scraping and was stored with metal unearthed during Year 1 in the Old Dump Pond area. High visibility caution tape was placed around the metal stockpile for winter storage. Full details of Year 2 of the Implementation of the RAP are provided in Stantec Report No. 121411777.300, dated February 4, 2014.

In November 2012, 567 bags (599.32 tonnes) of PCB-impacted soil were transported to a soil treatment facility in St.-Ambroise, Quebec for treatment and disposal. The remaining 633 filled bags in Hopedale were stored at the Main Laydown Area over winter.

Following the Year 2 remediation program, Stantec made the following recommendations for the Year 3 remediation program:

1. Complete the removal of PCB-impacted soil exceeding the SSTL of 9 mg/kg and remove buried debris in the area that was not completed in Year 2, as follows:
    a. Old Dump Pond: Area north and west of the limits of the Year 2 remedial excavation (not delineated), to a depth of 1.0 m metres below ground surface (mbgs).

2. Remove PCB-impacted soil in the BMEWS area, as per the proposal provided to NLDEC on May 27, 2011.
3. Collect confirmatory soil samples from the final limits of the excavations and submit for analysis of Total PCBs (rush turnaround time);
4. Once confirming results have been received, monitor the backfilling of the excavations with clean fill material (to be sourced from the Inuit Community of Hopedale) or site grading, as necessary.
5. Load PCB-impacted metal into soil bags for transportation to the soil treatment facility during Year 3.
6. Ensure that the PCB-impacted soil currently stockpiled at the Main Laydown Area (from Year 1 and Year 2), PCB-impacted soil removed during the Year 3 remedial program and PCB-impacted metal is transported offsite to an approved soil treatment/disposal facility during Year 3.
7. Ensure that un-impacted metal is transported offsite to a metal recycling facility during Year 3.
8. Prepare daily field reports while onsite and submit to the NLDEC project manager via email.
9. Prepare a written report detailing the remediation work completed in Year 3 (2013-2014).

The Stakeholder Committee agreed with the above recommendations for the Year 3 remediation program in a July 2013 meeting; however, any soil containing PCB concentrations in exceedance of 9 mg/kg remaining in the BMEWS area should be flagged for potential future removal.

1.3 Scope of Work

The scope of work for Year 3 of the Implementation of the Remedial Action Plan, as described in Stantec's proposal submitted to NLDEC on May 27, 2011, was as follows:

- Complete the remediation of PCB-impacted soil in areas that were not finished in Year 2, if necessary.
- Start the remediation of PCB-impacted soil in the BMEWS area (850 m^3).

The above scope of work was completed in accordance with the Stantec's recommended work plan listed in Section 1.2. RJG Construction Ltd. (RJG) of St. John's, NL was retained by NLDEC for remedial work at the Former U.S. Military Site and Residential Subdivision during Years 1 to 3 of the Implementation of the RAP. RJG was responsible for site preparation, the excavation of impacted soil, sediment and debris from specified areas, and the proper disposal of impacted materials (including shipment). RJG was also responsible for providing all necessary heavy equipment, including excavators, loaders, labourers, and dump trucks and for providing a scale system in Hopedale to record soil weights.

1.4 Regulatory Framework

NLDEC Policy Directive PPD05-01 allows a site owner to use either of two approaches when remediating chemical impacts on a site. Remediation of chemical impacts in various site media (e.g., soil, sediment, groundwater, surface water) can be completed using a criteria-based approach or a risk-based approach. Under the criteria-based remedial approach, the defined site impacts are remediated to levels below existing regulatory guidelines for the appropriate media. Under the risk-based remedial approach, the defined site impacts are remediated to levels below site-specific target levels (SSTLs) that are developed for the site during a site-specific human health risk assessment (HHRA) and ecological risk assessment (ERA) (if necessary).

For simple sites and sites with limited impacts, a criteria-based approach to remediation is often applied to guide the extent of removal of impacted media from the site. For more complex sites and sites with extensive impacts from multiple chemicals of concern (COCs), a human health and/or ecological risk assessment is often completed, based on the actual site conditions and the actual human and ecological usage of the site, to derive SSTLs to determine remedial options or a risk management strategy for the site. Experience at other former military Pinetree sites in Newfoundland and Labrador indicates that a risk-based remedial approach is the most appropriate for a complex site such as the one in Hopedale.

As part of the HHERA (Stantec, 2010), SSTLs were calculated for certain metals, petroleum hydrocarbons and PCBs. Where necessary, SSTLs were derived in accordance with the methods presented in A Protocol for the Derivation of Environmental and Human Health Soil Quality Guidelines (Canadian Council of Ministers of the Environment (CCME), 2006). The specific methods employed to develop the SSTLs are consistent with CCME and Health Canada protocols as referenced above, and with standard human health risk assessment methodologies. The derivation of SSTLs for petroleum hydrocarbons (TPH, BTEX) was made with the aid of Groundwater Services, Inc. (GSI) RBCA Toolkit for Atlantic Canada, Version 2.1. The spreadsheet model is based on the exposure and mass transport equations presented in the appendix of the ASTM PS-104 Standard Provisional Guide for Risk-Based Corrective Action (ASTM, 2000). Table 1.1 in Section 1.2 summarizes the SSTLs applied at the Former Radar Site and Residential Area.

2.0 DESCRIPTION OF SITE WORK

Year 3 site remediation activities at the Former U.S. Military Site consisting of site preparation, the excavation and removal of PCB-impacted soil and buried debris, confirmatory soil sampling, site reinstatement and the shipment of PCB-impacted soil to an approved soil treatment facility were carried out between June and September 2013. Stantec personnel were onsite during site remediation between June 27 and July 16, July 27 and August 10, August 13 and August 19, and August 30 and September 1, 2013.

Remedial activities were undertaken by RJG of St. John's, NL under separate contract to NLDEC and were supervised by Stantec personnel, who maintained a record of activities while on-site and collected confirmatory soil samples. Stantec personnel documented subsurface observations during remediation, including the dimensions, locations and depths of the remedial excavations and the depths and locations of confirmatory soil samples.

2.1 Site Preparation

Old Dump Pond

The following site preparations were undertaken at the Old Dump Pond area prior to the commencement of the Year 3 remedial activities:

- Site clearing and grubbing was conducted in the areas requiring additional soil removal for PCBs.
- A temporary laydown area was designated along the Old Dump Pond access road to receive bagged soil and additional metal. Two (2) tandem loads of crushed stone were placed over the designated laydown area to level the ground surface and to cover any protruding metal or sharp rocks that could puncture the soil bags.
- The area requiring remediation was marked out in the field using survey stakes and spray paint based on the results of previous investigations.

BMEWS

The following site preparations were undertaken at the BMEWS area prior to the commencement of the Year 3 remedial activities:

- Site clearing and grubbing was conducted in the area requiring PCB remediation.
- A temporary laydown area was designated in a relatively flat area near the troposcatter antennae bases, at the end of the access road to receive bagged soil. The laydown area was covered with a 40 mil polyethylene liner to create a barrier between the soil bags and underlying soil.
- The area requiring remediation was marked out in the field using survey stakes and spray paint, based on the results of previous investigations.

Main Laydown Area

Filled bags that were not transported out of Hopedale during Year 2 of the Implementation of the RAP were temporarily stored on liners at the Main Laydown Area. The bags were covered with a clear plastic liner that was held down with clean backfill. Boulders were placed at the entrance to the laydown area to block access from the roadway.

The following site preparations were undertaken at the Main Laydown Area prior to the commencement of the Year 3 remedial activities:

- Boulders at the entrance to the pit were moved to allow access.
- The previously filled bags were uncovered and the cover liners and backfill were placed in bags to be treated as PCB-impacted material.
- All visibly damaged bags were double or triple bagged, as necessary, in preparation for transportation.

2.2 Excavation of PCB-Impacted Soil and Confirmatory Sampling

Soil excavation was completed using a tack-mounted Case 210X excavator or manually using shovels. Soil was loaded into 1 tonne capacity soil enviro-bags. The bags were UN certified and had a 3 year lifespan. Any bags that were torn or punctured during filling were double or triple-bagged to ensure that no soil could escape during transportation. The bags were tied shut and stacked in the temporary laydown areas at each remedial area. The bags were held at the laydown areas at their respective sites until the first barge shipment was completed in August 2013 in order to keep the Year 3 bags separate from Year 1 and 2 bags at the Main Laydown Area. Once the first barge shipment had departed, filled bags were transported to the Main Laydown Area for temporary storage until shipped out of Hopedale.

Confirmatory soil sampling was conducted along the limits of the excavations (i.e., the sidewalls and base of the excavations) as soil removal progressed to verify the concentrations of PCBs in soil remaining on the site. The samples were collected by bulk sample methods. The samples were visually examined in the field for any evidence of impacts and were placed in clean glass jars with Teflon liners. Samples were placed on ice in sample coolers which were shipped to Maxxam Analytics Inc. in Bedford, NS for analysis of PCBs. Unsubmitted duplicate samples were shipped to Stantec's office in St. John's, NL to be archived.

The number of soil bags filled at the Old Dump Pond and BMEWS areas during Year 3 site remediation is summarized in Table 2.1.

Table 2.1 Summary of Soil Bags Filled – Year 3

Date	Number of Bags Filled	
	Old Dump Pond	BMEWS
29-Jun-13	225	
30-Jun-13		
1-Jul-13		
2-Jul-13		
3-Jul-13		148
4-Jul-13		
5-Jul-13		
6-Jul-13		
7-Jul-13		
8-Jul-13		
9-Jul-13		
10-Jul-13		
11-Jul-13	49	
12-Jul-13		
13-Jul-13		
14-Jul-13		
15-Jul-13		
16-Jul-13		
28-Jul-13		449
29-Jul-13	79	
30-Jul-13		
31-Jul-13		
1-Aug-13		
2-Aug-13		
3-Aug-13		
4-Aug-13		
5-Aug-13		
9-Aug-13	5	41
10-Aug-13		
13-Aug-13	Barge loading (1298 bags).	
14-Aug-13		
15-Aug-13		
16-Aug-13		
17-Aug-13		9
18-Aug-13	5	
30-Aug-13	Barge loading (403 bags).	
19-Aug-13		
1-Sept-13		
TOTAL:	**363**	**647**

A total of 1,010 bags of soil were filled at the BMEWS and Old Dump Pond areas during the Year 3 of the Implementation of the RAP. An additional 58 bags were filled with tarps/liners, surficial soil removed from the soil storage area and areas affected by the work at the Main Laydown Area (on and beneath the liner) and metal removed from the BMEWS area after July 28, 2013 (limited quantity). Photos taken during Year 3 of the Implementation of the RAP are provided in

Appendix B. Details of the remedial activities undertaken in each area are described in detail below.

Old Dump Pond

Soil removal began on June 28, 2013 along the northern and western edges of ODP – Area 2 and progressed intermittently until August 9, 2013 as the analytical results of confirmatory soil samples were received (see Table 2.1). Following the initial round of soil removal and confirmatory soil sampling, additional soil removal was deemed necessary along the northeastern, eastern and southeastern limits of the excavation. Soil removal was carried out in these areas until the results of additional rounds of confirmatory soil sampling indicated that soil remaining on site contained PCB concentrations below the SSTL of 9 mg/kg. The limits of the remedial excavation following each round of confirmatory soil sampling are shown on Drawing No. 121411777-600-EE-03 in Appendix A.

Soil was initially pulled into a mound in the northern corner of the excavation to allow for drainage and to facilitate the segregation of metal debris. A significant amount of metal debris was encountered in the remedial excavation. Excess soil was shaken/brushed off of the metal debris and the debris was stockpiled near the excavation at the site (further details provided in Section 2.3 below). PCB-impacted soil was placed in soil bags which were tied shut and temporarily stockpiled on a liner near the Old Dump Pond access road until they were transported to the Main Laydown area on August 18, 2013.

A total of 20 confirmatory soil samples were collected from the ODP – Area 2 excavation as remediation progressed (13-ODP-BS1 to 13-ODP-BS20). No base samples were collected due to the presence of bedrock or the presence of a clay layer that was previously sampled and confirmed to contain concentrations of PCBs below the applicable SSTL. The results of previous environmental investigations and confirmatory soil sampling in this area indicated that PCB concentrations were generally the highest at the depth of the buried debris, which was generally encountered at depths ranging from 0.5 to 1.6 m below ground surface (mbgs). Therefore, confirmatory soil samples were collected from the sidewalls of the excavation, near the base. Confirmatory soil sample depths are provided in Table C.1 in Appendix C. The locations of all confirmatory soil samples are shown on Drawing No. 121411777-600-EE-03 in Appendix A.

The ODP – Area 2 remedial excavation extended from the limits of the Year 2 remedial excavation to a vertical bedrock face north of samples 13-ODP-BS16 and 13-ODP-BS17 and to "clean" boundaries (i.e., below the applicable SSTL) along the eastern and southeastern remedial boundaries, as shown on Drawing No. 121411777-600-EE-03 in Appendix A. The southeast portion of the remedial excavation extended to the clay layer which was encountered at a depth of approximately 1.2 mbgs. Groundwater was encountered at a depth of approximately 0.9 mbgs at this location. The base of the remaining portions of the Year 3 remedial excavation extended to bedrock, which was encountered at depths ranging from

0 mbgs (i.e., exposed) to 1.8 mbgs. Groundwater was encountered at depths ranging from approximately 1.0 to 1.6 mbgs in these areas.

Prior to the removal of filled soil bags from the Old Dump Pond area, four (4) soil samples were collected along the edges of the liner in the laydown area to determine the concentrations of PCBs in surficial soil beneath the bags (13-ODP-L1 to 13-ODP-L4). The analytical results indicated that soil in the vicinity of sample 13-ODP-L1 contained concentrations of PCBs in exceedance of the applicable SSTL for the area. Therefore, once filled soil bags were removed from the area on August 18, 2013, surficial soil was removed to depths ranging from 0.10 to 0.15 mbgs in the entire laydown area. Surficial soil was also removed to depths ranging from 0.10 to 0.15 mbgs in the metal stockpile areas and from 0.05 to 0.10 mbgs in the worked areas adjacent to Old Dump Pond. Two (2) confirmatory soil samples were collected from the base of the laydown area following surficial soil removal (13-ODP-L5 and 13-ODP-L6). The locations of laydown area soil samples and the area of surficial soil removal in the Old Dump Pond area are shown on Drawing No. 121411777-600-EE-03 in Appendix A.

BMEWS

Soil removal began in the BMEWS area on July 3, 2013 and continued until the results of confirmatory soil sampling indicated that soil remaining on-site contained PCB concentrations below the SSTL of 22 mg/kg. Table 2.1 shows the soil removal progress. By August 5, 2013 fourteen (14) confirmatory soil samples had been collected along the limits of the excavation and two (2) additional delineation soil samples had been collected from test pits excavated downgradient of the remedial excavation (13-BMEWS-BS15 and 13-BMEWS-BS16). The results of soil sampling indicated that further soil removal was required along the lower (northern) portion of the remedial excavation. Soil was removed from this area on August 9 and 10, 2013 and five (5) additional confirmatory soil samples were collected along the final limits of the remedial excavation. The limits of the remedial excavation following each round of confirmatory soil sampling are shown on Drawing No. 121411777-600-EE-04 in Appendix A.

Soil removal was carried out by pulling soil into a large stockpile at the center of the area requiring remediation with the excavator. Due to the presence of large boulders in the soil; an excavator rake attachment was used to separate the finer material from the boulders. The soil was placed in bags which were tied shut and temporarily stockpiled on a liner near the access road, until they were transported directly to the barge or to the Main Laydown Area on August 16 and 17, 2013. The boulders were returned to the northern portion of the excavation (terminated on bedrock). The entire remedial excavation was terminated on bedrock which ranged in depth from 0 mbgs (i.e., exposed) to 0.9 mbgs. Groundwater seepage was not observed in the excavation. Due to the uneven bedrock surface along the upper (southern) portion of the excavation, soil was removed manually in this area using shovels. The concrete foundations located within the footprint of the remedial excavation are constructed directly on bedrock; therefore, there are no concerns regarding the presence of PCB impacted soil beneath the concrete foundations. In the lower (northern) extension of the remedial

excavation, the excavation extended to bedrock at a depth of approximately 0.6 mbgs and groundwater was not encountered.

A small amount of metal debris was encountered in the remedial excavation at the BMEWS area. Excess soil was shaken/brushed off of the metal debris and the debris was transported to the Old Dump Pond area where it was stockpiled with metal removed from the Old Dump Pond area in Year 3 (further details provided in Section 2.3 below).

A total of 21 confirmatory soil samples were collected from the site over the course of remediation (13-BMEWS-BS1 to 13-BMEWS-BS21). The locations of all confirmatory soil samples are shown on Drawing No. 121411777-600-EE-04 in Appendix A. Confirmatory soil sample depths are provided in Table C.2 in Appendix C.

Prior to the removal of filled soil bags from the BMEWS area, two (2) soil samples were collected along the edges of the laydown area to determine the concentrations of PCBs in surficial soil surrounding the bags (13-BEMWS-L1 and 13-BMES-L2). The soil samples were collected from a low point that contained standing water. The depth to bedrock in this area was very shallow (< 0.15 mbgs). The analytical results indicated that both samples contained PCB concentrations in exceedance of the applicable SSTL for the site. Once the soil bags and liners were removed from the area on August 17, 2013, soil in the low-lying area was removed to bedrock and soil in the remainder of the laydown area was removed to depths ranging from 0.10 to 0.15 mbgs. The locations of laydown area soil samples and the areas of surface soil removal at BMEWS area are shown on Drawing No. 121411777-600-EE-04 in Appendix A.

Main Laydown Area

On July 28, 2013, 12 soil samples were collected from areas surrounding the filled bags at the Main Laydown Area to determine PCB concentrations in soil following 3 years of soil storage (13-ML1 to 13-ML12). The soil sample locations are shown on Drawing No. 121411777-600-EE-05 in Appendix A.

Groundwater samples were collected from monitor wells located downgradient of the soil storage area at the site on July 28, 2013 (MW19) and August 3, 2013 (MW20). Monitor well MW18 was dry on both groundwater sampling dates. Prior to collecting groundwater samples, each monitor well was purged by removing three (3) well volumes. Groundwater samples were collected into clean, new sample bottles provided by Maxxam Analytics. The samples were placed on-ice in coolers and were shipped to Maxxam Analytics in Bedford, NS for analysis of PCB content. The monitor well locations are shown on Drawing No. 121411777-600-EE-05 in Appendix A.

Once all soil bags were removed from the Main Laydown Area during barge loading on August 31, 2013, soil on the liners, the liners and the upper 0.10 to 0.15 m of soil beneath the liners and in the worked areas were placed in soil bags which were tied shut, loaded directly into dump trucks and loaded onto the barge.

2.3 Metal Debris

Buried metal debris was encountered in the remedial excavation at the Old Dump Pond and BMEWS areas. Metal debris consisted of empty 45 gallon drums, poles, girders, rebar, vehicle parts and other small pieces of metal. Broken glass and amber glass bottles were also encountered in the remedial excavation. None of the pieces of debris appeared to have painted surfaces. Smaller pieces of debris were placed in the bags with soil. Large pieces of metal were manually segregated from the soil. Residual soil was shaken/scraped from the metal and placed in soil bags. The metal was then stacked into piles and tied together with straps to facilitate movement. Larger pieces of metal were cut up using a metal grinder prior to being stacked. The piles of metal were placed in a temporary scrap metal stockpile next to the ODP – Area 2 remedial excavation, next to the Year 1 and Year 2 metal stockpiles.

In previous years of the Implementation of the RAP, 10 swab samples were collected from metal unearthed at Old Dump Pond in Year 1 and 14 swab samples were collected from metal unearthed at Old Dump Pond in Year 2 for PCB analysis. Six (6) of the samples contained detectable concentrations of PCBs; therefore, additional soil was brushed from the metal debris and the six (6) pieces were re-sampled. With the exception of a steel spring (sample 12-SWAB10B), PCBs were no longer detected on the surface of the metal. The steel spring and pieces of metal surrounding it in the stockpile were brushed clean and flagged for re-sampling in Year 3. All excess soil removed from the metal was placed in soil bags for transportation off-site.

On July 16, 2013, Stantec collected an additional swab sample from the previously impacted steel spring (13-SWAB11) and three (3) swab samples from metal immediately surrounding this piece in the stockpile. Stantec collected 10 swab samples from randomly selected pieces of metal unearthed at the Old Dump Pond and the BMEWS sites in Year 3. Each sample was swabbed over a 10 cm by 10 cm area (i.e., 100 cm^2) using a swab saturated with hexane provided by Maxxam Analytics Inc. All swab samples were frozen and shipped on ice in sample coolers to Maxxam Analytics Inc. in Bedford, NS for analysis of PCB content.

None of the tested pieces of metal contained detectable concentrations of PCBs; confirming that PCBs were not present on the metal surface, but had been detected in past samples as a result of residual soil on the metal surface. On July 28, 2013, all metal was weighed onsite using a mobile scale system provided by RJG and loaded onto a barge for shipment to a metal recycling facility. The metal was transported to Wesleyville, NL where it was offloaded into tractor trailers and transported to Newco Metal and Auto Recycling in St. John's, NL for recycling. A total of 93.6 tonnes of metal unearthed during Years 1 to 3 was removed from the site in this shipment.

No additional metal was unearthed at the BMEWS site after July 28, 2013. A limited amount of metal debris was unearthed at the Old Dump Pond site. This metal was cut up and loaded into soil bags along with PCB-impacted soil.

2.4 Soil Transportation

Two (2) soil shipments were made during Year 3 of the Implementation of the RAP. Each shipment was done using a 2,000 tonne capacity barge and tug (the Point Vim) owned and operated by NGC Nunatsiavut Marine Inc. The barge was properly loaded for gross stability, as per the direction of the captain. Soil was weighed in Hopedale prior to shipment using a mobile scale system provided by RJG. The first shipment was loaded between August 13 and 16, 2013 and consisted of all the bags from the Main Laydown Area (filled during Years 1 and 2 of the Implementation of the RAP) and a portion of the bags from BMEWS. The first shipment of soil weighed 1,190.0 tonnes (1,298 bags), as per the scale system in Hopedale. The second shipment was loaded on August 31, 2013 and consisted of all remaining bags of PCB-impacted material in Hopedale. This shipment weighed 398.7 tonnes (403 bags), as per the scale system in Hopedale. Barge loading was conducted at the American Dock on August 15, 16 and 31, 2013 and at the Hopedale polishing plant dock on August 13 and 14, 2013 using rock trucks, an excavator and a fork lift. Once all soil bags were loaded, they were covered with plastic liners and netting and strapped down with chains. RJG provided placards and shipment manifests in accordance with Transportation of Dangerous Goods (TDG) and International Maritime Dangerous Goods (IMDG) codes for each shipment. Copies of the shipment manifests are provided in Appendix E.

The barge was transported to the Grande-Anse Marine Terminal in Port Saguenay, Quebec (QC) where the soil bags were transferred to B-train tractor trailers owned and operated by Groupe Gilbert Ltée. Groupe Gilbert Ltée transported the soil bags approximately 30 km to the Récupère Sol (a division of Benev Capital Inc. (BCI)) thermal treatment facility in St.-Ambroise, QC. Soil was weighed upon arrival at the facility, for a reported combined total of 1,765.83 tonnes in Year 3.

Récupère Sol operates a thermal oxidation treatment unit that operates in accordance with the Quebec Ministry of Sustainable Development, Environment, Wildlife and Parks "<A" Treatment Criteria (i.e., <0.05 mg/kg). A Certificate of Destruction was not received by Stantec at the time this report was prepared.

2.5 Backfilling and Reinstatement Activities

The remedial excavations in the Old Dump Pond and BMEWS areas were backfilled following soil removal using 140 mm minus sized material. Clean backfill was also placed over each area of surficial soil removal (Old Dump Pond, BMEWS and Main Laydown Area) to level the sites. Fill material was obtained from a rock pit (owned by Max Kinden of Nain) created along the road to the local landfill, as shown on Drawing No. 121411777-600-EE-02 in Appendix A. Fill material was blasted and crushed by Budgell's of St. Anthony, NL under contract to Max Kinden.

A total of 1,393 tonnes of clean material was used to backfill and level the three (3) areas to original site grade in Year 3 of the Implementation of the RAP.

3.0 RESULTS

3.1 PCBs in Soil

PCB analysis was conducted on 63 soil samples collected during Year 3 of the Implementation of the RAP. Results of the laboratory analysis of PCBs in soil are presented in Tables C.1, C.2 and C.3 in Appendix C. The corresponding analytical reports from Maxxam Analytics Inc. are presented in Appendix D.

Old Dump Pond

PCB analysis was conducted on 20 confirmatory soil samples and two (2) field duplicate samples collected from the limits of the remedial excavation (13-ODP-BS1 to 13-ODP-B20, 13-ODP-DUP1 and 13-ODP-DUP2) and six (6) soil samples collected from the laydown area (13-ODP-L1 to 13-ODP-L6) in the Old Dump Pond area. PCB analysis was also conducted on the laboratory duplicates of four (4) soil samples collected from the Old Dump Pond remedial excavation. Results of the laboratory analysis of soil samples for PCBs in the Old Dump Pond area are presented in Table C.1 in Appendix C.

PCBs were detected in all of the confirmatory soil samples collected from the Old Dump Pond area in Year 3, with the exception of sample 13-ODP-BS20. The concentrations of PCBs detected in confirmatory soil samples 13-ODP-BS8 (42 mg/kg), 13-ODP-BS9 (33 mg/kg), 13-ODP-BS11 (14 mg/kg), 13-ODP-BS16 (32 mg/kg), 13-ODP-BS17 (25 mg/kg) and 13-ODP-BS19 (14 mg/kg) exceeded the applicable SSTL of 9 mg/kg; therefore additional soil was removed from these areas following the receipt of analytical results. Additional soil was also removed in the vicinity of soil sample 13-ODP-BS5 (8.8 mg/kg) because the PCB concentration was close to the SSTL of 9 mg/kg and a significant amount of buried debris remained in soil at this location (see Photo 5, Appendix B). The concentrations of PCBs in soil samples collected from the final limits of the ODP – Area 2 remedial excavation in Year 3 ranged from 0.07 mg/kg (13-ODP-BS15) to 5.2 mg/kg (13-BMEWS-BS10).

PCBs were detected in three (3) laydown soil samples (13-ODP-L1, ODP-L2 and 13-ODP-L3). The concentration of PCBs detected in laydown area soil sample 13-ODP-L1 (10 mg/kg) exceeded the applicable SSTL of 9 mg/kg; therefore surficial soil was removed throughout the entire laydown area. PCBs were not detected in soil samples collected from the base of the laydown area remediation following surficial soil removal.

BMEWS

PCB analysis was conducted on 21 confirmatory soil samples collected from the limits of the remedial excavation (13-BMEWS-BS1 to 13-BMEWS-B21) and two (2) soil samples collected from the laydown area prior to surficial soil removal (13-BMEWS-L1 and 13-BMEWS-L2) in the BMEWS area. PCB analysis was also conducted on the laboratory duplicates of three (3) soil samples

collected from the BMEWS area. Results of the laboratory analysis of soil samples for PCBs at BMEWS are presented in Table C.2 in Appendix C.

PCBs were detected in all of the confirmatory soil samples, with the exception of samples 13-BMEWS-BS18, 13-BMEWS-BS19 and 13-BMEWS-BS21. Concentrations of PCBs detected in samples 13-BMEWS-BS15 (61 mg/kg) and 13-BMEWS-BS16 (26 mg/kg) exceeded the applicable SSTL of 22 mg/kg; therefore additional soil was removed from these areas following the receipt of analytical results. The concentrations of PCBs in soil samples collected from the final limits of the remedial excavation ranged from non-detect to 4.9 mg/kg (13-BMEWS-BS6).

PCBs were detected in both of the soil samples collected along the edges of the temporary laydown area at the BMEWS site. The concentrations of PCBs in both samples exceeded the applicable SSTL of 22 mg/kg (13-BMEWS-L1 – 120 mg/kg and 13-BMEWS-L2 – 93 mg/kg). Following the receipt of analytical results, soil was removed to bedrock in this area. No follow-up soil sampling was conducted due to the presence of bedrock.

Main Laydown Area

PCB analysis was conducted on 12 soil samples collected from the Main Laydown Area prior to surficial soil removal (13-ML1 to 13-ML12). Results of the laboratory analysis of soil samples for PCBs at the Main Laydown Area are presented in Table C.3 in Appendix C.

Concentrations of PCBs were detected in each of the soil samples collected from the Main Laydown Area at concentrations ranging from 0.63 mg/kg (13-ML8) to 7.3 mg/kg (13-ML4) which were below the applicable SSTL for the site of 22 mg/kg. Surficial soil was removed in this area following the removal of soil bags and tarps from the site. No follow-up soil sampling was conducted because there were no exceedances of the applicable SSTL.

3.2 Soil Sample Exceedances

Table 3.1 summarizes the soil samples with concentrations of PCBs exceeding the applicable SSTL of 9 mg/kg in soil remaining in the Old Dump Pond area following Year 3 of the Implementation of the RAP.

Table 3.1 Soil Sample Exceedances

Parameter	Sample No.	Sample Depth (m)	Concentration	Guideline
PCBs	12-ODP-BS7	0.0 – 1.0	290 mg/kg	9 mg/kg (SSTL)[1]
	12-ODP-BS8	0.0 – 1.0	200 mg/kg	
	12-ODP-BS27	0.4 – 0.8	18 mg/kg	
Referenced Guideline: [1] SSTL calculated in the HHERA (Stantec, 2010)				

Based on an estimated area of impacts of 30 m^2 and a depth of impacts of 1 m, there is an estimated 30 m^3 of PCB-impacted soil requiring remediation that remains in the Old Dump Pond area.

None of the confirmatory soil samples collected from the final limits of the BMEWS and Main Laydown Area remedial excavations exceeded the applicable SSTL of 22 mg/kg.

3.3 PCBs in Groundwater

PCB analysis was conducted on two (2) groundwater samples collected from Pit No. 1 (Main Laydown Area). Results of the laboratory analysis of groundwater samples for total PCBs are presented in Table C.4 in Appendix C. The corresponding analytical reports from Maxxam Analytics Inc. are presented in Appendix D.

PCBs were detected in both groundwater samples analyzed (MW19 – 0.059 µg/L and MW20 – 0.078 µg/L). The concentrations of PCBs were below the Ontario Ministry of Environment (OMOE) guideline for a commercial site with non-potable groundwater of 0.2 µg/L. This guideline was previously applied to the analytical results of groundwater samples collected as part of the Phase III ESA (Stantec, 2010).

3.4 PCBs on Metal

PCB analysis was conducted on 14 swab samples collected from metal debris removed from the remedial excavations in the Old Dump Pond and BMEWS areas, including four (4) swab samples collected from Year 2 metal debris (13-SWAB11 to 13-SWAB14) and 10 swab samples collected from Year 3 metal debris (13-SWAB1 to 13-SWAB10). Results of the laboratory analysis of swab samples for total PCB content are presented in Table C.5 in Appendix C. The corresponding analytical reports from Maxxam Analytics Inc. are presented in Appendix D.

PCBs were not detected in any of the PCB swabs collected during Year 3 of the Implementation of the RAP.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

Stantec supervised environmental site remediation and conducted confirmatory soil sampling in the Old Dump Pond and BMEWS areas in Hopedale, NL during Year 3 of remedial activities conducted at the Former U.S. Military Site and Residential Subdivision. Site remediation was carried out in response to recommendations provided in a RAP/RMP prepared by Stantec in 2009, an additional delineation program carried out by Stantec in 2010 and a mutually agreeable work plan developed by the Stakeholder Committee.

The following is a summary of remedial activities carried out at the site in Year 3.

- A total of 1,068 bags were filled with PCB-impacted material in Year 3, as follows:
  - Old Dump Pond: 363 bags of PCB-impacted soil from the remedial excavation and the upper 0.05 to 0.15 m of areas affected by the work, including the temporary soil laydown area and metal stockpile area.
  - BMEWS: 647 bags of PCB-impacted soil from the remedial excavation and the upper 0.10 to 0.15 m of the temporary laydown area used to store filled bags at the site.
  - Other: 58 bags were filled with surficial soil (0.10 to 0.15 m) removed from the temporary soil storage area the Main Laydown Area (on and beneath the liner), surficial soil (0.10 to 0.15 m) removed from areas affected by the work at the Main Laydown Area, with tarps/liners used during the handling of PCB impacted material and with a limited quantity of unsampled metal debris removed from the Old Dump Pond area in Year 3.
- Large pieces of metal debris encountered in the remedial excavations were segregated from the soil and were cleaned by shaking/brushing/scraping. The metal was cut into smaller pieces, consolidated in stockpiles in the Old Dump Pond area and swab sampled for PCBs. None of the sampled pieces of metal from the Year 1, 2 or 3 metal stockpiles contained detectable concentrations of PCBs (i.e., > 5 µg/kg per 100 cm^2) during the most recent round of sampling; therefore, the metal was shipped out of Hopedale via barge on July 28, 2013. A total of 93.6 tonnes of metal was transported to the Newco Metal and Auto Recycling Facility in St. John's, NL for recycling. A small amount of metal was unearthed in the Old Dump Pond excavation after the barge departure. This unsampled metal was cut up and placed in bags to be treated as PCB-impacted material.
- A total of 1,765.83 tonnes of PCB-impacted material was transported out of Hopedale in Year 3. This included all bags stored at the Main Laydown Area (filled during Years 1 and 2) and all bags filled during Year 3. No bags filled with PCB-impacted material remained in Hopedale following the completion of the three (3) year contract.
- PCB-impacted material was transported by barge/tug and tractor trailer to the Récupère Sol (a division of Benev Capital Inc. (BCI)) thermal treatment facility in St.-Ambroise, QC. Récupère Sol operates a thermal oxidation treatment unit that operates in accordance with the Quebec Ministry of Sustainable Development, Environment, Wildlife and Parks "<A" Treatment Criteria (i.e., <0.05 mg/kg). A Certificate of Destruction was not received by Stantec for Year 3 shipments at the time this report was prepared.
- The Year 3 remedial excavations and laydown areas were backfilled using a total of 1,393 tonnes of clean backfill. Backfill material was obtained from a local rock pit (owned by Max Kinden of Nain) created along the road to the landfill in Hopedale in 2011 and stockpiled at Pit No. 1.
- Based on the results of confirmatory soil sampling conducted along the limits of the remedial excavations and of soil sampling conducted as part of previous environmental site

assessments by Stantec, the following conclusions are made with regards to areas remediated in Year 3:

- Old Dump Pond: A strip of soil remaining between the remedial excavation and the pond contains concentrations of PCBs in exceedance of the applicable SSTL of 9 mg/kg. Soil removal was not possible in this area due to the proximity to the pond. This area should be assessed during the development of a remedial action/risk management plan for the pond sediments (estimated 30 m^3 of PCB-impacted soil). The maximum PCB concentration reported in this area was 290 mg/kg.

  For the remainder of the Old Dump Pond area, PCB concentrations in soil remaining on-site range from non-detect to 5.6 mg/kg (ODP-TP BS1), which are below the applicable SSTL of 9 mg/kg. With the exception of the strip of soil located between the southwestern limits of the excavation and the pond, terrestrial remediation for PCBs in the Old Dump Pond area is deemed complete.

- BMEWS: PCB concentrations in soil remaining in this area range from non-detect to 4.9 mg/kg (13-BMEWS-BS6), which are below the applicable SSTL of 22 mg/kg. Soil remediation for PCBs in the BMEWS area is deemed complete.

- Based on the results of soil sampling conducted as part of previous environmental site assessments by Stantec and the results of soil and groundwater sampling conducted at the Main Laydown Area near the completion of Year 3, the following conclusions are made with regards to the temporary soil storage area:

  - Pit No. 1: No additional work is deemed necessary to address PCBs in soil or groundwater at Pit No. 1.

In summary, a total of 2,265.15 tonnes of PCB-impacted material was removed the Former U.S. Military site in Hopedale during the first three (3) years of the Implementation of the RAP. Soil was removed from sites located closest to the residential areas of Hopedale (the stream in the Residential Subdivision, the Wharf Area and the Old Dump Pond area) and from the area located upgradient of the community water supply source (the BMEWS area). With the exception of the strip of un-remediated soil located adjacent to Old Dump Pond, no further PCB remediation is deemed necessary in these areas in accordance with SSTLs calculated for the site as part of the HHERA (Stantec, 2010).

4.2 Recommendations

Based on the results of the Years 1 to 3 of the Implementation of the RAP, Stantec makes the following recommendations:

1. Complete the removal of PCB-impacted soil exceeding the SSTL of 9 mg/kg in the area located south of the limits of the Old Dump Pond remedial excavation (estimated 30 m^3). A significant amount of buried debris is anticipated to be present in this area. This work could be completed in conjunction with Old Dump Pond sediment remediation (if deemed necessary).

2. Continue remediation efforts at the Former U.S. Military Site and Residential Subdivision in accordance with the RAP/RMP and the recommendations provided by the Stakeholder Scientific Advisory Working Group.

5.0 CLOSURE

This report documents work that was performed in accordance with generally accepted professional standards at the time and location in which the services were provided. No other representations, warranties or guarantees are made concerning the accuracy or completeness of the data or conclusions contained within this report, including no assurance that this work has uncovered all potential liabilities associated with the identified property.

This report provides an evaluation of selected environmental conditions associated with the identified portion of the property that was assessed at the time the work was conducted and is based on information obtained by and/or provided to Stantec at that time. There are no assurances regarding the accuracy and completeness of this information. All information received from the client or third parties in the preparation of this report has been assumed by Stantec to be correct. Stantec assumes no responsibility for any deficiency or inaccuracy in information received from others.

The opinions in this report can only be relied upon as they relate to the condition of the portion of the identified property that was assessed at the time the work was conducted. Activities at the property subsequent to Stantec's assessment may have significantly altered the property's condition. Stantec cannot comment on other areas of the property that were not assessed.

Conclusions made within this report consist of Stantec's professional opinion as of the time of the writing of this report, and are based solely on the scope of work described in the report, the limited data available and the results of the work. They are not a certification of the property's environmental condition. This report should not be construed as legal advice.

This report has been prepared for the exclusive use of the client identified herein and any use by any third party is prohibited. Stantec assumes no responsibility for losses, damages, liabilities or claims, howsoever arising, from third party use of this report.

The locations of any utilities, buildings and structures, and property boundaries illustrated in or described within this report, if any, including pole lines, conduits, water mains, sewers and other surface or sub-surface utilities and structures are not guaranteed. Before starting work, the exact location of all such utilities and structures should be confirmed and Stantec assumes no liability for damage to them.

The conclusions are based on the site conditions encountered by Stantec at the time the work was performed at the specific testing and/or sampling locations, and conditions may vary among sampling locations. Factors such as areas of potential concern identified in previous

studies, site conditions (e.g., utilities) and cost may have constrained the sampling locations used in this assessment. In addition, analysis has been carried out for only a limited number of chemical parameters, and it should not be inferred that other chemical species are not present. Due to the nature of the investigation and the limited data available, Stantec does not warrant against undiscovered environmental liabilities nor that the sampling results are indicative of the condition of the entire site. As the purpose of this report is to identify site conditions which may pose an environmental risk; the identification of non-environmental risks to structures or people on the site is beyond the scope of this assessment.

Should additional information become available which differs significantly from our understanding of conditions presented in this report, Stantec specifically disclaims any responsibility to update the conclusions in this report.

This report was prepared by Anna Roy, B.Sc.E., MIT and reviewed by Jim Slade, P.Eng., P.Geo.

Respectfully submitted,

AIVEK STANTEC LIMITED PARTNERSHIP

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Environmental Engineer-In-Training

Jim Slade, P.Eng., P.Geo.
Team Leader – Environmental Remediation

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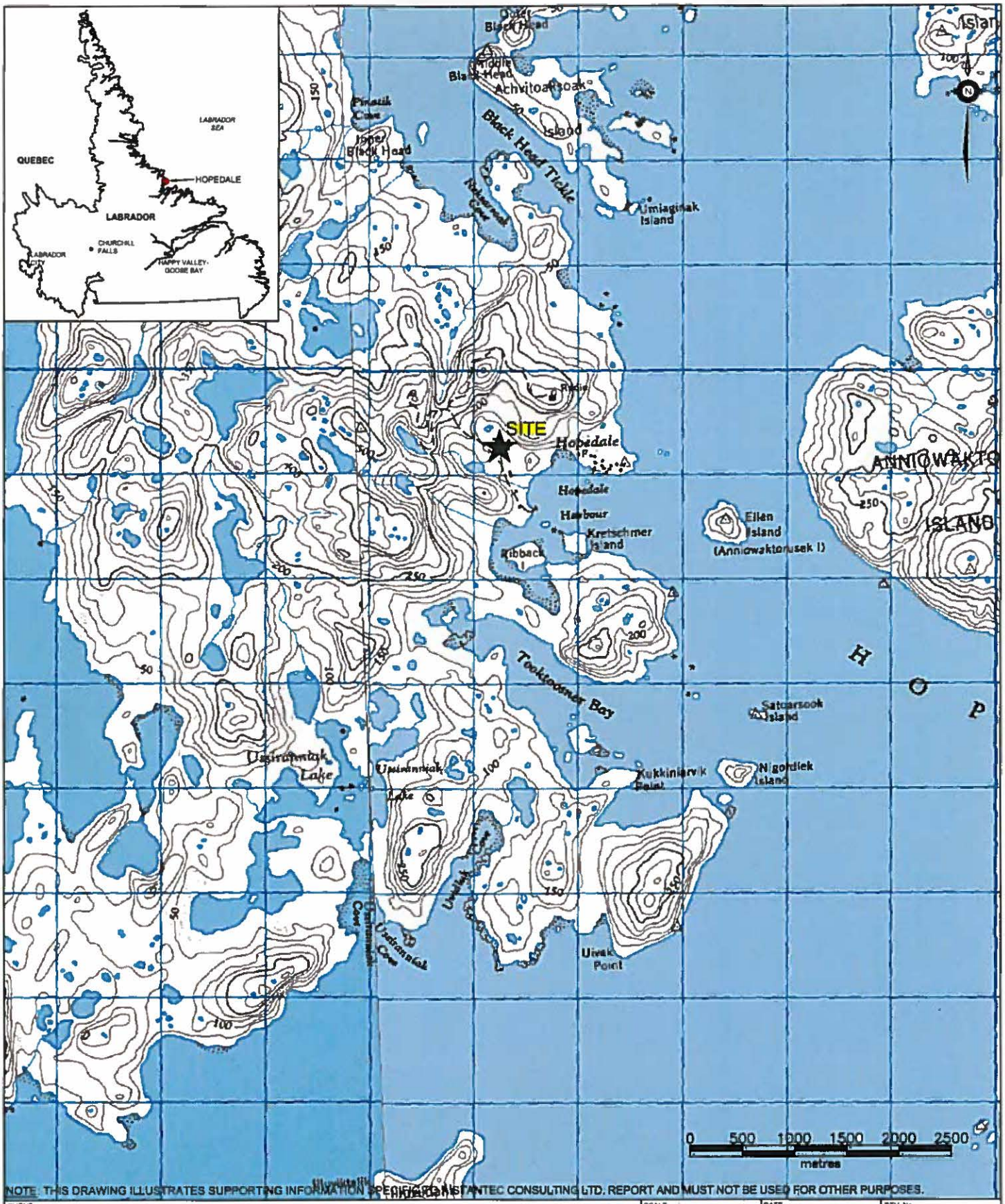
APPENDIX A

Drawings



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CLIENT:
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

PROJECT TITLE:
IMPLEMENTATION OF REMEDIAL ACTION PLAN - YEAR 3, FORMER U.S. MILITARY SITE AND RESIDENTIAL SUBDIVISION, HOPEDALE, NL

DRAWING TITLE:
SITE LOCATION PLAN

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STREAM

REMEDIATED AREA

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PROJECT TITLE:

IMPLEMENTATION OF REMEDIAL ACTION PLAN - YEAR 3, FORMER U.S. MILITARY SITE AND RESIDENTIAL SUBDIVISION, HOPEDALE, NL

DRAWING TITLE:

SITE PLAN

Stantec Consulting Ltd.

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LEGEND

STREAM

REMEDIATED AREA

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PROJECT TITLE:

IMPLEMENTATION OF REMEDIAL ACTION PLAN - YEAR 3, FORMER U.S. MILITARY SITE AND RESIDENTIAL SUBDIVISION, HOPEDALE, NL

DRAWING TITLE:

SITE PLAN

Stantec Consulting Ltd.

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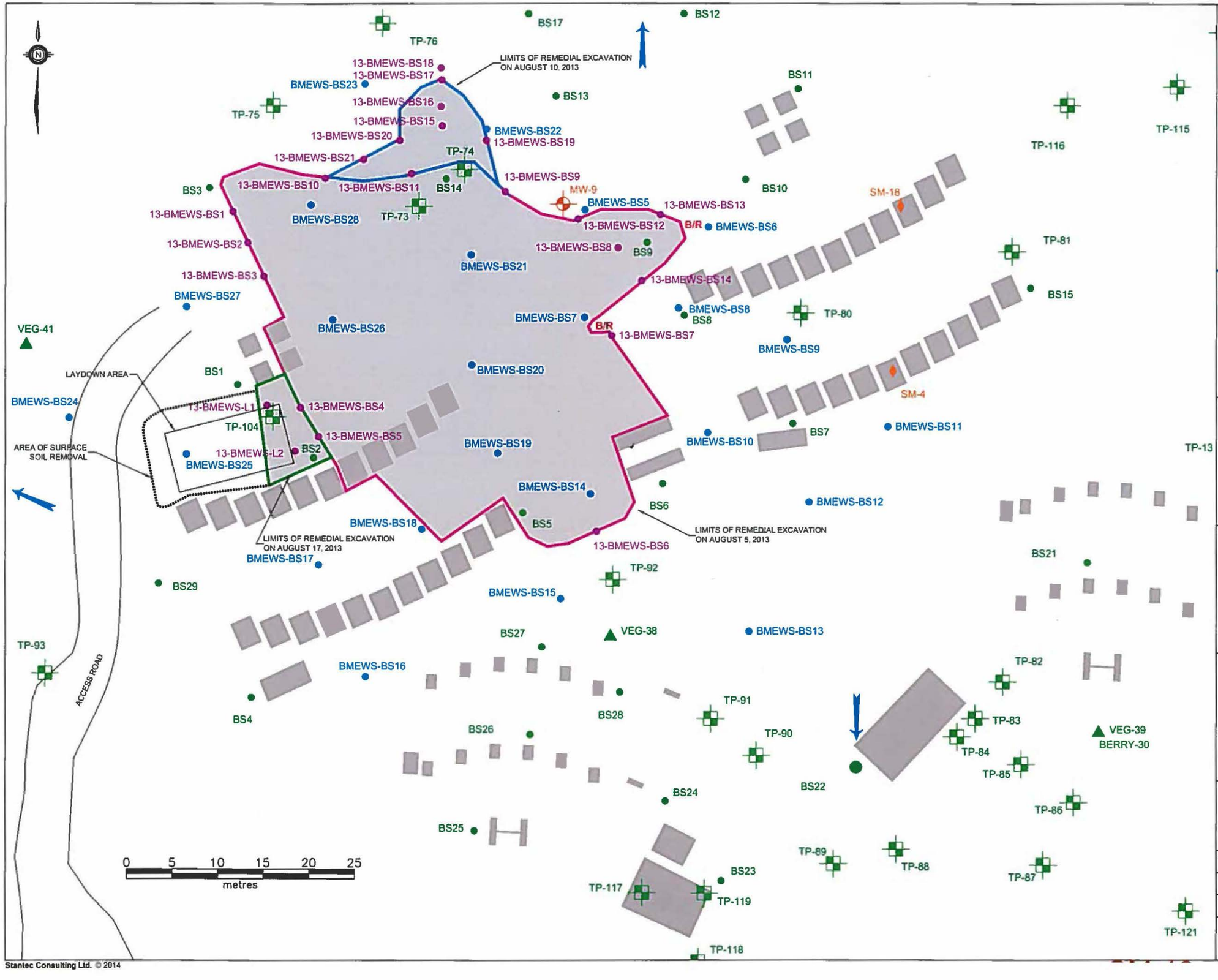

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- TEST PIT (STANTEC 2010)
- MONITOR WELL (STANTEC 2009)
- BULK SAMPLE (STANTEC 2009)
- SOIL SAMPLE (STANTEC 2010)
- BERRY SAMPLE (STANTEC 2009)
- VEGETATION SAMPLE (STANTEC 2009)
- SMALL MAMMALS (STANTEC 2009)
- SOIL SAMPLE (STANTEC 2013)
- INFERRED GROUNDWATER FLOW DIRECTION
- —?— UNKNOWN EXTENT OF IMPACTS
- CONCRETE FOUNDATION
- B/R EXPOSED BEDROCK

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NEWFOUNDLAND AND LABRADOR DEPARTMENT OF ENVIRONMENT AND CONSERVATION

PROJECT TITLE:

IMPLEMENTATION OF REMEDIAL ACTION PLAN - YEAR 3, FORMER U.S. MILITARY SITE AND RESIDENTIAL SUBDIVISION, HOPEDALE, NL

DRAWING TITLE:

REMEDIATION AREA AND SAMPLE LOCATION PLAN BMEWS

Stantec Consulting Ltd.

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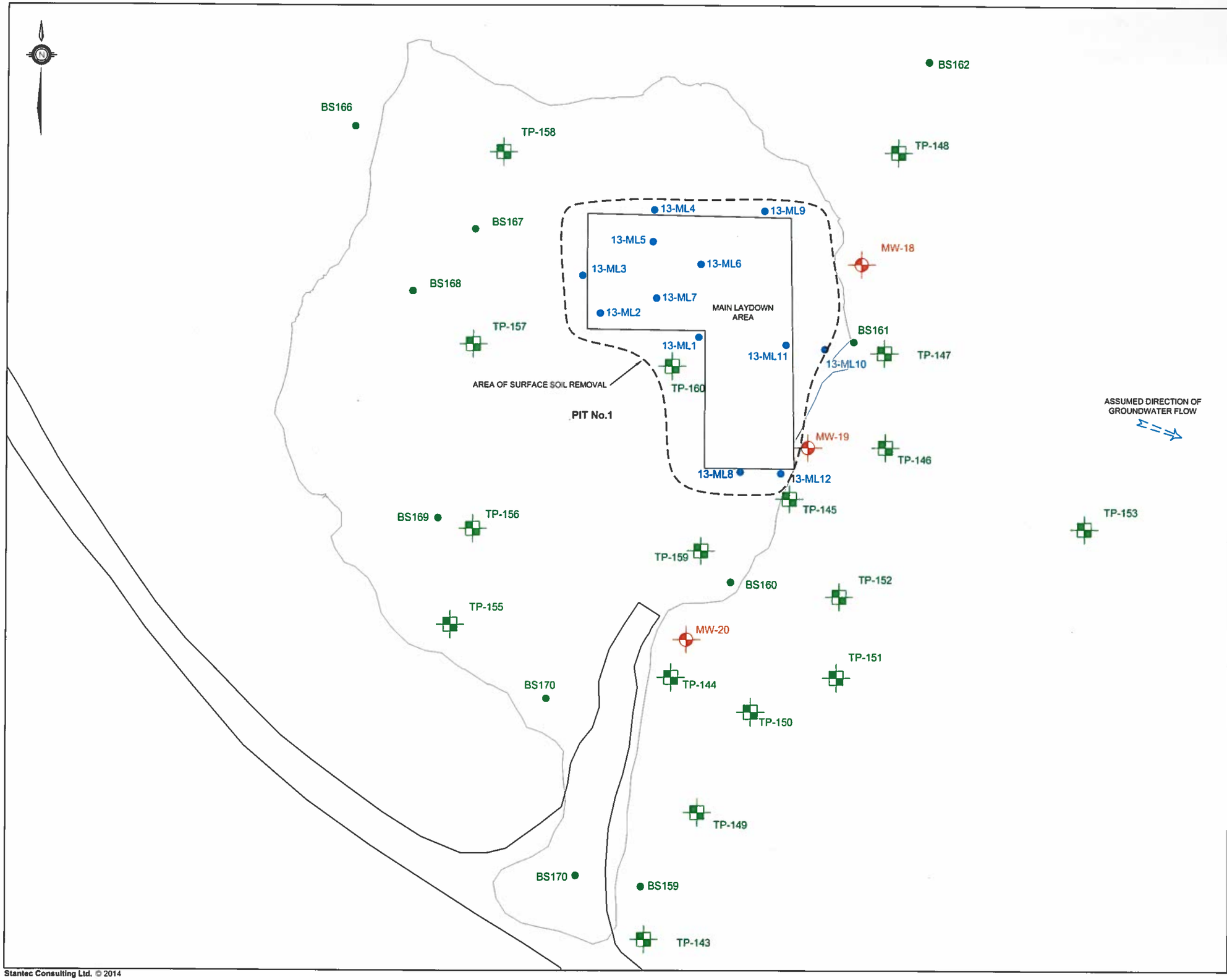

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- MONITOR WELL (STANTEC 2009)
- BULK SAMPLE (STANTEC 2009)
- BULK SAMPLE (STANTEC 2013)

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NEWFOUNDLAND AND LABRADOR DEPARTMENT OF ENVIRONMENT AND CONSERVATION

PROJECT TITLE:

IMPLEMENTATION OF REMEDIAL ACTION PLAN - YEAR 3, FORMER U.S. MILITARY SITE AND RESIDENTIAL SUBDIVISION, HOPEDALE, NL

DRAWING TITLE:

REMEDIATION AREA AND SAMPLE LOCATION PLAN PIT No. 1

Stantec Consulting Ltd.

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APPENDIX B

Site Photographs

Site Photographs – Implementation of Remedial Action Plan – Year 3, Former U.S. Military Site and Residential Subdivision, Hopedale, NL

Old Dump Pond

Photo 1 Old Dump Pond (ODP) – Area 2 on June 26, 2013, prior to excavation.

Photo 2 Laydown area prepared at Old Dump Pond.

Photo 3 Soil removal at Old Dump Pond on June 29, 2013.

Photo 4 Old Dump Pond remedial excavation on July 2, 2013.

Photo 5 Buried metal observed in the vicinity of sample 13-ODP-BS4 prior to removal.

Photo 6 Old Dump Pond remedial excavation on July 11, 2013.

Photo 7 Remedial excavation terminated on bedrock in the vicinity of samples 13-ODP-BS16 and 13-ODP-BS17.

Photo 8 Laydown area in Old Dump Pond area.

Photo 9 Metal stockpiles in Old Dump Pond area.

Photo 10 Metal stockpiles in Old Dump Pond area.

Photo 11 Metal stockpiles removed from Old Dump Pond area.

Photo 12 Surficial soil removed and area backfilled in Old Dump Pond area.

Photo 13 Additional soil removed in the vicinity of samples 13-ODP-BS18 and 13-ODP-BS19.

Photo 14 Moving bags from Old Dump Pond site up to the Main Laydown Area on August 14, 2013.

Photo 15 Old Dump Pond area backfilled.

Photo 16 Old Dump Pond area backfilled.

BMEWS

Photo 17 BMEWS area prior to excavation, looking southeast.

Photo 18 BMEWS area prior to excavation, looking south.

Photo 19 Remedial excavation in BMEWS area on July 10, 2013.

Photo 20 Remedial excavation in BMEWS area on July 10, 2013.

Photo 21 Remedial excavation in BMEWS area on July 10, 2013.

Photo 22 Boulder-sized rocks encountered in BMEWS excavation.

Photo 23 Soil removal in the vicinity of MW-9 on July 16, 2013.

Photo 24 Buried metal encountered during excavation in the BMEWS area.

Photo 25 Laydown area in the BMEWS area.

Photo 26 Soil bags temporarily stored on bedrock within the remedial excavation in the BMEWS area.

Photo 27 Central portion of BMEWS remedial excavation on August 6, 2013 (removed to bedrock).

Photo 28 Removal of additional soil in the vicinity of 13-BMEWS-BS15 on August 9, 2013.

Photo 29 Surficial soil removed and area backfilled at the BMEWS laydown area.

Photo 30 BMEWS area backfilled, looking northwest.

Photo 31 BMEWS area backfilled, looking west.

Photo 32 BMEWS area backfilled, looking southeast.

Main Laydown Area

Photo 33 Plastic cover removed from Main Laydown Area and bagged.

Photo 34 Main Laydown Area.

Photo 35 Main Laydown Area. Backfill material shown on bottom liner was subsequently removed and bagged.

Photo 36 Loading soil bags from Main Laydown Area into Rock Truck for transportation to the barge on August 13, 2013.

Barges

Photo 37 Loading soil bags onto barge at the polishing plant wharf on August 13, 2013.

Photo 38 Loading soil bags onto the barge at the polishing plant wharf on August 14, 2013.

Photo 39 Loading barge at the American Dock on August 15, 2013.

Photo 40 Covering soil bags with plastic tarp on August 15, 2013.

Photo 41 Bags covered with plastic liner and netting on August 16, 2013.

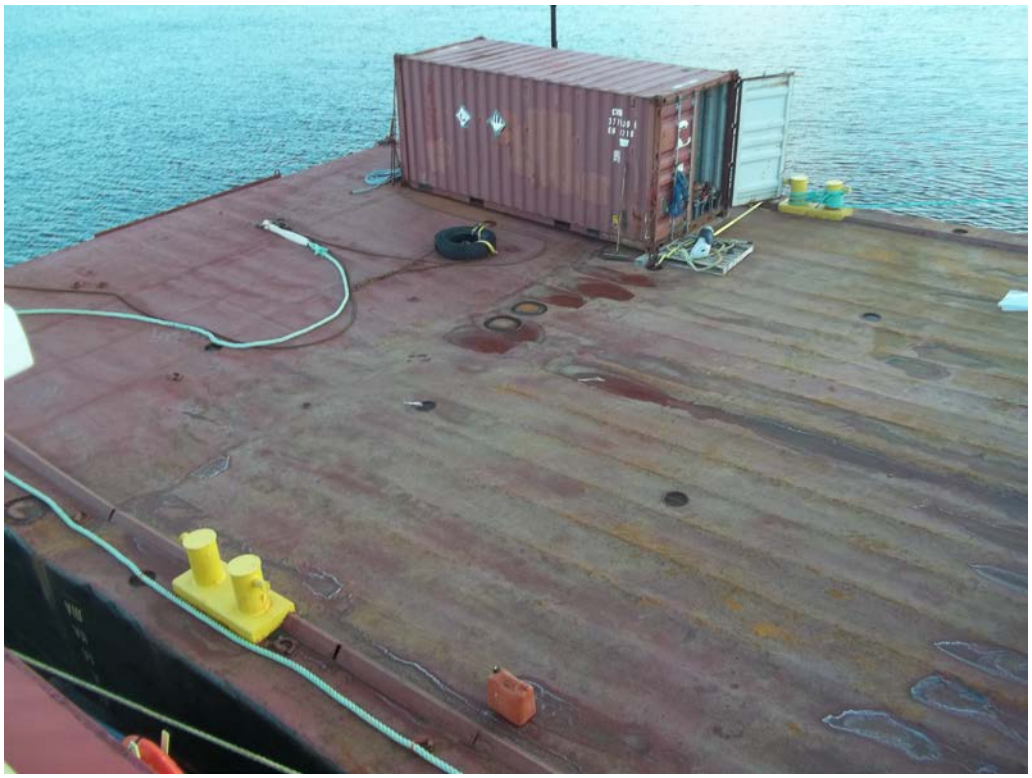

Photo 42 Second barge on August 31, 2013.

Photo 43 Loading barge on August 31, 2013.

Photo 44 Loading barge on August 31, 2013.

Main Laydown Area

Photo 45 Main Laydown Area on September 2, 2013 following bag removal, surficial soil removal and backfilling.

Photo 46 Main Laydown Area on September 2, 2013 following bag removal, surficial soil removal and backfilling.

Photo 47 Main Laydown Area on September 2, 2013 following bag removal, surficial soil removal and backfilling.

APPENDIX C

Laboratory Analytical Results Summary Tables

Table C.1 Results of Laboratory Analysis of PCBs in Soil - Old Dump Pond
Implementation of Remedial Action Plan - Year 3
Former U.S. Military Base and Residential Subdivision, Hopedale, NL
Stantec Project No. 121411777.600

	Sample ID	Sample Depth (m)	Polychlorinated Biphenyls (PCBs)	Comments
		RDL	0.05	-
		Units	mg/kg	-
		SSTL[1]	9	-
	2009 Sampling - Stantec			
	MW31-SS2	1.5 - 2.1	nd	-
	MW32-SS2	0.6 - 1.2	**25**	Soil removed.
	MW33-SS2	0.6 - 1.2	4.0	Soil remoed due to impacts detected in nearby sample.
	MW61-SS1	0.0 - 0.5	**29**	Soil removed.
	MW62-SS3	1.2 - 1.8	0.2	-
	AG2-FS2	1.5	0.54	-
	AG4-FS1	0.3	1.1	-
	2010 Sampling - Stantec			
	ODP-TP1 BS1	0 - 0.15	5.6	Soil partially removed during surface soil removal.
	ODP-TP2 BS1	0 - 0.3	**50**	Soil removed.
	ODP-TP3 BS1	0 - 0.5	nd	-
	ODP-TP4 BS1	0 - 0.1	0.23	-
	ODP-TP6 BS1	0 - 0.5	8.9	Soil removed due to impacts detected in nearby samples.
	2011 Sampling - Stantec			
ODP - Area 1	11-ODP-TP1	0.0 - 1.0	**11**	Soil removed.
	11-ODP-TP2	0.0 - 1.0	**14**	Soil removed.
	11-ODP-BS1	0.0 - 0.1	2.5	-
	11-ODP-BS2	0.0 - 0.5	0.8	-
	11-ODP-BS3	0.0 - 0.5	0.59	-
	11-ODP-BS4	0.0 - 0.5	4.1	-
	11-ODP-BS5	1.0	**34**	Soil removed.
	11-ODP-BS10	0.0 - 0.7	**18**	Soil removed.
	11-ODP-BS18	0.3 - 0.5	0.41	-
ODP - Area 2	11-ODP-BS6	0.0 - 0.5	**64**	Soil removed.
	11-ODP-BS7	0.0 - 0.5	8.9	Soil removed.
	11-ODP-BS8	0.0 - 0.5	**67**	Soil removed.
	11-ODP-BS9	0.7	**39**	Soil removed.
	11-ODP-BS11	0.0 - 0.5	**12**	Soil removed.
	11-ODP-BS12	1.3 - 1.4	1.1	-
	11-ODP-BS13	0.0 - 0.5	4.1	Soil removed due to impacts detected in nearby sample.
	11-ODP-BS14	1.4 - 1.5	0.94	-
	11-ODP-BS15	0.0 - 0.5	**39**	Soil removed.
	11-ODP-BS16	0.0 - 0.5	**28**	Soil removed.
	11-ODP-BS17	0.0 - 0.5	8.3	Soil removed.

Notes:
1 = Site Specific Target Level (SSTL) calculated for PCBs in soil at the Residential Area of Hopedale (Stantec, 2010)
RDL = Reportable Detection Limit for routine analysis
nd = Not detected above laboratory detection limit
Lab-dup = laboratory duplicate sample
Bold/Shaded = Value exceeds SSTL calculated for PCBs at the Residential Area of Hopedale (Stantec, 2010)

Table C.1 Results of Laboratory Analysis of PCBs in Soil - Old Dump Pond
Implementation of Remedial Action Plan - Year 3
Former U.S. Military Base and Residential Subdivision, Hopedale, NL
Stantec Project No. 121411777.600

	Sample ID	Sample Depth (m)	Polychlorinated Biphenyls (PCBs)	Comments
		RDL	0.05	-
		Units	mg/kg	-
		SSTL[1]	9	-
2012 Sampling - Stantec				
ODP - Area 2	12-ODP-BS1	0.0 - 1.0	**320**	Soil removed.
	12-ODP-BS1 Lab-Dup	0.0 - 1.0	**210**	Soil removed.
	12-ODP-BS2	0.0 - 1.0	1.7	Soil removed due to impacts detected in surrounding samples.
	12-ODP-BS3	0.0 - 1.0	**17**	Soil removed.
	12-ODP-BS4	0.0 - 1.0	0.52	Soil removed due to impacts detected in surrounding samples.
	12-ODP-BS5	0.0 - 1.0	**13**	Soil removed.
	12-ODP-BS6	0.0 - 1.0	3.7	-
	12-ODP-BS7	0.0 - 1.0	**290**	Soil remains onsite due to proximity to pond.
	12-ODP-BS8	0.0 - 1.0	**200**	Soil remains onsite due to proximity to pond.
	12-ODP-BS9	1.0 - 1.1 (base)	nd	-
	12-ODP-BS10	1.0 - 1.1 (base)	2.4	-
	12-ODP-BS18	0.5 (base)	**51**	Soil removed.
	12-ODP-BS19	0.5 (base)	**510**	Soil removed.
	12-ODP-BS20	1.0 (base)	0.034	-
	12-ODP-BS21	0 - 1.0	**140**	Soil removed.
	12-ODP-BS22	0 - 1.0	**27**	Soil removed.
	12-ODP-BS23	0 - 1.0	**35**	Soil removed.
	12-ODP-BS24	1.0	5.8	Soil removed due to impacts detected in nearby sample.
	12-ODP-BS25	1.0	4.7	-
	12-ODP-BS26	0 - 0.4	2.4	Soil removed due to impacts detected in nearby sample.
	12-ODP-BS27	0.4 - 0.8	**18**	Soil removed.
	12-ODP-BS28	0 - 0.2	nd	-
	12-ODP-BS29	0.2 - 0.4	**11**	Soil removed.
	12-ODP-BS30	0.8 - 1.1	**18**	Soil removed.
	12-ODP-BS30 Lab-Dup	0.8 - 1.1	**20**	Soil removed.
	12-ODP-BS31	0.7 - 1.0	**23**	Soil removed.
	12-ODP-BS32	0.7 - 1.0	**14**	Soil removed.
	12-ODP-BS33	0.8 - 1.1	**12**	Soil removed.
	12-ODP-BS34	0.8 - 1.1	**63**	Soil removed.

Notes:
1 = Site Specific Target Level (SSTL) calculated for PCBs in soil at the Residential Area of Hopedale (Stantec, 2010)
RDL = Reportable Detection Limit for routine analysis
nd = Not detected above laboratory detection limit
Lab-dup = laboratory duplicate sample
Bold/Shaded = Value exceeds SSTL calculated for PCBs at the Residential Area of Hopedale (Stantec, 2010)

Table C.1 Results of Laboratory Analysis of PCBs in Soil - Old Dump Pond
Implementation of Remedial Action Plan - Year 3
Former U.S. Military Base and Residential Subdivision, Hopedale, NL
Stantec Project No. 121411777.600

	Sample ID	Sample Depth (m)	Polychlorinated Biphenyls (PCBs)	Comments
		RDL	0.05	-
		Units	mg/kg	-
		SSTL[1]	9	-
2013 Sampling - Stantec				
ODP-Area 2	13-ODP-BS1	0.4 - 0.6	0.2	-
	13-ODP-BS1 Lab-Dup	0.4 - 0.6	0.19	-
	13-ODP-BS2	0.4 - 0.6	0.37	-
	13-ODP-BS3	1.4 - 1.6	0.28	-
	13-ODP-BS4	1.4 - 1.6	8.8	Soil removed due to significant amount of buried debris remaining at this location.
	13-ODP-DUP1 (field duplicate of 13-ODP-BS4)	1.4 - 1.6	5.8	
	13-ODP-BS5	1.0 - 1.2	2.5	-
	13-ODP-BS6	1.0 - 1.2	0.38	-
	13-ODP-BS7	1.0 - 1.2	3.8	-
	13-ODP-BS8	1.0 - 1.2	**42**	Soil removed.
	13-ODP-BS9	1.0 - 1.2	**33**	Soil removed.
	13-ODP-BS10	0.9 - 1.0	5.2	-
	13-ODP-BS10 Lab-Dup	0.9 - 1.0	4.0	-
	13-ODP-BS11	0.7 - 1.2	**14**	Soil removed.
	13-ODP-BS12	0.6 - 1.0	4.4	-
	13-ODP-BS13	0.6 - 0.8	2.5	-
	13-ODP-BS14	0.8 - 1.1	0.26	-
	13-ODP-DUP2 (field duplicate of 13-ODP-	0.8 - 1.1	0.2	-
	13-ODP-BS15	0.8 - 1.3	0.07	-
	13-ODP-BS16	0.2 - 0.7	**32**	Soil removed.
	13-ODP-BS17	1.3 - 1.6	**25**	Soil removed.
	13-ODP-BS18	0.9 - 1.2	1.7	Soil removed.
	13-ODP-BS19	0.9 - 1.2	**14**	Soil removed.
	13-ODP-BS20	0.9 - 1.2	nd	-
Laydown Area	13-ODP-L1	0.0 - 0.1	**10**	Soil removed.
	13-ODP-L1 Lab-Dup	0.0 - 0.1	6.3	Soil removed.
	13-ODP-L2	0.0 - 0.1	4.4	Soil removed.
	13-ODP-L3	0.0 - 0.1	1.5	Soil removed.
	13-ODP-L4	0.0 - 0.1	nd	Soil removed.
	13-ODP-L5	0.1 - 0.2	nd	-
	13-ODP-L5 Lab-Dup	0.1 - 0.2	nd	-
	13-ODP-L6	0.1 - 0.2	nd	-

Notes:
1 = Site Specific Target Level (SSTL) calculated for PCBs in soil at the Residential Area of Hopedale (Stantec, 2010)
RDL = Reportable Detection Limit for routine analysis
nd = Not detected above laboratory detection limit
Lab-dup = laboratory duplicate sample
Bold/Shaded = Value exceeds SSTL calculated for PCBs at the Residential Area of Hopedale (Stantec, 2010)

Table C.2 Results of Laboratory Analysis of PCBs in Soil - BMEWS
Implementation of Remedial Action Plan - Year 3
Former US Military Site and Residential Subdivision, Hopedale, NL
Stantec Project No. 121411777.600

Sample ID	Sample Depth (m)	Polychlorinated Biphenyls (PCBs)	Comments
	RDL	0.05	-
	Units	mg/kg	-
	SSTL[1]	22	-
2009 Sampling - Stantec			
BS3	0.0 - 0.20	1.6	-
BS5	0.0 - 0.10	**24**	Soil removed.
BS9	0.0 - 0.20	21	Soil removed.
BS10	0.0 - 0.25	nd	-
BS12	0.0 - 0.20	2.7	-
BS13	0.0 - 0.25	3.1	-
BS14	0.0 - 0.15	**100**	Soil removed.
BS19	0.0 - 0.25	nd	-
BS20	0.0 - 0.25	nd	-
BS24	0.0 - 0.15	0.66	-
BS27	0.0 - 0.20	0.97	-
BS28	0.0 - 0.20	0.36	-
BS28-Lab-Dup	0.0 - 0.20	0.28	-
BS29	0.0 - 0.13	1.7	-
BS30	0.0 - 0.15	0.41	-
BS32	0.0 - 0.20	0.46	-
BS34	0.0 - 0.20	nd	-
BS37	0.0 - 0.07	nd	-
BS38	0.0 - 0.07	nd	-
TP75-BS2	0.6 - 0.7	0.42	-
TP79-BS2	1.1 - 1.2	0.34	-
TP96-BS2	1.0 - 1.1	0.13	-
TP101-BS2	1.4 - 1.5	0.18	-
TP103-BS2	0.9 - 1.0	nd	-
TP107-BS2	0.9 - 1.0	3.4	-
TP109-BS2	1.6 - 1.7	nd	-
TP111-BS2	1.1 - 1.2	nd	-
TP117-BS2	1.3 - 1.4	nd	-
TP123-BS2	1.0 - 1.1	nd	-
TP127-BS2	0.7 - 0.8	nd	-
MW8-SS1	0.0 - 0.6	nd	-
MW9-SS1	0.0 - 0.6	nd	-
MW12-SS2	0.6 - 1.2	nd	-
MW63-SS1	0.0 - 0.3	0.49	-
MW65-SS2	0.3 - 1.5	0.2	-
2010 Sampling - Stantec			
BMEWS-BS7	0.0 - 0.15	0.38	-
BMEWS-BS10	0.0 - 0.15	0.65	-
BMEWS-BS14	0.0 - 0.15	3.5	Soil removed due to impacts detected in nearby sample.
BMEWS-BS18	0.0 - 0.1	nd	-
BMEWS-BS20	0.0 - 0.1	**39**	Soil removed.
BMEWS-BS21	0.0 - 0.15	**29**	Soil removed.
BMEWS-BS23	0.0 - 0.15	nd	-
BMEWS-BS26	0.0 - 0.1	**64**	Soil removed.

Notes:
1 = SSTL calculated for PCBs at the Former Radar Site (Stantec, 2010)
RDL = Reportable Detection Limit for routine analysis
Lab-dup = Laboratory duplicate sample
nd = Not detected above RDL noted
Bold/Shaded = Value exceeds SSTL calculated for PCBs at the Former Radar Site (Stantec, 2010)

Table C.2 Results of Laboratory Analysis of PCBs in Soil - BMEWS
Implementation of Remedial Action Plan - Year 3
Former US Military Site and Residential Subdivision, Hopedale, NL
Stantec Project No. 121411777.600

Sample ID	Sample Depth (m)	Polychlorinated Biphenyls (PCBs)	Comments
RDL		0.05	-
Units		mg/kg	-
SSTL[1]		22	-
2013 Sampling - Stantec			
13-BMEWS-BS1	0.0 - 0.15	0.15	-
13-BMEWS-BS1 Lab-Dup	0.0 - 0.15	0.21	-
13-BMEWS-BS2	0.0 - 0.15	0.45	-
13-BMEWS-BS3	0.0 - 0.1	0.25	-
13-BMEWS-BS4	0.0 - 0.2	0.29	Soil removed.
13-BMEWS-BS5	0.0 - 0.2	0.04	Soil removed.
13-BMEWS-BS6	0.3 - 0.4	4.9	-
13-BMEWS-BS7	0.0 - 0.15	1.5	-
13-BMEWS-BS8	0.1 - 0.2	9.6	Soil removed due to suspected impacts in the vicinity of nearby sample BS9.
13-BMEWS-BS9	0.3 - 0.4	0.29	-
13-BMEWS-BS10	0.0 - 0.2	0.7	-
13-BMEWS-BS11	0.5 - 0.9	18	Soil removed due to impacts detected in nearby sample.
13-BMEWS-BS11 Lab-Dup	0.5 - 0.9	16	
13-BMEWS-BS12	0.5 - 0.7	1.0	-
13-BMEWS-BS13	0.1 - 0.4	1.1	-
13-BMEWS-BS14	0.0 - 0.05	3.6	-
13-BMEWS-BS15	0.3 - 0.6	**61**	Soil removed.
13-BMEWS-BS16	0.3 - 0.6	**26**	Soil removed.
13-BMEWS-BS17	0.3 - 0.6	0.2	-
13-BMEWS-BS17 Lab-Dup	0.3 - 0.6	0.17	-
13-BMEWS-BS18	0.3 - 0.6	nd	-
13-BMEWS-BS19	0.6	nd	-
13-BMEWS-BS20	0.6	0.32	-
13-BMEWS-BS21	0.6	nd	-
13-BMEWS-L1	0.0 - 0.1	**120**	Soil removed.
13-BMEWS-L2	0.0 - 0.1	**93**	Soil removed.

Notes:
1 = Site Specific Target Level (SSTL) calculated for PCBs in soil at the Former Radar Site in Hopedale (Stantec, 2010)
RDL = Reportable Detection Limit for routine analysis
Lab-dup = Laboratory duplicate sample
nd = Not detected above RDL noted
Bold/Shaded = Value exceeds SSTL calculated for PCBs at the Former Radar Site (Stantec, 2010)

Table C.3 Results of Laboratory Analysis of PCBs in Soil - Main Laydown Area
Implementation of Remedial Action Plan - Year 3
Former US Military Site and Residential Subdivision, Hopedale, NL
Stantec Project No. 121411777.600

Sample ID	Sample Depth (m)	Polychlorinated Biphenyls (PCBs)	Comments
	RDL	0.05	-
	Units	mg/kg	-
	SSTL[1]	22	-
2009 Sampling - Stantec			
TP149-BS1	0.2 - 0.3	0.69	-
TP152-BS1	0.2 - 0.3	20	**-**
TP153-BS1	0.7 - 0.8	1.1	-
TP157-BS2	2.1 - 2.2	nd	-
TP160-BS1	0.9 - 1.0	0.28	-
BS161	0.00 - 0.20	0.18	-
BS163	0.00 - 0.10	0.08	-
BS165	0.00 - 0.20	nd	-
MW18-SS4	1.83 - 2.44	11	**-**
2013 Sampling - Stantec			
13-ML1	0.0 - 0.1	2.0	Soil removed.
13-ML2	0.0 - 0.1	1.3	Soil removed.
13-ML3	0.0 - 0.1	2.0	Soil removed.
13-ML4	0.0 - 0.1	7.3	Soil removed.
13-ML5	0.0 - 0.1	1.5	Soil removed.
13-ML6	0.0 - 0.1	1.5	Soil removed.
13-ML7	0.0 - 0.1	0.78	Soil removed.
13-ML8	0.0 - 0.1	0.63	Soil removed.
13-ML9	0.0 - 0.1	2.4	Soil removed.
13-ML10	0.0 - 0.1	0.75	Soil removed.
13-ML11	0.0 - 0.1	1.1	Soil removed.
13-ML12	0.0 - 0.1	2.2	Soil removed.

Notes:
1 = Site Specific Target Level (SSTL) calculated for PCBs in soil at the Former Radar Site in Hopedale (Stantec, 2010)
RDL = Reportable Detection Limit for routine analysis
nd = Not detected above RDL noted
Lab-dup = Laboratory duplicate sample

Table C.4 Results of Laboratory Analysis of PCBs in Groundwater - Main Laydown Area
Implementation of Remedial Action Plan - Year 3
Former US Military Site and Residential Subdivision, Hopedale, NL
Stantec Project No. 121411777.600

Sample ID	Polychlorinated Biphenyls (PCBs)
RDL	0.05
Units	µg/L
Criteria[1]	0.2
2009 Sampling - Stantec	
MW20	nd
2013 Sampling - Stantec	
MW19	0.059
MW20	0.078

Notes:
1 = OMOE Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the *Environmental Protection Act* , Non-Potable Groundwater (2004)
RDL = Reportable Detection Limit
nd = Not detected above RDL noted

Table C.5 Results of Laboratory Analysis of PCBs on Metal
Implementation of Remedial Action Plan - Year 3
Former US Military Base and Residential Subdivision, Hopedale, NL
Stantec Project No. 121411777.600

Sample ID		Sample Location	Polychlorinated Biphenyls (PCBs)
		RDL	5
		Units	µg
		2011 Sampling - Stantec	
Year 1 Metal	11-ODP-SWAB1	Rusted barrel (unwashed)	nd
	11-ODP-SWAB2	Scrap metal (unwashed)	nd
	11-ODP-SWAB3	Scrap metal (unwashed)	nd
		2012 Sampling - Stantec	
Year 1 Metal	12-SWAB1	3" steel pipe (unwashed)	nd
	12-SWAB2	1" diameter rebar (unwashed)	nd
	12-SWAB3	Steel chassis, rebar and 3" steel pipe (unwashed)	nd
	12-SWAB4	Rusted barrel (unwashed)	nd
	12-SWAB5	6" steel pipe elbow (unwashed)	nd
	12-SWAB6	5 to 6 tonne track (unwashed)	nd
	12-SWAB7	16" diameter pipe (unwashed)	nd
Year 2 Metal	12-SWAB8	Metal Box (unwashed)	nd
	12-SWAB9	45 Gallon Barrel (unwashed)	nd
	12-SWAB10	Spring (unwashed)	**21**
	12-SWAB11	3" Pipe (unwashed)	nd
	12-SWAB12	Large Boiler (unwashed)	nd
	12-SWAB13	Metal Railing (unwashed)	**5.6**
	12-SWAB14	Metal Cable (unwashed)	nd
	12-SWAB15	Metal Sheeting (unwashed)	nd
	12-SWAB16	45 Gallon Barrel (unwashed)	**15**
	12-SWAB17	Metal Railing (unwashed)	**13**
	12-SWAB18	45 Gallon Barrel (unwashed)	**5.9**
	12-SWAB19	Curugated Pipe (unwashed)	nd
	12-SWAB20	Large Pipe (unwashed)	**90**
	12-SWAB21	3" Pipe (unwashed)	nd
	12-SWAB22	Metal Cable (unwashed)	nd
	12-SWAB10B	Spring (unwashed) - additional excess soil removed	**11**
	12-SWAB13B	Metal Railing (unwashed) - additional excess soil removed	nd
	12-SWAB16B	45 Gallon Barrel (unwashed) - additional excess soil removed	nd
	12-SWAB17B	Metal Railing (unwashed) - additional excess soil removed	nd
	12-SWAB18B	45 Gallon Barrel (unwashed) - additional excess soil removed	nd
	12-SWAB20B	Large Pipe (unwashed) - additional excess soil removed	nd
		2013 Sampling - Stantec	
Year 2 Met	13-SWAB11	Steel spring (same piece as 12-SWAB10 and 12-SWAB10B)	nd
	13-SWAB12	Steel portion of track	nd
	13-SWAB13	Steel girder	nd
	13-SWAB14	1 1/2" steel pipe	nd
Year 3 Metal	13-SWAB1	Steel girder	nd
	13-SWAB2	Barrel cover	nd
	13-SWAB3	3" steel pipe	nd
	13-SWAB4	Crushed barrel	nd
	13-SWAB5	Sheet of stainless steel	nd
	13-SWAB6	Stacked corrugated steel sheets	nd
	13-SWAB7	Electrical box	nd
	13-SWAB8	Steel tire rim	nd
	13-SWAB9	2" steel pipe	nd
	13-SWAB10	Steel tank	nd

Notes:
RDL = Reportable Detection Limit for routine analysis
nd = Not detected above laboratory detection limit
Bold = PCBs detected in sample

APPENDIX D

Laboratory Analytical Reports

Your P.O. #: 16400NR
Your Project #: 121411777.600
Site Location: HOPEDALE,OLD DUMP POND
Your C.O.C. #: ES731513

Attention: Jim Slade
Stantec Consulting Ltd
607 Torbay Rd
St. John's, NL
A1A 4Y6

Report Date: 2013/07/10

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B3A7068
Received: 2013/07/05, 10:09

Sample Matrix: Soil
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Moisture (1)	10	N/A	2013/07/06	ATL SOP 00001	MOE Handbook 1983
Low Level PCB in Soil by GC-ECD (1)	8	2013/07/05	2013/07/09	ATL SOP 00106	Based EPA8082
Low Level PCB in Soil by GC-ECD (1)	2	2013/07/05	2013/07/10	ATL SOP 00106	Based EPA8082

Remarks:

Reporting results to two significant figures at the RDL is to permit statistical evaluation and is not intended to be an indication of analytical precision.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
* Results relate only to the items tested.

(1) This test was performed by Bedford

Encryption Key

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

Michelle Hill, Project Manager
Email: MHill@maxxam.ca
Phone# (902) 420-0203 Ext:289

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Total cover pages: 1

Maxxam Job #: B3A7068
Report Date: 2013/07/10

Stantec Consulting Ltd
Client Project #: 121411777.600
Site Location: HOPEDALE,OLD DUMP POND
Your P.O. #: 16400NR
Sampler Initials: RMP

RESULTS OF ANALYSES OF SOIL

Maxxam ID		SD3119	SD3120	SD3121	SD3122		
Sampling Date		2013/07/02	2013/07/02	2013/07/02	2013/07/02		
	Units	**13-ODP-BS1**	**13-ODP-BS2**	**13-ODP-BS3**	**13-ODP-BS4**	**RDL**	**QC Batch**
Inorganics							
Moisture	%	13	14	22	18	1	3269729

Maxxam ID		SD3123	SD3124	SD3125	SD3126	SD3127	SD3128		
Sampling Date		2013/07/02	2013/07/02	2013/07/02	2013/07/02	2013/07/02	2013/07/02		
	Units	**13-ODP-BS5**	**13-ODP-BS6**	**13-ODP-BS7**	**13-ODP-BS8**	**13-ODP-BS9**	**13-ODP-DUP 1**	**RDL**	**QC Batch**
Inorganics									
Moisture	%	25	8	11	22	37	14	1	3269729

PCB'S AND DDT BY GC-ECD (SOIL)

Maxxam ID		SD3119	SD3119	SD3120	SD3121	SD3122		
Sampling Date		2013/07/02	2013/07/02	2013/07/02	2013/07/02	2013/07/02		
	Units	**13-ODP-BS1**	**13-ODP-BS1 Lab-Dup**	**13-ODP-BS2**	**13-ODP-BS3**	**13-ODP-BS4**	**RDL**	**QC Batch**
PCBs								
Total PCB	mg/kg	0.20	0.19	0.37	0.28	8.8	0.010	3269800
Surrogate Recovery (%)								
Decachlorobiphenyl	%	85(1)	78	75(1)	87(1)	77(1)		3269800

Maxxam ID		SD3123	SD3124	SD3125	SD3126	SD3127	SD3128		
Sampling Date		2013/07/02	2013/07/02	2013/07/02	2013/07/02	2013/07/02	2013/07/02		
	Units	**13-ODP-BS5**	**13-ODP-BS6**	**13-ODP-BS7**	**13-ODP-BS8**	**13-ODP-BS9**	**13-ODP-DUP 1**	**RDL**	**QC Batch**
PCBs									
Total PCB	mg/kg	2.5	0.38	3.8	42	33	5.8	0.010	3269800
Surrogate Recovery (%)									
Decachlorobiphenyl	%	77(1)	82(1)	83(1)	71(1)	71(1)	78(1)		3269800

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) - Aroclor 1254, 1260.

Maxxam Analytics International Corporation o/a Maxxam Analytics 49-55 Elizabeth Ave, Suite 101A, St.John's, NL, Canada A1A 1W9 Tel: 709-754-0203 Toll Free: 888-492-7227 Fax:709-754-8612 www.maxxam.ca

Maxxam Job #: B3A7068
Report Date: 2013/07/10

Stantec Consulting Ltd
Client Project #: 121411777.600
Site Location: HOPEDALE,OLD DUMP POND
Your P.O. #: 16400NR
Sampler Initials: RMP

Package 1	6.0°C

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

GENERAL COMMENTS

Maxxam Analytics International Corporation o/a Maxxam Analytics 49-55 Elizabeth Ave, Suite 101A, St.John's, NL, Canada A1A 1W9 Tel: 709-754-0203 Toll Free: 888-492-7227 Fax:709-754-8612 www.maxxam.ca

Maxxam Job #: B3A7068
Report Date: 2013/07/10

Stantec Consulting Ltd
Client Project #: 121411777.600
Site Location: HOPEDALE,OLD DUMP POND
Your P.O. #: 16400NR
Sampler Initials: RMP

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
3269800	Decachlorobiphenyl	2013/07/09	79	70 - 130	90	70 - 130	81	%		
3269800	Total PCB	2013/07/09	NC	70 - 130	121	70 - 130	<0.010	mg/kg	5.2	50

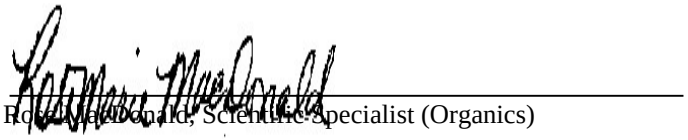
N/A = Not Applicable
RPD = Relative Percent Difference
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used 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 spiked amount was not sufficiently significant to permit a reliable recovery calculation.

Maxxam Analytics International Corporation o/a Maxxam Analytics 49-55 Elizabeth Ave, Suite 101A, St.John's, NL, Canada A1A 1W9 Tel: 709-754-0203 Toll Free: 888-492-7227 Fax:709-754-8612 www.maxxam.ca

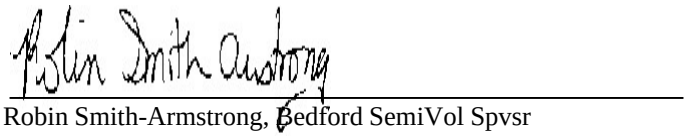
Validation Signature Page

Maxxam Job #: B3A7068

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Rosa MacDonald, Scientific Specialist (Organics)



Robin Smith-Armstrong, Bedford SemiVol Spvsr

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Your P.O. #: 16400NR
Your Project #: 121411777.600
Site Location: HOPEDALE, BMEWS
Your C.O.C. #: ES731013

Attention: Jim Slade
Stantec Consulting Ltd
607 Torbay Rd
St. John's, NL
A1A 4Y6

Report Date: 2013/07/12

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B3A9734
Received: 2013/07/10, 10:21

Sample Matrix: Soil
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Moisture (1)	10	N/A	2013/07/11	ATL SOP 00001	MOE Handbook 1983
Low Level PCB in Soil by GC-ECD (1)	10	2013/07/11	2013/07/12	ATL SOP 00106	Based EPA8082

Remarks:

Reporting results to two significant figures at the RDL is to permit statistical evaluation and is not intended to be an indication of analytical precision.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
* Results relate only to the items tested.

(1) This test was performed by Bedford

Encryption Key

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

Michelle Hill, Project Manager
Email: MHill@maxxam.ca
Phone# (902) 420-0203 Ext:289

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Total cover pages: 1

Maxxam Job #: B3A9734
Report Date: 2013/07/12

Stantec Consulting Ltd
Client Project #: 121411777.600
Site Location: HOPEDALE, BMEWS
Your P.O. #: 16400NR
Sampler Initials: RMP

RESULTS OF ANALYSES OF SOIL

Maxxam ID		SE5928	SE5929	SE5930	SE5931	SE5932		
Sampling Date		2013/07/07	2013/07/07	2013/07/07	2013/07/07	2013/07/07		
	Units	**13-BMEWS-BS1**	**13-BMEWS-BS2**	**13-BMEWS-BS3**	**13-BMEWS-BS4**	**13-BMEWS-BS5**	**RDL**	**QC Batch**
Inorganics								
Moisture	%	27	14	19	12	13	1	3274387

Maxxam ID		SE5933	SE5934	SE5935	SE5936	SE5937		
Sampling Date		2013/07/07	2013/07/07	2013/07/07	2013/07/07	2013/07/07		
	Units	**13-BMEWS-BS6**	**13-BMEWS-BS7**	**13-BMEWS-BS8**	**13-BMEWS-BS9**	**13-BMEWS-BS10**	**RDL**	**QC Batch**
Inorganics								
Moisture	%	12	17	20	29	21	1	3274387

PCB'S AND DDT BY GC-ECD (SOIL)

Maxxam ID		SE5928	SE5928	SE5929	SE5930	SE5931	SE5932	SE5933		
Sampling Date		2013/07/07	2013/07/07	2013/07/07	2013/07/07	2013/07/07	2013/07/07	2013/07/07		
	Units	**13-BMEWS-BS1**	**13-BMEWS-BS1 Lab-Dup**	**13-BMEWS-BS2**	**13-BMEWS-BS3**	**13-BMEWS-BS4**	**13-BMEWS-BS5**	**13-BMEWS-BS6**	**RDL**	**QC Batch**
PCBs										
Total PCB	mg/kg	0.15	0.21	0.45	0.25	0.29	0.040	4.9	0.010	3275684
Surrogate Recovery (%)										
Decachlorobiphenyl	%	111(1)	111	100(1)	111(2)	109(1)	117(1)	114(1)		3275684

Maxxam ID		SE5934	SE5935	SE5936	SE5937		
Sampling Date		2013/07/07	2013/07/07	2013/07/07	2013/07/07		
	Units	**13-BMEWS-BS7**	**13-BMEWS-BS8**	**13-BMEWS-BS9**	**13-BMEWS-BS10**	**RDL**	**QC Batch**
PCBs							
Total PCB	mg/kg	1.5	9.6	0.29	0.70	0.010	3275684
Surrogate Recovery (%)							
Decachlorobiphenyl	%	125(3)	114(1)	106(1)	110(1)		3275684

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) - Aroclor 1254, 1260.
(2) - Aroclor 1254, 1260. PCB:Unidentified (possibly halogenated) compounds detected.
(3) - Aroclor 1260.

Maxxam Analytics International Corporation o/a Maxxam Analytics 49-55 Elizabeth Ave, Suite 101A, St.John's, NL, Canada A1A 1W9 Tel: 709-754-0203 Toll Free: 888-492-7227 Fax:709-754-8612 www.maxxam.ca

Maxxam Job #: B3A9734
Report Date: 2013/07/12

Stantec Consulting Ltd
Client Project #: 121411777.600
Site Location: HOPEDALE, BMEWS
Your P.O. #: 16400NR
Sampler Initials: RMP

Package 1	9.0°C

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

GENERAL COMMENTS

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Maxxam Job #: B3A9734
Report Date: 2013/07/12

Stantec Consulting Ltd
Client Project #: 121411777.600
Site Location: HOPEDALE, BMEWS
Your P.O. #: 16400NR
Sampler Initials: RMP

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
3275684	Decachlorobiphenyl	2013/07/12	101	70 - 130	103	70 - 130	101	%		
3275684	Total PCB	2013/07/12	NC	70 - 130	115	70 - 130	<0.010	mg/kg	32.8	50

N/A = Not Applicable
RPD = Relative Percent Difference
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
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 spiked amount was not sufficiently significant to permit a reliable recovery calculation.

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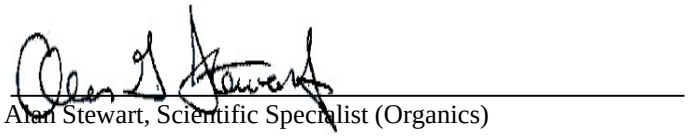
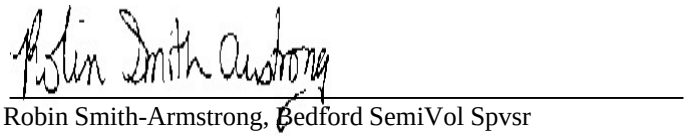
Validation Signature Page

Maxxam Job #: B3A9734

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Alan Stewart, Scientific Specialist (Organics)



Robin Smith-Armstrong, Bedford SemiVol Spvsr

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Your P.O. #: 16400NR
Your Project #: 121411777.600
Site Location: OLD DUMP POND
Your C.O.C. #: ES731113

Attention: Anna Roy
Stantec Consulting Ltd
607 Torbay Rd
St. John's, NL
A1A 4Y6

Report Date: 2013/07/18

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B3B3724
Received: 2013/07/16, 10:27

Sample Matrix: Soil
Samples Received: 9

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Moisture (1)	9	N/A	2013/07/17	ATL SOP 00001	MOE Handbook 1983
Low Level PCB in Soil by GC-ECD (1)	9	2013/07/16	2013/07/18	ATL SOP 00106	Based EPA8082

Remarks:

Reporting results to two significant figures at the RDL is to permit statistical evaluation and is not intended to be an indication of analytical precision.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
* Results relate only to the items tested.

(1) This test was performed by Bedford

Encryption Key

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

Michelle Hill, Project Manager
Email: MHill@maxxam.ca
Phone# (902) 420-0203 Ext:289

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Total cover pages: 1

Maxxam Job #: B3B3724
Report Date: 2013/07/18

Stantec Consulting Ltd
Client Project #: 121411777.600
Site Location: OLD DUMP POND
Your P.O. #: 16400NR
Sampler Initials: AR

RESULTS OF ANALYSES OF SOIL

Maxxam ID		SG5448	SG5449	SG5450	SG5451		
Sampling Date		2013/07/11	2013/07/11	2013/07/11	2013/07/11		
	Units	**13-ODP-BS10**	**13-ODP-BS11**	**13-ODP-BS12**	**13-ODP-BS13**	**RDL**	**QC Batch**
Inorganics							
Moisture	%	46	48	24	55	1	3280701

Maxxam ID		SG5452	SG5453	SG5454	SG5455	SG5456		
Sampling Date		2013/07/11	2013/07/11	2013/07/11	2013/07/11	2013/07/11		
	Units	**13-ODP-BS14**	**13-ODP-BS15**	**13-ODP-BS16**	**13-ODP-BS17**	**13-ODP-DUP2**	**RDL**	**QC Batch**
Inorganics								
Moisture	%	72	18	36	37	70	1	3280701

PCB'S AND DDT BY GC-ECD (SOIL)

Maxxam ID		SG5448	SG5448	SG5449	SG5450	SG5451		
Sampling Date		2013/07/11	2013/07/11	2013/07/11	2013/07/11	2013/07/11		
	Units	**13-ODP-BS10**	**13-ODP-BS10 Lab-Dup**	**13-ODP-BS11**	**13-ODP-BS12**	**13-ODP-BS13**	**RDL**	**QC Batch**
PCBs								
Total PCB	mg/kg	5.2	4.0	14	4.4	2.5	0.010	3281258
Surrogate Recovery (%)								
Decachlorobiphenyl	%	92(1)	88	70(1)	73(1)	93(1)		3281258

Maxxam ID		SG5452	SG5453	SG5454	SG5455	SG5456		
Sampling Date		2013/07/11	2013/07/11	2013/07/11	2013/07/11	2013/07/11		
	Units	**13-ODP-BS14**	**13-ODP-BS15**	**13-ODP-BS16**	**13-ODP-BS17**	**13-ODP-DUP2**	**RDL**	**QC Batch**
PCBs								
Total PCB	mg/kg	0.26	0.070	32	25	0.20	0.010	3281258
Surrogate Recovery (%)								
Decachlorobiphenyl	%	86(1)	102(1)	97(1)	82(1)	113(1)		3281258

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) - Aroclor 1254, 1260.

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Maxxam Job #: B3B3724
Report Date: 2013/07/18

Stantec Consulting Ltd
Client Project #: 121411777.600
Site Location: OLD DUMP POND
Your P.O. #: 16400NR
Sampler Initials: AR

Package 1	15.0°C

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

GENERAL COMMENTS

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Maxxam Job #: B3B3724
Report Date: 2013/07/18

Stantec Consulting Ltd
Client Project #: 121411777.600
Site Location: OLD DUMP POND
Your P.O. #: 16400NR
Sampler Initials: AR

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
3281258	Decachlorobiphenyl	2013/07/18	88	70 - 130	95	70 - 130	106	%		
3281258	Total PCB	2013/07/18	NC	70 - 130	103	70 - 130	<0.010	mg/kg	26.1	50

N/A = Not Applicable
RPD = Relative Percent Difference
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
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 spiked amount was not sufficiently significant to permit a reliable recovery calculation.

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Maxxam Job #: B3B3724

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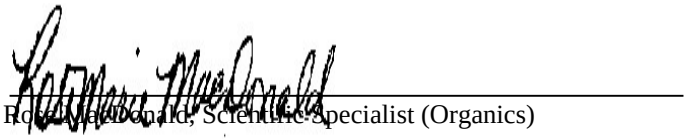
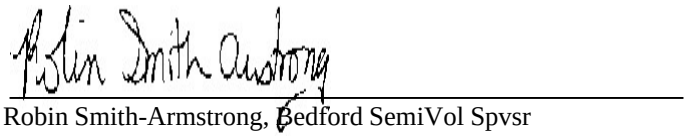


Rosalyn MacDonald, Scientific Specialist (Organics)



Robin Smith-Armstrong, Bedford SemiVol Spvsr

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Your P.O. #: 16400NR
Your Project #: 12141177.600
Site Location: HOPEDALE-BMEWS
Your C.O.C. #: ES31313

Attention: Jim Slade
Stantec Consulting Ltd
607 Torbay Rd
St. John's, NL
A1A 4Y6

Report Date: 2013/07/19

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B3B5719
Received: 2013/07/18, 10:49

Sample Matrix: Soil
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Moisture (1)	4	N/A	2013/07/18	ATL SOP 00001	MOE Handbook 1983
Low Level PCB in Soil by GC-ECD (1)	4	2013/07/18	2013/07/19	ATL SOP 00106	Based EPA8082

Remarks:

Reporting results to two significant figures at the RDL is to permit statistical evaluation and is not intended to be an indication of analytical precision.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
* Results relate only to the items tested.

(1) This test was performed by Bedford

Encryption Key

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

Michelle Hill, Project Manager
Email: MHill@maxxam.ca
Phone# (902) 420-0203 Ext:289

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Total cover pages: 1

Maxxam Job #: B3B5719
Report Date: 2013/07/19

Stantec Consulting Ltd
Client Project #: 12141177.600
Site Location: HOPEDALE-BMEWS
Your P.O. #: 16400NR
Sampler Initials: AR

RESULTS OF ANALYSES OF SOIL

Maxxam ID		SH4687	SH4688	SH4689	SH4690		
Sampling Date		2013/07/14	2013/07/14	2013/07/14	2013/07/14		
	Units	**13-BMEWS-BS11**	**13-BMEWS-BS12**	**13-BMEWS-BS13**	**13-BMEWS-BS14**	**RDL**	**QC Batch**
Inorganics							
Moisture	%	16	15	10	19	1	3284121

PCB'S AND DDT BY GC-ECD (SOIL)

Maxxam ID		SH4687	SH4687	SH4688	SH4689	SH4690		
Sampling Date		2013/07/14	2013/07/14	2013/07/14	2013/07/14	2013/07/14		
	Units	**13-BMEWS-BS11**	**13-BMEWS-BS11 Lab-Dup**	**13-BMEWS-BS12**	**13-BMEWS-BS13**	**13-BMEWS-BS14**	**RDL**	**QC Batch**
PCBs								
Total PCB	mg/kg	18	16	1.0	1.1	3.6	0.010	3284181
Surrogate Recovery (%)								
Decachlorobiphenyl	%	111(1)	113	114(1)	119(1)	103(1)		3284181

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) - Aroclor 1254, 1260.

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Maxxam Job #: B3B5719
Report Date: 2013/07/19

Stantec Consulting Ltd
Client Project #: 12141177.600
Site Location: HOPEDALE-BMEWS
Your P.O. #: 16400NR
Sampler Initials: AR

Package 1	6.4°C

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

GENERAL COMMENTS

Maxxam Analytics International Corporation o/a Maxxam Analytics 49-55 Elizabeth Ave, Suite 101A, St.John's, NL, Canada A1A 1W9 Tel: 709-754-0203 Toll Free: 888-492-7227 Fax:709-754-8612 www.maxxam.ca

Maxxam Job #: B3B5719
Report Date: 2013/07/19

Stantec Consulting Ltd
Client Project #: 12141177.600
Site Location: HOPEDALE-BMEWS
Your P.O. #: 16400NR
Sampler Initials: AR

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
3284181	Decachlorobiphenyl	2013/07/19	120	70 - 130	110	70 - 130	109	%		
3284181	Total PCB	2013/07/19	NC	70 - 130	107	70 - 130	<0.010	mg/kg	13.9	50

N/A = Not Applicable
RPD = Relative Percent Difference
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
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.
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Validation Signature Page

Maxxam Job #: B3B5719

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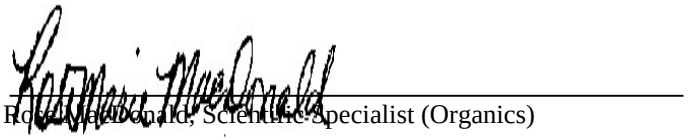
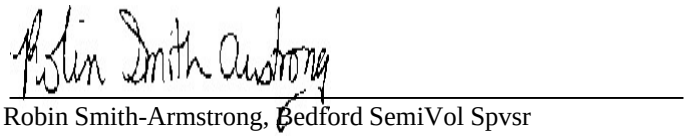


Rosa MacDonald, Scientific Specialist (Organics)



Robin Smith-Armstrong, Bedford SemiVol Spvsr

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Your P.O. #: 16400NR
Your Project #: 121411777.600
Site Location: HOPEDALE-ODP METAL
Your C.O.C. #: ES731213, ES731413

Attention: Anna Roy
Stantec Consulting Ltd
607 Torbay Rd
St. John's, NL
A1A 4Y6

Report Date: 2013/07/24

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B3B6715
Received: 2013/07/19, 10:13

Sample Matrix: Swab
Samples Received: 14

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PCBs on swabs by GC/ECD (1)	14	2013/07/20	2013/07/24	ATL SOP 00109	Based on EPA8082

Remarks:

Reporting results to two significant figures at the RDL is to permit statistical evaluation and is not intended to be an indication of analytical precision.

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* Results relate only to the items tested.

(1) This test was performed by Bedford

Encryption Key

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

Michelle Hill, Project Manager
Email: MHill@maxxam.ca
Phone# (902) 420-0203 Ext:289

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Total cover pages: 1

Maxxam Job #: B3B6715
Report Date: 2013/07/24

Stantec Consulting Ltd
Client Project #: 121411777.600
Site Location: HOPEDALE-ODP METAL
Your P.O. #: 16400NR
Sampler Initials: AR

POLYCHLORINATED BIPHENYLS BY GC-ECD (SWAB)

Maxxam ID		SH9905	SH9906	SH9907	SH9908	SH9909	SH9910	SH9911	SH9912		
Sampling Date		2013/07/16	2013/07/16	2013/07/16	2013/07/16	2013/07/16	2013/07/16	2013/07/16	2013/07/16		
	Units	**13-SWAB1**	**13-SWAB2**	**13-SWAB4**	**13-SWAB5**	**13-SWAB6**	**13-SWAB7**	**13-SWAB8**	**13-SWAB9**	**RDL**	**QC Batch**
PCBs											
Total PCB	ug	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	3286921
Surrogate Recovery (%)											
Decachlorobiphenyl	%	96	96	94	94	93	94	85	97		3286921

Maxxam ID		SH9913	SH9914	SH9915	SH9916	SH9917	SH9918		
Sampling Date		2013/07/16	2013/07/16	2013/07/17	2013/07/17	2013/07/17	2013/07/17		
	Units	**13-SWAB10**	**13-SWAB3**	**13-SWAB11**	**13-SWAB12**	**13-SWAB13**	**13-SWAB14**	**RDL**	**QC Batch**
PCBs									
Total PCB	ug	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	3286921
Surrogate Recovery (%)									
Decachlorobiphenyl	%	73	55(1)	75	66(1)	64(1)	57(1)		3286921

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) - PCB surrogate not within acceptance limits. Insufficient sample to repeat.

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Maxxam Job #: B3B6715
Report Date: 2013/07/24

Stantec Consulting Ltd
Client Project #: 121411777.600
Site Location: HOPEDALE-ODP METAL
Your P.O. #: 16400NR
Sampler Initials: AR

Package 1	7.0°C

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

GENERAL COMMENTS

Maxxam Analytics International Corporation o/a Maxxam Analytics 49-55 Elizabeth Ave, Suite 101A, St.John's, NL, Canada A1A 1W9 Tel: 709-754-0203 Toll Free: 888-492-7227 Fax:709-754-8612 www.maxxam.ca

Maxxam Job #: B3B6715
Report Date: 2013/07/24

Stantec Consulting Ltd
Client Project #: 121411777.600
Site Location: HOPEDALE-ODP METAL
Your P.O. #: 16400NR
Sampler Initials: AR

QUALITY ASSURANCE REPORT

			Spiked Blank		Method Blank	
QC Batch	Parameter	Date	% Recovery	QC Limits	Value	Units
3286921	Decachlorobiphenyl	2013/07/24	101	30 - 130	94	%
3286921	Total PCB	2013/07/24	99	30 - 130	<5.0	ug

N/A = Not Applicable
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.

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Validation Signature Page

Maxxam Job #: B3B6715

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Robin Smith-Armstrong, Bedford SemiVol Spvsr

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Your P.O. #: 16400NR
Your Project #: 121411777.600
Site Location: HOPEDALE
Your C.O.C. #: ES731613, ES731713, ES731813

Attention: Jared Saunders
Stantec Consulting Ltd
607 Torbay Rd
St. John's, NL
A1A 4Y6

Report Date: 2013/08/01

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B3C4680
Received: 2013/07/31, 10:21

Sample Matrix: Soil
Samples Received: 22

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Moisture (1)	22	N/A	2013/07/31	ATL SOP 00001	MOE Handbook 1983
PCBs in soil by GC/ECD (1,2)	22	2013/07/31	2013/08/01	ATL SOP 00106	Based on EPA8082

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PCBs in water by GC/ECD (1)	1	2013/07/31	2013/08/01	ATL SOP 00107	Based on EPA8082

Remarks:

Reporting results to two significant figures at the RDL is to permit statistical evaluation and is not intended to be an indication of analytical precision.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
* Results relate only to the items tested.

(1) This test was performed by Bedford
(2) Soils are reported on a dry weight basis unless otherwise specified.

Encryption Key

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

Michelle Hill, Project Manager
Email: MHill@maxxam.ca
Phone# (902) 420-0203 Ext:289

==========

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Total cover pages: 1

Maxxam Job #: B3C4680
Report Date: 2013/08/01

Stantec Consulting Ltd
Client Project #: 121411777.600
Site Location: HOPEDALE
Your P.O. #: 16400NR
Sampler Initials: JRS

RESULTS OF ANALYSES OF SOIL

Maxxam ID		SM0283	SM0284	SM0285	SM0286	SM0287	SM0288	SM0289	SM0290	SM0291	SM0292		
Sampling Date		2013/07/28	2013/07/28	2013/07/28	2013/07/28	2013/07/28	2013/07/28	2013/07/28	2013/07/28	2013/07/28	2013/07/28		
	Units	**13-ML1**	**13-ML2**	**13-ML3**	**13-ML4**	**13-ML5**	**13-ML6**	**13-ML7**	**13-ML8**	**13-ML9**	**13-ML10**	**RDL**	**QC Batch**
Inorganics													
Moisture	%	23	6	18	20	18	21	22	12	45	43	1	3298996

Maxxam ID		SM0293	SM0294	SM0295	SM0296	SM0297	SM0298	SM0299		
Sampling Date		2013/07/27	2013/07/27	2013/07/27	2013/07/27	2013/07/27	2013/07/27	2013/07/27		
	Units	**13-ML11**	**13-ML12**	**13-ODPL1**	**13-ODPL2**	**13-ODPL3**	**13-ODPL4**	**13-ODPBS18**	**RDL**	**QC Batch**
Inorganics										
Moisture	%	38	53	31	25	18	5	15	1	3298996

Maxxam ID		SM0300		SM0301	SM0302	SM0306	SM0307		
Sampling Date		2013/07/27		2013/07/27	2013/07/27	2013/07/27	2013/07/27		
	Units	**13-ODPBS19**	**QC Batch**	**13-BMEWSL1**	**13-BMEWSL2**	**13-BMEWS-BS15**	**13-BMEWS-BS16**	**RDL**	**QC Batch**
Inorganics									
Moisture	%	28	3298996	44	54	14	16	1	3299117

POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

Maxxam ID		SM0283	SM0284	SM0285	SM0286	SM0287	SM0288	SM0289	SM0290	SM0291	SM0292		
Sampling Date		2013/07/28	2013/07/28	2013/07/28	2013/07/28	2013/07/28	2013/07/28	2013/07/28	2013/07/28	2013/07/28	2013/07/28		
	Units	**13-ML1**	**13-ML2**	**13-ML3**	**13-ML4**	**13-ML5**	**13-ML6**	**13-ML7**	**13-ML8**	**13-ML9**	**13-ML10**	**RDL**	**QC Batch**
PCBs													
Total PCB	ug/g	2.0	1.3	2.0	7.3	1.5	1.5	0.78	0.63	2.4	0.75	0.050	3299145
Surrogate Recovery (%)													
Decachlorobiphenyl	%	99(1)	99(1)	97(2)	99(2)	96(2)	94(2)	80(2)	102(2)	97(2)	101(2)		3299145

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) - Aroclor 1254, 1260.
(2) - Aroclor 1260.

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Maxxam Job #: B3C4680
Report Date: 2013/08/01

Stantec Consulting Ltd
Client Project #: 121411777.600
Site Location: HOPEDALE
Your P.O. #: 16400NR
Sampler Initials: JRS

POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

Maxxam ID		SM0293	SM0294	SM0295	SM0295	SM0296	SM0297	SM0298	SM0299	SM0300		
Sampling Date		2013/07/27	2013/07/27	2013/07/27	2013/07/27	2013/07/27	2013/07/27	2013/07/27	2013/07/27	2013/07/27		
	Units	**13-ML11**	**13-ML12**	**13-ODPL1**	**13-ODPL1 Lab-Dup**	**13-ODPL2**	**13-ODPL3**	**13-ODPL4**	**13-ODPBS18**	**13-ODPBS19**	**RDL**	**QC Batch**
PCBs												
Total PCB	ug/g	1.1	2.2	10	6.3	4.4	1.5	<0.050	1.7	14	0.050	3299145
Surrogate Recovery (%)												
Decachlorobiphenyl	%	89(1)	102(1)	95(2)	91	94(2)	93(2)	85	92(2)	90(2)		3299145

Maxxam ID		SM0301	SM0302		SM0306	SM0307		
Sampling Date		2013/07/27	2013/07/27		2013/07/27	2013/07/27		
	Units	**13-BMEWSL1**	**13-BMEWSL2**	**QC Batch**	**13-BMEWS-BS15**	**13-BMEWS-BS16**	**RDL**	**QC Batch**
PCBs								
Total PCB	ug/g	120	93	3299145	61	26	0.050	3299050
Surrogate Recovery (%)								
Decachlorobiphenyl	%	79(2)	91(2)	3299145	121(2)	110(2)		3299050

POLYCHLORINATED BIPHENYLS BY GC-ECD (WATER)

Maxxam ID		SM0308		
Sampling Date		2013/07/28		
	Units	**13-ML-MW19**	**RDL**	**QC Batch**
PCBs				
Total PCB	ug/L	0.059	0.050	3298971
Surrogate Recovery (%)				
Decachlorobiphenyl	%	49(3)		3298971

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) - Aroclor 1260.
(2) - Aroclor 1254, 1260.
(3) - Aroclor 1260. PCB sample decanted due to sediment.

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Maxxam Job #: B3C4680
Report Date: 2013/08/01

Stantec Consulting Ltd
Client Project #: 121411777.600
Site Location: HOPEDALE
Your P.O. #: 16400NR
Sampler Initials: JRS

Package 1	19.4°C

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

GENERAL COMMENTS

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Maxxam Job #: B3C4680
Report Date: 2013/08/01

Stantec Consulting Ltd
Client Project #: 121411777.600
Site Location: HOPEDALE
Your P.O. #: 16400NR
Sampler Initials: JRS

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
3298971	Decachlorobiphenyl	2013/08/01			81	30 - 130	87	%		
3298971	Total PCB	2013/08/01			109	70 - 130	<0.050	ug/L		
3299050	Decachlorobiphenyl	2013/08/01	117	30 - 130	121	30 - 130	119	%		
3299050	Total PCB	2013/08/01	105	70 - 130	104	70 - 130	<0.050	ug/g	NC	50
3299145	Decachlorobiphenyl	2013/08/01	94	30 - 130	94	30 - 130	91	%		
3299145	Total PCB	2013/08/01	NC	70 - 130	103	70 - 130	<0.050	ug/g	46.0	50

N/A = Not Applicable
RPD = Relative Percent Difference
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 spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

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Validation Signature Page

Maxxam Job #: B3C4680

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Rosalyn MacDonald, Scientific Specialist (Organics)

Robin Smith-Armstrong, Bedford SemiVol Spvsr

==========

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Your P.O. #: 16400NR
Your Project #: 121411777.600
Site Location: HOPEDALE
Your C.O.C. #: ES695913

Attention: Jared Saunders
Stantec Consulting Ltd
607 Torbay Rd
St. John's, NL
A1A 4Y6

Report Date: 2013/08/20

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B3D0366
Received: 2013/08/09, 10:45

Sample Matrix: Soil
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Moisture (1)	6	N/A	2013/08/09	ATL SOP 00001	MOE Handbook 1983
PCBs in soil by GC/ECD (1,2)	6	2013/08/09	2013/08/10	ATL SOP 00106	Based on EPA8082

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
PCBs in water by GC/ECD (1)	1	2013/08/10	2013/08/16	ATL SOP 00107	Based on EPA8082

Remarks:

Reporting results to two significant figures at the RDL is to permit statistical evaluation and is not intended to be an indication of analytical precision.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
* Results relate only to the items tested.

(1) This test was performed by Bedford
(2) Soils are reported on a dry weight basis unless otherwise specified.

Encryption Key

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

Michelle Hill, Project Manager
Email: MHill@maxxam.ca
Phone# (902) 420-0203 Ext:289

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Total cover pages: 1

Maxxam Job #: B3D0366
Report Date: 2013/08/20

Stantec Consulting Ltd
Client Project #: 121411777.600
Site Location: HOPEDALE
Your P.O. #: 16400NR
Sampler Initials: JRS

RESULTS OF ANALYSES OF SOIL

Maxxam ID		SO6761	SO6762	SO6763	SO6765	SO6766	SO6767		
Sampling Date		2013/08/03	2013/08/03	2013/08/03	2013/08/04	2013/08/04	2013/08/04		
	Units	**13-BMEWS-BS17**	**13-BMEWS-BS18**	**13-ODP-BS20**	**13-BMEWS-BS19**	**13-BMEWS-BS20**	**13-BMEWS-BS21**	**RDL**	**QC Batch**
Inorganics									
Moisture	%	50	62	14	58	41	74	1	3308794

POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

Maxxam ID		SO6761	SO6761		
Sampling Date		2013/08/03	2013/08/03		
	Units	**13-BMEWS-BS17**	**13-BMEWS-BS17 Lab-Dup**	**RDL**	**QC Batch**
PCBs					
Total PCB	ug/g	0.20	0.17	0.050	3308866
Surrogate Recovery (%)					
Decachlorobiphenyl	%	117(1)	122		3308866

Maxxam ID		SO6762	SO6763	SO6765	SO6766	SO6767		
Sampling Date		2013/08/03	2013/08/03	2013/08/04	2013/08/04	2013/08/04		
	Units	**13-BMEWS-BS18**	**13-ODP-BS20**	**13-BMEWS-BS19**	**13-BMEWS-BS20**	**13-BMEWS-BS21**	**RDL**	**QC Batch**
PCBs								
Total PCB	ug/g	<0.050	<0.050	<0.050	0.32	<0.050	0.050	3308866
Surrogate Recovery (%)								
Decachlorobiphenyl	%	104	102	118	113(1)	121		3308866

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) - Aroclor 1254.

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Maxxam Job #: B3D0366
Report Date: 2013/08/20

Stantec Consulting Ltd
Client Project #: 121411777.600
Site Location: HOPEDALE
Your P.O. #: 16400NR
Sampler Initials: JRS

POLYCHLORINATED BIPHENYLS BY GC-ECD (WATER)

Maxxam ID		SO6764		
Sampling Date		2013/08/03		
	Units	**MW20**	**RDL**	**QC Batch**
PCBs				
Total PCB	ug/L	0.078	0.050	3312889
Surrogate Recovery (%)				
Decachlorobiphenyl	%	80(1)		3312889

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) - Aroclor 1260. PCB sample contained sediment.

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Maxxam Job #: B3D0366
Report Date: 2013/08/20

Stantec Consulting Ltd
Client Project #: 121411777.600
Site Location: HOPEDALE
Your P.O. #: 16400NR
Sampler Initials: JRS

Package 1	8.2°C

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

GENERAL COMMENTS

Maxxam Analytics International Corporation o/a Maxxam Analytics 49-55 Elizabeth Ave, Suite 101A, St.John's, NL, Canada A1A 1W9 Tel: 709-754-0203 Toll Free: 888-492-7227 Fax:709-754-8612 www.maxxam.ca

Maxxam Job #: B3D0366
Report Date: 2013/08/20

Stantec Consulting Ltd
Client Project #: 121411777.600
Site Location: HOPEDALE
Your P.O. #: 16400NR
Sampler Initials: JRS

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
3308866	Decachlorobiphenyl	2013/08/10	123	30 - 130	103	30 - 130	102	%		
3308866	Total PCB	2013/08/10	80	70 - 130	118	70 - 130	<0.050	ug/g	NC	50
3312889	Decachlorobiphenyl	2013/08/16	92	30 - 130	67	30 - 130	38	%		
3312889	Total PCB	2013/08/16	98	70 - 130	119	70 - 130	<0.050	ug/L	NC	40

N/A = Not Applicable
RPD = Relative Percent Difference
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.
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Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

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Validation Signature Page

Maxxam Job #: B3D0366

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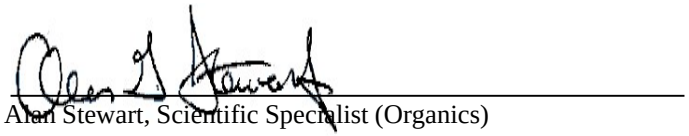

Alan Stewart, Scientific Specialist (Organics)

Rosa MacDonald, Scientific Specialist (Organics)

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Your P.O. #: 16400NR
Your Project #: 121411777.600
Site Location: HOPEDALE/ODP
Your C.O.C. #: ES773013

Attention: Jim Slade
Stantec Consulting Ltd
607 Torbay Rd
St. John's, NL
A1A 4Y6

Report Date: 2013/08/27

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B3E1219
Received: 2013/08/24, 10:34

Sample Matrix: Soil
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Moisture (1)	2	N/A	2013/08/26	ATL SOP 00001	MOE Handbook 1983
PCBs in soil by GC/ECD (1,2)	2	2013/08/26	2013/08/27	ATL SOP 00106	Based on EPA8082

Remarks:

Reporting results to two significant figures at the RDL is to permit statistical evaluation and is not intended to be an indication of analytical precision.

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* Results relate only to the items tested.

(1) This test was performed by Bedford
(2) Soils are reported on a dry weight basis unless otherwise specified.

Encryption Key

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

Michelle Hill, Project Manager
Email: MHill@maxxam.ca
Phone# (902) 420-0203 Ext:289

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Total cover pages: 1

Maxxam Job #: B3E1219
Report Date: 2013/08/27

Stantec Consulting Ltd
Client Project #: 121411777.600
Site Location: HOPEDALE/ODP
Your P.O. #: 16400NR
Sampler Initials: RMP

RESULTS OF ANALYSES OF SOIL

Maxxam ID		SU2130	SU2131		
Sampling Date		2013/08/19	2013/08/19		
	Units	**13-ODP-L5**	**13-ODP-L6**	**RDL**	**QC Batch**
Inorganics					
Moisture	%	14	12	1	3327208

POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

Maxxam ID		SU2130	SU2130	SU2131		
Sampling Date		2013/08/19	2013/08/19	2013/08/19		
	Units	**13-ODP-L5**	**13-ODP-L5 Lab-Dup**	**13-ODP-L6**	**RDL**	**QC Batch**
PCBs						
Total PCB	ug/g	<0.050	<0.050	<0.050	0.050	3327320
Surrogate Recovery (%)						
Decachlorobiphenyl	%	123	121	123		3327320

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B3E1219
Report Date: 2013/08/27

Stantec Consulting Ltd
Client Project #: 121411777.600
Site Location: HOPEDALE/ODP
Your P.O. #: 16400NR
Sampler Initials: RMP

Package 1	9.0°C

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

GENERAL COMMENTS

Maxxam Analytics International Corporation o/a Maxxam Analytics 49-55 Elizabeth Ave, Suite 101A, St.John's, NL, Canada A1A 1W9 Tel: 709-754-0203 Toll Free: 888-492-7227 Fax:709-754-8612 www.maxxam.ca

Maxxam Job #: B3E1219
Report Date: 2013/08/27

Stantec Consulting Ltd
Client Project #: 121411777.600
Site Location: HOPEDALE/ODP
Your P.O. #: 16400NR
Sampler Initials: RMP

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
3327320	Decachlorobiphenyl	2013/08/27	122	30 - 130	129	30 - 130	120	%		
3327320	Total PCB	2013/08/27	123	70 - 130	127	70 - 130	<0.050	ug/g	NC	50

N/A = Not Applicable
RPD = Relative Percent Difference
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 (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

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Validation Signature Page

Maxxam Job #: B3E1219

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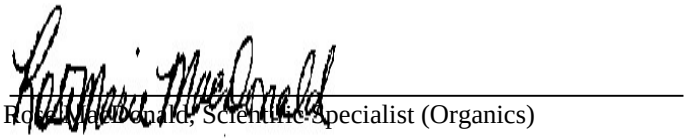

Rosalyn MacDonald, Scientific Specialist (Organics)

==========

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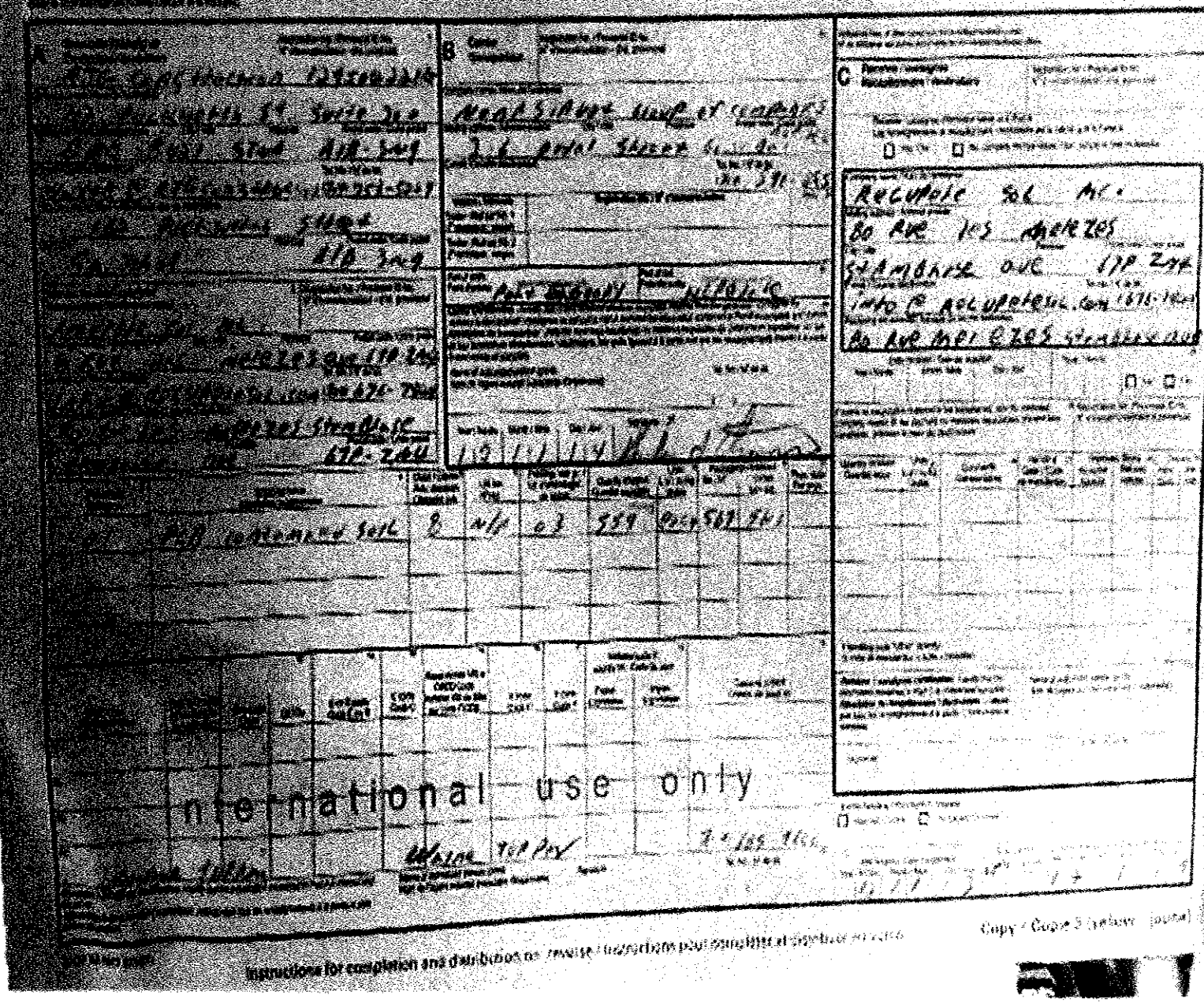
APPENDIX E

Shipment Manifests

MOVEMENT DOCUMENT / MANIFEST
DOCUMENT DE MOUVEMENT / MANIFESTE

8273425-2



Copy / Copie 3 (yellow / jaune)

Instructions for completion and distribution of movement / Instructions pour compléter et distribuer le document

MOVEMENT DOCUMENT / MANIFEST
DOCUMENT DE MOUVEMENT / MANIFESTE

This Movement document/manifest conforms to all federal and provincial transport and environmental legislation.
Ce document de mouvement/manifeste est conforme aux législations fédérale et provinciale sur l'environnement et le transport.

Movement Document / Manifest Reference No. / N° de référence du document de mouvement/manifeste: 8280

A Generator / consignor — Producteur / expéditeur

Field	Entry
Registration No. / Provincial ID No. — N° d'immatriculation – d'id. provincial (1)	129506221
Company name / Nom de l'entreprise	RJG construction
Mailing address / Adresse postale	162 Duckworth ST, Suite 200
City/Ville, Province, Postal code/Code postal	Box 8221 STN A ST John A1B 3N9
E-mail / Courrier électronique	wayne@rjgconstruction.ca
Tel. No. / N° de tél.	709 685-9606
Shipping site address / Adresse du site d'expédition	162 Duckworth Street
City/Ville, Province, Postal code/Code postal	ST John's NFLD A1B 3N9

Intended Receiver / consignee — Réceptionnaire / destinataire prévu (2)

Field	Entry
Name	Recupere Sol Inc
Registration No. / Provincial ID No. — N° d'immatriculation – d'id. provincial	
Mailing address / Adresse postale, City/Ville, Province, Postal code/Code postal	8 Rue des Meyes Ave 67P 7M4
E-mail / Courrier électronique	info@recuperesol.com
Tel. No. / N° de tél.	450 678 7804
Receiving site address / Adresse du lieu de réception	8 Rue des Meyes Ave
City/Ville, Province, Postal code/Code postal	ST Ambroise Que 67P 7M4

B Carrier — Transporteur

Field	Entry
Registration No. / Provincial ID No. — N° d'immatriculation – d'id. provincial (23)	
Company name / Nom de l'entreprise	Nunatsiavut Marine / Nunatsiavut Group of Companies
Mailing address / Adresse postale, City/Ville, Province, Postal code/Code postal	26 Royal Ave, Goose Bay, NL A0P 1C0
E-mail / Courrier électronique	Podie@ngc-Ng.CA
Tel. No. / N° de tél.	709 899-2776
Vehicle / Véhicule — Registration No. / N° d'immatriculation	
Trailer – Rail car No. 1 / 1re remorque – wagon	IMO 5118852
Trailer – Rail car No. 2 / 2e remorque – wagon	TUG Point Vim
Port of entry / Point d'entrée	International use only
Port of exit / Point de sortie	International use only

Carrier Certification: I certify that I have received waste or recyclable material from the generator / consignor for delivery to the receiver / consignee as set out in Part A and that the information contained in Part B is complete and correct. / Attestation du transporteur : J'atteste avoir reçu les déchets ou matières recyclables du producteur / expéditeur en vue de leur livraison au réceptionnaire / destinataire, tel qu'ils figurent à la partie A et que les renseignements inscrits à la partie B sont exacts et complets.

Name of authorized person (print) / Nom de l'agent autorisé (caractères d'imprimerie):
Tel. No. / N° de tél.: 709 682 5434

Year / Année	Month / Mois	Day / Jour	Signature
13	08	31	[signature]

Reference No. of other movement document(s) (if applicable) / N° de référence des autres documents de mouvement/manifeste utilisés:

C Receiver / consignee — Réceptionnaire / destinataire

Registration No. / Provincial ID No. — N° d'immatriculation – d'id. provincial:

Receiver / consignee information same as in Part A / Les renseignements du réceptionnaire / destinataire est la même qu'à la Partie A: ☒ Yes / Oui ☐ No, complete the box below / Non, remplir la case ci-dessous

Field	Entry
Company name / Nom de l'entreprise	Recupere Sol Inc.
Mailing address / Adresse postale	80 Rue des Meyes
City/Ville, Province, Postal code	ST Ambroise Que 67P
E-mail / Courrier électronique	info@recuperesol.com
Tel. No. / N° de tél.	
Receiving site address / Adresse du lieu de réception	

Date received / Date de réception: Year / Année | Month / Mois | Day / Jour — Time / Heure

If waste or recyclable material to be transferred, specify intended company name / Si les déchets ou matières recyclables doivent être transférés, préciser le nom du destinataire (30) — Registration No. / N° d'immatriculation

Prov. code / Code prov. (5)	Shipping name / Appellation réglementaire (6)	Class / Classe, Sub. class(es) / Classe(s) sub.	UN No. / N° NU	Packing / risk gr. / Gr. d'emballage / de risque (7)	Quantity shipped / Quantité expédiée	Units L or / ou Kg / Unités (8)	Packaging/Container No. / N°	Codes Int.–ext.	Phys. state / État phys. (10)
(i) 01	PCB contaminated Soil	B	3432	03	874647	Kg	401	05	
(ii)									
(iii)									
(iv)									

Quantity received / Quantité reçue	Units L or / ou Kg / Unités (31)	Comments / Commentaires (32)	Handling Code / Code de manutention (33)	Shipment Accepted / Envoi Accepté	Rejected / Refusé
(i)					
(ii)					
(iii)					
(iv)					

	Notice No. / N° de notification (11)	Notice Line No. / N° de ligne de la notification	Shipment / Envoi (12)	Of / De	D or R code / Code E ou R (13)	C code / Code C (14)	Basel Annex VIII or OECD Code / Annexe VIII de Bâle ou Code OCDE (15)	H code / Code H (16)	Y code / Code Y (17)	National code in country of / Code du pays: Export / Exportation (18)	Import / Importation	Customs code(s) / Code(s) de douanes (19)
(i)												
(ii)												
(iii)												
(iv)												

International use only

If handling code "Other" (specify) / Si code de manutention « autre » (spécifier)

Receiver / consignee certification: I certify that the information contained in Part C is correct and complete. / Attestation du réceptionnaire / destinataire : J'atteste que tous les renseignements à la partie C sont exacts et complets.

Name of authorized person (print) / Nom de l'agent autorisé (caractères d'imprimerie):

Signature: [signature] Tel. No. / N° de tél.: ( )

Special handling / Manutention spéciale: ☐ Attached / Ci-joint ☐ As follows / Ci-contre :

Generator / consignor certification: I certify that the information contained in Part A is correct and complete. / Attestation du producteur / expéditeur : J'atteste que tous les renseignements à la partie A sont exacts et complets.

Name of authorized person (print) / Nom de l'agent autorisé (caractères d'imprimerie): Signature: Tel. No. / N° de tél.: ( ) (20)

(21) Date shipped / Date d'expédition: Year / Année 13 | Month / Mois 08 | Day / Jour 31 — Time / Heure: ☐ AM ☒ PM 1000 — Scheduled arrival date / Date d'arrivée prévue: Year / Année 13 | Month / Mois Sept 7

MOE 04-1917 (07/07)

Instructions for completion and distribution on reverse / Instructions pour compléter et distribuer au verso

MOVEMENT DOCUMENT / MANIFEST
DOCUMENT DE MOUVEMENT / MANIFESTE

This Movement document/manifest conforms to all federal and provincial transport and environmental legislation.
Ce document de mouvement/manifeste est conforme aux législations fédérale et provinciale sur l'environnement et le transport.

8280013-7

Movement Document / Manifest Reference No.
N° de référence du document de mouvement/manifeste

A Generator / consignor — Producteur / expéditeur

Registration No. / Provincial ID No. — N° d'immatriculation - d'id. provincial (1): 129506221

Company name / Nom de l'entreprise: RJG Construction

Mailing address / Adresse postale: 162 Duckworth Street Suite 300 — Box 8421 Stn A — Postal code / Code postal: A1B 3N9

E-mail / Courrier électronique: wayne@RJGconstruction — Tel. No. / N° de tél.: 709 685 9606

Shipping site address / Adresse du lieu de l'expédition: 162 Duckworth Street

City / Ville: St John — Province: NFLD — Postal code / Code postal: A1B 3N7

Intended Receiver / consignee — Réceptionnaire / destinataire prévu (2)

Registration No. / Provincial ID No. — N° d'immatriculation - d'id. provincial:

Recupsol Inc

Mailing address / Adresse postale: 8 Rue Des Meglin — Postal code / Code postal: G7P 2M4

E-mail / Courrier électronique: info@Recupsol Inc — Tel. No. / N° de tél.: 800 678 7804

Receiving site address / Adresse du lieu de l'expédition: 8 Rue du Meglin Ave.

City / Ville: St Ambroise — Province: Que — Postal code / Code postal: G7P 2M4

B Carrier — Transporteur

Registration No. / Provincial ID No. — N° d'immatriculation - d'id. provincial (23):

Company name / Nom de l'entreprise: Nunasauat Marine Nunatsiavut Group of Companies

Mailing address / Adresse postale: 26 Royal Ave. — City / Ville: Goose Bay — Postal code / Code postal: A0P 1C0

E-mail / Courrier électronique: Padams@NGC.NG.CA — Tel. No. / N° de tél.: 709 899-2776

Vehicle / Véhicule — Registration No. / N° d'immatriculation — Prov. (24)

Trailer - Rail car No. 1 / 1er remorque - wagon: IMO 5118552

Trailer - Rail car No. 2 / 2e remorque - wagon:

Port of entry / Point d'entrée: International use only — Port of exit / Point de sortie: International use only (25)

Carrier Certification : I certify that I have received waste or recyclable material from the generator / consignor for delivery to the receiver / consignee as set out in Part A and that the information contained in Part B is complete and correct.
Attestation du transporteur : J'atteste avoir reçu les déchets ou matières recyclables du producteur / expéditeur en vue de leur livraison au réceptionnaire / destinataire, tels qu'ils figurent à la partie A et que les renseignements inscrits à la partie B sont exacts et complets. (26)

Name of authorized person (print) / Nom de l'agent autorisé (caractères d'imprimerie): BRUCE DAVIS — Tel. No. / N° de tél.: 709 693 5434

Year / Année: 13 — Month / Mois: 08 — Day / Jour: 16 — Signature: [signature]

Reference Nos. of other movement document(s)/manifest(s) used / N° de référence des autres documents de mouvement/manifestes utilisés (27)

C Receiver / consignee — Réceptionnaire / destinataire

Registration No. / Provincial ID No. — N° d'immatriculation - d'id. provincial (28)

Receiver / consignee information same as in Part A / Les renseignements du réceptionnaire / destinataire est la même qu'à la Partie A
☐ Yes / Oui ☐ No, complete the box below / Non, remplir la case ci-dessous

Company name / Nom de l'entreprise: Recupsol Inc

Mailing address / Adresse postale: 8 Rue de Meglin

City / Ville: St Ambroise — Province: Que — Postal code / Code postal: G7P 2M4

E-mail / Courrier électronique: info@Recupsol.com — Tel. No. / N° de tél.: 800 678 7804

Receiving site address / Adresse du lieu de destination:

Date received / Date de réception: Year / Année — Month / Mois — Day / Jour; Time / Heure ☐ A.M. ☐ P.M. (29)

If waste or recyclable material to be transferred, specify intended company name/ Si les déchets ou matières recyclables doivent être transférés, préciser le nom du destinataire (30) — Registration No./Provincial ID No. / N° d'immatriculation/d'id provincial

	Prov. code / Code prov. (3)	Shipping name / Appellation réglementaire (4)	Class / Classe, Sub. class(es) / Classe(s) sub. (5)	UN No. / N°NU (6)	Packing / risk gr. / Gr. d'emballage/ de risque (7)	Quantity shipped / Quantité expédiée	Units L or/ou Kg / Unités (8)	Packaging/Contenant No. / N°	Codes Int.–ext. (9)	Phys. state / État phys. (10)	Quantity received / Quantité reçue	Units L or/ou kg / Unités (31)	Comments / Commentaires (32)	Handling Code / Code de manutention (33)	Shipment / Envoi Accepted / Accepté	Refused / Refusé (34)	Decont. Pack. Cont.	Veh. (35)
(i)	01	PCB contaminated Soil	8	3432	03	1,190,000	Kg	1898	05									
(ii)																		
(iii)																		
(iv)																		

	Notice No. / N° de notification	Notice Line No / N° de ligne de la notification (11)	Shipment / Envoi	Of / De (12)	D or R code / Code É ou R (13)	C code / Code C (14)	Basel Annex VIII or OECD Code / Annexe VIII de Bâle ou Code OCDE (15)	H code / Code H (16)	Y code / Code Y (17)	National code in country of / Code du pays: Export / Exportation	Import / Importation (18)	Customs code(s) / Code(s) de douanes (19)
(i)												
(ii)												
(iii)	International use only											
(iv)												

If handling code "Other" (specify) / Si code de manutention « autre » (spécifier) (36)

Receiver / consignee certification : I certify that the information contained in Part C is correct and complete. / Attestation du réceptionnaire / destinataire : J'atteste que tous les renseignements à la partie C sont exacts et complets. (37)

Name of authorized person (print) / Nom de l'agent autorisé (caractère d'imprimerie): 709 692-5434

Signature: [signature] — Tel. No. / N° de tél.: ( )

Special handling / Manutention spéciale (22): ☐ Attached / Ci-joint ☐ As follows / Ci-contre :

Generator / consignor certification: I certify that the information contained in Part A is correct and complete.
Attestation du producteur / expéditeur: J'atteste que tous les renseignements à la partie A sont exacts et complets.

Name of authorized person (print) / Nom de l'agent autorisé (caractère d'imprimerie) — Signature — Tel. No. / N° de tél. ( ) (20)

(21) Date shipped / Date d'expédition: Year / Année: 13 — Month / Mois: 08 — Day / Jour: 16 — Time / Heure: 10:30 ☐ A.M. ☐ P.M.

Scheduled arrival date / Date d'arrivée prévue: Year / Année: 13 — Month / Mois: 08 — Day / Jour: 24