Economic Geology Report ER96-1

Geochemistry of Black Spruce (*Picea mariana*) Needles and Twigs Growing Over Zones of Gold Mineralization and Associated Induced Polarization Responses, Dot Lake Area, Agassiz Metallotect

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by M.A.F. Fedikow, K.J. Ferreira and L. Chackowsky
Winnipeg, 1996

ABSTRACT

A detailed vegetation geochemical survey based on black spruce (*Picea mariana*) needles (BSN) and twigs (BST) in the Dot Lake area (Lynn Lake region) has outlined Au-enriched mineral occurrences and their associated induced polarization (IP) responses. Mineralized zones and related IP anomalies are characterized by high concentrations of the element assemblage Au-As-Sb-Zn-Co-Fe in BST and Zn in BSN. Particulate and/or leachate contamination derived from the MacLellan mine access road built from tailings from the nearby Farley Ni-Cu deposit is documented from this survey: the chemical effect on vegetation tissues is generally limited to within 50 m of the road. Geochemical studies of the base and precious metal-enriched Farley Ni-Cu deposit tailings indicate depletion of most metals in the upper 1 cm of the tailings. Accordingly, wind-borne particulate derived from this upper layer is determined to be geochemically benign and will not mask natural geochemical flux in black spruce tissues; therefore, the results of the survey are not compromised. Geochemical variability within the needle and twig database is primarily attributed to the response from mineralization, specific lithologies including stratigraphic contacts, and leakage type anomalies enhanced by drainage effects.

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Figure 1. Aerial photograph of the survey area and the relationship to the Farley Lake Ni-Cu tailings.

INTRODUCTION AND PREVIOUS WORK

Historically, mineral exploration in the Lynn Lake area has been hampered by a paucity of outcrop due to overburden cover of variable thickness and nature. Accordingly, geochemical studies were undertaken to address this impediment to exploration. Applied geological and geochemical investigations in the Dot Lake area were initiated by Manitoba Energy and Mines as part of a larger multifaceted mineral deposits program that commenced in 1982 (Fedikow and Gale, 1982; Fedikow, 1983). Under this program, vegetation geochemical surveys over a variety of gold and base metal deposits were initiated in 1984 (Fedikow, 1984). These surveys were followed by a detailed vegetation geochemical study over the MacLellan Au-Ag deposit (Fedikow, 1986c) and a geochemical transect over the Rushed occurrence at Dot Lake utilizing black spruce bark (Fedikow, 1986a). In both surveys, multi-element geochemical anomalies with areal extents greater than the mineralized targets were defined.

Contemporaneous with the vegetation geochemical surveys, till geochemical surveys were initiated at the MacLellan deposit, in the Dot Lake area (Nielsen and Fedikow, 1987), and along the northern belt in the Lynn Lake greenstone belt (Nielsen and Graham, 1984, 1985). These surveys were undertaken to determine the feasibility of utilizing till samples from hand dug pits for Au and base metal exploration in the Lynn Lake area, to document till geochemical signatures associated with known mineralized zones, and to assess the residual exploration potential of the northern belt. Later, multimedia geochemical surveys, including the sampling of rock, peat bog and vegetation, were undertaken to complement the Farley Lake till studies. A rock geochemical study at the Farley Au deposits was presented by Fedikow (1995). A Hg-vapour detection system was assessed for its application to mineral exploration in the Lynn Lake area, including the Dot Lake area, by Fedikow and Amor (1990). Integration of geological, geophysical and geochemical data with remotely sensed MSS and MEIS-II data was described by Singh *et al.* (1989). Rock geochemical alteration studies at the MacLellan Au-Ag deposit were described by Fedikow (1992).

The definition of geochemical signatures in vegetation and till adjacent to Au ± Ag, Zn and Pb mineralized zones, as well as successful definition of areas of previously unrecognized geochemical anomalies, stimulated this vegetation geochemical survey at Dot Lake. Exploration by Sherritt Gordon Mines Limited (and later, its subsidiary SherrGold Inc. and LynnGold Resources Inc.) established the presence of MacLellan host rocks and associated Au deposits and occurrences in the Dot Lake area, and produced a geological and geophysical database upon which geochemical interpretations could be based. The LynnGold exploration grid at Dot Lake was utilized during this vegetation geochemical survey.

Access to the survey area is via the MacLellan mine road, which cuts through the sampling area and was constructed from tailings from the closed Farley Ni-Cu Mine (Fig. 1). The presence of poorly sorted, metal-contaminated construction materials focussed the need for care during interpretation of the vegetation geochemical data owing to probable particulate and/or leachate contamination. In this study, since contamination due to windblown particulate was expected, data were ash normalized using the procedure of Chuhkrov *et al.* (1979) in an attempt to remove the effects of the particulate falling on the vegetation. This normalizing procedure has been shown to be useful in ameliorating the effects of particulate contamination in vegetation geochemical surveys (Fedikow and Dunn, 1996). Samples of the gravel access road and of the Farley tailings, approximately 3 km southwest of the survey area, were collected and analyzed to document the metals present in these materials.

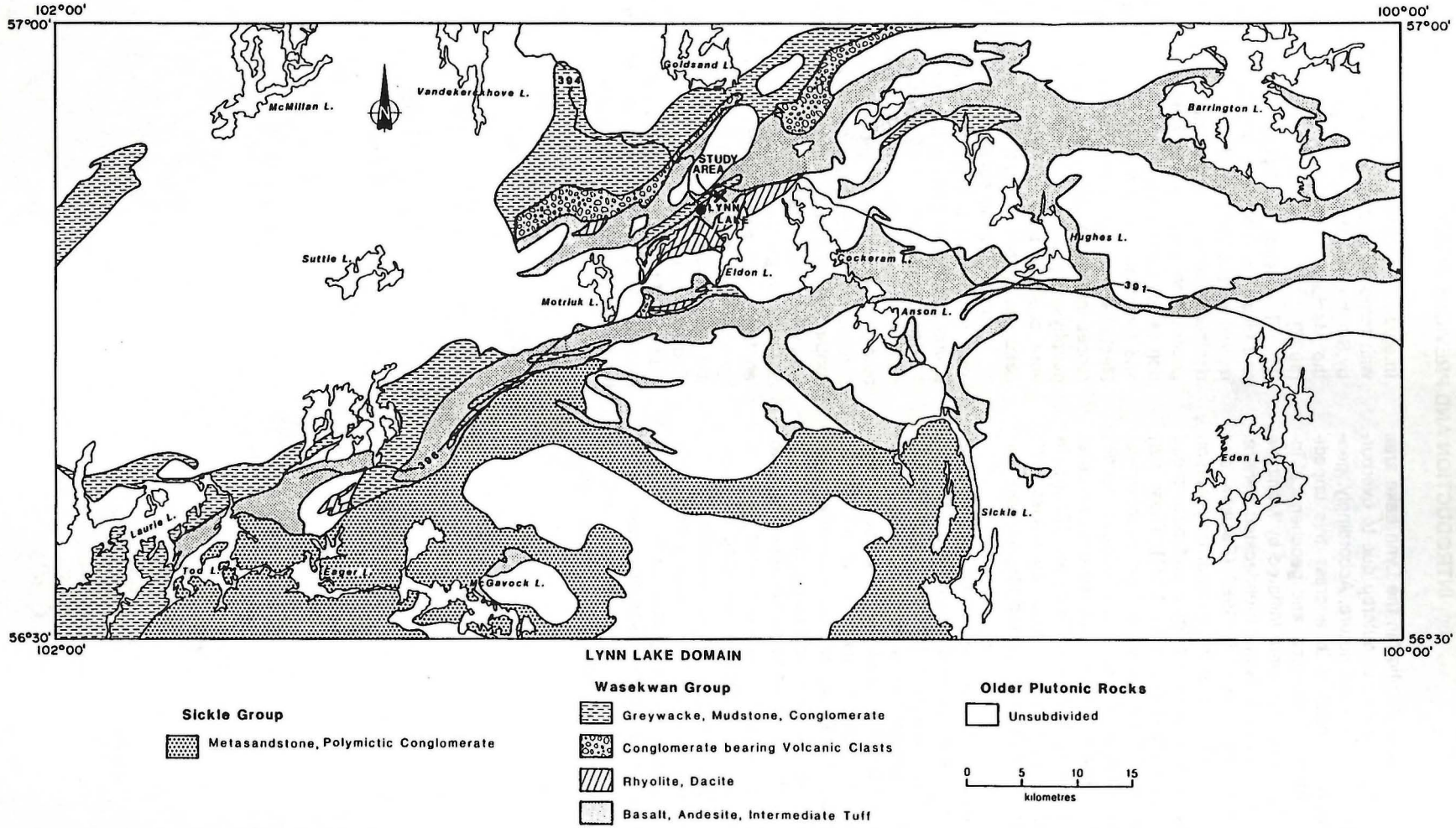

Figure 2: Regional geological setting and location of the survey area.

GEOLOGICAL SETTING OF THE SURVEY AREA

Supracrustal rocks in the survey area form part of the northern belt of the Aphebian Lynn Lake greenstone belt in northwestern Manitoba (Fig. 2). Rocks in both the northern and southern belts have attained greenschist to upper amphibolite facies metamorphism. Generally, the belts strike east-west and have steep dips.

Lithologies in the survey area represent the western extension of the host rocks to the MacLellan Au-Ag deposit and include fine- to coarse-grained picritic basalt, aluminous basalt, banded chert-magnetite iron formation, siltstone and greywacke. The picritic basalt, interlayered with 0.1-0.3 m thick magnetite-chert iron formation, and up to 2 m thick siltstone, greywacke, and siliceous (silicified?), tuffaceous and quartz-phyric rhyolite are characteristic lithologic components of the Agassiz Metallotect (Fedikow *et al.*, 1990; Parbery, 1992). This regional, 70 km long metallogenetic feature is characterized by coincident ground and airborne electromagnetic and magnetic conductors. Figure 3 illustrates airborne INPUT anomalies along the metallotect. Regionally, the rocks and the geophysical conductors have been overprinted by a series of *en echelon* east-trending faults and shears.

In the survey area the main structural feature is a high strain zone, referred to as the North Shear, that has an approximate strike length of 5 km from the Dot Lake area east to the Nisku Au-Zn-Pb deposit area. Multiple shears with 0.3 to 7.6 m widths characterize the North Shear in the study area. The shears exhibit a close spatial relationship with the Au-bearing lenses and accompanying quartz-carbonate veins and silicification. A major late stage fault, the Eldon fault, crosscuts the stratigraphic sequence at high angles (Fig. 3). Dextral and sinistral bedding displacements of up to 61 m are attributed to these late faults.

Picritic basalt or picrite, the most distinctive lithologic component of stratigraphy in the Agassiz Metallotect, including the Dot Lake area, is geochemically characterized by high MgO (14.0-22.0%), Ni (400-1000 ppm) and Cr (1000-2200 ppm) (Fedikow *et al.*, 1990; Fedikow, 1992). This recessive weathering unit is easily distinguished in the field by its olive green colour and amphibole and magnetite porphyroblasts. Massive, fragmental, tuffaceous and pillowed variants of the picrite have been mapped along the metallotect (Parbery, 1992). The Agassiz Metallotect is described in greater detail in Fedikow (1990) and Fedikow *et al.* (1990).

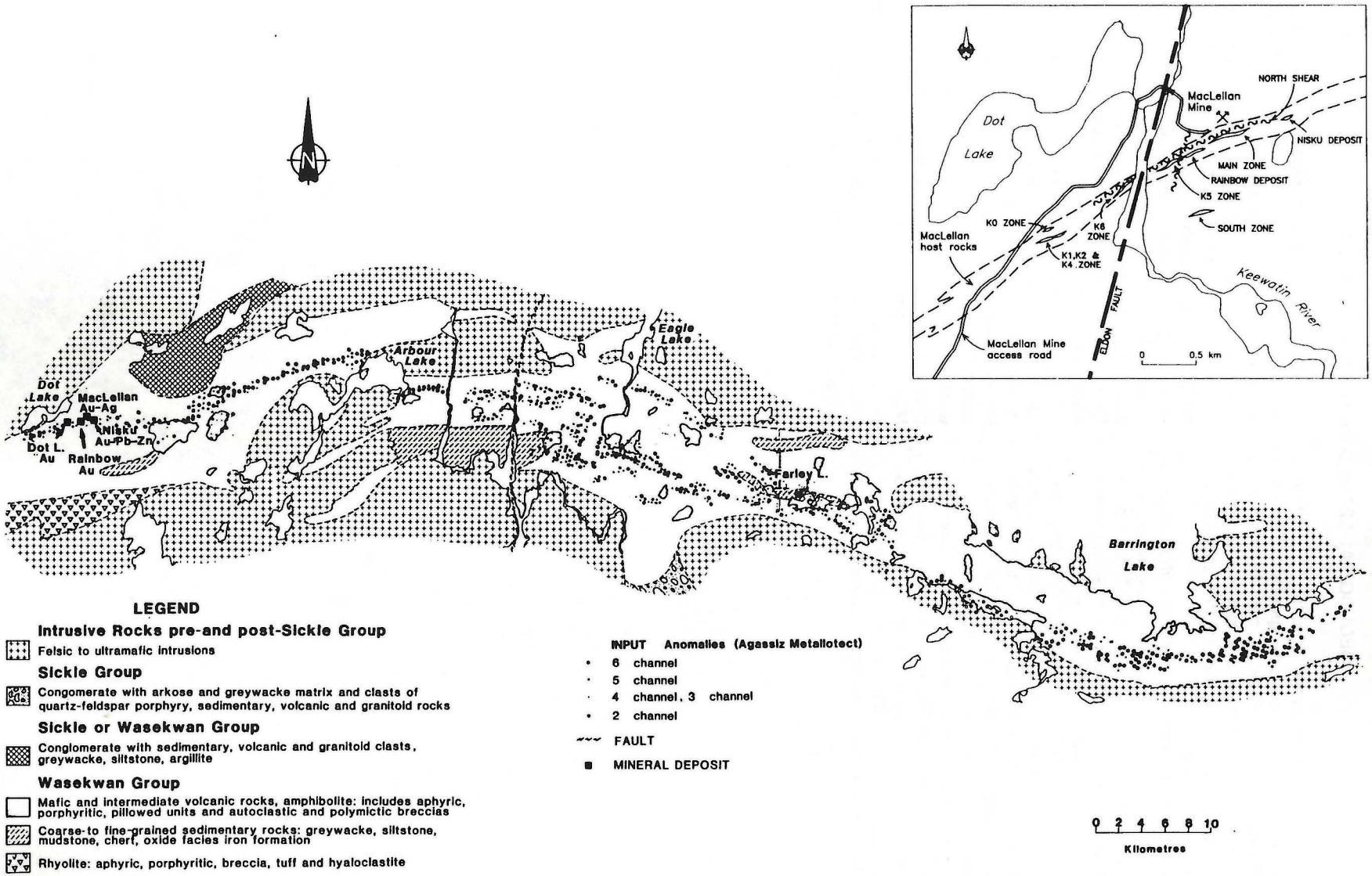

Figure 3: The Agassiz Metallotect and associated mineral deposits, including the Dot Lake area.

MINERAL DEPOSITS AND OCCURRENCES IN THE SURVEY AREA

To date, numerous zones of Au ± Ag, Pb and Zn mineralization have been discovered along the Agassiz Metallotect. These include the Rushed Au occurrence, the Dot Lake Au deposits or "K Zones" (KO, K1, K2, K4, K5, K6), the MacLellan Au-Ag deposit, the Rainbow Au deposit, the Nisku Au-Zn-Pb deposit, and the Farley Lake Au deposits including the Wendy, East and South zones (Fig. 3). The geological characteristics, grades and tonnages of these deposits are presented in Table 1. Samson and Gagnon (1993) present the most recent interpretation of the geology, geochemistry and genesis of the MacLellan Main Zone Au-Ag deposit. Fedikow (1995) presents the geological setting and some geochemical characteristics of the Farley Lake deposits. Fedikow *et al.* (1990) describe the geology of the MacLellan, Nisku and Rainbow deposits. A review of the mineral deposit inventory for the mineral occurrences and deposits within the Lynn Lake area, including Dot Lake, is presented by Ferreira and Baldwin (in prep.), Ferreira (1994) and Baldwin (1989).

Rocks underlying the area of the vegetation geochemical survey (Fig. 4, 5) host several sub-economic Au occurrences in a four km long and 61 to 244 m wide zone that represents the westerly continuation of the host rocks to the MacLellan Au-Ag deposit. These are the Rushed Au occurrence, the K1, K2, K4, and K6 zones, and the incompletely tested KO zone, represented by an intersection of 5.6 g/tonne over 1.98 m. Drill indicated gold resources in the Dot Lake deposits are 1 057 984 tonnes grading 4.36 g/tonne. The area also contains other significant induced polarization anomalies and mineralized occurrences (Fig. 5). Geological characteristics of the Dot Lake mineralized zones are presented below.

RUSHED AU OCCURRENCE

The Rushed Au occurrence (Fig. 5) consists of several zones of near solid to solid pyrite, pyrrhotite and arsenopyrite with minor amounts of magnetite, sphalerite and chalcopyrite. The Au grade varies from 0.7-3.4 g/tonne. The zones are 0.2-1.0 m wide, can be traced for 1200 m along strike and are hosted by rusty weathered, fractured, sheared, interlayered intermediate siltstone and oxide facies iron formation. The structural and stratigraphic footwall is characterized by basalt with thin interlayers of oxide facies iron formation. Massive basalt forms the hanging wall rocks (Fedikow, 1986b). A multi-element INA and AAS analysis of a representative sample of Rushed near solid sulphide mineralization indicates high concentrations of As (83->3000 ppm), Zn (2000-3000 ppm), Co (45-110 ppm), Ni (100-420 ppm), and Sb (0.7-18.2 ppm) in addition to the Au grades mentioned above (Fedikow, 1986a).

K ZONES

K1 AND K2 ZONES

The K1 and K2 zones (Fig. 5) together contain approximately 441 033 tonnes grading 3.21 g/tonne Au over a strike length of 274 m and a down-dip extension of 183 m. Mineralization is characterized by 1-15% fine- to medium-grained blebs, streaks and disseminations of pyrrhotite and pyrite with accessory galena, sphalerite, and arsenopyrite. Local visible gold in associated quartz veins may represent mobilisate. The K1 and K2 zones are hosted by fine- to medium-grained and medium- to coarse-grained picritic basalt, respectively. The picrite is composed of interlocked tremolite-actinolite porphyroblasts in a fine grained chlorite ± biotite, carbonate, quartz and talc matrix. Contacts between fine grained and coarser grained picrite define layering on a centimetre to metre scale. Subrounded to ovoid fragments occur in the fine grained picrite. The trend of the mineralization is 5°-10° discordant to the foliation of the host picrite. Silicification and quartz ± carbonate veins are the alteration types recognized in the two zones; veins, bands and blebs vary from one to 30 cm in width. Shears occur north of the K1 zone as well as between the K1 and K2 zones. Both zones are offset by late stage high angle faulting that sinistrally displaces bedding up to 34 m (Wright, 1989).

K4 ZONE

This mineralized zone occurs approximately 15 m south of the K2 zone (Fig. 5) and contains 63 404 tonnes grading 6.62 g/tonne Au. The zone is characterized by 2-10 cm wide mineralized quartz veins with accompanying silicification and is hosted within a strongly altered felsic volcanic and/or siltstone unit. Mineralization occurs as 5-20% disseminated pyrite with 4-10% galena and sphalerite. The trend of the mineralization is slightly discordant to the foliation in the host rocks (Wright, 1989).

K6 ZONE

The K6 zone (Fig. 5) has geologically inferred reserves of 169 980 tonnes that grade 3.94 g/tonne over an average width of 3.1 m. The zone has a strike length of 244 m, a dip of 76° north and extends to a minimum of 183 m below surface. The zone is discordant to stratigraphy and crosscuts it at an angle of approximately 15°. Gold mineralization occurs at or near the contact of the picritic basalt on the north and the altered felsic unit to the south. The bulk of the mineralization occurs within the picrite. Mineralization is characterized by 1-7% pyrite and pyrrhotite with accessory galena, sphalerite, arsenopyrite and local visible gold. Silicification, carbonatization and quartz veins are present in the host rocks. Shears are ubiquitous throughout the mineralized zone; they dip approximately 87° north, steeper than stratigraphy, which dips at 70° north. High angle faults transect the deposit and dextrally offset stratigraphy by 24.4 m. The mineralized zone is truncated by faulting on both the east and west ends of the deposit (Wright, 1989).

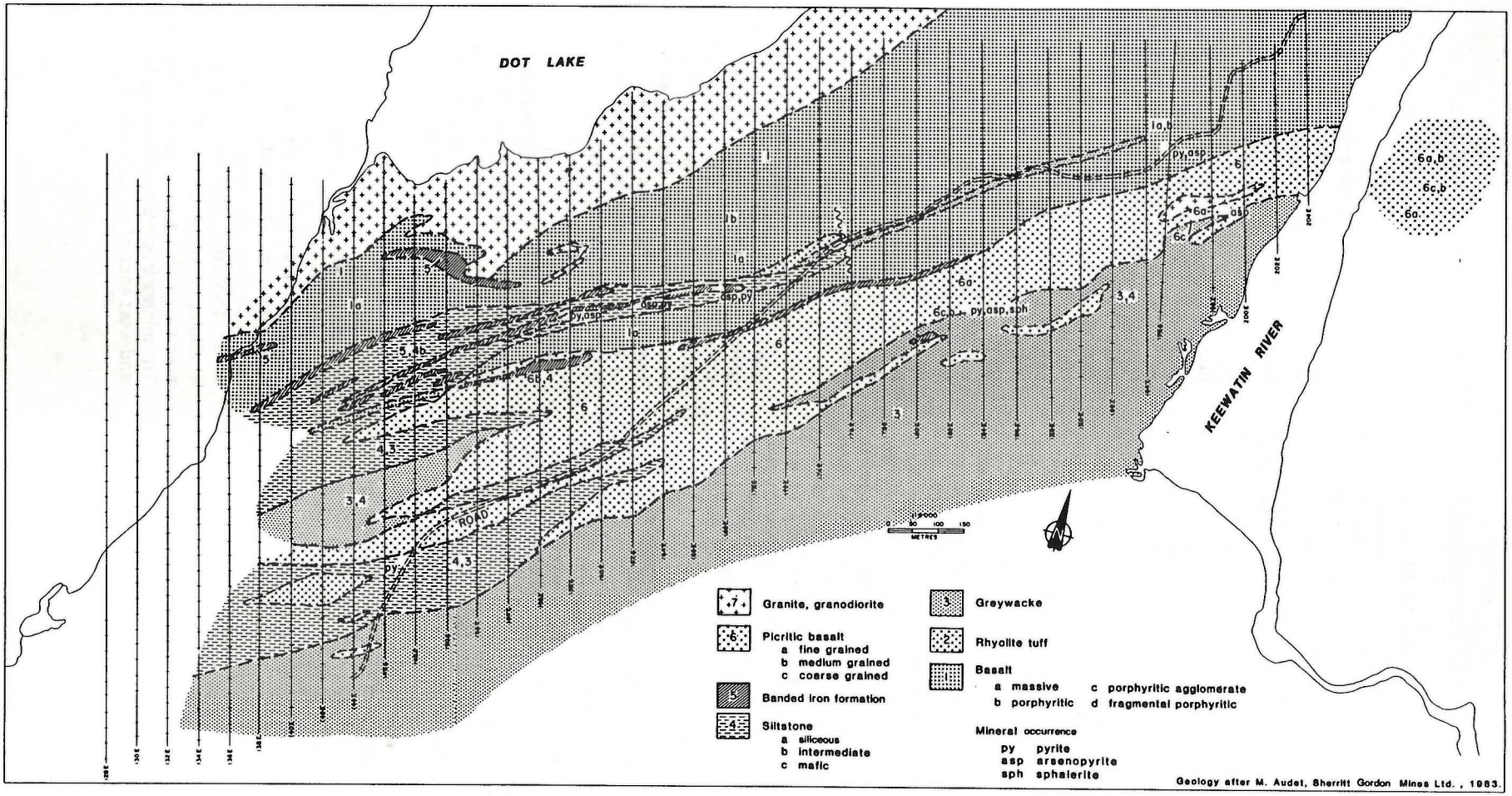

Figure 4: Local geology of the survey and the vegetation geochemical sampling grid.

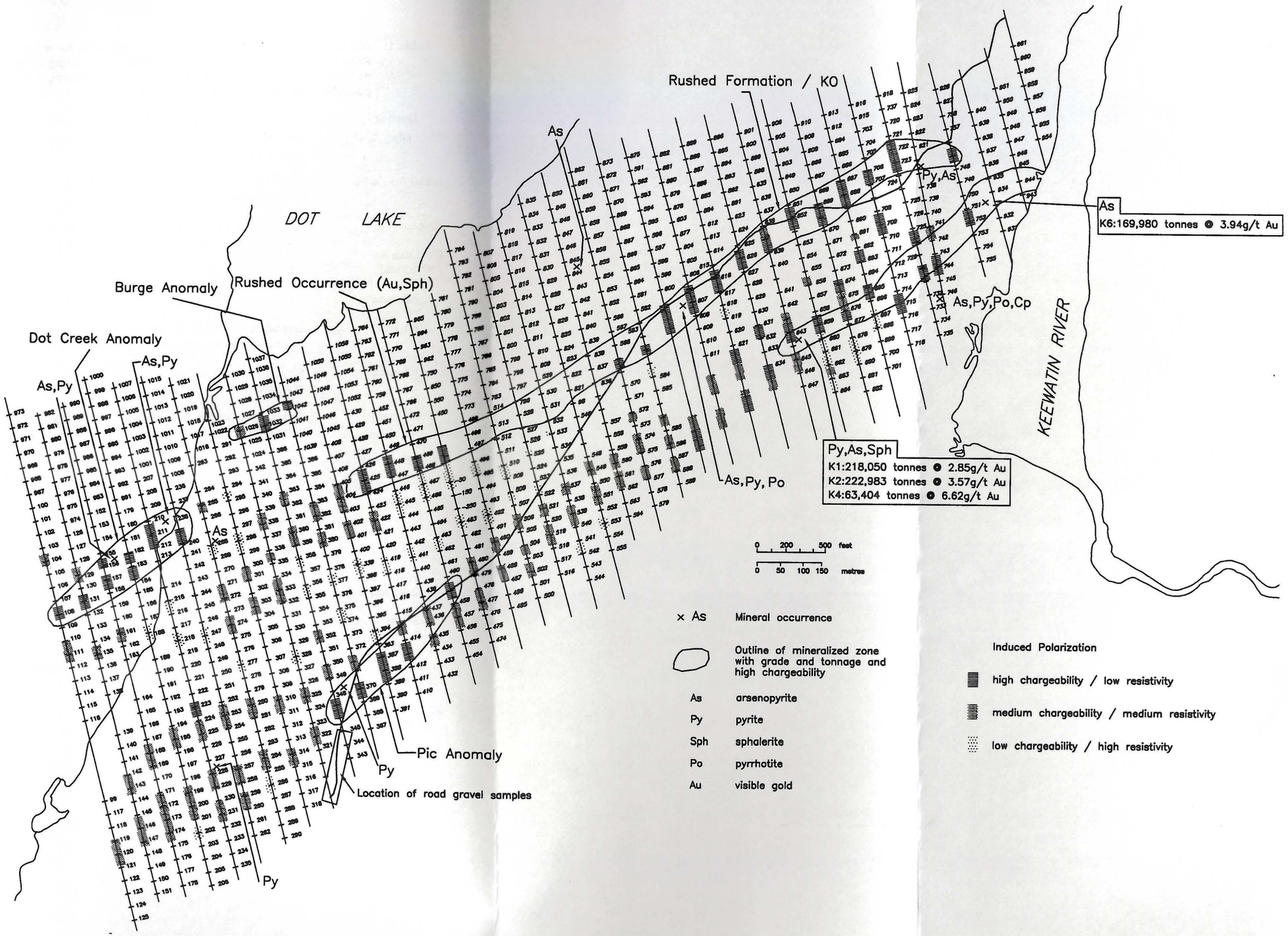

Figure 5: Vegetation and access road sample locations, induced polarization anomalies and mineral occurrences in the survey area.

Table 1: Geological characteristics, grades and tonnages for mineral deposits within the Agassiz Metallotect. Prior to mine closure in 1989, 989 000 tonnes grading 5.4 g/tonne Au were produced from the MacLellan deposit. A total of 1.061 million tonnes of ore grading 6.3 g/tonne Au remain as proven, probable and possible reserves (P. Pawliw, pers. comm.).

Deposit	Geological Characteristics	Grade and Tonnage
MacLellan Au-Ag	Stratabound vein and disseminated sulphide; picritic basalt and clastic sedimentary rocks	1.174 Mt at 6.51 g/t Au, 18.89 g/t Ag
Nisku Au-Zn-Pb	Stratabound near-solid to solid iron and base metal sulphide; picritic basalt	187 000 t at 6.51 g/t Au, 1.3% Zn, 0.8% Pb
Rainbow Au	Stratabound iron and base metal sulphide in quartz veins; picritic basalt	539 000 t at 8.57 g/t Au
Dot Lake Au ("K" zones)		
K0 zone		5.6 g/t Au over 1.98 m
K1 zone	Stratabound, 1-15% pyrrhotite, pyrite with lesser galena, sphalerite and arsenopyrite in fine- and medium-grained picrite	218 050 t at 2.85 g/t Au
K2 zone	Stratabound, 10% pyrite and pyrrhotite with lesser base metals in medium- to coarse-grained picrite	222 983 t at 3.57 g/t Au
K4 zone	Quartz vein-hosted, 5-20% pyrite with 4-10% galena and sphalerite in a strongly silicified intermediate siltstone	63 404 t at 6.62 g/t Au
K5 zone	Stratabound zone of six lenses representing the western ension of the Rainbow deposit; picrite and siltstone host rocks	383 567 t at 5.49 g/t Au
K6 zone	Predominantly stratabound 1-7% pyrite and pyrrhotite with accessory base metals and visible gold in picrite	169 980 t at 3.94 g/t Au
Farley Lake Au	Sulphidized (pyrrhotite) oxide facies iron formation and quartz veins	
Wendy and East zones		1.45 Mt at 3.9 g/t
South and Southeast Zone		1.40 Mt at 3.2 g/t
Rushed occurrence	Near-solid to solid iron sulphide, lesser arsenopyrite, sphalerite, chalcopyrite in intermediate siltstone and oxide facies iron formation	0.7 - 3.4 g/t Au tonnage unknown

SAMPLE COLLECTION, PREPARATION AND ANALYSIS

Black spruce (*Picea mariana*) samples were collected every 30 m on grid lines 75 m apart. At each sampling site a 5 m^2 sampling box was established and black spruce twigs were collected from the north, south, east and west sides of each vigorous tree within the sample box. Each branch was of similar diameter and approximately 40 cm in length. Branches from each sample site were bulked to give a composite representative sample for that site. This sampling procedure was invoked to avoid possible peripheral variability in the black spruce (Brooks, 1972; Fedikow, 1992). In this manner a total of 952 needle samples and 1084 twig samples were collected. A duplicate sample was collected every tenth site. Sampling was completed over a 3 1/2 week period in June and July of 1985.

Samples were stored in clean, dry, ventilated, labelled plastic bags and allowed to air dry at the field campsite. Subsequent to drying, needles and twigs were separated and stored in brown paper bags. Needle and twig samples were prepared separately for analysis by macerating to a consistency of sawdust with a Wiley mill. The macerated sample was rolled, quartered and two sample splits of macerated twigs and needles were collected and ashed separately at 470°C. One sample split of twig ash was encapsulated in high purity plastic vials and analysed by instrumental neutron activation (INA) for 33 elements. The INA analysis was done by Activation Services Ltd. (Ancaster, Ontario). Ashed black spruce needle samples were analysed by atomic absorption spectrometry (AAS) for 6 elements subsequent to a hydrochloric - perchloric - hydrofluoric acid total dissolution in the laboratories of the Geological Services Branch (Winnipeg, Manitoba). The second split of black spruce twig samples was analysed for Mn by AAS after a hydrochloric - perchloric - hydrofluoric acid dissolution. A description of the procedure for the preparation of black spruce needles is presented in Appendix III.

Samples collected from the MacLellan access road and from the Farley tailings for particulate contamination studies were collected with a shovel at depths of about 0.25 m. These samples were air dried and sieved into <0.063 mm, 0.063-0.125 mm, 0.125-0.25 mm and 0.25-2.0 mm size fractions. Each of these fractions was analysed by INA and AAS for trace and major elements.

DATA RELIABILITY

Analytical results for BSN and BST duplicate samples are tabled in Appendix IV. Reproducibility of analyses for BSN and BST, as monitored by duplicate samples, is generally good (Fig. 6, 7). Erratic duplicate analyses are noted for samples collected adjacent to the access road or where particulate may have affected the sampling site. Table 2 gives some typically erratic results for selected elements in roadside duplicate pairs. Figure 8 illustrates marked increases in the contents of Fe, As and Ni in twig samples collected within 50 m of the access road, reflecting the effects of roadside particulate. The high (6.5 ppm) As analyses from a sample at 450 m reflects the geochemical signature of the Rushed occurrence and a high (275 ppm) but erratic Ni response between 0 and 50 m occurs over the picritic basalt-calcareous greywacke contact and, as such, is interpreted to represent a lithologic (picrite) signature.

Table 2
Summary of roadside BST duplicate pair analyses illustrating the variability introduced by particulate generated by traffic on the MacLellan mine access road

SAMPLE	Au1 (ppb)	Au2 (ppb)	As1 (ppm)	As2 (ppm)	Fe1 (%)	Fe2 (%)	Zn1 (ppm)	Zn2 (ppm)
343	34	120	5.4	5.8	1.80	2.10	2700	2100
344	51	191	5.1	7.6	1.88	3.58	2300	3300
345	94	42	11.0	5.5	4.36	1.77	3800	2800
346	51	33	12.0	4.7	3.61	1.31	2300	2500

DATA MANIPULATION

The thematic maps in Appendix V were produced using PAMAP® GIS (Geographic Information Systems) software. The geochemical point data were transformed into raster covers using a weighted averages algorithm. The surveyed area was first parsed into a raster grid consisting of 20 x 20 m pixels. For each element, each pixel was assigned a value equal to the average of all data points within an 80 m radius, with each data value weighted by the inverse square of its distance from the center of the pixel. The resultant raster covers were colour themed using visually determined threshold values from the computer monitor. The themed raster covers were then combined with vector levels containing shorelines, road, and geophysical conductors to produce the final maps.

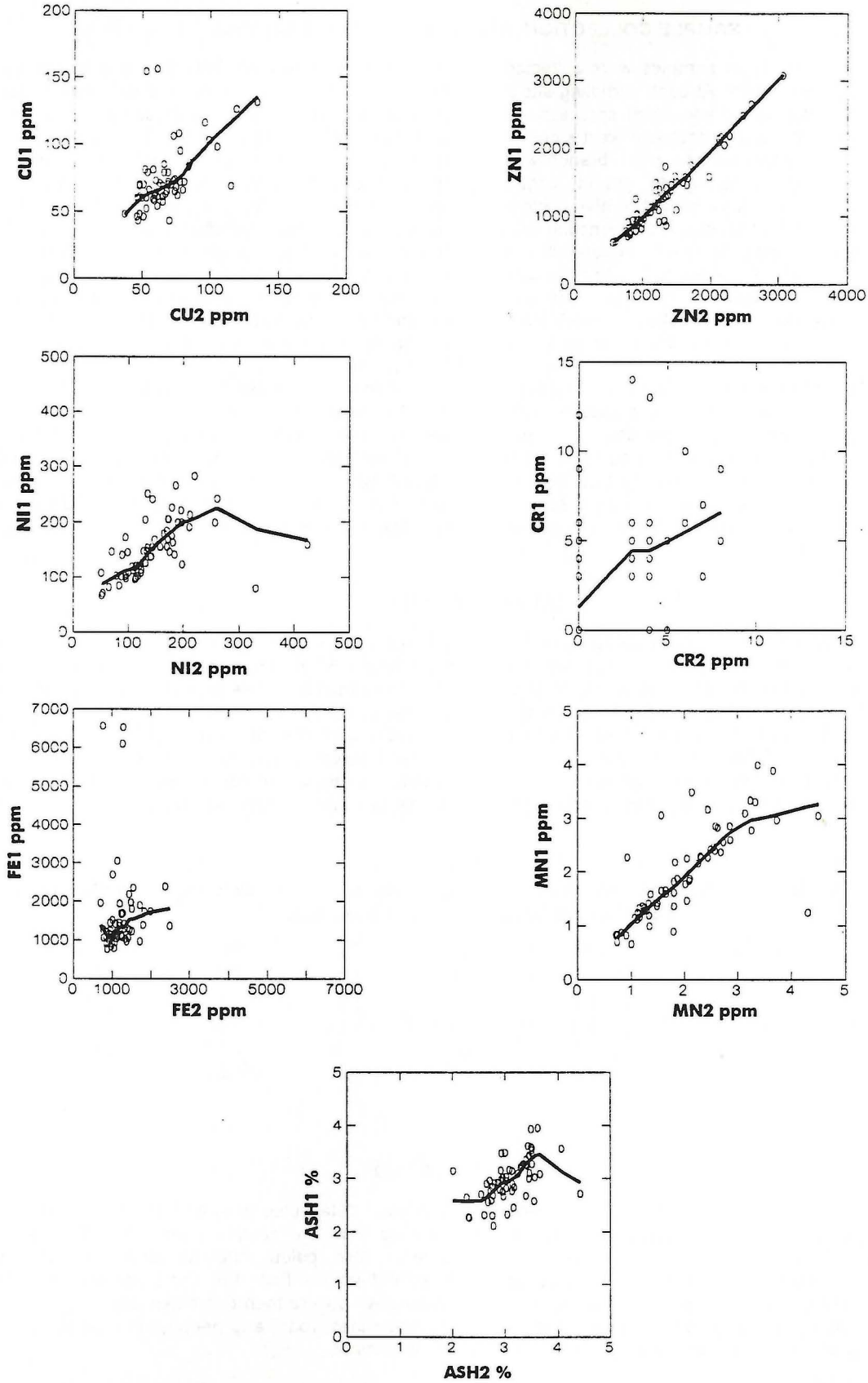

Figure 6: Black spruce needle duplicate pair analyses. Line of best fit based on the LOWESS method of Cleveland (1979, 1981).

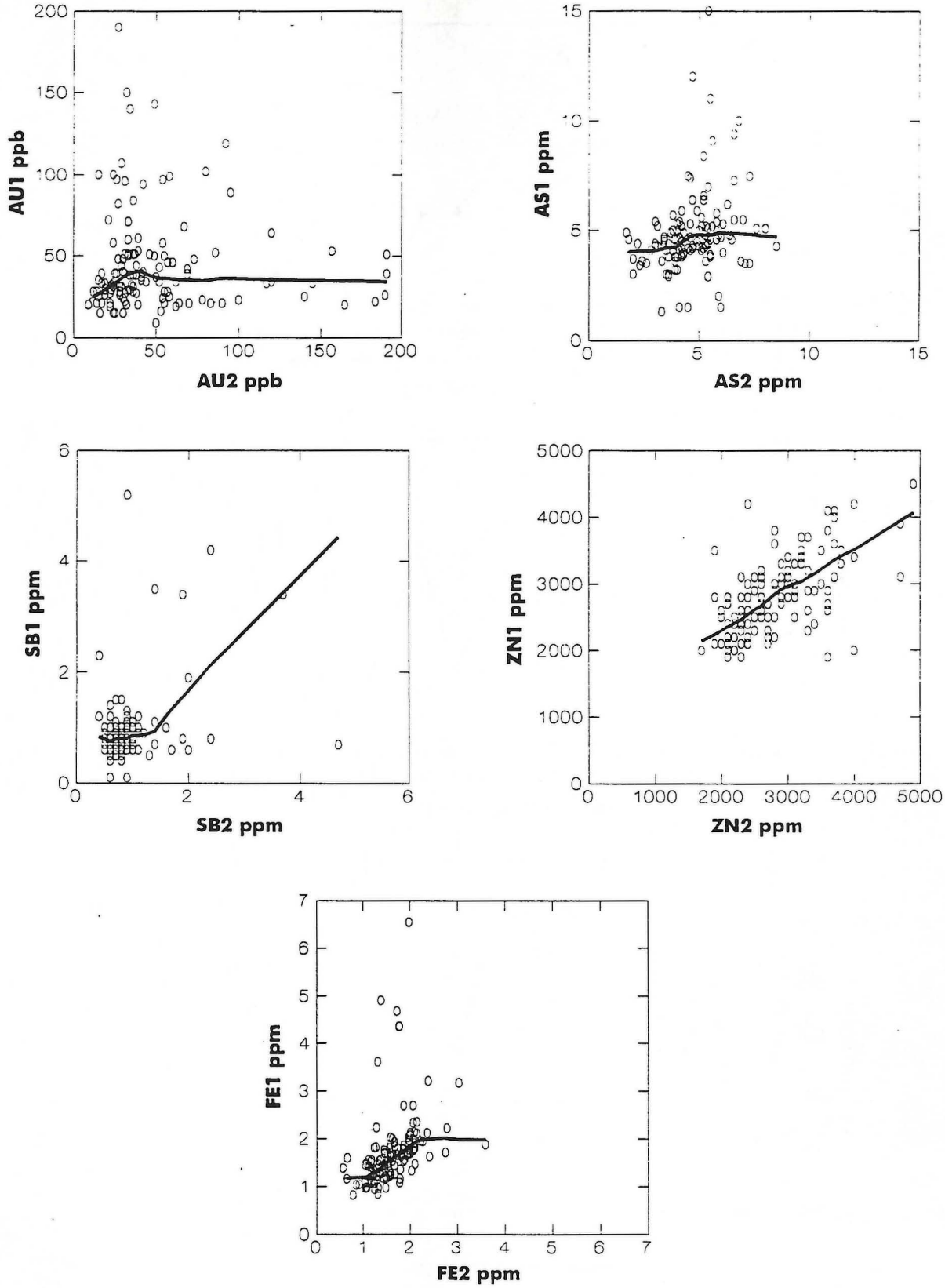

Figure 7: Black spruce twig duplicate pair analyses. Line of best fit based on the LOWESS method of Cleveland (1979, 1981).

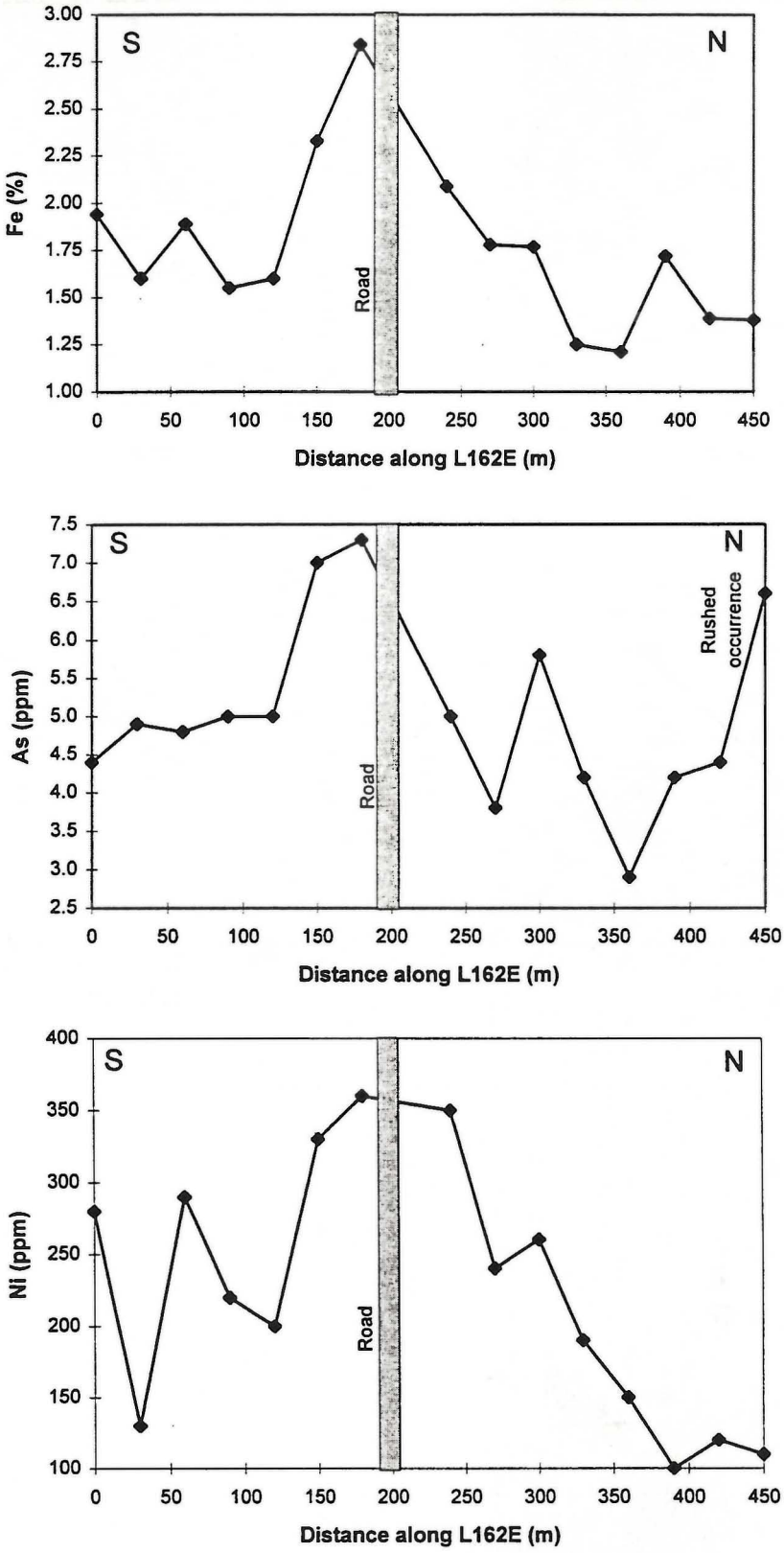

Figure 8: Fe, As and Ni profiles from a transect crossing the MacLellan mine access road.

VEGETATION GEOCHEMISTRY

Analytical results are entabulated in Appendix I. Histograms and statistical summaries for each element are presented in Appendix II. The variation in concentration of each element determined in the needles and twigs is discussed separately with regards to overall trends and relationships to mineral occurrences, IP responses, lithologies, drainage and possible contamination. Ranges in concentration and the population median are also quoted. Contents of Hg, Ir, Mo, Se, Ta, W, and Tb were at or below the analytical limit of detection and will not be given further consideration.

BLACK SPRUCE (*Picea Mariana*) NEEDLES (BSN)

ASH (1.98-5.70%; MEDIAN=3.06%)

There are no definite trends in the data over the survey area other than localized highs adjacent to the MacLellan mine gravel access road. The high ash contents are the result of windblown particulate from traffic on the access road. High ash is documented from an area south of the Rushed occurrence and in one or two other areas on the grid.

CHROMIUM (<3 -144 PPM; MEDIAN=<3 PPM)

A strong multisample Cr anomaly (max.=51 ppm), situated between the Rushed occurrence and the Pic anomaly occurs in the center of the survey area. The dimensions of the anomaly are approximately 300 x 200 m with subsidiary satellite anomalies to the east and west. The anomaly is situated above picritic basalt in an area where BSN have the highest ash percent (5.70%) of any BSN sample collected in this survey. It is conceivable that the anomaly is anthropogenic, however, ash contents of BST from this same area vary between 1.68 and 2.64% with a population median of 2.07%. A zone of high Cr that occurs north of the Dot Creek anomaly cannot be attributed to mineralization or lithology. There is a suggestion of a linear trend of high Ni values southwest of the Pic anomaly. This trend correlates with the mapped location of the picrites.

COPPER (12 - 166 PPM; MEDIAN=66 PPM)

The distribution of Cu in BSN in the survey area appears to be controlled by (1) the location of the mine access road with a string of high Cu values (>100 ppm) associated with it, and (2) a general decrease in concentration from west to east in the survey area. The greatest number of BSN samples containing >80 ppm Cu occurs on the southwest corner of the area. High Cu contents occur at the northeast end of the Dot Creek IP anomaly in association with an arsenopyrite-pyrite occurrence.

IRON (<80 - 8550 PPM; MEDIAN=1215 PPM)

The sinuous zone of Fe enrichment in the survey area marks the location of the mine access road. The Fe anomaly is most likely due to enrichment caused by either metalliferous acid leachate from the road being acquired by the root systems of the black spruce trees or from particulate contamination produced by traffic on the road. There is no correlation between the location of the mineral occurrences, induced polarization (IP) anomalies and high Fe in BSN.

MANGANESE (0.3 - 8.0%; MEDIAN=1.79%)

There is an extraordinary range in the concentration of Mn in BSN. The highest Mn and the most areally significant anomaly occurs between and partially overlapping the Rushed Formation/KO zone and the K zones. Other high Mn zones occur over the greywackes on the southeast survey boundary and adjacent to the Dot Creek IP anomaly and "Dot Creek". There is generally a lack of correspondence between the location of outcropping mineral occurrences and the Mn anomalies.

NICKEL (<1 - 500 PPM; MEDIAN=148 PPM)

Ni concentrations in the BSN from the survey area form two generally separate northeast-trending linear anomalous zones. The more northerly of these zones extends from the northwest corner of the survey area along the southern shore of Dot Lake. The underlying lithology in this area is granite and granodiorite. The second or more southerly of these linear zones corresponds to the mapped location of the high Mg-Ni-Cr picritic basalts. This trend continues eastward to the mine access road where some effects from particulate and/or leachate are suspected. It is noteworthy, however, that the linear trend of Ni enrichment in BSN is not restricted to the trend of the road; at the point where the road turns south in the western part of the survey area, the linear Ni trend continues westerly. The Ni trend coincides with a moderate to weak IP response possibly representing the continuation of the source for the Pic anomaly. Generally, there is poor correspondence between the location of mineral occurrences and high Ni content in BSN.

ZINC (<4 - 4100 PPM; MEDIAN=1206 PPM)

High Zn contents appear to correlate closely with the presence of outcropping mineral occurrences and zones of high chargeability. Zn anomalies occur in three areas: (1) over the Dot Creek IP anomaly, (2) as the areally largest anomaly centrally located over the Rushed occurrence, and (3) over an arsenopyrite occurrence adjacent to the Keewatin River. A linear band with 1500 to 2500 ppm Zn occurs between the mine access road and the southern edge of the survey area, parallel to the stratigraphic contact between greywacke and picritic basalt. Zn distribution in BSN also appears to be spatially related to the Dot Creek IP anomaly that is bisected by "Dot Creek".

BLACK SPRUCE (*Picea Mariana*) TWIGS (BST)

ASH (1.44 - 3.83%; MEDIAN=2.07%)

The percentage ash in BST over the survey area is generally uniform with the exception of localized highs adjacent to the gravel access road. These highs (3.8%) reflect particulate dust from traffic on the mine access road.

ANTIMONY (0.1 - 8.1 PPM; MEDIAN=0.8 PPM)

High Sb occurs in the northeast part of the survey area that is underlain by massive aluminous basalt. Sb contents of >3 ppm are associated with the Dot Creek IP anomaly near the point of intersection between the IP anomaly and the creek. Several zones of high Sb occur directly over the K zones IP anomaly. The high Sb that occurs over apparently nonmineralized aluminous basalt is unexplained.

ARSENIC (1.2 - 35.0 PPM; MEDIAN=4.5 PPM)

Limited geochemical flux occurs for As content in BST. High concentrations of As are restricted to the immediate vicinity of the road, with two exceptions: (1) High As occurs near the Dot Lake-"Dot Creek" junction, and (2) a small zone with 6-10 ppm As flanks the IP anomaly associated with the Rushed occurrence. The limited variability of As in the BST is somewhat surprising given the number of arsenopyrite-bearing mineral occurrences in the area.

BARIUM (490 - 5000 PPM; MEDIAN=1600 PPM)

Two large areas of high Ba concentrations are observed in the survey area. A 500-600 m^2 circular anomaly with a central low is situated south of the southwest end of Dot Lake and just east of "Dot Creek". The second anomaly flanks the northwest and southeast sides of the Rushed Formation/KO and K zones IP anomalies adjacent to the Keewatin River. The shape of the Ba anomaly is such that it mantles these two mineralized zones. There appears to be no obvious association with individual mineral occurrences, with the exception of >3000 ppm Ba at the point of intersection between "Dot Creek" and the Dot Creek IP anomaly.

BROMINE (1 - 170 PPM; MEDIAN=14 PPM)

Br concentrations in BST are somewhat scattered with the highest concentrations (>50 ppm) defining a northeast-trending linear zone confined to the northern portion of the survey area. The high chargeability response associated with the Rushed occurrence is coincident with a Br anomaly with a northerly downslope trend. A gold anomaly at this location has these same features (see below). The form of this vegetation geochemical response is suggestive of a leakage type anomaly. Elsewhere, multiple Br anomalies are associated with the Rushed Formation/KO zone and K zones IP response.

CALCIUM (10.0 - 27.1%; MEDIAN=18.0%)

A linear trend of 20-25% Ca is associated with oxide facies iron formation within the Rushed Formation and the Rushed occurrence. This linear trend of high Ca extends to the western limit of the survey area and overall for a distance of approximately 1350 m. A zone of 20-25% Ca also occurs in association with the Dot Creek IP anomaly.

CESIUM (0.5 - 14.0 PPM; MEDIAN=3.1 PPM)

Two main zones of high Cs concentrations occur in the survey area. In the northeast survey area a linear zone of >4 ppm Cs occurs on the northwest flank of the Rushed Formation/KO zone IP anomalies. Four hundred metres southwest of this anomaly is a circular anomaly encompassing the Rushed occurrence and its associated IP anomaly. This zone terminates to the southeast at the mine access road. In overall location, size and shape, the Cs anomaly correlates with anomalies for Ba, Co and possibly Ag.

CHROMIUM (13 - 180 PPM; MEDIAN=52 PPM)

The results for Cr essentially mimic those for Fe in BSN and BST. With the exception of a few 70-90 ppm anomalies adjacent to "Dot Creek" in the western part of the survey area, the main response is restricted to the mine access road. Samples adjacent to the road typically have Cr contents that range from 110-140 ppm Cr and 2.63-3.37% ash as compared to the BST population median value of 52 ppm Cr and 2.07% ash. There is no correlation between Cr and the mineral occurrences in the survey area.

COBALT (4 - 52 PPM; MEDIAN=12 PPM)

Two patterns for the variation in concentration of Co are developed in the area. An association with the mine access road is particularly recognizable in the northeastern portion of the survey area. Also in the northeastern part of the area, >15 ppm Co is associated with an arsenopyrite occurrence and, in part, the K zones IP anomaly. South of the southwest end of Dot Lake and east of "Dot Creek" is a large (1 x 0.5 km) zone of 15-25 ppm Co, with a small number of areas with >25 ppm Co contained within it. This anomaly straddles and appears to terminate at the mine access road. The anomaly also contains a trough of 10-15 ppm Co that occurs directly over the Rushed occurrence and the associated oxide facies iron formation and siltstone host rocks. On the periphery of this trough are peaks of >25 ppm Co. This pattern is suggestive of a "rabbit-ear" electrogeochemical anomaly. Similar responses at this occurrence have been documented by Fedikow (1986a) in a multielement study of black spruce bark collected over the Rushed occurrence mineralized zone. This Co anomaly is broadly correlatable with the response for Ba.

GOLD (5 - 330 PPB; MEDIAN=39 PPB)

Numerous zones of >90 ppb Au are present on the survey grid. In part, these anomalies are associated with the known mineral occurrences, such as the Rushed occurrence, the pyrite-arsenopyrite occurrence between the Keewatin River and the Rushed Formation/KO IP anomaly, and the Dot Creek IP anomaly. A number of high Au zones also occur at or close to the greywacke-picritic basalt contact in the southern part of the survey area. A peculiar north-trending linear zone of high Au proceeds north from the area of the Rushed occurrence and its associated IP anomaly. The bedrock in this area is nonmineralized massive granite without obvious faults or joints. It is possible that this trend is a leakage-type anomaly developed downslope from the occurrence, which is situated on a ridge overlooking the lake.

HAFNIUM (0.5 - 4.8 PPM; MEDIAN=1.6 PPM)

The levels of concentration of Hf in BST is generally low across the survey area with the exception of samples collected adjacent to the mine access road. Samples with >3 ppm Hf are restricted to within 50 m of the road. There is no correlation between mineral occurrences, IP anomalies and Hf concentrations in BST.

IRON (0.52 - 6.55%; MEDIAN=1.56%)

Contamination from airborne particulate or mine access road leachate is apparent from the Fe results. The mine access road is clearly defined by >2% Fe in BST and reflects the strong influence of the chemistry of Farley Ni-Cu deposit tailings used for road construction on vegetation geochemistry. There are no other Fe anomalies apparent in the survey area.

MANGANESE (303 - 3548 PPM; MEDIAN=970 PPM)

Three main zones of Mn enrichment occur in BST. The first is situated along "Dot Creek" between Dot Lake and the Dot Creek IP anomaly. The second is situated between the mine access road and Dot Lake and has a northwest-trending anomaly axis; this anomaly straddles the mine access road. The third main zone of Mn enrichment occurs between the Rushed Formation/KO zone IP anomaly and the K zones in the eastern part of the survey area, as well as between the northeast end of these anomalies and the Keewatin River. A fourth areally smaller zone, characterized by lower Mn concentrations, occurs southeast of the Pic IP anomaly, close to the contact between the underlying greywacke and picrite.

NICKEL (50 - 550 PPM; MEDIAN=220 PPM)

Ni anomalies in BST corroborate, to some extent, the results for Ni in BSN. The highest Ni concentrations occurs in areas underlain by picritic basalt. High Ni also occurs in samples collected adjacent to the mine access road. There is no clear association between Ni in BST and mineral occurrences in the area.

POTASSIUM (4.29 - 23.10%; MEDIAN=10.7%)

The extraordinary range in K in BST is attributed to two large zones of high K and the relatively depressed K contents in the remainder of the survey samples. High K occurs over granitic and massive aluminous basalt along the northern boundary of the survey area, north of the Rushed occurrence. The second area of high K mantles the K zones IP anomaly and the area east to the Keewatin River.

RUBIDIUM (5 - 500 PPM; MEDIAN=170 PPM)

Multiple samples of BST with >300 ppm Rb form three large anomalies associated with the Rushed Formation/KO and K zones IP anomalies in the eastern portion of the survey area. The vegetation geochemical anomalies occur at the northeast ends of the IP responses in close association with a pyrite-arsenopyrite occurrence on the north and an arsenopyrite occurrence associated with the K zone. A pyrite-arsenopyrite-sphalerite occurrence associated with the K zones IP anomaly is also marked by the development of a significant multisample Rb anomaly. Other high Rb zones in the survey area are developed over the granitic rocks along the northern border area of the survey area and also in the southwest corner of the area where greywacke and picrite predominate.

SCANDIUM (1.6 - 10.0 PPM; MEDIAN=3.7 PPM)

Sc anomalies of >4 ppm are confined to the immediate area of the access road and, in this regard, reflect the results for Fe and Cr. There is a lack of correspondence between Sc in BST and the mineral occurrences and lithologies in the survey area.

SILVER (<2 - 11 PPM; MEDIAN=<2 PPM)

Scattered single-sample Ag anomalies of >4 ppm occur in the survey area. Numerous single-sample anomalies are associated with the Rushed occurrence and the greywacke-picrite contact along the southern boundary of the survey area. High Ag contents also occur in association with and along strike from the Rushed Formation/KO zone and the K zone IP anomalies. Several Ag anomalies are also situated in the northwest corner of the grid near the junction of Dot Lake and "Dot Creek".

SODIUM (1660 - 13,600 PPM; MEDIAN=3795 PPM)

Na variation in BST across the survey area is similar to that for Fe and Hf in that all high concentrations (>6000 ppm) are restricted to within 50 m of the mine access road. The values of >6000 ppm are enclosed by an area with concentrations of 4000-6000 ppm and may indicate a broader zone of particulate influence on the chemistry of the BST.

STRONTIUM (<500 - 2900 PPM; MEDIAN=<500 PPM)

High Sr in BST occurs in the northern part of the survey area from trees growing over both granitic and massive aluminous basalt. There appears to be an association between high Sr in BST and the area immediately west of "Dot Creek" characterized by BST geochemical anomalies for Au, Ag, Sb, Zn, Cr and Ba. Several Sr highs are documented from the areas adjacent to the mine access road. One zone of high Sr concentration occurs directly over the K zones IP anomaly.

THORIUM (0.1 - 5.5 PPM; MEDIAN=1.6 PPM)

Variation in Th content of BST is restricted to the immediate area of the mine access road. Up to 5.5 ppm Th in BST from sampling sites adjacent to the road is attributed to contamination via particulate and/or leachate originating from iron sulphides in the road.

URANIUM (0.1 - 2.8 PPM; MEDIAN=1 PPM)

The U contents in BST give a generally nondescript pattern over the survey area. The highest concentrations occur south of the road along the southern edges of the Pic and K zones IP anomalies. There is no clear association between U in BST and the mine access road or known mineral occurrences in the area.

ZINC (1600 - 12,000 PPM; MEDIAN=2700 PPM)

Three main areas of high Zn are identified in the survey area. The Rushed occurrence is marked by areally large zones of high Zn with an apparent northwesterly trend probably indicating downslope leakage from the occurrence similar to that observed for the Au and Br results. The second and perhaps the most well defined Zn anomaly in the survey area is a 750 m long trend of high Zn that occurs over and to the north and south of the Dot Creek IP anomaly. A linear northeast-trending zone of 3000-3500 ppm Zn extends for approximately 1 km along the greywacke-picritic basalt contact.

RARE EARTH ELEMENTS - (LA, CE, ND, EU, SM, YB, LU)

The geochemical coherence of the rare earth elements (REE) is reflected in the similarity of the patterns observed for each of the seven REE determined for this study and referred to as total (Σ) REE. High concentrations of La, Ce, Nd, Eu, Sm, Yb, Lu and, therefore, ΣREE are confined to the immediate vicinity of the mine access road and show no correspondence with the areas of mineral occurrences or IP anomalies. This observation is consistent for the light rare earth elements (ΣLREE) and the heavy rare earth elements (ΣHREE). Plots of the results for individual REE are provided in Appendix V, Part 1.

ADDITIVE, MULTIPLICATIVE AND NORMALIZED DATA

Geochemical data for BST were transformed to produce additive, multiplicative, and ash- and Mn-normalized variants and then plotted on the survey grid. These transforms were undertaken to ascertain whether these new data would more accurately reflect the positions of known mineral occurrences and/or IP anomalies. The results of each of the transformations is described separately, below.

Additive Data

Ni + Cr + Co

The sum of the concentrations of Ni, Cr and Co were plotted to determine whether these elements in BST would reflect the underlying picritic basalt mapped in the survey area (Fig. 4). The results are partially successful in that they indicate the approximate location of picritic basalts, but they also identify the mine access road as a second source of these elements in the BST. There is no obvious correspondence with mineral occurrences and/or IP anomalies.

Au + As + Sb + Zn + Fe

This additive transformation combines elements present in mineral occurrences on the grid and, unlike the Ni + Cr + Co plot, this group is designed to identify mineralization rather than lithology. Although the mine access road is once again identified by the element group, the Rushed occurrence is highlighted, as is the north-trending leakage halo identified in the Au, Br and Zn results. "Dot Creek" and the Dot Creek IP anomaly are reflected by this grouping, as is the greywacke-picritic basalt contact in the southern portion of the survey area.

Multiplicative Data

Au x As x Sb x Zn x Fe

The product of these elements closely reproduces the result of the additive transformation for the same element grouping. The MacLellan mine access road is highlighted, as is the Rushed occurrence, the Dot Creek anomalies and the greywacke-picritic basalt contact.

Mn-Normalized Additive Data

(Au + As + Sb + Zn + Fe)/ Mn

Mn-normalization was undertaken to avoid possible variations in element uptake due to variations in drainage patterns. The sum of the individual elements was divided by the total concentration of Mn in the sample at that station and plotted. The mine road is identified by three or four anomalies as well as scattered highs across the survey area. There is no clear affiliation with mineral occurrences or IP anomalies. One possible exception is the Dot Creek IP anomaly. At this location the southwest end of the IP anomaly is highlighted by an areally significant zone of high values, whereas the northeast end of the anomaly, in the area where it is cut by "Dot Creek", has a much more subdued response.

Mn-Normalized ΣLREE and ΣHREE

The transformed ΣLREE and ΣHREE data delineate the mine access road by way of a few areally restricted zones of high values. The only response to the IP anomalies or mineralized zones occurs over the southwest end of the Dot Creek IP anomaly.

(Ni + Cr + Co)/ Mn

The results for this transformation essentially mimic the Mn-normalized ΣLREE, ΣHREE and (Au+As+Sb+Zn +Fe). In addition to the mine access road the (Ni+Cr+Co)/Mn data identify the southwest end of the Dot Creek IP response cut by "Dot Creek", and also, the general location of the underlying picritic basalt west of the mine access road.

Mn-Normalized Multiplicative Data

Au x As x Sb x Zn x Fe/Mn

The mine access road is highlighted at numerous locations along its length using these data. An area of three high responses occurs in the northwest survey area. One of these responses is situated over the northeast end of the Dot Creek IP anomaly at the location where it is cut by "Dot Creek". A second anomaly in the area occurs at the confluence of "Dot Creek" and Dot Lake.

Ash Normalized Data

Additive and multiplicative data for lithologic indicators (Ni, Cr, Co) and indicators of mineralization (Au, As, Sr, Zn, Fe) were ash normalized by dividing the sums or products of the individual samples by the measured ash percent for each respective sample.

Ash-Normalized Additive Data

(Ni + Cr + Co)/ Ash

A broad area of enrichment in the ashed normalized sum of Ni, Cr and Co is identified in the northwest portion of the grid. Although the area covers the underlying picritic basalt, it also encompasses areas of aluminous basalt, siltstone, and oxide facies iron formation. There is no clear-cut association with the areas of mineral occurrences; the mine access road is clearly identified with these data in the northeast part of the survey area.

(Au + As + Sb + Zn + Fe)/ Ash

These data, based on elements associated with the mineral occurrences, successfully identify the following: (1) the Rushed occurrence as well as its north-trending leakage halo, (2) the Dot Creek IP anomaly and associated pyrite and arsenopyrite occurrences at the point of intersection with "Dot Creek", and (3) a pyrite occurrence associated with the Pic IP anomaly. Numerous other areally restricted scattered highs are unexplained.

Ash Normalized ΣREE, ΣLREE and ΣHREE

Ash-normalized ΣREE data clearly identify the MacLellan mine access road. No other associations are apparent in the data. Ash-normalized ΣLREE and ΣHREE give somewhat different results. There is a profusion of areally restricted high ΣHREE concentrations without clear association to any particular feature in the survey area, except perhaps the portion of the mine access road that occurs in the central part of the survey area. ΣLREE data define the mine access road but are ineffective in highlighting mineral occurrences and/or IP anomalies.

Ash-Normalized Multiplicative Data

Au x As x Sb x Zn x Fe/Ash

Ash-normalized multiplicative data based on mineralization-related elements successfully identified the same IP response and mineral occurrences as the ash-normalized additive data. The Rushed occurrence, the Dot Creek IP anomaly, and the pyrite occurrence associated with the Pic IP anomaly and related IP response in the southern part of the survey area are all highlighted by these transformed data.

GEOCHEMISTRY OF SAMPLES COLLECTED FROM THE MACLELLAN MINE ACCESS ROAD

Five samples of road gravel were collected from the MacLellan mine access road (Fig. 5) for chemical analysis of the various size fractions to determine the possible chemical contaminants of black spruce growing adjacent to the road. Samples were collected with a shovel from the centre of the road at 20 m intervals at a depth of approximately 0.25 m. The material comprised pale brown sand and silt with pebbles and local cobbles of intermediate to mafic volcanic and igneous rock. Analytical data for the size fraction analysis of these samples are summarized in Appendix VI.

RESULTS

The elements As, Co, Cs, Hf, Se, Th, U, La, Ce, Nd, Sm, Eu, Tb, Yb, Lu, Zr, Y, Pb and Ni are concentrated in the 0.063 mm size fraction. This pattern is also recognized for Au in four out of five samples but is absent from the results for Cr, Rb, Sc, Cu and Zn. The results for Br, Hg and W in one of five samples, and in several samples for Ta suggest enrichment in the 0.063 mm size fraction. The elements Br, Hg, Ir, Mo, Ta, W, Be and Nb are below or close to the lower limits of determination.

Major element chemistry between the four size fractions of the samples is similar. The range in concentration for SiO_2, TiO_2 (excepting sample 06322), Al_2O_3, MnO, Na_2O, K_2O and P_2O_5 are similar. Some variation is noted for MgO and CaO in sample 06322. All samples have a wide range in Fe_2O_3 (up to 20.92% in sample 06321).

Construction materials used for the mine access road contain significant concentrations of Cu (max.=2800 ppm), Pb (max.=120 ppm), Zn (max.=420 ppm), Cr (max.=580 ppm), Co (max.=30 ppm), As (max.=85 ppm) and Au (112 ppb). As such, the road gravel is identified as the source for particulate contamination or contaminated leachate reflected by roadside vegetation analyses.

High contents of rare earth elements and resistate metals such as Zr, Y, Nb, Ba and Sr in vegetation tissues are also attributed to dust generated by traffic on the access road.

The contaminating effects of both the particulate and the leachate or run-off from the road are confined to vegetation samples collected from within approximately 50 m of the road. This is depicted as a sinuous zone of multielement anomalies immediately adjacent to and covering the road. Although vegetation samples were not collected from the road, the computer-aided smoothing technique used before data contouring averaged the high analyses in samples adjacent to the road. As a result, the contoured diagrams extrapolate high concentrations over the road. The restricted areal influence of particulate contamination in roadside BST samples is demonstrated for Fe, As and Ni in Figure 8. This profile is constructed for selected elements from analyses of samples collected along line 162E, both north and south of the mine access road. Results demonstrate major and lesser geochemical contributions to twig chemistry within 50 m of the road. Fe increases from approximately 1.50% to between 2.15 and 2.85%; As increases from about 5 ppm to 6-7 ppm; the As peak on the profile at 450 m is attributable to the geochemical signature of the Rushed Au occurrence. Ni increases from 200 ppm to >350 ppm within 50 m of the road. These data are unequivocal in demonstrating the restricted areal addition of trace and major elements to roadside vegetation. The limited dispersal of roadside particulate, therefore, indicates the integrity of chemical analyses for the remainder of the data population have not been compromised.

GEOCHEMISTRY OF SAMPLES COLLECTED FROM THE FARLEY (NI-CU) DEPOSIT TAILINGS

The Farley Ni-Cu deposit tailings are approximately 24 million tonnes of chemically variable mining residue dominated by sand and silt. The tailings cover an estimated area of 0.5 km^2 and are approximately 4 m deep (Acres International Ltd., 1986). Up to 30 cm below surface the material is uncemented, weathered, orange to brown, medium- to fine-grained silt and sand. The remainder of the profile comprises dense, well cemented, fine- to medium-grained, reddish brown sand. Below 2 m the material varies from dark grey to black and is moist. Additionally there may be lenses of light grey sand, thin laminations of light grey silts and clays, and in places, rock fragments. On the basis of eight samples collected from the upper 1 cm of the tailings profile 7.4 to 56.7% passes #325 mesh size (Acres International Ltd., 1986). Samples to complement the vegetation geochemical survey were collected only from the upper uncemented profile since these would be the only materials to be taken into the air during windblown dust storms.

Five representative samples were collected from the Farley Ni-Cu deposit tailings for multielement analysis. These samples were collected to characterize, in a preliminary manner, the chemical composition of the tailings and the potential for airborne particulate contamination of the surrounding area, including the Dot Lake survey area, as a result of seasonal winds. Samples were collected randomly from areas that appeared "typical" of the tailings area. Like the samples from the access road, each of the tailings samples were split into four size fractions and analysed separately for major and trace elements. Data are summarized in Appendix VII.

RESULTS

Size fraction analysis of the five Farley tailings samples have few similarities to the results for the access road sample size fraction analysis. The highest concentrations for a wide range of elements that occurred in the <0.063 mm size fraction of the access road samples is not typical for the tailing samples. The elements As and Hf appear to decrease from finer to coarser size fractions in each of the samples, but this observation is only partly true for Au, Hg, Sb, Se, La, Zr, Ag, Pb and Cu with some samples having more or less the same concentrations regardless of the size fraction. The elements Br, Cs, Ir, Ta, U, W, Be and Nb are below the lower limit of determination in most or all of the tailings samples; Hg, Mo and Rb are below the lower limit of determination in one or two of the tailings samples.

The absolute concentrations of some elements are substantially greater than the same elements in the access road samples; these include Au, Cr, Pb, Cu, Ni and Zn. One sample, 06315, contains a range of 4.1-5.0% Cu, 0.42-0.69% Pb, 62-72 ppm Ag and an extraordinary 25.0-33.3% Zn in the four size fractions. This signifies the presence of a high grade base metal concentrate in the tailings. This sulfur-rich concentrate is characterized by low totals for major element chemistry, high loss on ignition, high Fe_2O_3 and the impoverished nature of this sample with regards to all other elements determined in silicate whole rock analysis. The remainder of the samples display concentration ranges quite different from the access road samples with lower SiO_2, MnO, MgO, Na_2O, K_2O and higher CaO and LOI.

Part 3 of Appendix VII summarizes the range in concentration for all elements determined on the <0.063 mm size fraction. The chemistry of this size fraction is critical for the assessment of windblown particulate contamination in the survey area. Relatively high concentrations of Cr, Hg, Se, Ba, Sr, Au, Cu, Pb, Zn, Ni and Ag in this size fraction illustrate the potential for significant particulate additions of these metals to the vegetation. In the Dot Lake survey area, approximately 3 km from the tailings area, there appears to have been little effect of windblown particulate contamination on the survey results with the possible exception of Cu and Ni. A marked decrease in Cu and Ni concentrations is observed from west to east in the survey area for BSN. The pattern is less well developed for Ni due to the geochemical response of the needles to the high Mg-Ni-Cr picritic basalts in the area. The western survey area is marked by a preponderance of Cu analyses ranging between 60 and 100 ppm, which gradually decrease from west to east to around 60 ppm. One possible explanation for this pattern is the effects of windblown particulate from the Farley tailings, but a concomitant increase in ash percent correlating with the Cu pattern is not observed. Additionally, an increase in Fe content of the needles in the west, similar to that observed for Cu, might be expected since the <0.063 mm size fraction is rich in Fe_2O_3; however, this is not observed.

The geochemistry of BST exhibits similar patterns for Ni and Fe with a decrease in concentration from west to east. The ash content in BST, however, is generally 2.0-2.5% across the survey area with the exception of several localized highs associated with samples collected adjacent to the access road. This indicates the probable absence of windblown particulate originating from the tailings area falling onto the vegetation. Cu was not determined in the BST.

DISCUSSION

INDICATOR ELEMENTS

Tables 3 and 4 summarize the elements in BSN and BST, respectively, that are diagnostic of the various targets in the survey area, including the MacLellan mine access road and possible leakage-type anomalies attributed to downslope drainage effects.

Significant information can be derived from the geochemical data summarized in Table 4 for BST. The Rushed occurrence is identified by a larger suite of pathfinder elements, and a possible "rabbit's ear" anomaly has been defined with respect to Co concentrations. Some overlap of these elements with those coincident with strong IP responses is noted for BST. A lengthy list of elements is associated with the "Dot Creek" IP anomaly. This IP response is somewhat unique for the survey area in that it is transected by "Dot Creek". Downslope leakage of metals from this IP anomaly may have been facilitated by "Dot Creek" and subsequently reflected by element uptake by vegetation growing downslope from the anomaly. A similar scenario is envisaged for the Zn, Au and Br anomalies situated downslope from the Rushed occurrence. In the Rushed occurrence example, meteoric waters percolating from the occurrence northwards topographically downslope would have carried metals to the black spruce growing closer to Dot Lake.

Various rock types appear to be highlighted by the vegetation geochemical data. The picritic basalt and its contact with greywacke in the southern survey area are identified by high Ni and Au-Ag-Zn-Mn contents, respectively. Granite and aluminous basalt are reflected by Rb, Sr and K contents whereas high Sb contents over massive, apparently unaltered and nonmineralized basalt is unexplained.

Roadside BST samples are enriched in a large proportion of the elements. High contents of Ni, Fe, Cr, Co in BST and Cu in BSN are strongly controlled, in part, by proximity to the MacLellan mine access road.

Additive, multiplicative and ash- and Mn-normalized transformed data generally provided no more information than single elements. Multiplicative transforms were generally no better than additive transforms. However, the additive assemblage of Au+As+Sb+Zn+Fe, representing elements enriched in the mineral occurrences in the Dot Lake area, was successful in delineating the Rushed occurrence and its apparent downslope leakage halo, the Dot Creek IP anomaly, the greywacke-picritic basalt contact, and the access road.

When both the additive and multiplicative transforms were further modified by Mn and ash normalization, some improvements in the geochemical response was noted. Although both Mn and ash transforms identified the Dot Creek IP anomaly and the access road, the ash normalized additive and multiplicative transform appeared to delineate more clearly the vegetation geochemical anomalies developed over mineralized zones. The additive and multiplicative ash transforms gave identical results. Both identified the Rushed occurrence, the Dot Creek IP anomaly, and a number of previously unrecognized anomalies. It is probable that ash normalization conducted in the manner of Chukhrov *et al.* (1979) has removed some masking effects of windblown particulate contamination. Lithologically sensitive elements, such as Ni, Cr and Co, when combined as additive or multiplicative transforms and subsequently ash- and Mn-normalized, were no more successful in delineating the Mg-Ni-Cr rich picritic basalts than were the individual nontransformed elements.

Although significantly fewer elements were analysed in BSN samples, similarities exist with BST indicator elements (Table 4). For anomalies possibly associated with mineralization, lithologies, access road and drainage effects, all BSN indicators are included in the same categories in BST. Interestingly, elements in BSN coincident with IP anomalies are different than those in BST, although Zn, Ni and Mn in BSN are identified as indicators of lithology as well as associated with IP anomalies.

SOURCES OF PARTICULATE AND/OR LEACHATE CONTAMINATION

In a study of the chemistry of the upper 1 cm of Farley tailings, Acres International Limited (1986) concluded that in five of six samples only Cu exceeded Canadian Environmental Quality Criteria for contaminated sites. The upper limit for acceptable Cu contents using the above criteria is 500 ppm. Data from this study (Appendix VII) indicate that the 500 ppm Cu upper limit is greatly exceeded in most Farley tailings samples. This divergence may be explained by recognizing that only the upper 1 cm of tailings was sampled and analysed by Acres International Ltd. and it would be depleted in many elements in comparison to the relatively unoxidized sample that was collected from a depth of 0.25 m for this study.

Calculations by Acres International Ltd. (1986), regarding potential airborne dust effects from a worst case dust storm affecting the tailings area, indicated that with the exception of Fe, standards for heavy metal contents of the products of a dust storm would not be exceeded (Table 5). Their calculations were based on 500 $\mu g/m^3$ of dust in air over a 24 hour period. The Acres International study indicates that fine grained, airborne particulate from the Farley tailings did not contribute metals to vegetation tissues in the Dot Lake survey area. This conclusion is supported by the lack of significant variation in the ash content of BSN and BST across the survey area. General trends in the data for elements such as Cu and Ni must therefore be considered to reflect *bona-fide* geochemical flux in the substrate and the black spruce tissues.

Given the results of size fraction analysis of the MacLellan mine access road samples, it is apparent that roadside vegetation geochemical anomalies are the result of windblown particulate and/or leachate generated from the road construction materials. Of particular importance is the observation that this contamination does not generally proceed further than 50 m from the roadside, and in this way, does not compromise the validity of the remainder of the vegetation geochemical database at Dot Lake.

Table 3: Summary of indicator elements in BSN, Dot Lake area

Target	Elements/Variables	Comments
Mineralization	Zn	Rushed occurrence
Induced Polarization	Zn, Ni, Mn	Overlap with mineralization and lithologies
Lithologies	Zn	Greywacke-picrite contact
	Mn	Greywacke associated
	Ni	Picrite
MacLellan Mine Access Road	Ni, Fe, Cr, Cu, Ash	Anomalies adjacent to road
Drainage	Mn, Zn	Dot Creek/IP anomaly

Table 4: Summary of indicator elements in BST, Dot Lake area

Target	Elements/Variables	Comments
Mineralization	Zn, As, Au, Br, Ca, Cs, Rb	Rushed occurrence
	Co	"Rabbits-ear" anomaly
Induced Polarization	Au, Ag, Sb, Ba, Rb, K, Br, Co, Cs	Many with Dot Creek IP anomaly
Lithologies	Ni	Picrite
	Au, Ag, Zn, Mn	Greywacke-picrite contact
	Rb	Granite
	Sr, K	Granite and aluminous basalt
	Sb	Aluminous basalt(?)
MacLellan Mine Access Road	Fe, Cr, Sc, Ni, Th, Sr, Hg, Na, Co, As, Mn, REE, Ash	Particulate and/or leachate contamination
Drainage	Zn, Au, Br	Downslope leakage from Rushed occurrence
	Au, Ag, Sb, Zn, Cr, Ba, Ca, Mn	Leakage from Dot Creek IP anomaly

Table 5: Summary of the chemistry of dust in a theoretical Farley Ni-Cu deposit tailings dust storm

Element	Measured Content (μg/g)	Theoretical Air Content (μg/m^3)	Ontario Standard (μg/m^3)	Standard Exceeded
As	11	0.0055	0.3	N
Cd	1.3	0.00065	2.0	N
Cu	2500	1.25	50.0	N
Fe	93000	46.5	4*	Y?
Pb	100	0.05	5.0	N
Mn	61	0.03	2.5	N
Ni	180	0.09	2.0	N
Zn	530	0.27	120	N

* Fe standard is based on the metallic state, whereas Fe measured in Farley Ni-Cu deposit tailings is in oxide form.

COMPARISON OF VEGETATION AND TILL GEOCHEMICAL DATA

A comparison of till geochemical data for Cu, Pb, Co, Ni, Cr and As in the <2μ size fraction and Cu, Ni, As and Au in the heavy mineral fraction for samples collected from the Dot Lake area (Nielsen and Fedikow, 1987) with vegetation geochemical data in this study reflects many similarities between the two data sets. A string of anomalies for Cu, and to a lesser extent, Co, Ni, Cr and As in the <2μ size fraction would seem to corroborate the high concentrations of metals identified in vegetation tissues growing adjacent to the road. The metal-rich <0.063 mm size fraction of the road construction material is considered the source for this contamination. Enrichment of Cu, Ni and As in the heavy mineral fraction (S.G.>2.96) of the till also occurs adjacent to the road. The pattern or anomaly for Au in the heavy mineral fraction of the till, however, does not reflect roadside particulate contamination.

Mineralized zones in the Dot Lake area are identified by high Au in the heavy mineral fraction and As in the <2μ size fraction of the till. Anomalies identified for Ni, Cr and Co in the <2μ size fraction reflect the high Mg-Ni-Cr picritic basalts present in the study area.

Till geochemical results for lithologic and mineralization-related element suites are essentially the same as for BSN and BST samples. A larger number of elements was utilized in the vegetation survey and, therefore, there are more elements diagnostic of either gold mineralization, specific lithologies or stratigraphic contacts, and anthropogenic contamination in the vegetation dataset. A rigorous correlation of the results for the two separate sample types is not possible since both till and vegetation were not collected from the same sample sites.

CONCLUSIONS

1. BSN and BST geochemical data reflect mineralized zones, IP anomalies, lithologies and lithologic contacts in the Dot Lake area.
2. A relatively small element assemblage of Au-As-Sb-Zn-Fe, reflecting metals enriched in the Dot Lake mineral occurrences, is enriched in BST growing in proximity to these mineralized zones. Zn in BSN is a sensitive mineralization indicator.
3. A large proportion of elements determined in the BSN and BST are enriched in roadside samples. This enrichment is related to windblown particulate and/or leachate generated from the Farley Ni-Cu deposit tailings used to construct the road. This contamination is restricted to within approximately 50 m of the access road and does not compromise the validity of the remainder of the vegetation geochemical data in the survey area.
4. Although Farley deposit tailings collected 0.25 m below surface appear to contain high concentrations of metals, including a high-grade base metal assemblage of Cu-Pb-Zn-Ag, the <0.063 mm surface fraction in the upper 1 cm of the tailings only exceeds recommended environmental standards for Cu. The upper 1 cm of the tailings has been leached of the majority of metals.
5. Calculations by Acres International Ltd. (1986) indicate that in the event of a 24 hour windblown dust storm, the dust may exceed only standards for heavy metal content for Fe. This indicates that dust originating from the tailings will not have affected vegetation in the Dot Lake area with regards to the remainder of elements determined in this study. Accordingly, the vegetation and till geochemical database from the Dot Lake area (excluding roadside samples) has not been compromised by anthropogenic contamination.

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APPENDIX I

Part 1: Instrumental Neutron Activation Analyses of Ashed Black Spruce (*Picea mariana*) Twigs, Dot Lake (n=1084)

Element and Lower Limit Of Determination

Au 5 ppb	As 0.5 ppm
Br 1 ppm	Co 1 ppm
Cs 0.5 ppm	Hf 0.5 ppm
Ir 2 ppm	Mo 2 ppm
Ni 50 ppm	Sb 0.1 ppm
Se 2 ppm	Ta 0.5 ppm
U 0.1 ppm	Zn 20 ppm
Ce 3 ppm	Sm 0.1 ppm
Tb 0.5 ppm	Lu 0.05 ppm
Ag 2 ppm	Ba 10 ppm
Ca 0.2%	Cr 1 ppm
Fe 0.05%	Hg 1 ppm
K 0.05%	Na 10 ppm
Rb 5 ppm	Sc 0.1 ppm
Sr 100 ppm	Th 0.1 ppm
W 1 ppm	La 0.1 ppm
Nd 5 ppm	Eu 0.01 ppm
Yb 0.05 ppm	

NA - not analyzed

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0100–1	50	<2	3.6	1100	6	17.7	8	39	2.7	1.17	0.9	<1	<2	10.10	<2	2520	190	170	0.6	2.6
DOT–0100–2	49	<2	3.3	1100	16	17.5	11	57	3.7	1.43	1.7	<1	<4	11.00	<2	3520	230	160	0.7	3.6
DOT–0101–1	38	<2	4.0	1600	26	21.0	11	54	2.0	2.03	1.5	<1	<5	9.03	<2	3820	220	190	0.7	4.2
DOT–0101–2	34	<2	4.3	950	28	21.5	12	50	3.8	1.96	1.1	<1	<5	10.40	<2	3960	240	250	0.6	4.2
DOT–0102	27	<2	4.3	590	41	17.4	7	40	1.1	1.24	1.2	<1	<2	9.59	<2	3250	85	110	1.0	2.9
DOT–0103	25	<2	4.1	1400	17	17.2	11	43	1.5	1.54	1.8	<1	<4	8.89	<2	3630	230	180	0.7	3.7
DOT–0104–1	52	<2	3.8	1500	24	19.0	11	58	4.4	1.77	2.0	<1	<5	10.10	2	4120	370	190	0.6	3.8
DOT–0104–2	86	<2	3.9	1800	18	19.0	11	52	2.9	1.84	2.0	<1	<5	7.99	3	3880	340	150	0.9	4.2
DOT–0105	61	<2	4.1	1900	6	19.4	11	50	4.6	1.50	2.0	<1	<3	9.65	<2	4000	200	210	0.9	3.9
DOT–0106–1	61	<2	4.8	1800	37	17.9	13	60	5.4	1.90	1.1	<1	<4	10.40	<2	4440	340	240	0.9	4.8
DOT–0106–2	39	<2	5.3	1600	27	18.1	12	66	4.9	2.09	2.0	<1	<5	8.55	<2	4670	150	200	0.8	4.7
DOT–0107	29	<2	4.4	1300	11	18.0	13	67	3.6	1.72	1.8	<1	<4	7.66	<2	3950	310	160	0.7	4.1
DOT–0108	37	<2	2.5	1500	6	18.4	9	39	6.0	1.42	1.5	<1	<3	10.10	<2	3160	200	220	0.7	3.0
DOT–0109	35	<2	5.9	1100	6	16.5	11	66	4.9	1.89	1.9	<1	<3	9.66	<2	4150	260	190	0.7	4.1
DOT–0110–1	100	<2	5.0	1400	31	21.2	13	54	4.1	1.81	2.4	<1	<4	8.76	<2	3980	330	200	0.9	4.1
DOT–0110–2	24	<2	5.8	1500	6	18.0	10	40	4.5	1.23	1.4	<1	<2	10.80	<2	3220	240	220	0.7	3.1
DOT–0111	41	<2	4.4	1400	14	21.4	13	41	4.8	1.50	1.4	<1	<3	10.50	<2	2770	360	190	0.7	2.8
DOT–0112	91	<2	3.6	1900	10	21.9	11	58	4.8	1.69	1.2	<1	<5	10.90	<2	4070	200	250	1.2	4.1
DOT–0113	42	<2	4.3	1700	11	17.6	9	73	6.1	1.65	2.1	<1	<3	12.30	<2	3440	240	180	0.8	4.2
DOT–0114	140	<2	5.3	1000	22	19.1	15	89	0.7	2.71	1.0	<1	<4	11.20	<2	4470	380	80	0.8	5.3
DOT–0115	49	<2	4.3	1200	11	17.5	11	56	1.1	1.59	1.4	<1	<2	12.50	<2	3170	250	74	0.8	3.6
DOT–0116	72	<2	4.4	1600	38	15.9	15	74	2.2	2.09	2.3	<1	<4	9.18	<2	4760	260	99	0.9	4.9
DOT–0117–1	48	<2	4.1	1700	36	18.7	16	71	2.6	2.22	1.2	<1	<4	9.02	<2	3790	370	190	0.8	4.2
DOT–0117–2	73	<2	5.1	2000	8	22.8	16	96	3.4	2.78	1.0	<1	<4	9.04	<2	4880	310	200	0.9	4.9
DOT–0118	39	<2	3.1	1400	31	19.6	13	51	2.3	1.84	1.1	<1	<5	10.00	2	3140	250	290	0.7	3.8
DOT–0119	104	<2	6.0	1400	9	14.8	16	75	3.7	2.24	1.5	<1	<3	9.84	<2	4120	300	250	0.9	4.6
DOT–0120–1	39	<2	3.6	1200	6	20.2	16	50	1.8	1.63	1.2	<1	<3	9.85	<2	3120	160	240	0.6	3.2
DOT–0120–2	69	<2	5.3	1800	11	20.6	19	85	2.1	2.41	1.1	<1	<4	11.80	<2	4770	410	240	0.7	5.2

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0121–1	99	<2	4.2	1500	47	20.6	20	82	2.0	2.33	1.0	<1	<5	12.80	<2	4350	370	140	1.0	4.3
DOT–0121–2	58	<2	4.2	1400	8	17.4	15	67	2.0	2.06	<0.5	<1	<4	11.00	<2	3230	280	130	0.8	3.3
DOT–0122	56	<2	3.3	1300	5	18.9	15	61	1.9	2.04	1.5	<1	<4	9.88	<2	4010	320	51	0.7	4.0
DOT–0123	123	<2	4.1	1300	44	17.5	15	79	0.8	2.22	1.6	<1	<4	11.70	<2	4610	380	140	0.8	5.0
DOT–0124	47	<2	4.2	2000	31	21.4	18	69	1.4	2.36	2.2	<1	<4	9.35	<2	4480	330	130	0.7	4.5
DOT–0125	48	<2	4.4	1900	9	15.1	20	60	1.1	2.25	1.4	<1	<2	5.81	<2	3530	370	160	0.7	3.9
DOT–0126	46	<2	4.2	1700	5	21.7	12	59	2.3	1.93	1.9	<1	<4	8.77	<2	5000	270	180	0.9	4.7
DOT–0127	100	<2	4.7	1300	6	15.9	7	54	5.2	1.45	1.8	<1	<3	8.24	<2	3450	150	200	0.9	3.6
DOT–0128	37	<2	7.9	1700	5	14.0	9	61	7.4	1.47	1.4	<1	<3	8.17	<2	3400	300	240	1.1	3.8
DOT–0129	38	<2	3.9	2100	19	18.9	9	48	3.6	1.73	1.4	<1	<5	9.33	2	3910	290	140	0.7	4.0
DOT–013	143	<2	4.8	1300	10	16.3	7	41	5.5	1.15	1.4	<1	<2	14.30	<2	3080	220	260	0.5	3.0
DOT–0130–2	49	<2	5.9	1200	8	17.0	7	46	4.9	1.29	1.2	<1	<3	10.30	<2	2900	190	260	0.7	3.0
DOT–0131	32	<2	2.9	1000	7	24.6	11	48	4.5	1.56	1.5	<1	<4	9.19	<2	3130	340	130	0.6	3.2
DOT–0132	127	<2	1.5	870	7	15.5	8	53	6.8	1.64	1.5	<1	<2	8.21	<2	3960	190	160	0.8	3.8
DOT–0132	26	<2	2.6	1100	23	21.3	8	41	7.0	1.46	2.0	<1	<5	9.14	<2	3510	240	150	0.6	3.5
DOT–0133	46	<2	4.2	1700	53	19.2	14	55	3.7	1.91	2.0	<1	<2	9.68	3	4220	240	180	0.9	4.4
DOT–0134	33	<2	4.3	1500	16	22.0	12	48	1.1	1.59	1.5	<1	<2	8.63	<2	3650	200	69	0.7	3.6
DOT–0135	63	<2	5.3	1300	15	18.8	14	75	2.1	2.32	1.7	<1	<5	10.40	3	4980	240	84	1.4	5.5
DOT–0136	68	<2	9.9	870	9	13.0	10	73	1.9	1.88	1.9	<1	<3	9.55	2	3890	260	100	0.8	4.4
DOT–0137	44	<2	5.4	870	15	19.2	12	62	1.2	1.73	1.7	<1	<3	9.62	<2	3590	240	60	0.8	3.8
DOT–0138	58	<2	5.4	1700	34	19.3	17	63	8.0	1.97	1.5	<1	<5	9.31	<2	4030	250	170	1.0	4.6
DOT–0138–1	54	<2	3.0	1800	8	21.4	23	35	2.1	1.10	1.0	<1	<3	11.60	<2	2390	210	100	0.5	2.2
DOT–0138–2	46	<2	6.3	970	11	16.2	18	65	1.6	1.98	1.6	<1	<3	9.72	<2	4160	350	95	1.0	4.3
DOT–0139	45	<2	3.8	1000	31	24.7	15	75	2.2	1.97	1.1	<1	<4	8.67	<2	3910	360	69	0.6	4.3
DOT–0140–1	71	<2	3.0	1600	13	17.1	10	66	1.0	1.70	1.9	<1	<2	11.50	<2	3220	190	68	0.8	4.0
DOT–0140–2	33	<2	2.0	1500	15	17.0	9	63	0.8	1.45	1.4	<1	<2	13.90	3	3690	150	42	0.7	3.4
DOT–0141	67	<2	4.8	1700	10	21.0	17	79	2.4	2.43	0.9	<1	<4	9.88	<2	4570	450	110	0.9	5.2
DOT–0142	42	<2	4.4	1900	12	16.0	9	41	2.6	1.21	1.1	<1	<3	10.60	2	2650	200	130	0.6	2.6

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0143	55	5	5.7	1600	34	14.8	12	73	3.3	2.05	2.7	<1	<3	10.40	<2	5220	210	180	1.0	4.9
DOT–0143	42	<2	4.1	1700	10	17.2	15	71	3.8	1.98	2.1	<1	<4	11.40	<2	4890	250	220	1.0	4.6
DOT–0144	38	<2	4.4	1700	6	21.0	13	64	3.0	1.84	1.4	<1	<4	13.00	<2	3700	230	210	0.8	3.7
DOT–0145	74	4	4.7	2100	8	18.2	11	46	1.5	1.33	1.4	<1	<3	10.60	<2	2560	360	200	0.9	2.6
DOT–0146	55	<2	4.2	1800	75	18.8	17	67	3.5	1.69	1.4	<1	<5	10.60	<2	3910	390	230	0.7	4.1
DOT–0147	71	<2	3.9	2100	28	19.7	13	45	2.1	1.37	0.9	<1	<4	11.20	<2	3380	180	220	0.7	3.7
DOT–0148	45	<2	3.8	1600	13	20.2	17	67	2.0	1.97	1.7	<1	<3	11.30	<2	3730	310	190	0.8	3.9
DOT–0149	38	<2	4.9	2000	63	18.6	15	82	2.4	1.93	1.9	<1	<5	9.59	<2	3940	410	140	0.6	4.4
DOT–0150–1	44	<2	3.6	1700	10	20.4	15	53	1.7	1.69	1.7	<1	<2	10.80	<2	3080	320	260	0.7	3.2
DOT–0150–2	38	<2	2.4	1700	13	20.7	14	44	1.8	1.59	1.2	<1	<5	9.58	<2	3090	320	200	0.7	3.1
DOT–0151	37	<2	4.3	1600	58	20.0	18	67	5.5	1.86	1.2	<1	<4	11.10	<2	4080	420	240	0.7	4.1
DOT–0152	21	<2	3.8	1500	9	20.7	14	45	2.7	1.52	1.1	<1	<3	8.95	<2	2990	250	230	0.6	3.2
DOT–0153	26	<2	3.7	2200	14	24.2	13	48	8.9	1.53	1.4	<1	<4	10.10	2	3530	180	340	0.7	3.5
DOT–0154	36	<2	3.5	1800	27	19.5	13	47	5.2	1.19	0.7	<1	<5	10.70	<2	2890	210	170	0.4	2.9
DOT–0155	30	<2	4.4	1600	5	20.5	13	55	1.7	1.59	1.7	<1	<3	9.23	4	3500	290	92	0.8	3.7
DOT–0156	70	<2	4.6	1200	26	21.8	15	70	3.2	1.90	1.0	<1	<5	11.80	2	4340	410	140	0.8	4.2
DOT–0157	83	<2	4.2	1500	14	21.2	11	58	1.6	1.74	1.1	<1	<5	9.95	2	4010	290	190	1.1	4.4
DOT–0158	31	<2	3.5	1900	7	24.4	9	61	5.3	1.60	0.7	<1	<4	11.10	<2	3970	220	310	1.3	4.0
DOT–0159	62	<2	3.2	1200	8	21.4	11	68	1.6	1.97	1.0	<1	<4	8.95	<2	4600	220	98	0.8	4.6
DOT–0160–1	64	<2	5.1	1100	8	17.2	11	63	1.5	1.94	2.0	<1	<4	9.08	3	4180	160	63	0.6	4.2
DOT–0160–2	120	<2	5.4	1200	40	18.6	14	91	0.7	2.26	2.0	<1	<3	9.59	<2	4700	210	75	1.1	5.2
DOT–0161	46	<2	4.8	1400	26	21.5	14	56	0.7	1.70	1.8	<1	<4	9.32	2	3600	310	63	0.9	4.0
DOT–0162	43	<2	3.5	1800	10	18.5	11	50	0.7	1.72	1.0	<1	<5	10.50	<2	3870	280	83	0.7	3.9
DOT–0163	32	<2	3.8	780	6	18.8	12	58	2.6	1.57	1.8	<1	<3	8.63	<2	3570	80	120	0.8	3.7
DOT–0164	39	<2	3.5	710	8	21.0	13	62	2.2	1.83	1.7	<1	<4	11.70	<2	3850	330	93	0.7	3.7
DOT–0165	46	<2	4.5	1200	9	21.6	13	69	1.6	1.94	1.8	<1	<4	9.82	<2	4420	320	110	0.9	4.8
DOT–0166	40	<2	4.2	1000	6	21.4	13	58	1.5	1.86	1.6	<1	<4	9.06	<2	4310	270	58	0.8	4.0
DOT–0167	77	<2	4.1	1400	7	21.3	11	51	2.5	1.51	1.5	<1	<4	10.50	<2	3510	220	140	0.6	3.5

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0168	48	<2	5.6	1600	19	17.4	17	46	2.9	1.88	0.8	<1	<5	10.80	<2	3720	360	240	1.0	3.8
DOT–0169	42	<2	4.4	1600	21	18.7	17	73	3.8	2.03	0.7	<1	<5	11.00	<2	3580	300	260	1.0	3.9
DOT–0170–1	46	<2	4.7	1200	21	16.9	16	72	3.3	1.86	0.9	<1	<5	11.70	<2	3780	380	290	1.1	4.0
DOT–0170–2	57	<2	4.1	1200	9	17.9	13	63	3.2	1.86	1.9	<1	<4	10.70	<2	4010	370	240	0.9	4.0
DOT–0171	47	<2	4.2	1300	12	20.6	13	59	1.9	1.79	1.3	<1	<4	12.00	<2	3750	350	250	0.5	3.6
DOT–0172	32	<2	3.2	1500	19	20.4	16	61	4.6	1.82	0.8	<1	<4	10.10	<2	3500	350	230	0.7	3.9
DOT–0173	58	<2	4.6	1800	36	16.8	19	75	2.0	2.40	0.9	<1	<4	11.00	<2	4160	460	200	0.8	4.6
DOT–0174	47	<2	2.6	2300	6	16.0	9	44	2.0	1.15	1.4	<1	<3	14.90	<2	2790	200	250	2.3	2.9
DOT–0175	37	<2	4.1	1900	21	18.8	13	50	2.5	1.56	2.1	<1	<5	12.70	3	3550	210	250	0.8	3.5
DOT–0176	32	<2	4.5	1900	23	19.5	14	54	4.4	1.53	0.6	<1	<5	10.50	<2	3470	320	200	0.6	3.4
DOT–0177	20	<2	2.4	1700	15	20.6	12	44	1.6	1.56	1.3	<1	<4	10.20	<2	2720	430	210	0.9	2.7
DOT–0178	39	<2	3.8	1700	27	20.7	13	68	6.1	1.77	1.1	<1	<5	12.50	<2	4250	440	290	0.8	4.1
DOT–0179	112	<2	5.2	1600	17	18.0	17	60	2.0	2.19	1.7	<1	<4	10.30	<2	4080	340	130	0.9	4.6
DOT–0180–1	34	<2	4.2	1900	8	18.7	15	56	2.4	1.80	1.3	<1	<3	8.55	<2	3470	270	110	0.8	3.7
DOT–0180–2	44	<2	5.2	2100	37	20.4	16	66	3.8	1.73	2.5	<1	<5	10.30	<2	3780	410	170	0.9	3.8
DOT–0181	67	<2	4.1	1300	31	20.3	13	58	1.7	1.90	1.1	<1	<4	10.30	<2	3800	250	79	0.7	3.7
DOT–0182	70	<2	1.7	1600	4	17.6	10	51	1.3	1.49	1.1	<1	<2	10.60	<2	2910	140	92	0.8	3.5
DOT–0183	27	<2	3.2	1400	22	22.9	11	42	1.9	1.47	2.1	<1	<4	9.84	<2	3630	160	59	0.5	3.5
DOT–0184	26	<2	5.1	1500	13	18.8	10	57	1.2	1.36	1.4	<1	<4	11.50	<2	2840	210	94	0.6	3.3
DOT–0185	57	<2	3.7	910	16	25.0	10	53	2.3	1.39	1.0	<1	<5	11.00	<2	3290	230	90	0.6	3.4
DOT–0186	41	<2	4.3	980	9	17.9	10	53	1.7	1.61	1.7	<1	<3	10.00	<2	3600	250	100	0.8	3.9
DOT–0187	75	<2	3.6	1100	8	20.6	17	59	2.8	1.82	1.3	<1	<4	10.40	2	3490	410	140	0.6	3.7
DOT–0188	71	<2	4.9	1600	29	15.5	28	89	6.0	1.97	1.1	<1	<5	13.00	<2	4260	310	200	0.9	4.6
DOT–0189	71	<2	3.2	1000	22	19.7	14	62	2.0	1.84	0.6	<1	<5	11.70	<2	3600	340	60	0.9	3.6
DOT–0190–1	38	<2	6.4	1300	7	18.1	10	65	0.8	1.63	1.5	<1	<3	9.43	2	2930	290	40	1.1	3.3
DOT–0190–2	36	<2	5.2	1300	9	16.2	10	55	1.7	1.58	1.2	<1	<3	12.10	2	3200	300	5	1.4	3.4
DOT–0191	58	<2	5.3	1000	11	23.1	18	79	1.9	2.32	1.4	<1	<5	8.74	2	4870	450	70	1.2	5.3
DOT–0192	77	<2	4.1	1400	4	20.7	11	57	4.4	1.65	1.4	<1	<5	9.63	<2	3900	240	180	0.6	3.7

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0193–1	28	<2	3.8	1300	11	24.1	14	48	2.5	1.39	1.2	<1	<5	11.00	4	2880	240	190	0.9	2.9
DOT–0193–2	12	3	3.6	1000	45	18.7	7	18	2.3	0.57	1.4	<1	<3	12.60	<2	1880	50	160	0.7	1.6
DOT–0194	43	5	2.9	1500	6	22.9	14	49	3.1	1.74	1.8	<1	<4	9.54	<2	3900	240	270	0.8	3.7
DOT–0195	40	<2	4.4	2100	32	18.7	17	55	2.2	1.78	2.3	<1	<4	8.95	<2	4470	300	160	0.7	4.3
DOT–0196	51	<2	4.8	1600	21	18.7	12	69	2.2	1.99	1.1	<1	<4	9.61	<2	4360	330	150	0.7	4.5
DOT–0197	5	<2	3.6	1600	12	19.7	10	45	0.6	1.32	0.9	<1	<5	10.40	<2	3120	240	140	0.7	2.9
DOT–0198	90	<2	3.4	1700	15	23.1	15	56	1.7	1.69	1.1	<1	<4	9.98	<2	3620	380	180	0.6	3.7
DOT–0199	33	<2	3.8	1900	11	13.4	12	58	3.0	1.60	1.9	<1	<4	11.30	<2	3300	360	280	0.8	3.5
DOT–0200–1	39	<2	3.2	1600	11	21.2	12	68	4.4	1.63	2.3	<1	<4	11.00	<2	4320	250	210	0.6	4.4
DOT–0200–2	191	<2	4.0	1600	18	18.2	12	64	2.9	1.81	1.7	<1	<4	9.96	<2	4160	260	220	0.6	4.4
DOT–0201	25	<2	3.8	1600	5	16.9	12	64	4.4	1.65	1.2	<1	<4	10.60	<2	3260	230	190	0.6	3.4
DOT–0202	98	<2	3.7	1800	6	17.6	16	56	3.7	1.95	2.0	<1	<4	7.96	<2	4340	330	200	0.9	4.3
DOT–0203	43	<2	4.6	2400	18	19.8	9	62	2.3	1.65	1.7	<1	<3	8.49	<2	3770	270	170	0.6	3.7
DOT–0204	53	4	5.8	2000	18	14.4	12	66	2.3	1.83	2.0	<1	<3	9.96	<2	3990	230	220	0.8	4.2
DOT–0205	95	<2	4.0	1900	5	16.9	14	77	4.8	1.89	1.9	<1	<3	8.90	<2	3680	260	230	0.8	4.0
DOT–0206	81	<2	5.3	2000	7	14.9	10	64	4.7	1.49	1.7	<1	<3	8.79	2	3160	210	250	2.1	3.4
DOT–0207	49	<2	3.6	2900	13	20.7	10	52	1.1	1.47	<0.5	<1	<4	11.40	<2	3840	280	200	0.6	3.5
DOT–0208	38	<2	4.2	2300	26	21.2	13	70	1.0	2.26	0.8	<1	<4	8.91	<2	4150	390	100	0.9	4.7
DOT–0209	34	<2	6.3	1100	14	14.9	8	51	2.4	1.35	1.5	<1	<3	8.50	2	3120	110	110	0.6	3.2
DOT–0210–1	119	<2	4.6	680	21	19.9	10	60	2.3	1.68	1.2	<1	<5	12.00	<2	3480	340	110	0.9	4.0
DOT–0210–2	92	<2	4.0	690	22	18.2	11	62	0.8	1.52	2.1	<1	<4	12.50	<2	3570	240	110	0.7	4.0
DOT–0211	56	<2	4.3	1600	24	21.5	17	70	2.1	1.85	1.1	<1	<5	11.00	<2	4120	380	91	0.6	4.1
DOT–0212	46	<2	3.7	3200	13	25.3	10	56	1.0	1.66	2.1	<1	<4	10.30	<2	3540	200	97	0.7	3.4
DOT–0213	29	<2	2.7	1100	22	16.9	10	51	1.7	1.43	0.9	<1	<4	9.83	<2	3350	130	170	0.7	3.3
DOT–0214	47	<2	3.8	1200	19	21.1	12	59	0.8	1.50	0.9	<1	<4	10.20	<2	3290	180	56	1.0	3.5
DOT–0215	47	<2	3.0	1100	15	16.1	9	55	1.2	1.37	1.4	<1	<2	6.68	<2	2950	270	62	0.7	3.0
DOT–0216	32	<2	5.8	1300	18	16.6	15	64	<0.5	2.05	1.7	<1	<3	11.10	<2	3480	310	98	0.8	3.9
DOT–0217	260	<2	4.9	1000	16	15.3	9	73	4.4	2.01	1.2	<1	<4	11.50	<2	4680	300	110	0.8	5.0

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0218	58	<2	3.9	920	10	19.6	12	66	1.6	1.74	2.0	<1	<5	10.20	<2	4100	170	77	0.7	4.1
DOT–0219	73	<2	3.6	1100	11	17.1	8	44	0.6	1.12	1.1	<1	<2	8.72	<2	2640	130	61	1.2	2.8
DOT–0220–1	21	<2	1.3	1300	40	24.3	11	35	3.3	1.08	1.2	<1	<4	10.70	<2	2770	290	170	0.6	2.6
DOT–0220–2	70	<2	3.3	1500	15	21.3	8	41	3.8	1.17	1.0	<1	<4	11.10	<2	2770	250	140	0.6	2.6
DOT–0221	32	<2	2.6	1800	6	18.3	13	58	4.0	1.44	1.7	<1	<4	8.38	<2	3390	230	180	0.6	3.5
DOT–0222	46	<2	3.3	1200	19	19.1	14	44	3.8	1.20	1.7	<1	<4	12.40	<2	3670	230	250	0.5	3.4
DOT–0223	33	<2	3.4	1800	5	17.1	13	49	1.5	1.49	0.9	<1	<3	7.95	<2	2820	180	110	1.0	3.2
DOT–0224	31	<2	4.0	2200	19	18.0	13	43	1.6	1.68	1.8	<1	<3	9.43	<2	3260	270	110	0.7	3.3
DOT–0225	23	<2	2.7	2200	16	18.2	13	61	3.7	1.43	1.8	<1	<4	12.60	<2	3670	240	280	0.6	3.8
DOT–0226	23	<2	3.5	1300	17	15.8	9	39	1.7	1.19	1.1	<1	<3	12.20	<2	2720	240	200	0.5	2.7
DOT–0227	52	<2	5.2	1000	11	18.5	12	46	2.3	1.55	1.5	<1	<3	11.70	<2	3420	240	150	0.7	3.4
DOT–0228–1	25	<2	4.3	1500	19	20.6	13	50	2.7	1.60	1.5	<1	<4	11.10	<2	3860	180	120	0.7	3.7
DOT–0228–2	58	<2	3.1	1200	8	16.5	4	13	1.2	0.66	0.9	<1	<2	9.22	<2	1960	100	87	0.6	1.9
DOT–0229	34	<2	3.5	1600	27	18.8	17	51	4.7	1.61	0.8	<1	<4	10.80	<2	3610	210	180	1.4	3.8
DOT–0230–1	19	<2	4.5	1200	11	22.4	12	48	2.1	1.47	2.2	<1	<5	11.00	<2	3670	230	130	0.4	3.4
DOT–0230–2	62	<2	4.2	1300	9	23.1	14	76	1.9	2.10	1.9	<1	<3	11.30	<2	4540	250	170	0.8	4.7
DOT–0231	90	<2	5.6	1000	41	17.5	14	64	2.1	2.18	0.7	<1	<4	10.50	<2	4110	330	140	0.9	4.4
DOT–0232	144	<2	3.8	1200	7	20.8	9	48	3.6	1.39	1.3	<1	<2	8.42	<2	2850	160	160	0.6	2.8
DOT–0233	19	<2	3.3	1400	6	12.9	10	45	4.0	1.11	1.8	<1	<3	14.10	<2	2480	260	280	0.7	2.5
DOT–0234	115	<2	5.2	1500	33	21.3	14	81	7.1	2.22	1.8	<1	<4	11.60	<2	4890	360	280	8.1	5.0
DOT–0235	29	<2	4.3	1400	11	17.1	8	51	5.6	1.41	1.7	<1	<3	10.80	<2	2610	130	220	0.7	2.7
DOT–0236	32	<2	3.7	1500	6	15.1	10	41	0.9	1.33	1.4	<1	<3	13.40	<2	2890	210	170	0.8	3.2
DOT–0237	35	<2	6.0	3700	4	21.5	7	35	2.9	1.22	1.7	<1	<3	11.80	<2	2720	50	130	4.4	2.8
DOT–0238	130	<2	4.8	3700	9	24.1	9	46	0.7	1.31	2.1	<1	<4	11.90	<2	3240	180	73	3.1	3.3
DOT–0239	39	<2	4.5	4000	4	15.1	8	55	1.8	1.31	1.6	<1	<3	14.00	<2	2510	80	110	1.1	3.0
DOT–0240	58	<2	3.5	1800	11	15.3	14	52	1.0	1.40	1.4	<1	<2	9.23	<2	3310	150	110	1.0	3.4
DOT–0241–1	50	<2	5.0	640	14	15.4	9	51	1.7	1.36	0.8	<1	<2	11.10	<2	2840	250	89	0.6	3.1
DOT–0241–2	33	<2	4.0	830	12	20.6	12	63	1.6	1.79	1.3	<1	<3	13.70	<2	4020	300	110	1.7	4.2

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0242	26	<2	3.8	1000	9	18.0	10	51	1.6	1.56	1.3	<1	<3	9.84	<2	3360	300	120	0.9	3.5
DOT–0243	38	<2	4.3	1200	21	22.5	12	43	2.6	1.37	1.6	<1	<4	12.40	<2	3770	240	130	0.7	3.8
DOT–0244	112	<2	3.3	1400	10	22.4	13	70	1.1	1.85	1.4	<1	<4	10.30	<2	3900	360	61	1.4	4.5
DOT–0245	33	<2	4.8	1700	17	22.5	12	61	0.7	1.65	1.8	<1	<4	9.09	<2	3990	230	40	0.8	4.3
DOT–0246–1	42	<2	3.8	2200	7	22.8	11	75	1.7	1.77	1.8	<1	<4	8.35	<2	3470	310	7	0.7	4.1
DOT–0246–2	69	<2	5.5	1500	17	16.5	15	72	0.8	1.98	1.3	<1	<4	9.41	<2	4040	460	60	0.7	4.8
DOT–0247	82	<2	6.2	1200	31	16.3	15	79	1.0	2.44	2.5	<1	<5	10.40	<2	4760	530	140	1.2	5.2
DOT–0248	33	<2	3.7	2200	12	21.9	10	58	1.9	1.66	1.9	<1	<4	10.50	<2	3870	100	130	0.8	3.7
DOT–0249	52	<2	3.5	920	15	25.9	12	71	0.7	1.74	1.5	<1	<4	10.10	4	3860	260	87	0.8	3.9
DOT–0250–1	33	<2	4.6	1700	26	20.5	10	68	1.6	1.67	1.5	<1	<3	11.30	<2	4210	150	70	1.2	4.2
DOT–0250–2	117	4	5.0	1500	4	15.9	8	71	1.0	1.82	1.6	<1	<3	9.07	2	4090	150	75	1.1	4.4
DOT–0251	43	<2	4.3	1500	30	21.5	13	57	5.9	1.49	0.8	<1	<4	11.40	<2	3100	310	140	2.3	3.6
DOT–0252	19	<2	3.3	1400	60	19.5	14	41	4.9	1.32	1.5	<1	<5	14.10	<2	3440	130	230	1.5	3.5
DOT–0253	46	<2	3.5	1300	25	19.2	15	40	2.4	1.58	1.8	<1	<4	12.90	<2	3790	270	130	1.0	3.6
DOT–0254	74	<2	4.1	1100	54	19.5	16	52	1.0	1.76	0.8	<1	<5	11.80	<2	3720	320	210	1.0	4.0
DOT–0255	128	<2	5.2	1300	13	16.8	14	61	2.7	1.72	1.0	<1	<5	11.10	<2	3780	500	190	0.9	4.1
DOT–0256	42	<2	3.9	1300	45	21.6	12	38	3.6	1.29	1.4	<1	<5	12.80	<2	2900	280	190	0.5	2.9
DOT–0257	45	<2	4.7	2100	21	20.0	16	56	4.6	1.93	2.5	<1	<5	12.10	<2	4190	260	240	0.8	4.1
DOT–0258	44	<2	6.0	1500	17	15.9	11	75	2.9	1.98	1.8	<1	<2	7.00	2	4150	310	160	0.9	4.1
DOT–0259	22	<2	5.6	1200	15	16.5	10	55	3.2	1.58	1.5	<1	<3	6.05	<2	4120	170	120	0.8	3.6
DOT–0260–1	33	<2	3.5	1900	6	21.8	14	68	2.2	1.62	1.2	<1	<4	11.20	<2	4540	180	110	0.6	4.3
DOT–0260–2	145	<2	7.3	1700	4	11.3	11	65	1.7	1.60	1.2	<1	<3	8.65	<2	3820	180	85	0.9	3.9
DOT–0261	32	<2	4.7	1000	8	20.9	10	69	2.4	1.87	1.7	<1	<4	7.34	<2	4150	210	110	0.6	4.1
DOT–0262	35	<2	4.7	1400	26	19.6	12	52	4.0	1.55	0.9	<1	<5	11.70	<2	3570	180	350	0.7	3.2
DOT–0263–1	29	<2	3.8	3200	7	14.0	16	56	1.2	1.42	1.8	<1	<3	13.50	2	2990	210	170	0.1	3.2
DOT–0263–2	33	<2	3.6	2700	22	17.0	11	46	3.2	1.12	0.6	<1	<5	14.70	<2	3190	110	170	0.6	2.9
DOT–0264	16	<2	3.1	1500	28	18.3	12	35	2.1	1.02	0.9	<1	<4	10.90	<2	2860	120	130	0.8	2.9
DOT–0265	56	<2	4.5	2900	7	21.0	19	57	5.0	1.71	1.9	<1	<5	9.93	<2	4370	260	130	1.0	4.4

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0266	93	<2	3.5	2100	10	19.9	17	65	4.6	1.89	<0.5	<1	<5	10.10	<2	4050	220	190	1.0	4.3
DOT–0267	166	<2	5.9	2600	15	21.2	15	50	4.5	1.61	2.0	<1	<4	10.40	<2	3970	200	170	1.0	3.8
DOT–0268	32	<2	4.5	1400	12	19.7	12	49	2.9	1.42	0.9	<1	<2	9.73	<2	3300	190	120	0.8	3.3
DOT–0270–1	38	<2	4.5	1700	7	14.0	11	76	3.6	2.02	2.3	<1	<5	12.80	<2	4350	290	200	0.7	4.5
DOT–0270–2	38	<2	3.4	2000	6	17.2	11	55	2.9	1.58	2.0	<1	<3	8.76	<2	3860	260	160	0.6	3.5
DOT–0271	30	<2	2.8	1900	6	21.0	13	51	5.5	1.66	2.0	<1	<4	10.30	2	3360	250	250	0.6	3.5
DOT–0272	42	<2	9.8	1600	27	17.4	14	65	5.5	1.72	1.3	<1	<3	16.50	<2	3360	220	220	1.1	3.9
DOT–0273	60	<2	3.7	5000	26	21.6	20	77	1.8	1.55	2.2	<1	<4	11.90	<2	3090	200	170	0.8	3.6
DOT–0274	51	<2	5.1	1800	11	23.8	16	69	1.0	2.09	2.2	<1	<5	11.10	<2	4440	380	66	1.0	4.7
DOT–0275	34	<2	4.9	1900	16	19.6	8	53	1.6	1.52	1.6	<1	<2	7.21	<2	3990	86	50	0.8	3.7
DOT–0276	150	<2	4.7	1600	9	20.2	14	62	0.5	1.91	1.9	<1	<4	8.34	<2	4310	340	84	0.5	4.4
DOT–0277	66	<2	3.8	1100	6	16.0	8	48	1.1	1.41	1.3	<1	<3	9.65	2	3010	190	69	0.6	3.1
DOT–0278	75	<2	4.1	1300	7	16.3	10	50	1.8	1.45	1.5	<1	<3	10.60	2	3140	230	82	0.7	3.3
DOT–0279	147	<2	4.7	1200	5	15.1	11	62	1.7	1.78	2.0	<1	<3	8.27	<2	4350	200	84	0.9	4.4
DOT–0280–1	48	<2	5.4	1600	12	15.9	13	54	5.4	1.55	1.7	<1	<3	10.70	4	3190	240	280	0.8	3.4
DOT–0280–2	27	<2	4.1	1200	18	19.4	12	51	8.4	1.18	1.5	<1	<4	10.40	<2	3190	290	360	0.7	3.0
DOT–0281	36	<2	5.7	910	16	14.2	14	54	2.0	1.48	1.5	<1	<3	11.40	<2	3220	230	130	0.9	3.4
DOT–0282	32	<2	4.0	1100	5	15.6	9	51	2.1	1.23	1.1	<1	<2	8.70	<2	2770	260	150	0.4	3.0
DOT–0283	43	<2	6.6	1000	10	15.7	15	72	3.6	1.87	1.9	<1	<3	10.80	<2	3890	360	200	1.0	4.2
DOT–0284	21	<2	3.5	1200	13	16.1	10	47	2.4	1.27	0.9	<1	<3	12.00	<2	2970	200	180	0.6	2.7
DOT–0285	34	<2	3.5	1300	8	20.1	13	61	3.5	1.93	1.3	<1	<4	9.05	<2	4460	300	160	0.6	4.2
DOT–0286	35	<2	5.1	2100	13	19.5	14	88	3.2	2.13	2.4	<1	<4	9.77	<2	4340	370	200	1.2	4.7
DOT–0287	41	<2	3.8	1600	3	19.9	10	64	1.9	1.63	1.5	<1	<3	8.52	<2	3810	200	110	0.7	3.9
DOT–0288	43	<2	4.8	1700	9	17.8	12	69	1.9	2.04	2.8	<1	<4	9.56	<2	5160	250	130	1.8	5.4
DOT–0289	36	<2	5.1	1100	36	19.0	11	56	2.9	1.59	1.8	<1	<5	8.88	<2	4310	130	250	0.5	4.1
DOT–0290–1	60	<2	5.2	1400	33	16.7	14	45	3.2	1.75	1.5	<1	<5	10.30	<2	4400	290	150	1.0	4.0
DOT–0290–2	33	<2	5.3	1700	15	14.9	12	64	2.6	2.05	0.7	<1	<4	10.80	<2	4690	330	160	0.9	4.4
DOT–0291	35	<2	4.6	1400	8	21.6	14	57	3.1	1.80	1.3	<1	<3	7.91	<2	3910	280	74	0.8	4.2

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0292	22	<2	3.8	2000	22	18.6	13	38	3.3	1.19	1.6	<1	<2	7.89	<2	3010	180	170	0.6	2.8
DOT–0293	93	<2	2.8	1600	10	13.0	10	49	5.4	1.37	1.6	<1	<3	10.40	<2	2960	140	170	0.1	3.1
DOT–0294	37	<2	8.2	1100	26	12.4	13	61	2.4	1.86	2.0	<1	<4	11.30	<2	3690	300	110	0.9	4.1
DOT–0295	30	<2	3.3	1900	36	15.4	18	48	5.6	1.76	1.4	<1	<4	10.70	<2	3680	290	260	0.9	3.8
DOT–0296–1	107	<2	3.9	2400	14	22.5	16	59	2.3	2.00	1.8	<1	<4	9.11	<2	4070	160	90	0.8	4.2
DOT–0296–2	29	<2	5.5	2100	6	17.4	15	61	3.8	1.62	1.5	<1	<3	7.00	2	3090	250	220	0.7	3.3
DOT–0297	50	<2	5.8	2600	20	13.5	19	47	5.2	1.50	1.7	<1	<3	11.30	<2	3120	190	240	0.9	3.4
DOT–0298	40	<2	5.0	1700	58	18.9	20	60	6.4	1.93	1.5	<1	<5	10.00	<2	3870	430	240	1.6	4.0
DOT–0299	24	<2	5.2	2200	15	20.3	19	46	5.0	1.58	1.1	<1	<5	11.70	2	2900	240	210	0.8	3.1
DOT–0300–1	43	<2	4.2	1900	7	20.9	21	60	7.4	1.76	1.0	<1	<4	9.63	2	4030	250	160	0.8	4.1
DOT–0300–2	52	<2	4.5	1700	5	22.7	19	49	7.4	1.44	1.3	<1	<4	9.72	<2	3290	230	170	0.6	3.3
DOT–0301	31	<2	2.6	2800	2	22.2	16	43	9.7	1.19	1.2	<1	<3	6.92	<2	3160	240	160	0.6	3.0
DOT–0302	29	<2	4.9	2000	7	18.0	20	53	3.0	1.94	1.8	<1	<4	7.87	<2	4300	370	170	0.7	4.4
DOT–0303	34	<2	5.0	2600	33	24.7	18	59	3.7	1.68	1.0	<1	<4	14.00	<2	3910	210	160	0.7	3.9
DOT–0304	22	<2	3.4	2400	16	20.8	16	59	4.0	1.91	1.3	<1	<4	10.40	<2	3680	450	170	0.6	4.1
DOT–0305	41	<2	4.6	2100	75	15.4	19	70	3.8	2.05	2.4	<1	<5	12.10	<2	4250	290	300	1.0	4.2
DOT–0306	35	<2	4.2	3500	25	16.6	32	44	3.8	1.76	2.5	<1	<4	11.70	5	3770	210	190	0.6	3.9
DOT–0307	92	<2	4.3	2000	12	16.1	11	38	1.4	1.01	1.1	<1	<2	12.90	<2	2250	340	250	1.3	2.3
DOT–0308	38	<2	2.8	1200	9	19.5	15	45	2.4	1.34	1.5	<1	<4	10.90	<2	3480	110	280	0.9	3.3
DOT–0309	50	<2	2.7	1200	42	16.7	16	44	6.2	1.32	0.9	<1	<4	12.20	<2	2860	390	260	0.6	3.0
DOT–0310–1	100	<2	4.6	1500	34	17.8	11	49	3.0	1.08	1.8	<1	<4	14.60	<2	3480	200	190	0.8	3.2
DOT–0310–2	15	<2	5.0	1600	6	19.0	10	41	1.9	1.03	1.4	<1	<3	15.70	<2	2410	190	190	0.5	2.6
DOT–0311	48	<2	4.2	930	10	20.7	12	54	3.3	1.68	1.5	<1	<4	10.70	<2	4160	240	110	0.6	3.8
DOT–0312	39	<2	4.5	1700	63	22.6	15	43	2.7	1.34	1.0	<1	<4	10.00	<2	3170	220	150	0.8	3.4
DOT–0313	45	<2	5.9	1600	20	21.2	18	60	2.7	1.81	2.1	<1	<4	15.50	<2	4090	550	180	0.7	4.2
DOT–0314	26	<2	3.1	2600	8	16.4	11	43	2.7	1.27	1.6	<1	<4	13.70	<2	3090	240	190	0.7	3.3
DOT–0315–1	50	<2	4.6	1500	17	19.7	17	71	2.6	2.35	0.9	<1	<4	6.99	<2	4240	470	98	0.7	4.3
DOT–0315–2	55	<2	3.9	2100	16	15.6	14	74	4.2	2.14	2.4	<1	<4	8.30	4	4760	260	100	1.4	4.9

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0316	28	<2	4.4	1700	18	20.3	11	44	4.2	1.86	1.5	<1	<4	8.81	<2	3880	110	170	0.7	4.0
DOT–0317	69	<2	4.4	1700	6	17.8	15	81	3.2	2.38	2.6	<1	<4	8.63	<2	5500	350	170	0.9	5.4
DOT–0318	33	<2	4.4	1600	7	20.6	15	72	4.8	2.30	2.5	<1	<4	6.73	<2	6340	240	110	0.5	5.3
DOT–0319–1	31	<2	5.3	1200	4	14.4	15	100	3.6	3.21	3.7	<1	<5	7.31	<2	11400	230	140	0.8	6.9
DOT–0319–2	36	<2	6.1	1800	9	15.6	13	82	2.3	2.38	2.4	<1	<3	9.89	<2	5670	180	180	2.4	4.6
DOT–0320–1	96	<2	7.3	2100	70	16.7	18	88	2.5	2.69	3.1	<1	<3	10.00	<2	5970	240	130	0.7	5.6
DOT–0320–2	31	<2	6.6	2100	8	17.8	11	65	3.4	1.86	1.3	<1	<3	9.97	<2	4190	320	150	1.0	3.8
DOT–0321	69	<2	5.2	1200	27	18.0	14	60	3.5	1.71	1.5	<1	<3	9.34	<2	4190	260	140	0.7	4.3
DOT–0322	89	<2	6.3	1800	39	13.8	12	54	2.4	1.56	1.2	<1	<3	8.93	<2	3570	230	110	0.7	3.4
DOT–0323	39	<2	5.3	1600	7	17.4	9	53	7.8	1.34	1.3	<1	<3	9.95	<2	3170	93	250	1.8	3.1
DOT–0324	39	<2	4.8	1600	13	14.8	9	47	2.1	1.30	1.2	<1	<3	12.10	<2	3010	190	170	0.6	2.8
DOT–0325	31	<2	3.7	1000	7	20.7	11	62	2.5	1.71	1.5	<1	<5	8.40	<2	4050	310	140	0.5	3.9
DOT–0326	53	<2	6.4	1300	15	18.2	11	49	2.4	1.55	1.5	<1	<3	13.20	<2	3130	430	280	1.7	3.0
DOT–0327	35	<2	4.6	1300	9	16.1	13	56	3.4	1.73	2.0	<1	<3	9.21	<2	3700	460	200	1.2	3.7
DOT–0328	89	<2	4.6	1600	12	17.5	12	64	8.1	1.74	1.9	<1	<4	10.20	2	4530	170	270	0.8	3.9
DOT–0329	63	<2	2.7	2600	15	18.7	11	45	2.5	1.12	1.1	<1	<3	10.50	<2	3020	250	310	0.6	3.1
DOT–0330–1	39	<2	5.0	1400	10	15.4	16	47	2.4	1.65	1.5	<1	<4	8.99	<2	4410	260	100	0.7	4.0
DOT–0330–2	31	<2	5.0	1400	4	14.9	13	56	3.1	1.63	2.1	<1	<3	10.50	<2	3720	180	120	0.8	3.9
DOT–0331	30	<2	3.8	2100	9	17.1	15	63	5.0	1.83	1.7	<1	<4	12.00	3	4630	220	200	0.9	4.6
DOT–0332	55	<2	5.2	1700	10	19.0	19	75	2.6	1.95	2.4	<1	<4	12.00	<2	4960	200	130	1.3	5.1
DOT–0333	61	<2	4.8	2300	8	21.5	20	63	6.5	1.73	1.1	<1	<5	8.74	<2	3920	290	180	1.1	4.0
DOT–0334	66	<2	3.4	2500	10	20.9	20	61	4.7	1.62	2.2	<1	<5	9.95	<2	4100	330	200	0.9	4.1
DOT–0335	35	<2	4.8	1700	7	16.6	17	66	9.4	1.66	1.6	<1	<5	8.55	2	4270	180	180	0.8	3.9
DOT–0336	47	<2	3.8	2200	8	18.3	15	53	4.3	1.40	2.0	<1	<4	10.80	<2	3210	290	170	0.7	3.3
DOT–0337–1	23	<2	4.6	2600	13	18.8	31	71	2.9	1.84	2.2	<1	<5	12.00	<2	3660	340	170	1.0	3.8
DOT–0337–2	78	<2	5.8	3200	18	19.2	29	67	3.1	1.67	1.7	<1	<3	11.90	<2	3440	260	200	1.0	3.8
DOT–0338	22	<2	4.7	3100	5	19.9	20	39	3.6	1.12	1.7	<1	<3	8.62	<2	2960	300	130	0.6	2.9
DOT–0339	40	<2	4.9	4600	21	25.0	44	72	9.9	1.95	2.3	<1	<4	11.60	<2	4500	360	230	1.1	4.4

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0340–1	35	<2	4.3	2600	43	19.9	18	53	5.4	1.69	0.9	<1	<5	9.61	<2	3470	240	160	0.7	3.7
DOT–0340–2	27	<2	9.6	1900	8	15.3	14	57	4.6	1.48	1.6	<1	<3	9.47	<2	2990	210	230	1.6	3.4
DOT–0340–3	41	<2	4.3	2300	9	21.1	17	64	4.2	1.99	1.1	<1	<5	9.55	<2	4500	250	190	1.0	4.4
DOT–0340–4	61	<2	5.3	2800	10	17.6	19	67	5.9	1.93	3.0	<1	<3	9.12	<2	5090	210	200	0.8	4.5
DOT–0341–1	44	<2	5.2	3100	11	17.9	19	55	7.6	1.80	2.9	<1	<6	11.70	4	4980	160	360	1.0	4.5
DOT–0341–2	29	<2	5.1	2500	12	14.3	14	66	9.6	1.56	2.3	<1	<4	6.31	<2	3700	250	170	0.9	3.7
DOT–0342–1	190	<2	5.8	2900	10	13.8	19	56	3.3	1.49	1.9	<1	<3	10.00	<2	3460	210	140	0.9	3.6
DOT–0342–2	27	<2	5.8	2400	23	18.4	12	33	2.7	1.07	1.1	<1	<3	11.60	<2	2250	250	270	0.7	2.2
DOT–0343–1	34	<2	5.4	2400	19	17.4	38	80	4.9	1.80	1.9	<1	<5	13.00	<2	4360	190	280	1.0	4.3
DOT–0343–2	120	<2	5.8	1400	13	14.2	12	68	2.2	2.10	1.9	<1	<3	9.15	<2	4620	200	180	0.6	4.0
DOT–0344–1	51	<2	5.1	2700	13	17.1	25	51	4.9	1.88	2.4	<1	<4	8.11	<2	4160	210	120	0.7	4.4
DOT–0344–2	191	<2	7.6	2100	9	12.8	20	120	4.2	3.58	3.4	<1	<4	9.45	<2	8590	290	250	0.7	7.1
DOT–0345–1	94	<2	11.0	1400	15	11.1	18	110	2.8	4.36	4.2	<1	<6	9.98	<2	9560	310	96	0.6	7.1
DOT–0345–2	42	<2	5.5	2300	24	17.6	14	70	5.9	1.77	1.6	<1	<4	9.85	<2	4240	240	230	1.0	4.8
DOT–0346–1	51	<2	12.0	1400	17	10.0	14	120	2.6	3.61	3.5	<1	<5	6.71	<2	9190	180	150	0.1	6.9
DOT–0346–2	33	<2	4.7	2200	8	17.5	20	50	7.0	1.31	1.5	<1	<3	4.72	<2	3440	190	120	0.9	3.3
DOT–0347	43	<2	6.5	1400	9	17.0	18	76	3.2	2.45	3.1	<1	<5	9.09	<2	6640	280	140	0.6	5.4
DOT–0348	180	<2	6.9	1200	29	14.8	15	92	2.1	2.62	2.3	<1	<4	12.30	<2	6220	370	200	0.8	6.0
DOT–0349	125	<2	5.9	1400	9	15.5	15	54	5.0	1.64	1.7	<1	<3	11.50	<2	4430	220	200	0.8	3.8
DOT–0350–1	22	<2	3.9	2000	18	20.4	13	56	2.8	1.39	2.0	<1	<4	11.50	<2	3580	220	270	0.5	3.3
DOT–0350–2	184	<2	5.5	1900	10	17.8	12	52	3.7	1.45	1.2	<1	<3	10.60	<2	3620	190	240	0.6	3.6
DOT–0351	45	<2	5.9	1800	5	14.3	14	54	6.2	1.45	1.8	<1	<3	10.60	<2	3600	210	240	0.8	3.4
DOT–0352	53	<2	7.4	1500	7	16.5	14	63	5.5	1.77	1.2	<1	<3	11.70	<2	4020	220	240	0.9	4.1
DOT–0353	51	<2	2.0	2100	55	18.4	15	77	3.9	1.58	1.3	<1	<3	12.20	<2	3510	160	230	0.8	3.6
DOT–0354	24	<2	4.3	1800	25	20.1	16	58	6.1	1.74	1.9	<1	<5	10.20	<2	3700	390	220	0.8	3.8
DOT–0355	96	<2	5.8	2100	11	18.2	15	47	2.5	1.55	1.7	<1	<3	9.33	<2	3120	240	170	0.8	3.2
DOT–0356	39	<2	4.7	2100	36	18.0	13	60	5.5	1.71	0.9	<1	<5	9.47	<2	3870	100	230	0.6	3.5
DOT–0357	44	<2	4.1	4100	10	22.9	25	60	6.3	2.24	1.9	<1	<5	11.50	<2	4660	440	230	1.0	4.0

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0358	73	<2	3.4	2300	29	21.0	17	55	11.0	1.48	1.5	<1	<5	8.94	<2	3200	350	180	2.0	3.4
DOT–0359	42	<2	2.9	2200	13	21.1	24	48	14.0	1.46	0.7	<1	<5	8.46	<2	3740	310	200	0.6	3.3
DOT–0360–1	21	<2	3.8	3000	6	22.6	19	46	10.0	1.37	3.1	<1	<4	9.66	<2	3750	260	190	0.8	4.0
DOT–0360–2	55	<2	4.0	2900	8	21.1	18	47	8.7	1.29	2.5	<1	<5	8.99	<2	3580	210	120	0.6	3.4
DOT–0361	44	<2	3.5	2000	11	22.3	14	40	3.8	1.50	1.5	<1	<3	11.00	<2	3650	270	130	0.8	3.8
DOT–0362	99	<2	5.5	1700	11	17.8	13	67	5.5	1.93	1.4	<1	<3	7.79	<2	3210	320	170	1.1	3.7
DOT–0363	41	3	3.7	1700	7	17.0	12	48	4.6	1.42	1.4	<1	<3	7.85	<2	3770	230	150	0.8	3.2
DOT–0364	110	<2	4.7	1800	9	19.6	16	45	6.2	1.41	1.1	<1	<3	8.83	<2	2860	290	210	0.7	3.2
DOT–0365	64	<2	4.0	2700	8	15.8	14	43	6.9	1.20	1.7	<1	<3	9.89	<2	2890	200	210	0.6	2.9
DOT–0366	38	<2	1.9	1500	16	18.4	14	43	5.5	1.17	1.1	<1	<3	9.76	<2	3350	200	180	0.8	2.7
DOT–0367	41	11	3.0	2400	10	26.6	11	73	1.7	1.70	1.8	<1	<4	12.20	<2	4340	120	85	0.5	4.2
DOT–0368	28	<2	2.7	1600	33	19.0	11	49	2.0	1.37	<0.5	<1	<4	13.70	<2	3670	140	140	0.4	3.1
DOT–0369	30	<2	5.8	2000	11	16.8	10	64	2.7	1.70	1.9	<1	<3	8.33	<2	4370	170	89	0.7	3.8
DOT–0370	78	<2	7.9	2600	21	19.5	20	83	1.6	2.66	1.5	<1	<5	12.20	<2	6140	260	140	0.8	5.0
DOT–0371	56	<2	8.5	1700	6	13.1	16	77	4.0	2.16	1.7	<1	<3	8.47	<2	5710	260	150	0.8	4.4
DOT–0372	65	<2	4.3	2100	6	19.5	18	69	5.9	1.78	1.5	<1	<3	9.38	<2	4570	320	230	0.8	3.9
DOT–0373	66	<2	5.4	1700	18	17.8	13	61	11.0	1.66	1.8	<1	<4	9.80	<2	3870	320	150	0.9	4.0
DOT–0374	50	<2	2.5	1900	12	16.7	15	60	6.5	1.41	1.6	<1	<4	12.50	2	3350	300	230	1.0	3.3
DOT–0375	71	<2	7.2	2500	17	18.6	15	65	5.3	1.64	0.9	<1	<5	8.40	<2	3850	180	210	1.0	3.8
DOT–0376	65	<2	6.2	2500	32	18.5	17	67	4.2	1.85	2.1	<1	<4	9.14	2	4020	320	160	0.9	3.8
DOT–0377	118	<2	6.8	2400	33	16.3	19	75	5.1	1.97	2.5	<1	<4	12.60	<2	4180	300	190	0.7	4.3
DOT–0378	43	<2	5.0	2100	31	18.8	21	71	12.0	1.96	1.2	<1	<5	10.20	<2	4950	260	170	0.9	4.9
DOT–0379	165	<2	7.7	1300	9	18.2	22	89	4.8	2.30	1.9	<1	<4	8.30	<2	4830	410	120	1.2	4.9
DOT–0380	29	<2	4.1	1900	22	15.3	20	62	8.3	1.54	1.7	<1	<3	9.06	<2	3360	190	150	0.8	3.6
DOT–0381–1	72	<2	5.2	1500	41	18.0	9	38	5.5	1.28	1.6	<1	<3	10.30	3	5780	270	220	0.9	3.0
DOT–0381–2	21	<2	3.1	1800	41	19.9	17	43	7.9	1.41	0.7	<1	<4	9.49	<2	3160	270	180	0.8	3.2
DOT–0382	49	<2	4.2	1800	15	17.6	11	40	2.7	1.11	1.4	<1	<4	15.70	<2	2980	190	190	0.6	3.3
DOT–0383	22	<2	2.6	1800	13	21.5	11	41	2.8	1.16	1.4	<1	<4	10.00	<2	2930	180	120	0.5	2.9

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0384–1	21	<2	2.9	1600	7	19.9	9	32	4.8	1.07	1.3	<1	<3	10.20	<2	2760	200	250	0.7	2.6
DOT–0384–2	83	<2	3.6	1800	10	17.0	8	35	5.0	1.13	1.1	<1	<3	10.20	<2	2920	200	240	0.8	2.8
DOT–0385	16	<2	4.2	1900	26	16.4	17	39	3.4	1.41	1.1	<1	<3	7.57	<2	3270	140	150	0.8	3.0
DOT–0386	34	4	4.6	2300	5	16.5	17	55	8.2	1.50	1.2	<1	<3	9.51	<2	3730	210	140	0.8	3.7
DOT–0387	172	<2	6.5	1700	19	16.6	18	100	4.1	3.02	2.5	<1	<4	10.60	2	6490	430	250	0.8	6.2
DOT–0388	49	<2	8.7	1200	7	16.1	13	81	1.8	2.31	1.9	<1	<3	10.30	<2	4870	380	100	0.9	4.5
DOT–0389–1	34	<2	4.8	1500	17	12.6	12	55	1.2	1.71	1.5	<1	<3	6.81	<2	4020	190	39	0.7	3.7
DOT–0389–2	52	<2	6.4	2400	7	19.4	18	94	1.5	2.75	2.2	<1	<5	9.07	<2	6080	480	70	1.0	5.2
DOT–0390–1	28	<2	6.6	840	7	19.2	13	69	1.3	1.99	1.9	<1	<2	8.42	<2	4510	240	54	1.0	4.3
DOT–0390–2	55	<2	5.2	830	21	19.7	14	69	1.2	2.06	2.4	<1	<3	8.88	2	4730	320	70	1.6	4.6
DOT–0391	52	<2	6.5	2200	7	15.4	11	84	<0.5	2.24	2.5	<1	<3	8.10	<2	5280	210	50	0.9	5.1
DOT–0392	82	<2	4.2	1400	9	21.0	12	69	1.7	1.94	2.4	<1	<4	9.27	<2	4380	390	40	0.9	4.3
DOT–0393	34	<2	6.5	1400	27	16.4	17	79	2.6	2.72	2.8	<1	<4	9.93	<2	6230	390	70	0.8	5.6
DOT–0394	67	<2	7.9	1900	45	14.0	17	110	3.5	3.46	3.9	<1	<5	9.01	<2	7970	440	160	0.4	6.4
DOT–0395	50	<2	6.9	2300	9	15.0	17	66	12.0	1.84	1.8	<1	<3	8.64	<2	5360	150	220	0.9	4.3
DOT–0396	258	<2	5.1	2600	10	19.6	18	69	8.4	2.16	2.3	<1	<5	8.95	<2	5070	330	150	0.9	4.9
DOT–0397	61	<2	3.8	2100	18	17.3	14	63	5.1	1.90	2.4	<1	<5	12.10	<2	4280	290	210	0.9	4.4
DOT–0398	66	<2	5.5	3400	15	20.8	20	74	5.7	2.01	1.1	<1	<4	9.12	<2	4530	240	170	1.0	4.6
DOT–0399	42	<2	6.1	3000	15	19.5	19	83	4.6	2.50	3.2	<1	<6	9.54	3	6010	310	100	1.1	6.0
DOT–0400–1	82	5	5.3	1400	45	18.1	15	51	3.8	1.46	1.4	<1	<3	9.73	<2	3250	180	160	0.8	3.3
DOT–0400–2	27	<2	4.6	1300	10	21.4	14	53	4.6	1.33	1.4	<1	<5	9.63	2	3450	250	150	1.0	3.4
DOT–0401	27	<2	5.6	1400	44	15.2	12	54	5.4	1.56	1.7	<1	<3	10.50	<2	3500	200	100	0.8	3.8
DOT–0402	84	<2	3.9	3000	12	20.0	15	55	7.5	1.36	1.7	<1	<5	10.30	<2	3570	260	170	0.6	3.3
DOT–0403	25	<2	3.5	2100	22	18.6	13	52	4.2	1.57	1.1	<1	<4	9.72	<2	3900	230	160	0.9	3.8
DOT–0404	56	<2	6.0	1800	29	16.7	21	57	4.3	1.69	1.9	<1	<5	12.60	<2	4410	380	140	0.7	4.0
DOT–0405	63	<2	6.1	2600	5	16.3	12	39	6.4	1.14	1.4	<1	<2	7.94	<2	2840	130	140	1.1	3.0
DOT–0406	23	<2	4.9	3700	13	19.1	15	37	1.9	1.16	2.0	<1	<2	12.40	<2	3030	150	130	0.7	2.8
DOT–0407	120	<2	4.8	2100	19	21.7	14	56	6.0	1.81	2.0	<1	<4	8.97	<2	4590	340	190	0.9	4.7

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0408	22	<2	4.9	2300	7	20.8	12	48	4.4	1.53	2.0	<1	<5	6.83	<2	3530	190	120	0.8	3.5
DOT–0409	33	<2	4.7	1000	8	19.8	12	70	1.1	1.95	1.8	<1	<2	9.81	<2	4380	280	59	1.0	4.4
DOT–0410–1	97	<2	7.5	810	17	14.0	11	81	1.9	2.11	1.8	<1	<3	8.07	<2	4560	200	81	1.0	4.6
DOT–0410–2	54	<2	7.3	940	65	13.8	14	71	1.6	2.14	2.2	<1	<3	8.83	<2	4800	280	48	0.7	4.7
DOT–0411	70	<2	6.5	1100	16	17.9	16	89	1.7	2.48	1.9	<1	<4	8.83	<2	5440	170	56	1.0	6.1
DOT–0412	25	<2	4.4	1200	6	17.6	13	60	1.0	1.91	2.2	<1	<3	8.11	2	4320	210	59	0.9	4.1
DOT–0413	101	<2	8.7	1000	20	15.2	14	86	2.5	2.42	2.8	<1	<3	9.45	<2	5750	260	68	0.9	5.7
DOT–0414–1	29	<2	4.7	3000	10	18.4	15	74	2.7	1.76	1.0	<1	<5	11.10	<2	4320	250	140	0.6	4.0
DOT–0414–2	34	<2	6.0	2900	4	15.7	12	78	1.3	2.07	2.2	<1	<3	9.57	<2	4440	160	150	0.8	4.0
DOT–0415	90	<2	8.7	2300	4	13.4	18	89	2.7	2.64	2.9	<1	<3	8.73	<2	5910	230	140	1.0	4.7
DOT–0416	22	<2	4.2	3100	24	19.4	14	69	4.9	1.85	3.0	<1	<5	10.10	<2	4430	200	210	0.6	4.4
DOT–0417	60	<2	6.1	3700	55	22.1	21	77	3.2	2.44	2.0	<1	<4	11.10	2	5210	360	110	0.9	5.0
DOT–0418	27	<2	3.4	1700	<1	18.1	10	57	4.8	1.48	1.7	<1	<3	8.77	<2	3360	210	150	0.9	3.6
DOT–0419	17	<2	3.5	2300	13	18.3	14	65	2.3	1.39	2.1	<1	<3	9.37	<2	3530	220	120	0.9	3.6
DOT–0420–1	31	<2	4.4	2300	29	21.6	23	48	2.4	1.45	1.5	<1	<4	10.10	<2	2870	150	120	0.6	3.4
DOT–0420–2	28	<2	5.3	2700	5	17.2	23	50	2.4	1.45	1.9	<1	<3	9.52	<2	3400	150	100	0.7	3.4
DOT–0421	73	<2	4.8	2400	7	18.9	16	88	7.0	1.73	2.1	<1	<3	7.99	<2	3870	220	130	0.9	3.9
DOT–0422	33	<2	5.7	2400	14	22.8	20	81	7.5	2.14	1.5	<1	<4	6.66	4	4160	370	89	0.8	4.6
DOT–0423	49	8	3.4	1900	4	16.6	11	41	3.6	1.38	1.4	<1	<3	9.10	<2	2710	210	99	0.7	3.0
DOT–0424	69	<2	5.4	1500	160	15.2	20	35	5.6	1.34	1.5	<1	<4	9.45	<2	3340	210	250	0.8	3.2
DOT–0425	36	<2	2.0	3200	6	22.3	29	60	3.1	1.63	1.9	<1	<3	9.77	<2	3700	170	120	1.0	4.1
DOT–0426	30	<2	4.9	1900	43	17.0	12	55	2.0	1.68	1.3	<1	<5	13.30	2	3420	290	130	1.2	3.6
DOT–0427	29	<2	5.1	2500	13	21.8	20	58	4.3	1.67	2.2	<1	<4	9.94	2	4470	210	180	0.8	4.7
DOT–0428	31	<2	4.9	2100	46	19.1	23	41	4.4	1.43	2.0	<1	<5	11.40	<2	3430	110	220	0.7	3.1
DOT–0429	58	<2	4.4	1900	7	21.2	17	69	3.7	2.03	2.1	<1	<5	8.48	4	4120	330	110	0.8	4.7
DOT–0430–1	33	<2	4.1	1700	8	14.8	12	43	3.0	1.48	1.7	<1	<3	12.40	<2	3080	270	160	0.7	3.3
DOT–0430–2	17	<2	3.8	1700	5	20.4	14	48	1.5	1.51	1.5	<1	<4	11.80	2	4180	350	150	0.7	3.7
DOT–0431	49	<2	4.4	1400	9	22.1	13	59	2.0	1.72	1.7	<1	<3	9.96	<2	4550	250	63	0.7	4.4

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0432	110	<2	6.0	1100	13	15.9	12	81	2.2	2.15	1.4	<1	<4	8.50	<2	4130	290	70	0.8	4.5
DOT–0433	40	<2	5.0	1000	54	18.1	11	77	2.4	2.13	0.6	<1	<5	12.50	<2	4130	140	66	0.7	4.2
DOT–0434	50	<2	6.0	1100	8	12.9	10	64	1.8	1.80	1.4	<1	<3	7.44	<2	4350	220	68	1.0	4.5
DOT–0435	35	<2	4.9	1800	15	15.9	11	65	0.7	1.94	1.7	<1	<4	8.79	<2	4370	100	86	0.8	4.4
DOT–0436	44	<2	5.6	3200	16	18.9	16	97	2.8	2.73	2.8	<1	<6	9.51	<2	7840	220	110	0.5	6.3
DOT–0437	64	<2	11.0	2600	13	12.3	33	140	4.0	5.06	4.8	<1	<4	7.79	<2	11100	380	250	0.8	8.2
DOT–0438	34	<2	6.5	3100	8	14.9	19	65	3.8	2.12	1.8	<1	<3	12.60	<2	4280	230	180	1.3	4.0
DOT–0439	29	5	6.9	2300	10	14.9	14	57	8.4	1.57	1.0	<1	<3	8.66	<2	3130	250	170	0.7	3.2
DOT–0441	27	<2	5.5	4100	13	27.0	21	76	9.6	1.86	<0.5	<1	<4	7.05	7.0	3860	440	110	1.1	4.2
DOT–0442	20	<2	3.6	3900	6	20.8	27	58	2.9	1.87	1.6	<1	<3	9.64	<2	4100	250	170	0.7	4.1
DOT–0443	40	<2	2.6	2600	10	21.4	52	43	4.6	1.32	2.1	<1	<3	8.80	<2	3420	260	190	0.6	3.2
DOT–0444	31	<2	4.8	1200	6	14.6	8	52	0.8	1.41	1.1	<1	<3	10.80	<2	3590	160	50	0.7	3.6
DOT–0445	30	<2	3.5	2100	11	23.0	16	60	4.3	1.71	1.2	<1	<2	8.75	<2	3810	200	140	0.7	4.0
DOT–0446	25	<2	3.0	2000	13	23.6	18	54	8.5	1.09	1.6	<1	<3	4.86	<2	2280	240	110	1.0	2.6
DOT–0447	200	<2	5.7	2600	8	19.5	19	56	10.0	1.97	2.0	<1	<4	8.81	<2	4380	180	180	0.8	4.7
DOT–0448	34	<2	5.7	2100	40	20.3	18	48	4.2	1.70	1.0	<1	<5	11.50	<2	3490	270	200	0.9	3.7
DOT–0449	152	<2	5.5	2500	120	15.8	23	38	2.2	1.25	2.2	<1	<4	10.30	2	2920	100	110	0.7	2.8
DOT–0450	20	5	4.1	1500	7	12.4	13	35	5.9	0.98	1.3	<1	<3	9.13	2	2390	120	180	0.6	2.6
DOT–0451	247	<2	6.4	2300	62	14.3	15	43	2.4	1.48	1.5	<1	<3	10.40	<2	3590	180	130	0.8	3.5
DOT–0452	92	<2	8.1	3800	71	14.1	16	74	1.7	1.14	1.4	<1	<4	10.90	2	2820	130	160	1.0	2.4
DOT–0453–1	46	3	15.0	1400	13	11.3	24	180	5.1	6.55	4.3	<1	<5	6.76	<2	12400	350	160	0.7	10.0
DOT–0453–2	60	<2	5.4	830	26	18.7	11	76	2.0	1.98	1.7	<1	<4	11.70	<2	5070	290	110	1.0	5.5
DOT–0454	40	<2	4.2	1400	23	20.1	11	78	2.4	2.25	1.8	<1	<5	10.20	<2	4010	460	67	0.8	4.3
DOT–0455	34	<2	4.2	1500	5	19.5	8	57	2.0	1.63	1.6	<1	<3	9.87	<2	3930	160	64	0.6	4.0
DOT–0456	39	<2	5.4	1400	22	17.6	8	67	1.1	1.82	1.5	<1	<3	8.08	<2	4110	150	24	0.7	4.2
DOT–0457	33	<2	5.3	2600	11	20.1	10	58	1.4	1.79	2.1	<1	<4	11.70	4	4590	140	120	0.7	4.4
DOT–0458	15	<2	4.8	1400	8	19.7	18	77	1.6	2.38	1.1	<1	<3	11.80	<2	5060	370	95	0.5	4.7
DOT–0459	43	<2	10.0	810	5	12.2	23	160	2.9	6.38	2.6	<1	<3	6.14	<2	11100	230	120	0.5	9.1

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0460	74	<2	5.9	2000	6	16.8	19	91	11.0	2.56	3.5	<1	<5	8.39	2	5720	360	250	0.9	5.6
DOT–0461–1	84	<2	5.9	2000	17	19.3	18	64	6.9	1.92	2.9	<1	<4	9.77	<2	4220	250	210	1.5	4.1
DOT–0461–2	36	<2	4.9	2100	9	19.5	16	67	10.0	1.66	1.1	<1	<5	10.90	<2	4020	230	200	0.8	3.8
DOT–0462	32	<2	5.2	2800	14	18.0	17	63	9.0	1.60	2.0	<1	<4	9.40	<2	3960	290	200	0.8	3.9
DOT–0463	105	<2	4.9	2600	5	16.7	20	77	4.5	1.91	1.6	<1	<4	11.00	<2	4600	310	140	0.9	3.7
DOT–0464	41	<2	5.7	4500	19	19.3	17	64	3.1	1.75	2.9	<1	<5	11.00	<2	4570	350	170	0.8	4.1
DOT–0465–1	20	<2	4.7	860	26	23.2	13	25	1.6	0.97	0.7	<1	<5	15.30	<2	2410	190	150	0.5	2.1
DOT–0465–2	165	<2	4.6	2400	4	18.7	18	48	5.4	1.48	1.4	<1	<4	8.23	<2	3680	180	150	1.3	3.5
DOT–0466	27	<2	1.7	2300	3	19.3	12	53	3.2	1.17	1.6	<1	<3	10.60	3	3110	170	130	0.9	3.2
DOT–0467	31	<2	3.8	2100	3	20.2	16	50	6.0	1.39	1.6	<1	<4	6.56	2	3710	290	140	0.8	3.6
DOT–0468	95	<2	4.9	2000	17	20.2	18	48	5.3	1.56	1.5	<1	<4	8.68	3	3880	230	130	0.9	4.0
DOT–0469	21	<2	4.5	2100	14	21.9	15	29	4.7	1.10	1.1	<1	<4	8.88	<2	2880	290	200	0.9	2.6
DOT–0470–1	20	<2	4.3	1400	13	18.7	10	37	4.4	1.21	<0.5	<1	<3	8.67	<2	3160	170	160	0.8	3.0
DOT–0470–2	39	<2	8.5	1300	25	22.7	11	56	6.9	1.48	1.6	<1	<5	9.73	<2	3660	180	140	0.7	3.6
DOT–0471	24	<2	4.7	2200	6	20.5	12	43	5.3	1.29	2.0	<1	<3	8.90	<2	3380	160	160	1.4	3.4
DOT–0472	24	<2	4.0	2900	12	18.9	13	44	5.7	1.27	1.8	<1	<3	8.04	2	3350	160	130	0.8	3.6
DOT–0473	47	<2	4.6	1300	18	21.1	11	80	0.7	1.96	1.5	<1	<3	9.47	<2	4770	290	60	0.6	4.6
DOT–0475	34	<2	4.8	2300	9	18.9	11	62	<0.5	1.68	1.5	<1	<3	7.66	<2	4310	160	29	0.7	4.3
DOT–0476	45	<2	6.5	2000	8	14.0	13	78	1.1	2.29	1.6	<1	<3	7.91	4	4770	380	58	1.0	4.8
DOT–0477	73	<2	5.3	1400	12	14.2	13	70	4.8	2.17	2.4	<1	<4	10.30	<2	5800	320	230	0.8	4.8
DOT–0478	35	<2	7.3	2100	8	18.0	14	87	3.8	2.94	2.6	<1	<4	10.60	4	7090	190	230	0.7	4.9
DOT–0479	71	<2	14.0	1300	15	15.7	21	150	3.6	5.10	4.2	<1	<5	7.53	<2	13600	390	170	0.6	9.7
DOT–0480–1	34	<2	9.1	2700	15	13.5	20	80	5.2	2.12	2.3	<1	<3	11.40	<2	4970	130	170	0.9	4.4
DOT–0480–2	62	<2	5.6	2900	22	15.6	21	94	5.1	2.36	2.7	<1	<5	11.30	<2	5790	380	220	0.7	5.1
DOT–0481	135	<2	7.8	2800	8	17.8	17	67	5.8	1.75	2.0	<1	<4	9.91	<2	4100	280	170	0.9	4.0
DOT–0482	75	<2	3.3	2600	7	17.0	17	50	1.9	1.51	2.2	<1	<4	13.10	<2	4340	310	130	0.6	3.6
DOT–0483	41	<2	4.7	4000	6	16.9	14	56	2.7	1.51	2.9	<1	<5	12.30	<2	4160	150	140	0.7	4.1
DOT–0484	21	<2	4.4	1900	6	22.4	18	62	8.7	1.55	1.9	<1	<4	8.29	<2	3810	290	150	0.8	3.9

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0485	170	<2	6.3	1300	5	16.6	12	84	1.4	2.10	1.9	<1	<2	7.60	<2	4800	240	63	1.0	5.1
DOT–0486	64	<2	6.8	1800	62	19.0	14	91	3.1	2.36	3.3	<1	<5	10.20	<2	5570	250	200	0.8	5.7
DOT–0487	27	<2	5.0	1800	4	21.1	11	51	2.1	1.64	1.8	<1	<3	7.96	<2	3880	190	170	0.6	3.7
DOT–0488	43	<2	7.5	1300	62	15.4	16	110	2.0	2.90	2.8	<1	<6	10.20	5	7330	350	190	0.6	6.6
DOT–0489	104	<2	8.3	1900	8	11.2	16	130	3.3	3.50	3.3	<1	<4	7.22	<2	12100	280	190	0.6	8.9
DOT–0490–1	27	<2	6.2	1700	8	15.2	14	87	4.6	2.69	3.5	<1	<5	8.97	<2	7880	190	140	0.8	5.9
DOT–0490–2	22	<2	6.3	1600	5	15.6	14	72	2.8	2.06	3.0	<1	<4	8.59	<2	6390	210	140	0.6	4.7
DOT–0491	123	<2	4.2	2700	6	15.6	20	58	4.5	1.76	2.1	<1	<5	9.71	<2	4830	320	150	0.6	4.3
DOT–0492	44	<2	5.1	3400	8	16.1	16	76	1.9	2.18	2.8	<1	<4	8.03	5	5270	290	110	0.9	5.1
DOT–0493	34	<2	3.9	2400	6	21.1	12	66	2.4	1.76	2.3	<1	<5	9.60	<2	4390	320	110	1.5	4.5
DOT–0494	45	<2	5.6	2200	9	15.1	16	55	5.2	1.51	1.8	<1	<4	6.60	<2	4000	150	130	1.1	3.9
DOT–0495	27	<2	8.2	2100	15	15.5	13	56	6.4	1.65	1.6	<1	<4	10.70	5	3970	200	320	0.8	3.9
DOT–0496	13	<2	5.9	2100	12	15.5	14	37	2.1	1.23	1.6	<1	<3	12.30	<2	3150	190	260	0.6	3.1
DOT–0497	69	<2	4.2	1700	6	19.7	11	43	3.4	1.20	1.5	<1	<2	10.40	<2	2790	210	170	1.0	2.9
DOT–0498	233	<2	6.3	1600	11	15.5	18	68	2.4	2.00	1.7	<1	<5	11.20	<2	5430	330	140	1.0	5.3
DOT–0499	17	<2	10.0	1600	11	16.8	15	56	3.8	1.80	1.9	<1	<3	8.03	<2	4260	200	150	1.1	4.4
DOT–0500–1	51	<2	4.1	1200	19	18.0	11	62	1.5	1.79	1.2	<1	<5	11.40	<2	3700	260	81	1.1	3.8
DOT–0500–2	36	<2	4.6	1400	30	19.6	13	69	1.9	2.09	1.8	<1	<3	12.10	<2	3970	300	61	0.7	4.0
DOT–0501	39	<2	4.9	2700	7	19.5	8	59	1.2	1.60	1.4	<1	<3	9.78	<2	3460	130	48	1.0	3.7
DOT–0502	120	<2	4.8	1800	20	20.3	11	71	2.1	1.89	2.9	<1	<4	12.40	<2	4840	290	100	1.1	4.7
DOT–0503	29	<2	5.0	3200	29	17.6	23	61	2.7	1.55	2.1	<1	<3	12.60	<2	4780	220	190	0.7	3.8
DOT–0504	25	<2	5.0	2200	14	16.2	19	56	3.2	1.60	2.2	<1	<4	12.90	<2	4000	200	230	0.6	3.5
DOT–0505	20	<2	7.0	2600	13	15.4	13	71	3.4	2.33	2.4	<1	<3	12.60	<2	5610	330	200	0.9	4.9
DOT–0506	151	<2	7.3	1100	27	17.0	15	85	2.2	2.84	3.2	<1	<5	14.10	<2	6840	360	240	0.7	5.5
DOT–0507	33	<2	5.0	3100	6	13.5	18	79	2.8	2.09	2.1	<1	<5	8.90	1	6300	350	180	0.7	5.6
DOT–0508	31	<2	3.8	2800	7	17.7	22	59	3.1	1.78	2.2	<1	<5	11.00	<2	5340	240	240	0.9	4.3
DOT–0509	58	<2	5.8	1900	29	21.1	17	66	2.1	1.77	2.0	<1	<5	12.20	<2	4140	260	110	0.8	4.0
DOT–0510–1	51	<2	2.9	1800	5	18.5	11	42	4.2	1.22	1.0	<1	<3	8.05	<2	3210	180	160	0.6	2.9

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
DOT–0510–2	31	<2	5.4	1500	19	18.4	14	50	5.3	1.28	1.1	<1	<5	9.34	<2	3190	200	190	0.5	2.8
DOT–0511	21	<2	2.9	1800	<1	20.3	13	46	2.7	1.21	1.3	<1	<2	16.50	<2	2840	150	110	0.5	3.0
DOT–0512	65	<2	4.2	1400	4	23.3	10	60	1.0	1.72	2.1	<1	<5	10.00	<2	5240	100	85	0.9	4.3
DOT–0513	16	<2	4.4	1600	3	20.0	7	38	1.7	1.39	1.5	<1	<3	9.53	<2	3080	120	43	2.4	3.1
DOT–0514	118	<2	6.6	1800	11	17.5	13	49	1.7	1.38	1.7	<1	<2	11.90	<2	3350	110	79	1.0	3.2
DOT–0515	45	<2	6.2	2100	49	17.3	10	46	0.8	1.45	2.4	<1	<4	9.55	2	3380	160	37	1.0	3.4
DOT–0516	90	<2	3.2	2500	6	23.4	13	58	1.8	1.48	2.0	<1	<4	12.00	<2	4410	160	79	0.5	3.7
DOT–0517	18	<2	5.3	3400	13	20.2	13	35	2.0	1.36	1.8	<1	<3	10.10	<2	2820	250	170	0.8	2.8
DOT–0518	25	<2	4.7	3800	10	16.2	9	52	1.2	1.39	1.7	<1	<3	10.20	<2	3250	200	170	0.7	3.2
DOT–0519	21	<2	3.8	3000	8	21.6	17	66	7.8	1.90	1.0	<1	<6	10.80	3	5120	490	220	0.7	4.4
DOT–0520–1	24	<2	5.6	1900	19	19.6	14	81	7.5	2.12	2.1	<1	<3	9.35	<2	4770	250	210	0.9	4.5
DOT–0520–2	30	<2	5.1	2000	8	17.9	12	62	7.0	2.00	1.9	<1	<3	8.84	<2	4360	220	200	0.9	3.8
DOT–0521	26	<2	7.1	1800	92	14.8	18	76	3.8	2.89	2.0	<1	<4	11.90	<2	6220	220	180	0.6	5.5
DOT–0522	65	<2	7.4	1500	14	16.0	16	130	0.9	4.48	1.8	<1	<5	9.18	<2	8940	200	130	1.0	7.4
DOT–0523	44	<2	5.5	1600	10	21.1	14	100	1.7	2.95	1.9	<1	<3	8.25	<2	6380	260	110	0.9	5.7
DOT–0524	25	<2	6.3	2600	5	16.0	9	64	1.8	2.01	2.1	<1	<3	8.31	<2	4380	260	68	0.8	4.4
DOT–0525	28	<2	4.4	1400	6	16.0	10	41	2.4	1.41	1.3	<1	<3	11.80	<2	3440	170	130	4.2	3.1
DOT–0526	24	<2	3.7	1600	6	15.3	7	45	1.7	1.42	1.3	<1	<3	9.55	<2	3600	140	85	0.6	3.6
DOT–0527	44	<2	4.5	1300	5	18.6	11	66	2.8	1.91	1.3	<1	<5	9.66	3	3850	280	82	0.7	4.0
DOT–0528	13	<2	3.4	1300	4	19.5	10	58	2.2	1.67	2.1	<1	<4	8.50	<2	4400	220	91	1.0	4.2
DOT–0529	43	<2	5.1	1600	8	17.7	11	49	4.9	1.42	<0.5	<1	<3	9.29	<2	2940	160	160	0.8	3.2
DOT–0530–1	27	<2	4.3	1500	35	20.4	11	57	2.5	1.68	1.4	<1	<4	9.69	<2	3580	240	120	0.8	3.6
DOT–0530–2	38	<2	5.0	1700	22	19.5	11	69	2.3	1.96	1.4	<1	<4	9.73	2	4250	240	150	0.8	4.4
DOT–0531	28	<2	4.8	1100	25	20.9	13	56	2.5	1.83	2.1	<1	<5	11.70	<2	3480	320	160	0.7	3.6
DOT–0532	46	<2	4.0	1400	61	16.0	12	71	1.4	2.12	2.0	<1	<3	10.30	<2	4190	280	82	1.0	4.2
DOT–0533	43	<2	4.6	1700	7	21.9	16	82	1.5	2.31	1.5	<1	<4	7.72	<2	4980	410	90	0.8	4.9
DOT–0534	31	<2	7.2	2200	5	16.5	14	100	1.7	3.51	2.8	<1	<4	11.10	<2	7020	250	83	0.8	6.8
DOT–0536	31	<2	7.5	1100	9	15.0	9	64	1.9	2.09	1.5	<1	<2	11.20	2	3750	110	130	0.8	3.7

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0537	80	<2	5.1	1500	7	16.9	12	76	2.4	2.39	2.4	<1	<3	10.60	<2	5190	210	130	0.7	5.1
DOT–0538	62	<2	6.5	3200	7	17.2	13	59	1.9	1.86	2.2	<1	<3	8.45	<2	4590	200	160	0.8	4.4
DOT–0539	49	<2	5.3	2100	14	15.8	14	64	6.5	1.79	1.1	<1	<3	10.60	3	3900	190	180	1.0	4.0
DOT–0540–1	37	<2	4.5	2000	13	17.3	17	50	3.0	1.53	2.0	<1	<5	12.70	<2	4130	170	150	0.6	3.6
DOT–0540–2	50	<2	4.9	2100	28	18.7	16	65	2.4	1.86	1.0	<1	<5	11.60	2	4460	260	170	0.9	3.9
DOT–0541	66	<2	4.9	2900	18	19.7	24	54	4.6	1.88	2.5	<1	<4	9.79	<2	3930	300	190	0.9	4.3
DOT–0542	58	<2	5.9	2200	8	15.7	10	58	2.4	1.70	2.1	<1	<3	10.00	3	3930	150	220	0.8	4.0
DOT–0543	30	<2	3.4	1200	10	21.4	10	61	1.5	1.48	1.9	<1	<4	11.60	<2	3810	200	130	1.1	4.0
DOT–0544	47	<2	5.0	1600	20	15.3	14	59	2.2	1.75	1.9	<1	<2	10.10	<2	3930	240	84	0.8	4.0
DOT–0545	62	<2	6.0	1000	55	18.6	11	57	1.9	1.64	1.7	<1	<2	12.00	<2	4000	230	63	0.8	4.1
DOT–0546	29	<2	4.1	820	75	15.0	12	61	1.0	2.24	1.4	<1	<3	11.20	<2	3490	230	57	0.6	3.7
DOT–0547	35	<2	8.7	2200	11	17.4	16	120	0.7	5.21	2.1	<1	<5	9.95	<2	5370	390	120	0.7	6.1
DOT–0548	35	<2	5.1	490	64	13.9	11	68	3.2	1.93	<0.5	<1	<5	13.30	<2	4360	340	120	0.8	4.3
DOT–0549	67	<2	5.4	1100	8	15.6	10	66	1.8	1.92	1.6	<1	<3	9.19	<2	4240	200	72	0.8	4.1
DOT–0550–1	29	<2	4.0	1700	7	15.3	13	67	3.2	1.93	1.0	<1	<5	12.30	2	5070	190	220	0.8	4.2
DOT–0550–2	33	5	6.1	2000	8	15.4	10	54	2.0	1.66	1.5	<1	<3	12.60	<2	3410	200	120	0.9	3.3
DOT–0551	31	<2	3.7	1700	8	20.0	27	52	3.1	1.40	2.1	<1	<4	10.70	2	4450	210	210	0.8	3.8
DOT–0552	87	<2	4.5	3000	10	18.9	20	56	4.6	1.47	1.6	<1	<4	11.30	<2	3860	150	200	0.6	3.6
DOT–0553	330	<2	4.8	2100	9	19.6	11	44	3.2	1.24	1.4	<1	<3	10.60	<2	2660	310	280	0.7	2.6
DOT–0554	28	<2	4.7	2100	18	17.6	12	47	5.3	1.61	1.3	<1	<3	8.72	<2	3920	160	310	1.1	4.0
DOT–0555	28	<2	5.2	1700	8	18.0	13	71	4.2	1.89	0.7	<1	<5	7.83	5	4600	330	160	0.6	4.9
DOT–0556	41	4	7.6	1700	49	15.5	9	48	1.8	1.17	1.4	<1	<3	12.50	<2	2950	260	75	1.4	2.7
DOT–0557	42	<2	5.5	1100	8	19.7	12	70	2.0	2.34	1.3	<1	<3	10.10	<2	3420	250	100	0.8	3.6
DOT–0558	26	<2	4.6	900	9	13.7	10	59	1.5	1.79	1.4	<1	<3	7.16	<2	4020	220	82	0.6	4.1
DOT–0559	27	<2	4.0	880	11	14.2	8	57	1.6	1.37	1.2	<1	<2	9.54	4	3230	140	90	0.8	3.3
DOT–0560–1	25	<2	5.0	1000	21	18.6	11	55	2.1	1.65	2.3	<1	<5	13.10	<2	3730	190	140	0.8	3.8
DOT–0560–2	140	<2	3.8	2000	10	27.1	12	63	1.9	1.93	2.6	<1	<4	10.80	<2	4900	260	89	0.7	4.8
DOT–0561	21	<2	4.3	1800	7	19.7	9	47	1.6	1.52	2.4	<1	<4	11.60	<2	3760	220	95	0.8	3.5

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0562	33	<2	4.6	2100	12	22.0	20	54	5.2	1.50	2.0	<1	<4	10.80	<2	3930	360	220	0.8	3.8
DOT–0563	21	<2	4.6	1900	14	19.7	12	38	5.2	1.27	1.0	<1	<4	13.30	<2	3600	190	300	0.9	3.2
DOT–0564	35	<2	6.2	2100	39	18.5	14	62	3.8	1.92	1.8	<1	<4	10.10	5	4630	280	260	0.6	4.5
DOT–0565	37	<2	5.8	1900	9	19.6	12	62	1.9	1.94	1.8	<1	<3	9.21	2	3830	340	82	1.0	4.2
DOT–0566	39	<2	4.9	1800	25	17.8	9	60	5.0	1.79	2.3	<1	<5	8.06	<2	4270	190	140	0.7	4.1
DOT–0567	21	<2	5.8	1500	24	15.7	8	62	3.2	1.59	1.7	<1	<3	10.40	2	3610	140	160	1.1	3.5
DOT–0568	46	<2	7.0	810	14	13.2	11	62	3.4	2.05	1.6	<1	<3	12.60	<2	3920	240	140	3.5	3.8
DOT–0569	35	<2	5.8	1400	6	13.9	12	80	5.2	3.18	2.9	<1	<3	7.22	<2	5930	140	120	1.0	4.9
DOT–0570–1	150	<2	4.7	2100	17	17.8	10	61	1.0	2.13	2.6	<1	<4	10.70	<2	4160	230	140	0.6	4.0
DOT–0570–2	32	6	5.4	2100	39	14.6	10	63	1.6	2.09	2.0	<1	<3	10.00	<2	3880	200	110	0.6	3.6
DOT–0571	39	<2	6.4	850	26	16.5	8	53	0.5	1.71	1.7	<1	<3	9.36	<2	3460	170	56	0.8	3.4
DOT–0572	97	<2	4.3	810	9	16.3	11	64	1.9	2.26	2.6	<1	<5	9.41	<2	5270	220	110	0.8	5.2
DOT–0573	52	<2	5.6	1000	10	16.1	11	58	2.1	1.98	1.3	<1	<3	9.64	<2	4700	230	140	0.9	4.6
DOT–0574	22	<2	7.2	670	12	13.0	9	59	1.7	1.64	1.5	<1	<3	7.92	2	3840	210	84	0.9	3.8
DOT–0575	30	<2	5.4	690	15	13.1	8	59	2.2	1.64	1.8	<1	<3	10.40	2	3820	260	81	0.9	3.6
DOT–0576	25	<2	4.3	1300	6	15.0	8	46	1.5	1.28	1.4	<1	<3	7.18	<2	3420	190	63	0.8	3.2
DOT–0577	56	<2	4.0	1300	8	22.0	10	40	1.2	1.28	1.4	<1	<2	9.71	<2	3420	230	88	0.7	3.3
DOT–0578	33	<2	4.1	1300	9	16.4	10	61	1.4	1.75	1.8	<1	<2	9.11	2	3670	220	73	0.7	4.2
DOT–0579	59	<2	3.6	1500	18	18.0	13	65	1.5	1.84	1.7	<1	<4	12.20	<2	4070	390	100	0.8	4.6
DOT–0580–1	37	<2	3.8	1500	25	25.6	12	50	1.0	1.78	1.6	<1	<4	9.00	2	3960	200	70	0.8	4.0
DOT–0580–2	41	<2	4.2	1500	6	22.6	11	56	1.5	1.85	2.0	<1	<4	8.67	<2	5310	170	54	1.0	4.8
DOT–0581	26	<2	5.0	2300	16	17.4	13	59	8.6	1.79	1.7	<1	<4	10.40	<2	3570	340	230	0.7	3.7
DOT–0582	49	<2	7.9	1900	18	15.0	20	110	3.4	3.70	3.3	<1	<5	8.90	<2	6750	240	130	1.3	6.4
DOT–0583–1	40	<2	1.5	1700	18	14.7	19	110	1.7	4.35	2.9	<1	<3	9.16	<2	6850	270	88	0.8	5.9
DOT–0583–2	30	<2	4.5	2300	15	19.4	13	59	6.7	1.76	1.0	<1	<4	12.50	3	4670	250	190	1.0	4.5
DOT–0584	22	<2	4.9	1800	8	17.1	10	46	1.4	1.56	1.7	<1	<3	8.97	<2	3950	210	70	0.8	3.6
DOT–0585	43	<2	5.6	2500	11	22.9	12	59	2.6	1.86	2.0	<1	<4	10.50	<2	3800	180	130	0.8	4.5
DOT–0586	59	<2	5.2	1400	74	19.5	17	55	4.7	1.67	0.7	<1	<5	17.00	<2	3530	300	210	0.9	3.4

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0587	48	<2	6.5	2000	11	13.2	6	34	1.6	1.08	<0.5	<1	<3	9.15	<2	2840	160	73	0.6	2.6
DOT–0588	68	<2	4.6	1700	8	20.4	8	46	1.2	1.54	1.8	<1	<2	7.44	<2	4210	140	70	0.8	3.9
DOT–0589	39	<2	5.5	1600	34	15.1	11	73	1.0	1.91	1.5	<1	<2	11.00	<2	4710	270	68	0.8	4.5
DOT–0590	55	<2	4.1	1400	6	17.3	13	51	1.6	1.69	1.3	<1	<3	10.20	<2	3850	200	57	0.8	3.8
DOT–0591–1	26	<2	4.4	1400	18	14.0	7	40	5.1	1.26	1.6	<1	<2	10.90	<2	3520	140	200	4.2	3.5
DOT–0591–2	28	<2	5.4	1600	17	18.7	9	39	4.5	1.24	1.4	<1	<3	11.20	<2	3110	220	230	0.7	3.2
DOT–0591–3	58	<2	5.5	1200	25	17.7	11	47	4.3	1.62	1.9	<1	<4	9.64	<2	4230	150	200	2.4	4.3
DOT–0592–1	48	<2	4.8	1800	13	21.4	9	45	4.7	1.33	1.9	<1	<5	10.60	<2	3590	180	200	0.8	3.5
DOT–0592–2	30	<2	5.9	1600	10	16.4	14	62	7.1	2.03	1.6	<1	<5	10.50	<2	4690	240	250	1.0	4.5
DOT–0593–1	39	<2	4.6	3300	4	19.4	15	56	8.8	1.87	2.3	<1	<4	7.23	<2	4590	210	140	0.9	4.5
DOT–0593–2	41	<2	5.5	1500	29	12.4	11	54	11.0	1.58	0.7	<1	<5	15.10	<2	3750	230	390	1.1	3.8
DOT–0594–1	27	<2	6.4	1800	13	15.8	12	66	5.7	2.23	1.5	<1	<3	6.42	<2	4620	220	130	0.8	4.3
DOT–0594–2	22	<2	4.7	2900	10	18.5	10	38	5.7	1.28	1.8	<1	<2	8.98	<2	2890	150	140	0.8	3.2
DOT–0594–3	116	<2	5.8	2100	78	17.3	15	56	6.4	2.01	1.7	<1	<4	10.00	<2	4160	160	170	0.7	4.0
DOT–0595–1	51	<2	9.4	1700	41	11.9	22	120	4.0	4.68	2.6	<1	<4	5.56	<2	6510	190	92	0.9	5.9
DOT–0595–2	46	<2	6.6	2400	95	17.5	12	61	13.0	1.72	2.4	<1	<4	8.53	<2	4330	250	200	1.2	4.5
DOT–0596–1	15	<2	3.5	2600	7	17.7	8	38	0.8	1.17	1.5	<1	<2	12.20	<2	2580	150	91	0.7	2.8
DOT–0596–2	30	<2	7.1	2200	18	16.5	9	50	7.2	1.49	2.2	<1	<3	11.80	<2	3820	240	190	4.7	4.0
DOT–0599	28	<2	3.3	2000	19	22.2	11	52	7.4	1.34	2.0	<1	<3	5.35	3.0	3070	220	130	0.9	3.2
DOT–0601	54	<2	6.0	1300	8	18.4	24	110	3.3	5.19	1.9	<1	<3	7.18	<2	5790	280	110	2.5	5.5
DOT–0602	32	<2	4.2	610	24	23.2	12	68	1.4	2.26	1.4	<1	<2	8.78	<2	4160	270	78	0.6	4.1
DOT–0603	16	<2	2.9	1300	10	18.6	7	23	5.7	0.75	<0.5	<1	<2	11.90	2	1960	200	210	0.5	1.8
DOT–0604	16	<2	3.0	1300	4	16.6	10	42	4.5	1.49	1.7	<1	<2	7.69	<2	3670	190	120	0.8	3.5
DOT–0605	44	<2	3.5	1500	4	22.7	9	41	7.5	1.40	1.7	<1	<4	9.54	<2	3340	240	190	0.6	2.9
DOT–0606	50	<2	6.8	1800	4	16.9	19	110	6.1	4.23	2.2	<1	<5	7.41	<2	6510	400	160	0.7	6.6
DOT–0607	27	<2	5.5	750	35	20.2	15	75	1.0	2.46	1.9	<1	<5	9.54	<2	4630	330	68	0.8	5.0
DOT–0608	33	<2	4.9	640	7	16.7	9	43	1.5	1.34	1.2	<1	<3	10.80	<2	2830	200	100	2.0	2.8
DOT–0609	26	<2	5.0	790	68	18.8	11	56	2.5	1.81	1.7	<1	<3	8.43	<2	3980	300	100	0.7	3.7

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0610	29	<2	5.8	800	43	19.0	11	65	2.6	1.82	1.6	<1	<5	10.20	<2	4130	210	130	0.9	4.1
DOT–0611–1	33	<2	3.7	820	53	18.8	11	35	0.7	1.04	0.8	<1	<3	15.60	<2	4120	180	140	0.4	2.6
DOT–0611–2	24	<2	2.0	840	47	17.9	9	29	1.1	0.91	1.4	<1	<2	8.96	<2	2170	170	120	0.6	2.2
DOT–0612	84	<2	7.2	1700	11	14.0	10	41	4.2	1.14	2.1	<1	<3	11.00	<2	3050	130	150	0.7	3.1
DOT–0613	95	<2	3.5	1300	9	11.4	8	44	5.4	1.16	1.7	<1	<3	8.77	<2	2950	<50	150	0.6	3.1
DOT–0614	38	<2	4.4	2100	18	21.0	14	51	4.8	1.94	2.1	<1	<5	10.00	<2	4350	210	180	0.7	4.1
DOT–0615	46	<2	4.5	2000	22	14.1	20	76	8.6	2.77	1.8	<1	<5	9.08	<2	5320	330	190	0.7	4.9
DOT–0616	140	<2	7.5	1700	11	17.1	24	120	6.3	5.18	2.3	<1	<4	7.46	<2	6620	390	130	0.9	6.6
DOT–0617	21	<2	7.2	760	34	15.7	12	51	1.5	2.08	1.5	<1	<3	10.70	<2	4350	130	71	2.1	3.9
DOT–0618	22	<2	7.0	870	15	10.6	11	61	1.6	1.91	1.5	<1	<3	10.70	<2	4460	220	100	0.8	4.2
DOT–0619	23	<2	5.0	720	20	17.5	10	55	1.8	1.68	1.6	<1	<4	8.15	2	4010	250	100	0.8	3.5
DOT–0620	85	<2	3.7	900	88	22.5	11	42	2.6	1.53	1.3	<1	<4	8.66	<2	3950	220	60	0.4	3.7
DOT–0621	47	<2	6.5	1500	110	16.6	9	46	2.3	1.59	2.1	<1	<3	9.61	<2	4230	180	110	0.7	4.0
DOT–0622–1	97	<2	7.0	2200	21	16.4	14	65	2.4	1.65	2.0	<1	<4	11.70	<2	4180	100	110	0.9	4.7
DOT–0622–2	26	<2	5.4	2300	14	17.4	13	60	2.5	1.57	1.9	<1	<4	10.50	2	4090	190	120	0.8	4.3
DOT–0623	20	<2	3.0	2000	42	21.7	14	43	5.2	1.52	0.9	<1	<4	10.70	<2	4000	220	150	0.8	3.8
DOT–0624	37	<2	3.6	1800	6	16.4	13	48	5.4	1.70	2.1	<1	<4	8.07	2	4440	160	130	1.1	3.9
DOT–0625	100	<2	5.6	1500	10	13.4	13	68	6.3	2.84	1.9	<1	<3	7.56	<2	3980	310	170	1.2	4.2
DOT–0626	101	<2	6.8	720	15	11.9	11	64	1.3	2.08	1.7	<1	<3	10.70	<2	3810	280	72	0.9	3.9
DOT–0627	25	<2	5.3	570	94	17.4	16	57	3.5	1.61	1.1	<1	<4	13.90	<2	3830	330	91	0.7	3.8
DOT–0628	42	<2	2.6	620	10	14.1	10	54	1.4	1.65	1.5	<1	<3	11.90	<2	3890	200	96	0.8	3.6
DOT–0629	23	<2	4.4	570	35	15.7	10	46	1.7	1.69	1.5	<1	<4	11.70	<2	3560	190	130	0.5	3.7
DOT–0630–1	31	<2	2.0	1000	24	15.4	9	43	0.9	1.16	1.1	<1	<2	8.25	<2	2700	200	120	1.3	2.8
DOT–0630–2	29	<2	5.9	1300	18	21.0	11	57	2.0	1.78	1.3	<1	<5	11.10	<2	3780	230	140	0.9	3.8
DOT–0631	21	<2	2.9	1400	20	13.8	8	50	2.2	1.31	1.4	<1	<3	12.70	<2	3490	140	280	0.5	3.4
DOT–0632	98	<2	4.5	1500	51	16.3	13	54	2.5	1.52	2.0	<1	<4	16.60	<2	4330	390	250	0.7	4.4
DOT–0633	90	<2	4.9	1100	31	14.3	8	47	3.0	1.42	1.4	<1	<3	7.61	<2	3450	220	230	1.0	3.5
DOT–0634	16	<2	3.5	1400	14	18.7	10	37	2.1	1.03	1.2	<1	<4	18.10	<2	2720	140	330	0.4	2.6

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0635–1	28	<2	5.1	4200	5	17.2	18	44	5.4	1.56	2.8	<1	<5	10.30	<2	4940	140	190	0.9	4.0
DOT–0635–2	28	<2	5.4	3200	94	14.3	14	44	4.1	1.37	2.3	<1	<3	8.15	<2	3600	180	170	0.5	3.5
DOT–0636	108	<2	4.8	2200	17	18.2	17	56	4.9	1.79	1.9	<1	<4	11.90	<2	4570	250	180	0.7	4.4
DOT–0637	22	<2	3.8	1800	19	22.1	13	49	7.6	1.74	2.0	<1	<5	8.93	2	3920	230	140	0.7	3.7
DOT–0638	74	<2	6.0	1200	27	12.7	17	100	5.0	4.29	3.2	<1	<6	9.26	<2	8410	210	190	0.8	6.5
DOT–0639	45	<2	5.6	540	17	12.9	9	56	<0.5	1.81	1.8	<1	<3	12.50	<2	3900	160	77	0.9	3.7
DOT–0640	114	<2	6.1	870	11	15.5	10	58	1.2	2.00	1.8	<1	<2	11.90	<2	4500	180	78	1.0	4.0
DOT–0641	83	<2	3.6	1400	10	19.2	13	59	2.1	1.91	2.0	<1	<4	14.00	<2	4950	270	77	0.8	4.5
DOT–0642	59	<2	5.3	730	10	18.7	10	47	2.0	1.78	1.0	<1	<5	12.20	2	4560	230	140	0.9	4.2
DOT–0643	19	<2	4.6	1400	15	17.4	9	49	4.2	1.59	1.6	<1	<5	14.50	<2	4010	110	360	0.9	3.7
DOT–0644	14	<2	3.7	1600	59	17.6	12	29	3.9	1.08	1.3	<1	<3	15.00	<2	2960	190	220	0.7	2.8
DOT–0645	33	<2	3.7	2200	26	22.0	18	40	2.6	1.42	1.7	<1	<4	13.70	<2	3850	200	240	0.7	3.9
DOT–0646–1	53	<2	4.6	1700	37	19.4	11	46	4.0	1.26	1.0	<1	<5	11.90	<2	3090	240	220	0.6	2.8
DOT–0646–2	157	<2	4.0	2300	27	20.5	13	49	2.8	1.66	2.1	<1	<4	11.20	<2	4280	210	190	0.8	3.9
DOT–0647	25	<2	4.4	1700	18	15.2	8	34	2.9	0.93	1.0	<1	<3	11.20	<2	2210	180	220	0.6	2.2
DOT–0648	18	<2	2.0	1600	16	16.7	11	39	0.7	1.04	1.1	<1	<2	13.10	<2	2030	120	130	0.5	2.5
DOT–0649	32	<2	4.2	2200	5	21.4	10	50	5.3	1.36	2.1	<1	<3	7.70	<2	3940	190	150	0.8	3.5
DOT–0650–1	33	<2	7.4	2200	10	16.4	10	45	6.3	1.54	1.3	<1	<3	8.88	<2	3480	120	170	1.4	3.3
DOT–0650–2	19	<2	4.6	2100	7	18.3	13	54	4.9	1.62	2.8	<1	<5	8.12	4	4080	160	150	0.6	4.4
DOT–0651	21	<2	4.6	2500	4	16.2	17	67	5.4	2.51	3.1	<1	<5	7.96	<2	5890	260	120	0.5	4.9
DOT–0652	112	<2	8.4	1700	8	13.3	24	120	2.8	4.81	3.1	<1	<4	9.86	<2	8890	460	140	0.7	7.3
DOT–0653	27	<2	3.5	830	8	17.7	10	55	2.0	1.85	1.2	<1	<5	10.60	2	4770	300	140	0.9	4.1
DOT–0654	72	<2	4.5	1800	16	22.9	9	50	2.0	1.39	1.0	<1	<4	12.20	<2	3260	140	81	0.9	3.3
DOT–0655	14	<2	2.8	720	5	20.3	9	46	2.0	1.61	1.5	<1	<3	9.52	<2	4350	110	92	0.9	4.0
DOT–0656	89	<2	3.9	790	28	14.3	10	54	3.2	1.62	1.8	<1	<5	11.20	<2	3820	170	88	0.8	3.8
DOT–0657	28	<2	3.6	1400	51	18.2	13	33	2.6	1.12	1.5	<1	<5	14.90	<2	3460	170	100	0.8	3.2
DOT–0658	33	<2	4.0	1100	4	18.9	9	46	1.2	1.65	1.4	<1	<3	11.50	3	4640	140	87	1.2	4.3
DOT–0659	17	<2	2.9	1600	35	21.8	9	45	2.1	1.34	1.6	<1	<4	12.60	<2	3270	110	180	2.9	3.6

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0660–1	25	<2	5.2	1100	10	16.2	8	34	3.5	1.10	1.5	<1	<3	12.20	2	2890	200	190	0.8	3.1
DOT–0660–2	15	<2	4.2	1100	9	15.9	7	34	3.0	1.03	1.1	<1	<3	9.09	<2	2610	190	180	1.9	2.4
DOT–0661	25	<2	5.1	1500	10	15.6	6	43	4.0	1.26	1.3	<1	<4	14.70	<2	3480	110	360	0.8	3.0
DOT–0662	22	<2	3.5	1400	6	16.9	11	42	3.6	1.36	1.4	<1	<4	12.50	2	3730	290	160	0.7	3.0
DOT–0663	140	<2	3.4	2400	18	17.5	13	37	3.6	0.94	1.5	<1	<3	19.70	<2	2050	210	280	0.5	2.4
DOT–0664	160	<2	4.9	1400	11	13.9	10	35	3.0	1.18	1.4	<1	<3	10.70	<2	2790	110	180	0.5	2.9
DOT–0665–1	21	<2	4.9	850	35	16.1	8	48	2.0	1.46	1.6	<1	<3	8.07	2	3550	190	81	0.8	3.6
DOT–0665–2	22	<2	1.7	1700	9	15.5	10	36	1.4	1.04	1.5	<1	<2	12.00	<2	2740	100	75	0.5	2.9
DOT–0666	23	<2	4.9	1800	20	17.8	12	39	2.8	1.78	1.8	<1	<5	10.90	<2	4330	250	250	1.0	4.1
DOT–0667–1	27	<2	8.4	980	160	13.9	11	57	2.6	1.95	2.1	<1	<3	10.80	<2	4710	150	180	1.0	4.2
DOT–0667–2	31	<2	5.2	970	7	18.6	12	69	2.7	2.22	2.7	<1	<4	11.70	2	6050	320	220	1.1	5.3
DOT–0668	53	<2	5.1	1700	7	16.5	15	71	7.2	2.42	1.8	<1	<5	10.60	<2	4720	270	260	0.8	4.3
DOT–0669	27	<2	6.2	1900	17	17.9	18	97	5.4	3.89	2.1	<1	<6	12.10	4	5470	460	170	0.7	5.3
DOT–0670	55	<2	4.6	1200	46	16.8	13	59	2.2	1.99	2.1	<1	<4	11.40	<2	4910	220	130	0.8	4.5
DOT–0671	22	<2	5.1	1500	33	17.2	9	46	3.7	1.74	2.1	<1	<4	9.62	<2	4730	120	85	0.5	4.1
DOT–0672	19	<2	3.0	1600	61	12.9	7	50	1.8	1.46	2.1	<1	<3	9.73	<2	3480	83	66	0.8	3.6
DOT–0673	71	<2	4.5	860	34	18.0	10	41	1.1	1.46	1.9	<1	<4	14.10	<2	4100	150	130	0.8	3.8
DOT–0674	44	<2	5.6	1700	32	20.9	12	53	2.0	1.58	1.9	<1	<4	13.30	<2	4550	110	120	1.3	4.1
DOT–0675	29	<2	4.8	990	23	15.4	11	45	1.3	1.56	2.2	<1	<5	13.20	<2	4100	250	98	0.7	4.2
DOT–0676	32	<2	4.8	1600	10	18.3	8	37	2.7	1.21	1.3	<1	<2	9.13	<2	2950	140	160	0.8	2.9
DOT–0677–1	39	<2	4.3	2200	18	17.0	12	49	4.0	1.44	1.2	<1	<5	13.40	<2	3970	360	250	0.8	3.6
DOT–0677–2	41	<2	4.7	1600	44	14.4	12	61	3.2	1.54	1.2	<1	<2	15.10	<2	4040	340	280	1.0	3.9
DOT–0678	20	<2	3.8	1400	26	14.0	10	42	3.6	1.40	2.1	<1	<3	14.80	<2	3690	170	320	0.8	3.5
DOT–0679	54	<2	5.9	2600	130	15.4	12	44	2.8	1.41	2.2	<1	<3	12.40	<2	3520	230	130	0.7	3.5
DOT–0680	23	6	4.1	1700	9	14.8	8	37	2.5	1.04	1.6	<1	<2	7.29	<2	2630	120	140	0.7	2.9
DOT–0681	83	<2	4.3	1900	9	17.6	10	60	1.9	2.04	2.0	<1	<4	9.65	2	4890	250	65	1.3	4.6
DOT–0682	35	<2	3.7	1500	4	21.1	8	44	1.0	1.48	1.4	<1	<4	9.60	<2	3960	200	88	0.7	3.6
DOT–0683	28	<2	5.1	2700	18	22.2	11	52	2.3	1.65	2.4	<1	<4	10.40	<2	4550	220	87	0.8	4.5

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0684	101	<2	4.9	1700	12	21.1	9	45	3.0	1.41	<0.5	<1	<4	11.60	<2	3840	310	290	0.9	3.7
DOT–0685	44	<2	4.3	2000	11	15.9	14	50	3.9	1.54	2.5	<1	<5	13.10	2	4890	260	490	5.1	3.8
DOT–0686–1	20	<2	3.2	1400	16	17.9	10	38	7.4	1.28	1.0	<1	<4	11.20	<2	3720	170	270	0.7	3.0
DOT–0686–2	32	<2	3.9	900	7	18.5	7	40	3.7	1.35	1.8	<1	<4	12.90	4	3910	250	260	0.5	3.3
DOT–0687	88	<2	4.0	2100	16	15.9	11	46	5.1	1.45	1.6	<1	<3	10.70	<2	3930	170	190	1.4	3.3
DOT–0688	71	<2	6.0	1900	22	18.3	18	64	7.0	2.62	2.6	<1	<4	9.16	<2	5560	240	210	0.9	5.5
DOT–0689–1	58	<2	5.7	740	6	14.8	18	120	2.8	4.91	2.6	<1	<4	9.36	<2	7650	360	170	1.5	6.6
DOT–0689–2	24	<2	3.8	1800	36	21.0	14	58	5.1	1.38	2.2	<1	<4	12.90	3	4340	210	230	0.7	3.6
DOT–0690–1	30	<2	5.5	1100	22	13.4	11	54	3.8	1.91	1.5	<1	<4	11.30	<2	3710	170	190	0.6	3.5
DOT–0690–2	19	<2	6.6	1200	21	17.9	12	57	3.3	1.96	1.7	<1	<4	12.90	<2	3670	190	180	0.7	3.5
DOT–0691	138	<2	5.6	1300	39	15.3	11	49	1.0	1.63	1.7	<1	<3	11.50	<2	4880	170	110	0.9	3.8
DOT–0692	21	<2	4.2	720	30	13.0	9	43	1.7	1.27	1.6	<1	<3	16.90	<2	3040	210	93	0.8	3.2
DOT–0693	17	<2	5.2	940	9	13.9	7	37	1.2	1.28	1.6	<1	<3	8.14	<2	3450	160	67	0.9	3.3
DOT–0694	23	<2	4.5	1500	14	17.0	13	46	2.6	1.14	1.1	<1	<3	12.10	<2	3230	180	130	3.9	3.0
DOT–0695	35	<2	5.1	2100	25	18.0	12	47	1.6	1.50	1.4	<1	<3	12.00	<2	4650	160	66	0.7	3.9
DOT–0696	22	<2	5.8	2500	20	16.9	11	44	2.2	1.39	1.2	<1	<5	12.30	<2	4520	210	110	0.7	3.7
DOT–0697	46	<2	5.4	2200	6	18.1	8	40	1.8	1.30	1.9	<1	<3	11.10	<2	3330	130	60	0.7	3.4
DOT–0699	16	<2	2.8	1100	21	12.9	8	37	2.4	1.21	1.3	<1	<3	14.40	<2	2930	170	150	4.3	3.1
DOT–0700–1	39	<2	5.2	1300	13	15.5	7	37	3.9	1.07	1.2	<1	<3	14.60	<2	2940	200	280	0.7	2.7
DOT–0700–2	26	<2	5.6	1700	10	11.8	8	41	4.1	1.24	1.6	<1	<4	14.60	<2	3650	170	280	0.6	3.2
DOT–0701	23	<2	5.7	1900	18	18.8	8	48	3.7	1.50	1.6	<1	<3	11.00	<2	3590	210	190	0.8	3.6
DOT–0702	55	<2	4.9	1700	24	16.4	10	47	4.6	1.62	1.2	<1	<5	10.10	<2	5010	190	220	0.6	4.0
DOT–0703	38	<2	7.7	1800	12	17.8	7	40	6.0	1.17	1.6	<1	<4	9.60	<2	3050	160	180	0.7	3.0
DOT–0704	24	<2	8.3	880	5	11.8	9	50	1.5	1.70	2.1	<1	<4	9.67	3	4270	230	150	1.2	3.9
DOT–0705	35	<2	6.3	2000	94	16.2	9	44	4.7	1.12	1.6	<1	<3	11.40	<2	3080	130	190	2.3	3.1
DOT–0706	27	<2	5.5	1400	66	17.1	9	39	5.8	1.45	1.2	<1	<3	8.10	<2	3200	180	210	0.6	3.0
DOT–0707	20	<2	6.3	1500	<1	10.4	13	80	5.4	2.62	2.6	<1	<3	10.60	<2	5660	200	190	1.0	5.0
DOT–0708	26	<2	4.4	1200	9	15.5	17	60	4.3	2.73	2.1	<1	<5	12.80	2	5610	340	190	0.7	4.5

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0709	69	<2	2.3	1500	11	17.8	9	34	1.8	1.32	1.3	<1	<3	10.90	<2	3120	130	120	0.6	2.6
DOT–0710–1	39	<2	4.6	980	19	16.2	8	42	2.1	1.55	2.0	<1	<3	9.68	<2	4090	160	140	0.7	3.7
DOT–0710–2	17	<2	6.5	1900	6	17.5	7	41	8.0	1.11	1.6	<1	<4	10.40	<2	3190	50	260	0.8	3.1
DOT–0711	28	<2	4.0	900	10	24.1	9	49	1.5	1.59	1.1	<1	<4	9.99	<2	4090	280	120	1.0	3.8
DOT–0712	130	<2	3.5	650	18	14.9	9	36	1.8	1.29	1.2	<1	<2	11.20	<2	3990	150	120	0.8	3.1
DOT–0713	39	<2	4.4	1200	32	21.3	11	48	2.5	1.43	2.1	<1	<5	12.40	<2	4150	250	79	0.7	3.8
DOT–0714	15	<2	5.2	800	12	22.0	10	36	1.5	1.22	1.5	<1	<3	11.60	<2	3120	150	110	0.6	3.0
DOT–0715	29	<2	7.1	700	34	14.0	8	44	2.8	1.37	1.6	<1	<3	8.74	<2	3770	290	150	2.7	3.6
DOT–0716	110	<2	4.4	2600	18	15.9	10	38	1.6	1.23	2.0	<1	<3	11.00	<2	3530	71	85	0.7	3.1
DOT–0717	20	<2	6.0	2500	6	17.6	8	37	1.5	1.36	1.7	<1	11	12.20	4	3350	87	68	0.6	3.5
DOT–0718	135	<2	5.7	3400	17	19.9	8	43	1.5	1.32	1.8	<1	<3	12.30	<2	4090	180	110	0.8	3.1
DOT–0719	17	<2	4.9	1200	11	17.3	10	48	3.0	1.48	1.7	<1	<4	12.70	<2	4220	220	170	0.7	3.8
DOT–0720–1	28	7	4.4	1700	33	17.2	8	44	7.5	1.32	1.7	<1	<4	14.80	<2	3710	280	370	1.2	3.4
DOT–0720–2	14	<2	2.2	1500	19	20.9	8	39	6.7	1.13	1.8	<1	<5	14.40	<2	3100	230	350	0.6	2.9
DOT–0721	32	<2	6.8	1400	62	14.6	8	35	6.9	1.16	1.2	<1	<3	15.20	<2	3080	230	340	0.9	2.8
DOT–0722	34	<2	4.6	1800	8	17.8	12	56	10.0	1.84	2.7	<1	<5	11.00	<2	4980	240	290	1.1	4.7
DOT–0723	23	<2	3.7	1000	64	13.5	9	52	3.1	1.49	0.7	<1	<4	23.10	<2	3600	540	370	0.8	2.9
DOT–0724	88	<2	5.3	1000	17	11.0	15	62	4.0	2.54	1.8	<1	<3	13.20	<2	6650	250	290	1.4	4.7
DOT–0725	27	<2	6.0	1800	22	14.1	21	63	2.4	2.57	1.7	<1	<5	13.80	<2	5670	180	170	0.8	4.8
DOT–0726	14	<2	3.3	2100	30	14.4	11	30	2.8	1.14	1.1	<1	<2	20.80	<2	2410	180	360	1.9	2.5
DOT–0727	44	<2	4.3	2700	22	17.4	13	53	3.5	1.72	1.0	<1	<4	18.30	<2	4370	260	250	0.6	4.0
DOT–0728	38	<2	4.7	1400	10	15.1	11	56	4.0	1.75	1.4	<1	<5	15.60	<2	4780	170	310	2.4	4.3
DOT–0729	14	<2	5.5	1200	91	17.9	12	46	3.7	1.11	<0.5	<1	<4	12.20	3.0	2800	340	250	0.7	2.9
DOT–0730–1	15	<2	3.2	1900	7	18.3	10	37	2.1	1.31	1.6	<1	<4	11.70	<2	4180	120	140	0.6	3.2
DOT–0730–2	24	<2	4.0	2000	10	17.4	9	47	2.0	1.57	1.6	<1	<4	12.80	<2	3900	210	200	0.6	3.5
DOT–0731	28	<2	5.7	1600	87	20.7	17	58	2.7	1.43	1.7	<1	<4	14.90	<2	3670	260	230	0.7	3.6
DOT–0732	52	<2	2.9	1800	25	16.8	10	40	2.8	1.05	1.0	<1	<5	14.50	3	3620	260	290	0.5	2.8
DOT–0733	56	<2	5.6	2600	21	14.7	10	39	1.7	1.37	2.0	<1	<3	11.90	<2	3600	110	200	0.8	3.5

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0734	15	3	4.6	2100	11	14.8	11	23	2.9	0.65	0.8	<1	<2	15.20	<2	2020	140	220	0.5	1.7
DOT–0735	30	<2	3.7	3400	9	19.2	6	41	<0.5	0.94	1.5	<1	<3	11.90	<2	2640	130	95	0.6	2.5
DOT–0736	12	<2	4.3	2400	24	17.8	7	28	1.4	0.90	0.9	<1	<2	19.80	<2	2220	190	110	0.7	2.0
DOT–0737	137	<2	3.3	1600	7	19.0	10	37	5.5	1.15	1.4	<1	<4	9.90	<2	3550	320	180	0.7	3.3
DOT–0738	11	<2	5.2	1100	13	13.7	10	43	2.8	1.70	1.7	<1	<3	12.00	<2	3820	160	230	0.5	3.2
DOT–0739	78	<2	5.5	1200	39	15.4	9	36	5.3	1.29	1.1	<1	<4	12.30	<2	3550	81	370	5.9	2.9
DOT–0740–1	22	8	1.5	1700	64	12.9	9	46	4.5	1.53	1.4	<1	<3	12.90	<2	3970	230	420	0.9	3.5
DOT–0740–2	31	<2	6.0	1600	10	16.7	9	43	3.6	1.51	1.4	<1	<2	11.50	<2	3770	160	410	0.8	3.6
DOT–0741	38	<2	4.4	1900	29	17.1	10	56	4.9	1.48	1.6	<1	<3	15.30	<2	3790	140	230	0.9	3.7
DOT–0742	28	<2	4.7	2100	5	17.5	19	40	5.0	1.16	1.6	<1	<3	8.26	<2	3500	180	190	0.7	3.2
DOT–0743	43	<2	3.4	1600	26	17.7	12	33	2.3	1.08	1.1	<1	<4	12.40	<2	3790	200	290	1.9	2.9
DOT–0744	23	<2	4.5	1100	81	19.0	11	30	3.0	0.95	1.1	<1	<5	16.30	<2	3400	100	280	0.8	2.7
DOT–0745	14	<2	4.3	1200	15	16.8	10	29	3.8	0.85	1.4	<1	<3	14.10	<2	2670	210	290	0.7	2.4
DOT–0746	22	<2	3.0	3000	12	12.7	11	39	2.8	1.11	1.6	<1	<3	11.40	<2	3310	180	210	1.0	3.1
DOT–0747	45	<2	3.7	1800	35	16.5	11	39	2.0	1.21	1.5	<1	<4	13.00	<2	4050	250	160	0.7	3.3
DOT–0748	56	<2	5.0	1600	20	13.6	13	36	1.6	1.36	2.1	<1	<2	19.00	<2	3660	200	280	0.6	2.8
DOT–0749	17	<2	4.3	1700	38	13.9	10	31	2.2	0.91	1.6	<1	<3	20.90	<2	2790	230	300	0.6	2.3
DOT–0750	33	<2	3.3	1400	40	19.8	13	28	5.9	1.01	1.3	<1	<3	15.20	<2	3250	260	450	0.7	2.5
DOT–0751	27	<2	3.5	1700	14	15.5	10	38	7.2	1.27	1.3	<1	<4	13.60	<2	3500	340	450	1.2	3.3
DOT–0752	15	<2	3.7	2000	41	11.0	15	41	0.5	1.15	1.2	<1	<3	13.60	<2	3000	230	190	0.6	2.7
DOT–0753–1	35	<2	3.4	3300	43	17.4	33	42	2.8	1.03	1.6	<1	<5	18.80	<2	3000	410	500	1.2	2.4
DOT–0753–2	15	<2	2.3	3300	45	16.6	30	26	2.9	0.85	1.2	<1	<5	13.90	<2	2380	310	370	0.4	2.2
DOT–0754	15	<2	1.2	1900	10	15.5	14	25	3.8	0.73	<0.5	<1	<3	7.50	<2	2420	83	430	0.6	2.0
DOT–0755	38	<2	6.4	960	7	16.1	7	25	1.5	0.86	0.8	<1	<3	12.20	<2	2380	89	140	0.4	2.2
DOT–0756	37	<2	3.3	900	80	20.7	8	32	0.7	0.99	0.7	<1	<4	15.20	<2	2890	270	110	0.7	2.5
DOT–0757	34	<2	4.5	800	22	13.2	12	51	1.7	1.96	1.8	<1	<3	13.00	<2	5000	280	180	0.7	4.0
DOT–0758	18	<2	3.2	1000	34	17.2	9	43	3.5	1.44	2.0	<1	<3	12.00	<2	4050	210	6	1.0	3.5
DOT–0759	100	<2	5.1	3600	44	15.5	10	37	1.4	1.15	1.7	<1	<4	18.80	<2	2640	220	240	0.9	2.6

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0760–1	89	<2	5.5	2500	120	19.3	8	36	2.5	0.97	<0.5	<1	<3	10.90	<2	2480	240	230	1.1	2.4
DOT–0760–2	95	<2	7.0	2000	63	14.6	9	39	2.5	1.32	1.7	<1	<3	13.90	<2	3260	100	220	1.0	3.0
DOT–0761	135	<2	5.6	1400	39	15.2	10	37	4.7	1.20	1.5	<1	<4	15.30	<2	3390	100	270	0.9	2.9
DOT–0762	105	<2	4.5	960	30	12.8	7	46	<0.5	1.05	<0.5	<1	<3	11.70	<2	11500	70	130	0.7	2.8
DOT–0763	115	<2	5.2	810	38	18.7	8	46	2.6	1.24	<0.5	<1	<2	13.30	<2	3370	120	160	0.7	3.1
DOT–0764	150	<2	5.4	590	47	12.8	9	40	2.6	1.14	<0.5	<1	<3	15.20	<2	3330	220	170	0.6	2.8
DOT–0765	82	<2	5.1	770	39	18.6	7	36	1.7	1.04	1.3	<1	<3	12.10	<2	2640	210	150	0.8	2.3
DOT–0766	61	<2	4.5	3200	17	17.8	13	45	10.0	1.57	1.1	<1	<4	8.00	<2	4080	250	190	2.2	4.1
DOT–0767	39	<2	5.7	2200	44	15.0	12	49	4.6	1.42	1.6	<1	<3	13.40	<2	3360	160	170	0.9	3.4
DOT–0768	28	<2	4.3	2300	36	16.5	15	43	2.1	1.39	2.0	<1	<3	15.60	<2	3780	300	190	0.8	3.7
DOT–0769–1	21	<2	4.6	1900	6	13.9	9	35	1.9	0.98	1.1	<1	<2	13.70	2	2550	99	210	0.6	2.6
DOT–0769–2	14	<2	3.4	1600	17	19.7	9	38	2.0	1.08	1.3	<1	<5	14.50	<2	3140	280	240	0.5	2.8
DOT–0770	114	<2	3.6	1700	6	18.9	10	55	2.0	1.60	1.6	<1	<4	12.00	<2	4670	190	110	0.8	4.2
DOT–0771	26	<2	3.9	1100	23	20.8	9	45	1.8	1.43	1.5	<1	<3	11.00	<2	3720	160	76	1.0	3.8
DOT–0772	27	<2	4.8	1400	24	18.2	10	46	3.8	1.41	1.3	<1	<5	12.20	2	3970	150	240	0.9	3.6
DOT–0773	39	<2	3.1	2200	15	24.1	10	41	7.2	1.06	1.0	<1	<4	9.44	<2	2920	170	180	4.2	3.0
DOT–0774	33	<2	4.8	2000	48	19.8	12	50	5.1	1.35	1.7	<1	<2	11.10	<2	3400	200	200	0.8	3.4
DOT–0775	20	<2	3.3	1700	10	18.9	8	38	4.1	1.16	1.4	<1	<2	10.70	<2	3310	190	190	0.6	3.2
DOT–0776	100	<2	5.6	1700	44	19.1	8	43	6.3	1.19	1.7	<1	<3	10.10	<2	2930	130	190	0.9	2.9
DOT–0778	34	<2	3.1	1100	12	15.4	6	43	1.0	1.18	1.8	<1	<2	14.90	<2	3310	120	120	0.6	3.0
DOT–0779	50	<2	4.2	1400	98	14.3	19	57	3.0	1.63	1.6	<1	<4	13.60	<2	3790	310	110	1.2	3.9
DOT–0780	29	<2	4.7	1300	44	17.3	10	49	1.8	1.24	1.0	<1	<4	14.30	<2	3370	250	190	0.9	3.2
DOT–0781	157	<2	3.4	1700	31	21.0	10	52	5.6	1.57	1.5	<1	<3	7.74	7.7	4010	300	180	1.1	4.0
DOT–0782	28	<2	5.5	1400	15	21.2	8	69	7.0	1.75	2.3	<1	<4	11.60	<2	4020	310	180	1.1	4.5
DOT–0783–1	28	<2	4.9	1400	23	21.3	8	55	1.6	1.44	2.1	<1	<3	11.40	<2	3600	160	63	0.5	3.6
DOT–0783–2	36	<2	3.7	1400	5	21.1	10	54	2.3	1.66	2.3	<1	<4	9.69	<2	4480	190	55	0.8	4.3
DOT–0785	20	<2	5.0	2400	27	21.3	10	56	1.5	1.39	2.1	<1	<4	12.90	<2	4130	100	120	0.7	4.1
DOT–0786	80	<2	5.2	2100	12	19.1	9	64	3.3	1.54	2.2	<1	<4	9.20	<2	4390	190	100	0.9	4.6

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0787	18	<2	3.6	2200	90	20.4	11	54	1.5	1.32	2.6	<1	<4	18.30	<2	3750	160	110	0.6	3.6
DOT–0788	30	<2	3.9	1100	21	18.1	12	51	2.5	1.43	1.0	<1	<4	10.80	<2	3350	150	180	2.6	3.6
DOT–0789	20	<2	7.2	940	18	14.6	6	43	2.7	1.41	1.7	<1	<3	11.60	<2	3340	200	150	0.8	3.5
DOT–0790	19	<2	5.0	2400	7	16.9	8	42	5.8	1.06	1.4	<1	<3	13.70	<2	2800	150	220	0.6	3.0
DOT–0791	29	<2	3.8	2200	62	19.3	11	47	5.0	1.51	1.0	<1	<5	12.20	2	3740	340	210	1.0	3.6
DOT–0792	27	<2	4.3	870	37	14.9	11	47	7.0	1.37	1.7	<1	<5	16.00	2	3760	340	280	0.8	3.6
DOT–0793–1	24	<2	4.3	1400	69	19.5	11	35	5.3	1.28	1.1	<1	<5	18.00	<2	3510	300	260	0.7	3.0
DOT–0793–2	54	<2	3.0	1400	17	14.9	6	43	4.3	1.09	1.0	<1	<4	14.20	<2	3210	310	230	0.9	3.0
DOT–0794	49	<2	3.6	1500	94	18.6	11	49	7.3	1.30	1.1	<1	<4	12.70	<2	3700	370	250	0.7	3.8
DOT–0795	162	<2	5.0	1600	18	18.2	9	34	5.8	1.35	1.7	<1	<3	13.80	<2	3500	170	240	0.8	3.4
DOT–0796	140	<2	5.0	1900	18	22.7	10	69	2.3	1.89	2.8	<1	<4	14.90	<2	4220	260	140	0.6	4.3
DOT–0797	24	<2	4.2	1700	36	19.7	9	53	1.7	1.32	1.9	<1	<3	13.40	<2	3780	170	100	0.6	3.6
DOT–0798	50	<2	3.5	1300	12	21.0	10	54	1.9	1.42	1.0	<1	<4	16.70	<2	3730	230	150	0.8	3.4
DOT–0799	22	<2	3.2	1300	5	17.3	8	33	6.2	1.09	0.9	<1	<3	10.80	<2	2580	170	220	0.7	2.5
DOT–0800–1	20	<2	3.0	980	41	16.3	8	43	2.0	1.16	0.9	<1	<5	14.60	<2	2810	250	100	0.8	3.0
DOT–0800–2	9	<2	3.5	1600	82	18.0	8	23	4.7	0.65	<0.5	<1	<3	10.70	<2	2630	50	180	0.7	2.2
DOT–0801	43	<2	5.4	1400	35	14.9	11	35	<0.5	1.27	0.6	<1	<5	12.50	<2	3330	280	110	0.8	3.6
DOT–0802	38	<2	3.2	860	19	17.8	9	52	1.3	1.39	1.2	<1	<3	15.00	<2	3620	200	200	0.4	3.6
DOT–0803	20	<2	5.3	890	13	18.7	8	47	1.1	1.20	1.3	<1	<2	14.90	<2	3130	220	150	1.7	3.2
DOT–0804	29	<2	4.0	1300	22	18.5	7	55	3.8	1.49	1.9	<1	<5	12.40	<2	3720	360	160	0.7	3.6
DOT–0805	17	<2	3.3	1600	5	18.1	7	35	3.1	1.08	1.5	<1	<3	13.10	<2	2660	240	270	0.5	2.7
DOT–0806	52	<2	3.8	1500	6	21.2	9	43	4.7	1.22	1.7	<1	<5	12.00	2	4310	200	200	0.7	3.4
DOT–0807	22	<2	3.5	1900	11	22.0	9	50	5.6	1.41	1.3	<1	<5	13.20	<2	3640	260	280	1.9	3.6
DOT–0808	72	<2	3.3	1600	6	19.1	8	41	5.1	1.24	1.3	<1	<3	11.30	<2	3420	180	210	2.1	3.0
DOT–0809–1	15	<2	3.9	2200	5	18.5	9	31	4.7	0.82	1.3	<1	<3	11.10	<2	2020	210	240	5.2	2.2
DOT–0809–2	16	<2	4.2	1700	4	19.2	10	27	2.8	0.78	0.8	<1	<3	9.57	<2	2070	150	150	0.9	2.1
DOT–0810	26	<2	4.6	1800	33	15.1	12	47	2.1	1.45	1.3	<1	<5	13.10	<2	3920	100	140	7.1	3.6
DOT–0811	30	<2	5.5	1200	9	19.4	13	61	2.4	1.83	2.5	<1	<5	12.70	<2	5480	240	160	2.0	4.7

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0812	53	<2	6.3	1300	18	18.7	11	55	2.6	1.56	1.3	<1	<4	12.90	<2	3950	270	180	0.7	4.0
DOT–0813	39	<2	3.8	1800	18	19.7	12	63	2.3	1.74	1.7	<1	<3	11.10	<2	3760	350	86	3.0	3.9
DOT–0814	47	<2	4.7	1200	18	18.5	7	37	2.0	1.32	1.6	<1	<5	13.60	<2	3450	250	100	0.7	3.3
DOT–0815	38	<2	5.0	1200	10	15.7	11	67	4.5	1.76	1.0	<1	<5	12.40	<2	4980	200	170	6.5	4.5
DOT–0816	16	<2	4.1	1400	14	18.4	8	40	4.2	1.24	1.2	<1	<2	14.00	<2	3170	140	210	0.8	3.3
DOT–0817	60	<2	5.7	1600	7	19.4	10	55	4.4	1.66	1.5	<1	<5	11.50	<2	4950	200	190	0.9	4.5
DOT–0818	22	<2	3.8	1200	18	15.4	7	41	6.2	1.16	1.2	<1	<2	8.20	8	2730	250	240	0.8	3.0
DOT–0819–1	19	<2	4.2	1600	12	21.0	8	35	2.2	1.09	1.3	<1	<2	12.00	<2	2860	140	230	1.4	2.7
DOT–0819–2	22	<2	4.7	1600	46	24.0	8	42	2.4	1.09	1.3	<1	<4	12.50	<2	2780	280	210	0.6	2.7
DOT–0820	47	<2	3.5	1500	11	16.6	7	33	4.6	1.05	1.0	<1	<3	11.00	<2	2960	170	150	0.9	3.0
DOT–0821	144	<2	6.4	960	33	14.7	10	71	2.4	1.97	1.7	<1	<4	12.10	<2	4900	230	140	0.7	4.0
DOT–0822	23	<2	4.5	880	13	18.7	10	50	2.6	1.51	1.6	<1	<4	11.70	<2	4100	150	89	0.6	3.8
DOT–0823	41	<2	4.7	990	19	14.3	8	45	2.3	1.59	1.8	<1	<5	13.00	<2	4040	170	150	0.7	4.0
DOT–0824	31	<2	4.0	1300	12	17.0	10	35	4.0	1.13	<0.5	<1	<4	15.10	<2	3370	250	270	0.6	2.8
DOT–0825	48	<2	8.6	920	17	20.1	7	37	4.0	1.17	0.8	<1	<3	14.20	<2	2840	230	200	0.6	3.1
DOT–0826	13	<2	2.6	1200	6	12.6	9	35	2.3	1.12	1.3	<1	<3	9.68	<2	3120	110	140	0.5	3.0
DOT–0827	35	<2	4.2	1200	20	19.1	9	46	3.2	1.28	1.7	<1	<4	14.50	<2	3280	250	210	0.8	3.2
DOT–0828	24	<2	4.4	1500	12	20.5	7	45	1.6	1.47	1.9	<1	<3	14.30	<2	3730	150	110	0.9	3.5
DOT–0829	42	3	7.9	1300	76	15.6	8	54	4.4	1.43	1.2	<1	<3	20.60	<2	3100	230	300	1.0	3.3
DOT–0830–1	29	<2	4.1	2000	57	13.8	10	37	4.5	1.30	1.2	<1	<5	15.00	<2	3500	150	300	1.0	3.4
DOT–0830–2	23	<2	4.1	2000	58	16.9	9	44	5.0	1.18	1.6	<1	<4	14.90	<2	2960	350	270	0.7	3.1
DOT–0831	106	<2	4.5	2400	11	19.7	11	47	3.3	1.72	2.6	<1	<4	13.10	<2	4150	390	220	2.8	4.3
DOT–0832	16	<2	5.0	2100	25	16.9	7	42	8.8	1.12	1.7	<1	<2	14.80	3	3160	140	310	4.2	3.1
DOT–0833	62	<2	3.8	1500	26	18.8	9	51	3.2	1.56	2.2	<1	<3	11.40	<2	4100	200	180	1.0	4.1
DOT–0834	54	<2	3.2	1500	15	19.3	9	53	2.8	1.46	1.6	<1	<5	14.40	<2	3680	250	220	0.8	3.6
DOT–0835	23	<2	3.9	960	7	16.3	8	49	1.6	1.26	1.2	<1	<3	10.80	<2	3300	170	140	0.9	3.3
DOT–0836	20	<2	5.5	630	6	14.7	9	55	3.0	2.12	1.5	<1	<3	11.90	3	3620	320	140	0.8	3.6
DOT–0837	44	<2	3.8	950	46	13.4	10	58	2.7	1.96	0.8	<1	<5	11.00	<2	4520	300	150	0.6	4.3

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0838	19	<2	4.1	760	10	18.7	9	59	2.7	1.64	1.2	<1	<4	12.20	3	3360	380	120	1.1	3.3
DOT–0839–1	32	<2	4.1	1700	29	17.5	10	53	6.1	1.69	1.9	<1	<4	10.60	<2	4020	270	190	0.8	4.0
DOT–0839–2	23	<2	3.5	1800	29	18.8	14	63	4.7	2.00	1.9	<1	<5	11.10	<2	4940	370	200	0.8	4.6
DOT–0840	169	<2	3.5	1700	19	18.7	10	37	2.9	1.34	1.9	<1	<2	12.60	<2	4260	200	180	0.6	2.9
DOT–0841	48	<2	4.8	1600	50	18.8	13	66	5.8	1.91	2.8	<1	<4	14.10	<2	4620	350	220	1.2	4.8
DOT–0842	58	<2	7.8	2300	9	17.5	12	55	10.0	1.60	1.8	<1	<3	8.38	<2	3880	250	220	1.3	3.8
DOT–0843	19	<2	4.4	1400	6	17.6	10	43	1.6	1.40	1.4	<1	<3	11.60	<2	3230	180	180	0.7	3.3
DOT–0844	28	<2	3.0	950	17	16.0	7	46	2.2	1.35	1.3	<1	<2	10.90	<2	3420	140	100	0.8	3.4
DOT–0845	212	<2	4.7	1100	7	14.8	8	44	1.8	1.61	1.3	<1	<5	10.20	<2	4430	240	120	0.8	3.9
DOT–0846	20	<2	3.7	1100	21	18.4	6	30	3.1	1.15	0.7	<1	<4	14.90	3	2830	200	190	0.6	2.8
DOT–0847	13	<2	4.8	1500	14	17.8	6	26	3.6	1.03	<0.5	<1	<3	11.40	<2	2580	100	200	0.4	2.5
DOT–0848	34	<2	6.3	1600	14	17.8	9	47	4.3	1.66	1.9	<1	<5	12.70	<2	4530	180	180	1.5	4.1
DOT–0849–1	21	<2	3.6	1000	14	20.2	7	30	1.6	0.94	1.4	<1	<2	15.70	<2	2590	150	130	2.3	2.6
DOT–0849–2	90	<2	3.9	1000	26	16.9	7	36	2.0	1.24	1.4	<1	<4	14.70	<2	3440	130	140	0.4	3.3
DOT–0850	25	<2	4.7	1000	14	16.0	9	49	1.9	1.40	1.0	<1	<3	12.10	<2	4030	250	100	2.8	4.0
DOT–0851	28	<2	4.6	700	44	18.6	8	36	2.1	1.11	1.5	<1	<2	13.50	<2	2940	170	90	0.8	3.1
DOT–0852	48	<2	4.6	2100	6	17.4	12	47	5.9	1.75	2.5	<1	<5	9.56	<2	4300	220	180	0.7	4.4
DOT–0853	11	<2	3.4	2400	7	22.7	10	47	3.7	1.38	1.8	<1	<2	8.83	<2	3330	230	130	3.7	3.2
DOT–0854	66	<2	5.7	2000	170	17.4	11	51	3.0	1.29	1.4	<1	<3	15.90	<2	2910	230	190	1.8	3.1
DOT–0855	64	<2	4.9	2900	50	14.3	10	45	2.6	1.35	2.4	<1	<3	4.29	<2	2950	160	110	1.1	3.5
DOT–0856	15	6	3.5	1200	40	21.1	10	52	5.1	1.30	1.7	<1	<3	10.20	<2	2980	250	180	1.2	3.1
DOT–0857	31	<2	6.5	1300	19	15.9	8	48	3.3	1.24	1.3	<1	<3	11.60	<2	3010	130	160	0.8	3.0
DOT–0858	91	<2	3.3	2600	27	17.7	10	41	2.8	1.07	2.2	<1	<4	12.10	<2	3340	110	190	0.6	3.1
DOT–0859	34	<2	3.8	1500	5	23.4	12	49	3.1	1.52	1.4	<1	<5	10.90	<2	4480	190	120	2.8	3.6
DOT–0860–1	26	<2	4.3	1500	10	19.4	9	46	1.2	1.22	1.2	<1	<2	9.97	6	3170	180	62	0.9	2.9
DOT–0860–2	190	<2	4.0	1600	18	20.8	12	68	2.2	1.57	2.1	<1	<4	15.10	<2	3870	250	89	1.1	4.0
DOT–0861	22	<2	2.8	970	8	26.1	8	35	1.3	1.26	1.4	<1	<3	11.00	<2	3160	250	69	0.5	2.9
DOT–0862	21	<2	2.8	820	10	18.8	7	33	0.9	0.92	1.1	<1	<2	7.61	<2	2330	160	82	0.5	2.2

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0864	61	<2	4.2	2000	27	19.7	12	61	5.9	1.67	2.0	<1	<4	9.28	<2	4020	270	200	1.1	4.0
DOT–0865	38	<2	4.3	2000	16	17.9	10	32	6.0	1.16	1.1	<1	<3	10.40	<2	3160	150	260	0.6	2.9
DOT–0866	83	<2	5.1	1400	9	22.1	9	40	3.6	1.19	1.4	<1	<2	12.70	<2	3040	180	240	1.3	3.1
DOT–0867	28	<2	4.3	2000	25	19.4	9	45	11.0	1.25	1.6	<1	<4	14.10	3.0	3080	190	350	0.9	3.4
DOT–0870–1	26	<2	3.0	1900	3	17.9	10	39	5.5	1.22	2.0	<1	<4	11.50	<2	3270	150	200	0.6	2.8
DOT–0870–2	19	<2	3.6	2100	29	20.0	11	43	5.3	1.32	1.8	<1	<5	10.80	<2	3620	240	180	2.0	3.3
DOT–0871	20	<2	4.6	1400	86	17.6	9	40	4.6	1.21	0.8	<1	<3	13.40	<2	2780	190	240	0.8	2.9
DOT–0872	52	<2	3.8	1400	29	21.4	10	49	3.5	1.25	1.3	<1	<4	14.70	<2	3360	270	240	0.8	3.5
DOT–0873	135	<2	3.5	1500	13	19.2	7	47	5.7	1.42	1.6	<1	<4	12.30	<2	3710	310	320	1.7	3.5
DOT–0874	31	<2	3.6	1700	7	19.8	8	47	4.0	1.27	1.9	<1	<4	12.80	<2	3660	160	220	0.8	3.5
DOT–0875	96	<2	4.1	1100	12	19.7	8	49	7.0	1.52	2.3	<1	<6	10.50	2	4410	170	170	0.7	4.3
DOT–0876	24	<2	4.2	1500	27	19.9	8	45	6.4	1.32	1.1	<1	<4	11.10	<2	4040	170	230	0.6	3.8
DOT–0877	120	<2	6.3	3300	9	16.6	15	77	9.0	2.34	2.0	<1	<4	9.29	<2	5110	220	200	1.1	5.2
DOT–0878	68	<2	4.3	3400	34	18.2	10	39	8.0	1.21	0.9	<1	<4	10.40	<2	3020	210	180	1.2	3.1
DOT–0879	132	<2	4.2	1600	20	18.6	9	43	4.4	1.26	2.0	<1	<4	10.70	3	4520	170	210	1.0	4.1
DOT–0880	48	<2	4.4	1400	11	22.1	11	45	5.3	1.22	1.7	<1	<4	12.30	<2	3510	210	230	2.4	3.4
DOT–0881	74	<2	5.8	1700	12	18.4	10	56	5.4	1.69	1.6	<1	<3	10.40	<2	4210	160	220	0.9	4.4
DOT–0882	35	<2	3.9	2100	16	20.0	8	31	5.7	1.22	1.4	<1	<3	8.86	<2	3010	100	220	0.8	3.0
DOT–0883	28	<2	4.7	2100	9	23.1	11	46	7.0	1.64	1.6	<1	<4	8.82	<2	4390	210	190	0.7	4.1
DOT–0884	110	<2	5.3	1800	13	19.6	9	51	6.9	1.59	1.5	<1	<4	9.49	<2	5190	120	220	0.8	4.4
DOT–0885	140	<2	4.2	1500	16	14.1	11	45	6.8	1.31	1.5	<1	<4	15.00	<2	3450	410	260	0.8	3.1
DOT–0886	21	<2	5.2	1700	14	15.0	8	40	5.2	1.34	1.7	<1	<3	8.90	<2	3980	180	200	1.0	3.6
DOT–0887	92	<2	5.0	1300	10	22.3	10	49	3.9	1.69	1.4	<1	<4	9.77	3	4400	140	150	0.9	4.3
DOT–0888	32	<2	3.8	1600	13	16.3	10	40	5.4	1.47	1.0	<1	<5	12.80	<2	4450	210	200	2.7	3.8
DOT–0889	79	<2	4.7	3300	4	14.6	12	53	6.9	1.35	1.6	<1	<5	7.79	<2	3850	150	150	0.7	3.9
DOT–0890–1	16	<2	4.7	2400	29	21.2	10	29	5.5	0.97	1.7	<1	<3	9.79	<2	2900	180	160	0.8	2.6
DOT–0890–2	53	<2	3.4	2300	7	19.5	11	33	6.1	1.04	1.1	<1	<4	8.80	<2	3320	260	160	0.7	3.0
DOT–0891	25	<2	3.9	2700	7	23.9	11	54	5.8	1.49	1.4	<1	<4	10.00	5	4170	150	250	0.6	3.8

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0892	32	<2	5.3	2000	12	21.3	11	42	3.2	1.36	1.7	<1	<3	8.52	<2	3630	170	130	1.1	3.4
DOT–0893	120	<2	3.7	1700	5	20.9	12	47	5.7	1.48	2.3	<1	<4	10.80	<2	4090	140	140	0.9	3.5
DOT–0894	40	<2	3.8	3800	5	17.8	12	50	10.0	1.50	2.8	<1	<5	10.50	<2	4620	170	240	2.5	3.7
DOT–0895	135	<2	4.4	1200	8	20.4	10	46	3.9	1.51	1.6	<1	<4	9.95	<2	4200	290	150	1.0	3.7
DOT–0896	98	<2	4.9	1800	11	22.6	10	55	3.2	1.42	1.6	<1	<4	12.10	<2	4110	220	170	0.7	4.1
DOT–0897	17	<2	5.9	2100	11	16.7	8	25	4.1	0.92	1.2	<1	<3	8.93	<2	2790	140	130	1.9	2.5
DOT–0898	36	<2	3.6	2200	7	22.3	11	54	5.2	1.55	2.1	<1	<4	10.40	<2	4280	230	160	1.5	4.2
DOT–0899	54	<2	5.2	2300	30	21.3	13	56	5.6	1.68	2.0	<1	<4	12.00	<2	3910	220	220	0.9	4.3
DOT–0900–1	39	<2	5.1	1900	10	19.5	11	45	6.2	1.52	2.3	<1	<3	8.10	<2	4220	100	160	0.9	4.1
DOT–0900–2	25	<2	8.0	1500	24	16.5	10	37	6.8	1.16	1.7	<1	<3	7.58	<2	3050	150	140	0.7	3.1
DOT–0901	17	<2	3.9	2600	3	18.3	14	48	7.4	1.47	2.1	<1	<4	6.90	<2	4170	140	130	0.6	3.8
DOT–0902	15	<2	3.6	1800	10	21.3	8	41	6.3	1.16	1.7	<1	<2	15.20	<2	3110	120	240	0.7	3.2
DOT–0903	30	<2	4.1	800	9	19.3	7	38	1.9	1.47	1.9	<1	<5	10.90	<2	4210	120	120	0.9	3.8
DOT–0904	17	<2	2.5	3500	8	19.3	10	36	7.5	1.05	1.9	<1	<3	6.97	4	2690	190	120	0.6	2.9
DOT–0905	26	<2	4.4	2300	15	19.2	11	41	5.2	1.35	2.4	<1	<5	8.76	<2	4170	200	140	5.5	3.7
DOT–0906	71	<2	3.4	2900	11	23.4	11	36	6.4	1.08	1.1	<1	<3	8.79	<2	3280	100	140	0.5	2.9
DOT–0907	119	<2	5.4	1600	11	17.6	8	55	5.4	1.61	1.5	<1	<4	11.00	<2	4740	140	160	0.8	3.8
DOT–0908	156	<2	5.7	1400	8	14.2	7	53	2.1	1.34	1.5	<1	<3	12.50	<2	3580	140	260	0.8	3.3
DOT–0909	34	<2	8.9	1700	21	17.1	9	49	5.7	1.37	1.8	<1	<3	14.20	4	3870	180	370	1.2	3.6
DOT–0910–1	53	<2	4.4	1600	9	19.4	11	38	2.0	1.41	1.6	<1	<3	11.10	<2	3640	200	200	0.8	3.8
DOT–0910–2	39	<2	3.0	1800	6	21.7	10	45	1.9	1.39	1.6	<1	<5	11.20	<2	3900	280	240	0.7	3.7
DOT–0911	28	<2	3.1	2000	4	20.8	8	35	3.3	1.14	1.1	<1	<3	11.30	<2	3590	300	190	1.2	3.0
DOT–0912	25	<2	4.2	1200	69	17.3	10	39	2.7	1.31	2.4	<1	<4	11.30	<2	3960	160	290	0.7	3.7
DOT–0913	110	<2	4.3	980	62	15.5	11	33	4.2	1.10	0.9	<1	<5	16.70	<2	3010	200	430	0.7	2.9
DOT–0914	11	<2	3.1	1200	5	17.4	8	28	1.7	0.87	1.5	<1	<3	12.40	<2	2570	100	170	2.4	2.5
DOT–0915	18	<2	4.7	1300	5	15.2	9	38	11.0	1.27	1.7	<1	<3	10.10	2	3580	160	260	0.7	3.3
DOT–0916	116	<2	3.8	2700	11	13.3	12	51	4.9	1.40	0.8	<1	<5	13.20	<2	4590	330	280	0.8	3.9
DOT–0917	17	<2	3.9	2100	7	22.7	13	47	5.0	1.39	1.6	<1	<4	8.93	2	3790	200	200	0.7	3.5

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0918	25	<2	3.8	3300	6	20.7	16	44	7.9	1.38	2.1	<1	<5	8.57	<2	4130	190	150	0.9	3.9
DOT–0919	74	<2	3.1	2400	3	17.3	13	43	5.1	1.14	1.4	<1	<4	6.31	2	3330	130	97	0.5	3.0
DOT–0920–1	40	<2	10.0	1500	49	14.5	19	85	4.1	3.17	3.3	<1	<3	7.45	<2	6950	470	170	3.4	5.5
DOT–0920–2	42	<2	6.8	1300	5	16.6	21	77	3.8	3.03	3.5	<1	<5	7.79	<2	8090	430	140	1.9	6.3
DOT–0921	125	<2	5.3	1700	8	22.2	16	71	4.6	1.96	2.8	<1	<4	10.90	<2	5990	240	180	2.9	4.8
DOT–0922	16	<2	3.7	2200	66	19.1	9	49	8.9	1.14	2.0	<1	<3	12.80	<2	2690	220	450	0.9	2.8
DOT–0923	32	<2	5.5	1700	32	19.7	11	48	8.3	1.28	1.9	<1	<3	8.84	<2	3380	180	200	1.1	3.7
DOT–0924	65	<2	3.2	2800	24	22.9	10	39	6.4	1.46	0.9	<1	<4	11.40	2	3540	310	240	0.9	3.5
DOT–0925	60	<2	3.6	2400	9	16.1	9	45	3.6	1.28	0.8	<1	<5	10.90	<2	4170	250	160	1.0	3.7
DOT–0926	15	<2	3.5	1100	71	19.1	11	40	3.1	1.25	1.3	<1	<3	13.00	<2	3330	230	90	0.4	3.0
DOT–0927	92	<2	4.8	1200	6	20.2	11	51	4.0	1.50	1.6	<1	<4	10.20	<2	4370	280	190	0.7	3.9
DOT–0928	93	<2	4.8	1900	7	15.8	10	46	3.7	1.56	1.5	<1	<5	12.40	2	5130	180	230	0.9	4.3
DOT–0930–1	29	<2	5.9	760	29	16.0	8	42	1.6	1.34	1.2	<1	<3	14.10	<2	4700	100	70	1.0	3.9
DOT–0930–2	19	<2	4.2	760	7	13.6	6	37	1.4	1.17	1.5	<1	<3	11.90	<2	3740	69	80	1.1	3.4
DOT–0931	33	<2	3.5	3300	4	20.3	10	57	1.7	1.46	1.5	<1	<4	10.70	<2	4940	160	49	1.1	4.2
DOT–0932	30	<2	5.2	1400	23	20.6	11	60	1.2	1.60	1.8	<1	<4	12.40	3.0	3850	220	160	0.9	4.3
DOT–0933	12	<2	2.8	2600	8	18.6	8	29	1.6	0.78	0.8	<1	<2	10.80	<2	2290	99	150	0.6	2.3
DOT–0934	49	<2	4.0	2500	14	15.5	19	39	2.8	1.39	2.4	<1	<4	13.60	<2	5380	230	260	0.8	3.7
DOT–0935	20	<2	4.5	3800	15	18.1	30	45	2.6	0.97	0.7	<1	<5	14.60	<2	3480	190	280	0.5	2.7
DOT–0936	98	<2	4.4	2800	6	20.8	16	92	7.0	1.41	1.9	<1	<5	11.40	<2	4660	260	240	0.9	3.9
DOT–0937	115	<2	5.6	2100	6	15.2	10	50	9.9	1.30	1.5	<1	<3	11.90	<2	4090	200	280	1.0	3.4
DOT–0938	26	<2	4.9	1900	7	19.0	10	46	9.8	1.34	1.4	<1	<4	11.50	<2	4000	190	310	0.8	3.2
DOT–0939	24	<2	3.3	1100	27	19.3	11	46	7.8	1.42	1.6	<1	<3	10.30	<2	4200	230	210	0.7	3.6
DOT–0940–1	21	<2	3.6	3000	6	21.9	21	42	7.0	1.26	1.0	<1	<4	9.87	<2	3970	180	130	3.4	3.2
DOT–0940–2	64	<2	6.9	3600	9	15.2	18	48	7.9	1.59	3.0	<1	<4	9.16	<2	3490	170	200	3.7	3.7
DOT–0941	14	<2	4.2	2200	13	17.8	11	36	6.0	1.32	1.9	<1	<3	7.77	<2	3740	210	140	0.7	3.0
DOT–0942	13	<2	3.8	890	16	19.2	7	38	<0.5	1.05	1.3	<1	<3	12.40	<2	3040	210	5	0.1	3.0
DOT–0943	108	<2	4.2	1100	19	21.7	5	53	2.6	1.31	2.0	<1	<4	11.10	<2	4330	270	120	2.3	3.8

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0944	18	<2	3.1	2200	18	18.5	14	27	5.6	0.77	0.5	<1	<3	6.98	7	2100	130	380	0.4	2.0
DOT–0945	85	<2	7.5	1600	6	14.7	10	42	8.6	1.23	1.9	<1	<3	9.12	<2	3580	150	380	0.9	3.2
DOT–0946	75	<2	3.7	1800	56	20.1	14	46	6.9	1.22	2.6	<1	<5	11.40	<2	3630	270	250	0.9	3.5
DOT–0947–1	31	<2	4.6	2200	14	17.8	14	46	8.3	1.11	1.6	<1	<3	7.12	<2	3140	210	220	1.2	3.0
DOT–0947–2	24	<2	1.8	2600	11	18.6	13	48	7.6	1.21	1.9	<1	<3	8.32	<2	3300	180	250	0.9	3.2
DOT–0948	170	<2	6.0	2000	20	16.6	18	46	12.0	1.54	1.9	<1	<5	12.00	<2	4670	270	290	0.8	4.2
DOT–0949	19	<2	4.6	2100	8	21.7	16	33	5.4	1.09	1.1	<1	<4	9.19	<2	3000	130	190	1.0	2.9
DOT–0950	31	<2	3.2	970	16	20.6	6	31	2.9	0.88	1.2	<1	<4	10.90	<2	2820	190	200	1.3	2.4
DOT–0951	13	<2	7.8	1800	71	20.0	14	40	5.8	1.30	1.6	<1	<3	8.74	<2	3480	250	150	0.9	2.9
DOT–0952	42	<2	4.2	1500	14	17.6	11	39	3.3	1.55	0.8	<1	<5	13.40	<2	3940	100	260	3.8	3.0
DOT–0953	260	<2	4.4	1300	8	20.4	9	56	1.1	1.33	1.6	<1	<5	11.80	<2	4490	160	80	0.7	3.5
DOT–0954	14	<2	1.2	2400	67	17.4	14	20	1.8	0.52	1.1	<1	<3	16.10	<2	1660	190	250	0.4	1.7
DOT–0955	59	6	5.4	2600	8	14.3	13	32	4.4	0.93	1.5	<1	<2	12.30	<2	2880	92	290	0.7	2.6
DOT–0956	90	<2	5.2	3200	8	18.0	25	36	4.3	1.36	1.4	<1	<5	12.70	2	4530	130	230	0.9	3.6
DOT–0957	20	<2	4.7	3300	24	20.6	14	42	6.9	1.14	1.1	<1	<5	9.57	<2	4150	150	150	0.7	3.2
DOT–0958–1	21	<2	4.4	2200	19	20.1	13	36	6.8	1.08	1.5	<1	<3	8.25	<2	3530	140	140	0.8	3.0
DOT–0958–2	17	<2	3.6	1600	13	23.4	11	47	5.3	1.77	1.4	<1	<3	8.00	<2	4800	240	170	0.5	3.8
DOT–0959–1	15	<2	1.5	2900	<1	23.0	14	32	6.4	0.97	1.2	<1	<3	9.25	<2	3600	190	120	3.5	3.0
DOT–0959–2	25	<2	4.1	2300	3	23.2	13	36	6.8	1.06	1.6	<1	<4	6.10	<2	3470	110	160	1.4	3.3
DOT–0960	78	<2	4.5	2200	15	22.5	11	45	11.0	1.08	0.7	<1	<4	10.70	<2	3620	160	210	5.2	3.3
DOT–0961	72	<2	5.0	1400	11	18.5	8	46	3.9	1.59	1.8	<1	<3	8.79	<2	4680	210	220	1.0	4.1
DOT–0962	22	<2	8.0	1500	10	12.4	8	33	4.1	1.11	1.7	<1	<3	11.50	<2	2600	100	210	0.8	2.7
DOT–0963	57	<2	9.1	1500	14	18.1	9	57	4.0	1.45	1.4	<1	<4	10.40	<2	4080	260	110	1.1	3.8
DOT–0964	61	<2	3.5	1400	35	15.8	10	46	2.4	1.24	0.7	<1	<4	14.80	<2	2730	170	130	0.7	2.9
DOT–0965	19	<2	3.7	1100	38	20.4	10	39	3.6	1.27	1.0	<1	<4	15.10	<2	3440	290	190	0.8	3.8
DOT–0966	34	<2	4.2	1700	23	24.4	11	52	6.7	1.43	1.5	<1	<4	12.10	<2	3740	280	360	0.9	3.5
DOT–0967	55	<2	3.9	1700	11	17.2	9	55	4.7	1.50	1.0	<1	<5	10.90	<2	4330	350	250	1.2	4.0
DOT–0968	65	<2	3.5	1100	26	18.5	11	57	5.2	1.38	1.9	<1	<5	12.60	<2	3880	280	270	0.9	3.6

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–0969	69	<2	4.3	1700	34	14.0	10	45	8.2	1.51	1.5	<1	<5	11.90	2	3790	280	270	1.3	3.6
DOT–0970–1	68	<2	5.3	2100	10	17.4	10	66	5.7	2.07	2.3	<1	<4	9.59	<2	4840	410	200	1.9	4.7
DOT–0970–2	67	<2	4.6	2100	11	16.9	13	59	5.8	1.99	1.8	<1	<5	10.40	<2	4710	340	250	2.0	4.9
DOT–0971	65	<2	5.2	2100	8	17.0	10	62	6.4	1.58	1.5	<1	<5	10.70	<2	4310	240	220	1.3	4.0
DOT–0972	135	5	3.7	1300	14	18.1	8	50	5.5	1.65	1.4	<1	<3	11.70	<2	4590	150	230	1.0	4.4
DOT–0973	98	<2	4.1	1200	14	17.9	8	36	2.0	1.12	1.6	<1	<2	14.80	<2	3610	310	250	0.8	3.1
DOT–0974	56	<2	4.7	1500	24	15.2	8	44	1.7	1.27	1.2	<1	<3	14.20	<2	2890	180	280	0.7	3.0
DOT–0975	52	<2	5.1	1200	11	19.1	14	90	2.1	2.15	1.7	<1	<4	11.60	<2	3940	460	220	1.1	4.9
DOT–0976	101	<2	4.1	1900	13	19.1	17	68	3.4	1.84	2.2	<1	<4	13.30	<2	4300	310	310	0.8	4.3
DOT–0977	31	<2	3.0	1600	10	13.6	8	50	4.5	1.28	1.6	<1	<2	9.64	<2	2910	110	220	1.0	3.4
DOT–0978	44	<2	3.2	1500	28	15.8	8	44	3.0	1.30	1.4	<1	<2	10.40	<2	3180	220	180	0.6	3.2
DOT–0979	97	<2	4.4	1400	9	19.0	10	57	4.2	1.63	1.7	<1	<3	10.50	<2	3980	230	270	2.1	4.0
DOT–0980	68	<2	10.0	1400	49	13.7	8	49	3.6	1.23	1.6	<1	<3	11.00	<2	3170	160	210	0.9	3.2
DOT–0981	22	<2	2.5	1200	6	16.6	7	45	3.1	1.31	1.2	<1	<2	10.30	<2	2620	150	200	0.7	3.1
DOT–0982	35	<2	4.0	1400	15	20.9	11	55	3.1	1.60	1.7	<1	<4	10.20	<2	4140	420	190	1.0	4.0
DOT–0983	36	<2	4.2	1600	9	22.5	12	56	4.3	1.58	1.9	<1	<5	12.80	<2	4540	140	260	2.9	3.7
DOT–0984	97	<2	5.0	1000	75	14.8	12	67	4.6	1.63	2.5	<1	<5	13.20	<2	3340	350	280	0.9	3.8
DOT–0985	31	<2	2.5	1200	8	16.9	9	43	3.9	1.37	1.4	<1	<2	13.10	<2	3230	260	260	0.9	3.2
DOT–0986	60	<2	6.5	1700	24	16.3	11	60	3.0	1.60	1.6	<1	<3	11.90	<2	3790	330	320	0.9	4.1
DOT–0987	39	<2	4.8	1300	5	16.6	10	67	4.1	1.82	1.3	<1	<3	8.12	<2	4060	130	210	1.0	4.4
DOT–0988	79	<2	3.1	1200	5	15.0	8	48	6.1	1.21	1.7	<1	<5	11.80	<2	3570	130	370	0.6	3.2
DOT–0989	29	<2	3.5	1400	22	18.6	7	46	4.0	1.39	1.3	<1	<4	9.17	<2	3270	170	190	1.3	3.3
DOT–0990–1	28	<2	4.9	1500	11	21.3	9	60	5.2	1.82	2.1	<1	<4	11.40	<2	3830	210	220	0.7	4.2
DOT–0990–2	57	<2	4.3	1200	35	17.6	8	47	3.6	1.27	0.9	<1	<5	11.90	<2	3650	150	250	0.6	3.7
DOT–0991	23	<2	8.4	1800	59	19.1	12	39	1.7	1.32	1.3	<1	<3	10.90	<2	2920	330	77	0.8	3.1
DOT–0992	50	<2	6.2	2100	13	20.4	12	57	1.7	1.74	1.8	<1	<5	11.40	<2	4460	280	130	0.9	4.6
DOT–0993	84	<2	4.6	890	55	13.9	8	62	3.5	1.58	1.1	<1	<6	10.20	<2	3980	260	280	1.2	4.5
DOT–0994	40	<2	6.5	1200	8	14.8	9	46	3.6	1.29	1.2	<1	<3	12.30	<2	2720	150	280	0.8	3.3

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
DOT–0995	26	<2	3.5	1600	10	19.6	8	42	4.4	1.08	1.1	<1	<3	8.95	<2	2990	160	210	0.7	2.9
DOT–0996	55	<2	3.8	1500	9	17.1	12	58	2.8	1.90	1.7	<1	<3	10.10	<2	4190	270	210	1.3	4.5
DOT–0997	26	<2	1.5	1700	11	20.2	8	46	1.7	1.21	0.9	<1	<2	10.80	<2	2450	200	230	0.5	3.2
DOT–0998	81	<2	1.8	1300	7	16.5	7	41	1.5	1.11	1.1	<1	<2	8.94	<2	2500	190	120	0.6	3.0
DOT–0999	27	<2	4.8	1700	15	18.0	10	51	2.2	1.69	1.7	<1	<3	8.35	4	3700	240	120	2.6	4.1
DOT–1000–1	51	<2	3.9	1100	11	16.5	11	41	3.2	1.66	0.7	<1	<5	10.70	<2	4050	170	110	0.9	3.9
DOT–1000–2	37	<2	4.3	1100	9	22.8	9	53	3.1	1.73	1.0	<1	<4	10.90	<2	4460	190	120	0.8	4.1
DOT–1001	38	<2	6.0	2000	76	19.6	10	53	1.6	1.52	<0.5	<1	<3	11.90	<2	3010	190	140	1.2	3.6
DOT–1002	47	<2	4.7	1600	5	23.3	13	59	2.6	1.78	1.9	<1	<4	9.43	<2	4140	260	100	0.9	4.5
DOT–1003	21	<2	3.9	1500	14	18.0	9	40	4.9	1.22	1.3	<1	<2	12.90	<2	3250	130	270	0.6	3.2
DOT–1004	46	<2	5.1	970	17	15.7	11	57	5.6	1.67	1.6	<1	<5	14.30	<2	4220	320	310	1.0	4.3
DOT–1005	101	<2	3.2	1400	18	18.4	10	48	5.3	1.42	0.7	<1	<3	12.60	<2	3540	290	320	0.9	3.6
DOT–1006	29	<2	10.0	1300	41	15.4	19	53	3.8	1.84	1.7	<1	<4	13.60	<2	3880	320	360	0.8	4.1
DOT–1007	24	<2	4.6	1700	6	15.6	11	40	1.6	1.32	1.3	<1	<2	11.60	<2	3150	130	120	0.7	3.3
DOT–1008	28	<2	3.8	2500	11	24.3	12	63	1.3	1.68	1.9	<1	<3	9.69	<2	4040	280	140	0.7	3.9
DOT–1009	47	<2	2.9	2100	42	19.4	10	54	1.2	1.65	1.2	<1	<2	8.40	<2	3000	220	95	0.6	3.6
DOT–1010–1	140	<2	3.5	1300	11	18.9	9	63	4.1	1.54	1.9	<1	<4	11.50	<2	3800	170	240	0.7	3.8
DOT–1010–2	34	<2	2.6	1400	15	21.2	11	49	2.7	1.34	<0.5	<1	<3	12.40	<2	2770	290	7	0.6	3.0
DOT–1011	47	<2	3.8	1800	8	19.8	12	59	2.2	1.75	1.9	<1	<5	12.80	<2	4520	290	220	0.8	4.1
DOT–1012	140	<2	3.9	1600	26	22.2	10	53	5.3	1.52	2.2	<1	<4	9.96	<2	4180	210	170	1.1	4.2
DOT–1013	36	<2	4.5	2000	7	19.0	10	57	5.0	1.56	1.4	<1	<5	8.79	<2	3950	200	200	0.8	3.9
DOT–1014	24	<2	4.7	2500	15	19.0	7	35	2.8	1.20	1.5	<1	<2	8.40	<2	3300	180	230	1.6	3.1
DOT–1015	49	<2	4.4	2100	8	22.1	12	68	1.8	1.83	0.9	<1	<4	11.30	<2	4320	160	120	0.7	4.4
DOT–1016	33	<2	4.6	1800	47	18.5	13	34	2.4	1.27	0.7	<1	<3	13.60	<2	3130	160	160	1.1	3.4
DOT–1017	24	<2	5.0	1500	120	15.6	15	61	4.4	1.52	1.0	<1	<4	14.20	<2	3170	300	140	0.6	3.7
DOT–1018	43	<2	3.5	1000	13	18.3	12	56	2.0	1.58	2.0	<1	<3	12.90	<2	4180	220	110	0.9	3.8
DOT–1019	41	<2	4.8	2900	15	14.6	14	76	6.8	2.11	1.1	<1	<5	10.30	<2	4730	280	270	1.1	5.5
DOT–1020	65	<2	4.4	1600	10	16.4	10	49	6.5	1.35	1.0	<1	<5	9.63	3	4070	220	160	0.9	4.0

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–1021	31	5	6.0	1700	11	19.2	10	52	3.9	1.47	2.0	<1	<2	12.20	<2	3870	210	210	0.9	4.1
DOT–1022	36	<2	4.4	740	38	20.7	14	70	0.9	2.03	1.1	<1	<5	11.20	<2	4220	420	130	0.9	4.6
DOT–1023	39	<2	5.1	770	57	18.6	16	58	8.2	1.46	1.0	<1	<4	12.30	<2	4100	360	380	1.0	4.0
DOT–1024	53	<2	3.0	1400	57	21.6	15	74	3.4	1.69	1.8	<1	<4	12.90	4	3840	310	250	0.7	4.0
DOT–1025	19	<2	3.8	1300	51	19.4	11	53	4.1	1.52	1.0	<1	<4	12.90	2	3290	250	270	0.6	3.9
DOT–1026	34	<2	4.8	1400	18	17.3	13	46	0.5	1.51	<0.5	<1	<4	10.80	<2	3520	140	150	0.9	4.0
DOT–1027	48	<2	2.7	960	8	16.7	11	45	1.1	1.28	1.0	<1	<2	10.10	<2	2620	240	110	0.7	3.1
DOT–1028	39	<2	3.9	1100	10	17.9	12	68	1.6	1.89	1.4	<1	<5	11.00	3	4310	350	120	0.9	4.7
DOT–1029	90	<2	4.3	860	54	19.7	17	65	7.0	1.92	1.3	<1	<4	14.10	<2	4210	240	470	0.7	4.6
DOT–1030–1	23	<2	5.3	590	9	17.8	8	26	2.6	0.84	0.9	<1	<2	14.30	<2	2330	170	230	0.8	2.2
DOT–1030–2	100	<2	4.0	860	13	22.7	10	45	2.1	1.31	1.2	<1	<4	11.90	<2	3810	160	210	0.6	3.5
DOT–1031	33	<2	1.5	2300	10	17.9	13	36	2.8	1.27	1.6	<1	<2	11.50	<2	3300	220	180	0.7	3.2
DOT–1032	28	<2	3.6	1300	18	14.5	11	42	2.4	1.58	1.0	<1	<4	11.10	<2	3170	290	140	0.7	3.8
DOT–1033	26	<2	3.2	1100	45	14.1	11	40	1.6	1.32	1.4	<1	<5	12.80	<2	3110	200	150	0.8	3.8
DOT–1034	30	<2	3.7	560	42	16.1	12	50	4.4	1.50	0.9	<1	<5	14.50	<2	3550	240	160	0.8	3.8
DOT–1035	30	<2	4.0	1700	32	17.2	8	42	3.1	1.13	1.4	<1	<2	7.36	<2	2490	160	190	0.7	2.9
DOT–1036	35	5	4.4	1400	69	17.1	12	49	2.7	1.58	1.8	<1	<3	15.10	5	3240	280	96	0.8	3.4
DOT–1037	29	<2	4.6	780	51	14.9	10	64	5.4	1.62	1.9	<1	<4	12.40	<2	3380	390	180	0.9	3.9
DOT–1038	28	<2	4.9	770	14	16.7	9	46	4.4	1.46	1.2	<1	<2	13.70	<2	3780	200	260	0.6	3.6
DOT–1039	54	<2	4.4	2700	120	19.9	19	44	7.2	1.41	<0.5	<1	<4	11.50	<2	3460	180	240	0.6	3.8
DOT–1040–1	32	<2	7.5	2600	9	14.5	17	47	3.8	1.56	1.4	<1	<3	9.47	4	3440	310	170	0.9	3.2
DOT–1040–2	35	<2	4.5	2500	21	13.9	14	49	4.0	1.88	1.7	<1	<5	10.90	<2	4460	270	250	0.8	4.6
DOT–1041	22	<2	3.7	1500	21	20.3	14	43	4.5	1.21	1.3	<1	<4	10.50	<2	3260	210	220	1.0	3.3
DOT–1042	33	<2	4.0	1400	6	22.1	12	48	4.0	1.53	1.8	<1	<4	9.22	<2	4230	220	150	0.7	3.9
DOT–1043	28	<2	4.9	1300	38	20.1	12	56	4.2	1.72	1.7	<1	<4	11.60	2	4520	240	250	2.6	4.5
DOT–1044	36	<2	3.9	1400	11	20.0	9	45	1.9	1.36	1.1	<1	<3	11.50	<2	3560	120	91	0.7	3.7
DOT–1045	11	<2	4.6	2600	28	19.3	16	49	5.4	1.38	2.8	<1	<5	8.06	<2	3370	160	170	0.6	3.6
DOT–1046	41	<2	4.8	3000	36	19.8	25	71	5.0	1.80	1.9	<1	<5	11.20	<2	3730	360	230	1.0	4.1

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)
	Elements																			
DOT–1047	63	<2	4.5	1400	22	18.1	11	44	4.7	1.22	1.7	<1	<4	13.60	<2	3450	230	180	0.7	3.3
DOT–1048	10	<2	1.5	1700	22	16.1	7	32	4.4	0.94	1.6	<1	<3	8.79	<2	2600	110	190	4.4	2.6
DOT–1049	19	<2	4.2	2400	41	15.5	13	47	3.6	1.63	2.2	<1	<4	11.50	<2	3650	300	170	1.4	3.8
DOT–1050–1	9	<2	4.1	1500	8	21.5	10	43	2.8	1.23	1.9	<1	<4	9.04	<2	3340	230	120	0.8	3.4
DOT–1050–2	50	<2	2.8	1400	7	18.3	9	46	2.2	1.21	1.1	<1	<4	8.26	<2	2870	190	96	0.6	3.3
DOT–1051	17	<2	5.0	1100	19	15.4	11	48	6.3	1.58	1.4	<1	<5	9.98	2	4060	290	170	0.9	4.0
DOT–1052	47	<2	4.3	1200	36	15.9	10	41	3.9	1.26	1.3	<1	<4	12.30	<2	3310	260	180	1.1	3.4
DOT–1053	32	<2	4.4	1500	52	18.6	10	40	3.9	1.37	2.1	<1	<5	10.50	<2	3560	290	200	0.9	3.6
DOT–1054	47	<2	5.0	1500	35	17.1	10	50	3.0	1.47	1.4	<1	<4	10.50	<2	3850	260	120	1.0	3.7
DOT–1055	72	<2	7.2	1300	8	12.6	10	58	5.1	1.70	1.8	<1	<3	8.91	<2	3840	210	160	1.1	4.2
DOT–1056–1	102	<2	3.6	2600	21	21.3	10	48	3.7	1.37	1.9	<1	<4	11.20	<2	3690	300	200	0.8	3.9
DOT–1056–2	80	<2	3.9	2300	10	19.7	10	48	5.3	1.20	1.1	<1	<4	10.80	<2	3360	190	210	0.5	3.2
DOT–1057	30	<2	4.5	2000	20	18.3	9	46	5.7	1.42	1.5	<1	<5	8.56	<2	3960	260	220	0.9	4.1
DOT–1058	73	<2	3.3	2900	53	16.7	10	33	3.7	0.88	2.1	<1	<5	12.70	<2	3380	150	120	0.6	2.7

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0100–1	<2	1100	<0.5	1.3	0.6	<1	2500	8.5	13	6.0	1.1	0.28	<0.5	0.56	0.07	NA	2.04
DOT–0100–2	<2	1300	<0.5	1.9	1.5	<1	2500	11.0	19	15.0	1.4	<0.04	<0.5	0.76	0.14	701	2.28
DOT–0101–1	<2	<500	<0.5	1.6	<0.1	<1	2900	13.0	22	<5	1.7	<0.05	<0.5	1.04	0.20	827	2.15
DOT–0101–2	<2	<500	<0.5	0.9	<0.2	<1	3300	12.0	23	22.0	1.6	<0.05	<0.5	0.64	0.16	885	2.06
DOT–0102	<2	<500	<0.5	1.5	1.0	<1	2200	9.7	17	11.0	1.4	0.34	<0.5	0.56	0.07	NA	2.99
DOT–0103	<2	<500	<0.5	1.8	<0.1	<1	2900	12.0	23	<5	1.6	<0.05	<0.5	0.60	0.12	1538	2.16
DOT–0104–1	<2	<500	<0.5	1.3	0.9	<1	3200	10.0	17	<5	1.3	<0.05	<0.5	0.88	0.19	467	2.04
DOT–0104–2	<2	<500	<0.5	1.8	1.2	<1	2600	12.0	23	<5	1.7	<0.05	<0.5	0.88	0.17	435	2.37
DOT–0105	<2	<500	<0.5	2.4	1.2	<1	2600	12.0	24	10.0	1.8	0.34	<0.5	0.82	0.14	NA	2.07
DOT–0106–1	<3	<500	<0.5	1.1	1.6	<1	3200	14.0	18	<5	1.8	<0.06	<0.5	0.85	0.14	303	2.25
DOT–0106–2	<2	<500	<0.5	1.9	<0.2	<1	3300	14.0	25	<5	2.0	<0.06	<0.5	1.05	0.16	314	2.29
DOT–0107	<2	1400	<0.5	2.4	1.1	<1	2800	12.0	19	<5	1.6	<0.04	<0.5	0.67	0.22	488	2.19
DOT–0108	<2	<500	<0.5	1.5	1.3	<1	2400	11.0	22	11.0	1.7	0.41	<0.5	0.71	0.12	NA	1.91
DOT–0109	<2	920	1.1	1.8	1.3	<1	2900	13.0	22	10.0	1.9	0.55	<0.5	0.92	0.15	NA	2.17
DOT–0110–1	<2	<500	<0.5	2.5	1.0	<1	3100	13.0	22	21.0	1.8	0.40	<0.5	1.05	0.15	677	1.93
DOT–0110–2	<2	1300	<0.5	1.9	1.3	<1	3700	11.0	16	<5	1.6	0.27	<0.5	0.80	0.14	NA	1.62
DOT–0111	<2	1100	<0.5	0.7	0.7	<1	2500	8.6	15	8.0	1.3	<0.03	<0.5	0.65	0.07	NA	1.89
DOT–0112	<2	<500	<0.5	0.9	0.8	<1	3200	12.0	22	9.0	1.5	<0.05	<0.5	0.96	0.10	685	2.02
DOT–0113	<2	<500	<0.5	2.5	1.3	<1	2900	13.0	21	16.0	1.7	0.39	<0.5	0.79	0.07	NA	2.04
DOT–0114	<2	<500	0.6	2.4	1.0	<1	4100	15.0	25	21.0	1.8	<0.05	<0.5	1.09	0.20	1408	2.56
DOT–0115	<2	<500	<0.5	1.8	1.2	<1	3200	9.4	17	11.0	1.6	0.31	<0.5	0.56	0.07	NA	2.31
DOT–0116	<2	<500	<0.5	2.3	0.8	<1	3400	14.0	26	15.0	1.9	<0.05	<0.5	0.93	0.18	788	2.45
DOT–0117–1	<2	<500	<0.5	1.4	1.3	<1	2900	11.0	16	<5	1.4	<0.06	<0.5	0.70	0.14	542	2.23
DOT–0117–2	<2	<500	<0.5	1.1	1.5	<1	3400	13.0	22	12.0	1.8	0.53	<0.5	0.90	0.15	677	2.37
DOT–0118	<2	<500	<0.5	0.5	<0.1	<1	3200	9.0	16	13.0	1.3	0.45	<0.5	0.67	0.13	1079	2.27
DOT–0119	<2	1500	<0.5	1.7	1.1	<1	3100	12.0	24	9.0	1.8	<0.03	<0.5	0.98	0.13	NA	2.19
DOT–0120–1	<2	<500	1.2	1.0	1.4	<1	2300	8.6	16	8.0	1.3	0.29	<0.5	0.56	0.12	NA	1.90
DOT–0120–2	<2	<500	<0.5	2.2	1.7	<1	3300	14.0	21	<5	1.7	<0.06	<0.5	0.71	0.14	770	2.19

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0121–1	<2	<500	<0.5	1.0	<0.2	<1	3400	11.0	18	15.0	1.5	<0.05	<0.5	0.87	0.14	788	1.95
DOT–0121–2	<2	950	<0.5	1.4	1.2	<1	3000	9.8	19	<5	1.3	<0.04	<0.5	0.50	0.05	NA	1.76
DOT–0122	<2	<500	<0.5	1.6	0.8	<1	3100	12.0	20	12.0	1.6	0.36	<0.5	0.74	0.19	1348	2.14
DOT–0123	<2	<500	<0.5	2.1	1.6	<1	3100	14.0	25	12.0	1.7	0.21	<0.5	0.61	0.19	805	2.13
DOT–0124	<2	<500	<0.5	2.8	<0.2	<1	3300	13.0	17	<5	1.7	<0.06	<0.5	0.79	0.16	993	2.26
DOT–0125	<2	<500	<0.5	1.5	1.3	<1	3400	11.0	21	<5	1.7	0.25	<0.5	0.60	0.13	NA	2.27
DOT–0126	<2	<500	<0.5	1.3	1.0	<1	2800	14.0	24	<5	1.8	0.49	<0.5	1.18	0.21	493	2.41
DOT–0127	<2	850	<0.5	2.0	0.9	<1	2300	12.0	20	7.0	1.6	<0.03	<0.5	0.94	0.13	NA	2.12
DOT–0128	4	1300	<0.5	2.0	0.9	<1	2400	13.0	25	<5	1.6	<0.03	<0.5	1.00	0.10	NA	2.22
DOT–0129	<2	<500	<0.5	1.2	1.6	<1	2800	13.0	22	<5	1.7	0.52	<0.5	0.92	0.21	559	1.99
DOT–0130–1	<2	970	<0.5	1.6	<0.2	<1	3000	9.6	17	<5	1.5	0.40	<0.5	0.58	0.06	NA	1.88
DOT–0130–2	<2	<500	<0.5	1.8	1.2	<1	3100	10.0	19	<5	1.4	0.30	<0.5	0.52	0.08	NA	1.75
DOT–0131	<2	<500	<0.5	0.9	1.2	<1	2700	9.0	17	<5	1.2	0.30	<0.5	0.52	0.11	591	2.02
DOT–0132	<2	940	<0.5	2.1	<0.2	<1	2700	11.0	17	<5	1.7	0.32	<0.5	0.55	0.14	NA	1.87
DOT–0132	<2	<500	<0.5	2.0	1.2	<1	3000	10.0	17	<5	1.4	<0.05	<0.5	0.53	0.09	676	1.96
DOT–0133	<2	<500	<0.5	1.0	1.6	<1	3100	12.0	23	<5	1.6	0.37	<0.5	0.80	0.06	707	2.05
DOT–0134	<2	<500	<0.5	1.8	1.2	<1	2900	10.0	19	14.0	1.6	<0.02	<0.5	0.62	0.12	NA	2.29
DOT–0135	<2	<500	<0.5	2.8	1.4	<1	4000	14.0	32	22.0	2.0	0.57	<0.5	1.04	0.23	1026	2.26
DOT–0136	<2	<500	<0.5	2.8	1.2	<1	3200	13.0	26	<5	1.9	<0.03	0.5	0.85	0.17	NA	2.27
DOT–0137	<2	<500	<0.5	1.5	1.3	<1	3400	9.6	19	8.0	1.6	0.34	<0.5	0.74	0.13	NA	2.15
DOT–0138	<2	<500	<0.5	2.1	<0.2	<1	3100	14.0	25	<5	1.7	<0.06	<0.5	1.06	0.20	875	2.57
DOT–0138–1	<2	<500	<0.5	1.0	0.7	<1	2900	5.6	10	<5	0.8	<0.03	<0.5	0.49	0.11	NA	1.70
DOT–0138–2	<2	<500	<0.5	1.8	1.4	<1	3500	11.0	22	<5	1.7	<0.03	<0.5	0.78	0.15	NA	2.15
DOT–0139	<2	<500	<0.5	2.0	<0.1	<1	3400	11.0	18	13.0	1.5	0.46	<0.5	0.77	0.17	1461	2.09
DOT–0140–1	<2	690	<0.5	1.6	1.9	<1	3000	12.0	22	13.0	1.7	0.28	<0.5	0.71	0.07	NA	2.29
DOT–0140–2	<2	<500	<0.5	1.9	1.1	<1	2900	9.6	19	<5	1.5	0.38	<0.5	0.76	0.08	NA	2.16
DOT–0141	<2	<500	<0.5	0.7	1.1	<1	3600	12.0	19	<5	1.6	<0.07	<0.5	0.77	0.05	794	2.01
DOT–0142	<2	<500	<0.5	1.1	1.2	<1	2200	8.3	14	<5	1.2	<0.04	<0.5	0.60	0.14	NA	1.74

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0143	<2	<500	<0.5	1.7	2.1	<1	2800	14.0	25	<5	1.9	0.57	<0.5	1.05	0.20	936	1.98
DOT–0143	<2	<500	<0.5	1.4	0.9	<1	3100	11.0	17	10.0	1.4	<0.04	<0.5	0.54	0.17	861	2.34
DOT–0144	<2	<500	<0.5	1.1	1.1	<1	2800	11.0	23	<5	1.3	<0.04	<0.5	0.78	0.12	706	1.74
DOT–0145	<2	<500	<0.5	1.1	0.8	<1	2700	8.6	15	5.0	1.2	<0.03	<0.5	0.61	0.07	NA	1.78
DOT–0146	<3	<500	<0.5	0.8	1.3	<1	2600	11.0	18	<5	1.4	<0.07	<0.5	0.86	0.16	1027	2.11
DOT–0147	<2	<500	<0.5	0.9	<0.2	<1	3300	11.0	17	<5	1.3	<0.06	<0.5	0.80	0.16	1647	2.12
DOT–0148	<2	<500	<0.5	1.7	1.1	<1	2800	9.7	18	<5	1.5	0.37	<0.5	0.66	0.12	NA	2.00
DOT–0149	<2	<500	<0.5	0.7	<0.2	<1	2600	12.0	15	<5	1.6	0.54	<0.5	0.72	0.14	536	2.23
DOT–0150–1	5	980	<0.5	1.4	0.8	<1	2700	8.7	17	12.0	1.5	<0.03	<0.5	0.75	0.06	NA	2.13
DOT–0150–2	<2	<500	<0.5	0.7	<0.1	<1	2700	8.0	17	<5	1.1	<0.05	<0.5	0.41	0.12	1113	1.74
DOT–0151	<3	<500	<0.5	0.7	<0.2	<1	3000	11.0	19	<5	1.5	<0.06	<0.5	0.80	0.14	1240	2.20
DOT–0152	<2	<500	<0.5	1.1	1.0	<1	3400	10.0	21	10.0	1.5	0.38	<0.5	0.80	0.10	NA	2.05
DOT–0153	<2	<500	<0.5	1.0	0.7	<1	4100	9.0	18	<5	1.3	0.26	<0.5	0.72	0.17	1462	1.44
DOT–0154	<2	<500	<0.5	1.5	<0.2	<1	2800	9.0	12	<5	1.1	<0.05	<0.5	0.71	0.14	700	2.13
DOT–0155	6	<500	<0.5	1.9	1.0	<1	2600	11.0	23	10.0	1.7	0.40	<0.5	0.74	0.13	NA	2.12
DOT–0156	<2	<500	<0.5	0.7	0.9	<1	4000	12.0	20	<5	1.6	<0.04	1.0	1.12	0.10	933	1.84
DOT–0157	<2	<500	<0.5	1.2	1.0	<1	2900	14.0	22	8.0	1.8	<0.04	<0.5	0.77	0.21	854	2.11
DOT–0158	<2	<500	<0.5	0.7	<0.1	<1	2500	11.0	21	7.0	1.5	0.62	<0.5	0.93	0.12	427	1.99
DOT–0159	<2	<500	<0.5	1.9	0.9	<1	3700	12.0	23	<5	1.5	0.35	<0.5	0.72	0.14	993	2.10
DOT–0160–1	<2	<500	<0.5	1.3	1.4	<1	3900	12.0	23	<5	1.5	<0.04	<0.5	0.65	0.13	1524	2.13
DOT–0160–2	<2	<500	<0.5	1.7	2.0	<1	4700	15.0	25	<5	1.9	<0.05	<0.5	0.94	0.17	1425	2.23
DOT–0161	<2	<500	<0.5	1.5	1.6	<1	3700	11.0	15	<5	1.5	<0.06	<0.5	0.87	0.06	1031	2.21
DOT–0162	<2	<500	<0.5	1.6	1.8	<1	4000	12.0	20	13.0	1.5	<0.05	<0.5	0.90	0.18	912	2.05
DOT–0163	<2	<500	<0.5	1.6	0.6	<1	3000	10.0	20	10.0	1.6	0.26	<0.5	0.81	0.15	NA	2.20
DOT–0164	<2	<500	<0.5	1.7	1.6	<1	3800	11.0	20	15.0	1.5	<0.04	<0.5	0.54	0.15	1125	1.86
DOT–0165	<2	<500	<0.5	2.1	1.0	<1	3500	13.0	23	<5	1.7	<0.05	<0.5	0.83	0.15	1654	2.42
DOT–0166	<2	<500	<0.5	1.2	1.1	<1	3600	12.0	21	11.0	1.7	0.49	<0.5	0.94	0.13	1350	1.93
DOT–0167	<2	<500	<0.5	1.0	0.9	<1	2700	10.0	17	6.0	1.3	<0.04	<0.5	0.70	0.11	704	1.81

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0168	<2	<500	<0.5	1.2	1.8	<1	3400	12.0	17	<5	1.5	<0.05	<0.5	0.94	0.18	1041	1.79
DOT–0169	<2	<500	<0.5	0.6	0.9	<1	2900	11.0	18	<5	1.4	<0.05	<0.5	0.86	0.19	954	2.19
DOT–0170–1	<2	<500	<0.5	0.9	<0.2	<1	3300	12.0	21	10.0	1.4	<0.05	<0.5	1.10	0.22	956	1.83
DOT–0170–2	<2	<500	<0.5	0.6	<0.2	<1	3100	11.0	16	<5	1.4	0.31	<0.5	0.68	0.24	921	1.95
DOT–0171	<2	<500	<0.5	0.6	<0.1	<1	3200	8.0	16	16.0	1.2	<0.04	<0.5	0.50	0.11	867	1.46
DOT–0172	<2	<500	<0.5	1.0	0.9	<1	3200	11.0	17	<5	1.4	0.44	<0.5	0.74	0.10	897	2.22
DOT–0173	<2	<500	<0.5	1.7	0.7	<1	3700	13.0	20	<5	1.7	0.57	<0.5	0.99	0.09	889	1.96
DOT–0174	<2	1200	<0.5	1.4	0.9	<1	2500	8.3	14	<5	1.3	0.31	<0.5	0.42	0.11	NA	1.85
DOT–0175	<2	<500	<0.5	0.5	1.0	<1	2800	10.0	19	<5	1.4	<0.05	<0.5	0.77	0.11	1063	1.96
DOT–0176	<2	<500	<0.5	0.8	1.2	<1	2900	11.0	19	<5	1.3	<0.05	<0.5	0.86	0.17	914	1.97
DOT–0177	<2	1400	<0.5	0.9	<0.1	<1	2300	9.0	18	<5	1.2	0.43	<0.5	0.51	0.10	585	1.89
DOT–0178	<3	<500	<0.5	1.2	0.9	<1	2800	12.0	25	13.0	1.4	<0.06	<0.5	0.95	0.15	888	1.97
DOT–0179	<2	<500	<0.5	1.9	1.2	<1	3300	12.0	19	<5	1.7	<0.05	<0.5	0.94	0.11	2556	2.15
DOT–0180–1	<2	1800	<0.5	1.6	1.4	<1	4100	11.0	18	<5	1.6	0.25	<0.5	0.62	0.12	NA	1.87
DOT–0180–2	<3	<500	<0.5	0.6	0.8	<1	3600	11.0	21	<5	1.4	<0.06	<0.5	0.80	0.16	1906	1.79
DOT–0181	<2	<500	<0.5	1.3	1.3	<1	3700	11.0	18	10.0	1.5	<0.04	<0.5	0.97	0.17	1613	1.95
DOT–0182	<2	780	<0.5	1.8	0.9	<1	2900	11.0	19	<5	1.6	0.27	<0.5	0.68	0.11	NA	2.37
DOT–0183	<2	740	<0.5	2.0	0.8	<1	3400	11.0	19	<5	1.5	<0.05	<0.5	0.65	0.05	1267	2.30
DOT–0184	<2	470	<0.5	1.9	1.5	<1	3300	10.0	20	8.0	1.4	<0.04	<0.5	0.78	0.08	NA	1.81
DOT–0185	<2	<500	<0.5	1.0	<0.1	<1	3600	9.3	19	<5	1.3	<0.04	<0.5	0.71	0.09	1493	1.76
DOT–0186	2	<500	<0.5	1.9	1.8	<1	3500	12.0	19	11.0	1.7	0.40	<0.5	0.79	0.11	NA	2.03
DOT–0187	<2	<500	<0.5	0.8	0.8	<1	3600	9.0	16	<5	1.3	<0.04	<0.5	0.58	0.11	1359	1.82
DOT–0188	<3	<500	<0.5	1.6	1.4	<1	4800	12.0	27	<5	1.4	0.42	<0.5	0.98	0.20	1031	2.00
DOT–0189	<2	<500	<0.5	2.2	1.3	<1	4500	12.0	21	<5	1.5	<0.05	<0.5	0.99	0.20	1460	1.83
DOT–0190–1	<2	<500	<0.5	1.6	1.2	<1	4100	11.0	19	8.0	1.5	<0.03	<0.5	0.69	0.07	NA	1.96
DOT–0190–2	<2	<500	<0.5	1.6	1.6	<1	3700	11.0	22	10.0	1.6	0.32	<0.5	0.76	0.10	NA	2.19
DOT–0191	<2	<500	<0.5	2.0	1.2	<1	4300	15.0	32	10.0	2.0	<0.05	<0.5	1.08	0.19	1213	2.25
DOT–0192	<2	<500	<0.5	1.1	0.7	<1	3500	9.8	18	8.0	1.3	<0.05	0.7	0.81	0.14	891	1.72

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0193–1	<2	<500	<0.5	0.8	<0.1	<1	3100	8.5	13	<5	1.0	0.29	<0.5	0.87	0.16	461	1.71
DOT–0193–2	<2	1100	<0.5	0.6	0.1	<1	3000	5.9	10	<5	0.7	<0.03	<0.5	0.54	0.10	2152	1.69
DOT–0194	<2	<500	<0.5	1.5	0.7	<1	2600	10.0	17	<5	1.3	<0.04	<0.5	0.84	0.12	742	1.94
DOT–0195	<2	<500	<0.5	1.1	<0.2	<1	2300	11.0	16	<5	1.5	<0.07	<0.5	0.75	0.15	656	2.18
DOT–0196	<2	<500	<0.5	1.2	<0.2	<1	2900	12.0	25	13.0	1.6	<0.04	<0.5	0.62	0.14	1191	2.25
DOT–0197	<2	<500	<0.5	0.5	<0.1	<1	2700	9.0	13	<5	1.2	<0.05	<0.5	0.70	0.14	688	2.09
DOT–0198	<2	<500	<0.5	0.5	<0.2	1	2800	9.9	18	<5	1.4	<0.06	<0.5	0.68	0.14	794	1.90
DOT–0199	<2	1200	<0.5	1.6	1.1	<1	2900	11.0	24	<5	1.4	0.38	<0.5	0.76	0.10	NA	2.17
DOT–0200–1	<2	<500	<0.5	1.1	0.9	<1	2700	13.0	21	10.0	1.7	0.36	<0.5	0.97	0.07	659	1.98
DOT–0200–2	<2	<500	<0.5	1.8	<0.2	<1	2700	12.0	23	15.0	1.7	<0.05	<0.5	0.67	0.15	664	2.05
DOT–0201	<2	<500	<0.5	1.4	<0.2	<1	2500	10.0	19	12.0	1.5	<0.04	<0.5	0.81	0.08	NA	1.83
DOT–0202	<2	<500	<0.5	1.6	0.7	<1	2700	12.0	19	9.0	1.6	<0.05	<0.5	0.89	0.12	523	2.15
DOT–0203	<2	600	<0.5	2.0	1.0	<1	2700	12.0	18	10.0	1.6	<0.05	<0.5	0.62	0.19	1328	2.39
DOT–0204	<2	1300	<0.5	2.1	1.8	<1	3300	14.0	25	10.0	1.8	0.34	<0.5	0.85	0.09	NA	2.01
DOT–0205	<2	<500	<0.5	2.0	1.1	<1	2300	12.0	21	12.0	1.7	0.26	<0.5	0.77	0.08	NA	2.14
DOT–0206	<2	<500	<0.5	1.6	1.0	<1	2700	10.0	22	<5	1.4	0.15	<0.5	0.70	0.15	NA	2.21
DOT–0207	<2	<500	<0.5	0.9	1.2	<1	4600	10.0	16	<5	1.5	<0.06	<0.5	0.58	0.16	3167	1.92
DOT–0208	<2	<500	<0.5	1.3	<0.1	1	4900	13.0	21	15.0	1.7	<0.04	<0.5	1.12	0.16	1036	2.04
DOT–0209	<2	770	<0.5	2.1	2.5	<1	3700	11.0	20	11.0	1.5	0.26	<0.5	0.65	0.10	NA	2.06
DOT–0210–1	<2	<500	<0.5	1.6	<0.2	<1	3600	11.0	21	<5	1.3	<0.05	<0.5	0.93	0.18	1572	2.08
DOT–0210–2	<2	<500	<0.5	1.2	1.0	<1	3700	11.0	19	<5	1.3	<0.05	<0.5	0.89	0.17	1558	2.21
DOT–0211	<2	<500	<0.5	0.7	0.9	<1	4000	11.0	19	<5	1.5	<0.04	<0.5	0.85	0.12	820	1.94
DOT–0212	<2	<500	<0.5	1.4	<0.1	<1	5400	8.0	13	<5	1.2	<0.04	<0.5	0.50	0.10	789	1.89
DOT–0213	<2	<500	<0.5	1.2	1.1	<1	2900	9.0	13	<5	1.2	0.28	<0.5	0.64	0.12	1943	1.78
DOT–0214	<2	<500	<0.5	1.4	1.4	<1	3900	11.0	16	10.0	1.3	<0.05	<0.5	0.72	0.14	911	2.17
DOT–0215	<2	<500	<0.5	1.9	2.4	<1	3100	10.0	19	12.0	1.7	0.29	<0.5	0.56	0.11	NA	1.91
DOT–0216	<2	<500	<0.5	1.9	1.2	<1	3700	11.0	21	<5	1.8	0.49	<0.5	0.79	0.13	NA	2.30
DOT–0217	<2	<500	<0.5	2.7	1.3	<1	3700	14.0	23	<5	1.7	<0.05	<0.5	0.75	0.15	1597	2.39

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0218	<2	<500	<0.5	0.7	1.4	<1	3300	12.0	24	<5	1.6	<0.04	<0.5	0.78	0.13	1525	2.11
DOT–0219	<2	650	<0.5	1.5	0.6	<1	3000	8.3	16	<5	1.3	0.22	<0.5	0.62	0.08	NA	2.20
DOT–0220–1	<2	<500	<0.5	0.9	<0.1	<1	2300	8.0	17	<5	1.0	0.28	<0.5	0.62	0.08	471	1.89
DOT–0220–2	<2	<500	<0.5	1.8	<0.1	<1	2500	9.0	14	<5	1.1	<0.05	<0.5	0.61	0.12	517	2.02
DOT–0221	<2	<500	<0.5	1.5	1.2	<1	3200	8.0	15	<5	1.2	0.34	<0.5	0.49	0.10	768	1.97
DOT–0222	<2	<500	<0.5	0.8	<0.1	<1	2700	10.0	16	<5	1.3	0.30	<0.5	0.64	0.12	813	1.67
DOT–0223	<2	<500	<0.5	1.8	1.6	<1	2800	10.0	19	<5	1.5	<0.03	<0.5	0.65	0.10	NA	2.03
DOT–0224	<2	<500	<0.5	1.2	1.5	<1	2000	10.0	20	<5	1.5	0.28	<0.5	0.60	0.11	NA	1.99
DOT–0225	<2	<500	<0.5	1.3	<0.2	<1	3000	9.0	18	7.0	1.3	<0.04	<0.5	0.79	0.16	1470	1.95
DOT–0226	<2	<500	<0.5	1.3	<0.1	<1	2500	8.0	13	11.0	1.2	0.20	<0.5	0.62	0.10	NA	2.11
DOT–0227	<2	<500	<0.5	1.5	1.2	<1	2300	11.0	20	11.0	1.5	0.15	<0.5	0.60	0.14	NA	2.05
DOT–0228–1	<2	700	<0.5	1.3	0.6	<1	2400	10.0	21	10.0	1.4	<0.04	<0.5	0.65	0.17	842	2.12
DOT–0228–2	<2	650	<0.5	1.8	1.1	<1	3400	8.0	12	7.0	1.2	<0.03	<0.5	0.37	0.10	NA	2.00
DOT–0229	<2	<500	<0.5	1.3	1.1	<1	2700	11.0	18	<5	1.5	0.39	<0.5	0.77	0.14	844	1.96
DOT–0230–1	<2	<500	<0.5	1.6	1.6	<1	2700	10.0	18	19.0	1.4	<0.05	<0.5	0.82	0.13	1174	2.32
DOT–0230–2	<2	<500	<0.5	1.1	1.3	<1	2900	12.0	24	<5	1.8	0.31	<0.5	0.57	0.19	1014	1.87
DOT–0231	<3	<500	<0.5	2.1	<0.2	<1	3200	13.0	23	<5	1.7	0.62	<0.5	1.05	0.13	1224	2.40
DOT–0232	<2	900	<0.5	1.3	1.2	<1	2200	9.6	17	10.0	1.3	0.28	<0.5	0.51	0.07	NA	2.11
DOT–0233	<2	730	<0.5	1.4	0.7	<1	2200	8.1	12	<5	1.2	0.23	<0.5	0.48	0.09	NA	1.71
DOT–0234	<2	<500	<0.5	1.1	0.9	<1	3200	13.0	21	<5	1.7	<0.06	<0.5	0.83	0.14	856	2.01
DOT–0235	<2	<500	<0.5	1.8	0.7	<1	2100	9.8	16	<5	1.4	<0.03	<0.5	0.61	0.11	NA	2.05
DOT–0236	<2	<500	<0.5	1.4	1.3	<1	4100	10.0	18	10.0	1.5	0.40	<0.5	0.58	0.13	NA	1.66
DOT–0237	<2	2400	<0.5	1.4	0.7	<1	4300	8.8	14	<5	1.3	0.32	0.6	0.53	0.14	NA	1.88
DOT–0238	<2	1300	<0.5	0.8	1.4	<1	5900	9.1	20	<5	1.2	<0.07	<0.5	0.76	0.14	848	1.94
DOT–0239	<2	<500	<0.5	1.4	0.6	<1	5500	8.9	17	<5	1.2	<0.04	<0.5	0.81	0.13	NA	1.89
DOT–0240	<2	700	<0.5	1.9	2.1	<1	3600	9.0	18	13.0	1.5	0.29	<0.5	0.57	0.10	NA	1.99
DOT–0241–1	<2	<500	<0.5	1.6	1.3	<1	2900	8.7	16	8.0	1.3	0.25	<0.5	0.51	0.11	NA	1.98
DOT–0241–2	<2	<500	<0.5	2.0	1.0	<1	3600	11.0	19	16.0	1.5	<0.05	<0.5	1.01	0.17	1848	1.99

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0242	<2	<500	<0.5	1.7	1.1	1	2900	10.0	22	9.0	1.6	<0.03	<0.5	0.73	0.11	NA	2.16
DOT–0243	<2	<500	<0.5	1.1	1.2	<1	3400	11.0	18	<5	1.5	<0.06	<0.5	0.79	0.16	1779	2.18
DOT–0244	<2	<500	<0.5	0.9	1.5	<1	3900	12.0	19	18.0	1.6	0.21	<0.5	0.60	0.14	925	2.31
DOT–0245	<2	<500	<0.5	1.7	1.3	<1	3700	12.0	25	15.0	1.7	<0.04	<0.5	0.91	0.15	715	2.50
DOT–0246–1	<2	<500	<0.5	2.1	0.1	<1	3500	13.0	24	12.0	1.5	0.28	<0.5	0.90	0.17	1005	2.78
DOT–0246–2	<2	<500	<0.5	1.4	1.8	<1	3500	14.0	24	11.0	1.7	<0.06	<0.5	1.05	0.20	982	2.47
DOT–0247	<3	<500	<0.5	2.1	1.8	<1	3400	17.0	26	15.0	2.1	<0.06	<0.5	1.15	0.15	1331	2.56
DOT–0248	<2	<500	<0.5	1.1	1.0	<1	4300	12.0	21	<5	1.5	<0.04	<0.5	0.65	0.14	1090	2.26
DOT–0249	<2	<500	<0.5	1.8	1.4	<1	3300	11.0	20	<5	1.4	0.34	<0.5	0.75	0.16	888	2.40
DOT–0250–1	<2	1000	<0.5	2.1	1.8	<1	4000	12.0	20	<5	1.5	<0.05	<0.5	0.99	0.16	790	2.38
DOT–0250–2	<2	<500	<0.5	2.7	1.5	<1	3700	13.0	24	10.0	1.8	0.16	<0.5	0.86	0.09	NA	2.40
DOT–0251	<2	<500	<0.5	0.7	<0.2	<1	2800	12.0	21	9.0	1.4	<0.06	<0.5	0.66	0.13	973	2.23
DOT–0252	<2	<500	<0.5	1.2	0.7	<1	2300	10.0	18	18.0	1.4	<0.05	<0.5	0.64	0.11	1045	1.81
DOT–0253	<2	<500	<0.5	1.6	0.8	<1	2500	12.0	18	9.0	1.5	0.51	<0.5	0.85	0.14	1179	2.03
DOT–0254	<2	<500	<0.5	1.0	1.4	<1	2900	13.0	23	20.0	1.6	<0.06	<0.5	1.15	0.12	882	2.37
DOT–0255	<2	<500	<0.5	1.1	1.4	<1	2800	13.0	22	11.0	1.6	<0.05	<0.5	0.84	0.17	768	1.89
DOT–0256	<2	<500	<0.5	1.1	<0.1	<1	2400	8.8	12	12.0	1.1	<0.05	<0.5	0.52	0.10	836	1.92
DOT–0257	<2	<500	<0.5	0.9	<0.2	<1	3100	12.0	19	<5	1.6	<0.05	<0.5	0.87	0.16	1016	1.74
DOT–0258	<2	<500	<0.5	2.1	0.6	<1	2600	13.0	23	18.0	1.6	0.35	<0.5	0.54	0.05	NA	1.96
DOT–0259	<2	<500	<0.5	2.2	1.2	<1	2000	12.0	20	10.0	1.6	0.30	<0.5	0.58	0.05	NA	2.29
DOT–0260–1	<2	<500	<0.5	1.0	<0.2	<1	2600	12.0	28	<5	1.6	<0.07	<0.5	0.92	0.18	1242	2.04
DOT–0260–2	<2	<500	<0.5	2.3	1.2	<1	2000	12.0	23	12.0	1.6	0.31	<0.5	0.76	0.09	NA	2.20
DOT–0261	<2	<500	<0.5	1.4	<0.1	<1	2500	11.0	23	10.0	1.5	<0.04	<0.5	0.93	0.15	461	2.84
DOT–0262	<2	<500	<0.5	0.9	<0.2	2	2400	9.4	17	<5	1.3	<0.05	<0.5	0.68	0.17	993	1.75
DOT–0263–1	<2	720	<0.5	1.1	1.0	<1	2000	9.7	18	<5	1.3	0.42	<0.5	0.88	0.06	NA	2.11
DOT–0263–2	<2	<500	<0.5	0.8	0.7	<1	4000	8.4	18	10.0	1.1	<0.05	<0.5	0.75	0.15	2026	1.64
DOT–0264	<2	<500	<0.5	1.0	1.0	<1	3800	7.0	13	<5	1.0	<0.05	<0.5	0.44	0.08	1328	1.85
DOT–0265	<2	<500	<0.5	1.1	0.7	<1	3100	12.0	18	13.0	1.5	0.40	<0.5	0.91	0.22	564	1.94

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0266	<2	<500	<0.5	0.9	1.6	<1	3500	10.0	20	<5	1.4	<0.05	<0.5	0.81	0.16	887	2.13
DOT–0267	<2	1100	<0.5	1.3	<0.2	<1	2800	11.0	19	16.0	1.5	<0.06	<0.5	0.73	0.19	914	2.09
DOT–0268	<2	760	<0.5	1.8	1.2	<1	2500	9.5	18	9.0	1.4	0.35	<0.5	0.76	0.11	NA	2.36
DOT–0270–1	<2	<500	<0.5	0.9	1.4	<1	3100	14.0	26	<5	1.6	<0.05	<0.5	0.96	0.20	675	2.08
DOT–0270–2	4	<500	<0.5	1.4	0.9	<1	2600	10.0	19	<5	1.5	<0.03	<0.5	0.71	0.12	NA	1.97
DOT–0271	<2	<500	<0.5	1.5	<0.1	<1	2400	9.0	19	11.0	1.2	<0.04	<0.5	0.67	0.10	544	2.19
DOT–0272	<2	840	<0.5	1.5	1.4	<1	2100	12.0	23	11.0	1.6	0.26	<0.5	1.02	0.14	NA	2.17
DOT–0273	<2	1700	<0.5	1.4	0.8	<1	2700	11.0	18	<5	1.3	<0.05	<0.5	0.70	0.16	891	2.02
DOT–0274	<2	<500	<0.5	0.8	1.1	<1	3700	13.0	25	11.0	1.8	0.48	<0.5	0.99	0.17	473	2.02
DOT–0275	<2	<500	<0.5	1.8	1.1	<1	3300	11.0	21	<5	1.7	0.26	<0.5	0.67	0.13	NA	2.42
DOT–0276	<2	<500	<0.5	2.3	0.8	<1	3700	12.0	22	<5	1.7	0.30	<0.5	0.49	0.10	1445	2.22
DOT–0277	<2	730	<0.5	1.5	1.1	<1	3200	10.0	19	8.0	1.4	0.27	<0.5	0.55	0.05	NA	2.13
DOT–0278	<2	<500	<0.5	1.8	1.5	<1	3000	11.0	21	<5	1.5	0.33	<0.5	0.92	0.08	NA	2.10
DOT–0279	<2	<500	<0.5	2.4	1.1	<1	3300	13.0	23	11.0	1.9	0.24	<0.5	0.78	0.20	NA	2.44
DOT–0280–1	<2	<500	<0.5	1.7	0.7	<1	2500	11.0	18	7.0	1.5	0.46	<0.5	0.75	0.12	NA	1.89
DOT–0280–2	<2	<500	<0.5	1.5	<0.1	<1	2700	9.0	15	11.0	1.2	<0.04	<0.5	0.68	0.06	1201	1.79
DOT–0281	<2	<500	<0.5	2.0	1.1	<1	2400	12.0	26	11.0	1.6	<0.03	<0.5	0.90	0.14	NA	1.72
DOT–0282	<2	<500	<0.5	1.6	<0.2	<1	2000	9.5	18	<5	1.3	0.29	<0.5	0.44	0.13	NA	2.00
DOT–0283	<2	<500	<0.5	1.8	1.1	<1	3000	13.0	27	13.0	1.8	0.37	<0.5	0.81	0.09	NA	1.92
DOT–0284	<2	360	<0.5	1.3	1.0	<1	2000	7.8	15	9.0	1.2	<0.03	<0.5	0.52	0.11	NA	1.90
DOT–0285	<2	<500	<0.5	1.6	0.9	<1	2600	13.0	23	15.0	1.7	0.40	<0.5	0.91	0.17	716	2.40
DOT–0286	<2	<500	<0.5	2.2	1.3	<1	3100	15.0	26	16.0	1.7	0.32	1.3	1.01	0.09	770	1.86
DOT–0287	<2	<500	<0.5	0.9	1.0	<1	2200	11.0	16	<5	1.4	0.44	<0.5	0.79	0.15	858	2.11
DOT–0288	<2	<500	<0.5	1.8	1.1	<1	2700	16.0	26	18.0	2.0	<0.07	<0.5	1.12	0.18	749	2.21
DOT–0289	<2	<500	<0.5	1.6	<0.2	<1	2400	13.0	23	<5	1.7	<0.05	<0.5	0.85	0.17	735	2.18
DOT–0290–1	<2	<500	<0.5	1.8	<0.2	<1	2300	13.0	18	<5	1.7	0.77	<0.5	0.77	0.08	826	1.94
DOT–0290–2	<2	<500	<0.5	2.2	0.7	<1	2300	16.0	18	<5	2.0	0.37	<0.5	1.24	0.20	980	2.03
DOT–0291	<2	<500	<0.5	1.6	0.8	<1	3600	13.0	26	10.0	1.7	0.31	<0.5	0.90	0.13	1487	2.19

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0292	4	<500	<0.5	1.3	0.9	<1	3000	8.3	16	<5	1.2	0.29	<0.5	0.58	0.13	NA	2.23
DOT–0293	<2	750	<0.5	1.8	1.6	<1	2100	10.0	22	13.0	1.4	0.14	<0.5	0.79	0.10	NA	2.35
DOT–0294	<2	<500	<0.5	1.8	1.3	<1	3100	13.0	22	13.0	1.8	<0.04	<0.5	0.83	0.05	NA	1.89
DOT–0295	<2	<500	<0.5	1.6	<0.2	<1	2200	11.0	19	8.0	1.4	0.51	<0.5	0.89	0.17	728	2.12
DOT–0296–1	<2	<500	<0.5	1.2	<0.2	<1	3000	11.0	22	<5	1.5	<0.05	<0.5	1.05	0.12	1073	1.96
DOT–0296–2	<2	540	<0.5	1.6	<0.2	<1	2400	11.0	20	<5	1.4	0.37	<0.5	0.57	0.12	NA	1.93
DOT–0297	<2	<500	<0.5	1.2	0.8	<1	2400	11.0	19	<5	1.5	<0.04	<0.5	0.86	0.15	NA	1.94
DOT–0298	<2	<500	<0.5	1.4	1.9	<1	2800	12.0	22	<5	1.4	<0.06	<0.5	0.81	0.16	990	2.22
DOT–0299	<2	<500	<0.5	0.9	1.2	<1	2700	11.0	21	<5	1.2	<0.05	<0.5	0.62	0.12	946	1.80
DOT–0300–1	<2	<500	<0.5	1.0	1.3	<1	2400	11.0	19	12.0	1.5	0.39	<0.5	0.71	0.14	823	2.12
DOT–0300–2	<2	<500	<0.5	1.1	0.8	<1	2300	9.1	16	<5	1.2	<0.04	<0.5	0.74	0.16	805	2.10
DOT–0301	<2	<500	<0.5	1.1	0.8	<1	2700	8.2	16	10.0	1.1	<0.04	<0.5	0.66	0.11	1015	2.18
DOT–0302	<2	<500	<0.5	1.7	0.9	<1	2600	13.0	20	<5	1.7	0.50	<0.5	0.80	0.19	1102	1.98
DOT–0303	<2	<500	<0.5	1.5	1.3	<1	3000	12.0	20	<5	1.6	<0.06	<0.5	0.95	0.14	1124	1.90
DOT–0304	<2	<500	<0.5	1.4	1.6	<1	2800	9.0	18	<5	1.3	<0.06	<0.5	0.52	0.10	819	1.96
DOT–0305	<2	<500	<0.5	1.0	1.3	<1	2600	11.0	18	<5	1.4	0.31	<0.5	0.92	0.18	1077	2.16
DOT–0306	<2	<500	<0.5	1.4	1.2	<1	2800	12.0	20	<5	1.4	<0.07	<0.5	0.75	0.15	1877	2.09
DOT–0307	<2	<500	<0.5	1.0	0.9	<1	2500	7.4	14	6.0	1.0	<0.03	<0.5	0.60	0.08	NA	2.24
DOT–0308	<2	<500	<0.5	1.1	0.6	<1	2600	9.0	14	14.0	1.2	<0.04	<0.5	0.76	0.10	1068	2.03
DOT–0309	<2	<500	<0.5	1.0	0.9	<1	2400	8.0	16	<5	1.1	<0.06	<0.5	0.65	0.13	987	2.15
DOT–0310–1	<2	<500	<0.5	1.8	0.9	<1	2800	9.0	25	<5	1.2	<0.06	<0.5	0.98	0.14	1270	1.78
DOT–0310–2	<2	<500	<0.5	1.4	1.0	<1	2900	8.2	16	7.0	1.2	0.34	<0.5	0.56	0.11	NA	1.59
DOT–0311	<2	<500	<0.5	1.2	<0.1	<1	3400	11.0	21	<5	1.5	<0.04	<0.5	0.66	0.14	804	1.82
DOT–0312	<2	<500	<0.5	1.5	1.1	<1	2300	10.0	15	<5	1.3	<0.06	<0.5	0.97	0.12	1039	2.17
DOT–0313	<2	<500	<0.5	1.1	1.5	<1	3500	13.0	19	<5	1.6	<0.06	<0.5	0.89	0.19	1385	1.74
DOT–0314	<2	<500	<0.5	1.1	0.7	<1	2600	9.1	16	8.0	1.2	<0.04	<0.5	0.75	0.13	732	1.80
DOT–0315–1	<2	<500	<0.5	1.3	<0.2	<1	3100	12.0	23	13.0	1.6	<0.06	<0.5	0.47	0.10	1078	2.18
DOT–0315–2	<2	<500	<0.5	2.1	1.2	<1	2300	14.0	28	<5	1.8	<0.06	<0.5	0.91	0.27	857	2.33

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0316	<2	<500	<0.5	1.6	1.3	<1	2600	12.0	20	<5	1.5	<0.06	<0.5	0.56	0.17	680	2.28
DOT–0317	<2	<500	<0.5	1.8	1.4	<1	2500	16.0	28	<5	2.1	<0.04	<0.5	0.98	0.21	591	2.31
DOT–0318	<2	<500	<0.5	2.4	1.2	<1	2700	18.0	33	17.0	2.4	0.54	<0.5	0.92	0.15	735	2.66
DOT–0319–1	<2	<500	<0.5	4.2	1.4	<1	1900	28.0	53	23.0	3.3	0.60	<0.5	1.35	0.27	504	3.10
DOT–0319–2	<2	<500	<0.5	2.6	1.5	<1	2300	17.0	31	13.0	2.2	0.44	<0.5	0.94	0.18	NA	2.55
DOT–0320–1	<2	910	<0.5	2.7	1.4	<1	2600	18.0	35	<5	2.3	<0.06	<0.5	1.08	0.19	891	2.11
DOT–0320–2	<2	<500	<0.5	2.3	1.0	<1	2400	14.0	29	10.0	1.8	<0.03	<0.5	0.68	0.05	NA	2.02
DOT–0321	<2	<500	<0.5	0.8	<0.2	<1	2400	12.0	22	<5	1.6	0.29	<0.5	0.64	0.11	763	2.20
DOT–0322	<2	<500	<0.5	1.7	1.2	<1	2100	11.0	19	9.0	1.4	0.31	0.5	0.70	0.11	NA	2.05
DOT–0323	<2	<500	<0.5	1.7	0.9	1	2100	9.2	17	9.0	1.3	0.23	<0.5	0.60	0.10	NA	2.01
DOT–0324	<2	<500	<0.5	1.4	1.0	<1	2200	9.2	16	<5	1.3	0.21	<0.5	0.67	0.10	NA	1.90
DOT–0325	<2	<500	<0.5	1.3	1.2	<1	2200	12.0	19	11.0	1.5	<0.05	<0.5	0.81	0.16	686	2.23
DOT–0326	<2	<500	<0.5	1.5	1.2	<1	3000	10.0	19	8.0	1.4	<0.03	<0.5	0.93	0.14	NA	1.87
DOT–0327	<2	<500	<0.5	1.7	1.3	<1	3200	11.0	17	<5	1.5	<0.05	<0.5	0.63	0.17	1073	1.75
DOT–0328	<2	<500	<0.5	1.5	0.9	<1	2700	12.0	22	<5	1.6	0.52	<0.5	1.02	0.16	806	1.83
DOT–0329	<2	1100	<0.5	1.4	0.4	<1	2600	9.2	13	<5	1.2	<0.06	<0.5	0.75	0.10	1266	1.87
DOT–0330–1	<2	<500	<0.5	1.6	1.0	<1	2500	13.0	22	19.0	1.7	0.59	<0.5	0.78	0.07	1322	1.90
DOT–0330–2	<2	<500	<0.5	2.2	1.6	<1	2200	13.0	22	10.0	1.7	0.31	<0.5	1.02	0.15	NA	2.11
DOT–0331	<2	<500	<0.5	0.9	0.6	<1	2500	13.0	22	<5	1.7	0.58	<0.5	0.84	0.17	951	1.91
DOT–0332	<2	1200	<0.5	1.2	<0.2	<1	2500	14.0	27	<5	1.9	<0.06	<0.5	1.21	0.15	972	2.17
DOT–0333	<2	<500	<0.5	1.7	1.2	<1	2300	12.0	20	<5	1.5	<0.05	<0.5	0.73	0.15	828	2.14
DOT–0334	<2	<500	<0.5	1.0	<0.2	<1	2200	12.0	18	<5	1.6	<0.06	<0.5	0.77	0.09	1020	2.01
DOT–0335	<2	<500	<0.5	1.2	1.9	<1	2500	12.0	19	<5	1.6	<0.05	<0.5	0.83	0.16	697	2.05
DOT–0336	<2	<500	<0.5	1.4	1.3	<1	3000	11.0	22	16.0	1.2	<0.05	<0.5	0.75	0.15	825	1.91
DOT–0337–1	<2	<500	<0.5	1.0	<0.2	<1	3400	12.0	23	10.0	1.4	<0.05	<0.5	0.86	0.17	1506	1.95
DOT–0337–2	<2	<500	<0.5	1.9	1.1	<1	3200	11.0	20	<5	1.4	0.24	<0.5	0.69	0.14	NA	2.03
DOT–0338	<2	<500	<0.5	1.5	1.2	<1	3100	8.7	16	<5	1.3	0.10	<0.5	0.62	0.12	NA	2.22
DOT–0339	<2	<500	<0.5	0.9	<0.2	<1	3500	12.0	21	<5	1.6	<0.06	<0.5	1.08	0.18	1527	2.05

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0340–1	<2	<500	<0.5	0.6	<0.2	<1	2600	10.0	15	<5	1.2	<0.06	<0.5	0.61	0.12	924	2.33
DOT–0340–2	<2	890	<0.5	1.4	1.4	<1	2600	11.0	19	10.0	1.5	0.25	<0.5	0.85	<0.05	NA	1.75
DOT–0340–3	<2	<500	<0.5	1.4	1.8	<1	3200	13.0	21	14.0	1.8	0.35	<0.5	0.95	0.18	1478	1.82
DOT–0340–4	<2	<500	<0.5	1.4	1.3	<1	2400	11.0	24	14.0	1.8	0.37	<0.5	0.82	0.15	NA	2.40
DOT–0341–1	<2	<500	<0.5	1.2	2.4	<1	3500	14.0	27	<5	1.8	<0.06	<0.5	1.02	0.16	1519	1.98
DOT–0341–2	<2	<500	<0.5	1.7	0.9	<1	1900	12.0	22	<5	1.7	0.21	<0.5	0.82	0.09	NA	2.38
DOT–0342–1	<2	590	<0.5	1.8	1.6	<1	2100	11.0	22	17.0	1.6	0.22	<0.5	0.93	0.13	NA	1.94
DOT–0342–2	<2	970	<0.5	0.9	0.7	<1	2000	8.3	13	<5	1.1	<0.04	<0.5	0.55	0.08	NA	2.03
DOT–0343–1	<2	<500	<0.5	1.6	<0.2	<1	2700	13.0	19	15.0	1.6	<0.06	<0.5	1.13	0.20	1347	2.29
DOT–0343–2	<2	830	<0.5	2.4	1.2	<1	2100	15.0	25	10.0	1.8	0.32	<0.5	0.80	0.13	NA	2.22
DOT–0344–1	<2	<500	<0.5	1.3	1.8	<1	2300	13.0	19	<5	1.7	<0.07	<0.5	0.48	0.10	732	2.32
DOT–0344–2	<2	<500	<0.5	4.4	1.2	<1	3300	24.0	44	5.0	2.7	0.84	0.6	1.40	0.12	1101	2.63
DOT–0345–1	<2	<500	<0.5	3.8	1.5	<1	3800	33.0	58	24.0	3.4	<0.06	<0.5	1.62	0.23	763	3.11
DOT–0345–2	<3	<500	<0.5	1.6	1.5	<1	2800	13.0	25	13.0	1.7	<0.06	<0.5	0.94	0.18	1026	2.45
DOT–0346–1	<2	<500	<0.5	4.5	1.8	<1	2300	32.0	62	28.0	4.0	0.61	<0.5	1.48	0.06	NA	3.30
DOT–0346–2	<2	<500	<0.5	1.0	0.9	<1	2500	9.4	18	7.0	1.4	<0.03	<0.5	0.61	0.16	NA	2.22
DOT–0347	<2	<500	<0.5	2.3	<0.2	<1	2500	18.0	33	17.0	2.3	<0.05	<0.5	1.16	0.22	1035	2.41
DOT–0348	<2	<500	<0.5	1.3	1.1	<1	3200	18.0	30	<5	2.4	<0.06	<0.5	1.15	0.22	871	2.14
DOT–0349	<2	<500	1.2	1.6	0.8	<1	2200	12.0	23	9.0	1.6	0.38	<0.5	0.68	0.10	NA	1.72
DOT–0350–1	<2	<500	<0.5	1.8	0.8	<1	3000	10.0	20	<5	1.3	<0.05	<0.5	0.75	0.13	761	1.88
DOT–0350–2	<2	1000	<0.5	1.3	0.9	<1	2400	9.9	20	10.0	1.5	0.39	<0.5	0.72	0.13	NA	2.05
DOT–0351	<2	<500	<0.5	1.7	0.8	<1	2000	11.0	18	<5	1.4	0.25	<0.5	0.71	0.07	NA	1.86
DOT–0352	<2	<500	<0.5	1.6	1.3	<1	2500	13.0	20	16.0	1.7	0.43	<0.5	1.03	0.08	NA	2.00
DOT–0353	<2	<500	<0.5	1.6	1.7	<1	2400	10.0	14	13.0	1.5	<0.03	<0.5	0.62	0.06	NA	1.92
DOT–0354	<2	<500	<0.5	1.1	<0.2	<1	2600	11.0	18	<5	1.3	<0.06	<0.5	0.87	0.17	701	2.07
DOT–0355	<2	<500	<0.5	1.2	<0.1	<1	1900	8.6	16	<5	1.3	<0.03	<0.5	0.56	0.13	NA	2.14
DOT–0356	<2	<500	<0.5	0.7	<0.2	<1	1900	10.0	13	<5	1.3	<0.05	<0.5	0.86	0.10	692	2.20
DOT–0357	<2	<500	<0.5	0.9	1.6	<1	2800	12.0	21	<5	1.6	<0.06	<0.5	0.87	0.19	1010	1.91

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0358	<2	<500	<0.5	0.7	1.2	<1	2100	9.5	13	10.0	1.2	<0.06	<0.5	0.69	0.11	865	2.08
DOT–0359	<2	<500	<0.5	0.3	1.1	1	2700	9.5	16	<5	1.3	<0.06	<0.5	0.56	0.12	1184	1.95
DOT–0360–1	<2	<500	<0.5	2.1	1.0	<1	3800	13.0	23	14.0	1.6	<0.06	<0.5	0.78	0.18	1281	2.00
DOT–0360–2	<2	<500	<0.5	1.0	0.9	<1	3600	12.0	19	<5	1.5	0.32	<0.5	0.72	0.14	1385	1.75
DOT–0361	<2	<500	<0.5	1.3	<0.1	<1	4000	12.0	20	<5	1.5	<0.05	<0.5	0.63	0.14	1196	1.90
DOT–0362	<2	<500	<0.5	1.3	1.4	<1	2500	11.0	22	9.0	1.4	0.31	<0.5	0.53	0.05	NA	2.19
DOT–0363	<2	990	<0.5	1.6	1.8	1	2400	11.0	21	<5	1.6	0.30	<0.5	0.76	0.14	NA	1.82
DOT–0364	<2	670	<0.5	1.5	<0.1	<1	2500	9.5	15	<5	1.4	0.26	<0.5	0.75	0.14	NA	1.99
DOT–0365	<2	<500	<0.5	1.7	1.8	<1	2600	9.8	20	<5	1.3	0.30	<0.5	0.58	0.07	NA	1.92
DOT–0366	<2	660	<0.5	1.3	1.8	<1	2800	8.6	14	<5	1.2	<0.04	<0.5	0.50	0.13	NA	1.85
DOT–0367	<2	<500	<0.5	1.6	1.1	<1	3800	12.0	24	<5	1.6	<0.05	<0.5	0.86	0.17	880	2.08
DOT–0368	<2	600	<0.5	0.9	1.1	<1	2700	8.0	20	14.0	1.1	0.20	<0.5	0.56	0.13	898	1.87
DOT–0369	<2	<500	<0.5	1.8	1.2	<1	2300	12.0	25	16.0	1.9	0.47	<0.5	0.82	0.15	NA	2.11
DOT–0370	<2	1200	<0.5	2.5	1.5	<1	3500	14.0	27	9.0	1.8	<0.06	<0.5	0.74	0.13	1539	1.88
DOT–0371	<2	<500	<0.5	2.9	0.9	<1	2300	15.0	27	15.0	2.0	0.37	<0.5	0.85	0.08	NA	2.18
DOT–0372	<2	<500	<0.5	2.1	1.4	2	2200	11.0	18	13.0	1.4	0.34	<0.5	0.78	0.13	800	2.38
DOT–0373	<2	<500	<0.5	2.3	1.1	<1	2400	12.0	21	<5	1.5	0.29	<0.5	0.85	0.17	979	2.19
DOT–0374	<2	<500	<0.5	1.4	1.3	<1	2300	11.0	19	<5	1.5	0.45	<0.5	0.63	0.06	NA	1.86
DOT–0375	<2	1500	<0.5	1.3	<0.2	<1	2200	11.0	19	<5	1.3	<0.05	<0.5	0.83	0.16	892	2.10
DOT–0376	<2	<500	<0.5	1.8	1.1	<1	2400	11.0	18	12.0	1.3	<0.05	<0.5	0.81	0.16	596	2.15
DOT–0377	<2	<500	<0.5	1.1	0.9	<1	2600	12.0	20	<5	1.4	<0.06	<0.5	0.86	0.18	1208	1.90
DOT–0378	<2	<500	<0.5	2.0	1.7	<1	2700	14.0	28	9.0	1.9	0.39	<0.5	1.07	0.19	1129	2.08
DOT–0379	<2	<500	<0.5	2.4	1.3	<1	3000	15.0	28	10.0	1.9	<0.05	<0.5	0.77	0.15	874	2.29
DOT–0380	<2	990	<0.5	1.2	1.1	<1	2100	9.6	16	<5	1.4	0.28	<0.5	0.71	0.07	NA	2.02
DOT–0381–1	<2	<500	<0.5	1.3	1.2	<1	2100	9.9	20	<5	1.4	<0.04	<0.5	0.75	0.12	NA	2.10
DOT–0381–2	<2	<500	<0.5	1.4	0.9	<1	2700	10.0	18	<5	1.3	<0.04	<0.5	0.58	0.09	942	2.07
DOT–0382	<3	<500	<0.5	1.2	<0.2	<1	2500	9.0	17	<5	1.1	<0.06	<0.5	0.71	0.14	859	1.98
DOT–0383	<2	<500	<0.5	1.2	<0.1	<1	2600	8.0	18	<5	1.1	0.23	<0.5	0.66	0.13	1003	1.72

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0384–1	<2	<500	<0.5	1.4	1.3	<1	2300	8.1	18	<5	1.3	<0.03	<0.5	0.56	0.11	NA	1.86
DOT–0384–2	<2	770	<0.5	1.7	1.1	<1	2500	10.0	20	10.0	1.4	0.49	<0.5	0.59	0.13	NA	1.97
DOT–0385	<2	1300	<0.5	1.3	1.1	1	2400	9.7	18	<5	1.5	<0.03	<0.5	0.88	0.11	NA	2.05
DOT–0386	<2	<500	<0.5	1.9	<0.2	<1	3300	11.0	20	10.0	1.3	0.36	<0.5	0.61	0.12	1058	2.09
DOT–0387	<2	<500	<0.5	2.5	1.0	<1	2800	17.0	32	<5	2.3	0.56	<0.5	1.02	0.15	784	2.64
DOT–0388	3	<500	<0.5	2.2	1.4	<1	3500	13.0	25	12.0	1.8	0.26	<0.5	0.72	0.14	NA	2.51
DOT–0389–1	<2	<500	<0.5	1.7	1.1	<1	2600	11.0	20	6.0	1.6	0.34	<0.5	0.66	0.12	NA	2.57
DOT–0389–2	<2	<500	<0.5	1.6	1.2	<1	3600	14.0	26	22.0	1.8	<0.05	<0.5	0.90	0.19	1320	2.32
DOT–0390–1	<2	<500	<0.5	2.1	1.7	<1	3200	13.0	24	9.0	1.9	0.38	<0.5	0.83	0.16	NA	2.47
DOT–0390–2	<2	<500	<0.5	2.2	0.9	<1	3000	13.0	24	9.0	2.1	0.32	<0.5	0.96	0.13	NA	2.43
DOT–0391	<2	<500	<0.5	2.3	2.0	<1	2900	14.0	24	15.0	2.2	0.45	<0.5	1.05	0.20	NA	2.37
DOT–0392	<2	<500	<0.5	1.8	1.7	<1	3600	13.0	22	<5	1.7	<0.04	<0.5	0.91	0.17	906	2.24
DOT–0393	<2	<500	<0.5	4.1	<0.2	<1	2400	18.0	32	13.0	2.2	0.54	<0.5	1.36	0.22	814	2.63
DOT–0394	<3	<500	<0.5	3.6	<0.2	<1	2200	23.0	45	<5	2.6	<0.06	<0.5	1.56	0.30	806	2.88
DOT–0395	<2	<500	<0.5	2.6	1.2	<1	2000	13.0	22	<5	2.0	0.36	<0.5	0.88	0.15	NA	2.17
DOT–0396	<2	<500	<0.5	2.1	<0.2	<1	2400	15.0	28	14.0	2.0	0.51	<0.5	0.91	0.20	971	2.40
DOT–0397	<2	<500	<0.5	1.6	0.9	<1	2700	14.0	24	<5	1.8	<0.05	<0.5	0.86	0.18	1001	1.85
DOT–0398	<2	<500	<0.5	1.5	1.6	<1	2700	15.0	27	<5	1.9	<0.05	<0.5	0.74	0.15	1070	2.20
DOT–0399	<2	<500	<0.5	2.6	1.6	<1	2700	18.0	30	12.0	2.4	<0.06	<0.5	1.35	0.21	979	2.25
DOT–0400–1	<2	720	<0.5	1.8	1.2	<1	2200	11.0	19	13.0	1.5	<0.03	<0.5	0.72	0.12	NA	2.03
DOT–0400–2	<2	<500	<0.5	0.9	1.0	<1	2200	11.0	16	<5	1.4	0.26	<0.5	0.79	0.16	1037	1.83
DOT–0401	4	670	<0.5	2.2	<0.2	<1	2000	13.0	24	<5	1.9	0.38	<0.5	0.62	0.07	NA	2.62
DOT–0402	<2	<500	<0.5	1.0	<0.2	<1	2800	11.0	20	<5	1.3	<0.05	<0.5	0.85	0.17	726	2.24
DOT–0403	<2	<500	<0.5	1.5	0.8	<1	3700	12.0	19	17.0	1.6	<0.05	<0.5	1.03	0.20	1389	2.04
DOT–0404	<2	<500	<0.5	1.2	0.8	<1	3200	11.0	20	<5	1.5	<0.05	<0.5	0.68	0.11	1554	1.93
DOT–0405	<2	<500	<0.5	1.2	2.4	<1	2500	9.5	17	<5	1.4	0.35	<0.5	0.76	0.11	NA	2.25
DOT–0406	<2	<500	<0.5	1.3	0.9	<1	2300	9.3	14	10.0	1.3	0.33	<0.5	0.67	0.07	NA	2.03
DOT–0407	<2	<500	<0.5	1.3	1.2	<1	3400	14.0	27	9.0	2.0	0.60	<0.5	0.91	0.24	950	2.27

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0408	<2	<500	<0.5	1.8	1.3	<1	2900	11.0	21	8.0	1.7	0.31	<0.5	0.70	<0.05	NA	2.27
DOT–0409	<2	<500	<0.5	2.3	1.3	<1	2900	12.0	23	11.0	1.9	0.41	<0.5	0.71	0.13	NA	2.14
DOT–0410–1	<2	<500	<0.5	2.8	2.1	<1	2800	14.0	26	14.0	1.9	0.40	<0.5	0.90	0.14	NA	2.38
DOT–0410–2	<2	<500	<0.5	1.8	2.0	<1	3100	13.0	25	10.0	2.0	0.38	<0.5	0.91	0.17	NA	2.32
DOT–0411	<2	<500	<0.5	1.6	1.0	<1	3700	16.0	30	21.0	2.2	<0.05	<0.5	1.09	0.21	1772	2.45
DOT–0412	<2	<500	<0.5	2.2	0.9	<1	3100	13.0	26	9.0	2.0	0.47	<0.5	0.85	0.17	NA	2.40
DOT–0413	<2	<500	<0.5	3.1	1.6	<1	3400	19.0	30	17.0	2.2	0.47	<0.5	1.05	0.20	1299	2.15
DOT–0414–1	<2	<500	<0.5	1.6	<0.1	<1	3000	12.0	21	<5	1.6	<0.05	<0.5	0.90	0.18	1053	2.07
DOT–0414–2	<2	770	<0.5	2.4	1.2	<1	3500	15.0	29	14.0	2.1	0.33	<0.5	0.80	0.07	NA	2.05
DOT–0415	<2	<500	<0.5	2.8	1.2	<1	2300	17.0	31	12.0	2.1	0.22	<0.5	1.10	0.17	NA	2.34
DOT–0416	<2	<500	<0.5	1.9	<0.2	<1	2200	13.0	24	17.0	1.5	<0.06	<0.5	0.92	0.18	1053	2.30
DOT–0417	<2	<500	<0.5	1.9	<0.2	<1	2900	14.0	25	<5	1.9	<0.05	<0.5	1.06	0.16	878	1.83
DOT–0418	3	<500	0.6	1.7	<0.3	<1	2000	9.7	16	<5	1.5	<0.04	<0.5	0.64	0.07	NA	2.23
DOT–0419	<2	<500	<0.5	1.5	0.7	<1	2000	10.0	20	<5	1.5	<0.04	<0.5	0.57	0.12	NA	2.08
DOT–0420–1	<2	<500	<0.5	1.0	<0.2	<1	2100	9.0	16	6.0	1.1	<0.06	<0.5	0.45	0.09	1214	2.03
DOT–0420–2	<2	<500	<0.5	1.6	<0.2	<1	1900	9.8	19	<5	1.5	0.28	<0.5	0.47	0.13	NA	2.19
DOT–0421	<2	<500	1.0	2.0	0.8	<1	2000	12.0	20	<5	1.7	<0.03	<0.5	0.79	0.11	NA	2.18
DOT–0422	<2	<500	<0.5	1.8	1.0	<1	3300	13.0	22	13.0	1.5	<0.06	<0.5	1.08	0.20	801	2.37
DOT–0423	<2	<500	<0.5	1.3	1.2	<1	2700	8.6	15	<5	1.2	0.23	<0.5	0.83	0.08	NA	2.16
DOT–0424	<2	710	1.2	1.2	1.2	<1	2600	10.0	17	<5	1.5	<0.03	<0.5	0.62	0.14	NA	1.87
DOT–0425	<2	<500	<0.5	2.0	<0.3	9	2200	12.0	19	<5	1.8	<0.04	<0.5	1.11	0.06	NA	1.71
DOT–0426	<2	<500	<0.5	0.4	0.9	<1	2800	11.0	18	<5	1.3	<0.06	<0.5	0.76	0.15	829	2.09
DOT–0427	<2	<500	<0.5	1.9	1.2	<1	2700	13.0	31	<5	1.8	0.44	<0.5	0.73	0.18	1263	2.15
DOT–0428	<2	<500	<0.5	1.2	<0.1	<1	2900	9.6	19	<5	1.3	<0.05	1.0	0.64	0.13	1360	1.84
DOT–0429	<2	<500	<0.5	1.5	<0.1	<1	3300	12.0	23	12.0	1.5	0.50	<0.5	1.01	0.23	669	2.25
DOT–0430–1	<2	<500	<0.5	1.6	0.9	<1	3400	11.0	19	<5	1.5	0.33	<0.5	0.46	0.05	NA	1.87
DOT–0430–2	<2	<500	<0.5	0.8	1.1	<1	4000	11.0	18	13.0	1.6	<0.05	<0.5	0.64	0.14	993	1.68
DOT–0431	<2	<500	<0.5	2.1	1.6	<1	3100	14.0	24	<5	1.8	<0.05	<0.5	0.96	0.16	960	1.68

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0432	<2	940	<0.5	2.2	<0.2	<1	3200	14.0	22	17.0	1.7	<0.05	<0.5	0.88	0.17	1678	2.20
DOT–0433	<2	<500	<0.5	1.5	1.2	<1	3700	13.0	26	15.0	1.6	<0.05	<0.5	0.98	0.20	2610	2.01
DOT–0434	<2	<500	<0.5	2.5	1.1	<1	2600	15.0	25	16.0	2.0	0.44	<0.5	0.90	0.12	NA	2.48
DOT–0435	<2	<500	<0.5	2.0	0.8	<1	2800	14.0	24	<5	1.7	<0.05	<0.5	0.89	0.20	690	2.24
DOT–0436	<2	<500	<0.5	3.4	1.3	<1	3300	19.0	32	18.0	2.5	<0.05	<0.5	0.95	0.18	795	2.64
DOT–0437	<2	<500	<0.5	5.5	0.9	<1	2500	29.0	52	18.0	3.2	0.72	<0.5	1.50	0.25	1150	3.37
DOT–0438	<2	730	<0.5	2.2	0.7	<1	1800	13.0	23	<5	1.8	<0.03	<0.5	0.92	0.13	NA	2.00
DOT–0439	<2	680	<0.5	1.5	1.7	<1	1800	10.0	18	<5	1.4	0.10	<0.5	0.72	0.13	NA	2.18
DOT–0441	<2	<500	<0.5	2.1	0.1	<1	2400	13.0	25	11.0	1.6	0.45	<0.5	0.89	0.12	797	2.48
DOT–0442	<2	<500	<0.5	1.5	0.8	<1	2500	12.0	18	<5	1.5	<0.03	<0.5	0.69	0.12	989	1.86
DOT–0443	<2	1500	<0.5	1.0	0.8	<1	2500	8.3	14	<5	1.0	<0.03	<0.5	0.58	0.10	2209	1.78
DOT–0444	<2	<500	<0.5	2.0	1.1	<1	2700	12.0	19	<5	1.8	0.35	<0.5	0.62	0.06	NA	2.22
DOT–0445	<2	<500	<0.5	1.2	1.1	<1	3500	11.0	19	12.0	1.4	0.29	<0.5	0.61	0.13	1254	2.09
DOT–0446	<2	<500	<0.5	0.8	0.7	<1	2600	6.5	11	7.0	0.8	0.16	<0.5	0.54	0.09	744	2.44
DOT–0447	<2	<500	<0.5	2.2	1.3	<1	2900	14.0	26	11.0	2.0	<0.06	<0.5	1.07	0.06	1171	2.20
DOT–0448	<2	<500	<0.5	1.5	1.1	<1	3100	12.0	24	13.0	1.5	<0.06	<0.5	0.99	0.20	974	2.21
DOT–0449	<2	<500	1.1	1.3	0.7	<1	3100	8.6	17	<5	1.3	<0.04	<0.5	0.59	0.15	NA	1.95
DOT–0450	<2	<500	<0.5	1.2	0.8	<1	2600	8.6	16	<5	1.2	<0.04	<0.5	0.58	0.10	NA	2.47
DOT–0451	<2	<500	<0.5	1.5	1.0	<1	3100	10.0	18	<5	1.6	0.38	<0.5	0.82	0.15	NA	1.84
DOT–0452	<2	750	<0.5	1.2	1.2	4	3300	8.6	13	<5	1.1	<0.04	<0.5	0.58	<0.05	NA	1.77
DOT–0453–1	<2	900	<0.5	5.0	2.8	<1	1900	28.0	54	24.0	3.1	0.79	<0.5	1.60	0.30	456	3.76
DOT–0453–2	<2	<500	<0.5	1.2	1.2	<1	3600	15.0	28	<5	2.1	<0.05	<0.5	0.91	0.18	1542	2.15
DOT–0454	<2	<500	<0.5	2.4	1.2	<1	3600	13.0	25	13.0	1.6	0.37	<0.5	0.91	0.18	1474	2.11
DOT–0455	<2	<500	<0.5	2.4	1.6	<1	3200	13.0	20	11.0	1.8	0.29	<0.5	0.71	0.07	NA	2.20
DOT–0456	<2	<500	<0.5	2.7	1.2	<1	3200	12.0	23	15.0	1.9	0.41	<0.5	0.83	0.07	NA	2.51
DOT–0457	<5	<500	<0.5	1.5	0.7	<1	3500	12.0	22	12.0	1.6	<0.05	<0.5	0.88	0.17	1327	2.24
DOT–0458	<2	<500	<0.5	1.1	0.5	<1	3600	9.5	14	9.0	1.1	<0.03	<0.5	0.57	0.12	1311	1.86
DOT–0459	<2	<500	<0.5	3.9	1.0	<1	1900	25.0	43	20.0	3.0	0.57	0.6	1.33	0.24	535	2.52

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0460	<2	<500	<0.5	2.8	1.6	1	2300	15.0	28	<5	1.9	0.39	<0.5	1.14	0.22	595	2.41
DOT–0461–1	<2	<500	<0.5	1.8	<0.2	<1	2400	11.0	18	21.0	1.4	<0.06	<0.5	1.02	0.12	642	2.03
DOT–0461–2	<2	<500	<0.5	1.1	<0.1	<1	2400	12.0	23	<5	1.4	<0.05	<0.5	0.95	0.19	590	1.95
DOT–0462	<2	<500	<0.5	1.7	1.2	<1	2300	13.0	19	17.0	1.5	<0.05	<0.5	0.96	0.20	768	1.91
DOT–0463	<2	<500	2.0	1.4	1.0	<1	2300	12.0	23	<5	1.7	<0.05	<0.5	0.94	0.09	NA	2.12
DOT–0464	<2	<500	<0.5	1.4	<0.2	<1	2100	13.0	19	<5	1.6	<0.06	<0.5	0.95	0.15	914	1.99
DOT–0465–1	<2	<500	<0.5	0.3	<0.1	<1	4200	7.0	11	<5	1.0	<0.05	<0.5	0.30	0.06	952	1.68
DOT–0465–2	<2	<500	<0.5	1.8	<0.2	<1	2400	11.0	19	<5	1.4	<0.05	<0.5	0.64	0.12	575	2.13
DOT–0466	<2	<500	<0.5	1.6	<0.2	<1	2700	9.4	17	<5	1.3	0.35	<0.5	0.59	0.06	NA	2.64
DOT–0467	<2	<500	<0.5	0.9	1.2	<1	2800	11.0	19	10.0	1.4	<0.05	<0.5	0.78	0.09	1317	2.11
DOT–0468	<2	1100	<0.5	2.6	1.2	<1	3000	12.0	25	10.0	1.6	<0.06	<0.5	0.77	0.19	829	2.49
DOT–0469	<2	<500	<0.5	0.9	1.3	<1	4600	9.0	15	<5	1.1	<0.05	<0.5	0.62	0.12	1082	1.71
DOT–0470–1	<2	<500	<0.5	1.4	1.1	<1	3300	9.4	17	<5	1.5	<0.03	<0.5	0.86	0.15	NA	1.89
DOT–0470–2	<2	<500	<0.5	2.5	1.3	<1	3800	12.0	22	<5	1.5	<0.05	<0.5	0.72	0.14	935	1.84
DOT–0471	<2	<500	<0.5	2.5	1.3	<1	3100	11.0	18	<5	1.6	0.31	<0.5	0.59	0.11	NA	2.25
DOT–0472	<2	1400	<0.5	2.1	1.2	<1	2900	11.0	20	8.0	1.7	0.28	0.6	0.79	0.14	NA	2.08
DOT–0473	<2	<500	<0.5	2.7	1.3	<1	3500	13.0	23	<5	1.8	<0.05	<0.5	1.06	0.18	1309	2.02
DOT–0475	<2	<500	<0.5	2.1	1.4	<1	3100	13.0	23	<5	1.9	0.31	<0.5	0.72	0.07	NA	2.51
DOT–0476	<2	<500	<0.5	2.7	1.1	<1	3600	16.0	34	15.0	2.2	0.52	<0.5	1.10	0.17	NA	2.46
DOT–0477	<2	<500	<0.5	2.1	1.2	<1	2000	13.0	25	13.0	1.8	0.15	<0.5	0.82	0.14	856	2.14
DOT–0478	<2	1200	<0.5	2.9	1.0	<1	2400	16.0	31	15.0	2.0	0.36	1.1	0.91	0.10	NA	2.36
DOT–0479	<2	1000	<0.5	5.0	<0.2	<1	2300	31.0	62	<5	3.9	1.07	<0.5	1.68	0.29	329	3.28
DOT–0480–1	<2	<500	<0.5	2.2	1.6	<1	2200	14.0	25	<5	1.8	0.35	<0.5	0.68	0.13	NA	2.23
DOT–0480–2	<2	<500	<0.5	1.0	<0.2	<1	2400	12.0	24	<5	1.6	<0.06	<0.5	0.74	0.18	657	2.04
DOT–0481	<2	<500	<0.5	1.9	1.0	<1	2700	12.0	24	<5	1.8	0.15	<0.5	0.71	0.14	NA	1.86
DOT–0482	<2	<500	<0.5	0.8	<0.1	<1	2500	10.0	21	<5	1.4	0.36	<0.5	0.96	0.12	846	1.88
DOT–0483	<2	<500	<0.5	1.3	1.0	<1	2400	13.0	23	10.0	1.7	0.67	<0.5	0.80	0.16	673	2.08
DOT–0484	<2	<500	<0.5	1.2	<0.1	<1	2200	12.0	22	<5	1.6	0.48	<0.5	0.62	0.17	864	2.25

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0485	<2	<500	<0.5	2.8	1.6	<1	3400	15.0	26	<5	2.1	0.54	<0.5	0.98	0.10	NA	2.52
DOT–0486	<2	<500	<0.5	2.2	<0.2	<1	2300	16.0	31	<5	1.9	0.40	<0.5	1.16	0.13	914	2.52
DOT–0487	<2	840	<0.5	1.6	1.0	<1	2400	9.9	20	9.0	1.5	0.15	<0.5	0.52	0.09	NA	2.37
DOT–0488	<2	<500	<0.5	2.9	1.2	<1	2500	19.0	34	13.0	2.3	<0.05	<0.5	1.17	0.20	488	2.25
DOT–0489	<2	500	<0.5	5.3	1.6	<1	2000	29.0	57	17.0	3.5	0.74	<0.5	1.41	0.28	642	2.75
DOT–0490–1	<2	<500	<0.5	4.0	1.0	<1	2200	19.0	27	12.0	2.2	<0.05	1.0	1.27	0.25	459	2.36
DOT–0490–2	<2	<500	<0.5	2.4	1.2	<1	2200	14.0	22	11.0	2.2	0.46	<0.5	0.77	0.15	NA	2.36
DOT–0491	<2	<500	<0.5	1.3	<0.1	<1	2500	12.0	19	<5	1.5	<0.05	<0.5	0.74	0.15	937	1.89
DOT–0492	<2	<500	<0.5	1.4	1.4	<1	2600	13.0	26	14.0	1.8	0.41	<0.5	0.79	0.17	692	2.26
DOT–0493	<2	<500	<0.5	1.6	<0.1	<1	2700	13.0	21	13.0	1.6	0.41	<0.5	0.95	0.14	803	2.10
DOT–0494	<2	<500	<0.5	1.6	1.1	<1	2300	12.0	22	<5	1.7	<0.04	<0.5	1.07	0.15	NA	2.50
DOT–0495	<2	<500	<0.5	1.1	<0.2	<1	2800	12.0	22	<5	1.4	<0.05	<0.5	0.83	0.17	1426	2.02
DOT–0496	<2	<500	<0.5	1.1	1.0	<1	2500	10.0	19	11.0	1.5	<0.04	<0.5	0.79	0.10	NA	1.64
DOT–0497	<2	<500	<0.5	1.4	0.5	<1	2600	10.0	18	<5	1.4	<0.03	<0.5	0.73	0.11	NA	1.84
DOT–0498	<2	<500	<0.5	2.9	1.0	<1	4200	16.0	26	<5	2.1	<0.05	<0.5	1.03	0.24	2038	1.84
DOT–0499	<2	<500	<0.5	2.7	1.2	<1	2600	15.0	29	15.0	2.0	<0.03	<0.5	0.96	0.21	NA	2.33
DOT–0500–1	<2	<500	<0.5	0.9	<0.2	<1	3500	12.0	17	<5	1.5	<0.04	<0.5	0.91	0.18	943	2.15
DOT–0500–2	<2	<500	<0.5	1.5	<0.2	<1	3800	13.0	21	<5	1.6	0.31	<0.5	0.81	0.14	895	2.08
DOT–0501	<2	<500	<0.5	1.7	1.5	1	3000	11.0	17	<5	1.7	0.36	<0.5	0.77	0.11	NA	2.38
DOT–0502	<2	<500	<0.5	1.5	1.3	<1	3400	14.0	26	18.0	1.9	<0.06	<0.5	1.03	0.19	1501	1.95
DOT–0503	<2	<500	<0.5	1.1	1.0	<1	2000	12.0	21	<5	1.5	0.33	<0.5	0.76	0.15	2663	1.69
DOT–0504	<2	<500	<0.5	2.4	<0.2	<1	2000	11.0	22	<5	1.3	<0.05	<0.5	0.75	0.15	1564	1.84
DOT–0505	<2	1600	<0.5	2.6	1.1	<1	2300	15.0	30	14.0	2.0	0.35	<0.5	0.96	0.19	NA	2.24
DOT–0506	<2	1400	<0.5	2.3	2.0	<1	2800	16.0	26	<5	2.1	<0.06	<0.5	1.00	0.16	753	1.92
DOT–0507	<2	<500	<0.5	2.3	1.2	<1	2300	14.0	26	11.0	1.8	<0.05	<0.5	1.01	0.20	975	2.24
DOT–0508	<2	<500	<0.5	1.0	1.2	<1	2800	12.0	22	<5	1.6	<0.06	<0.5	1.09	0.19	1094	1.89
DOT–0509	<2	<500	<0.5	2.7	1.2	<1	2400	13.0	22	14.0	1.5	<0.05	1.0	0.94	0.14	891	2.05
DOT–0510–1	<2	<500	<0.5	1.0	0.9	<1	2800	8.0	14	<5	1.3	<0.04	<0.5	0.68	0.10	NA	2.12

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0510–2	<2	<500	<0.5	0.7	1.1	<1	3000	8.7	15	<5	1.0	<0.05	<0.5	0.74	0.14	904	1.89
DOT–0511	<2	<500	<0.5	1.8	1.0	<1	2400	9.7	16	10.0	1.5	<0.03	<0.5	0.48	0.07	NA	2.04
DOT–0512	<2	<500	<0.5	1.9	<0.2	<1	3400	13.0	21	13.0	1.7	<0.05	<0.5	0.82	0.15	1029	2.17
DOT–0513	<2	<500	<0.5	1.4	1.0	<1	3200	9.4	17	9.0	1.5	0.20	<0.5	0.69	0.14	NA	2.05
DOT–0514	<2	980	<0.5	2.2	1.2	<1	3700	11.0	19	13.0	1.5	0.28	<0.5	0.84	0.11	NA	1.79
DOT–0515	<2	<500	<0.5	2.4	1.4	<1	3200	13.0	21	9.0	1.8	<0.04	<0.5	0.79	0.13	NA	2.28
DOT–0516	<2	<500	<0.5	1.1	1.0	<1	2500	12.0	21	<5	1.6	0.28	<0.5	0.84	0.16	1126	1.95
DOT–0517	<2	<500	<0.5	1.1	0.6	<1	2400	9.4	16	7.0	1.2	0.26	<0.5	0.80	0.09	NA	1.88
DOT–0518	<2	<500	<0.5	2.0	1.3	<1	2000	11.0	16	<5	1.4	0.37	<0.5	0.71	0.11	NA	2.01
DOT–0519	<2	<500	<0.5	2.2	1.2	<1	2300	13.0	22	<5	1.6	<0.06	<0.5	0.54	0.17	823	2.05
DOT–0520–1	<2	1300	<0.5	1.5	1.0	<1	2500	12.0	19	11.0	1.5	0.34	<0.5	0.86	0.13	951	2.02
DOT–0520–2	<2	<500	<0.5	2.0	1.1	<1	2300	12.0	22	12.0	1.6	0.39	<0.5	0.80	0.12	NA	2.02
DOT–0521	<2	<500	<0.5	2.8	<0.2	<1	2500	17.0	31	19.0	1.9	0.36	<0.5	1.26	0.15	738	2.23
DOT–0522	<2	<500	<0.5	3.7	<0.2	<1	4000	23.0	45	18.0	2.8	0.53	<0.5	1.32	0.20	929	3.06
DOT–0523	<2	<500	<0.5	2.4	1.2	<1	3300	16.0	28	<5	2.0	0.63	<0.5	1.05	0.20	1272	2.40
DOT–0524	<2	<500	<0.5	2.3	1.6	<1	2600	15.0	26	<5	1.9	0.48	<0.5	0.83	0.08	NA	2.51
DOT–0525	<2	1200	<0.5	1.4	0.8	<1	2400	10.0	20	11.0	1.5	0.40	0.8	0.55	0.15	NA	1.83
DOT–0526	<2	<500	<0.5	1.7	1.4	1	2700	11.0	17	11.0	1.7	0.31	<0.5	0.75	0.08	NA	2.40
DOT–0527	<2	<500	<0.5	2.0	1.3	<1	3600	13.0	24	<5	1.6	<0.05	<0.5	0.73	0.14	1679	1.99
DOT–0528	<2	<500	<0.5	1.8	1.7	<1	3300	13.0	24	13.0	1.9	0.45	<0.5	0.94	0.05	1148	2.38
DOT–0529	<2	870	<0.5	1.1	<0.1	<1	2500	10.0	18	9.0	1.3	<0.03	<0.5	0.70	0.14	NA	1.87
DOT–0530–1	<2	<500	<0.5	1.4	<0.1	<1	2500	11.0	17	5.0	1.4	<0.04	<0.5	0.96	0.09	621	2.19
DOT–0530–2	<2	<500	<0.5	2.5	<0.2	<1	2800	14.0	24	<5	1.6	<0.05	<0.5	0.80	0.16	615	2.15
DOT–0531	<2	<500	<0.5	1.6	1.4	<1	3300	12.0	25	<5	1.5	0.33	<0.5	0.80	0.16	2185	2.03
DOT–0532	<2	<500	<0.5	1.4	<0.2	<1	3400	13.0	23	<5	1.5	<0.05	<0.5	1.02	0.24	2005	2.16
DOT–0533	<2	<500	<0.5	2.1	0.8	<1	3200	14.0	26	18.0	1.9	<0.04	<0.5	1.08	0.15	1787	2.40
DOT–0534	<2	<500	<0.5	3.1	1.4	<1	4200	19.0	34	9.0	2.5	<0.06	<0.5	1.19	0.30	1061	2.30
DOT–0536	<2	<500	<0.5	2.2	1.1	<1	2700	12.0	23	10.0	1.6	<0.03	<0.5	0.57	0.17	NA	2.04

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0537	<2	<500	<0.5	2.4	1.4	<1	3300	16.0	29	13.0	1.9	<0.05	<0.5	0.86	0.19	1106	2.31
DOT–0538	<2	<500	<0.5	2.0	1.4	<1	2400	14.0	26	12.0	2.1	0.51	<0.5	1.02	0.18	NA	2.08
DOT–0539	<2	<500	<0.5	2.1	1.2	<1	1900	13.0	22	14.0	1.8	0.22	<0.5	1.09	0.16	NA	2.39
DOT–0540–1	<2	<500	<0.5	1.4	<0.1	<1	2100	11.0	17	<5	1.4	<0.05	<0.5	0.72	0.08	1164	1.68
DOT–0540–2	<2	<500	<0.5	1.2	<0.2	<1	2000	12.0	16	<5	1.6	0.52	<0.5	1.00	0.12	1119	1.74
DOT–0541	<2	<500	<0.5	2.1	<0.2	<1	2300	12.0	22	<5	1.5	<0.06	<0.5	0.95	0.14	1394	2.41
DOT–0542	<2	<500	<0.5	1.7	1.6	<1	2100	12.0	22	14.0	1.8	0.38	<0.5	1.01	0.18	NA	2.32
DOT–0543	<2	<500	<0.5	1.8	1.1	<1	3000	11.0	19	<5	1.5	0.42	<0.5	0.71	0.11	890	2.07
DOT–0544	<2	<500	<0.5	1.2	1.3	<1	3300	13.0	22	<5	1.6	<0.05	<0.5	0.87	0.15	1472	2.09
DOT–0545	<2	470	<0.5	1.7	1.3	<1	2900	12.0	23	10.0	1.8	0.44	<0.5	0.81	0.13	NA	2.08
DOT–0546	<2	<500	<0.5	1.9	<0.2	<1	2800	12.0	21	22.0	1.7	0.35	<0.5	0.72	0.11	NA	2.01
DOT–0547	<3	<500	<0.5	2.6	<0.2	<1	3300	18.0	26	<5	1.9	<0.06	<0.5	1.30	0.20	625	2.29
DOT–0548	<2	<500	<0.5	1.5	0.8	<1	3200	13.0	20	<5	1.6	0.35	<0.5	0.79	0.15	2322	1.96
DOT–0549	<2	<500	<0.5	2.4	1.3	<1	2600	14.0	28	11.0	2.0	<0.03	<0.5	0.89	0.17	NA	2.27
DOT–0550–1	<2	<500	<0.5	2.4	1.9	<1	3500	13.0	25	12.0	1.6	<0.05	<0.5	0.89	0.17	1329	1.80
DOT–0550–2	<2	<500	<0.5	1.6	1.1	<1	3200	12.0	20	11.0	1.6	0.29	<0.5	0.62	0.17	NA	1.73
DOT–0551	<2	<500	<0.5	1.4	1.2	<1	2100	10.0	20	<5	1.4	<0.04	<0.5	0.84	0.17	1248	1.84
DOT–0552	<2	<500	<0.5	2.0	<0.2	<1	2200	12.0	20	<5	1.3	0.32	<0.5	0.72	0.14	868	1.83
DOT–0553	<2	930	<0.5	1.4	1.2	<1	2400	7.9	13	<5	1.1	<0.04	<0.5	0.57	0.12	NA	1.65
DOT–0554	<2	<500	<0.5	1.7	1.4	<1	2600	11.0	20	13.0	1.7	<0.04	<0.5	0.80	0.12	NA	2.11
DOT–0555	<2	<500	<0.5	1.8	<0.1	<1	2700	14.0	29	<5	1.9	0.29	<0.5	0.88	0.14	727	2.20
DOT–0556	<2	<500	<0.5	1.1	1.1	<1	3400	9.5	18	<5	1.3	<0.03	<0.5	0.65	0.10	NA	1.84
DOT–0557	<2	<500	0.7	1.5	1.5	<1	3000	13.0	23	<5	1.7	0.43	<0.5	0.76	0.08	NA	2.00
DOT–0558	<2	<500	<0.5	2.2	1.6	<1	2900	13.0	20	<5	1.9	<0.03	<0.5	0.79	0.07	NA	2.28
DOT–0559	<2	<500	<0.5	1.8	1.1	<1	2800	9.5	18	<5	1.5	0.36	<0.5	0.49	0.10	NA	1.98
DOT–0560–1	<2	<500	<0.5	2.0	1.9	<1	3700	13.0	23	<5	1.5	<0.05	<0.5	0.82	0.13	1913	1.83
DOT–0560–2	<2	<500	<0.5	1.8	1.0	<1	3200	13.0	25	<5	1.8	<0.05	<0.5	0.73	0.20	1122	2.01
DOT–0561	<2	<500	<0.5	0.9	1.5	<1	3000	13.0	19	<5	1.5	<0.04	<0.5	0.91	0.18	815	1.93

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0562	<2	<500	<0.5	1.1	<0.1	<1	2000	12.0	22	<5	1.6	<0.05	<0.5	1.05	0.15	937	2.24
DOT–0563	<2	<500	<0.5	0.7	<0.1	<1	2200	11.0	19	<5	1.3	<0.05	<0.5	0.77	0.15	1120	1.83
DOT–0564	<2	<500	<0.5	2.2	<0.2	<1	2200	14.0	26	<5	1.9	<0.07	<0.5	1.07	0.07	731	2.04
DOT–0565	<2	<500	<0.5	2.7	<0.2	<1	3100	14.0	27	11.0	1.7	<0.05	<0.5	0.84	0.17	1135	2.47
DOT–0566	<2	<500	<0.5	2.0	<0.2	<1	2400	14.0	29	12.0	1.7	<0.05	<0.5	0.90	0.18	700	2.12
DOT–0567	2	<500	<0.5	1.1	1.1	<1	2700	11.0	21	13.0	1.5	0.33	<0.5	0.62	0.10	NA	2.20
DOT–0568	<2	<500	<0.5	2.0	1.6	<1	3000	14.0	28	15.0	1.9	0.29	<0.5	0.87	0.09	NA	2.14
DOT–0569	<2	1200	<0.5	3.1	1.9	<1	2200	21.0	41	20.0	2.6	0.36	<0.5	1.27	0.08	NA	2.35
DOT–0570–1	<2	1700	<0.5	1.3	<0.1	<1	3300	13.0	23	<5	1.7	0.41	<0.5	1.10	0.17	1273	2.13
DOT–0570–2	<2	1300	<0.5	2.4	1.2	<1	2900	13.0	23	7.0	1.7	0.35	<0.5	0.79	0.11	NA	2.19
DOT–0571	<2	<500	<0.5	1.8	1.4	<1	2400	12.0	22	11.0	1.6	0.38	<0.5	0.69	0.07	NA	2.27
DOT–0572	<2	<500	<0.5	1.9	1.8	<1	3300	16.0	28	<5	2.2	0.45	<0.5	1.01	0.19	1424	3.83
DOT–0573	<2	1300	<0.5	2.4	1.6	<1	2800	14.0	26	13.0	2.2	0.46	<0.5	1.01	0.16	NA	2.24
DOT–0574	<2	<500	<0.5	2.5	1.2	<1	2300	13.0	23	11.0	1.7	0.50	0.5	0.85	0.08	NA	2.30
DOT–0575	<2	<500	<0.5	2.2	1.9	<1	2500	13.0	25	11.0	1.7	0.34	<0.5	0.90	0.07	NA	2.29
DOT–0576	<2	750	<0.5	2.1	1.1	<1	2400	11.0	16	12.0	1.6	0.32	<0.5	0.65	0.14	NA	2.20
DOT–0577	<2	<500	<0.5	1.4	1.1	<1	2900	11.0	21	11.0	1.7	0.18	<0.5	0.75	0.18	NA	2.21
DOT–0578	<2	<500	<0.5	2.4	1.5	<1	2700	13.0	23	12.0	2.0	0.42	<0.5	0.91	0.13	NA	2.68
DOT–0579	<2	<500	<0.5	1.0	1.4	<1	3200	13.0	20	18.0	1.7	0.43	<0.5	0.89	0.20	851	2.24
DOT–0580–1	<2	<500	<0.5	1.4	1.0	<1	3300	12.0	19	13.0	1.6	<0.04	<0.5	1.05	0.14	1131	2.20
DOT–0580–2	<2	<500	<0.5	1.6	1.9	<1	3200	15.0	27	<5	1.9	<0.05	<0.5	0.99	0.21	1156	2.26
DOT–0581	<2	<500	<0.5	0.8	0.8	<1	2800	11.0	16	10.0	1.3	0.51	0.6	0.62	0.13	873	2.10
DOT–0582	<3	<500	<0.5	4.1	1.7	<1	3200	24.0	48	16.0	2.6	<0.06	<0.5	1.27	0.25	660	2.76
DOT–0583–1	<2	1100	<0.5	4.2	<0.3	<1	2800	26.0	51	25.0	3.6	0.73	<0.5	1.19	0.18	NA	2.84
DOT–0583–2	<2	<500	<0.5	0.9	1.4	<1	2600	12.0	21	<5	1.6	<0.06	<0.5	0.91	0.15	618	1.93
DOT–0584	<2	<500	<0.5	2.0	1.1	<1	2700	13.0	24	11.0	1.9	0.34	<0.5	0.69	0.15	NA	2.29
DOT–0585	<2	<500	<0.5	2.3	1.4	<1	3400	13.0	20	<5	1.5	<0.06	<0.5	0.95	0.17	694	2.54
DOT–0586	<2	<500	<0.5	1.1	1.5	<1	2800	12.0	28	20.0	1.4	<0.05	<0.5	0.82	0.16	910	1.80

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0587	<2	420	<0.5	1.6	1.4	<1	2600	9.7	16	13.0	1.3	<0.03	<0.5	0.60	0.05	NA	2.25
DOT–0588	<2	1300	<0.5	2.2	1.4	<1	3000	13.0	20	9.0	1.9	0.36	<0.5	0.89	0.14	NA	2.54
DOT–0589	<2	940	<0.5	2.3	<0.2	<1	3400	13.0	25	<5	2.0	<0.03	<0.5	0.87	0.16	NA	2.36
DOT–0590	<2	<500	<0.5	1.9	1.1	<1	3100	13.0	23	11.0	2.0	0.15	<0.5	0.75	0.16	NA	2.01
DOT–0591–1	<2	690	<0.5	2.3	1.4	<1	1900	13.0	24	7.0	1.8	0.28	<0.5	0.69	0.17	NA	1.81
DOT–0591–2	<2	<500	<0.5	1.7	1.5	<1	2100	10.0	18	10.0	1.5	0.10	<0.5	0.86	0.14	NA	1.81
DOT–0591–3	<2	<500	<0.5	1.8	1.7	<1	2100	14.0	24	<5	1.8	<0.06	<0.5	0.84	0.14	548	1.99
DOT–0592–1	<2	<500	<0.5	1.5	1.0	<1	2200	11.0	15	<5	1.5	<0.05	<0.5	0.78	0.08	949	2.02
DOT–0592–2	<2	<500	<0.5	3.3	1.6	<1	2800	16.0	28	<5	1.9	<0.06	<0.5	1.33	0.25	896	2.08
DOT–0593–1	<2	<500	<0.5	1.7	1.4	<1	3100	14.0	26	<5	1.9	<0.05	<0.5	0.91	0.17	922	1.96
DOT–0593–2	<2	<500	<0.5	0.8	1.2	<1	2500	13.0	21	12.0	1.5	<0.05	<0.5	0.96	0.20	1112	1.71
DOT–0594–1	<2	860	<0.5	2.7	1.6	<1	2000	14.0	24	<5	1.8	0.34	<0.5	0.85	<0.05	NA	2.33
DOT–0594–2	<2	810	<0.5	1.5	<0.2	<1	2200	9.8	16	<5	1.5	0.29	<0.5	0.74	0.10	NA	2.36
DOT–0594–3	<2	1700	<0.5	1.8	2.0	<1	2300	12.0	20	14.0	1.8	0.47	<0.5	0.78	0.17	NA	2.31
DOT–0595–1	<2	<500	<0.5	3.6	2.1	<1	2300	22.0	43	21.0	2.7	0.54	<0.5	0.95	0.17	NA	3.02
DOT–0595–2	<2	<500	<0.5	2.2	1.7	<1	2500	16.0	22	10.0	1.7	0.56	<0.5	1.09	0.05	815	2.09
DOT–0596–1	<2	1500	<0.5	1.4	0.9	<1	3100	9.5	17	7.0	1.5	0.26	<0.5	0.66	0.11	NA	2.05
DOT–0596–2	<2	1600	<0.5	2.5	1.0	<1	2300	13.0	25	<5	2.0	0.39	<0.5	0.81	0.17	NA	1.97
DOT–0599	<2	<500	<0.5	1.3	0.1	<1	2900	11.0	15	13.0	1.3	0.28	<0.5	0.80	0.11	730	2.17
DOT–0601	<2	<500	<0.5	2.6	1.1	<1	3200	22.0	37	12.0	2.4	0.44	<0.5	0.95	0.16	1064	2.27
DOT–0602	<2	<500	<0.5	2.1	0.6	<1	2700	14.0	23	<5	1.7	0.31	<0.5	0.97	0.16	1484	2.49
DOT–0603	<2	680	<0.5	0.9	0.6	<1	2300	6.4	10	<5	0.9	0.19	<0.5	0.30	0.05	NA	1.74
DOT–0604	<2	<500	<0.5	2.3	1.2	<1	2300	12.0	25	<5	1.8	0.18	<0.5	0.65	0.07	NA	2.15
DOT–0605	<2	<500	<0.5	1.0	0.6	<1	2600	9.4	17	7.0	1.2	0.25	<0.5	0.43	0.17	760	1.83
DOT–0606	<2	<500	<0.5	2.6	1.6	<1	2500	21.0	36	22.0	2.6	<0.05	<0.5	0.92	0.10	565	2.43
DOT–0607	<2	<500	<0.5	2.3	1.5	<1	3500	15.0	27	<5	1.9	0.73	<0.5	1.03	0.25	1733	2.12
DOT–0608	<2	<500	<0.5	1.1	1.3	<1	2300	9.7	16	6.0	1.3	0.33	<0.5	0.69	0.10	NA	2.31
DOT–0609	<2	<500	<0.5	1.7	1.3	<1	3300	14.0	26	<5	1.7	0.36	<0.5	0.93	0.21	1198	2.34

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0610	<2	<500	<0.5	1.6	1.9	<1	3400	12.0	27	<5	1.5	0.26	<0.5	0.82	0.17	1251	2.15
DOT–0611–1	<2	<500	<0.5	1.4	<0.2	<1	2900	8.5	17	<5	1.0	<0.05	<0.5	0.67	0.07	2964	2.03
DOT–0611–2	<2	<500	<0.5	1.3	0.7	<1	2500	7.0	12	12.0	1.1	<0.03	<0.5	0.39	0.05	NA	1.89
DOT–0612	<2	<500	<0.5	2.0	1.4	<1	1600	11.0	22	<5	1.4	<0.04	0.8	0.65	0.11	NA	2.19
DOT–0613	<2	<500	<0.5	1.5	<0.2	<1	1700	8.6	19	12.0	1.3	<0.04	<0.5	0.60	0.11	NA	2.77
DOT–0614	<2	<500	<0.5	2.0	1.3	<1	2500	14.0	26	<5	1.7	<0.06	<0.5	1.18	0.22	697	2.05
DOT–0615	<2	<500	<0.5	1.9	<0.2	<1	2600	15.0	29	16.0	1.8	<0.05	<0.5	0.85	0.15	708	2.16
DOT–0616	<2	<500	<0.5	2.4	1.0	<1	2500	24.0	48	24.0	2.8	<0.05	<0.5	1.16	0.17	948	2.92
DOT–0617	<2	<500	<0.5	1.9	1.2	<1	2800	12.0	18	<5	1.8	0.43	<0.5	0.66	0.14	NA	2.30
DOT–0618	<2	<500	<0.5	2.4	2.2	<1	2900	14.0	28	14.0	2.0	<0.03	<0.5	1.03	0.17	NA	2.28
DOT–0619	<2	<500	<0.5	1.8	0.9	<1	3100	11.0	22	18.0	1.5	0.44	<0.5	0.79	0.10	1495	2.26
DOT–0620	<2	1100	<0.5	2.1	0.8	<1	3100	12.0	22	11.0	1.6	0.42	<0.5	0.89	0.15	1667	2.36
DOT–0621	<2	600	<0.5	2.6	<0.2	<1	3000	14.0	25	18.0	1.9	<0.03	<0.5	0.92	0.09	NA	2.18
DOT–0622–1	<2	1500	<0.5	2.3	<0.2	<1	3700	14.0	24	15.0	1.7	0.48	<0.5	1.15	0.12	2034	2.14
DOT–0622–2	<2	1400	<0.5	1.4	<0.2	<1	3300	11.0	17	15.0	1.5	0.26	<0.5	0.65	0.13	2115	2.09
DOT–0623	<2	<500	<0.5	1.4	1.5	<1	2400	12.0	23	<5	1.5	<0.05	<0.5	0.64	0.19	985	2.02
DOT–0624	<2	<500	<0.5	1.5	<0.1	<1	2700	12.0	23	<5	1.5	0.47	<0.5	0.71	0.18	962	2.10
DOT–0625	<2	780	<0.5	2.4	<0.2	<1	1700	13.0	25	15.0	1.9	0.34	<0.5	0.65	0.13	NA	2.37
DOT–0626	<2	<500	<0.5	2.4	1.4	<1	2600	13.0	25	<5	1.8	0.40	<0.5	0.91	0.09	NA	2.26
DOT–0627	<2	<500	<0.5	1.8	1.4	<1	3000	13.0	23	<5	1.6	<0.05	<0.5	0.78	0.15	2790	1.99
DOT–0628	<2	<500	<0.5	2.6	0.9	<1	2800	12.0	23	9.0	1.9	0.25	<0.5	0.81	0.13	NA	2.07
DOT–0629	<2	<500	<0.5	1.3	1.1	<1	2800	11.0	16	<5	1.4	<0.06	<0.5	0.66	0.13	1346	2.28
DOT–0630–1	<2	<500	<0.5	1.7	<0.2	<1	2600	9.1	17	10.0	1.4	0.23	<0.5	0.49	0.05	NA	2.11
DOT–0630–2	<2	<500	<0.5	1.6	1.0	<1	3300	13.0	24	9.0	1.6	<0.05	<0.5	0.88	0.17	2664	2.17
DOT–0631	<2	<500	<0.5	1.8	1.6	<1	2300	11.0	19	<5	1.8	<0.03	<0.5	0.88	0.10	NA	2.00
DOT–0632	<2	2700	<0.5	2.2	<0.2	<1	3100	13.0	24	<5	1.8	0.49	<0.5	0.86	0.15	994	1.87
DOT–0633	<2	<500	<0.5	2.3	1.0	<1	2600	12.0	20	<5	1.7	0.34	<0.5	0.44	0.05	NA	2.09
DOT–0634	<2	<500	<0.5	0.3	1.0	<1	2200	8.9	12	<5	1.0	<0.05	<0.5	0.56	0.10	1034	2.07

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0635–1	<2	<500	<0.5	1.2	1.6	<1	2500	13.0	28	<5	1.7	<0.06	<0.5	0.94	0.15	1151	2.06
DOT–0635–2	<2	550	<0.5	2.4	<0.2	<1	2300	11.0	23	<5	1.6	0.23	<0.5	0.65	0.07	NA	2.22
DOT–0636	<2	<500	<0.5	1.6	1.7	<1	2300	14.0	23	<5	1.9	<0.06	<0.5	0.80	0.17	1108	1.90
DOT–0637	<2	<500	<0.5	2.0	<0.2	<1	3000	12.0	25	<5	1.3	<0.05	<0.5	0.86	0.17	950	2.54
DOT–0638	<2	<500	<0.5	3.2	1.1	<1	2300	26.0	47	<5	3.2	0.66	<0.5	1.03	0.10	1034	2.67
DOT–0639	3	<500	<0.5	2.3	1.7	<1	2800	13.0	25	<5	1.7	0.42	<0.5	0.83	0.16	NA	2.08
DOT–0640	<2	<500	<0.5	2.5	1.8	<1	2600	15.0	26	10.0	2.0	0.43	<0.5	1.03	0.08	NA	2.20
DOT–0641	<2	<500	<0.5	1.8	1.5	<1	3400	15.0	27	14.0	2.0	0.49	<0.5	1.08	0.18	2130	2.09
DOT–0642	<2	<500	<0.5	1.5	<0.2	<1	3000	14.0	21	10.0	1.9	<0.05	<0.5	0.83	0.15	1743	2.05
DOT–0643	<2	<500	<0.5	1.4	0.8	<1	2400	12.0	26	13.0	1.5	0.18	<0.5	0.92	0.18	835	1.99
DOT–0644	<2	1000	<0.5	1.2	1.2	<1	2700	8.5	13	<5	1.0	<0.05	<0.5	0.54	0.08	1107	1.77
DOT–0645	<2	<500	<0.5	1.2	1.3	<1	2400	10.0	19	<5	1.3	<0.06	<0.5	0.86	0.17	1042	2.10
DOT–0646–1	<2	<500	<0.5	1.8	0.8	<1	2100	8.9	15	14.0	1.1	<0.05	<0.5	0.84	0.10	894	2.14
DOT–0646–2	<2	740	<0.5	0.9	<0.2	<1	2400	11.0	17	<5	1.5	<0.06	<0.5	0.96	0.20	876	2.03
DOT–0647	<2	<500	<0.5	1.3	<0.1	<1	1600	7.3	16	<5	1.0	<0.04	<0.5	0.52	0.13	NA	2.09
DOT–0648	<2	<500	<0.5	1.1	1.0	<1	2200	7.5	15	10.0	1.2	<0.03	<0.5	0.38	0.05	NA	2.11
DOT–0649	<2	<500	<0.5	1.6	0.7	<1	2800	11.0	16	<5	1.5	0.51	<0.5	0.75	0.16	759	2.06
DOT–0650–1	<2	<500	<0.5	2.0	1.4	<1	3000	12.0	26	<5	1.7	0.36	<0.5	0.96	0.17	NA	1.84
DOT–0650–2	<2	<500	<0.5	1.7	0.7	<1	2900	13.0	19	<5	1.7	<0.05	<0.5	1.01	0.18	967	2.11
DOT–0651	<2	<500	<0.5	2.0	1.2	<1	2300	17.0	36	21.0	2.1	<0.05	<0.5	1.00	0.21	883	2.51
DOT–0652	<2	<500	<0.5	4.2	<0.2	<1	2200	32.0	65	28.0	3.8	0.68	<0.5	1.22	0.09	1255	2.89
DOT–0653	<2	<500	<0.5	1.9	1.3	<1	2900	13.0	28	<5	1.8	<0.05	<0.5	0.87	0.16	1535	1.95
DOT–0654	<2	1000	<0.5	0.7	1.0	<1	3300	11.0	21	<5	1.4	<0.07	<0.5	0.70	0.14	841	2.06
DOT–0655	<2	<500	<0.5	1.8	1.4	<1	3000	12.0	19	6.0	1.5	<0.02	<0.5	0.88	0.14	1594	1.99
DOT–0656	<2	<500	<0.5	1.2	<0.2	<1	3600	12.0	22	<5	1.5	<0.05	<0.5	0.93	0.18	1716	2.07
DOT–0657	<2	<500	<0.5	0.9	<0.1	<1	3200	9.0	16	<5	1.2	<0.04	<0.5	0.83	0.12	2580	1.77
DOT–0658	<2	<500	<0.5	1.2	1.1	<1	3100	13.0	22	18.0	1.8	<0.05	<0.5	0.84	0.17	1430	1.92
DOT–0659	<2	<500	<0.5	1.1	1.2	<1	2700	11.0	17	<5	1.5	<0.06	<0.5	0.75	0.12	978	2.09

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0660–1	<2	<500	<0.5	2.1	<0.2	<1	2200	11.0	25	9.0	1.6	0.36	<0.5	0.75	0.13	NA	1.88
DOT–0660–2	<2	780	<0.5	1.6	0.6	<1	2100	9.4	19	6.0	1.3	0.23	<0.5	0.79	0.15	NA	1.87
DOT–0661	<2	<500	<0.5	1.1	1.2	<1	2300	12.0	21	<5	1.5	0.39	<0.5	0.79	0.16	911	1.65
DOT–0662	<2	<500	<0.5	0.9	1.5	<1	2400	11.0	21	15.0	1.3	<0.05	<0.5	0.78	0.16	1461	1.92
DOT–0663	<2	520	<0.5	1.1	<0.2	<1	2200	6.5	11	<5	0.9	0.31	<0.5	0.53	0.10	NA	1.84
DOT–0664	<2	770	<0.5	2.1	1.3	<1	1900	10.0	18	<5	1.3	0.35	<0.5	0.58	0.13	NA	2.05
DOT–0665–1	<2	<500	<0.5	2.5	1.6	<1	2800	12.0	22	11.0	1.7	0.34	<0.5	0.82	0.13	NA	2.19
DOT–0665–2	<2	490	<0.5	1.9	0.9	<1	1900	9.5	18	<5	1.5	0.25	<0.5	0.74	0.06	NA	2.10
DOT–0666	<2	<500	<0.5	0.8	<0.2	<1	3000	13.0	24	15.0	1.6	0.46	<0.5	0.64	0.17	1213	2.39
DOT–0667–1	<2	<500	<0.5	2.7	1.4	<1	2200	16.0	28	<5	2.0	0.42	<0.5	0.95	0.06	NA	2.31
DOT–0667–2	<2	<500	<0.5	2.8	1.2	<1	2700	18.0	34	21.0	2.2	0.26	<0.5	1.19	0.21	1138	2.08
DOT–0668	<2	<500	<0.5	1.8	1.7	<1	2400	17.0	32	<5	1.9	<0.05	<0.5	1.02	0.20	845	2.16
DOT–0669	<2	<500	<0.5	1.6	<0.2	<1	2000	20.0	39	<5	2.2	0.44	<0.5	0.95	0.19	532	2.27
DOT–0670	<2	<500	<0.5	2.0	<0.2	<1	3000	15.0	22	<5	2.0	<0.06	<0.5	1.03	0.22	1389	2.27
DOT–0671	<2	<500	<0.5	2.2	1.0	<1	3600	14.0	21	20.0	1.8	<0.05	<0.5	0.78	0.21	2147	2.09
DOT–0672	<2	<500	<0.5	2.7	1.6	<1	3000	13.0	23	<5	1.7	0.30	<0.5	1.04	0.17	NA	2.10
DOT–0673	<2	<500	<0.5	1.1	2.0	<1	2700	12.0	20	<5	1.6	<0.06	<0.5	0.80	0.25	1762	2.18
DOT–0674	<2	<500	<0.5	2.3	<0.2	<1	3800	14.0	24	15.0	1.8	<0.06	<0.5	0.91	0.24	2781	1.93
DOT–0675	<2	<500	<0.5	1.9	<0.1	<1	3400	12.0	17	7.0	1.6	<0.05	<0.5	0.95	0.23	1341	2.07
DOT–0676	<2	1200	<0.5	1.3	1.1	<1	1900	10.0	18	<5	1.3	<0.03	<0.5	0.67	0.11	NA	2.38
DOT–0677–1	<2	<500	<0.5	1.3	1.2	<1	2600	11.0	14	12.0	1.5	<0.06	<0.5	0.88	0.16	892	1.81
DOT–0677–2	<2	<500	<0.5	1.6	<0.2	<1	2600	13.0	23	<5	1.5	<0.05	<0.5	1.13	0.20	806	2.03
DOT–0678	<2	<500	<0.5	1.4	<0.2	<1	2100	12.0	25	<5	1.5	<0.05	<0.5	0.78	0.14	772	2.15
DOT–0679	<2	<500	<0.5	2.1	1.7	<1	2100	13.0	23	<5	1.6	0.23	<0.5	1.14	0.15	NA	1.99
DOT–0680	<2	600	<0.5	1.7	1.4	<1	1600	9.4	14	<5	1.4	0.28	<0.5	0.75	0.07	NA	2.04
DOT–0681	<2	<500	<0.5	2.5	1.2	1	2900	15.0	27	15.0	1.9	<0.06	<0.5	1.05	0.15	797	2.15
DOT–0682	<2	<500	<0.5	1.3	0.8	<1	2800	13.0	19	11.0	1.5	<0.04	<0.5	0.91	0.18	649	2.26
DOT–0683	<2	<500	<0.5	1.9	0.9	<1	2600	13.0	26	<5	1.8	0.50	<0.5	0.99	0.17	487	2.40

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0684	<2	<500	<0.5	1.4	<0.2	<1	2600	12.0	25	<5	1.7	<0.06	<0.5	0.69	0.16	601	1.97
DOT–0685	<2	1300	<0.5	1.0	1.5	<1	2500	12.0	20	11.0	1.6	<0.06	<0.5	0.68	0.17	1091	1.82
DOT–0686–1	<2	<500	<0.5	1.1	<0.1	<1	2400	12.0	20	13.0	1.5	<0.04	<0.5	0.68	0.14	933	2.24
DOT–0686–2	<2	<500	<0.5	0.8	1.2	<1	2100	10.0	22	<5	1.3	<0.05	<0.5	0.69	0.11	615	1.88
DOT–0687	<2	<500	<0.5	1.8	0.7	<1	2300	11.0	19	<5	1.6	<0.03	<0.5	0.86	0.16	NA	2.09
DOT–0688	<2	<500	<0.5	1.9	1.0	<1	2500	18.0	32	<5	2.2	<0.07	<0.5	1.02	0.17	383	2.21
DOT–0689–1	<2	<500	<0.5	4.4	1.1	<1	2300	25.0	44	<5	3.1	<0.05	<0.5	1.37	0.17	912	1.84
DOT–0689–2	<2	<500	<0.5	1.9	1.3	<1	2700	11.0	19	<5	1.4	0.48	<0.5	0.99	0.11	352	2.52
DOT–0690–1	<2	<500	<0.5	1.5	1.0	<1	2000	12.0	26	<5	1.6	0.37	<0.5	0.82	0.09	NA	2.37
DOT–0690–2	<2	<500	<0.5	1.7	1.2	<1	2100	12.0	22	13.0	1.6	<0.04	<0.5	0.77	0.08	NA	2.40
DOT–0691	<2	<500	<0.5	2.2	1.5	<1	2900	12.0	23	11.0	1.8	0.40	<0.5	0.84	0.17	NA	2.02
DOT–0692	<2	<500	<0.5	2.1	1.4	<1	3200	10.0	20	14.0	1.7	<0.03	<0.5	0.61	0.10	NA	1.77
DOT–0693	<2	<500	<0.5	2.3	1.3	<1	2600	13.0	25	11.0	1.8	<0.04	<0.5	0.93	0.10	NA	2.20
DOT–0694	<2	<500	<0.5	1.7	<0.1	<1	2100	11.0	18	<5	1.7	<0.03	<0.5	0.67	0.09	NA	1.90
DOT–0695	<2	<500	<0.5	1.9	<0.2	<1	2900	14.0	21	13.0	1.8	<0.05	1.3	0.88	0.14	1125	1.98
DOT–0696	<2	<500	<0.5	1.4	<0.2	<1	3200	12.0	19	12.0	1.6	0.38	<0.5	0.76	0.15	1126	1.79
DOT–0697	<2	<500	<0.5	1.6	0.6	<1	2800	13.0	23	<5	1.7	0.35	<0.5	0.90	0.10	NA	2.13
DOT–0699	<2	<500	0.8	1.4	1.1	<1	2200	9.9	20	14.0	1.5	0.42	<0.5	0.51	0.11	NA	2.00
DOT–0700–1	<2	<500	<0.5	1.5	0.9	<1	2600	9.2	19	6.0	1.2	0.27	<0.5	0.60	0.12	NA	1.63
DOT–0700–2	<2	1200	<0.5	1.9	1.4	<1	2600	11.0	20	<5	1.6	0.21	<0.5	0.74	0.12	NA	1.98
DOT–0701	<2	<500	0.5	2.4	1.8	<1	2400	12.0	24	11.0	1.6	<0.04	<0.5	0.72	0.11	NA	2.02
DOT–0702	<2	<500	<0.5	1.6	1.3	<1	2500	12.0	18	<5	1.6	<0.06	<0.5	0.98	0.10	776	1.91
DOT–0703	<2	<500	<0.5	1.9	1.5	<1	2300	11.0	21	15.0	1.6	0.30	<0.5	0.66	0.07	NA	2.23
DOT–0704	<2	<500	<0.5	2.1	1.0	<1	2900	14.0	27	<5	1.9	0.43	<0.5	0.98	0.10	NA	1.97
DOT–0705	<2	<500	<0.5	1.8	2.5	<1	2300	9.2	20	<5	1.4	0.36	<0.5	0.50	0.10	NA	2.02
DOT–0706	<2	680	<0.5	2.0	<0.2	<1	1800	12.0	21	<5	1.5	0.34	<0.5	0.74	0.07	NA	2.46
DOT–0707	<2	840	<0.5	3.1	1.9	<1	2300	18.0	39	15.0	2.7	0.45	<0.5	0.92	0.12	NA	2.53
DOT–0708	<2	<500	<0.5	1.4	1.9	<1	2800	17.0	31	<5	2.0	<0.05	<0.5	0.89	0.19	952	2.13

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0709	<2	<500	<0.5	1.1	0.8	<1	2500	8.7	12	<5	1.2	<0.03	<0.5	0.48	0.08	NA	2.08
DOT–0710–1	<2	<500	<0.5	1.9	<0.1	<1	2800	13.0	23	<5	2.0	0.50	<0.5	0.90	0.16	NA	2.45
DOT–0710–2	<2	<500	<0.5	1.5	1.2	<1	2100	12.0	22	11.0	1.7	0.36	<0.5	0.85	0.07	NA	2.33
DOT–0711	<2	<500	<0.5	1.2	1.0	<1	2700	12.0	20	<5	1.6	0.51	<0.5	0.80	0.19	1091	2.19
DOT–0712	<2	<500	<0.5	1.3	1.2	<1	2700	10.0	19	10.0	1.5	0.14	<0.5	0.77	0.10	NA	2.12
DOT–0713	<2	<500	<0.5	1.8	1.4	<1	3100	13.0	20	16.0	1.7	0.41	<0.5	1.04	0.09	1626	2.21
DOT–0714	<2	<500	<0.5	1.5	0.9	<1	2900	9.8	18	<5	1.5	0.27	<0.5	0.72	0.17	NA	2.07
DOT–0715	<2	<500	<0.5	2.2	1.0	<1	3300	13.0	22	12.0	1.7	0.30	<0.5	0.89	0.09	NA	2.02
DOT–0716	<2	<500	<0.5	1.6	1.1	<1	2600	12.0	20	6.0	1.6	0.32	<0.5	0.83	0.09	NA	2.15
DOT–0717	<2	1100	<0.5	2.2	1.7	<1	2800	12.0	19	12.0	1.8	0.37	<0.5	0.67	0.10	NA	2.61
DOT–0718	<2	<500	<0.5	1.2	0.8	<1	3600	11.0	20	10.0	1.4	<0.03	<0.5	0.67	0.07	NA	2.18
DOT–0719	<2	<500	<0.5	1.4	<0.1	<1	2200	12.0	22	14.0	1.6	<0.04	<0.5	0.61	0.15	571	2.09
DOT–0720–1	<2	<500	<0.5	1.6	1.0	<1	2600	11.0	20	18.0	1.3	0.35	<0.5	1.00	0.20	706	2.04
DOT–0720–2	<2	<500	<0.5	0.5	<0.1	<1	2300	8.7	18	13.0	1.2	<0.06	<0.5	0.50	0.10	867	2.09
DOT–0721	<2	<500	<0.5	1.3	1.1	<1	2000	10.0	19	<5	1.3	<0.03	<0.5	0.66	0.09	NA	1.99
DOT–0722	<2	<500	<0.5	2.3	0.6	<1	2700	16.0	30	16.0	2.1	<0.05	<0.5	0.88	0.17	856	1.98
DOT–0723	<2	<500	<0.5	0.9	<0.2	<1	3200	10.0	22	<5	1.2	<0.06	<0.5	0.92	0.18	1147	2.19
DOT–0724	<2	<500	<0.5	2.3	1.2	<1	2100	18.0	29	<5	2.3	0.39	<0.5	0.80	0.14	NA	2.38
DOT–0725	<2	<500	<0.5	3.5	0.8	<1	2700	19.0	31	11.0	2.4	<0.06	<0.5	0.99	0.20	1017	2.29
DOT–0726	<2	1100	<0.5	0.8	<0.1	2	2300	6.5	11	<5	0.9	<0.03	<0.5	0.54	0.11	NA	2.08
DOT–0727	<2	<500	<0.5	1.1	1.2	<1	3100	13.0	21	12.0	1.7	<0.06	<0.5	0.93	0.13	1461	2.06
DOT–0728	<2	<500	<0.5	1.8	1.2	<1	2800	13.0	19	17.0	1.8	0.48	<0.5	0.82	0.12	812	1.86
DOT–0729	<2	1100	<0.5	1.5	1.1	<1	1900	10.0	18	<5	1.2	<0.04	<0.5	0.52	0.15	1123	2.10
DOT–0730–1	<2	<500	<0.5	0.6	0.8	<1	2100	10.0	17	<5	1.4	0.31	<0.5	0.83	0.12	867	2.11
DOT–0730–2	<2	910	<0.5	2.3	0.9	<1	2100	12.0	23	8.0	1.5	<0.05	<0.5	0.88	0.12	785	2.25
DOT–0731	<2	<500	<0.5	2.5	<0.2	<1	2400	12.0	23	30.0	1.5	0.51	<0.5	1.24	0.24	1147	2.05
DOT–0732	<2	<500	<0.5	0.8	<0.2	<1	2400	10.0	18	<5	1.3	<0.05	<0.5	0.56	0.11	1093	1.95
DOT–0733	<2	<500	<0.5	1.6	0.9	<1	2000	11.0	17	<5	1.7	<0.04	<0.5	0.61	0.06	NA	2.11

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0734	<2	810	<0.5	0.8	0.9	<1	2200	6.0	11	<5	0.8	0.19	<0.5	0.50	0.08	NA	1.78
DOT–0735	<2	1200	<0.5	1.1	0.7	<1	3600	8.3	12	13.0	1.0	<0.04	<0.5	0.67	0.12	894	1.98
DOT–0736	<2	<500	<0.5	1.0	<0.1	<1	3800	6.1	10	<5	0.9	<0.03	<0.5	0.46	0.10	NA	2.14
DOT–0737	<2	1200	<0.5	0.9	1.6	<1	2300	10.0	17	<5	1.4	0.16	<0.5	0.68	0.16	681	2.09
DOT–0738	<2	<500	<0.5	1.3	1.2	<1	1800	12.0	22	12.0	1.7	<0.03	<0.5	0.79	0.17	NA	2.21
DOT–0739	<2	<500	<0.5	1.6	1.0	<1	2300	11.0	20	10.0	1.5	0.32	<0.5	0.86	0.09	NA	2.00
DOT–0740–1	<2	<500	<0.5	2.1	1.4	<1	2400	12.0	24	10.0	1.7	0.38	<0.5	0.82	0.06	NA	1.82
DOT–0740–2	<2	820	<0.5	1.8	0.2	<1	2200	12.0	22	12.0	1.8	0.17	<0.5	0.80	0.12	NA	1.81
DOT–0741	<2	700	<0.5	1.9	1.7	<1	2500	12.0	22	11.0	1.7	0.42	<0.5	0.80	0.12	NA	2.11
DOT–0742	<2	1400	<0.5	1.8	1.2	<1	1700	9.9	17	<5	1.5	<0.04	<0.5	0.67	0.11	NA	2.15
DOT–0743	<2	<500	<0.5	1.2	0.7	<1	2400	9.2	15	<5	1.2	0.33	<0.5	0.61	0.08	1589	1.86
DOT–0744	<2	<500	<0.5	1.0	<0.2	<1	2200	8.4	16	<5	1.1	<0.06	<0.5	0.79	0.18	910	1.81
DOT–0745	<2	<500	<0.5	0.9	0.7	<1	1800	7.6	13	7.0	1.1	<0.03	<0.5	0.52	0.13	NA	2.09
DOT–0746	<2	<500	<0.5	2.0	1.1	<1	2200	9.5	13	<5	1.5	0.41	<0.5	0.75	0.12	NA	2.04
DOT–0747	<2	<500	<0.5	1.4	<0.1	<1	2300	10.0	18	<5	1.3	<0.04	<0.5	0.86	0.11	1077	2.03
DOT–0748	<2	<500	<0.5	1.7	0.9	<1	1700	9.8	18	<5	1.5	0.14	<0.5	0.55	0.10	NA	2.34
DOT–0749	<2	<500	<0.5	1.0	<0.2	<1	1900	7.7	16	<5	0.9	<0.05	<0.5	0.65	0.10	883	1.87
DOT–0750	<2	<500	<0.5	0.8	<0.2	<1	2500	7.9	11	<5	1.0	<0.05	<0.5	0.70	0.14	1384	1.94
DOT–0751	<2	<500	<0.5	0.9	<0.2	<1	2700	10.0	16	<5	1.3	<0.06	<0.5	0.71	0.19	947	2.02
DOT–0752	<2	<500	<0.5	0.9	1.6	<1	2900	8.5	13	<5	1.2	0.29	<0.5	0.40	0.11	NA	2.39
DOT–0753–1	<2	<500	<0.5	1.5	<0.2	<1	2800	7.8	14	<5	1.0	<0.06	<0.5	0.64	0.12	2475	1.77
DOT–0753–2	<2	<500	<0.5	1.0	<0.2	<1	2300	6.0	11	<5	0.9	<0.06	<0.5	0.71	0.14	2110	1.88
DOT–0754	<2	800	<0.5	0.9	<0.2	<1	1600	5.8	10	<5	0.8	<0.04	<0.5	0.33	0.05	NA	1.96
DOT–0755	<2	<500	<0.5	0.7	0.9	<1	2800	6.7	13	<5	1.0	0.11	<0.5	0.49	0.05	NA	2.16
DOT–0756	<2	<500	<0.5	1.2	1.4	<1	2900	9.3	15	<5	1.2	<0.06	<0.5	0.64	0.13	1943	2.03
DOT–0757	<2	<500	<0.5	2.8	0.8	<1	2000	16.0	30	21.0	2.3	0.38	<0.5	0.88	0.08	NA	2.52
DOT–0758	<2	<500	<0.5	2.2	1.3	<1	2700	12.0	20	11.0	1.6	0.21	<0.5	0.75	0.14	678	2.20
DOT–0759	<2	<500	<0.5	0.4	0.7	<1	3700	8.3	12	<5	1.1	<0.05	<0.5	0.57	0.12	NA	1.90

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0760–1	<2	830	<0.5	1.9	<0.3	<1	3000	8.6	18	<5	1.1	<0.04	<0.5	0.63	0.07	NA	1.57
DOT–0760–2	<2	<500	<0.5	1.6	1.2	<1	2600	9.8	20	<5	1.4	<0.04	<0.5	0.66	0.07	NA	2.08
DOT–0761	<2	<500	<0.5	1.1	1.0	<1	2600	9.3	17	10.0	1.3	<0.04	<0.5	0.69	0.07	NA	1.93
DOT–0762	<2	<500	<0.5	1.5	1.1	<1	2700	9.2	19	11.0	1.2	<0.03	<0.5	0.63	0.06	NA	2.33
DOT–0763	<2	<500	<0.5	1.7	1.0	<1	2700	9.8	19	5.0	1.4	0.34	<0.5	0.70	0.14	NA	2.17
DOT–0764	<2	<500	<0.5	1.2	1.6	<1	2800	8.6	19	<5	1.2	<0.03	<0.5	0.65	0.07	NA	1.99
DOT–0765	<2	<500	<0.5	1.5	1.6	<1	2900	8.1	17	8.0	1.2	0.30	<0.5	0.62	0.06	NA	2.00
DOT–0766	<2	<500	<0.5	2.1	1.1	<1	3200	13.0	22	<5	1.8	<0.06	<0.5	0.96	0.20	963	1.97
DOT–0767	<2	<500	<0.5	1.9	1.8	<1	2400	11.0	17	19.0	1.5	<0.04	<0.5	0.84	0.13	NA	1.88
DOT–0768	<2	<500	<0.5	1.8	<0.2	<1	3100	11.0	21	<5	1.4	<0.06	<0.5	0.83	0.11	1442	2.06
DOT–0769–1	<2	540	<0.5	1.6	0.9	<1	2700	9.3	17	<5	1.4	0.17	<0.5	0.65	0.15	NA	1.84
DOT–0769–2	<2	<500	<0.5	0.3	1.0	<1	2600	10.0	17	<5	1.3	<0.05	<0.5	0.66	0.11	1378	1.85
DOT–0770	<2	<500	<0.5	1.7	1.3	<1	3900	13.0	23	<5	1.8	0.41	<0.5	1.14	0.12	1223	2.13
DOT–0771	<2	<500	<0.5	1.5	<0.2	<1	3100	11.0	16	16.0	1.6	<0.05	<0.5	0.63	0.13	1341	2.29
DOT–0772	<2	<500	<0.5	0.7	1.1	<1	3200	12.0	18	<5	1.6	0.48	<0.5	1.00	0.07	1417	1.97
DOT–0773	<2	<500	<0.5	0.9	<0.1	<1	2700	9.7	18	<5	1.3	<0.05	<0.5	0.52	0.10	852	2.18
DOT–0774	<2	<500	<0.5	1.9	1.3	<1	3300	11.0	19	10.0	1.6	0.35	0.7	0.73	0.13	NA	1.98
DOT–0775	<2	<500	<0.5	1.2	0.8	<1	2300	9.7	14	<5	1.4	<0.03	<0.5	0.65	0.09	NA	1.94
DOT–0776	<2	1300	<0.5	1.7	0.9	<1	2500	10.0	18	11.0	1.3	<0.03	<0.5	0.75	0.13	NA	2.01
DOT–0778	<2	<500	<0.5	2.2	1.6	<1	3000	11.0	19	12.0	1.5	0.24	<0.5	0.74	0.11	NA	1.90
DOT–0779	<2	<500	<0.5	1.5	<0.2	<1	4900	10.0	21	<5	1.3	0.40	<0.5	0.54	0.10	3548	2.04
DOT–0780	<2	<500	<0.5	0.8	1.2	<1	2900	9.7	12	<5	1.3	<0.05	<0.5	0.50	0.16	2727	1.75
DOT–0781	<2	<500	<0.5	1.6	1.3	<1	2500	12.0	19	10.0	1.5	<0.03	<0.5	0.96	0.16	442	2.08
DOT–0782	<2	<500	<0.5	2.2	1.2	<1	3000	14.0	28	12.0	1.7	0.39	<0.5	1.04	0.13	934	2.48
DOT–0783–1	<2	<500	<0.5	1.5	<0.2	<1	4500	11.0	20	<5	1.5	<0.05	<0.5	0.87	0.19	1429	2.29
DOT–0783–2	<2	<500	<0.5	1.5	1.5	<1	4900	13.0	23	<5	1.7	0.18	<0.5	0.83	0.14	1462	2.41
DOT–0785	<2	<500	<0.5	1.9	0.8	<1	4000	12.0	23	<5	1.6	<0.06	<0.5	0.94	0.20	1434	1.86
DOT–0786	<2	1300	<0.5	2.2	1.1	<1	4300	14.0	21	<5	1.9	0.50	<0.5	0.78	0.10	2048	2.19

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0787	<2	1200	<0.5	1.8	1.7	<1	5700	11.0	22	20.0	1.4	<0.06	<0.5	1.14	0.14	1767	2.06
DOT–0788	<2	<500	<0.5	1.6	0.9	<1	2900	11.0	19	13.0	1.5	<0.05	<0.5	0.65	0.13	3186	2.04
DOT–0789	<2	<500	<0.5	2.2	1.3	<1	2600	12.0	22	12.0	1.6	0.22	<0.5	0.99	0.11	NA	1.96
DOT–0790	<2	1000	<0.5	1.4	1.6	<1	1800	9.4	16	<5	1.5	<0.04	<0.5	0.75	0.09	NA	2.16
DOT–0791	<2	<500	<0.5	0.4	0.9	<1	2800	10.0	18	<5	1.3	<0.05	<0.5	0.84	0.14	470	2.23
DOT–0792	<2	<500	<0.5	0.2	1.1	<1	2800	11.0	19	<5	1.5	<0.05	<0.5	0.83	0.07	835	2.04
DOT–0793–1	<2	<500	<0.5	1.4	<0.2	<1	2500	9.0	15	15.0	1.2	<0.05	<0.5	0.64	0.09	641	1.88
DOT–0793–2	<2	<500	<0.5	0.9	<0.2	<1	2000	9.5	13	<5	1.2	<0.06	<0.5	0.64	0.12	668	1.70
DOT–0794	<2	<500	<0.5	1.1	<0.2	<1	2500	11.0	18	19.0	1.5	<0.06	<0.5	0.93	0.15	650	2.00
DOT–0795	<2	1200	<0.5	1.2	1.2	<1	2400	9.4	12	10.0	1.3	<0.03	<0.5	0.71	0.11	NA	1.99
DOT–0796	<2	<500	<0.5	0.7	1.3	<1	4500	13.0	22	<5	1.6	0.59	<0.5	0.93	0.11	1016	2.05
DOT–0797	<2	890	<0.5	1.7	1.1	<1	3800	12.0	18	<5	1.6	0.39	<0.5	0.87	0.20	1417	2.04
DOT–0798	<2	<500	<0.5	1.3	1.1	<1	4700	9.6	14	<5	1.3	<0.04	0.6	0.67	0.13	1844	2.02
DOT–0799	<2	780	<0.5	0.9	<0.1	<1	2200	8.2	14	<5	1.2	0.27	<0.5	0.63	0.07	NA	1.99
DOT–0800–1	<2	<500	<0.5	0.5	0.8	<1	3100	8.6	16	<5	1.1	0.53	<0.5	0.61	0.12	1713	1.89
DOT–0800–2	<2	<500	<0.5	0.9	0.9	<1	4700	7.7	15	<5	0.9	<0.03	<0.5	0.49	0.11	1561	1.94
DOT–0801	<2	<500	<0.5	1.4	1.1	<1	3600	12.0	22	13.0	1.5	<0.06	<0.5	0.82	0.16	3333	2.32
DOT–0802	<2	<500	<0.5	1.2	1.2	<1	2900	11.0	17	<5	1.4	<0.05	<0.5	0.58	0.16	1760	2.13
DOT–0803	<2	<500	<0.5	1.5	1.1	<1	2700	9.5	16	8.0	1.4	0.29	<0.5	0.67	0.12	NA	2.38
DOT–0804	<2	<500	<0.5	1.2	<0.2	<1	2900	11.0	19	14.0	1.4	<0.05	<0.5	0.75	0.06	1087	2.25
DOT–0805	<2	1000	<0.5	1.8	1.1	<1	2100	8.6	15	<5	1.3	<0.03	<0.5	0.59	0.12	NA	1.64
DOT–0806	<2	800	<0.5	1.2	1.7	<1	2300	11.0	19	12.0	1.5	0.45	<0.5	1.06	0.09	553	2.07
DOT–0807	<2	2100	<0.5	1.3	<0.2	<1	2300	10.0	20	<5	1.4	<0.05	<0.5	0.93	0.10	486	2.14
DOT–0808	<2	1400	<0.5	1.6	1.1	<1	2300	8.7	16	11.0	1.3	0.29	<0.5	0.48	0.09	NA	2.02
DOT–0809–1	<2	540	<0.5	0.8	0.9	<1	2800	6.9	14	6.0	0.9	<0.03	<0.5	0.57	0.09	NA	2.11
DOT–0809–2	<2	<500	<0.5	0.5	0.7	<1	2400	5.8	13	<5	0.8	<0.03	<0.5	0.44	0.05	NA	2.03
DOT–0810	<2	<500	<0.5	1.4	<0.2	<1	3100	11.0	19	<5	1.6	0.34	<0.5	0.79	0.06	1111	2.13
DOT–0811	<2	<500	<0.5	2.4	<0.2	<1	3500	15.0	22	21.0	2.0	<0.05	<0.5	0.79	0.15	1850	2.15

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0812	<2	<500	<0.5	2.0	1.8	<1	2700	13.0	24	<5	1.7	0.35	<0.5	0.84	0.16	2545	2.07
DOT–0813	<2	<500	<0.5	1.2	<0.2	<1	3500	12.0	18	11.0	1.6	<0.05	<0.5	0.91	0.18	1492	2.23
DOT–0814	<2	<500	<0.5	1.5	1.9	<1	2800	12.0	21	<5	1.5	<0.05	<0.5	0.65	0.13	1894	1.97
DOT–0815	<2	<500	<0.5	1.3	1.3	1	2400	14.0	23	<5	1.8	<0.05	<0.5	0.87	0.13	786	2.22
DOT–0816	<2	1100	<0.5	1.4	0.9	<1	2000	10.0	20	<5	1.5	0.28	<0.5	0.65	0.15	NA	2.10
DOT–0817	<2	<500	<0.5	1.8	1.5	<1	2300	14.0	26	<5	1.9	0.49	<0.5	1.06	0.08	672	2.02
DOT–0818	<2	620	<0.5	1.5	1.0	<1	2000	9.8	18	<5	1.3	0.32	<0.5	0.64	0.07	NA	2.31
DOT–0819–1	<2	1200	<0.5	1.6	1.1	<1	2300	9.1	17	5.0	1.4	0.27	<0.5	0.60	0.13	NA	2.06
DOT–0819–2	<2	2400	<0.5	1.2	1.3	<1	2700	9.3	12	<5	1.1	<0.03	<0.5	0.73	0.05	1552	2.11
DOT–0820	<2	1100	<0.5	1.6	2.1	<1	2700	9.3	18	<5	1.5	<0.03	<0.5	0.66	0.07	NA	2.14
DOT–0821	<2	<500	<0.5	2.6	0.7	<1	3200	13.0	26	<5	1.5	<0.05	<0.5	0.88	0.17	1693	2.07
DOT–0822	<2	<500	<0.5	1.4	<0.2	<1	3100	13.0	18	15.0	1.6	<0.05	<0.5	0.78	0.15	1522	2.35
DOT–0823	<2	<500	<0.5	1.2	0.9	<1	2800	13.0	26	<5	1.8	<0.05	<0.5	0.88	0.17	1524	1.96
DOT–0824	<2	<500	<0.5	1.6	<0.1	<1	2500	8.2	16	<5	1.1	<0.05	<0.5	0.55	0.11	1021	1.98
DOT–0825	<2	<500	<0.5	1.6	0.8	<1	2200	9.3	17	12.0	1.3	<0.05	<0.5	0.48	0.10	730	1.97
DOT–0826	<2	<500	<0.5	1.5	1.0	<1	1900	9.8	19	11.0	1.4	0.22	<0.5	0.55	0.05	NA	2.30
DOT–0827	<2	820	<0.5	1.9	0.9	<1	3100	11.0	19	13.0	1.3	<0.05	<0.5	0.85	0.17	1835	2.17
DOT–0828	<2	<500	<0.5	2.1	1.2	<1	4100	12.0	19	<5	1.7	<0.05	<0.5	0.58	0.19	972	2.18
DOT–0829	<2	760	0.9	1.9	1.5	<1	2600	10.0	16	<5	1.5	0.31	<0.5	0.93	0.13	NA	1.91
DOT–0830–1	<2	<500	<0.5	0.6	<0.2	<1	2100	11.0	29	<5	1.5	<0.06	0.8	0.82	0.16	609	1.86
DOT–0830–2	<2	2800	<0.5	1.2	1.0	<1	2300	10.0	23	<5	1.2	<0.04	<0.5	0.76	0.15	680	1.82
DOT–0831	<2	1700	<0.5	0.6	1.1	<1	2600	13.0	22	17.0	1.8	<0.07	0.7	0.99	0.20	538	2.18
DOT–0832	<2	1900	<0.5	1.8	1.1	<1	2100	11.0	19	<5	1.5	0.39	<0.5	0.72	0.10	NA	1.89
DOT–0833	<2	1100	<0.5	1.4	1.1	<1	2100	13.0	24	16.0	1.7	0.43	<0.5	0.97	0.17	636	1.82
DOT–0834	<2	<500	<0.5	0.6	0.9	<1	2900	11.0	20	<5	1.4	<0.05	<0.5	0.76	0.23	1062	2.04
DOT–0835	<2	<500	<0.5	1.7	1.2	<1	2100	11.0	18	<5	1.6	0.30	<0.5	0.67	0.14	NA	2.45
DOT–0836	<2	<500	<0.5	1.5	0.9	<1	2400	11.0	22	11.0	1.7	<0.03	<0.5	0.83	0.12	NA	2.10
DOT–0837	<2	<500	<0.5	1.2	1.3	<1	3500	14.0	22	16.0	1.8	0.44	<0.5	0.95	0.14	2331	2.18

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0838	<2	<500	<0.5	1.4	1.2	<1	3100	9.9	19	7.0	1.4	0.26	<0.5	0.70	0.14	1908	2.11
DOT–0839–1	<2	<500	<0.5	1.1	1.2	<1	2500	11.0	19	<5	1.5	0.33	<0.5	0.79	0.06	824	2.53
DOT–0839–2	<2	<500	<0.5	2.6	1.3	<1	2600	14.0	28	17.0	1.8	0.28	<0.5	0.80	0.15	841	2.55
DOT–0840	<2	1200	<0.5	1.4	1.1	<1	2100	9.6	16	10.0	1.4	0.15	<0.5	0.53	0.10	NA	2.20
DOT–0841	<2	<500	<0.5	1.4	<0.2	<1	3500	13.0	24	<5	1.8	<0.06	<0.5	0.84	0.22	1000	2.16
DOT–0842	<2	840	<0.5	2.5	<0.2	<1	2600	13.0	24	9.0	1.8	0.37	<0.5	0.81	0.08	NA	2.21
DOT–0843	<2	<500	<0.5	1.6	1.2	<1	2500	10.0	16	<5	1.5	0.27	<0.5	0.66	0.14	NA	2.25
DOT–0844	<2	500	<0.5	1.9	2.1	<1	2400	11.0	20	<5	1.8	0.27	<0.5	0.87	0.15	NA	2.22
DOT–0845	<2	<500	<0.5	2.0	<0.2	<1	3200	13.0	18	13.0	1.7	0.62	<0.5	0.91	0.07	1074	2.22
DOT–0846	<2	<500	<0.5	1.1	<0.2	<1	2900	9.3	18	11.0	1.2	<0.05	<0.5	0.72	0.06	1124	2.06
DOT–0847	<2	1200	<0.5	1.1	0.7	<1	1900	8.8	17	<5	1.3	<0.03	<0.5	0.63	0.12	NA	2.19
DOT–0848	<2	<500	<0.5	1.9	1.3	<1	2500	14.0	21	<5	1.7	<0.05	<0.5	1.03	0.12	492	2.00
DOT–0849–1	<2	<500	<0.5	1.2	0.9	<1	2500	8.7	16	<5	1.3	0.31	<0.5	0.66	0.11	NA	2.27
DOT–0849–2	<2	<500	<0.5	1.3	1.4	<1	3100	11.0	19	15.0	1.3	0.34	<0.5	0.67	0.13	1692	2.52
DOT–0850	<2	<500	<0.5	1.8	<0.2	<1	2900	12.0	20	<5	1.6	0.31	<0.5	0.71	0.28	2164	2.22
DOT–0851	<2	<500	<0.5	2.2	1.7	<1	2700	11.0	19	13.0	1.5	0.32	<0.5	0.84	0.08	NA	2.01
DOT–0852	<2	<500	<0.5	1.0	<0.2	<1	2400	14.0	23	<5	1.8	0.49	<0.5	0.93	0.12	735	2.03
DOT–0853	<2	1200	<0.5	1.3	0.1	<1	2400	9.1	17	<5	1.1	0.18	<0.5	0.67	0.10	764	1.92
DOT–0854	<2	<500	<0.5	1.8	1.3	<1	2500	11.0	17	16.0	1.4	<0.04	<0.5	0.69	0.07	NA	1.74
DOT–0855	<2	790	<0.5	1.6	1.2	<1	1800	11.0	18	<5	1.6	<0.04	<0.5	0.58	0.14	NA	2.15
DOT–0856	<2	1300	<0.5	1.4	0.7	<1	2100	11.0	21	<5	1.2	<0.04	<0.5	0.80	0.15	548	1.94
DOT–0857	<2	<500	<0.5	1.8	0.9	<1	2500	9.4	16	<5	1.3	0.38	<0.5	0.53	0.05	NA	1.86
DOT–0858	<2	<500	<0.5	1.6	1.8	<1	2500	9.7	14	20.0	1.2	<0.05	<0.5	0.72	0.14	728	1.99
DOT–0859	<2	<500	<0.5	1.4	1.6	<1	3300	11.0	18	<5	1.5	0.53	<0.5	1.11	0.19	737	1.94
DOT–0860–1	<2	500	<0.5	1.9	1.2	<1	2700	9.3	16	9.0	1.4	0.25	<0.5	0.59	0.06	NA	2.17
DOT–0860–2	<2	<500	<0.5	1.5	1.1	<1	3600	12.0	22	<5	1.5	<0.04	<0.5	0.90	0.15	1444	2.19
DOT–0861	<2	<500	<0.5	1.3	0.1	<1	3400	8.8	14	<5	1.2	0.26	<0.5	0.53	0.12	NA	1.76
DOT–0862	<2	580	<0.5	1.1	1.0	<1	2400	7.0	15	<5	1.0	0.28	<0.5	0.53	0.07	NA	1.97

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0864	<2	<500	<0.5	2.7	<0.2	<1	2400	13.0	20	<5	1.7	<0.06	<0.5	0.95	0.17	524	1.71
DOT–0865	2	1300	<0.5	1.1	0.9	<1	2500	8.7	15	<5	1.2	<0.03	<0.5	0.53	0.10	NA	1.45
DOT–0866	<2	1200	<0.5	1.5	0.8	<1	2200	9.3	16	<5	1.4	<0.03	<0.5	0.62	0.10	NA	1.76
DOT–0867	<2	1300	<0.5	1.4	0.8	<1	2600	11.0	20	<5	1.3	0.38	<0.5	0.80	0.08	755	2.06
DOT–0870–1	<2	<500	<0.5	0.9	<0.1	<1	3000	9.0	19	9.0	1.2	0.31	<0.5	0.62	0.12	758	1.53
DOT–0870–2	<2	<500	<0.5	0.9	<0.2	<1	3100	11.0	18	<5	1.4	<0.06	<0.5	0.91	0.18	850	1.54
DOT–0871	<2	820	<0.5	1.7	1.6	<1	2900	8.8	17	8.0	1.2	<0.03	<0.5	0.39	0.05	NA	1.51
DOT–0872	<2	<500	<0.5	1.1	<0.2	<1	2700	10.0	16	<5	1.4	<0.06	<0.5	0.82	0.12	1581	2.00
DOT–0873	<2	820	<0.5	0.7	1.1	<1	3300	11.0	15	<5	1.4	<0.06	<0.5	0.56	0.10	639	1.71
DOT–0874	<2	<500	<0.5	1.6	1.4	<1	2800	10.0	19	10.0	1.4	<0.05	<0.5	0.57	0.14	670	1.85
DOT–0875	<2	<500	<0.5	1.7	0.8	<1	2600	14.0	24	<5	1.8	<0.06	<0.5	0.88	0.21	615	1.85
DOT–0876	<2	<500	<0.5	1.6	1.3	<1	2100	11.0	19	<5	1.5	<0.04	<0.5	0.61	0.16	490	1.89
DOT–0877	<2	<500	<0.5	1.4	1.5	<1	3300	17.0	30	<5	2.2	<0.07	<0.5	1.06	0.20	1004	2.07
DOT–0878	<2	<500	<0.5	0.4	1.6	<1	2900	10.0	19	<5	1.2	<0.06	<0.5	0.76	0.15	778	2.14
DOT–0879	<2	<500	<0.5	1.6	1.5	<1	2200	13.0	21	<5	1.8	0.63	<0.5	0.83	0.16	669	1.85
DOT–0880	<2	<500	<0.5	0.6	1.0	<1	2300	10.0	20	<5	1.4	<0.06	<0.5	0.79	0.12	455	1.94
DOT–0881	<2	<500	<0.5	1.3	<0.2	<1	2400	13.0	20	13.0	1.8	<0.06	<0.5	0.99	0.20	712	1.85
DOT–0882	<2	1200	<0.5	1.5	0.7	<1	2800	9.8	16	6.0	1.4	0.25	<0.5	0.65	0.14	NA	1.80
DOT–0883	<2	1400	<0.5	2.3	1.3	<1	2300	13.0	22	<5	1.8	0.34	<0.5	1.02	0.09	513	2.05
DOT–0884	<2	870	<0.5	2.3	0.9	<1	2300	15.0	28	<5	1.9	<0.05	<0.5	0.90	0.22	875	2.19
DOT–0885	<2	<500	<0.5	0.5	<0.1	<1	2600	9.8	16	<5	1.3	<0.05	<0.5	0.84	0.13	708	1.80
DOT–0886	<2	1200	<0.5	1.9	2.3	<1	2100	12.0	22	12.0	1.9	<0.04	<0.5	0.68	0.12	NA	1.96
DOT–0887	<2	<500	<0.5	1.5	<0.2	<1	3100	14.0	24	15.0	1.9	<0.06	<0.5	1.02	0.15	840	2.11
DOT–0888	<2	<500	<0.5	0.5	1.1	<1	2000	11.0	17	<5	1.4	<0.05	<0.5	0.90	0.15	483	1.90
DOT–0889	<2	<500	<0.5	1.9	1.4	<1	2600	11.0	23	<5	1.4	0.56	<0.5	0.78	0.16	860	2.00
DOT–0890–1	<2	950	<0.5	1.4	1.4	<1	3000	8.6	16	<5	1.3	0.32	<0.5	0.61	0.14	NA	1.79
DOT–0890–2	<2	<500	<0.5	1.1	<0.1	<1	3000	9.1	16	<5	1.2	<0.05	<0.5	0.72	0.10	1232	1.98
DOT–0891	<2	<500	<0.5	1.2	1.0	1	2600	11.0	16	7.0	1.5	<0.06	0.5	0.82	0.11	428	1.98

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0892	<2	570	<0.5	1.6	0.8	<1	2400	10.0	21	9.0	1.5	0.33	<0.5	0.74	0.15	NA	1.86
DOT–0893	<2	780	<0.5	1.2	1.3	<1	2900	11.0	19	<5	1.4	0.44	<0.5	0.80	0.14	955	1.77
DOT–0894	<2	<500	<0.5	0.9	1.4	<1	2700	12.0	22	<5	1.5	<0.06	<0.5	0.63	0.14	910	1.69
DOT–0895	<2	<500	<0.5	2.1	0.9	<1	2400	12.0	23	<5	1.6	0.30	<0.5	0.67	0.13	827	2.16
DOT–0896	<2	<500	<0.5	1.6	1.7	<1	2500	12.0	16	<5	1.7	<0.06	<0.5	1.04	0.14	672	2.00
DOT–0897	<2	<500	<0.5	1.3	0.8	<1	1800	7.7	12	9.0	1.1	<0.03	<0.5	0.70	0.12	NA	1.92
DOT–0898	<2	<500	<0.5	1.4	0.9	1	2100	12.0	22	13.0	1.6	<0.06	<0.5	1.02	0.16	441	2.05
DOT–0899	<2	<500	<0.5	1.7	1.1	<1	2900	13.0	21	<5	1.6	<0.06	<0.5	1.01	0.23	969	1.95
DOT–0900–1	<2	<500	<0.5	2.0	1.1	<1	3100	13.0	21	14.0	1.6	0.43	<0.5	0.96	0.12	874	2.22
DOT–0900–2	<2	<500	<0.5	1.9	1.4	<1	2600	11.0	19	11.0	1.5	0.35	<0.5	0.66	0.13	NA	2.26
DOT–0901	<2	<500	<0.5	1.5	0.9	<1	2900	12.0	21	7.0	1.7	0.38	<0.5	0.81	0.16	956	1.97
DOT–0902	<2	<500	<0.5	1.3	1.2	<1	2900	11.0	23	6.0	1.4	<0.04	<0.5	0.98	0.11	815	1.89
DOT–0903	<2	<500	<0.5	1.5	<0.1	<1	2700	12.0	26	11.0	1.7	<0.05	<0.5	0.78	0.16	829	2.23
DOT–0904	<2	710	<0.5	1.7	1.2	<1	2500	9.0	17	<5	1.5	<0.04	<0.5	0.56	0.06	NA	2.27
DOT–0905	<2	<500	<0.5	1.7	1.0	<1	2900	11.0	20	<5	1.4	<0.05	<0.5	0.50	0.17	916	1.91
DOT–0906	<2	960	<0.5	1.4	<0.2	1	3300	9.4	16	12.0	1.3	<0.05	<0.5	0.66	0.13	1174	1.77
DOT–0907	<2	<500	<0.5	1.6	<0.2	<1	2400	12.0	20	8.0	1.4	<0.05	1.1	0.78	0.15	756	1.86
DOT–0908	<2	<500	<0.5	2.0	0.8	<1	2100	11.0	18	<5	1.5	0.36	<0.5	0.78	0.19	NA	2.05
DOT–0909	<2	990	<0.5	2.3	1.3	<1	3100	13.0	23	15.0	1.8	<0.04	<0.5	0.83	0.08	NA	1.89
DOT–0910–1	<2	1200	<0.5	2.2	<0.2	<1	2600	11.0	16	<5	1.5	<0.06	<0.5	1.02	0.13	1218	2.00
DOT–0910–2	<2	<500	<0.5	1.3	1.6	<1	2600	12.0	22	16.0	1.7	<0.05	<0.5	0.82	0.10	1260	1.99
DOT–0911	<2	<500	<0.5	1.8	1.1	<1	2900	9.4	17	<5	1.3	<0.05	<0.5	0.69	0.14	1590	1.70
DOT–0912	<2	<500	<0.5	2.1	1.1	<1	2400	12.0	16	<5	1.6	0.48	<0.5	1.06	0.12	1119	2.13
DOT–0913	<3	<500	<0.5	0.5	<0.2	<1	2400	9.0	19	23.0	1.2	<0.06	0.6	0.93	0.19	921	1.81
DOT–0914	<2	500	<0.5	1.1	1.0	<1	2200	8.7	15	12.0	1.3	<0.03	<0.5	0.54	0.08	NA	1.73
DOT–0915	<2	770	<0.5	1.5	1.0	<1	2300	11.0	18	12.0	1.6	<0.03	<0.5	0.79	0.13	NA	2.06
DOT–0916	<2	<500	<0.5	1.0	<0.1	<1	2600	12.0	20	12.0	1.6	<0.05	<0.5	0.92	0.22	1053	1.82
DOT–0917	<2	<500	<0.5	0.8	<0.1	<1	2500	10.0	23	<5	1.3	<0.05	<0.5	0.84	0.16	1222	2.19

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0918	<2	<500	<0.5	1.9	<0.2	<1	2600	12.0	20	<5	1.6	<0.06	<0.5	0.96	0.18	950	2.14
DOT–0919	<2	<500	<0.5	1.4	0.6	<1	2600	9.5	15	8.0	1.3	0.30	<0.5	0.42	0.10	1031	2.17
DOT–0920–1	<2	680	<0.5	3.9	2.6	<1	2000	26.0	49	22.0	3.2	0.56	<0.5	1.36	0.19	NA	2.64
DOT–0920–2	<2	<500	<0.5	3.2	1.1	<1	1700	27.0	49	23.0	3.1	0.73	<0.5	1.40	0.13	651	2.86
DOT–0921	<2	<500	<0.5	1.5	1.3	<1	2700	16.0	29	15.0	2.0	0.07	<0.5	1.05	0.16	766	2.12
DOT–0922	<2	1100	<0.5	1.4	0.1	<1	2400	9.6	15	15.0	1.2	<0.03	<0.5	0.55	0.05	1337	1.85
DOT–0923	<2	<500	<0.5	2.0	0.8	<1	2500	12.0	16	7.0	1.5	0.30	<0.5	0.80	0.09	789	1.87
DOT–0924	<3	<500	<0.5	1.2	<0.2	<1	2300	12.0	22	10.0	1.6	<0.06	<0.5	1.03	0.14	557	2.00
DOT–0925	<2	<500	<0.5	1.2	0.9	<1	1900	13.0	24	<5	1.7	<0.05	<0.5	0.80	0.15	758	1.96
DOT–0926	<2	830	<0.5	0.6	0.7	<1	3400	8.4	10	<5	1.1	<0.03	<0.5	0.51	0.15	1005	1.96
DOT–0927	<2	<500	<0.5	1.0	1.1	<1	2600	12.0	21	<5	1.7	<0.06	<0.5	1.00	0.17	700	2.17
DOT–0928	<2	<500	<0.5	1.9	1.0	<1	2500	15.0	23	9.0	2.0	0.57	<0.5	1.01	0.18	587	1.81
DOT–0930–1	<2	<500	<0.5	2.7	0.4	<1	3100	13.0	24	12.0	1.8	0.52	<0.5	0.98	0.20	1630	1.88
DOT–0930–2	<2	<500	<0.5	2.0	1.3	<1	2600	12.0	23	14.0	1.9	0.31	<0.5	0.91	0.12	NA	1.95
DOT–0931	<2	<500	<0.5	2.5	1.4	<1	3700	13.0	26	<5	1.8	<0.05	<0.5	0.82	0.09	1151	1.96
DOT–0932	<2	<500	<0.5	1.9	1.3	<1	3600	14.0	27	14.0	1.7	<0.04	<0.5	0.87	0.16	1312	2.46
DOT–0933	<2	<500	<0.5	0.8	<0.2	<1	2900	6.6	12	<5	1.0	<0.03	<0.5	0.41	0.07	NA	1.95
DOT–0934	<2	<500	<0.5	0.8	2.1	<1	3000	11.0	17	<5	1.4	0.34	<0.5	0.58	0.13	1460	2.09
DOT–0935	<2	<500	<0.5	1.3	<0.2	<1	3600	8.2	17	9.0	1.1	<0.06	<0.5	0.51	0.15	2257	1.85
DOT–0936	<2	<500	<0.5	1.5	1.1	<1	2900	13.0	20	<5	1.8	0.28	<0.5	0.83	0.14	1010	1.89
DOT–0937	<2	930	<0.5	1.9	1.4	<1	1800	11.0	16	<5	1.5	<0.04	<0.5	0.72	0.16	NA	2.16
DOT–0938	<2	1400	<0.5	1.1	1.0	<1	2100	9.8	18	12.0	1.3	<0.04	<0.5	0.68	0.13	503	1.66
DOT–0939	<2	<500	<0.5	1.6	0.9	<1	2400	12.0	20	<5	1.5	0.34	<0.5	0.80	0.14	783	2.03
DOT–0940–1	<2	<500	<0.5	1.7	<0.2	<1	3500	10.0	21	<5	1.4	<0.05	<0.5	0.76	0.09	1288	1.91
DOT–0940–2	<2	<500	<0.5	2.9	1.5	<1	3500	13.0	25	13.0	1.7	0.43	<0.5	0.93	0.10	NA	2.03
DOT–0941	<2	<500	<0.5	1.8	1.1	<1	1900	11.0	21	<5	1.5	<0.04	<0.5	0.78	0.07	NA	2.26
DOT–0942	<2	<500	<0.5	1.2	0.9	<1	3100	9.2	17	<5	1.3	<0.03	<0.5	0.71	0.13	1655	1.86
DOT–0943	<2	<500	<0.5	1.3	1.5	<1	3100	12.0	21	<5	1.6	<0.06	<0.5	0.94	0.06	1688	1.81

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0944	<2	810	<0.5	1.3	1.2	<1	2900	6.2	13	<5	0.8	<0.04	<0.5	0.32	0.05	NA	1.58
DOT–0945	<2	720	<0.5	2.0	1.1	<1	2500	11.0	22	<5	1.5	0.34	<0.5	0.81	0.13	NA	2.01
DOT–0946	<2	<500	<0.5	0.5	<0.2	<1	3200	11.0	19	19.0	1.3	<0.06	<0.5	0.99	0.20	733	2.31
DOT–0947–1	<2	1100	<0.5	1.3	2.4	<1	2100	9.5	17	<5	1.3	<0.03	<0.5	0.57	0.11	NA	1.85
DOT–0947–2	<2	<500	<0.5	2.2	<0.2	<1	1900	9.8	17	<5	1.4	0.38	<0.5	0.81	<0.05	NA	1.78
DOT–0948	<3	<500	<0.5	2.3	<0.2	<1	2600	13.0	20	18.0	1.5	<0.06	<0.5	1.08	0.17	1213	1.71
DOT–0949	<2	<500	<0.5	1.2	0.6	<1	2700	8.0	16	11.0	1.2	<0.03	<0.5	0.66	0.09	NA	1.80
DOT–0950	<2	<500	<0.5	0.7	0.7	<1	2300	8.0	18	9.0	1.1	<0.05	<0.5	0.56	0.11	617	1.78
DOT–0951	<2	<500	<0.5	1.0	0.9	<1	2400	10.0	18	18.0	1.4	<0.03	<0.5	0.73	0.13	NA	2.04
DOT–0952	<2	<500	<0.5	1.2	1.3	<1	2500	12.0	18	<5	1.5	<0.05	<0.5	0.72	0.06	1078	1.84
DOT–0953	<2	<500	<0.5	1.6	0.9	<1	3500	12.0	18	<5	1.6	<0.05	<0.5	0.95	0.14	1102	2.13
DOT–0954	<2	<500	<0.5	<0.1	0.6	<1	2300	4.8	9	<5	0.6	<0.03	<0.5	0.27	0.09	NA	1.77
DOT–0955	<2	1000	<0.5	1.4	1.0	<1	1900	8.5	15	8.0	1.1	0.25	<0.5	0.55	0.13	NA	2.04
DOT–0956	<2	<500	<0.5	0.9	<0.2	<1	2000	12.0	20	11.0	1.4	<0.06	<0.5	0.83	0.12	1358	2.05
DOT–0957	<2	<500	<0.5	1.1	1.3	<1	2900	9.6	18	<5	1.3	<0.05	<0.5	0.48	0.10	980	2.03
DOT–0958–1	<2	1000	<0.5	1.4	1.2	<1	3000	9.2	15	12.0	1.4	0.32	<0.5	0.76	0.08	NA	1.95
DOT–0958–2	<2	1500	<0.5	2.0	1.1	<1	2800	13.0	21	13.0	1.6	<0.03	<0.5	0.90	0.12	716	2.23
DOT–0959–1	<2	<500	<0.5	1.0	2.1	<1	2900	8.5	17	<5	1.4	<0.04	<0.5	0.59	0.13	NA	2.10
DOT–0959–2	<2	<500	<0.5	0.9	1.1	<1	2800	9.3	18	<5	1.3	<0.05	0.7	0.60	0.12	1089	2.23
DOT–0960	<2	<500	<0.5	1.3	<0.2	<1	2900	9.7	18	<5	1.3	<0.07	0.5	0.66	0.13	826	1.97
DOT–0961	<2	<500	<0.5	2.4	1.6	<1	2400	14.0	25	14.0	2.1	0.47	<0.5	0.97	0.17	NA	2.42
DOT–0962	<2	830	<0.5	1.3	1.2	<1	2300	9.2	16	13.0	1.2	<0.03	<0.5	0.70	0.10	NA	1.96
DOT–0963	<2	<500	<0.5	2.3	0.8	<1	2700	13.0	22	<5	1.6	0.56	<0.5	0.89	0.18	1579	2.16
DOT–0964	<2	<500	<0.5	1.0	1.5	<1	3200	9.0	19	<5	1.2	<0.06	<0.5	0.54	0.11	1751	1.82
DOT–0965	<2	<500	<0.5	1.6	1.3	<1	2800	12.0	20	8.0	1.5	<0.05	<0.5	0.94	0.14	2198	2.37
DOT–0966	<2	<500	<0.5	1.8	2.0	<1	3500	11.0	20	<5	1.5	<0.05	<0.5	0.60	0.09	2904	1.82
DOT–0967	<2	1900	<0.5	1.1	<0.1	<1	2900	12.0	17	11.0	1.7	0.54	<0.5	1.06	0.09	498	2.01
DOT–0968	<2	<500	<0.5	0.9	<0.2	<1	2800	12.0	24	<5	1.5	<0.06	<0.5	0.65	0.09	999	1.79

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0969	<2	<500	<0.5	0.6	<0.2	<1	2500	11.0	22	<5	1.5	<0.06	<0.5	0.84	0.11	745	1.90
DOT–0970–1	<2	<500	<0.5	3.1	1.6	<1	2900	16.0	27	15.0	1.9	<0.05	<0.5	0.77	0.15	504	1.65
DOT–0970–2	<2	<500	<0.5	1.5	1.2	1	3100	15.0	25	<5	2.0	<0.06	<0.5	0.86	0.17	573	1.72
DOT–0971	<2	250	<0.5	1.1	1.0	<1	2700	13.0	24	11.0	1.7	0.51	<0.5	0.85	0.16	756	1.94
DOT–0972	<2	<500	<0.5	2.1	0.9	<1	2400	13.0	24	9.0	1.9	0.42	<0.5	0.81	0.14	NA	2.23
DOT–0973	<2	<500	<0.5	1.3	1.3	<1	2700	9.3	16	7.0	1.4	<0.03	<0.5	0.60	0.12	NA	2.00
DOT–0974	<2	1000	<0.5	1.6	1.2	<1	2300	9.0	17	10.0	1.2	0.28	<0.5	0.85	0.11	NA	2.06
DOT–0975	<2	<500	<0.5	2.1	1.6	<1	4200	14.0	24	14.0	1.7	0.45	<0.5	1.07	0.19	2331	2.29
DOT–0976	<2	<500	<0.5	0.6	<0.2	<1	2900	13.0	19	20.0	1.7	<0.07	<0.5	0.73	0.14	1264	2.13
DOT–0977	<2	1000	<0.5	2.0	1.1	<1	2900	9.8	15	9.0	1.5	0.33	<0.5	0.47	0.13	NA	1.85
DOT–0978	<2	1200	<0.5	1.7	1.4	<1	2800	10.0	19	<5	1.6	<0.03	<0.5	0.52	0.07	NA	1.83
DOT–0979	<2	<500	<0.5	2.2	0.9	<1	2900	13.0	25	13.0	1.7	<0.05	<0.5	0.93	0.17	797	2.10
DOT–0980	<2	1100	<0.5	1.9	1.6	<1	2600	11.0	20	13.0	1.5	<0.03	<0.5	0.92	0.13	NA	1.81
DOT–0981	<2	<500	0.9	1.8	1.3	<1	2700	9.9	18	<5	1.6	0.26	<0.5	0.66	0.08	NA	1.90
DOT–0982	<2	<500	<0.5	1.3	1.2	<1	3300	12.0	18	13.0	1.6	<0.05	<0.5	0.78	0.13	802	1.95
DOT–0983	<2	<500	<0.5	1.3	1.5	<1	2600	12.0	21	<5	1.6	<0.06	<0.5	0.89	0.18	1119	1.98
DOT–0984	<2	<500	<0.5	1.1	<0.2	<1	3000	12.0	22	26.0	1.4	<0.05	<0.5	0.87	0.17	715	1.96
DOT–0985	<2	540	<0.5	1.8	1.8	<1	2600	9.4	17	12.0	1.5	<0.03	<0.5	0.49	0.11	NA	1.69
DOT–0986	<2	<500	<0.5	1.8	1.3	<1	3000	11.0	22	<5	1.6	0.33	<0.5	0.73	0.22	1147	1.96
DOT–0987	<2	<500	<0.5	2.5	1.4	<1	2900	13.0	23	10.0	1.9	0.47	<0.5	0.73	0.07	NA	2.16
DOT–0988	<2	<500	<0.5	1.2	1.0	<1	2400	10.0	17	<5	1.3	0.50	<0.5	0.76	0.15	578	1.93
DOT–0989	<2	<500	<0.5	1.3	1.0	<1	2800	11.0	23	<5	1.5	0.30	<0.5	0.65	0.13	735	2.05
DOT–0990–1	<2	<500	<0.5	2.3	0.9	<1	3300	14.0	29	7.0	1.7	0.40	<0.5	0.95	0.07	822	2.09
DOT–0990–2	<2	<500	<0.5	1.3	<0.2	<1	2900	12.0	19	<5	1.6	<0.06	<0.5	0.85	0.17	823	1.95
DOT–0991	<2	1100	<0.5	1.6	0.8	<1	2900	9.7	16	9.0	1.5	0.38	<0.5	0.62	0.10	NA	2.05
DOT–0992	<2	<500	<0.5	1.9	<0.2	<1	3100	15.0	28	13.0	1.8	0.47	<0.5	1.39	0.25	1758	2.10
DOT–0993	<2	<500	<0.5	1.3	1.1	<1	2800	13.0	23	<5	1.7	<0.06	<0.5	0.76	0.09	822	1.92
DOT–0994	<2	700	<0.5	1.8	1.1	<1	2500	10.0	20	<5	1.4	<0.03	<0.5	0.66	0.09	NA	1.90

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–0995	<2	<500	<0.5	1.6	1.2	<1	2400	9.3	17	<5	1.4	<0.03	<0.5	0.70	0.07	NA	2.12
DOT–0996	<2	<500	<0.5	2.3	<0.2	<1	3000	13.0	27	<5	1.8	<0.06	<0.5	0.90	0.18	1289	2.14
DOT–0997	<2	850	<0.5	1.2	1.2	<1	2600	9.5	16	<5	1.3	0.28	<0.5	0.59	0.09	NA	2.00
DOT–0998	<2	<500	<0.5	1.4	1.7	<1	2600	9.1	16	9.0	1.4	<0.03	<0.5	0.45	0.05	NA	2.08
DOT–0999	2	690	<0.5	2.0	1.2	<1	3100	13.0	25	17.0	2.1	0.47	<0.5	0.65	0.07	NA	2.08
DOT–1000–1	<2	<500	<0.5	1.3	1.3	<1	2800	13.0	17	<5	1.7	0.42	<0.5	0.92	0.14	1364	2.21
DOT–1000–2	<2	<500	<0.5	1.5	1.3	<1	3000	14.0	21	15.0	1.9	<0.05	<0.5	1.10	0.10	1154	2.23
DOT–1001	<2	1200	1.1	1.9	1.3	<1	4400	10.0	19	16.0	1.8	<0.04	<0.5	0.75	0.08	NA	1.85
DOT–1002	<2	<500	<0.5	1.7	1.0	<1	3300	13.0	23	<5	1.7	0.41	<0.5	0.64	0.13	843	2.21
DOT–1003	<2	<500	<0.5	1.7	1.0	<1	2600	10.0	19	<5	1.5	0.27	<0.5	0.74	0.11	NA	2.11
DOT–1004	<2	<500	<0.5	1.6	1.1	<1	3100	13.0	21	10.0	1.7	0.35	<0.5	0.74	0.07	866	1.78
DOT–1005	<2	<500	<0.5	2.1	0.9	<1	2800	10.0	19	<5	1.4	<0.06	1.0	0.80	0.15	930	1.73
DOT–1006	<2	<500	<0.5	1.7	1.5	<1	2600	13.0	22	<5	1.9	0.50	<0.5	0.87	0.15	NA	1.90
DOT–1007	<2	750	<0.5	1.6	1.0	<1	2500	10.0	16	6.0	1.5	0.20	<0.5	0.63	0.06	NA	1.91
DOT–1008	<2	1100	<0.5	1.8	1.3	<1	3800	11.0	20	<5	1.6	0.55	<0.5	0.63	0.15	1865	2.07
DOT–1009	2	1100	<0.5	1.8	<0.2	<1	3800	10.0	18	<5	1.6	0.27	<0.5	0.63	0.06	NA	2.14
DOT–1010–1	<2	<500	<0.5	0.4	<0.2	<1	2900	9.5	21	<5	1.3	<0.06	<0.5	1.02	0.19	523	1.90
DOT–1010–2	<2	<500	<0.5	1.1	1.0	<1	2800	8.0	13	<5	1.1	<0.04	<0.5	0.56	0.05	628	2.02
DOT–1011	<2	<500	<0.5	0.7	1.0	<1	4400	12.0	21	15.0	1.5	<0.06	<0.5	0.73	0.07	871	1.92
DOT–1012	<2	<500	<0.5	0.5	1.0	<1	2400	12.0	23	<5	1.6	<0.06	<0.5	0.39	0.14	529	2.03
DOT–1013	<2	<500	<0.5	1.5	<0.2	<1	2700	12.0	19	<5	1.6	0.51	<0.5	0.80	0.22	535	1.90
DOT–1014	<2	1400	<0.5	1.6	<0.2	<1	2600	10.0	19	15.0	1.6	0.34	<0.5	0.79	0.08	NA	1.97
DOT–1015	<2	<500	<0.5	2.6	1.5	<1	3300	14.0	25	16.0	1.6	<0.05	<0.5	0.64	0.12	1884	2.00
DOT–1016	<2	1400	<0.5	1.4	1.3	<1	2800	8.9	19	<5	1.3	0.57	<0.5	0.78	0.16	2114	1.93
DOT–1017	<2	<500	<0.5	0.5	1.5	<1	2700	8.0	16	<5	1.1	<0.07	<0.5	0.52	0.10	1646	2.16
DOT–1018	<2	<500	<0.5	0.7	<0.1	<1	3100	11.0	17	<5	1.5	<0.05	<0.5	0.71	0.14	1021	2.02
DOT–1019	<2	<500	<0.5	1.0	0.8	<1	3100	16.0	24	<5	2.0	<0.06	<0.5	1.09	0.24	1099	2.17
DOT–1020	<2	<500	<0.5	1.1	1.2	<1	2400	12.0	24	<5	1.6	<0.05	0.9	0.82	0.11	638	2.06

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–1021	<2	1100	<0.5	2.0	1.4	<1	2700	12.0	21	14.0	1.8	0.35	<0.5	0.87	0.14	NA	1.91
DOT–1022	<2	<500	<0.5	1.5	0.7	<1	3700	12.0	21	11.0	1.6	0.52	<0.5	0.93	0.16	2052	2.15
DOT–1023	<2	<500	<0.5	1.2	1.5	<1	4100	11.0	19	<5	1.5	<0.05	<0.5	0.99	0.13	1415	1.92
DOT–1024	<2	<500	<0.5	0.5	<0.2	<1	2800	10.0	16	<5	1.3	<0.06	<0.5	0.52	0.16	1047	1.87
DOT–1025	<2	<500	<0.5	1.4	1.5	<1	2800	11.0	20	<5	1.5	<0.06	<0.5	0.83	0.22	681	1.96
DOT–1026	<2	<500	<0.5	1.7	1.6	<1	3200	12.0	17	<5	1.5	<0.06	<0.5	0.69	0.14	2638	2.09
DOT–1027	<2	<500	0.6	1.6	<0.2	<1	3100	8.8	19	<5	1.4	0.37	<0.5	0.58	0.13	NA	1.93
DOT–1028	<2	<500	<0.5	0.7	1.4	<1	3500	13.0	28	17.0	1.8	<0.05	<0.5	0.96	0.20	1773	2.21
DOT–1029	<2	<500	<0.5	0.9	1.0	<1	4300	12.0	26	7.0	1.7	<0.06	<0.5	0.81	0.09	1704	1.87
DOT–1030–1	<2	<500	<0.5	1.1	0.9	<1	2600	7.2	12	7.0	1.1	0.17	<0.5	0.49	0.08	NA	1.84
DOT–1030–2	<2	<500	<0.5	0.3	1.0	<1	3300	11.0	20	<5	1.5	<0.06	<0.5	0.78	0.16	1396	1.76
DOT–1031	<2	740	<0.5	1.7	<0.2	<1	2300	9.3	16	12.0	1.5	0.32	<0.5	0.59	0.10	NA	2.13
DOT–1032	<2	<500	<0.5	1.6	0.9	<1	3400	12.0	20	<5	1.5	0.20	<0.5	1.02	0.19	1694	2.49
DOT–1033	<2	<500	<0.5	1.4	1.0	<1	2700	10.0	17	<5	1.3	<0.06	0.6	0.70	0.06	1961	2.24
DOT–1034	<2	<500	<0.5	0.7	1.4	<1	3300	12.0	24	<5	1.7	<0.06	<0.5	0.94	0.11	894	1.84
DOT–1035	<2	1500	<0.5	1.5	1.2	<1	2500	8.5	14	7.0	1.3	0.23	<0.5	0.55	0.11	NA	2.13
DOT–1036	<2	1600	<0.5	2.1	2.1	<1	2900	9.9	19	<5	1.4	<0.04	<0.5	0.51	0.10	NA	2.07
DOT–1037	<2	<500	<0.5	1.9	1.0	<1	4100	12.0	21	<5	1.4	<0.03	<0.5	0.77	0.11	2206	1.93
DOT–1038	<2	<500	<0.5	1.9	1.7	<1	3200	11.0	17	12.0	1.7	<0.02	<0.5	0.75	0.14	NA	1.92
DOT–1039	<2	<500	<0.5	1.6	<0.2	<1	3500	9.0	13	<5	1.2	<0.07	<0.5	0.57	0.10	2269	1.97
DOT–1040–1	<2	<500	<0.5	1.8	1.4	5	4200	11.0	16	15.0	1.6	<0.04	<0.5	0.62	0.07	NA	1.40
DOT–1040–2	<2	<500	<0.5	1.6	1.3	<1	4000	14.0	22	<5	1.9	0.40	<0.5	0.67	0.17	1315	1.74
DOT–1041	<2	<500	<0.5	0.9	<0.1	<1	3000	10.0	18	<5	1.3	<0.05	<0.5	0.78	0.16	1018	2.15
DOT–1042	<2	<500	<0.5	1.0	1.0	<1	3300	11.0	16	<5	1.4	<0.05	<0.5	0.77	0.15	1252	2.11
DOT–1043	<2	<500	<0.5	1.5	1.1	<1	3400	14.0	28	<5	2.0	<0.05	<0.5	0.96	0.22	1311	2.11
DOT–1044	<2	<500	<0.5	0.9	1.0	<1	3300	11.0	20	14.0	1.5	<0.05	<0.5	0.74	0.12	1129	2.09
DOT–1045	<2	<500	<0.5	1.6	1.3	<1	2400	10.0	21	20.0	1.3	<0.07	<0.5	0.67	0.12	1085	2.29
DOT–1046	<2	<500	<0.5	1.1	1.3	<1	4600	10.0	19	<5	1.3	<0.05	<0.5	0.74	0.12	1781	2.04

DOT LAKE BLACK SPRUCE (Picea mariana) TWIGS – ANALYTICAL DATA

Sample No.	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
DOT–1047	<2	640	<0.5	1.7	0.9	<1	3400	11.0	20	<5	1.3	<0.05	<0.5	0.71	0.14	1033	1.96
DOT–1048	<2	1100	<0.5	1.9	<0.2	2	3500	8.6	14	<5	1.2	0.14	<0.5	0.40	0.05	NA	1.68
DOT–1049	<2	<500	<0.5	1.5	<0.2	<1	2900	12.0	18	<5	1.5	<0.07	<0.5	0.66	0.13	1059	2.08
DOT–1050–1	<2	<500	<0.5	1.6	<0.1	<1	3600	11.0	18	<5	1.5	<0.05	<0.5	0.76	0.14	1593	2.12
DOT–1050–2	<2	<500	<0.5	1.2	<0.2	<1	2800	9.0	18	<5	1.3	<0.06	<0.5	0.49	0.10	1315	2.30
DOT–1051	<2	<500	<0.5	1.5	1.1	<1	3000	12.0	23	<5	1.5	0.40	<0.5	0.93	0.16	1454	2.30
DOT–1052	<2	<500	<0.5	2.1	1.2	<1	2500	11.0	21	<5	1.4	0.44	<0.5	0.85	0.17	1479	2.13
DOT–1053	<2	<500	<0.5	1.8	0.8	<1	3100	11.0	16	<5	1.4	<0.05	<0.5	0.77	0.12	1187	2.17
DOT–1054	<2	<500	<0.5	1.6	<0.2	<1	2900	13.0	21	15.0	1.7	<0.05	<0.5	0.90	0.22	960	1.96
DOT–1055	<2	<500	<0.5	2.6	1.8	<1	2700	14.0	24	11.0	1.8	<0.04	<0.5	1.03	0.11	NA	2.08
DOT–1056–1	<2	2900	<0.5	1.5	1.4	<1	2600	11.0	19	10.0	1.5	<0.06	1.1	0.69	0.16	632	2.15
DOT–1056–2	<2	1700	<0.5	1.1	1.4	<1	2600	9.8	16	<5	1.3	0.57	<0.5	0.76	0.13	598	2.17
DOT–1057	<2	<500	<0.5	1.1	1.2	<1	2800	12.0	17	<5	1.6	<0.05	<0.5	0.85	0.19	722	2.32
DOT–1058	<2	<500	<0.5	0.7	1.5	<1	2100	8.4	16	<5	1.1	<0.05	<0.5	0.80	0.10	1118	2.20

NA – Not analyzed due to insufficient sample volume

APPENDIX I

Part 2: Atomic Absorption Analyses Of Ashed Black Spruce (*Picea mariana*) Needles, Dot Lake (n=952)

Element and Lower Limit Of Determination

Cu 1 ppm
Ni 1 ppm
Cr 3 ppm
Zn 4 ppm
Fe 80 ppm
Mn 0.04%

nd - not detected

DOT LAKE BLACK SPRUCE (Picea mariana) NEEDLES – ANALYTICAL DATA

Sample No.	Cu (ppm)	Ni (ppm)	Cr (ppm)	Zn (ppm)	Fe (ppm)	Mn (%)	Ash (%)
DOT–0098	76	261	4	1755	2286	3.73	2.32
DOT–0099	116	237	4	1158	1283	1.68	3.00
DOT–0100	87	193	2	1131	1316	1.17	2.68
DOT–0101	91	202	3	1076	1831	1.53	2.99
DOT–0102	92	298	nd	1259	1979	3.51	3.74
DOT–0103	92	292	3	1347	1927	3.78	2.58
DOT–0104	85	235	2	1107	1391	0.80	3.02
DOT–0105	65	201	4	782	1952	1.16	2.82
DOT–0106	79	141	2	1258	1189	0.54	2.94
DOT–0107	92	290	6	795	1596	0.93	2.56
DOT–0108	66	163	6	1033	1271	0.53	2.61
DOT–0109	88	166	3	990	1146	1.13	2.81
DOT–0110	84	209	5	843	1355	1.29	2.62
DOT–0111	79	191	nd	822	1283	0.90	2.96
DOT–0112	87	249	8	941	1171	1.07	2.71
DOT–0113	90	214	4	1087	1685	0.83	2.53
DOT–0114	101	258	6	1234	1446	2.96	2.66
DOT–0115	91	277	4	1790	1247	4.18	3.03
DOT–0116	68	66	3	1453	1236	1.68	3.74
DOT–0117	123	168	8	878	1568	1.19	3.33
DOT–0118	72	127	4	1249	1093	1.96	4.22
DOT–0119	137	230	7	815	1452	1.30	3.46
DOT–0120	106	226	4	589	1480	1.48	3.29
DOT–0121	133	252	9	849	1595	1.37	3.28
DOT–0122	94	130	nd	1380	1479	2.80	2.69
DOT–0123	100	178	5	1042	1662	1.63	2.71
DOT–0124	97	112	4	1308	1508	1.85	3.28
DOT–0125	73	129	nd	1458	960	3.58	3.45
DOT–0126	90	192	nd	1205	1956	1.14	2.63
DOT–0127	68	252	nd	1080	1488	0.73	2.85
DOT–0128	62	207	5	830	1123	0.95	3.11
DOT–0129	96	190	4	861	1867	0.83	2.14
DOT–0130	70	203	4	1257	1272	1.43	2.92
DOT–0131	84	183	3	964	1446	0.93	3.25
DOT–0132	90	198	5	900	1729	1.24	2.53
DOT–0133	126	199	8	1116	1612	1.32	2.63
DOT–0134	99	244	5	1601	1550	2.72	2.96
DOT–0135	94	268	5	1415	1949	2.62	2.50
DOT–0136	96	290	3	1298	2402	3.65	2.30
DOT–0137	95	170	6	1727	1518	3.00	2.79

DOT LAKE BLACK SPRUCE (Picea mariana) NEEDLES – ANALYTICAL DATA

Sample No.	Cu (ppm)	Ni (ppm)	Cr (ppm)	Zn (ppm)	Fe (ppm)	Mn (%)	Ash (%)
DOT–0138	88	153	2	1308	1189	3.09	3.22
DOT–0139	93	186	4	1779	1482	4.00	3.11
DOT–0140	67	123	nd	2132	963	2.86	3.42
DOT–0141	79	108	nd	1166	982	1.57	3.54
DOT–0142	65	108	nd	826	1313	1.01	3.96
DOT–0143	81	202	nd	1064	1706	2.05	3.52
DOT–0144	96	247	6	875	1503	1.27	3.15
DOT–0145	80	321	4	874	1318	1.45	3.62
DOT–0146	90	293	11	909	1263	1.75	3.14
DOT–0147	90	370	5	1608	1626	3.53	3.04
DOT–0148	108	182	4	1004	1305	2.62	3.63
DOT–0149	79	314	nd	882	1175	0.94	3.11
DOT–0150	106	278	5	1011	1422	2.39	3.62
DOT–0151	94	230	3	983	1214	2.73	3.34
DOT–0152	76	148	6	1907	1141	3.93	3.03
DOT–0153	88	179	10	1803	976	2.99	2.59
DOT–0154	94	152	6	1204	1195	1.46	2.98
DOT–0155	74	132	nd	1315	1133	2.33	3.26
DOT–0156	80	273	4	1492	1321	1.88	2.77
DOT–0157	58	186	3	1329	1051	1.78	3.45
DOT–0158	67	238	3	957	1272	0.60	3.16
DOT–0159	87	306	4	1249	1855	2.53	2.72
DOT–0160	84	177	4	2100	1252	3.29	2.73
DOT–0161	66	137	nd	2068	1079	2.84	3.03
DOT–0162	82	79	3	2247	1248	1.85	3.01
DOT–0163	91	154	4	1072	1456	2.02	3.04
DOT–0164	74	132	3	1778	1027	2.32	3.01
DOT–0165	82	218	4	1579	1421	4.17	2.98
DOT–0166	62	183	nd	1166	1069	3.22	3.51
DOT–0167	73	149	nd	857	1075	1.13	3.13
DOT–0168	102	128	4	1051	1211	2.11	2.94
DOT–0169	100	228	4	1217	1187	1.63	3.58
DOT–0170	101	251	5	1026	1291	1.58	2.88
DOT–0171	83	172	4	1162	1193	1.61	3.27
DOT–0172	106	212	10	1353	2050	1.56	2.58
DOT–0173	94	297	5	1291	1049	1.50	3.16
DOT–0174	88	176	7	1242	1341	1.90	2.68
DOT–0175	74	190	3	1134	961	2.04	3.64
DOT–0176	96	182	5	979	1382	1.71	2.77
DOT–0177	110	254	4	951	1435	1.03	3.22

DOT LAKE BLACK SPRUCE (Picea mariana) NEEDLES – ANALYTICAL DATA

Sample No.	Cu (ppm)	Ni (ppm)	Cr (ppm)	Zn (ppm)	Fe (ppm)	Mn (%)	Ash (%)
DOT–0178	62	122	20	634	2323	0.78	5.70
DOT–0179	83	140	nd	1359	897	5.95	3.02
DOT–0180	99	218	4	1634	1572	4.87	2.66
DOT–0181	65	210	3	1945	828	3.95	3.33
DOT–0182	65	112	nd	1631	1148	4.95	3.50
DOT–0183	63	132	nd	2040	1296	3.06	3.13
DOT–0184	69	217	4	1403	1755	2.45	2.71
DOT–0185	75	168	3	1608	1260	3.12	2.61
DOT–0186	70	179	nd	1539	1553	3.98	3.00
DOT–0187	97	163	4	1244	1696	2.76	2.70
DOT–0188	117	82	7	2272	1270	1.78	3.06
DOT–0189	100	177	5	1413	1484	3.17	3.70
DOT–0190	97	123	2	1760	998	2.45	2.68
DOT–0191	73	180	3	1531	1073	3.14	3.09
DOT–0192	85	290	3	1061	1502	1.99	2.63
DOT–0193	81	110	4	1239	897	0.77	3.06
DOT–0194	70	114	nd	1173	843	1.74	4.70
DOT–0195	63	104	nd	897	854	1.53	4.53
DOT–0196	84	281	nd	1037	1890	2.96	3.39
DOT–0197	74	186	nd	1262	1522	1.47	2.80
DOT–0198	81	219	4	1147	1289	1.51	3.32
DOT–0199	95	170	8	1382	1456	1.74	2.90
DOT–0200	91	206	5	724	1515	1.22	2.16
DOT–0201	87	205	4	851	1374	1.42	2.80
DOT–0202	82	125	4	632	1403	0.87	3.35
DOT–0203	54	121	3	1619	727	2.87	3.34
DOT–0204	100	113	7	1569	1236	2.29	2.35
DOT–0205	102	191	3	629	1620	1.02	2.89
DOT–0206	71	157	nd	928	1339	1.87	3.59
DOT–0207	75	62	nd	2047	1033	7.48	3.01
DOT–0208	90	105	5	2427	1195	2.29	3.07
DOT–0209	70	89	3	2311	1063	6.07	3.15
DOT–0210	104	245	5	1455	1788	3.57	2.33
DOT–0211	87	184	11	2410	1194	1.82	2.52
DOT–0212	71	26	3	3022	1302	1.69	3.40
DOT–0213	57	95	3	1660	832	4.59	3.67
DOT–0214	82	130	4	2309	1270	2.02	3.60
DOT–0215	70	120	3	1884	1172	3.64	3.22
DOT–0216	105	196	7	2334	1761	3.91	2.56
DOT–0217	70	122	3	2195	1429	3.83	2.90

DOT LAKE BLACK SPRUCE (Picea mariana) NEEDLES – ANALYTICAL DATA

Sample No.	Cu (ppm)	Ni (ppm)	Cr (ppm)	Zn (ppm)	Fe (ppm)	Mn (%)	Ash (%)
DOT–0218	66	140	3	1973	1023	4.05	2.89
DOT–0219	69	142	nd	1917	1136	1.72	3.26
DOT–0220	69	142	4	972	953	0.83	3.35
DOT–0221	75	145	3	949	1267	1.37	2.86
DOT–0222	75	165	5	873	1251	1.32	3.19
DOT–0223	79	108	5	1245	1496	1.98	3.27
DOT–0224	91	171	5	1206	1440	1.69	3.18
DOT–0225	98	319	12	1065	1251	2.32	3.07
DOT–0226	100	446	50	1002	1567	1.52	2.16
DOT–0227	81	272	3	1012	1326	1.33	2.42
DOT–0228	57	126	2	1803	1143	3.24	3.04
DOT–0229	77	192	3	765	1056	1.13	2.62
DOT–0230	74	172	nd	957	1116	2.53	2.82
DOT–0231	69	252	8	1015	1598	2.22	2.87
DOT–0232	59	152	nd	1046	929	1.76	2.90
DOT–0233	78	226	3	1022	1309	1.32	2.32
DOT–0234	93	184	4	701	1279	1.48	2.48
DOT–0235	99	179	5	903	1691	1.26	2.59
DOT–0236	106	264	8	2005	2902	4.79	1.98
DOT–0237	75	35	4	2981	1328	1.77	2.87
DOT–0238	68	24	nd	2487	1031	1.42	3.50
DOT–0239	99	77	nd	2000	1301	2.53	2.59
DOT–0240	75	58	nd	1277	939	3.76	3.67
DOT–0241	94	198	4	1376	1679	3.72	2.33
DOT–0242	62	159	nd	1155	1156	2.34	2.77
DOT–0243	61	140	3	1457	1267	3.07	3.45
DOT–0244	75	107	nd	2064	969	2.04	3.82
DOT–0245	66	80	nd	2348	1030	1.42	3.29
DOT–0246	49	98	nd	2086	783	2.22	4.05
DOT–0247	83	164	6	1501	1313	3.78	2.60
DOT–0248	69	105	nd	2432	1002	1.93	3.28
DOT–0249	85	177	4	2184	1058	2.01	2.85
DOT–0250	73	97	nd	2628	1367	1.27	2.80
DOT–0251	64	159	nd	949	1057	1.71	3.44
DOT–0252	70	165	3	899	1039	1.67	2.73
DOT–0253	73	167	3	1095	1080	1.75	2.94
DOT–0254	73	238	nd	1001	1334	1.79	2.53
DOT–0255	89	224	6	924	1389	1.15	2.90
DOT–0256	96	315	9	983	1195	1.49	2.33
DOT–0257	84	247	4	1031	1237	1.75	2.58

DOT LAKE BLACK SPRUCE (Picea mariana) NEEDLES – ANALYTICAL DATA

Sample No.	Cu (ppm)	Ni (ppm)	Cr (ppm)	Zn (ppm)	Fe (ppm)	Mn (%)	Ash (%)
DOT–0258	103	305	5	1114	1820	1.45	2.35
DOT–0259	56	109	nd	774	990	1.13	3.37
DOT–0260	59	110	2	1054	1341	2.50	3.52
DOT–0261	73	140	nd	1376	1223	1.07	3.46
DOT–0262	78	170	nd	896	1406	1.56	2.79
DOT–0263	83	91	2	1122	1200	2.76	2.62
DOT–0264	74	116	3	1611	1275	2.77	3.31
DOT–0265	79	118	5	1320	1034	0.94	2.55
DOT–0266	76	108	4	1347	1104	1.65	3.50
DOT–0267	57	107	6	1156	1096	2.01	3.13
DOT–0268	93	300	4	912	2058	1.49	2.75
DOT–0269	68	205	3	1293	1158	2.57	3.77
DOT–0270	79	115	7	949	1121	0.79	3.44
DOT–0271	78	217	8	795	1085	0.78	3.11
DOT–0272	77	166	3	725	1188	0.88	3.57
DOT–0273	75	99	4	758	1345	1.54	3.26
DOT–0274	87	91	5	2009	1212	0.92	2.75
DOT–0275	76	68	3	2925	1524	0.93	2.87
DOT–0276	94	232	5	1743	1549	3.66	2.99
DOT–0277	87	206	5	1922	2155	3.06	2.47
DOT–0278	166	185	15	1874	1688	2.85	2.55
DOT–0279	78	141	4	2260	1401	2.83	2.60
DOT–0280	69	146	4	789	1193	1.47	3.78
DOT–0281	85	157	3	962	1400	1.76	2.74
DOT–0282	95	217	5	746	1506	1.39	2.61
DOT–0283	115	245	5	1140	1580	1.58	2.02
DOT–0284	97	233	15	764	1595	1.39	2.40
DOT–0285	78	157	5	1186	1481	1.50	3.30
DOT–0286	47	162	nd	909	912	1.09	4.27
DOT–0287	57	151	5	816	1809	1.65	3.85
DOT–0288	64	95	nd	841	717	1.35	3.42
DOT–0289	71	236	3	1139	968	1.42	2.89
DOT–0290	61	213	3	766	1264	1.66	3.02
DOT–0291	70	212	5	2058	1181	4.13	3.06
DOT–0292	73	111	nd	1033	1113	2.11	3.22
DOT–0293	75	91	13	964	2128	1.05	3.31
DOT–0294	82	279	7	1199	1996	2.67	2.32
DOT–0295	76	174	6	645	1103	0.09	3.27
DOT–0296	94	240	4	808	68	0.03	3.09
DOT–0297	89	156	6	1269	1438	2.16	2.85

DOT LAKE BLACK SPRUCE (Picea mariana) NEEDLES – ANALYTICAL DATA

Sample No.	Cu (ppm)	Ni (ppm)	Cr (ppm)	Zn (ppm)	Fe (ppm)	Mn (%)	Ash (%)
DOT–0298	56	127	nd	983	674	1.72	4.05
DOT–0299	93	159	nd	953	1328	1.42	3.28
DOT–0300	70	188	4	1200	1089	1.43	3.87
DOT–0301	61	189	13	1087	796	1.53	3.13
DOT–0302	94	141	3	993	986	1.74	2.95
DOT–0303	82	125	8	842	1918	1.91	2.51
DOT–0304	77	270	nd	875	749	1.14	3.33
DOT–0305	130	159	5	1017	1944	1.78	3.27
DOT–0306	91	97	8	1302	1418	4.23	3.25
DOT–0307	79	194	3	1221	1265	3.03	2.92
DOT–0308	68	201	6	1414	1189	2.07	3.10
DOT–0309	74	231	12	1054	995	1.54	2.95
DOT–0310	98	334	2	1197	1419	1.99	2.13
DOT–0311	85	288	3	1055	1245	1.33	2.40
DOT–0312	71	269	13	929	1191	1.80	2.64
DOT–0313	99	450	5	1099	1542	2.08	2.62
DOT–0314	82	275	7	929	2917	1.07	2.43
DOT–0315	102	201	5	773	1858	1.82	2.66
DOT–0316	75	243	nd	988	1040	1.39	2.69
DOT–0317	72	203	5	1068	1414	1.29	3.27
DOT–0318	79	123	4	632	1126	0.85	3.38
DOT–0319	93	108	9	1296	3908	1.76	3.71
DOT–0320	73	141	3	894	1462	1.63	3.03
DOT–0321	77	158	nd	1011	1435	1.29	2.51
DOT–0322	79	237	4	887	1433	1.21	2.86
DOT–0323	65	172	3	856	1091	1.24	2.86
DOT–0324	78	217	5	975	1600	1.71	2.56
DOT–0325	63	313	3	880	1137	1.49	2.72
DOT–0326	67	271	nd	979	1240	1.81	3.19
DOT–0327	78	272	3	992	1755	1.84	2.59
DOT–0328	79	216	10	nd	1259	1.20	2.69
DOT–0329	60	209	9	1156	1045	2.46	3.68
DOT–0330	26	119	nd	1161	954	2.73	3.04
DOT–0331	58	125	4	746	1222	1.29	3.38
DOT–0332	80	152	3	824	1446	1.54	2.61
DOT–0333	65	182	nd	828	1085	1.83	2.86
DOT–0334	70	161	7	1079	1329	2.32	3.82
DOT–0334	74	410	nd	800	1182	1.79	2.95
DOT–0335	47	186	3	826	944	1.36	3.18
DOT–0336	59	178	5	926	754	1.30	2.86

DOT LAKE BLACK SPRUCE (Picea mariana) NEEDLES – ANALYTICAL DATA

Sample No.	Cu (ppm)	Ni (ppm)	Cr (ppm)	Zn (ppm)	Fe (ppm)	Mn (%)	Ash (%)
DOT–0337	74	189	nd	1617	953	3.02	3.37
DOT–0338	51	143	3	1866	789	4.52	4.01
DOT–0339	49	86	nd	1332	685	3.16	4.22
DOT–0340	79	178	3	1025	1238	2.59	3.27
DOT–0341	53	183	31	1075	822	2.29	3.77
DOT–0342	74	170	3	1049	927	1.63	3.14
DOT–0343	89	156	9	928	1384	2.32	3.23
DOT–0345	109	193	9	1537	3668	2.01	3.22
DOT–0346	74	138	3	1151	1909	1.68	3.34
DOT–0347	88	166	3	106	1819	2.22	3.46
DOT–0348	81	199	11	1064	1651	1.41	2.96
DOT–0349	68	181	4	872	1086	2.61	2.92
DOT–0350	73	226	2	953	1272	1.23	2.74
DOT–0351	73	139	nd	903	1184	2.04	3.06
DOT–0352	74	177	5	936	1362	1.74	2.89
DOT–0353	89	221	3	891	1275	2.01	2.97
DOT–0354	70	124	3	812	1115	1.14	2.85
DOT–0355	76	172	3	780	962	1.42	3.51
DOT–0356	66	116	nd	842	984	1.47	4.24
DOT–0357	64	189	5	953	1018	1.99	3.30
DOT–0358	66	167	9	864	1059	1.35	3.59
DOT–0359	63	228	5	984	981	2.20	3.58
DOT–0360	63	115	nd	1206	920	2.29	2.78
DOT–0361	82	141	4	1502	1327	1.82	2.48
DOT–0362	94	173	4	758	1054	1.33	3.07
DOT–0363	54	112	3	1042	945	1.78	3.21
DOT–0364	67	168	nd	1062	965	2.14	3.96
DOT–0365	61	115	nd	1294	nd	2.28	3.27
DOT–0366	75	189	4	1390	1152	2.09	2.81
DOT–0367	61	77	nd	1801	1027	2.00	3.25
DOT–0368	77	141	3	1296	1378	1.49	2.56
DOT–0369	54	66	nd	1597	1338	1.73	3.50
DOT–0370	76	81	5	2024	1842	2.57	2.95
DOT–0371	92	174	4	1144	2563	1.92	3.95
DOT–0372	59	167	6	868	1287	1.59	3.99
DOT–0373	56	193	10	918	1565	1.68	3.55
DOT–0374	64	223	nd	756	1222	1.44	2.75
DOT–0375	72	114	3	785	1421	1.79	3.30
DOT–0376	58	148	5	955	883	1.25	3.80
DOT–0377	95	246	7	792	4990	2.04	2.65

DOT LAKE BLACK SPRUCE (Picea mariana) NEEDLES – ANALYTICAL DATA

Sample No.	Cu (ppm)	Ni (ppm)	Cr (ppm)	Zn (ppm)	Fe (ppm)	Mn (%)	Ash (%)
DOT–0378	70	165	9	1058	1223	2.51	3.33
DOT–0379	73	202	32	986	1257	1.98	2.83
DOT–0380	57	203	3	976	917	1.65	3.53
DOT–0381	57	163	nd	1106	884	1.35	3.20
DOT–0382	70	110	3	1142	1102	1.36	2.77
DOT–0383	66	154	7	1262	752	1.52	3.23
DOT–0384	58	158	2	1344	1168	1.96	3.37
DOT–0385	65	132	3	924	1087	2.15	3.01
DOT–0386	64	135	nd	1212	874	1.93	3.62
DOT–0387	91	144	8	810	1446	1.98	3.66
DOT–0388	92	115	nd	1494	1612	1.58	3.10
DOT–0389	76	59	nd	1783	1179	3.36	3.19
DOT–0390	68	190	nd	2203	1285	3.14	2.98
DOT–0391	92	131	6	2487	1563	2.71	2.54
DOT–0392	67	90	nd	1828	1048	2.04	3.46
DOT–0393	93	500	23	1146	2038	1.83	2.38
DOT–0394	108	251	16	1003	2971	1.82	2.96
DOT–0395	55	131	9	724	1266	2.81	3.19
DOT–0396	57	146	25	862	1312	2.27	3.31
DOT–0397	59	153	3	734	937	1.55	2.99
DOT–0398	63	96	5	916	1122	2.34	3.38
DOT–0399	48	134	nd	963	896	2.01	3.50
DOT–0400	64	223	15	964	1185	2.49	2.89
DOT–0401	46	144	4	890	1222	1.09	3.00
DOT–0402	76	201	3	1110	985	1.09	2.56
DOT–0403	70	148	nd	1766	968	2.49	2.72
DOT–0404	72	214	31	1352	1049	3.03	3.27
DOT–0405	49	111	nd	1235	663	2.86	4.14
DOT–0406	53	123	nd	1196	819	1.77	2.99
DOT–0407	65	164	8	1522	988	1.78	3.11
DOT–0408	51	147	nd	1079	981	1.20	3.10
DOT–0409	58	213	nd	1434	1030	3.42	3.31
DOT–0410	77	164	nd	1592	1445	6.19	3.81
DOT–0411	96	209	5	2025	1876	4.82	2.43
DOT–0412	55	174	nd	2159	1267	4.55	2.85
DOT–0413	55	152	5	1534	1360	3.69	2.99
DOT–0414	82	86	5	1912	1568	2.43	3.33
DOT–0415	137	97	10	1269	3108	2.74	2.87
DOT–0416	87	190	41	958	1444	2.09	2.74
DOT–0417	73	150	5	770	1099	1.65	2.93

DOT LAKE BLACK SPRUCE (Picea mariana) NEEDLES – ANALYTICAL DATA

Sample No.	Cu (ppm)	Ni (ppm)	Cr (ppm)	Zn (ppm)	Fe (ppm)	Mn (%)	Ash (%)
DOT–0418	60	199	nd	781	1292	1.38	3.25
DOT–0419	64	150	51	1062	1160	2.23	3.53
DOT–0420	72	140	4	897	1169	2.65	2.99
DOT–0421	62	243	8	770	928	2.00	3.66
DOT–0422	76	233	11	811	896	1.57	3.13
DOT–0423	79	183	nd	1893	1177	1.98	2.73
DOT–0424	66	181	5	1711	895	3.11	3.32
DOT–0425	65	132	nd	1413	1084	1.82	3.34
DOT–0426	64	117	nd	1853	1355	1.41	3.80
DOT–0427	76	176	5	1092	1407	3.47	2.68
DOT–0428	74	134	4	1574	1069	2.43	3.11
DOT–0429	75	157	4	1239	1098	1.42	3.73
DOT–0430	59	230	3	2135	988	1.76	3.38
DOT–0431	43	102	nd	2360	861	2.12	3.40
DOT–0432	72	167	3	1756	1059	3.73	2.89
DOT–0433	85	135	5	2046	1000	6.22	3.54
DOT–0434	58	114	3	1609	1306	2.97	3.33
DOT–0435	76	84	nd	1670	1188	1.66	2.89
DOT–0436	61	50	3	1971	1322	1.70	3.87
DOT–0437	161	108	14	1706	6110	3.03	3.62
DOT–0438	84	189	14	733	2291	2.41	2.71
DOT–0439	68	172	27	1001	1561	1.98	3.77
DOT–0441	53	194	30	703	1009	1.55	3.69
DOT–0442	57	129	nd	886	1180	1.72	3.94
DOT–0443	49	138	nd	911	760	4.65	5.56
DOT–0444	54	92	nd	1961	1237	2.97	3.34
DOT–0445	55	185	nd	1513	890	2.25	5.23
DOT–0446	55	187	nd	938	837	1.44	3.98
DOT–0447	53	145	3	1649	1033	2.47	3.72
DOT–0448	62	169	5	1200	888	1.97	3.53
DOT–0449	75	187	7	1926	673	2.03	3.26
DOT–0450	58	94	9	2300	1167	4.03	3.29
DOT–0451	66	158	3	2263	941	2.21	3.27
DOT–0452	64	138	4	1804	2328	1.49	2.94
DOT–0453	67	134	3	1537	2095	2.81	2.81
DOT–0454	74	79	3	1729	1110	3.35	3.06
DOT–0455	63	54	5	2530	1242	1.77	2.87
DOT–0456	79	44	nd	2835	1232	1.54	3.00
DOT–0457	71	83	5	2101	1239	2.95	2.75
DOT–0458	127	268	8	1311	2937	1.96	2.73

DOT LAKE BLACK SPRUCE (Picea mariana) NEEDLES – ANALYTICAL DATA

Sample No.	Cu (ppm)	Ni (ppm)	Cr (ppm)	Zn (ppm)	Fe (ppm)	Mn (%)	Ash (%)
DOT–0459	102	153	11	959	1160	1.91	4.44
DOT–0460	59	172	29	715	1118	1.36	3.55
DOT–0461	67	195	7	683	1154	1.24	3.36
DOT–0462	63	238	36	890	1159	1.40	2.93
DOT–0463	82	235	38	1126	1242	2.16	2.86
DOT–0464	75	346	17	786	1273	1.63	2.80
DOT–0465	76	189	28	1051	3940	0.99	5.13
DOT–0466	47	90	nd	1579	895	2.88	4.68
DOT–0467	48	171	7	921	1170	2.58	3.69
DOT–0468	53	29	6	1136	188	1.67	3.57
DOT–0469	62	262	nd	1560	797	1.93	2.92
DOT–0470	68	150	3	1852	991	1.88	2.86
DOT–0471	41	155	nd	1396	825	1.50	3.08
DOT–0472	46	130	nd	1193	744	1.67	3.16
DOT–0473	59	147	3	1995	1616	3.76	2.97
DOT–0475	59	51	nd	2132	1201	1.60	3.30
DOT–0476	68	156	3	2620	1354	3.18	2.73
DOT–0477	70	207	6	987	1792	1.80	3.07
DOT–0478	74	111	6	1408	2283	1.45	3.56
DOT–0479	124	157	19	964	8210	0.91	2.81
DOT–0480	71	201	144	832	1541	1.30	3.31
DOT–0481	82	320	110	1386	1155	1.84	2.77
DOT–0482	66	278	5	955	1393	1.38	2.48
DOT–0483	49	172	41	1459	1091	1.51	3.05
DOT–0484	46	241	18	1095	851	1.85	3.37
DOT–0485	55	96	3	2423	1620	2.52	3.56
DOT–0486	50	101	6	1116	774	2.13	4.63
DOT–0487	70	133	nd	1058	1135	1.47	3.33
DOT–0488	72	167	5	854	1333	0.79	3.09
DOT–0489	94	243	12	746	2955	1.62	2.99
DOT–0490	75	154	4	821	1991	0.86	3.32
DOT–0491	65	193	9	982	1553	1.92	3.08
DOT–0492	60	142	6	2220	2073	1.82	3.39
DOT–0493	49	177	nd	1286	1166	1.52	3.43
DOT–0494	65	254	4	1140	1043	2.56	3.03
DOT–0495	55	101	3	1395	916	2.77	3.57
DOT–0496	75	144	3	1254	1008	3.66	2.99
DOT–0497	62	110	nd	1173	1296	2.58	2.46
DOT–0498	82	300	4	1764	1587	5.16	2.18
DOT–0499	49	85	nd	1613	1135	1.93	4.24

DOT LAKE BLACK SPRUCE (Picea mariana) NEEDLES – ANALYTICAL DATA

Sample No.	Cu (ppm)	Ni (ppm)	Cr (ppm)	Zn (ppm)	Fe (ppm)	Mn (%)	Ash (%)
DOT–0500	73	67	nd	1919	1020	1.89	3.10
DOT–0501	57	41	nd	1772	652	1.02	4.15
DOT–0502	42	74	nd	1842	1032	2.29	3.60
DOT–0503	69	109	13	785	1119	5.35	3.68
DOT–0504	71	89	16	762	1185	3.30	2.96
DOT–0505	63	244	4	669	1128	0.95	3.32
DOT–0506	87	420	8	838	2477	1.04	2.71
DOT–0507	88	266	19	1222	2186	2.48	2.79
DOT–0508	61	165	nd	836	1200	2.11	2.95
DOT–0509	69	257	26	790	799	1.18	3.20
DOT–0510	67	171	2	992	968	1.61	3.14
DOT–0511	63	169	3	1615	1073	2.06	3.04
DOT–0512	49	71	nd	2095	1345	2.14	3.48
DOT–0513	52	43	nd	2569	94	1.90	2.93
DOT–0514	52	53	7	2813	984	3.76	3.06
DOT–0515	52	98	nd	2354	1048	2.90	3.06
DOT–0516	49	83	nd	1074	1034	2.64	3.86
DOT–0517	47	127	nd	862	853	2.58	4.24
DOT–0518	52	82	4	1057	795	3.49	4.09
DOT–0519	64	235	16	844	1235	1.52	3.37
DOT–0520	77	211	6	811	1719	1.67	3.47
DOT–0521	76	127	5	866	1708	1.43	2.94
DOT–0522	112	113	7	2240	4870	2.91	2.93
DOT–0523	81	179	3	1772	2251	3.57	2.71
DOT–0524	68	94	5	1802	1779	1.75	2.99
DOT–0525	67	215	7	747	1591	0.92	2.80
DOT–0526	71	241	nd	2410	1811	2.51	2.81
DOT–0527	78	182	nd	2045	1108	3.39	2.45
DOT–0528	52	77	3	2864	1320	3.02	2.93
DOT–0529	57	235	nd	890	985	1.06	2.86
DOT–0530	61	161	2	1149	1030	1.29	3.52
DOT–0531	72	183	3	1537	1070	5.07	2.74
DOT–0532	88	323	5	1785	1691	4.76	2.72
DOT–0533	74	252	3	1994	1392	5.17	2.59
DOT–0534	76	150	3	2250	2096	2.75	2.32
DOT–0536	93	165	7	1728	1969	3.39	2.46
DOT–0537	61	138	3	1873	1479	2.98	3.21
DOT–0538	60	53	nd	1173	1048	1.13	3.00
DOT–0539	53	138	15	705	1124	1.68	3.17
DOT–0540	60	155	19	644	1042	1.96	3.33

DOT LAKE BLACK SPRUCE (Picea mariana) NEEDLES – ANALYTICAL DATA

Sample No.	Cu (ppm)	Ni (ppm)	Cr (ppm)	Zn (ppm)	Fe (ppm)	Mn (%)	Ash (%)
DOT–0541	65	123	11	904	994	3.53	3.57
DOT–0543	61	121	3	1890	1256	1.58	3.03
DOT–0544	66	141	3	2077	1117	3.80	2.85
DOT–0545	72	143	3	1467	1301	4.68	2.43
DOT–0546	77	209	4	1635	2103	3.88	2.59
DOT–0547	79	216	nd	2363	4640	1.70	3.17
DOT–0548	61	90	4	1164	1001	1.63	3.51
DOT–0548	91	227	4	1768	1700	5.11	2.49
DOT–0549	74	125	5	1596	1437	2.10	2.71
DOT–0550	62	257	12	1504	1530	2.31	2.61
DOT–0551	71	273	19	730	1148	3.28	2.71
DOT–0552	66	188	48	770	1175	1.57	2.77
DOT–0553	75	198	nd	765	744	1.04	3.10
DOT–0554	56	107	4	1256	1152	1.79	3.55
DOT–0555	65	191	3	979	1390	1.23	3.02
DOT–0556	61	205	nd	1584	805	8.00	3.09
DOT–0557	58	183	nd	1730	1911	3.28	2.80
DOT–0558	77	217	nd	1885	1811	4.79	2.47
DOT–0559	78	158	nd	1363	1619	4.94	2.78
DOT–0560	61	169	4	1802	1565	3.36	2.43
DOT–0561	64	199	4	1819	1342	1.70	2.78
DOT–0562	63	319	20	1040	1354	2.01	3.16
DOT–0563	54	145	4	965	976	2.11	3.73
DOT–0564	73	177	4	698	858	1.02	3.25
DOT–0565	54	123	nd	1841	873	2.90	3.58
DOT–0566	58	97	nd	851	1241	1.32	3.38
DOT–0567	81	155	4	1220	2071	3.03	2.56
DOT–0568	67	410	nd	1648	2368	3.69	2.75
DOT–0569	53	82	nd	1081	2682	0.99	3.36
DOT–0570	67	252	2	2129	1655	1.87	2.89
DOT–0571	52	53	nd	1316	1667	2.94	3.10
DOT–0572	89	175	5	2299	2709	3.72	2.10
DOT–0573	71	298	4	1444	1966	2.94	2.29
DOT–0574	70	183	4	1451	1426	4.32	2.50
DOT–0575	75	168	nd	1674	1363	3.80	2.14
DOT–0576	43	81	nd	1455	868	2.05	4.73
DOT–0577	57	116	nd	2281	1051	1.61	3.02
DOT–0578	45	53	nd	2065	796	2.58	3.78
DOT–0579	75	112	nd	1714	894	1.72	2.76
DOT–0580	65	129	2	2483	1185	2.73	2.63

DOT LAKE BLACK SPRUCE (Picea mariana) NEEDLES – ANALYTICAL DATA

Sample No.	Cu (ppm)	Ni (ppm)	Cr (ppm)	Zn (ppm)	Fe (ppm)	Mn (%)	Ash (%)
DOT–0581	66	95	nd	796	1089	1.50	3.58
DOT–0582	74	131	nd	1241	2224	1.41	3.35
DOT–0583	104	139	6	902	3685	1.60	3.03
DOT–0584	64	79	nd	1765	1266	2.80	3.06
DOT–0585	65	109	3	2093	857	1.42	3.05
DOT–0586	57	171	9	1061	709	1.40	3.07
DOT–0587	49	73	nd	2065	693	4.43	3.72
DOT–0588	47	15	nd	2501	988	0.90	3.64
DOT–0589	49	97	nd	2083	818	3.30	3.84
DOT–0590	53	101	nd	1967	760	4.11	3.28
DOT–0591	55	142	nd	747	1227	1.04	2.85
DOT–0592	57	134	3	976	1027	1.38	3.53
DOT–0593	59	113	nd	976	1022	1.59	3.06
DOT–0594	56	108	1	852	1194	1.23	3.35
DOT–0595	100	94	5	1076	6060	1.47	3.07
DOT–0596	70	113	4	1345	1311	1.40	2.88
DOT–0599	50	129	nd	811	990	1.46	3.40
DOT–0601	166	157	7	1407	1123	2.69	3.59
DOT–0602	70	170	nd	1570	2095	3.59	3.27
DOT–0603	54	104	nd	697	1345	1.18	2.88
DOT–0604	66	97	nd	905	1221	1.63	2.72
DOT–0605	53	95	5	926	1358	1.11	3.60
DOT–0606	61	111	6	765	2216	1.05	3.38
DOT–0607	71	124	nd	1902	1760	3.51	2.22
DOT–0608	45	79	nd	1732	1127	3.04	3.13
DOT–0609	78	114	4	1318	1380	2.48	2.54
DOT–0610	60	103	nd	1248	1279	2.57	3.21
DOT–0611	52	121	2	1314	802	5.25	3.68
DOT–0612	47	118	3	736	1038	0.98	3.36
DOT–0613	43	78	nd	858	734	1.07	4.26
DOT–0614	63	89	3	621	1381	0.83	3.21
DOT–0615	59	141	3	977	1551	1.13	3.22
DOT–0616	107	103	9	1581	5850	2.45	3.35
DOT–0617	43	69	nd	1713	1227	3.69	3.19
DOT–0618	58	132	3	1410	1241	7.14	2.85
DOT–0619	63	119	nd	1708	1484	2.47	2.74
DOT–0620	66	181	3	1630	1476	3.08	2.80
DOT–0621	61	55	nd	1991	942	3.60	2.95
DOT–0622	61	106	6	2163	1147	2.78	3.48
DOT–0623	57	114	7	1066	1074	1.77	2.94

DOT LAKE BLACK SPRUCE (Picea mariana) NEEDLES – ANALYTICAL DATA

Sample No.	Cu (ppm)	Ni (ppm)	Cr (ppm)	Zn (ppm)	Fe (ppm)	Mn (%)	Ash (%)
DOT–0624	60	100	nd	958	1385	1.49	3.26
DOT–0625	64	109	4	844	2540	1.44	3.61
DOT–0626	73	154	nd	1921	1620	6.21	2.30
DOT–0627	70	136	nd	1617	1150	5.30	2.33
DOT–0628	64	160	3	1772	1640	6.70	2.37
DOT–0629	69	126	nd	1210	1644	2.87	2.57
DOT–0630	65	117	nd	1567	984	5.06	2.95
DOT–0631	45	167	8	1304	1340	1.31	2.80
DOT–0632	58	215	4	1581	1119	1.53	2.81
DOT–0633	66	246	nd	1493	829	0.94	2.69
DOT–0634	61	134	4	1154	1088	2.08	3.09
DOT–0635	58	104	4	1189	1455	2.15	2.99
DOT–0636	56	132	3	850	1219	1.82	3.08
DOT–0637	61	112	nd	1188	1232	1.49	3.38
DOT–0638	90	91	7	1283	3315	1.82	3.25
DOT–0639	84	141	4	1452	1980	5.71	2.46
DOT–0640	46	94	nd	1568	1072	3.52	2.98
DOT–0641	37	32	nd	1441	768	4.82	3.90
DOT–0642	57	184	5	1592	1106	3.63	2.78
DOT–0643	52	140	3	962	1009	1.26	3.52
DOT–0644	73	193	3	1383	1035	1.85	2.76
DOT–0645	80	134	3	803	933	1.46	2.91
DOT–0646	66	192	5	843	1199	1.36	3.16
DOT–0647	52	127	nd	847	790	1.48	3.11
DOT–0648	73	107	nd	1213	1266	2.82	3.07
DOT–0649	43	107	nd	1126	1059	1.35	2.84
DOT–0650	54	98	2	837	1094	1.45	2.77
DOT–0651	59	98	4	1113	1693	1.86	3.50
DOT–0652	61	91	3	1516	2560	3.57	3.87
DOT–0653	41	90	nd	1767	922	2.97	3.18
DOT–0654	48	58	nd	1987	861	2.17	3.76
DOT–0655	49	129	nd	1719	1233	3.98	3.30
DOT–0656	61	138	3	1551	1684	4.07	2.70
DOT–0657	76	87	4	1510	1244	4.69	2.90
DOT–0658	53	127	4	1814	1576	2.71	2.99
DOT–0659	53	130	nd	1439	1179	1.41	2.57
DOT–0660	48	157	2	1559	924	1.71	2.95
DOT–0661	73	158	7	828	1282	1.21	2.21
DOT–0662	56	125	4	1220	1260	2.27	3.26
DOT–0663	59	109	nd	857	760	1.72	3.73

DOT LAKE BLACK SPRUCE (Picea mariana) NEEDLES – ANALYTICAL DATA

Sample No.	Cu (ppm)	Ni (ppm)	Cr (ppm)	Zn (ppm)	Fe (ppm)	Mn (%)	Ash (%)
DOT–0664	55	89	nd	1210	787	1.80	3.12
DOT–0665	53	79	2	1292	1101	2.82	3.57
DOT–0666	44	124	nd	1379	1174	2.07	3.14
DOT–0667	43	98	nd	1606	1051	2.30	3.33
DOT–0668	72	153	3	1140	2518	1.53	2.35
DOT–0669	91	78	6	763	3263	0.80	2.81
DOT–0670	54	123	3	1891	1399	3.01	3.09
DOT–0671	53	62	nd	2648	1075	5.03	2.77
DOT–0672	55	48	nd	2190	893	1.80	2.94
DOT–0673	54	102	nd	1633	1397	3.56	3.03
DOT–0674	46	40	nd	2147	851	6.50	3.19
DOT–0675	59	186	3	2125	1448	2.60	2.54
DOT–0676	52	139	3	1260	1109	1.52	3.39
DOT–0677	56	150	4	nd	1370	1.40	2.92
DOT–0678	61	162	4	1033	953	1.14	2.87
DOT–0679	65	117	4	944	1312	1.82	2.75
DOT–0680	60	133	nd	756	1079	0.92	3.02
DOT–0681	62	81	nd	1336	1273	1.78	2.95
DOT–0682	56	60	nd	2085	910	1.34	3.08
DOT–0683	42	51	nd	1565	826	1.13	3.32
DOT–0684	44	148	nd	964	1349	1.11	3.22
DOT–0685	61	119	6	1200	1178	1.87	2.81
DOT–0686	71	205	2	941	1348	1.29	2.74
DOT–0687	66	104	nd	908	1359	0.96	2.64
DOT–0689	64	164	5	1293	1992	2.37	3.08
DOT–0690	66	94	nd	1094	1786	0.85	2.85
DOT–0691	79	158	nd	1915	1724	3.70	2.82
DOT–0692	72	222	4	1740	1965	3.85	2.09
DOT–0693	60	117	nd	1910	1591	5.20	2.41
DOT–0694	47	121	29	1449	973	2.11	3.24
DOT–0695	60	100	3	1899	1469	2.16	2.88
DOT–0696	64	124	5	1673	1105	1.86	2.87
DOT–0697	49	106	nd	1959	1122	2.31	3.20
DOT–0698	37	56	3	1471	940	1.99	3.61
DOT–0699	48	152	6	1079	1381	0.82	2.83
DOT–0700	70	117	nd	1162	1869	0.72	2.29
DOT–0701	59	145	nd	785	1781	0.95	2.48
DOT–0702	73	103	4	940	1532	1.17	2.64
DOT–0703	60	138	nd	1029	1299	1.84	2.34
DOT–0704	58	131	nd	827	1259	1.08	2.37

DOT LAKE BLACK SPRUCE (Picea mariana) NEEDLES – ANALYTICAL DATA

Sample No.	Cu (ppm)	Ni (ppm)	Cr (ppm)	Zn (ppm)	Fe (ppm)	Mn (%)	Ash (%)
DOT–0705	58	130	nd	826	941	1.35	2.48
DOT–0706	53	128	nd	1108	1158	1.29	3.14
DOT–0707	60	91	nd	1229	1882	0.65	2.94
DOT–0708	78	115	nd	1304	2784	1.28	2.68
DOT–0709	51	104	nd	1435	1109	1.84	3.41
DOT–0710	61	172	nd	2233	2382	3.78	2.46
DOT–0711	48	126	nd	1845	898	1.99	3.61
DOT–0712	69	162	4	2092	1331	2.75	2.38
DOT–0713	54	180	3	1817	1987	3.71	2.78
DOT–0714	55	170	nd	2020	1188	4.30	2.52
DOT–0715	12	234	nd	1626	2237	6.32	2.32
DOT–0716	39	37	nd	1646	814	2.95	3.53
DOT–0717	36	19	nd	2473	835	2.14	3.55
DOT–0718	57	24	nd	1971	1209	1.27	4.42
DOT–0719	57	152	4	1016	1115	0.79	3.00
DOT–0720	52	100	nd	904	1243	0.83	3.65
DOT–0721	57	146	nd	930	1605	1.02	2.63
DOT–0722	69	138	6	1107	1532	1.39	2.47
DOT–0723	60	199	10	1737	1255	1.49	3.21
DOT–0724	66	190	7	1002	2786	0.79	3.52
DOT–0725	61	132	5	1640	1962	2.04	3.27
DOT–0727	47	55	nd	1292	1064	2.06	3.09
DOT–0728	79	124	7	1338	1541	1.13	2.65
DOT–0729	56	184	6	747	1229	1.56	3.30
DOT–0730	71	84	5	818	1811	1.17	3.17
DOT–0731	52	107	nd	994	1050	1.49	3.16
DOT–0732	59	196	nd	1165	1428	1.86	2.47
DOT–0733	60	101	nd	1281	906	1.38	3.83
DOT–0734	60	70	3	1432	979	3.13	3.22
DOT–0735	67	48	nd	1555	1024	1.35	2.95
DOT–0736	78	56	nd	1713	1030	1.34	3.35
DOT–0737	56	111	nd	848	1406	0.91	2.65
DOT–0738	54	158	4	1238	1319	1.00	3.39
DOT–0739	53	114	nd	1549	926	1.58	3.23
DOT–0740	45	101	nd	1127	1216	1.27	3.54
DOT–0741	58	111	nd	1080	1492	1.60	3.11
DOT–0742	59	192	4	660	1224	3.91	3.18
DOT–0743	58	100	4	1363	1005	2.83	2.86
DOT–0744	70	121	nd	777	1496	1.10	2.73
DOT–0745	66	215	nd	1058	1260	1.91	2.67

DOT LAKE BLACK SPRUCE (Picea mariana) NEEDLES – ANALYTICAL DATA

Sample No.	Cu (ppm)	Ni (ppm)	Cr (ppm)	Zn (ppm)	Fe (ppm)	Mn (%)	Ash (%)
DOT–0746	50	125	3	1258	941	2.03	3.55
DOT–0747	61	137	4	1167	1189	1.59	2.86
DOT–0748	57	85	4	1045	1136	1.30	3.60
DOT–0749	57	86	4	848	988	1.25	3.23
DOT–0750	48	137	5	1170	1147	2.18	3.97
DOT–0751	56	170	3	1399	965	1.41	3.04
DOT–0752	75	196	15	1710	1204	2.81	3.02
DOT–0753	63	163	10	1224	1585	2.84	2.90
DOT–0754	57	104	3	763	1235	2.31	4.01
DOT–0755	57	79	nd	1577	1608	4.22	3.01
DOT–0756	64	157	3	1542	1390	3.01	2.43
DOT–0757	87	155	5	1387	2975	2.29	2.29
DOT–0758	73	152	nd	1308	2109	1.16	2.07
DOT–0759	88	174	nd	2226	1021	1.26	3.22
DOT–0760	73	140	3	1445	1080	1.19	2.97
DOT–0761	59	117	6	938	1019	1.30	2.93
DOT–0762	83	225	3	1426	1569	3.05	2.19
DOT–0763	73	196	nd	1576	1316	1.93	2.60
DOT–0764	78	268	nd	1644	1625	2.41	2.36
DOT–0765	87	430	3	1368	1964	2.81	2.60
DOT–0766	50	177	nd	1175	754	1.64	3.06
DOT–0767	57	112	nd	969	1148	2.03	3.15
DOT–0768	50	121	nd	1487	991	2.18	3.51
DOT–0769	51	103	nd	1384	949	2.32	3.37
DOT–0770	61	198	nd	2182	nd	2.40	2.84
DOT–0771	51	122	nd	1886	969	2.44	2.99
DOT–0772	70	235	nd	1264	1162	2.53	2.41
DOT–0773	50	164	nd	1083	883	1.70	3.00
DOT–0774	84	153	3	1272	1034	0.97	2.66
DOT–0775	51	91	nd	924	936	1.32	3.14
DOT–0776	59	116	nd	1144	1056	0.62	3.06
DOT–0777	56	106	nd	866	806	1.06	3.98
DOT–0778	57	129	nd	2002	1111	2.59	2.70
DOT–0779	66	87	nd	2238	1007	5.71	3.83
DOT–0780	54	80	nd	1216	835	4.69	3.21
DOT–0781	50	160	nd	776	1223	0.70	3.33
DOT–0782	65	178	nd	1203	1611	1.68	3.49
DOT–0783	62	62	nd	3071	1043	2.72	3.27
DOT–0784	53	44	nd	4100	980	2.12	3.50
DOT–0785	45	58	nd	2423	758	2.71	3.21

DOT LAKE BLACK SPRUCE (Picea mariana) NEEDLES – ANALYTICAL DATA

Sample No.	Cu (ppm)	Ni (ppm)	Cr (ppm)	Zn (ppm)	Fe (ppm)	Mn (%)	Ash (%)
DOT–0786	40	65	nd	2554	680	4.13	4.44
DOT–0787	56	44	nd	3220	909	2.72	3.39
DOT–0788	55	43	nd	1396	1067	6.09	3.09
DOT–0789	56	102	4	1014	1328	2.86	3.13
DOT–0790	57	243	nd	791	1506	0.74	3.19
DOT–0791	58	171	nd	1073	941	0.62	2.92
DOT–0792	65	192	nd	1127	1472	1.23	2.60
DOT–0793	67	341	nd	756	1494	0.86	3.00
DOT–0794	57	195	nd	887	1575	0.96	2.87
DOT–0795	64	223	nd	813	1253	0.99	3.17
DOT–0796	60	103	nd	2086	965	1.62	3.59
DOT–0797	45	113	nd	2556	860	2.36	3.54
DOT–0798	55	102	nd	2565	1082	2.59	3.00
DOT–0799	47	119	nd	1352	839	1.17	3.66
DOT–0800	65	197	nd	1614	2119	2.65	2.65
DOT–0801	43	123	nd	1800	970	5.00	3.42
DOT–0802	63	165	3	1456	1464	3.84	2.64
DOT–0803	67	121	3	1315	1304	2.11	3.23
DOT–0804	61	166	nd	1241	1767	1.51	2.92
DOT–0805	65	229	4	689	1447	0.76	2.51
DOT–0806	66	193	7	732	1589	0.66	2.72
DOT–0807	50	132	3	880	1332	0.58	3.76
DOT–0808	70	163	nd	895	1556	1.22	3.01
DOT–0809	55	177	nd	1550	915	3.12	3.54
DOT–0810	62	79	7	1843	1856	1.34	3.19
DOT–0811	65	102	3	1646	997	2.81	3.14
DOT–0812	50	130	nd	1482	959	4.35	2.79
DOT–0813	44	77	nd	2044	983	3.17	3.87
DOT–0814	32	68	nd	1569	591	2.67	3.82
DOT–0815	65	167	5	987	1996	1.01	2.72
DOT–0816	66	137	4	884	1417	0.99	2.86
DOT–0817	76	223	4	837	1217	0.96	2.33
DOT–0818	45	126	nd	833	1303	0.99	4.23
DOT–0819	46	144	nd	1063	1003	1.99	3.39
DOT–0820	49	151	nd	1421	1228	1.57	3.41
DOT–0821	73	143	nd	1984	1367	2.67	2.54
DOT–0822	63	217	nd	1622	2263	3.08	2.41
DOT–0823	56	169	3	1476	1803	2.63	3.05
DOT–0824	53	133	5	1272	1205	1.68	4.21
DOT–0825	58	188	3	859	1777	0.91	2.95

DOT LAKE BLACK SPRUCE (Picea mariana) NEEDLES – ANALYTICAL DATA

Sample No.	Cu (ppm)	Ni (ppm)	Cr (ppm)	Zn (ppm)	Fe (ppm)	Mn (%)	Ash (%)
DOT–0826	64	94	nd	1057	1033	3.20	2.99
DOT–0827	51	141	nd	1593	1418	2.70	2.82
DOT–0828	51	79	nd	2692	1228	1.68	3.13
DOT–0829	61	223	nd	1196	1424	0.99	3.20
DOT–0830	75	195	nd	612	1950	0.87	2.46
DOT–0831	48	83	6	662	1201	0.77	3.09
DOT–0832	71	87	4	648	1451	0.59	2.28
DOT–0833	53	117	nd	877	2101	0.89	3.02
DOT–0834	73	176	4	1437	1987	1.88	2.65
DOT–0835	65	101	nd	1445	866	2.54	2.94
DOT–0836	75	342	3	1562	2384	3.79	2.25
DOT–0837	64	182	3	1604	1858	3.63	2.88
DOT–0838	80	470	5	1448	1999	4.48	2.49
DOT–0839	54	110	nd	824	1470	1.14	4.37
DOT–0840	54	115	5	757	1651	1.40	3.78
DOT–0841	62	124	nd	995	1104	1.53	2.78
DOT–0842	69	152	3	1162	1050	1.84	2.77
DOT–0843	52	95	nd	1480	1145	2.44	3.16
DOT–0844	56	205	nd	1588	1800	7.69	3.07
DOT–0845	57	117	3	2215	1309	2.07	2.87
DOT–0846	63	129	nd	1661	1541	1.81	2.73
DOT–0847	55	98	3	970	1037	0.89	2.60
DOT–0848	63	196	nd	827	1414	0.65	2.54
DOT–0849	54	73	2	1505	1164	2.49	3.25
DOT–0850	53	108	nd	1494	1479	4.25	3.06
DOT–0851	60	128	11	1194	4470	2.52	2.42
DOT–0852	49	136	nd	937	1289	1.43	3.63
DOT–0853	51	167	nd	795	1083	1.21	3.78
DOT–0854	44	130	nd	873	673	1.37	4.84
DOT–0855	52	86	nd	792	1086	1.42	3.91
DOT–0856	46	161	nd	862	1063	0.89	3.83
DOT–0857	66	118	3	1098	1284	1.20	3.17
DOT–0858	48	88	nd	1042	845	1.13	4.08
DOT–0859	61	81	4	1452	1060	1.18	3.25
DOT–0860	67	65	nd	1707	1132	3.43	3.75
DOT–0861	56	157	nd	1802	1437	4.59	3.73
DOT–0862	75	274	nd	1328	1687	2.49	2.83
DOT–0863	69	176	nd	1764	1759	2.13	2.51
DOT–0864	62	189	5	770	1237	0.93	2.71
DOT–0865	49	161	nd	691	1085	0.81	3.56

DOT LAKE BLACK SPRUCE (Picea mariana) NEEDLES – ANALYTICAL DATA

Sample No.	Cu (ppm)	Ni (ppm)	Cr (ppm)	Zn (ppm)	Fe (ppm)	Mn (%)	Ash (%)
DOT–0866	47	118	nd	683	724	1.01	4.07
DOT–0867	63	240	nd	823	1211	1.06	3.01
DOT–0868	57	306	4	782	1104	1.09	3.21
DOT–0869	58	173	5	1373	1121	1.77	3.01
DOT–0870	59	115	nd	1317	1171	1.12	2.95
DOT–0871	64	152	nd	957	940	1.08	2.85
DOT–0872	50	170	nd	1206	1313	2.52	2.78
DOT–0873	60	172	nd	1546	1394	1.07	2.68
DOT–0874	63	116	nd	1626	1689	0.93	2.91
DOT–0875	68	79	nd	1401	1202	1.01	3.00
DOT–0876	72	160	nd	1012	979	0.66	2.62
DOT–0877	63	86	nd	824	1002	2.13	3.80
DOT–0878	50	139	nd	1091	936	1.34	3.54
DOT–0879	59	139	4	980	1125	1.28	2.97
DOT–0880	75	140	3	949	1232	0.67	2.29
DOT–0881	69	214	6	1010	2009	1.32	2.77
DOT–0882	64	131	nd	1047	1305	0.89	3.11
DOT–0883	54	115	3	939	1024	0.87	2.76
DOT–0884	47	89	nd	855	973	1.52	3.38
DOT–0885	66	284	nd	890	1335	0.78	3.05
DOT–0886	54	122	4	618	1407	1.00	3.86
DOT–0887	66	119	nd	1523	1113	1.56	3.14
DOT–0888	67	122	5	1080	1196	0.84	2.45
DOT–0889	61	126	nd	1255	1200	1.81	3.61
DOT–0890	55	149	nd	1286	822	2.46	3.31
DOT–0891	40	75	nd	784	814	0.64	4.23
DOT–0892	62	158	nd	901	1031	1.52	3.19
DOT–0893	69	148	3	1009	1351	1.17	2.97
DOT–0894	61	72	4	876	774	1.05	2.81
DOT–0895	53	95	nd	1433	1116	1.55	2.90
DOT–0896	63	184	4	1237	1182	1.20	2.98
DOT–0897	49	84	nd	997	1014	1.44	2.92
DOT–0898	63	113	nd	575	1420	0.62	2.81
DOT–0899	57	115	nd	1038	965	1.65	3.40
DOT–0900	57	104	nd	1383	1141	1.46	2.85
DOT–0901	51	91	nd	1191	1981	4.13	3.52
DOT–0902	75	168	nd	1111	1377	1.34	2.14
DOT–0903	67	133	nd	1104	995	1.26	3.85
DOT–0904	37	80	4	1036	823	1.91	4.54
DOT–0905	68	119	12	902	2402	1.68	2.60

DOT LAKE BLACK SPRUCE (Picea mariana) NEEDLES – ANALYTICAL DATA

Sample No.	Cu (ppm)	Ni (ppm)	Cr (ppm)	Zn (ppm)	Fe (ppm)	Mn (%)	Ash (%)
DOT–0906	62	112	nd	1031	802	2.10	3.20
DOT–0907	46	75	nd	759	883	1.38	3.60
DOT–0908	61	146	3	1303	1069	2.18	3.54
DOT–0909	53	148	3	1734	1304	2.82	3.30
DOT–0910	59	111	5	1400	1067	2.36	2.95
DOT–0911	69	140	nd	1183	1317	2.66	2.85
DOT–0912	46	125	nd	1448	1635	1.87	3.20
DOT–0913	58	83	nd	1300	1087	1.60	2.87
DOT–0914	61	112	5	1137	1871	2.12	2.54
DOT–0915	48	104	nd	1249	927	1.10	3.66
DOT–0916	55	271	4	920	1264	1.67	3.24
DOT–0917	45	112	nd	1140	785	1.82	3.87
DOT–0918	48	115	nd	820	1033	1.58	3.29
DOT–0919	44	119	nd	912	742	1.83	3.65
DOT–0920	82	177	8	1253	3065	1.40	3.36
DOT–0921	75	182	4	1519	1673	1.59	3.63
DOT–0922	62	201	nd	1364	1372	2.48	3.16
DOT–0923	59	76	nd	1052	1318	1.34	2.81
DOT–0924	61	151	nd	684	986	0.73	3.08
DOT–0925	46	108	nd	690	1004	1.12	3.03
DOT–0926	52	152	nd	945	924	1.68	3.36
DOT–0927	49	130	nd	1140	1139	1.12	3.46
DOT–0928	78	139	5	766	1289	0.77	2.36
DOT–0929	50	86	nd	1400	1311	1.13	3.73
DOT–0930	67	118	4	1732	1808	3.32	2.29
DOT–0931	58	79	3	2330	1286	2.38	3.03
DOT–0932	60	87	nd	1642	1196	2.97	3.26
DOT–0933	52	55	nd	1848	979	2.98	3.43
DOT–0934	67	162	3	1904	907	2.93	4.08
DOT–0935	78	154	5	1785	904	3.50	3.63
DOT–0936	56	128	8	1425	992	1.79	3.84
DOT–0937	57	202	7	831	853	0.92	3.65
DOT–0938	69	165	3	760	954	0.56	2.89
DOT–0939	50	88	nd	1024	1047	1.21	3.71
DOT–0940	61	91	nd	1325	1003	1.90	3.00
DOT–0941	47	101	nd	921	996	1.49	3.71
DOT–0942	68	140	3	1723	2805	3.58	2.84
DOT–0943	57	129	6	2481	1210	4.40	2.99
DOT–0944	59	122	nd	1330	714	2.14	3.82
DOT–0945	63	92	8	1403	1027	1.62	3.79

DOT LAKE BLACK SPRUCE (Picea mariana) NEEDLES – ANALYTICAL DATA

Sample No.	Cu (ppm)	Ni (ppm)	Cr (ppm)	Zn (ppm)	Fe (ppm)	Mn (%)	Ash (%)
DOT–0946	59	142	5	2319	881	1.62	3.85
DOT–0947	56	175	5	764	1104	1.78	3.85
DOT–0948	56	205	8	1202	903	2.04	3.46
DOT–0949	58	97	nd	1110	953	1.41	3.41
DOT–0950	63	133	nd	1110	1006	1.03	2.40
DOT–0951	64	149	nd	977	921	1.45	3.01
DOT–0952	68	131	4	1339	1747	1.65	3.13
DOT–0953	63	43	4	3204	1124	2.48	2.79
DOT–0954	75	60	3	1279	1103	3.10	2.90
DOT–0955	65	133	8	985	1219	2.61	3.59
DOT–0956	52	146	7	977	900	2.59	3.37
DOT–0957	43	108	6	1550	987	1.65	3.77
DOT–0958	54	137	nd	1016	963	1.22	2.90
DOT–0959	48	117	nd	1094	950	1.68	3.81
DOT–0960	48	143	nd	1013	701	1.30	3.45
DOT–0961	57	93	nd	1305	1244	0.87	3.30
DOT–0962	88	137	nd	896	1172	0.75	2.37
DOT–0963	49	148	nd	1228	869	3.50	3.21
DOT–0964	64	123	nd	1452	1161	2.80	2.62
DOT–0965	50	121	nd	1468	981	4.22	3.04
DOT–0966	53	66	nd	968	807	5.53	3.28
DOT–0967	83	251	nd	861	1388	0.77	2.54
DOT–0968	82	352	4	837	2545	1.29	2.32
DOT–0969	81	183	nd	713	1389	0.80	2.95
DOT–0970	69	228	3	776	1275	0.78	2.84
DOT–0971	81	155	nd	975	1433	1.05	2.39
DOT–0972	68	205	3	1084	2326	1.23	2.80
DOT–0973	66	300	nd	1921	1886	3.22	2.86
DOT–0974	63	126	3	1229	865	1.16	3.22
DOT–0975	85	125	nd	1661	1029	4.68	3.18
DOT–0976	58	131	nd	1120	761	2.48	3.63
DOT–0977	86	246	3	1194	1597	0.97	2.36
DOT–0978	88	254	nd	785	1692	0.66	2.49
DOT–0979	112	154	nd	1105	1625	1.43	2.12
DOT–0980	91	124	3	1250	1229	0.60	2.30
DOT–0981	77	197	6	1325	1182	1.00	2.70
DOT–0982	83	300	nd	1473	1244	1.54	2.31
DOT–0983	60	200	nd	925	1298	1.65	3.29
DOT–0984	76	246	nd	1152	1653	1.08	2.55
DOT–0985	68	242	nd	848	1420	0.87	2.84

DOT LAKE BLACK SPRUCE (Picea mariana) NEEDLES – ANALYTICAL DATA

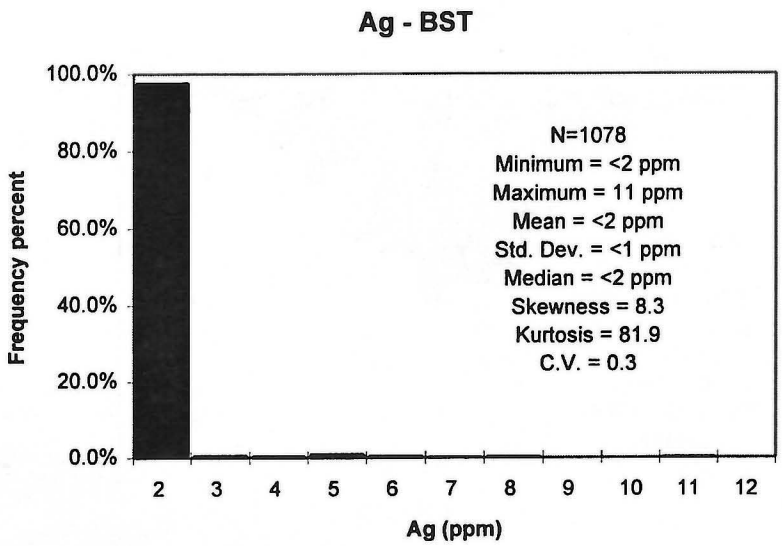
Sample No.	Cu (ppm)	Ni (ppm)	Cr (ppm)	Zn (ppm)	Fe (ppm)	Mn (%)	Ash (%)
DOT–0986	64	190	nd	1077	1026	1.71	3.32
DOT–0987	96	158	3	955	1572	0.79	2.29
DOT–0988	61	118	nd	794	1139	0.65	3.62
DOT–0989	76	155	nd	1207	988	1.16	3.10
DOT–0990	78	143	nd	1295	1261	1.27	2.48
DOT–0991	47	85	nd	1767	689	3.21	4.11
DOT–0992	51	88	nd	1373	900	3.22	3.31
DOT–0993	74	177	nd	989	1304	1.27	2.68
DOT–0994	98	nd	23	nd	8550	1.64	2.26
DOT–0995	67	204	nd	1159	1241	1.68	2.50
DOT–0996	66	215	nd	1257	1408	2.20	2.75
DOT–0997	52	186	nd	1215	869	3.63	3.22
DOT–0998	56	192	nd	1535	903	3.08	3.10
DOT–0999	72	194	nd	1665	1097	4.10	2.70
DOT–1000	53	84	nd	1381	914	2.35	3.20
DOT–1001	80	95	7	2265	2012	4.74	2.95
DOT–1002	67	108	nd	1549	1308	1.97	3.35
DOT–1003	71	151	nd	1231	945	1.24	2.98
DOT–1004	80	161	4	1230	2151	1.27	2.56
DOT–1005	77	249	nd	1047	1370	1.22	2.48
DOT–1006	55	174	nd	1099	1025	4.71	2.82
DOT–1007	47	128	nd	1211	845	5.05	3.05
DOT–1008	62	113	nd	2447	826	4.08	3.34
DOT–1009	65	57	nd	2615	833	1.71	3.55
DOT–1010	70	274	nd	1003	1498	0.91	2.85
DOT–1011	67	262	nd	1770	1452	1.29	2.93
DOT–1012	64	157	nd	637	1028	1.24	2.73
DOT–1013	60	145	nd	1043	946	0.92	2.99
DOT–1014	69	185	10	1015	1858	0.91	3.01
DOT–1015	66	121	nd	1174	971	4.57	2.58
DOT–1016	50	56	nd	970	965	3.61	3.83
DOT–1017	68	79	nd	827	879	1.74	4.39
DOT–1018	87	157	3	1258	1636	1.62	2.98
DOT–1019	66	143	nd	1056	1177	1.84	2.83
DOT–1020	79	278	2	1020	1405	0.86	2.27
DOT–1021	62	228	nd	924	1376	1.48	2.46
DOT–1022	81	269	nd	1573	979	5.52	2.64
DOT–1023	62	246	nd	1107	1063	2.27	3.35
DOT–1024	86	200	3	1045	1182	1.58	3.09
DOT–1025	54	129	nd	1046	1148	0.74	3.18

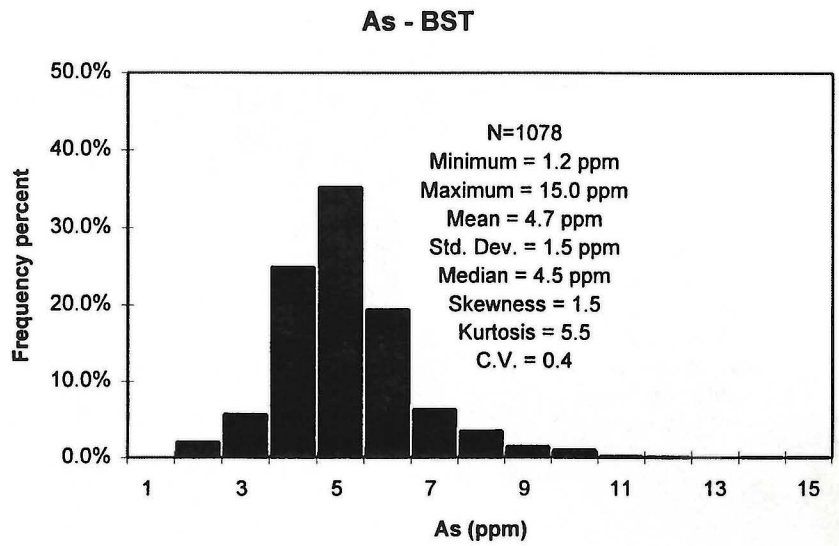
DOT LAKE BLACK SPRUCE (Picea mariana) NEEDLES – ANALYTICAL DATA

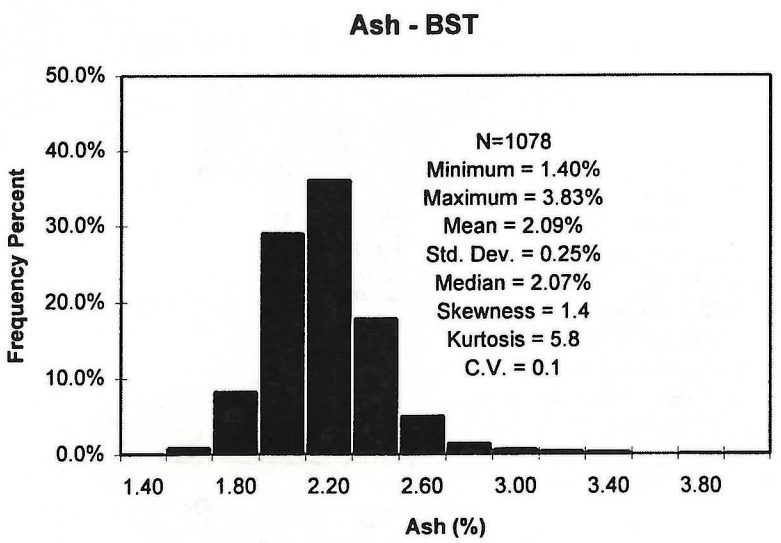
Sample No.	Cu (ppm)	Ni (ppm)	Cr (ppm)	Zn (ppm)	Fe (ppm)	Mn (%)	Ash (%)
DOT–1026	70	195	nd	1196	1436	5.78	2.21
DOT–1027	71	201	nd	1604	838	3.05	3.10
DOT–1028	66	292	nd	1453	1252	3.75	2.75
DOT–1029	68	192	nd	1894	1181	3.39	3.62
DOT–1030	78	170	3	1225	1182	3.45	2.59
DOT–1031	77	125	nd	706	2056	1.66	3.46
DOT–1032	61	199	nd	1598	1220	4.22	2.66
DOT–1033	59	202	nd	1393	825	3.66	2.86
DOT–1034	69	390	nd	1625	1320	1.12	2.90
DOT–1035	62	169	nd	1466	969	1.11	3.52
DOT–1036	61	220	nd	1126	957	1.35	3.23
DOT–1038	69	215	nd	1462	1102	3.77	2.46
DOT–1039	60	156	nd	1371	956	3.43	4.45
DOT–1040	82	210	2	2293	1644	1.95	3.12
DOT–1041	68	236	4	1353	1269	1.16	3.26
DOT–1042	63	204	nd	1450	1335	2.10	3.74
DOT–1043	53	150	nd	1597	1258	2.12	3.23
DOT–1044	69	124	nd	1826	1047	2.18	2.52
DOT–1045	48	112	5	1018	1051	1.65	3.63
DOT–1046	70	205	nd	1748	876	2.91	3.60
DOT–1047	44	195	nd	1776	778	1.64	4.05
DOT–1048	60	171	6	2033	1319	2.34	3.22
DOT–1049	41	164	nd	1370	1105	1.84	3.50
DOT–1050	51	183	nd	1405	1074	2.47	3.35
DOT–1051	71	141	3	1217	1324	2.74	3.59
DOT–1052	59	231	nd	1393	986	2.44	3.21
DOT–1053	56	183	nd	1254	1329	2.00	2.98
DOT–1054	61	113	nd	1044	941	1.43	2.42
DOT–1055	72	166	nd	894	1213	1.09	2.47
DOT–1056	55	191	nd	1109	1010	0.89	2.91
DOT–1057	59	184	nd	997	991	1.12	3.05
DOT–1058	50	115	nd	1069	744	1.50	3.92

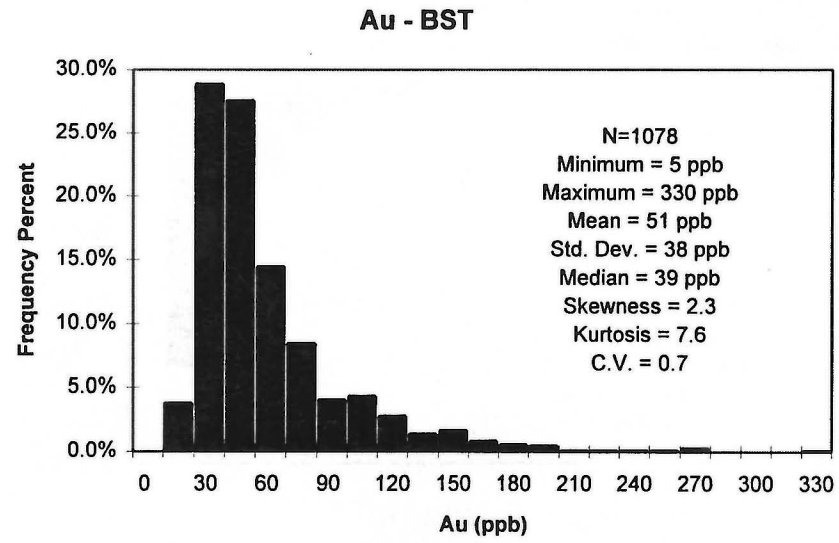
APPENDIX II

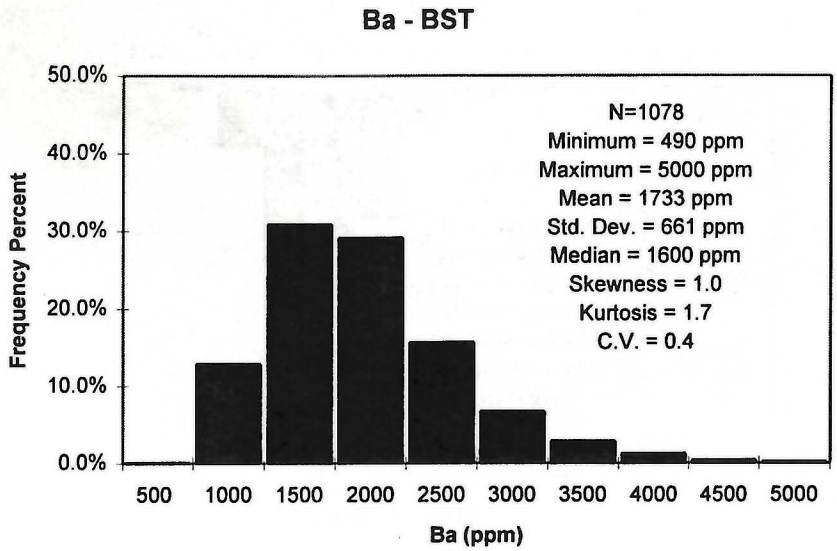
Part 1: Histograms and Statistical Summary for Black Spruce *(Picea mariana)* Twigs Geochemical Data

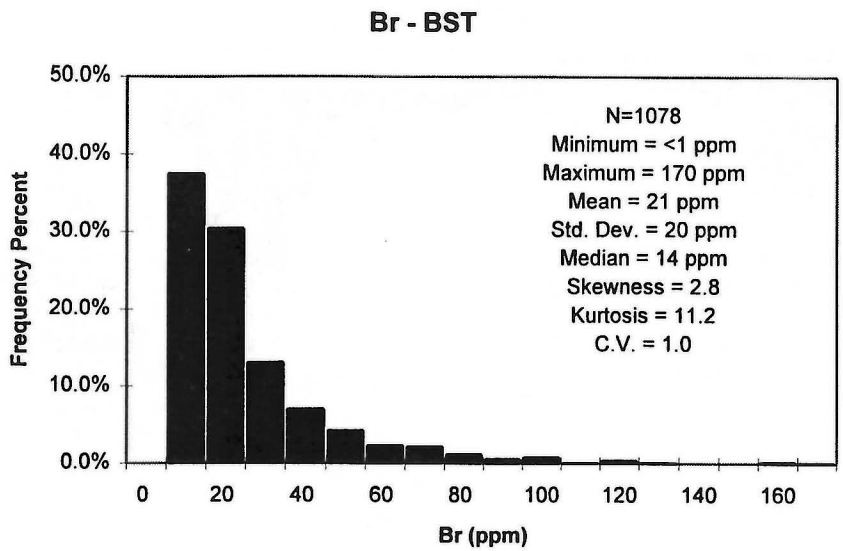

Ag - BST
100.0%
80.0%
60.0%
40.0%
20.0%
0.0%
Frequency percent
N=1078
Minimum = <2 ppm
Maximum = 11 ppm
Mean = <2 ppm
Std. Dev. = <1 ppm
Median = <2 ppm
Skewness = 8.3
Kurtosis = 81.9
C.V. = 0.3
2 3 4 5 6 7 8 9 10 11 12
Ag (ppm)

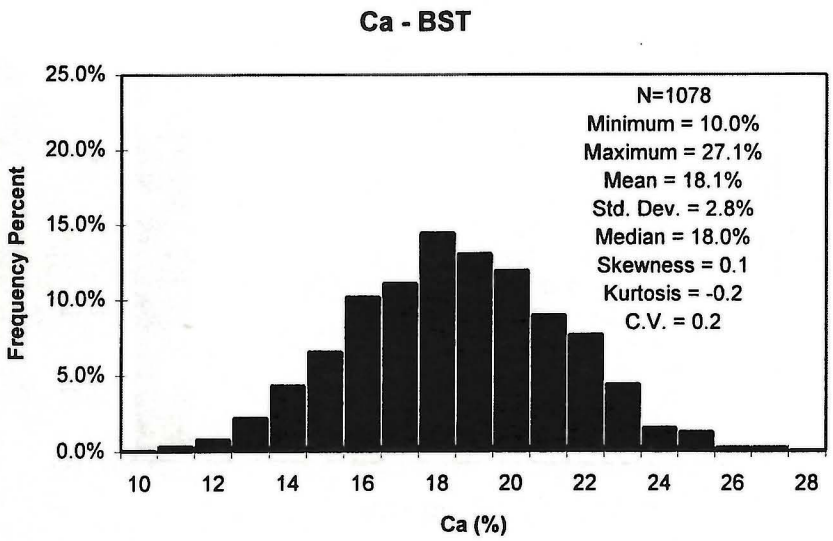

As - BST
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Frequency percent
N=1078
Minimum = 1.2 ppm
Maximum = 15.0 ppm
Mean = 4.7 ppm
Std. Dev. = 1.5 ppm
Median = 4.5 ppm
Skewness = 1.5
Kurtosis = 5.5
C.V. = 0.4
1 3 5 7 9 11 13 15
As (ppm)

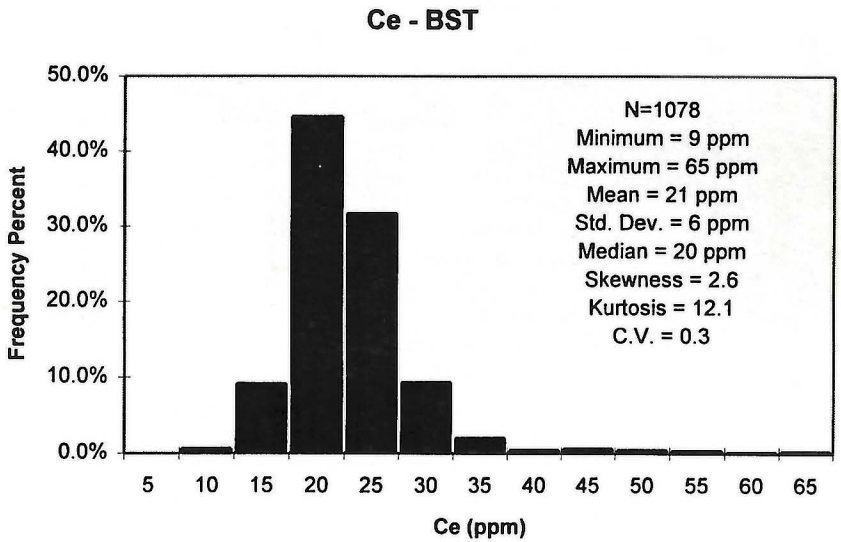

Ash - BST
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Frequency Percent
N=1078
Minimum = 1.40%
Maximum = 3.83%
Mean = 2.09%
Std. Dev. = 0.25%
Median = 2.07%
Skewness = 1.4
Kurtosis = 5.8
C.V. = 0.1
1.40 1.80 2.20 2.60 3.00 3.40 3.80
Ash (%)

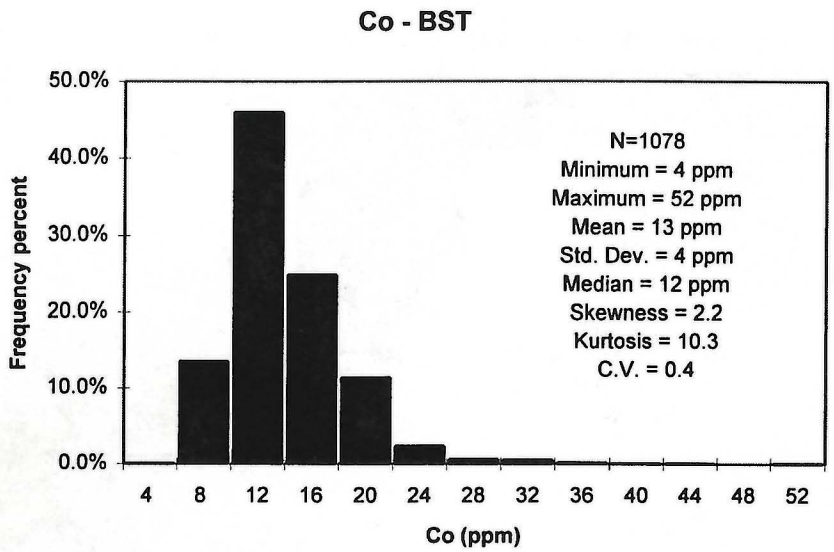

Au - BST
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Frequency Percent
N=1078
Minimum = 5 ppb
Maximum = 330 ppb
Mean = 51 ppb
Std. Dev. = 38 ppb
Median = 39 ppb
Skewness = 2.3
Kurtosis = 7.6
C.V. = 0.7
0 30 60 90 120 150 180 210 240 270 300 330
Au (ppb)

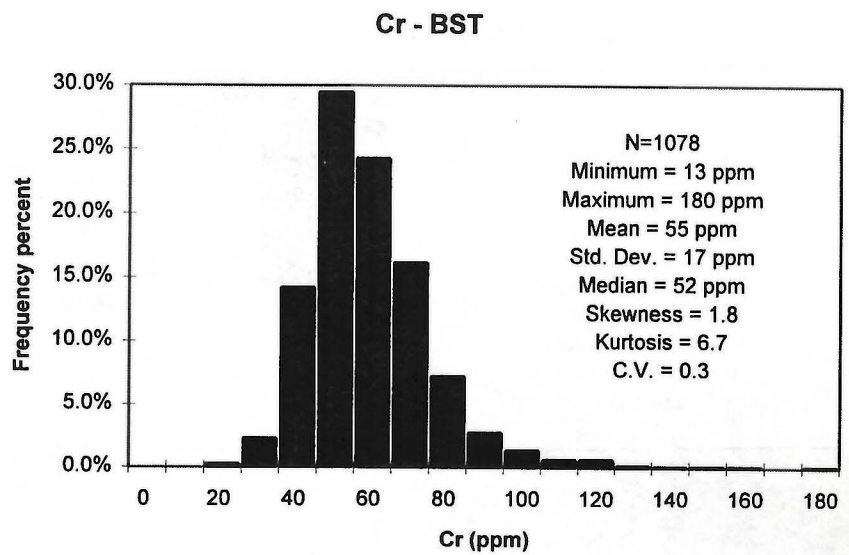

Ba - BST
N=1078
Minimum = 490 ppm
Maximum = 5000 ppm
Mean = 1733 ppm
Std. Dev. = 661 ppm
Median = 1600 ppm
Skewness = 1.0
Kurtosis = 1.7
C.V. = 0.4
Frequency Percent
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
500 1000 1500 2000 2500 3000 3500 4000 4500 5000
Ba (ppm)

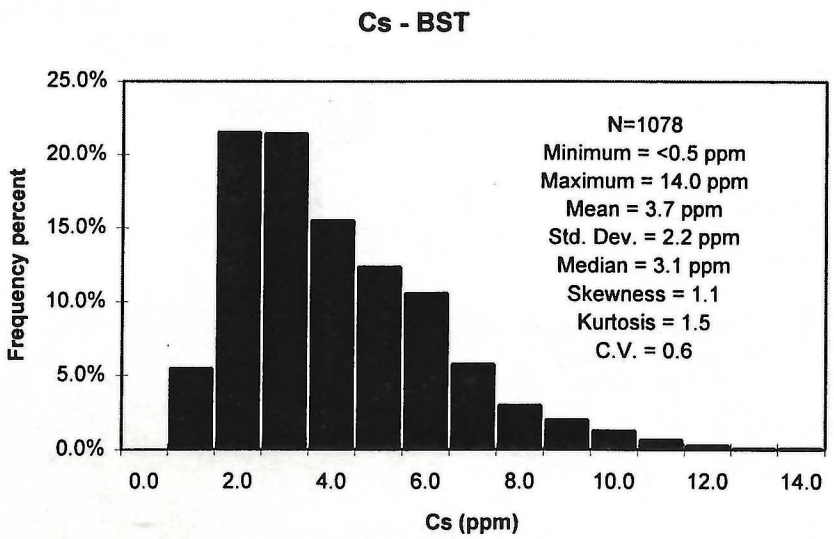

Br - BST
N=1078
Minimum = <1 ppm
Maximum = 170 ppm
Mean = 21 ppm
Std. Dev. = 20 ppm
Median = 14 ppm
Skewness = 2.8
Kurtosis = 11.2
C.V. = 1.0
Frequency Percent
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0 20 40 60 80 100 120 140 160
Br (ppm)

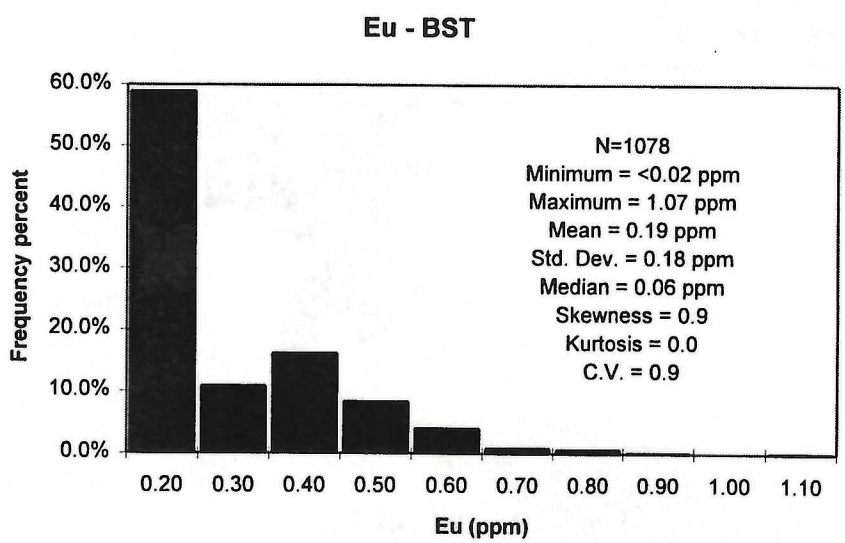

Ca - BST
N=1078
Minimum = 10.0%
Maximum = 27.1%
Mean = 18.1%
Std. Dev. = 2.8%
Median = 18.0%
Skewness = 0.1
Kurtosis = -0.2
C.V. = 0.2
Frequency Percent
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
10 12 14 16 18 20 22 24 26 28
Ca (%)

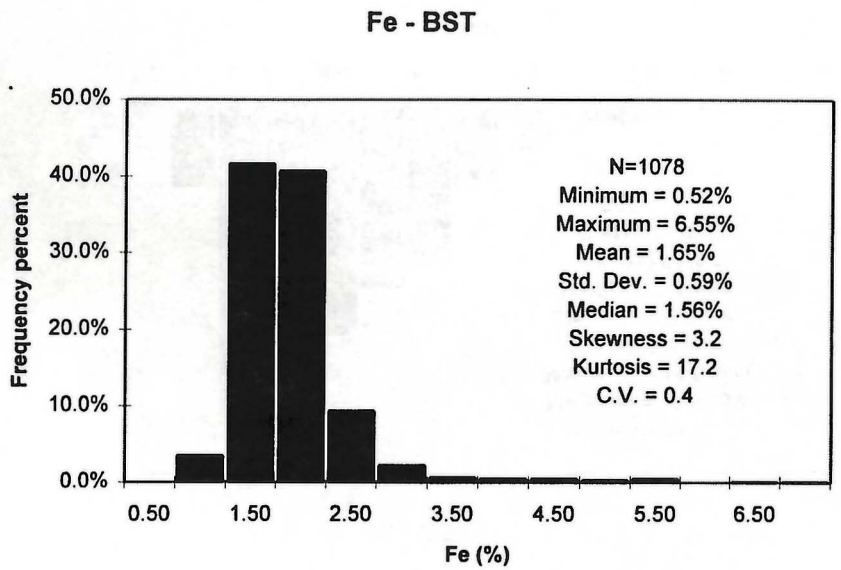

Ce - BST
N=1078
Minimum = 9 ppm
Maximum = 65 ppm
Mean = 21 ppm
Std. Dev. = 6 ppm
Median = 20 ppm
Skewness = 2.6
Kurtosis = 12.1
C.V. = 0.3
Frequency Percent
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
5 10 15 20 25 30 35 40 45 50 55 60 65
Ce (ppm)

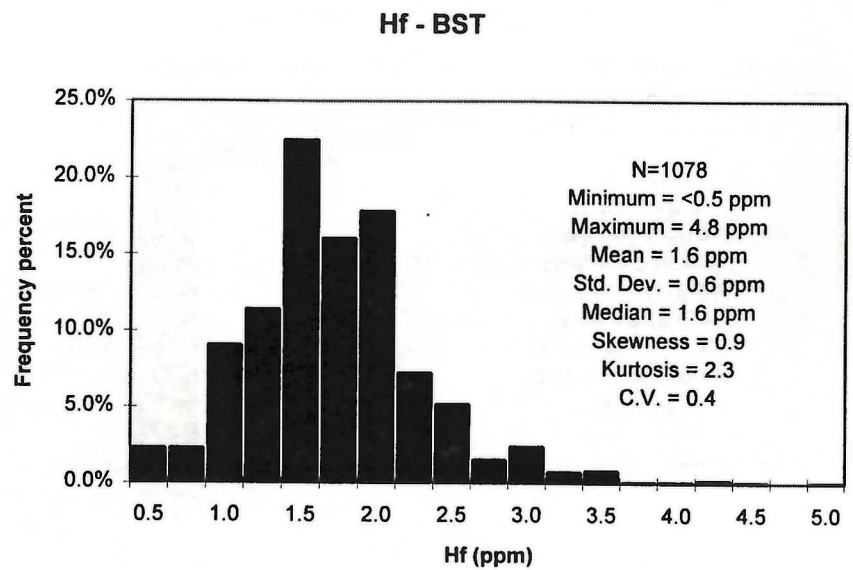

Co - BST
N=1078
Minimum = 4 ppm
Maximum = 52 ppm
Mean = 13 ppm
Std. Dev. = 4 ppm
Median = 12 ppm
Skewness = 2.2
Kurtosis = 10.3
C.V. = 0.4
Frequency percent
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
4 8 12 16 20 24 28 32 36 40 44 48 52
Co (ppm)

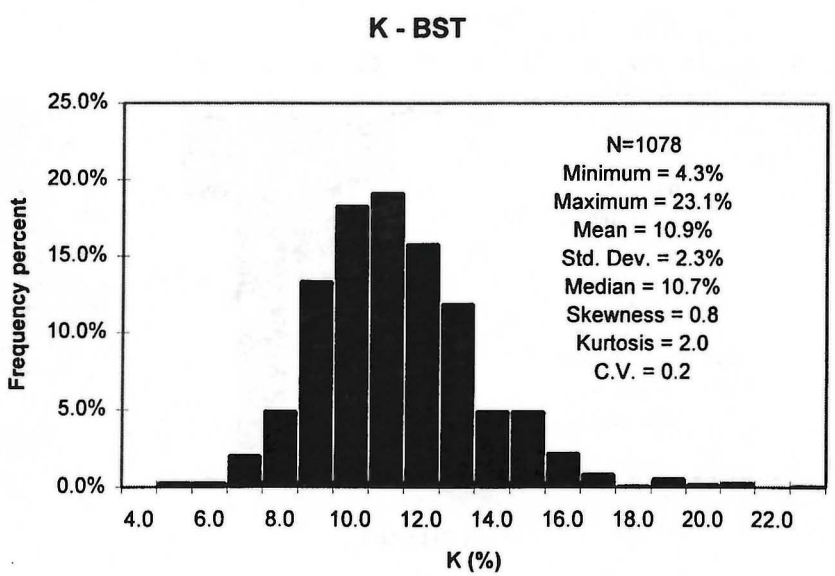

Cr - BST
N=1078
Minimum = 13 ppm
Maximum = 180 ppm
Mean = 55 ppm
Std. Dev. = 17 ppm
Median = 52 ppm
Skewness = 1.8
Kurtosis = 6.7
C.V. = 0.3
Frequency percent
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
0 20 40 60 80 100 120 140 160 180
Cr (ppm)

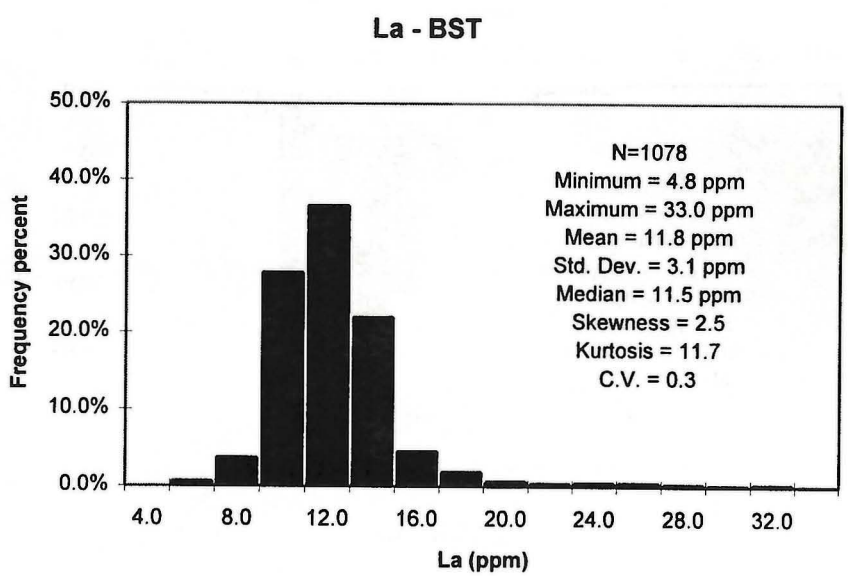

Cs - BST
N=1078
Minimum = <0.5 ppm
Maximum = 14.0 ppm
Mean = 3.7 ppm
Std. Dev. = 2.2 ppm
Median = 3.1 ppm
Skewness = 1.1
Kurtosis = 1.5
C.V. = 0.6
Frequency percent
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
0.0 2.0 4.0 6.0 8.0 10.0 12.0 14.0
Cs (ppm)

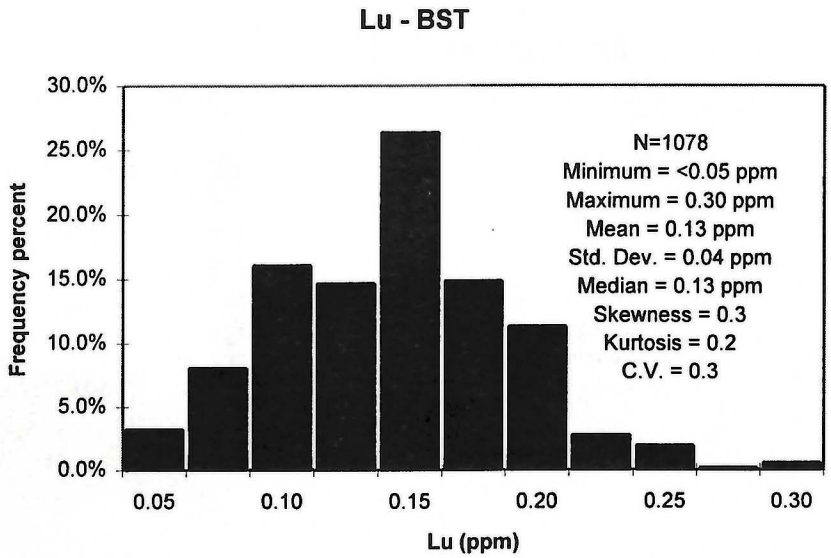

Eu - BST
N=1078
Minimum = <0.02 ppm
Maximum = 1.07 ppm
Mean = 0.19 ppm
Std. Dev. = 0.18 ppm
Median = 0.06 ppm
Skewness = 0.9
Kurtosis = 0.0
C.V. = 0.9
Frequency percent
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.00 1.10
Eu (ppm)

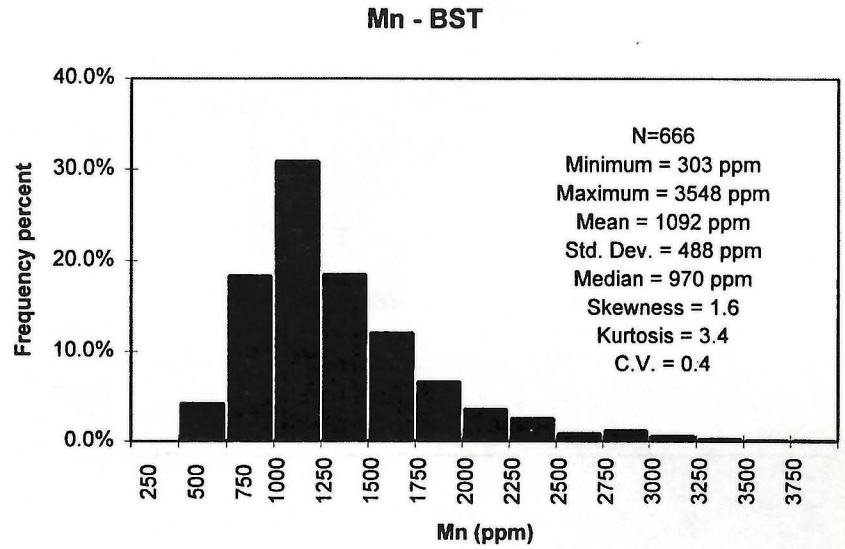

Fe - BST
N=1078
Minimum = 0.52%
Maximum = 6.55%
Mean = 1.65%
Std. Dev. = 0.59%
Median = 1.56%
Skewness = 3.2
Kurtosis = 17.2
C.V. = 0.4
Frequency percent
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0.50
1.50
2.50
3.50
4.50
5.50
6.50
Fe (%)

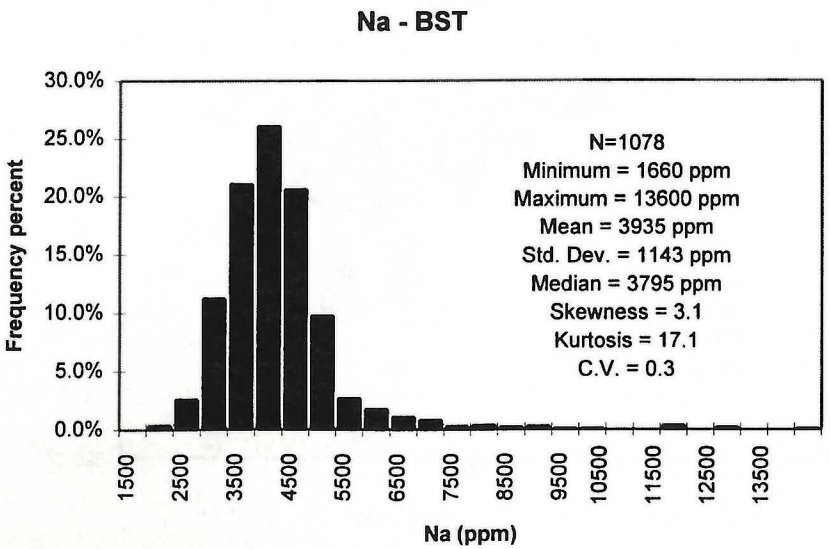

Hf - BST
N=1078
Minimum = <0.5 ppm
Maximum = 4.8 ppm
Mean = 1.6 ppm
Std. Dev. = 0.6 ppm
Median = 1.6 ppm
Skewness = 0.9
Kurtosis = 2.3
C.V. = 0.4
Frequency percent
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Hf (ppm)

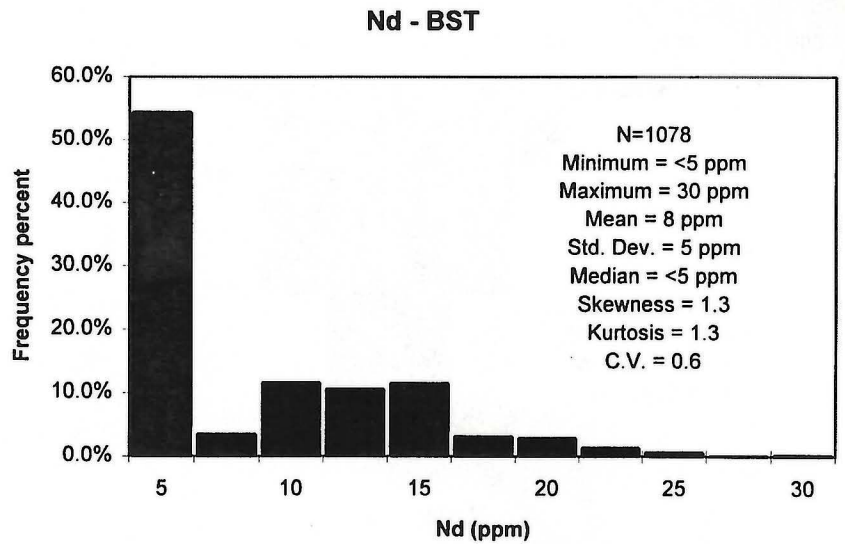

K - BST
N=1078
Minimum = 4.3%
Maximum = 23.1%
Mean = 10.9%
Std. Dev. = 2.3%
Median = 10.7%
Skewness = 0.8
Kurtosis = 2.0
C.V. = 0.2
Frequency percent
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
4.0
6.0
8.0
10.0
12.0
14.0
16.0
18.0
20.0
22.0
K (%)

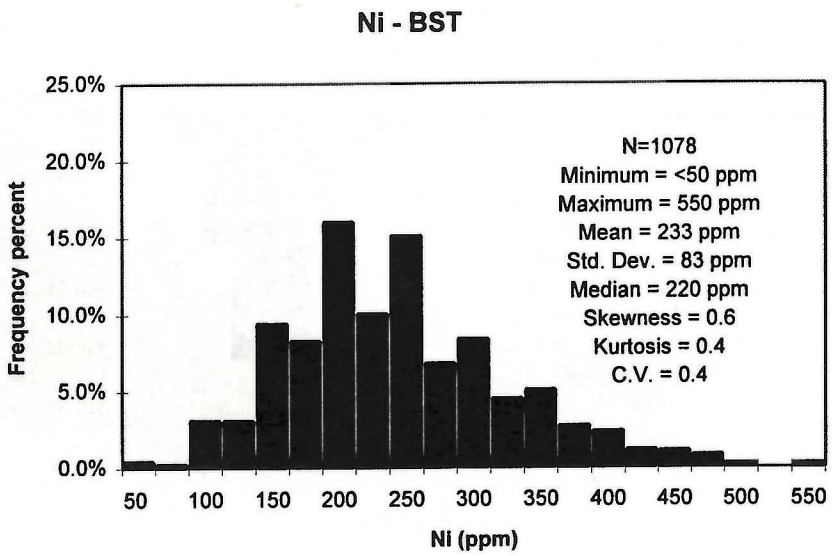

La - BST
N=1078
Minimum = 4.8 ppm
Maximum = 33.0 ppm
Mean = 11.8 ppm
Std. Dev. = 3.1 ppm
Median = 11.5 ppm
Skewness = 2.5
Kurtosis = 11.7
C.V. = 0.3
Frequency percent
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
4.0
8.0
12.0
16.0
20.0
24.0
28.0
32.0
La (ppm)

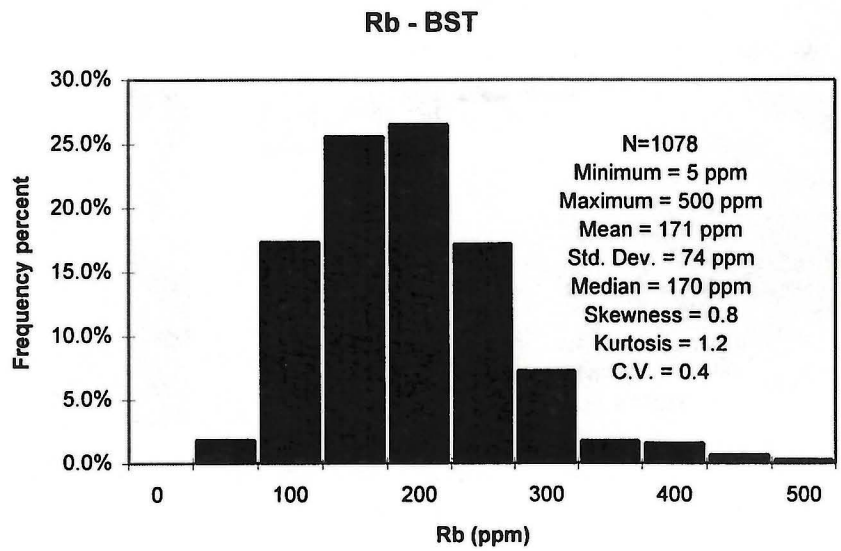

Lu - BST
N=1078
Minimum = <0.05 ppm
Maximum = 0.30 ppm
Mean = 0.13 ppm
Std. Dev. = 0.04 ppm
Median = 0.13 ppm
Skewness = 0.3
Kurtosis = 0.2
C.V. = 0.3
Frequency percent
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
0.05
0.10
0.15
0.20
0.25
0.30
Lu (ppm)

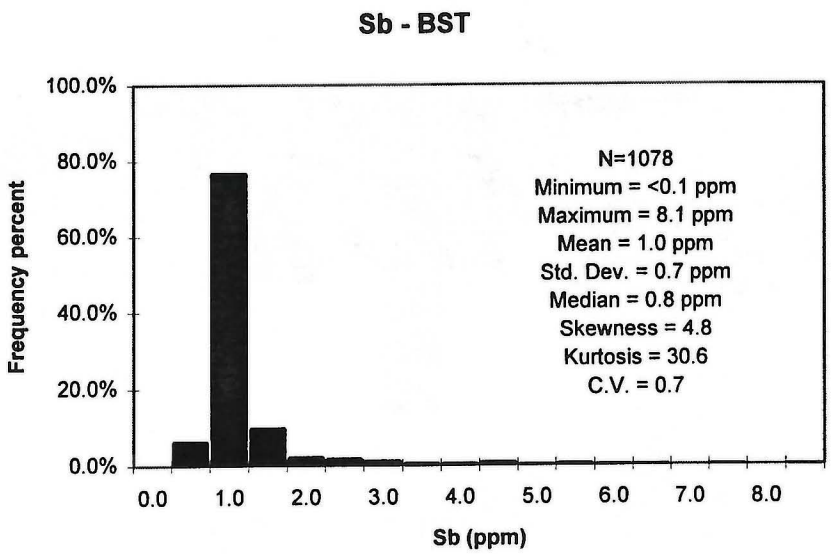

Mn - BST
N=666
Minimum = 303 ppm
Maximum = 3548 ppm
Mean = 1092 ppm
Std. Dev. = 488 ppm
Median = 970 ppm
Skewness = 1.6
Kurtosis = 3.4
C.V. = 0.4
Frequency percent
40.0%
30.0%
20.0%
10.0%
0.0%
250
500
750
1000
1250
1500
1750
2000
2250
2500
2750
3000
3250
3500
3750
Mn (ppm)

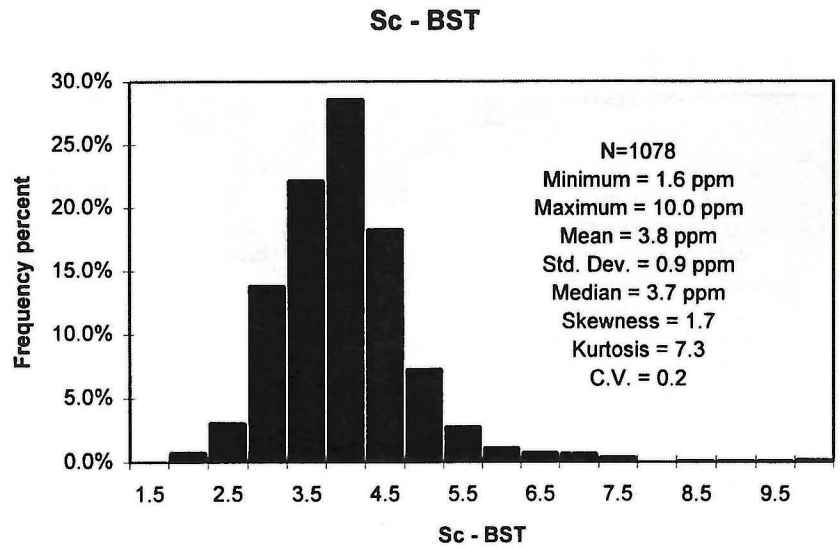

Na - BST
N=1078
Minimum = 1660 ppm
Maximum = 13600 ppm
Mean = 3935 ppm
Std. Dev. = 1143 ppm
Median = 3795 ppm
Skewness = 3.1
Kurtosis = 17.1
C.V. = 0.3
Frequency percent
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
1500
2500
3500
4500
5500
6500
7500
8500
9500
10500
11500
12500
13500
Na (ppm)

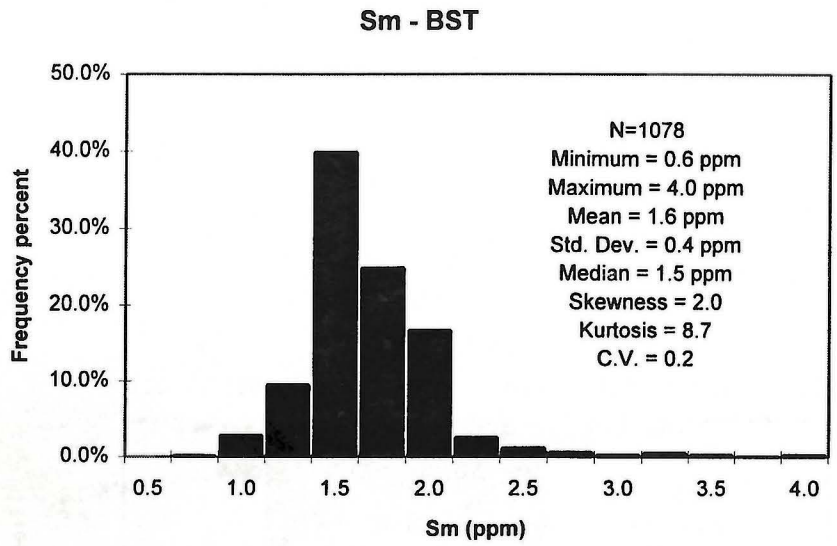

Nd - BST
N=1078
Minimum = <5 ppm
Maximum = 30 ppm
Mean = 8 ppm
Std. Dev. = 5 ppm
Median = <5 ppm
Skewness = 1.3
Kurtosis = 1.3
C.V. = 0.6
Frequency percent
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
5
10
15
20
25
30
Nd (ppm)

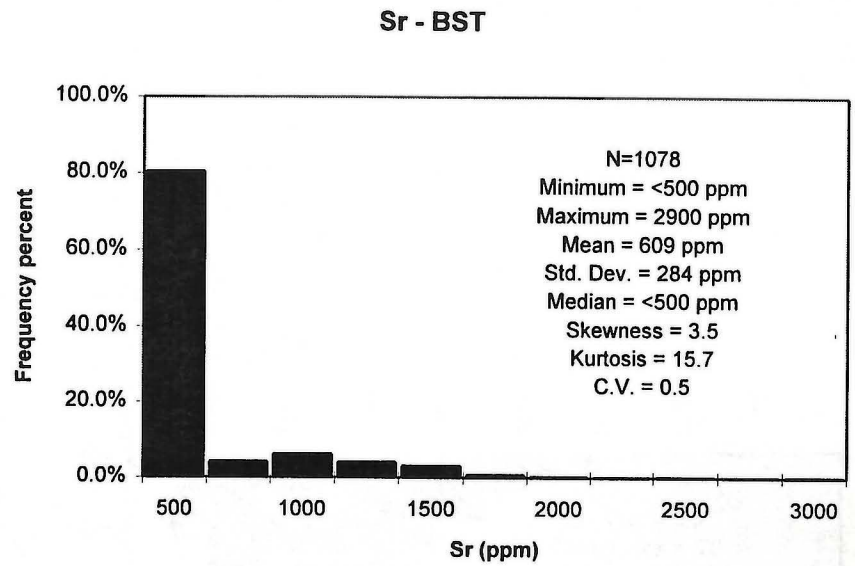

Ni - BST
N=1078
Minimum = <50 ppm
Maximum = 550 ppm
Mean = 233 ppm
Std. Dev. = 83 ppm
Median = 220 ppm
Skewness = 0.6
Kurtosis = 0.4
C.V. = 0.4
Frequency percent
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
50
100
150
200
250
300
350
400
450
500
550
Ni (ppm)

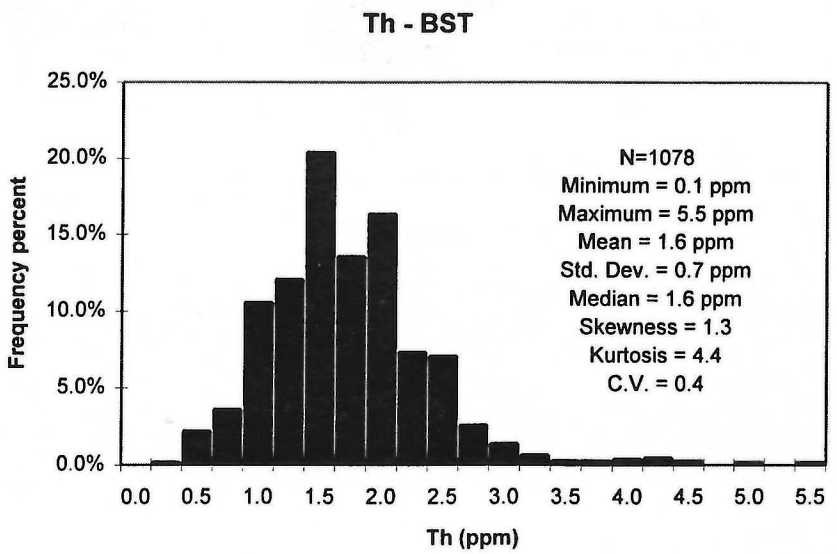

Rb - BST
N=1078
Minimum = 5 ppm
Maximum = 500 ppm
Mean = 171 ppm
Std. Dev. = 74 ppm
Median = 170 ppm
Skewness = 0.8
Kurtosis = 1.2
C.V. = 0.4
Frequency percent
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
0
100
200
300
400
500
Rb (ppm)

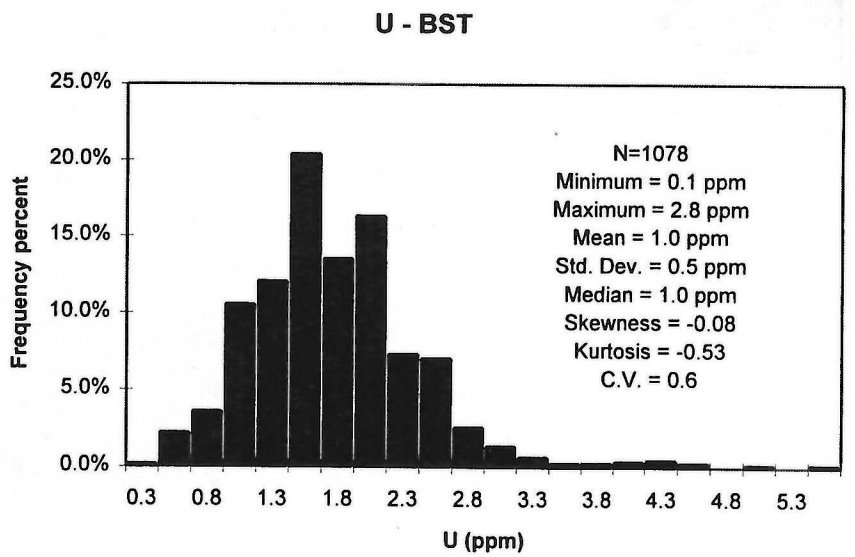

Sb - BST
N=1078
Minimum = <0.1 ppm
Maximum = 8.1 ppm
Mean = 1.0 ppm
Std. Dev. = 0.7 ppm
Median = 0.8 ppm
Skewness = 4.8
Kurtosis = 30.6
C.V. = 0.7
Frequency percent
100.0%
80.0%
60.0%
40.0%
20.0%
0.0%
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
Sb (ppm)

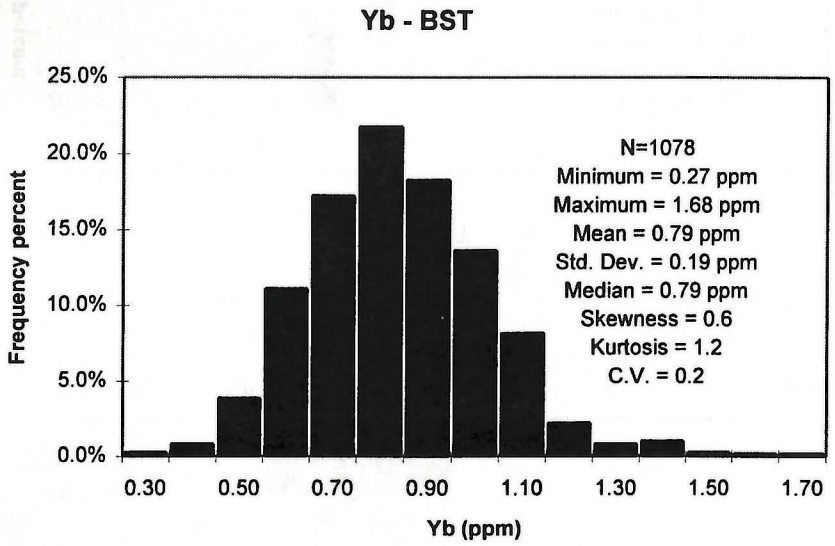

Sc - BST
N=1078
Minimum = 1.6 ppm
Maximum = 10.0 ppm
Mean = 3.8 ppm
Std. Dev. = 0.9 ppm
Median = 3.7 ppm
Skewness = 1.7
Kurtosis = 7.3
C.V. = 0.2
Frequency percent
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
1.5
2.5
3.5
4.5
5.5
6.5
7.5
8.5
9.5
Sc - BST

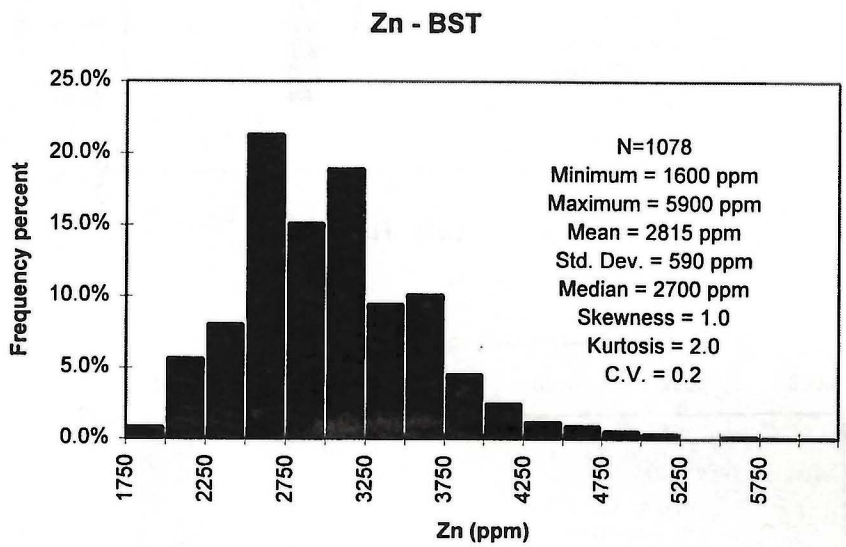

Sm - BST
N=1078
Minimum = 0.6 ppm
Maximum = 4.0 ppm
Mean = 1.6 ppm
Std. Dev. = 0.4 ppm
Median = 1.5 ppm
Skewness = 2.0
Kurtosis = 8.7
C.V. = 0.2
Frequency percent
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
Sm (ppm)


Sr - BST
N=1078
Minimum = <500 ppm
Maximum = 2900 ppm
Mean = 609 ppm
Std. Dev. = 284 ppm
Median = <500 ppm
Skewness = 3.5
Kurtosis = 15.7
C.V. = 0.5
Frequency percent
100.0%
80.0%
60.0%
40.0%
20.0%
0.0%
500
1000
1500
2000
2500
3000
Sr (ppm)


Th - BST
N=1078
Minimum = 0.1 ppm
Maximum = 5.5 ppm
Mean = 1.6 ppm
Std. Dev. = 0.7 ppm
Median = 1.6 ppm
Skewness = 1.3
Kurtosis = 4.4
C.V. = 0.4
Frequency percent
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
5.5
Th (ppm)

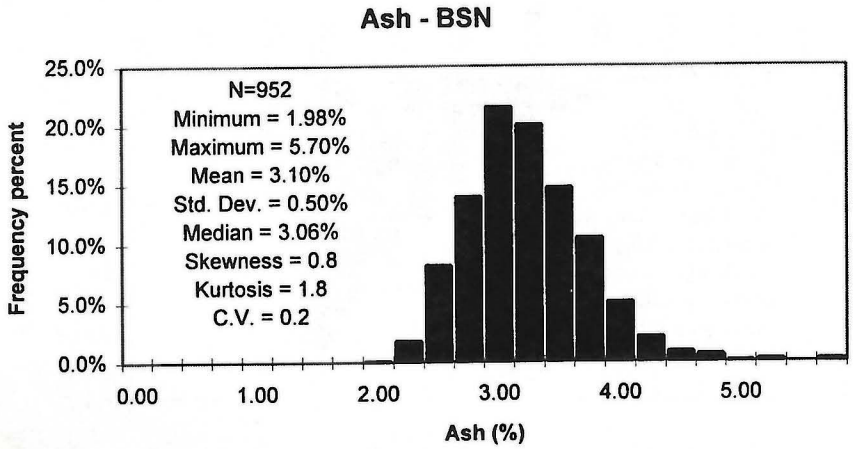

U - BST
N=1078
Minimum = 0.1 ppm
Maximum = 2.8 ppm
Mean = 1.0 ppm
Std. Dev. = 0.5 ppm
Median = 1.0 ppm
Skewness = -0.08
Kurtosis = -0.53
C.V. = 0.6
Frequency percent
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
0.3
0.8
1.3
1.8
2.3
2.8
3.3
3.8
4.3
4.8
5.3
U (ppm)

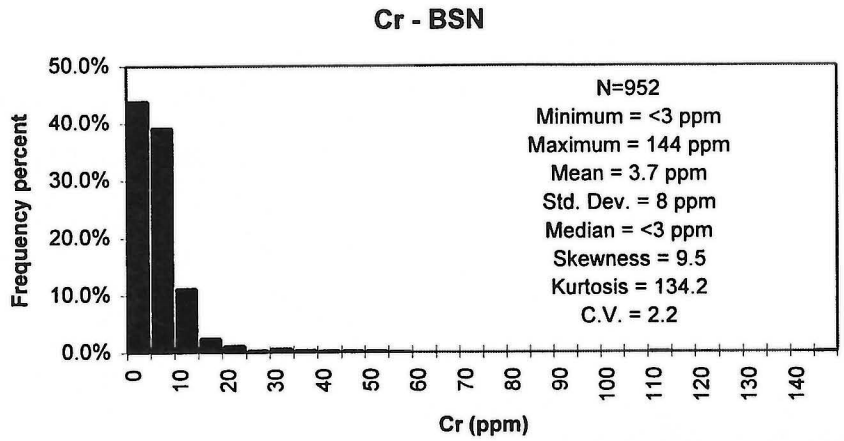

Yb - BST
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Frequency percent
N=1078
Minimum = 0.27 ppm
Maximum = 1.68 ppm
Mean = 0.79 ppm
Std. Dev. = 0.19 ppm
Median = 0.79 ppm
Skewness = 0.6
Kurtosis = 1.2
C.V. = 0.2
0.30
0.50
0.70
0.90
1.10
1.30
1.50
1.70
Yb (ppm)

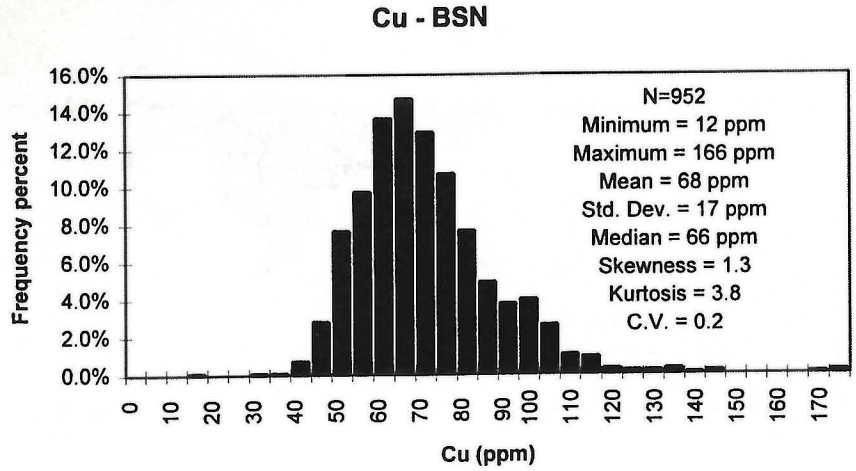

Zn - BST
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Frequency percent
N=1078
Minimum = 1600 ppm
Maximum = 5900 ppm
Mean = 2815 ppm
Std. Dev. = 590 ppm
Median = 2700 ppm
Skewness = 1.0
Kurtosis = 2.0
C.V. = 0.2
1750
2250
2750
3250
3750
4250
4750
5250
5750
Zn (ppm)

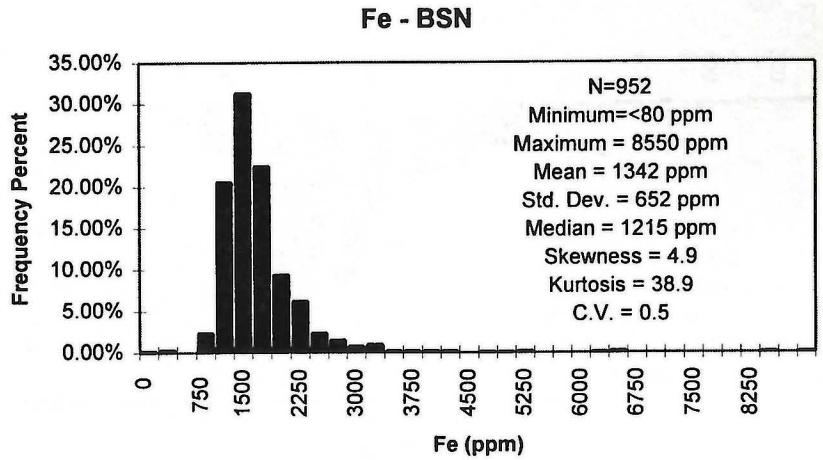
APPENDIX II

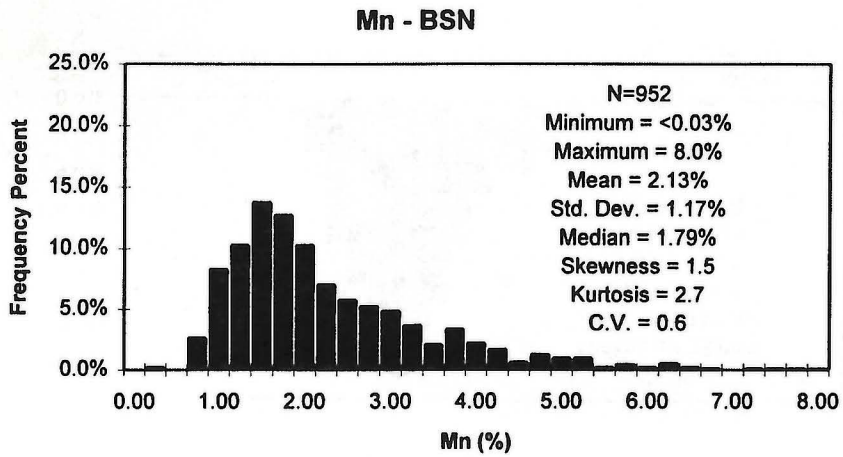
Part 2: Histograms and Statistical Summary for Black Spruce *(Picea mariana)* Needle Geochemical Data

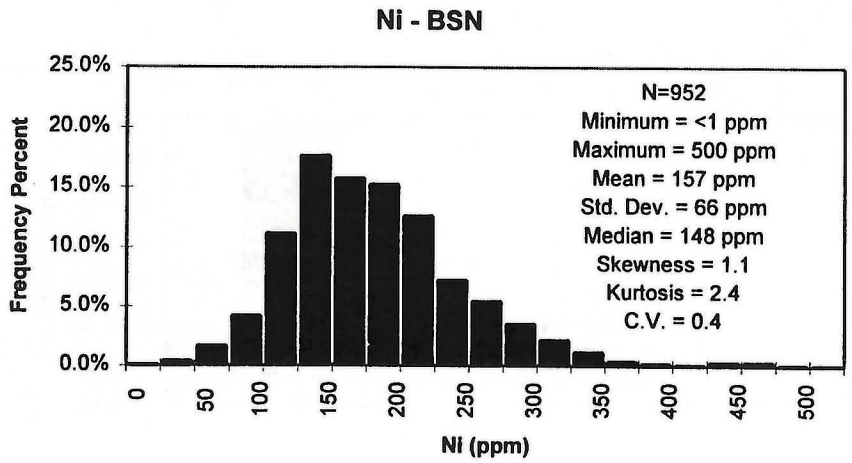

Ash - BSN
N=952
Minimum = 1.98%
Maximum = 5.70%
Mean = 3.10%
Std. Dev. = 0.50%
Median = 3.06%
Skewness = 0.8
Kurtosis = 1.8
C.V. = 0.2
Frequency percent
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
0.00
1.00
2.00
3.00
4.00
5.00
Ash (%)

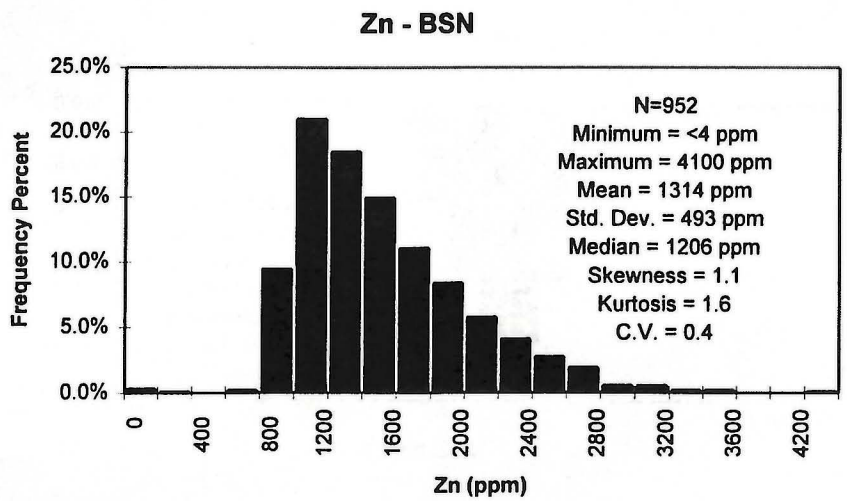

Cr - BSN
N=952
Minimum = <3 ppm
Maximum = 144 ppm
Mean = 3.7 ppm
Std. Dev. = 8 ppm
Median = <3 ppm
Skewness = 9.5
Kurtosis = 134.2
C.V. = 2.2
Frequency percent
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
Cr (ppm)


Cu - BSN
N=952
Minimum = 12 ppm
Maximum = 166 ppm
Mean = 68 ppm
Std. Dev. = 17 ppm
Median = 66 ppm
Skewness = 1.3
Kurtosis = 3.8
C.V. = 0.2
Frequency percent
16.0%
14.0%
12.0%
10.0%
8.0%
6.0%
4.0%
2.0%
0.0%
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
Cu (ppm)


Fe - BSN
N=952
Minimum=<80 ppm
Maximum = 8550 ppm
Mean = 1342 ppm
Std. Dev. = 652 ppm
Median = 1215 ppm
Skewness = 4.9
Kurtosis = 38.9
C.V. = 0.5
Frequency Percent
35.00%
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
0
750
1500
2250
3000
3750
4500
5250
6000
6750
7500
8250
Fe (ppm)


Mn - BSN
N=952
Minimum = <0.03%
Maximum = 8.0%
Mean = 2.13%
Std. Dev. = 1.17%
Median = 1.79%
Skewness = 1.5
Kurtosis = 2.7
C.V. = 0.6
Frequency Percent
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00
Mn (%)


Ni - BSN
N=952
Minimum = <1 ppm
Maximum = 500 ppm
Mean = 157 ppm
Std. Dev. = 66 ppm
Median = 148 ppm
Skewness = 1.1
Kurtosis = 2.4
C.V. = 0.4
Frequency Percent
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
0
50
100
150
200
250
300
350
400
450
500
Ni (ppm)


Zn - BSN
N=952
Minimum = <4 ppm
Maximum = 4100 ppm
Mean = 1314 ppm
Std. Dev. = 493 ppm
Median = 1206 ppm
Skewness = 1.1
Kurtosis = 1.6
C.V. = 0.4
Frequency Percent
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
0
400
800
1200
1600
2000
2400
2800
3200
3600
4200
Zn (ppm)

APPENDIX III

Analytical Technique for the Determination of Metal Content in Black Spruce *(Picea mariana)* Needles

PROCEDURE:

Dry Ashing

1. Prepare beakers: mark with heat-resistant pen, clean and heat in oven to 170°C. Cool in dessicator for two hours, then weigh and record weight.
2. Fill clean porcelain dish with crushed black spruce needles.
3. Using teaspoon, place approximately 10-11 grams of needles in tared beaker. Weigh accurately to the nearest 0.1 milligram. Cover with a clean watch glass. Prepare 22 samples in this manner for one run of dry ashing.
4. Place beakers (without covers) in cold furnace in numerical order (*i.e.,* #1 at back, #22 at front of furnace).
5. Turn on air to 25 psi or 7.5 Lpm.
6. Turn on furnace at 200°C. Allow furnace to heat up and remain at that temperature for 30 minutes.
7. Raise temperature in increments of 50°C every 30 minutes until furnace temperature reaches 450°C.
8. Open furnace door partially for about 20 minutes.
9. Close furnace door, and lower air pressure to 20 psi.
10. After about 4 hours, turn off air and leave samples in furnace overnight to ash.
11. Remove samples and place in dessicator to cool. Allow about 2-2.5 hours for cooling.
12. Weigh ashed residue in beaker. Record weight and calculate % Ash. (Calculation should be done after procedure is completed.)
13. Immediately weigh 0.25 g ash into marked test tubes (18 x 150 mm).
14. Store remainder of ash in clean labelled sample bottles.

Solution Preparation

1. Weigh 0.25 g ash into clean numbered test tubes (18 x 150 mm). Prepare in batches of 67 test tubes including 65 samples, a blank and one standard (of known values).
2. Add 0.5 ml concentrated hydrochloric acid to each test tube.
3. Add 1.5 ml concentrated nitric acid to each test tube.
4. Allow to stand for a few minutes or until reaction subsides.
5. Carefully place in hot water bath that is at least 95°C. Digest in this manner for two hours.
6. Remove from water bath, cool and add 8 ml distilled water to each test tube.
7. Mix on vortex mixer.
8. Cover and allow to stand overnight so that sediments will settle.
9. Analyze on atomic absorption spectrophotometer for Cu, Zn, Pb, Ni, Cr, Fe and Mn. Samples are diluted x 10 for Fe and Mn with 1250 ppm Al buffer [0.5 ml sample + 4.5 ml of 1250 ppm Al buffer].

APPENDIX IV

Part 1: Duplicate Sample Analyses, Black Spruce *(Picea mariana)* Twigs

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)
								Elements										
DOT-0100-1	50	<2	3.6	1100	6	17.7	8	39	2.7	1.17	0.9	<1	<2	10.10	<2	2520	190	170
DOT-0100-2	49	<2	3.3	1100	16	17.5	11	57	3.7	1.43	1.7	<1	<4	11.00	<2	3520	230	160
Arith. Mean	50	<2	3.4	1100	11	17.6	10	48	3.4	1.30	1.3	<1	<3	10.55	<2	3020	210	165
DOT-0101-1	38	<2	4.0	1600	26	21.0	11	54	2.0	2.03	1.5	<1	<5	9.03	<2	3820	220	190
DOT-0101-2	34	<2	4.3	950	28	21.5	12	50	3.8	1.96	1.1	<1	<5	10.40	<2	3960	240	250
Arith. Mean	36	<2	4.2	1275	27	21.2	12	52	2.9	2.00	1.3	<1	<5	9.72	<2	3890	230	220
DOT-0104-1	52	<2	3.8	1500	24	19.0	11	58	4.4	1.77	2.0	<1	<5	10.10	2	4120	370	190
DOT-0104-2	86	<2	3.9	1800	18	19.0	11	52	2.9	1.84	2.0	<1	<5	7.99	3	3880	340	150
Arith. Mean	69	<2	3.8	1650	21	19.0	11	55	3.6	1.81	2.0	<1	<5	9.04	2	4000	355	170
DOT-0106-1	61	<2	4.8	1800	37	17.9	13	60	5.4	1.90	1.1	<1	<4	10.40	<2	4440	340	240
DOT-0106-2	39	<2	5.3	1600	27	18.1	12	66	4.9	2.09	2.0	<1	<5	8.55	<2	4670	150	200
Arith. Mean	50	<2	5.0	1700	32	18.0	12	63	5.2	2.00	1.6	<1	<4	9.50	<2	4555	245	220
DOT-0110-1	100	<2	5.0	1400	31	21.2	13	54	4.1	1.81	2.4	<1	<4	8.76	<2	3980	330	200
DOT-0110-2	24	<2	5.8	1500	6	18.0	10	40	4.5	1.23	1.4	<1	<2	10.80	<2	3220	240	220
Arith. Mean	62	<2	5.4	1450	18	19.6	12	47	4.3	1.52	1.9	<1	<3	9.78	<2	3600	285	210
DOT-0117-1	48	<2	4.1	1700	36	18.7	16	71	2.6	2.22	1.2	<1	<4	9.02	<2	3790	370	190
DOT-0117-2	73	<2	5.1	2000	8	22.8	16	96	3.4	2.78	1.0	<1	<4	9.04	<2	4880	310	200
Arith. Mean	61	<2	4.6	1850	22	20.8	16	84	3.0	2.50	1.1	<1	<4	9.03	<2	4335	340	195
DOT-0120-1	39	<2	3.6	1200	6	20.2	16	50	1.8	1.63	1.2	<1	<3	9.85	<2	3120	160	240
DOT-0120-2	69	<2	5.3	1800	11	20.6	19	85	2.1	2.41	1.1	<1	<4	11.80	<2	4770	410	240
Arith. Mean	54	<2	4.4	1500	8	20.4	17	68	2.0	2.02	1.2	<1	<3	10.82	<2	3945	285	240
DOT-0121-1	99	<2	4.2	1500	47	20.6	20	82	2.0	2.33	1.0	<1	<5	12.80	<2	4350	370	140
DOT-0121-2	58	<2	4.2	1400	8	17.4	15	67	2.0	2.06	<0.5	<1	<4	11.00	<2	3230	280	130
Arith. Mean	78	<2	4.2	1450	27	19.0	18	74	2.0	2.20	<0.8	<1	<4	11.90	<2	3790	325	135
DOT-0130-1	143	<2	4.8	1300	10	16.3	7	41	5.5	1.15	1.4	<1	<2	14.30	<2	3080	220	260
DOT-0130-2	49	<2	5.9	1200	8	17.0	7	46	4.9	1.29	1.2	<1	<3	10.30	<2	2900	190	260
Arith. Mean	96	<2	5.4	1250	9	16.6	7	44	5.2	1.22	1.3	<1	<2	12.30	<2	2990	205	260
DOT-0138	58	<2	5.4	1700	34	19.3	17	63	8.0	1.97	1.5	<1	<5	9.31	<2	4030	250	170
DOT-0138-1	54	<2	3.0	1800	8	21.4	23	35	2.1	1.10	1.0	<1	<3	11.60	<2	2390	210	100
DOT-0138-2	46	<2	6.3	970	11	16.2	18	65	1.6	1.98	1.6	<1	<3	9.72	<2	4160	350	95
Arith. Mean	53	<2	4.9	1490	18	19.0	19	54	3.9	1.68	1.4	<1	<3	10.21	<2	3527	270	122
DOT-0140-1	71	<2	3.0	1600	13	17.1	10	66	1.0	1.70	1.9	<1	<2	11.50	<2	3220	190	68
DOT-0140-2	33	<2	2.0	1500	15	17.0	9	63	0.8	1.45	1.4	<1	<2	13.90	3	3690	150	42
Arith. Mean	52	<2	2.5	1550	14	17.0	10	64	0.9	1.58	1.6	<1	<2	12.70	3	3455	170	55
DOT-0150-1	44	<2	3.6	1700	10	20.4	15	53	1.7	1.69	1.7	<1	<2	10.80	<2	3080	320	260
DOT-0150-2	38	<2	2.4	1700	13	20.7	14	44	1.8	1.59	1.2	<1	<5	9.58	<2	3090	320	200
Arith. Mean	41	<2	3.0	1700	12	20.6	14	48	1.8	1.64	1.4	<1	<4	10.19	<2	3085	320	230
DOT-0160-1	64	<2	5.1	1100	8	17.2	11	63	1.5	1.94	2.0	<1	<4	9.08	3	4180	160	63
DOT-0160-2	120	<2	5.4	1200	40	18.6	14	91	0.7	2.26	2.0	<1	<3	9.59	<2	4700	210	75
Arith. Mean	92	<2	5.2	1150	24	17.9	12	77	1.1	2.10	2.0	<1	<4	9.33	3	4440	185	69
DOT-0170-1	46	<2	4.7	1200	21	16.9	16	72	3.3	1.86	0.9	<1	<5	11.70	<2	3780	380	290
DOT-0170-2	57	<2	4.1	1200	9	17.9	13	63	3.2	1.86	1.9	<1	<4	10.70	<2	4010	370	240
Arith. Mean	52	<2	4.4	1200	15	17.4	14	68	3.2	1.86	1.4	<1	<4	11.20	<2	3895	375	265
DOT-0180-1	34	<2	4.2	1900	8	18.7	15	56	2.4	1.80	1.3	<1	<3	8.55	<2	3470	270	110
DOT-0180-2	44	<2	5.2	2100	37	20.4	16	66	3.8	1.73	2.5	<1	<5	10.30	<2	3780	410	170
Arith. Mean	39	<2	4.7	2000	22	19.6	16	61	3.1	1.76	1.9	<1	<4	9.42	<2	3625	340	140
DOT-0190-1	38	<2	6.4	1300	7	18.1	10	65	0.8	1.63	1.5	<1	<3	9.43	2	2930	290	40
DOT-0190-2	36	<2	5.2	1300	9	16.2	10	55	1.7	1.58	1.2	<1	<3	12.10	2	3200	300	5
Arith. Mean	37	<2	5.6	1300	8	17.2	10	60	1.2	1.60	1.3	<1	<3	17.80	2	3065	295	22

Elements																		
Sb (ppm)	Sc (ppm)	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
0.6	2.6	<2	1100	<0.5	1.3	0.6	<1	2500	8.5	13	6.0	1.1	0.28	<0.5	0.56	0.07	NA	2.04
0.7	3.6	<2	1300	<0.5	1.9	1.5	<1	2500	11.0	19	15.0	1.4	<0.04	<0.5	0.76	0.14	701	2.28
0.6	3.2	<2	1200	<0.5	1.6	1.0	<1	2500	9.8	16	10.5	1.2	<0.16	<0.5	0.66	0.10	701	2.16
0.7	4.2	<2	<500	<0.5	1.6	<0.1	<1	2900	13.0	22	<5	1.7	<0.05	<0.5	1.04	0.20	827	2.15
0.6	4.2	<2	<500	<0.5	0.9	<0.2	<1	3300	12.0	23	22.0	1.6	<0.05	<0.5	0.64	0.16	885	2.06
0.6	4.2	<2	<500	<0.5	1.2	<0.2	<1	3100	12.5	22	<13.5	1.7	<0.05	<0.5	0.84	0.18	856	2.10
0.6	3.8	<2	<500	<0.5	1.3	0.9	<1	3200	10.0	17	<5	1.3	<0.05	<0.5	0.88	0.19	467	2.04
0.9	4.2	<2	<500	<0.5	1.8	1.2	<1	2600	12.0	23	<5	1.7	<0.05	<0.5	0.88	0.17	435	2.37
0.8	4.0	<2	<500	<0.5	1.6	1.0	<1	2900	11.0	20	<5	1.5	<0.05	<0.5	0.88	0.18	451	2.20
0.9	4.8	<3	<500	<0.5	1.1	1.6	<1	3200	14.0	18	<5	1.8	<0.06	<0.5	0.85	0.14	303	2.25
0.8	4.7	<2	<500	<0.5	1.9	<0.2	<1	3300	14.0	25	<5	2.0	<0.06	<0.5	1.05	0.16	314	2.29
0.8	4.8	<2	<500	<0.5	1.5	<0.9	<1	3250	14.0	22	<5	1.9	<0.06	<0.5	0.95	0.15	308	2.27
0.9	4.1	<2	<500	<0.5	2.5	1.0	<1	3100	13.0	22	21.0	1.8	0.40	<0.5	1.05	0.15	677	1.93
0.7	3.1	<2	1300	<0.5	1.9	1.3	<1	3700	11.0	16	<5	1.6	0.27	<0.5	0.80	0.14	NA	1.62
0.8	3.6	<2	<900	<0.5	2.2	1.2	<1	3400	12.0	19	<13	1.7	0.34	<0.5	0.92	0.14	677	1.78
0.8	4.2	<2	<500	<0.5	1.4	1.3	<1	2900	11.0	16	<5	1.4	<0.06	<0.5	0.70	0.14	542	2.23
0.9	4.9	<2	<500	<0.5	1.1	1.5	<1	3400	13.0	22	12.0	1.8	0.53	<0.5	0.90	0.15	677	2.37
0.8	4.6	<2	<500	<0.5	1.2	1.4	<1	3150	12.0	19	<8.5	1.6	<0.30	<0.5	0.80	0.14	610	2.30
0.6	3.2	<2	<500	1.2	1.0	1.4	<1	2300	8.6	16	8.0	1.3	0.29	<0.5	0.56	0.12	NA	1.90
0.7	5.2	<2	<500	<0.5	2.2	1.7	<1	3300	14.0	21	<5	1.7	<0.06	<0.5	0.71	0.14	770	2.19
0.6	4.2	<2	<500	<0.8	1.6	1.6	<1	2800	11.3	18	<4.2	1.5	<0.18	<0.5	0.64	0.13	770	2.04
1.0	4.3	<2	<500	<0.5	1.0	<0.2	<1	3400	11.0	18	15.0	1.5	<0.05	<0.5	0.87	0.14	788	1.95
0.8	3.3	<2	950	<0.5	1.4	1.2	<1	3000	9.8	19	<5	1.3	<0.04	<0.5	0.50	0.05	NA	1.76
0.9	3.8	<2	<725	<0.5	1.2	<0.7	<1	3200	10.4	18	<7.8	1.4	<0.04	<0.5	0.68	0.10	788	1.86
0.5	3.0	<2	970	<0.5	1.6	<0.2	<1	3000	9.6	17	<5	1.5	0.40	<0.5	0.58	0.06	NA	1.88
0.7	3.0	<2	<500	<0.5	1.8	1.2	<1	3100	10.0	19	<5	1.4	0.30	<0.5	0.52	0.08	NA	1.75
0.6	3.0	<2	<735	<0.5	1.7	<0.7	<1	3050	9.8	18	<5	1.4	0.35	<0.5	0.55	0.07	NA	1.82
1.0	4.6	<2	<500	<0.5	2.1	<0.2	<1	3100	14.0	25	<5	1.7	<0.06	<0.5	1.06	0.20	875	2.57
0.5	2.2	<2	<500	<0.5	1.0	0.7	<1	2900	5.6	10	<5	0.8	<0.03	<0.5	0.49	0.11	NA	1.70
1.0	4.3	<2	<500	<0.5	1.8	1.4	<1	3500	11.0	22	<5	1.7	<0.03	<0.5	0.78	0.15	NA	2.15
0.8	3.7	<2	<500	<0.5	1.6	0.8	<1	3167	10.2	19	<5	1.4	<0.04	<0.5	0.78	0.15	875	2.14
0.8	4.0	<2	690	<0.5	1.6	1.9	<1	3000	12.0	22	13.0	1.7	0.28	<0.5	0.71	0.07	NA	2.29
0.7	3.4	<2	<500	<0.5	1.9	1.1	<1	2900	9.6	19	<5	1.5	0.38	<0.5	0.76	0.08	NA	2.16
0.8	3.7	<2	595	<0.5	1.8	1.5	<1	2950	10.8	20	6.8	1.6	0.33	<0.5	0.74	0.08	NA	2.22
0.7	3.2	5	980	<0.5	1.4	0.8	<1	2700	8.7	17	12.0	1.5	<0.03	<0.5	0.75	0.06	NA	2.13
0.7	3.1	<2	<500	<0.5	0.7	<0.1	<1	2700	8.0	17	<5	1.1	<0.05	<0.5	0.41	0.12	1113	1.74
0.7	3.2	<4	740	<0.5	1.0	0.4	<1	2700	8.4	17	<6	1.3	<0.04	<0.5	0.58	0.09	1113	1.94
0.6	4.2	<2	<500	<0.5	1.3	1.4	<1	3900	12.0	23	<5	1.5	<0.04	<0.5	0.65	0.13	1524	2.13
1.1	5.2	<2	<500	<0.5	1.7	2.0	<1	4700	15.0	25	<5	1.9	<0.05	<0.5	0.94	0.17	1425	2.23
0.8	4.7	<2	<500	<0.5	1.5	1.7	<1	4300	13.5	24	<5	1.7	<0.04	<0.5	0.80	0.15	1474	2.18
1.1	4.0	<2	<500	<0.5	0.9	<0.2	<1	3300	12.0	21	10.0	1.4	<0.05	<0.5	1.10	0.22	956	1.83
0.9	4.0	<2	<500	<0.5	0.6	<0.2	<1	3100	11.0	16	<5	1.4	0.31	<0.5	0.68	0.24	921	1.95
1.0	4.0	<2	<500	<0.5	0.8	<0.2	<1	3200	11.5	18	<5	1.4	<0.18	<0.5	0.89	0.23	938	1.89
0.8	3.7	<2	1800	<0.5	1.6	1.4	<1	4100	11.0	18	<5	1.6	0.25	<0.5	0.62	0.12	NA	1.87
0.9	3.8	<3	<500	<0.5	0.6	0.8	<1	3600	11.0	21	<5	1.4	<0.06	<0.5	0.80	0.16	1906	1.79
0.8	3.8	<2	1150	<0.5	1.1	1.1	<1	3850	11.0	20	<5	1.5	<0.16	<0.5	0.71	0.14	1906	1.83
1.1	3.3	<2	<500	<0.5	1.6	1.2	<1	4100	11.0	19	8.0	1.5	<0.03	<0.5	0.69	0.07	NA	1.96
1.4	3.4	<2	<500	<0.5	1.6	1.6	<1	3700	11.0	22	10.0	1.6	0.32	<0.5	0.76	0.10	NA	2.19
1.2	3.4	<2	<500	<0.5	1.6	1.4	<1	3900	11.0	20	9.0	1.6	<0.18	<0.5	0.72	0.08	NA	2.08

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)
								Elements										
DOT-0193-1	28	<2	3.8	1300	11	24.1	14	48	2.5	1.39	1.2	<1	<5	11.00	4	2880	240	190
DOT-0193-2	12	3	3.6	1000	45	18.7	7	18	2.3	0.57	1.4	<1	<3	12.60	<2	1880	50	160
Arith. Mean	20	<2	3.7	1150	28	21.4	10	33	2.4	0.98	1.3	<1	<4	11.80	3	2380	145	175
DOT-0200-1	39	<2	3.2	1600	11	21.2	12	68	4.4	1.63	2.3	<1	<4	11.00	<2	4320	250	210
DOT-0200-2	191	<2	4.0	1600	18	18.2	12	64	2.9	1.81	1.7	<1	<4	9.96	<2	4160	260	220
Arith. Mean	115	<2	3.6	1600	14	19.7	12	66	3.6	1.72	2.0	<1	<4	10.48	<2	4240	255	215
DOT-0210-1	119	<2	4.6	680	21	19.9	10	60	2.3	1.68	1.2	<1	<5	12.00	<2	3480	340	110
DOT-0210-2	92	<2	4.0	690	22	18.2	11	62	0.8	1.52	2.1	<1	<4	12.50	<2	3570	240	110
Arith. Mean	106	<2	4.3	685	22	19.0	10	61	1.6	1.60	1.6	<1	<4	12.25	<2	3525	290	110
DOT-0220-1	21	<2	1.3	1300	40	24.3	11	35	3.3	1.08	1.2	<1	<4	10.70	<2	2770	290	170
DOT-0220-2	70	<2	3.3	1500	15	21.3	8	41	3.8	1.17	1.0	<1	<4	11.10	<2	2770	250	140
Arith. Mean	45	<2	2.3	1400	28	22.8	10	38	3.6	1.12	1.1	<1	<4	10.90	<2	2770	270	155
DOT-0228-1	25	<2	4.3	1500	19	20.6	13	50	2.7	1.60	1.5	<1	<4	11.10	<2	3860	180	120
DOT-0228-2	58	<2	3.1	1200	8	16.5	4	13	1.2	0.66	0.9	<1	<2	9.22	<2	1960	100	87
Arith. Mean	42	<2	3.7	1350	14	18.6	8	32	2.0	1.08	1.2	<1	<3	10.16	<2	2910	140	104
DOT-0230-1	19	<2	4.5	1200	11	22.4	12	48	2.1	1.47	2.2	<1	<5	11.00	<2	3670	230	130
DOT-0230-2	62	<2	4.2	1300	9	23.1	14	76	1.9	2.10	1.9	<1	<3	11.30	<2	4540	250	170
Arith. Mean	40	<2	4.4	1250	10	22.8	13	62	2.0	1.78	2.0	<1	<4	11.15	<2	4105	240	150
DOT-0241-1	50	<2	5.0	640	14	15.4	9	51	1.7	1.36	0.8	<1	<2	11.10	<2	2840	250	89
DOT-0241-2	33	<2	4.0	830	12	20.6	12	63	1.6	1.79	1.3	<1	<3	13.70	<2	4020	300	110
Arith. Mean	42	<2	4.5	735	13	18.0	10	57	1.6	1.58	1.0	<1	<2	12.40	<2	3430	275	100
DOT-0246-1	42	<2	3.8	2200	7	22.8	11	75	1.7	1.77	1.8	<1	<4	8.35	<2	3470	310	7
DOT-0246-2	69	<2	5.5	1500	17	16.5	15	72	0.8	1.98	1.3	<1	<4	9.41	<2	4040	460	60
Arith. Mean	56	<2	4.6	1850	12	19.6	13	74	1.2	1.88	1.6	<1	<4	8.88	<2	3755	385	34
DOT-0250-1	33	<2	4.6	1700	26	20.5	10	68	1.6	1.67	1.5	<1	<3	11.30	<2	4210	150	70
DOT-0250-2	117	4	5.0	1500	4	15.9	8	71	1.0	1.82	1.6	<1	<3	9.07	2	4090	150	75
Arith. Mean	75	<3	4.8	1600	15	18.2	9	70	1.3	1.74	1.6	<1	<3	10.18	<2	4150	150	72
DOT-0260-1	33	<2	3.5	1900	6	21.8	14	68	2.2	1.62	1.2	<1	<4	11.20	<2	4540	180	110
DOT-0260-2	145	<2	7.3	1700	4	11.3	11	65	1.7	1.60	1.2	<1	<3	8.65	<2	3820	180	85
Arith. Mean	89	<2	5.4	1800	5	16.6	12	66	2.0	1.61	1.2	<1	<4	9.92	<2	4180	180	98
DOT-0263-1	29	<2	3.8	3200	7	14.0	16	56	1.2	1.42	1.8	<1	<3	13.50	2	2990	210	170
DOT-0263-2	33	<2	3.6	2700	22	17.0	11	46	3.2	1.12	0.6	<1	<5	14.70	<2	3190	110	170
Arith. Mean	31	<2	3.7	2950	14	15.5	14	51	2.2	1.27	1.2	<1	<4	14.10	<2	3090	160	170
DOT-0270-1	38	<2	4.5	1700	7	14.0	11	76	3.6	2.02	2.3	<1	<5	12.80	<2	4350	290	200
DOT-0270-2	38	<2	3.4	2000	6	17.2	11	55	2.9	1.58	2.0	<1	<3	8.76	<2	3860	260	160
Arith. Mean	38	<2	4.0	1850	6	15.6	11	66	3.2	1.80	2.2	<1	<4	10.78	<2	4105	275	180
DOT-0280-1	48	<2	5.4	1600	12	15.9	13	54	5.4	1.55	1.7	<1	<3	10.70	4	3190	240	280
DOT-0280-2	27	<2	4.1	1200	18	19.4	12	51	8.4	1.18	1.5	<1	<4	10.40	<2	3190	290	360
Arith. Mean	38	<2	4.8	1400	15	17.6	12	52	6.9	1.36	1.6	<1	<4	10.55	<3	3190	265	320
DOT-0290-1	60	<2	5.2	1400	33	16.7	14	45	3.2	1.75	1.5	<1	<5	10.30	<2	4400	290	150
DOT-0290-2	33	<2	5.3	1700	15	14.9	12	64	2.6	2.05	0.7	<1	<4	10.80	<2	4690	330	160
Arith. Mean	46	<2	5.2	1550	24	15.8	13	54	2.9	1.90	1.1	<1	<4	10.55	<2	4545	310	155
DOT-0296-1	107	<2	3.9	2400	14	22.5	16	59	2.3	2.00	1.8	<1	<4	9.11	<2	4070	160	90
DOT-0296-2	29	<2	5.5	2100	6	17.4	15	61	3.8	1.62	1.5	<1	<3	7.00	2	3090	250	220
Arith. Mean	68	<2	4.7	2250	10	20.0	16	60	3.0	1.81	1.6	<1	<4	8.06	<2	3580	205	155
DOT-0300-1	43	<2	4.2	1900	7	20.9	21	60	7.4	1.76	1.0	<1	<4	9.63	2	4030	250	160
DOT-0300-2	52	<2	4.5	1700	5	22.7	19	49	7.4	1.44	1.3	<1	<4	9.72	<2	3290	230	170
Arith. Mean	48	<2	4.4	1800	6	21.8	20	54	7.4	1.60	1.2	<1	<4	9.68	<2	3660	240	165

Elements																		
Sb (ppm)	Sc (ppm)	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
0.9	2.9	<2	<500	<0.5	0.8	<0.1	<1	3100	8.5	13	<5	1.0	0.29	<0.5	0.87	0.16	461	1.71
0.7	1.6	<2	1100	<0.5	0.6	0.1	<1	3000	5.9	10	<5	0.7	<0.03	<0.5	0.54	0.10	2152	1.69
0.8	2.2	<2	800	<0.5	0.7	<0.1	<1	3050	7.2	12	<5	0.8	<0.16	<0.5	0.70	0.13	1306	1.70
0.6	4.4	<2	<500	<0.5	1.1	0.9	<1	2700	13.0	21	10.0	1.7	0.36	<0.5	0.97	0.07	659	1.98
0.6	4.4	<2	<500	<0.5	1.8	<0.2	<1	2700	12.0	23	15.0	1.7	<0.05	<0.5	0.67	0.15	664	2.05
0.6	4.4	<2	<500	<0.5	1.4	0.6	<1	2700	12.5	22	12.5	1.7	<0.20	<0.5	0.82	0.11	662	2.02
0.9	4.0	<2	<500	<0.5	1.6	<0.2	<1	3600	11.0	21	<5	1.3	<0.05	<0.5	0.93	0.18	1572	2.08
0.7	4.0	<2	<500	<0.5	1.2	1.0	<1	3700	11.0	19	<5	1.3	<0.05	<0.5	0.89	0.17	1558	2.21
0.8	4.0	<2	<500	<0.5	1.4	<0.6	<1	3650	11.0	20	<5	1.3	<0.05	<0.5	0.91	0.18	1565	2.14
0.6	2.6	<2	<500	<0.5	0.9	<0.1	<1	2300	8.0	17	<5	1.0	0.28	<0.5	0.62	0.08	471	1.89
0.6	2.6	<2	<500	<0.5	1.8	<0.1	<1	2500	9.0	14	<5	1.1	<0.05	<0.5	0.61	0.12	517	2.02
0.6	2.6	<2	<500	<0.5	1.4	<0.1	<1	2400	8.5	16	<5	1.0	<0.16	<0.5	0.62	0.10	494	1.96
0.7	3.7	<2	700	<0.5	1.3	0.6	<1	2400	10.0	21	10.0	1.4	<0.04	<0.5	0.65	0.17	842	2.12
0.6	1.9	<2	650	<0.5	1.8	1.1	<1	3400	8.0	12	7.0	1.2	<0.03	<0.5	0.37	0.10	NA	2.00
0.6	2.8	<2	675	<0.5	1.6	0.8	<1	2900	9.0	16	8.5	1.3	<0.04	<0.5	0.51	0.14	842	2.06
0.4	3.4	<2	<500	<0.5	1.6	1.6	<1	2700	10.0	18	19.0	1.4	<0.05	<0.5	0.82	0.13	1174	2.32
0.8	4.7	<2	<500	<0.5	1.1	1.3	<1	2900	12.0	24	<5	1.8	0.31	<0.5	0.57	0.19	1014	1.87
0.6	4.0	<2	<500	<0.5	1.4	1.4	<1	2800	11.0	21	<10	1.6	<0.18	<0.5	0.70	0.16	1094	2.10
0.6	3.1	<2	<500	<0.5	1.6	1.3	<1	2900	8.7	16	8.0	1.3	0.25	<0.5	0.51	0.11	NA	1.98
1.7	4.2	<2	<500	<0.5	2.0	1.0	<1	3600	11.0	19	16.0	1.5	<0.05	<0.5	1.01	0.17	1848	1.99
1.2	3.6	<2	<500	<0.5	1.8	1.2	<1	3250	9.8	18	12.0	1.4	<0.15	<0.5	0.76	0.14	1848	1.98
0.7	4.1	<2	<500	<0.5	2.1	0.1	<1	3500	13.0	24	12.0	1.5	0.28	<0.5	0.90	0.17	1005	2.78
0.7	4.8	<2	<500	<0.5	1.4	1.8	<1	3500	14.0	24	11.0	1.7	<0.06	<0.5	1.05	0.20	982	2.47
0.7	4.4	<2	<500	<0.5	1.8	1.0	<1	3500	13.5	24	11.5	1.6	<0.17	<0.5	0.98	0.18	994	2.62
1.2	4.2	<2	1000	<0.5	2.1	1.8	<1	4000	12.0	20	<5	1.5	<0.05	<0.5	0.99	0.16	790	2.38
1.1	4.4	<2	<500	<0.5	2.7	1.5	<1	3700	13.0	24	10.0	1.8	0.16	<0.5	0.86	0.09	NA	2.40
1.2	4.3	<2	750	<0.5	2.4	1.6	<1	3850	12.5	22	<5	1.6	<0.10	<0.5	0.92	0.12	790	2.39
0.6	4.3	<2	<500	<0.5	1.0	<0.2	<1	2600	12.0	28	<5	1.6	<0.07	<0.5	0.92	0.18	1242	2.04
0.9	3.9	<2	<500	<0.5	2.3	1.2	<1	2000	12.0	23	12.0	1.6	0.31	<0.5	0.76	0.09	NA	2.20
0.8	4.1	<2	<500	<0.5	1.6	0.7	<1	2300	12.0	26	<8	1.6	<0.19	<0.5	0.84	0.14	1242	2.12
0.1	3.2	<2	720	<0.5	1.1	1.0	<1	2000	9.7	18	<5	1.3	0.42	<0.5	0.88	0.06	NA	2.11
0.6	2.9	<2	<500	<0.5	0.8	0.7	<1	4000	8.4	18	10.0	1.1	<0.05	<0.5	0.75	0.15	2026	1.64
0.4	3.0	<2	610	<0.5	1.0	0.8	<1	3000	9.0	18	<8	1.2	<0.24	<0.5	0.82	0.11	2026	1.88
0.7	4.5	<2	<500	<0.5	0.9	1.4	<1	3100	14.0	26	<5	1.6	<0.05	<0.5	0.96	0.20	675	2.08
0.6	3.5	4	<500	<0.5	1.4	0.9	<1	2600	10.0	19	<5	1.5	<0.03	<0.5	0.71	0.12	NA	1.97
0.6	4.0	<3	<500	<0.5	1.2	1.2	<1	2850	12.0	22	<5	1.6	<0.04	<0.5	0.84	0.16	675	2.02
0.8	3.4	<2	<500	<0.5	1.7	0.7	<1	2500	11.0	18	7.0	1.5	0.46	<0.5	0.75	0.12	NA	1.89
0.7	3.0	<2	<500	<0.5	1.5	<0.1	<1	2700	9.0	15	11.0	1.2	<0.04	<0.5	0.68	0.06	1201	1.79
0.8	3.2	<2	<500	<0.5	1.6	0.4	<1	2600	10.0	16	9.0	1.4	<0.25	<0.5	0.72	0.09	1201	1.84
1.0	4.0	<2	<500	<0.5	1.8	<0.2	<1	2300	13.0	18	<5	1.7	0.77	<0.5	0.77	0.08	826	1.94
0.9	4.4	<2	<500	<0.5	2.2	0.7	<1	2300	16.0	18	<5	2.0	0.37	<0.5	1.24	0.20	980	2.03
1.0	4.2	<2	<500	<0.5	2.0	0.4	<1	2300	14.5	18	<5	1.8	0.57	<0.5	1.00	0.14	903	1.98
0.8	4.2	<2	<500	<0.5	1.2	<0.2	<1	3000	11.0	22	<5	1.5	<0.05	<0.5	1.05	0.12	1073	1.96
0.7	3.3	<2	540	<0.5	1.6	<0.2	<1	2400	11.0	20	<5	1.4	0.37	<0.5	0.57	0.12	NA	1.93
0.8	3.8	<2	<520	<0.5	1.4	<0.2	<1	2700	11.0	21	<5	1.4	<0.21	<0.5	0.81	0.12	1073	1.94
0.8	4.1	<2	<500	<0.5	1.0	1.3	<1	2400	11.0	19	12.0	1.5	0.39	<0.5	0.71	0.14	823	2.12
0.6	3.3	<2	<500	<0.5	1.1	0.8	<1	2300	9.1	16	<5	1.2	<0.04	<0.5	0.74	0.16	805	2.10
0.7	3.7	<2	<500	<0.5	1.0	1.0	<1	2350	10.0	18	<6	1.4	<0.22	<0.5	0.72	0.15	814	2.11

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)
								Elements										
DOT-0310-1	100	<2	4.6	1500	34	17.8	11	49	3.0	1.08	1.8	<1	<4	14.60	<2	3480	200	190
DOT-0310-2	15	<2	5.0	1600	6	19.0	10	41	1.9	1.03	1.4	<1	<3	15.70	<2	2410	190	190
Arith. Mean	58	<2	4.8	1550	20	18.4	10	45	2.4	1.06	1.6	<1	<4	15.15	<2	2945	195	190
DOT-0315-1	50	<2	4.6	1500	17	19.7	17	71	2.6	2.35	0.9	<1	<4	6.99	<2	4240	470	98
DOT-0315-2	55	<2	3.9	2100	16	15.6	14	74	4.2	2.14	2.4	<1	<4	8.30	3	4760	260	100
Arith. Mean	52	<2	4.2	1800	16	17.6	16	72	3.4	2.24	1.6	<1	<4	7.64	<2	4500	365	99
DOT-0319-1	31	<2	5.3	1200	4	14.4	15	100	3.6	3.21	3.7	<1	<5	7.31	<2	11400	230	140
DOT-0319-2	36	<2	6.1	1800	9	15.6	13	82	2.3	2.38	2.4	<1	<3	9.89	<2	5670	180	180
Arith. Mean	34	<2	5.7	1500	6	15.0	14	91	3.0	2.80	3.0	<1	<4	8.60	<2	8535	205	160
DOT-0320-1	96	<2	7.3	2100	70	16.7	18	88	2.5	2.69	3.1	<1	<3	10.00	<2	5970	240	130
DOT-0320-2	31	<2	6.6	2100	8	17.8	11	65	3.4	1.86	1.3	<1	<3	9.97	<2	4190	320	150
Arith. Mean	64	<2	7.0	2100	39	17.2	14	76	3.0	2.28	2.2	<1	<3	9.99	<2	5080	280	140
DOT-0330-1	39	<2	5.0	1400	10	15.4	16	47	2.4	1.65	1.5	<1	<4	8.99	<2	4410	260	100
DOT-0330-2	31	<2	5.0	1400	4	14.9	13	56	3.1	1.63	2.1	<1	<3	10.50	<2	3720	180	120
Arith. Mean	35	<2	5.0	1400	7	15.2	14	52	2.8	1.64	1.8	<1	<4	9.75	<2	4065	220	110
DOT-0337-1	23	<2	4.6	2600	13	18.8	31	71	2.9	1.84	2.2	<1	<5	12.00	<2	3660	340	170
DOT-0337-2	78	<2	5.8	3200	18	19.2	29	67	3.1	1.67	1.7	<1	<3	11.90	<2	3440	260	200
Arith. Mean	50	<2	5.2	2900	16	19.0	30	69	3.0	1.76	2.0	<1	<4	11.95	<2	3550	300	185
DOT-0340-1	35	<2	4.3	2600	43	19.9	18	53	5.4	1.69	0.9	<1	<5	9.61	<2	3470	240	160
DOT-0340-2	27	<2	9.6	1900	8	15.3	14	57	4.6	1.48	1.6	<1	<3	9.47	<2	2990	210	230
DOT-0340-3	41	<2	4.3	2300	9	21.1	17	64	4.2	1.99	1.1	<1	<5	9.55	<2	4500	250	190
DOT-0340-4	61	<2	5.3	2800	10	17.6	19	67	5.9	1.93	3.0	<1	<3	9.12	<2	5090	210	200
Arith. Mean	41	<2	5.9	2400	18	18.5	17	60	5.0	1.77	1.6	<1	<4	9.44	<2	4012	228	195
DOT-0341-1	44	<2	5.2	3100	11	17.9	19	55	7.6	1.80	2.9	<1	<6	11.70	4	4980	160	360
DOT-0341-2	29	<2	5.1	2500	12	14.3	14	66	9.6	1.56	2.3	<1	<4	6.31	<2	3700	250	170
Arith. Mean	36	<2	5.2	2800	12	16.1	16	60	8.6	1.68	2.6	<1	<5	9.00	3	4340	205	265
DOT-0342-1	190	<2	5.8	2900	10	13.8	19	56	3.3	1.49	1.9	<1	<3	10.00	<2	3460	210	140
DOT-0342-2	27	<2	5.8	2400	23	18.4	12	33	2.7	1.07	1.1	<1	<3	11.60	<2	2250	250	270
Arith. Mean	108	<2	5.8	2650	16	16.1	16	44	3.0	1.28	1.5	<1	<3	10.80	<2	2855	230	205
DOT-0343-1	34	<2	5.4	2400	19	17.4	38	80	4.9	1.80	1.9	<1	<5	13.00	<2	4360	190	280
DOT-0343-2	120	<2	5.8	1400	13	14.2	12	68	2.2	2.10	1.9	<1	<3	9.15	<2	4620	200	180
Arith. Mean	77	<2	5.6	1900	16	15.8	25	74	3.6	1.95	1.9	<1	<4	11.08	<2	4490	195	230
DOT-0344-1	51	<2	5.1	2700	13	17.1	25	51	4.9	1.88	2.4	<1	<4	8.11	<2	4160	210	120
DOT-0344-2	191	<2	7.6	2100	9	12.8	20	120	4.2	3.58	3.4	<1	<4	9.45	<2	8590	290	250
Arith. Mean	121	<2	6.4	2400	11	15.0	22	86	4.6	2.73	2.9	<1	<4	8.78	<2	6375	250	185
DOT-0345-1	94	<2	11.0	1400	15	11.1	18	110	2.8	4.36	4.2	<1	<6	9.98	<2	9560	310	96
DOT-0345-2	42	<2	5.5	2300	24	17.6	14	70	5.9	1.77	1.6	<1	<4	9.85	<2	4240	240	230
Arith. Mean	68	<2	8.2	1850	20	14.4	16	90	4.4	3.06	2.9	<1	<5	9.92	<2	6900	275	163
DOT-0346-1	51	<2	12.0	1400	17	10.0	14	120	2.6	3.61	3.5	<1	<5	6.71	<2	9190	180	150
DOT-0346-2	33	<2	4.7	2200	8	17.5	20	50	7.0	1.31	1.5	<1	<3	4.72	<2	3440	190	120
Arith. Mean	42	<2	8.4	1800	12	13.8	17	85	4.8	2.46	2.5	<1	<4	5.72	<2	6315	185	135
DOT-0350-1	22	<2	3.9	2000	18	20.4	13	56	2.8	1.39	2.0	<1	<4	11.50	<2	3580	220	270
DOT-0350-2	184	<2	5.5	1900	10	17.8	12	52	3.7	1.45	1.2	<1	<3	10.60	<2	3620	190	240
Arith. Mean	103	<2	4.7	1950	14	19.1	12	54	3.2	1.42	1.6	<1	<4	11.05	<2	3600	205	255
DOT-0360-1	21	<2	3.8	3000	6	22.6	19	46	10.0	1.37	3.1	<1	<4	9.66	<2	3750	260	190
DOT-0360-2	55	<2	4.0	2900	8	21.1	18	47	8.7	1.29	2.5	<1	<5	8.99	<2	3580	210	120
Arith. Mean	38	<2	3.9	2950	7	21.8	18	46	9.4	1.33	2.8	<1	<4	9.32	<2	3665	235	155
DOT-0381-1	72	<2	5.2	1500	41	18.0	9	38	5.5	1.28	1.6	<1	<3	10.30	3	5780	270	220
DOT-0381-2	21	<2	3.1	1800	41	19.9	17	43	7.9	1.41	0.7	<1	<4	9.49	<2	3160	270	180
Arith. Mean	46	<2	4.2	1650	41	19.0	13	40	6.7	1.34	1.2	<1	<4	9.90	2	4470	270	200

Elements																		
Sb (ppm)	Sc (ppm)	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
0.8	3.2	<2	<500	<0.5	1.8	0.9	<1	2800	9.0	25	<5	1.2	<0.06	<0.5	0.98	0.14	1270	1.78
0.5	2.6	<2	<500	<0.5	1.4	1.0	<1	2900	8.2	16	7.0	1.2	0.34	<0.5	0.56	0.11	NA	1.59
0.6	2.9	<2	<500	<0.5	1.6	1.0	<1	2850	8.6	20	<4	1.2	<0.20	<0.5	0.77	0.12	1270	1.68
0.7	4.3	<2	<500	<0.5	1.3	<0.2	<1	3100	12.0	23	13.0	1.6	<0.06	<0.5	0.47	0.10	1078	2.18
1.4	4.9	<2	<500	<0.5	2.1	1.2	<1	2300	14.0	28	<5	1.8	<0.06	<0.5	0.91	0.27	857	2.33
1.0	4.6	<2	<500	<0.5	1.7	<0.7	<1	2700	13.0	25	<9	1.7	<0.06	<0.5	0.69	0.18	968	2.26
0.8	6.9	<2	<500	<0.5	4.2	1.4	<1	1900	28.0	53	23.0	3.3	0.60	<0.5	1.35	0.27	504	3.10
2.4	4.6	<2	<500	<0.5	2.6	1.5	<1	2300	17.0	31	13.0	2.2	0.44	<0.5	0.94	0.18	NA	2.55
1.6	5.8	<2	<500	<0.5	3.4	1.4	<1	2100	22.0	42	18.0	2.8	0.52	<0.5	1.14	0.22	504	2.82
0.7	5.6	<2	910	<0.5	2.7	1.4	<1	2600	18.0	35	<5	2.3	<0.06	<0.5	1.08	0.19	891	2.11
1.0	3.8	<2	<500	<0.5	2.3	1.0	<1	2400	14.0	29	10.0	1.8	<0.03	<0.5	0.68	0.05	NA	2.02
0.8	4.7	<2	<705	<0.5	2.5	1.2	<1	2500	16.0	32	<8	2.0	<0.04	<0.5	1.42	0.12	891	2.06
0.7	4.0	<2	<500	<0.5	1.6	1.0	<1	2500	13.0	22	19.0	1.7	0.59	<0.5	0.78	0.07	1322	1.90
0.8	3.9	<2	<500	<0.5	2.2	1.6	<1	2200	13.0	22	10.0	1.7	0.31	<0.5	1.02	0.15	NA	2.11
0.8	4.0	<2	<500	<0.5	1.9	1.3	<1	2350	13.0	22	14.5	1.7	0.45	<0.5	0.90	0.11	1322	2.00
1.0	3.8	<2	<500	<0.5	1.0	<0.2	<1	3400	12.0	23	10.0	1.4	<0.05	<0.5	0.86	0.17	1506	1.95
1.0	3.8	<2	<500	<0.5	1.9	1.1	<1	3200	11.0	20	<5	1.4	0.24	<0.5	0.69	0.14	NA	2.03
1.0	3.8	<2	<500	<0.5	1.4	<0.6	<1	3300	11.5	22	<7.5	1.4	<0.14	<0.5	0.78	0.16	1506	1.99
0.7	3.7	<2	<500	<0.5	0.6	<0.2	<1	2600	10.0	15	<5	1.2	<0.06	<0.5	0.61	0.12	924	2.33
1.6	3.4	<2	890	<0.5	1.4	1.4	<1	2600	11.0	19	10.0	1.5	0.25	<0.5	0.85	<0.05	NA	1.75
1.0	4.4	<2	<500	<0.5	1.4	1.8	<1	3200	13.0	21	14.0	1.8	0.35	<0.5	0.95	0.18	1478	1.82
0.8	4.5	<2	<500	<0.5	1.4	1.3	<1	2400	11.0	24	14.0	1.8	0.37	<0.5	0.82	0.15	NA	2.40
1.0	4.0	<2	<500	<0.5	1.2	<1.2	<1	2700	11.2	20	<11	1.6	<0.26	<0.5	0.81	<0.12	1202	2.08
1.0	4.5	<2	<500	<0.5	1.2	2.4	<1	3500	14.0	27	<5	1.8	<0.06	<0.5	1.02	0.16	1519	1.98
0.9	3.7	<2	<500	<0.5	1.7	0.9	<1	1900	12.0	22	<5	1.7	0.21	<0.5	0.82	0.09	NA	2.38
1.0	4.1	<2	<500	<0.5	1.4	1.6	<1	2700	13.0	24	<5	1.8	<0.14	<0.5	0.92	0.12	1519	2.18
0.9	3.6	<2	590	<0.5	1.8	1.6	<1	2100	11.0	22	17.0	1.6	0.22	<0.5	0.93	0.13	NA	1.94
0.7	2.2	<2	970	<0.5	0.9	0.7	<1	2000	8.3	13	<5	1.1	<0.04	<0.5	0.55	0.08	NA	2.03
0.8	2.9	<2	780	<0.5	1.4	1.2	<1	2050	9.6	18	<11	1.4	<0.13	<0.5	0.74	0.10	NA	1.98
1.0	4.3	<2	<500	<0.5	1.6	<0.2	<1	2700	13.0	19	15.0	1.6	<0.06	<0.5	1.13	0.20	1347	2.29
0.6	4.0	<2	830	<0.5	2.4	1.2	<1	2100	15.0	25	10.0	1.8	0.32	<0.5	0.80	0.13	NA	2.22
0.8	4.2	<2	665	<0.5	2.0	0.7	<1	2400	14.0	22	12.5	1.7	<0.19	<0.5	0.97	0.16	1347	2.26
0.7	4.4	<2	<500	<0.5	1.3	1.8	<1	2300	13.0	19	<5	1.7	<0.07	<0.5	0.48	0.10	732	2.32
0.7	7.1	<2	<500	<0.5	4.4	1.2	<1	3300	24.0	44	5.0	2.7	0.84	0.6	1.40	0.12	1101	2.63
0.7	5.8	<2	<500	<0.5	2.8	1.5	<1	2800	18.5	32	<5	2.2	<0.46	<0.5	0.94	0.11	916	2.48
0.6	7.1	<2	<500	<0.5	3.8	1.5	<1	3800	33.0	58	24.0	3.4	<0.06	<0.5	1.62	0.23	763	3.11
1.0	4.8	<3	<500	<0.5	1.6	1.5	<1	2800	13.0	25	13.0	1.7	<0.06	<0.5	0.94	0.18	1026	2.45
0.8	6.0	<2	<500	<0.5	2.7	1.5	<1	3300	23.0	42	18.5	2.6	<0.06	<0.5	1.28	0.20	894	2.78
0.1	6.9	<2	<500	<0.5	4.5	1.8	<1	2300	32.0	62	28.0	4.0	0.61	<0.5	1.48	0.06	NA	3.30
0.9	3.3	<2	<500	<0.5	1.0	0.9	<1	2500	9.4	18	7.0	1.4	<0.03	<0.5	0.61	0.16	NA	2.22
0.5	5.1	<2	<500	<0.5	2.8	1.4	<1	2400	22.0	40	17.5	2.7	<0.32	<0.5	1.04	0.11	NA	2.76
0.5	3.3	<2	<500	<0.5	1.8	0.8	<1	3000	10.0	20	<5	1.3	<0.05	<0.5	0.75	0.13	761	1.88
0.6	3.6	<2	1000	<0.5	1.3	0.9	<1	2400	9.9	20	10.0	1.5	0.39	<0.5	0.72	0.13	NA	2.05
0.6	3.4	<2	<750	<0.5	1.6	1.8	<1	2700	10.0	20	<8	1.4	<0.22	<0.5	0.74	0.13	761	1.96
0.8	4.0	<2	<500	<0.5	2.1	1.0	<1	3800	13.0	23	14.0	1.6	<0.06	<0.5	0.78	0.18	1281	2.00
0.6	3.4	<2	<500	<0.5	1.0	0.9	<1	3600	12.0	19	<5	1.5	0.32	<0.5	0.72	0.14	1385	1.75
0.7	3.7	<2	<500	<0.5	1.6	1.0	<1	3700	12.5	21	<10	1.6	<0.19	<0.5	0.75	0.16	1333	1.88
0.9	3.0	<2	<500	<0.5	1.3	1.2	<1	2100	9.9	20	<5	1.4	<0.04	<0.5	0.75	0.12	NA	2.10
0.8	3.2	<2	<500	<0.5	1.4	0.9	<1	2700	10.0	18	<5	1.3	<0.04	<0.5	0.58	0.09	942	2.07
0.8	3.1	<2	<500	<0.5	1.4	1.0	<1	2400	10.0	19	<5	1.4	<0.04	<0.5	0.66	0.10	942	2.08

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)
								Elements										
DOT-0384-1	21	<2	2.9	1600	7	19.9	9	32	4.8	1.07	1.3	<1	<3	10.20	<2	2760	200	250
DOT-0384-2	83	<2	3.6	1800	10	17.0	8	35	5.0	1.13	1.1	<1	<3	10.20	<2	2920	200	240
Arith. Mean	52	<2	3.2	1700	8	18.4	8	34	4.9	1.10	1.2	<1	<3	10.20	<2	2840	200	245
DOT-0389-1	34	<2	4.8	1500	17	12.6	12	55	1.2	1.71	1.5	<1	<3	6.81	<2	4020	190	39
DOT-0389-2	52	<2	6.4	2400	7	19.4	18	94	1.5	2.75	2.2	<1	<5	9.07	<2	6080	480	70
Arith. Mean	43	<2	5.6	1950	12	16.0	15	74	1.4	2.23	1.8	<1	<4	7.94	<2	5050	335	54
DOT-0390-1	28	<2	6.6	840	7	19.2	13	69	1.3	1.99	1.9	<1	<2	8.42	<2	4510	240	54
DOT-0390-2	55	<2	5.2	830	21	19.7	14	69	1.2	2.06	2.4	<1	<3	8.88	2	4730	320	70
Arith. Mean	42	<2	5.9	835	14	19.4	14	69	1.2	2.02	2.2	<1	<2	8.65	<2	4620	280	62
DOT-0400-1	82	5	5.3	1400	45	18.1	15	51	3.8	1.46	1.4	<1	<3	9.73	<2	3250	180	160
DOT-0400-2	27	<2	4.6	1300	10	21.4	14	53	4.6	1.33	1.4	<1	<5	9.63	2	3450	250	150
Arith. Mean	54	<3	5.0	1350	28	19.8	14	52	4.2	1.40	1.4	<1	<4	9.68	<2	3350	215	155
DOT-0410-1	97	<2	7.5	810	17	14.0	11	81	1.9	2.11	1.8	<1	<3	8.07	<2	4560	200	81
DOT-0410-2	54	<2	7.3	940	65	13.8	14	71	1.6	2.14	2.2	<1	<3	8.83	<2	4800	280	48
Arith. Mean	76	<2	7.4	875	41	13.9	12	76	1.8	2.12	2.0	<1	<3	8.45	<2	4680	240	64
DOT-0414-1	29	<2	4.7	3000	10	18.4	15	74	2.7	1.76	1.0	<1	<5	11.10	<2	4320	250	140
DOT-0414-2	34	<2	6.0	2900	4	15.7	12	78	1.3	2.07	2.2	<1	<3	9.57	<2	4440	160	150
Arith. Mean	32	<2	5.4	2950	7	17.0	14	76	2.0	1.92	1.6	<1	<4	10.34	<2	4380	205	145
DOT-0420-1	31	<2	4.4	2300	29	21.6	23	48	2.4	1.45	1.5	<1	<4	10.10	<2	2870	150	120
DOT-0420-2	28	<2	5.3	2700	5	17.2	23	50	2.4	1.45	1.9	<1	<3	9.52	<2	3400	150	100
Arith. Mean	30	<2	4.8	2500	17	19.4	23	49	2.4	1.45	1.7	<1	<3	9.81	<2	3135	150	110
DOT-0430-1	33	<2	4.1	1700	8	14.8	12	43	3.0	1.48	1.7	<1	<3	12.40	<2	3080	270	160
DOT-0430-2	17	<2	3.8	1700	5	20.4	14	48	1.5	1.51	1.5	<1	<4	11.80	2	4180	350	150
Arith. Mean	25	<2	4.0	1700	6	17.6	13	46	2.2	1.50	1.6	<1	<3	12.10	<2	3630	310	155
DOT-0453-1	46	3	15.0	1400	13	11.3	24	180	5.1	6.55	4.3	<1	<5	6.76	<2	12400	350	160
DOT-0453-2	60	<2	5.4	830	26	18.7	11	76	2.0	1.98	1.7	<1	<4	11.70	<2	5070	290	110
Arith. Mean	53	<2	10.2	1115	20	15.0	18	128	3.6	4.26	3.0	<1	<4	9.23	<2	8735	320	135
DOT-0461-1	84	<2	5.9	2000	17	19.3	18	64	6.9	1.92	2.9	<1	<4	9.77	<2	4220	250	210
DOT-0461-2	36	<2	4.9	2100	9	19.5	16	67	10.0	1.66	1.1	<1	<5	10.90	<2	4020	230	200
Arith. Mean	60	<2	5.4	2050	13	19.4	17	66	8.4	1.79	2.0	<1	<4	10.34	<2	4120	240	205
DOT-0465-1	20	<2	4.7	860	26	23.2	13	25	1.6	0.97	0.7	<1	<5	15.30	<2	2410	190	150
DOT-0465-2	165	<2	4.6	2400	4	18.7	18	48	5.4	1.48	1.4	<1	<4	8.23	<2	3680	180	150
Arith. Mean	92	<2	4.6	1630	15	21.0	16	36	3.5	1.22	1.0	<1	<4	11.76	<2	3045	185	150
DOT-0470-1	20	<2	4.3	1400	13	18.7	10	37	4.4	1.21	<0.5	<1	<3	8.67	<2	3160	170	160
DOT-0470-2	39	<2	8.5	1300	25	22.7	11	56	6.9	1.48	1.6	<1	<5	9.73	<2	3660	180	140
Arith. Mean	30	<2	6.4	1350	19	20.7	10	46	5.6	1.34	1.0	<1	<4	9.20	<2	3410	175	150
DOT-0480-1	34	<2	9.1	2700	15	13.5	20	80	5.2	2.12	2.3	<1	<3	11.40	<2	4970	130	170
DOT-0480-2	62	<2	5.6	2900	22	15.6	21	94	5.1	2.36	2.7	<1	<5	11.30	<2	5790	380	220
Arith. Mean	48	<2	7.4	2800	18	14.6	20	87	5.2	2.24	2.5	<1	<4	11.35	<2	5380	255	195
DOT-0490-1	27	<2	6.2	1700	8	15.2	14	87	4.6	2.69	3.5	<1	<5	8.97	<2	7880	190	140
DOT-0490-2	22	<2	6.3	1600	5	15.6	14	72	2.8	2.06	3.0	<1	<4	8.59	<2	6390	210	140
Arith. Mean	24	<2	6.2	1650	6	15.4	14	80	3.7	2.38	3.2	<1	<4	8.78	<2	7135	200	140
DOT-0500-1	51	<2	4.1	1200	19	18.0	11	62	1.5	1.79	1.2	<1	<5	11.40	<2	3700	260	81
DOT-0500-2	36	<2	4.6	1400	30	19.6	13	69	1.9	2.09	1.8	<1	<3	12.10	<2	3970	300	61
Arith. Mean	44	<2	4.4	1300	24	18.8	12	66	1.7	1.94	1.5	<1	<3	11.75	<2	3835	280	71
DOT-0510-1	51	<2	2.9	1800	5	18.5	11	42	4.2	1.22	1.0	<1	<3	8.05	<2	3210	180	160
DOT-0510-2	31	<2	5.4	1500	19	18.4	14	50	5.3	1.28	1.1	<1	<5	9.34	<2	3190	200	190
Arith. Mean	41	<2	4.2	1650	12	18.4	12	46	4.8	1.25	1.0	<1	<3	8.70	<2	3200	190	175

Elements																		
Sb (ppm)	Sc (ppm)	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
0.7	2.6	<2	<500	<0.5	1.4	1.3	<1	2300	8.1	18	<5	1.3	<0.03	<0.5	0.56	0.11	NA	1.86
0.8	2.8	<2	770	<0.5	1.7	1.1	<1	2500	10.0	20	10.0	1.4	0.49	<0.5	0.59	0.13	NA	1.97
0.8	2.7	<2	635	<0.5	1.6	1.2	<1	2400	9.1	19	<7	1.4	<0.26	<0.5	0.58	0.12	NA	1.92
0.7	3.7	<2	<500	<0.5	1.7	1.1	<1	2600	11.0	20	6.0	1.6	0.34	<0.5	0.66	0.12	NA	2.57
1.0	5.2	<2	<500	<0.5	1.6	1.2	<1	3600	14.0	26	22.0	1.8	<0.05	<0.5	0.90	0.19	1320	2.32
0.8	4.4	<2	<500	<0.5	1.6	1.2	<1	3100	12.5	23	14.0	1.7	<0.20	<0.5	0.78	0.16	1320	2.44
1.0	4.3	<2	<500	<0.5	2.1	1.7	<1	3200	13.0	24	9.0	1.9	0.38	<0.5	0.83	0.16	NA	2.47
1.6	4.6	<2	<500	<0.5	2.2	0.9	<1	3000	13.0	24	9.0	2.1	0.32	<0.5	0.96	0.13	NA	2.43
1.3	4.4	<2	<500	<0.5	2.2	1.3	<1	3100	13.0	24	9.0	2.0	0.35	<0.5	0.90	0.15	NA	2.45
0.8	3.3	<2	720	<0.5	1.8	1.2	<1	2200	11.0	19	13.0	1.5	<0.03	<0.5	0.72	0.12	NA	2.03
1.0	3.4	<2	<500	<0.5	0.9	1.0	<1	2200	11.0	16	<5	1.4	0.26	<0.5	0.79	0.16	1037	1.83
0.9	3.4	<2	<610	<0.5	1.4	1.1	<1	2200	11.0	18	<9	1.4	<0.15	<0.5	0.76	0.14	1037	1.93
1.0	4.6	<2	<500	<0.5	2.8	2.1	<1	2800	14.0	26	14.0	1.9	0.40	<0.5	0.90	0.14	NA	2.38
0.7	4.7	<2	<500	<0.5	1.8	2.0	<1	3100	13.0	25	10.0	2.0	0.38	<0.5	0.91	0.17	NA	2.32
0.8	4.6	<2	<500	<0.5	2.3	2.0	<1	2950	13.5	26	12.0	2.0	0.39	<0.5	0.90	0.16	NA	2.35
0.6	4.0	<2	<500	<0.5	1.6	<0.1	<1	3000	12.0	21	<5	1.6	<0.05	<0.5	0.90	0.18	1053	2.07
0.8	4.0	<2	770	<0.5	2.4	1.2	<1	3500	15.0	29	14.0	2.1	0.33	<0.5	0.80	0.07	NA	2.05
0.7	4.0	<2	<635	<0.5	2.0	<0.6	<1	3250	13.5	25	<9	1.8	<0.19	<0.5	0.85	0.12	1053	2.06
0.6	3.4	<2	<500	<0.5	1.0	<0.2	<1	2100	9.0	16	6.0	1.1	<0.06	<0.5	0.45	0.09	1214	2.03
0.7	3.4	<2	<500	<0.5	1.6	<0.2	<1	1900	9.8	19	<5	1.5	0.28	<0.5	0.47	0.13	NA	2.19
0.6	3.4	<2	<500	<0.5	1.3	<0.2	<1	2000	9.4	18	<3.2	1.3	<0.17	<0.5	0.46	0.11	1214	2.11
0.7	3.3	<2	<500	<0.5	1.6	0.9	<1	3400	11.0	19	<5	1.5	0.33	<0.5	0.46	0.05	NA	1.87
0.7	3.7	<2	<500	<0.5	0.8	1.1	<1	4000	11.0	18	13.0	1.6	<0.05	<0.5	0.64	0.14	993	1.68
0.7	3.5	<2	<500	<0.5	1.2	1.0	<1	3700	11.0	18	<7	1.6	<0.19	<0.5	0.55	0.10	993	1.78
0.7	10.0	<2	900	<0.5	5.0	2.8	<1	1900	28.0	54	24.0	3.1	0.79	<0.5	1.60	0.30	456	3.76
1.0	5.5	<2	<500	<0.5	1.2	1.2	<1	3600	15.0	28	<5	2.1	<0.05	<0.5	0.91	0.18	1542	2.15
0.8	7.8	<2	<700	<0.5	3.1	2.0	<1	2750	21.5	41	<14	2.6	<0.42	<0.5	1.26	0.24	999	2.96
1.5	4.1	<2	<500	<0.5	1.8	<0.2	<1	2400	11.0	18	21.0	1.4	<0.06	<0.5	1.02	0.12	642	2.03
0.8	3.8	<2	<500	<0.5	1.1	<0.1	<1	2400	12.0	23	<5	1.4	<0.05	<0.5	0.95	0.19	590	1.95
1.2	4.0	<2	<500	<0.5	1.4	<0.1	<1	2400	11.5	20	<13	1.4	<0.05	<0.5	0.98	0.16	616	1.99
0.5	2.1	<2	<500	<0.5	0.3	<0.1	<1	4200	7.0	11	<5	1.0	<0.05	<0.5	0.30	0.06	952	1.68
1.3	3.5	<2	<500	<0.5	1.8	<0.2	<1	2400	11.0	19	<5	1.4	<0.05	<0.5	0.64	0.12	575	2.13
0.9	2.8	<2	<500	<0.5	1.0	<0.1	<1	3300	9.0	15	<5	1.2	<0.05	<0.5	0.47	0.09	764	1.90
0.8	3.0	<2	<500	<0.5	1.4	1.1	<1	3300	9.4	17	<5	1.5	<0.03	<0.5	0.86	0.15	NA	1.89
0.7	3.6	<2	<500	<0.5	2.5	1.3	<1	3800	12.0	22	<5	1.5	<0.05	<0.5	0.72	0.14	935	1.84
0.8	3.2	<2	<500	<0.5	2.0	1.2	<1	3550	10.7	18	<5	1.5	<0.04	<0.5	0.79	0.14	935	1.86
0.9	4.4	<2	<500	<0.5	2.2	1.6	<1	2200	14.0	25	<5	1.8	0.35	<0.5	0.68	0.13	NA	2.23
0.7	5.1	<2	<500	<0.5	1.0	<0.2	<1	2400	12.0	24	<5	1.6	<0.06	<0.5	0.74	0.18	657	2.04
0.8	4.8	<2	<500	<0.5	1.6	0.9	<1	2300	13.0	24	<5	1.7	<0.20	<0.5	0.71	0.16	657	2.14
0.8	5.9	<2	<500	<0.5	4.0	1.0	<1	2200	19.0	27	12.0	2.2	<0.05	1.0	1.27	0.25	459	2.36
0.6	4.7	<2	<500	<0.5	2.4	1.2	<1	2200	14.0	22	11.0	2.2	0.46	<0.5	0.77	0.15	NA	2.36
0.7	5.3	<2	<500	<0.5	3.2	1.1	<1	2200	16.5	24	11.5	2.2	<0.26	<0.8	1.02	0.20	459	2.36
1.1	3.8	<2	<500	<0.5	0.9	<0.2	<1	3500	12.0	17	<5	1.5	<0.04	<0.5	0.91	0.18	943	2.15
0.7	4.0	<2	<500	<0.5	1.5	<0.2	<1	3800	13.0	21	<5	1.6	0.31	<0.5	0.81	0.14	895	2.08
0.9	3.9	<2	<500	<0.5	1.2	<0.2	<1	3650	12.5	19	<5	1.6	<0.17	<0.5	0.86	0.16	919	2.12
0.6	2.9	<2	<500	<0.5	1.0	0.9	<1	2800	8.0	14	<5	1.3	<0.04	<0.5	0.68	0.10	NA	2.12
0.5	2.8	<2	<500	<0.5	0.7	1.1	<1	3000	8.7	15	<5	1.0	<0.05	<0.5	0.74	0.14	904	1.89
0.6	2.8	<2	<500	<0.5	0.8	1.0	<1	2900	8.4	14	<5	1.2	<0.04	<0.5	0.71	0.12	904	2.00

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)
								Elements										
DOT-0520-1	24	<2	5.6	1900	19	19.6	14	81	7.5	2.12	2.1	<1	<3	9.35	<2	4770	250	210
DOT-0520-2	30	<2	5.1	2000	8	17.9	12	62	7.0	2.00	1.9	<1	<3	8.84	<2	4360	220	200
Arith. Mean	27	<2	5.4	1950	14	18.8	13	72	7.2	2.06	2.0	<1	<3	9.10	<2	4565	235	205
DOT-0530-1	27	<2	4.3	1500	35	20.4	11	57	2.5	1.68	1.4	<1	<4	9.69	<2	3580	240	120
DOT-0530-2	38	<2	5.0	1700	22	19.5	11	69	2.3	1.96	1.4	<1	<4	9.73	2	4250	240	150
Arith. Mean	32	<2	4.6	1600	28	20.0	11	63	2.4	1.82	1.4	<1	<4	9.71	<2	3915	240	135
DOT-0540-1	37	<2	4.5	2000	13	17.3	17	50	3.0	1.53	2.0	<1	<5	12.70	<2	4130	170	150
DOT-0540-2	50	<2	4.9	2100	28	18.7	16	65	2.4	1.86	1.0	<1	<5	11.60	2	4460	260	170
Arith. Mean	44	<2	4.7	2050	20	18.0	16	58	2.7	1.70	1.5	<1	<5	12.15	<2	4295	215	160
DOT-0550-1	29	<2	4.0	1700	7	15.3	13	67	3.2	1.93	1.0	<1	<5	12.30	2	5070	190	220
DOT-0550-2	33	5	6.1	2000	8	15.4	10	54	2.0	1.66	1.5	<1	<3	12.60	<2	3410	200	120
Arith. Mean	31	<3	5.0	1850	8	15.4	12	60	2.6	1.80	1.2	<1	<4	12.45	<2	4240	195	170
DOT-0560-1	25	<2	5.0	1000	21	18.6	11	55	2.1	1.65	2.3	<1	<5	13.10	<2	3730	190	140
DOT-0560-2	140	<2	3.8	2000	10	27.1	12	63	1.9	1.93	2.6	<1	<4	10.80	<2	4900	260	89
Arith. Mean	82	<2	4.4	1500	16	22.8	12	59	2.0	1.79	2.4	<1	<4	11.95	<2	4315	225	114
DOT-0570-1	150	<2	4.7	2100	17	17.8	10	61	1.0	2.13	2.6	<1	<4	10.70	<2	4160	230	140
DOT-0570-2	32	6	5.4	2100	39	14.6	10	63	1.6	2.09	2.0	<1	<3	10.00	<2	3880	200	110
Arith. Mean	91	<4	5.0	2100	28	16.2	10	62	1.3	2.11	2.3	<1	<3	10.35	<2	4020	215	125
DOT-0580-1	37	<2	3.8	1500	25	25.6	12	50	1.0	1.78	1.6	<1	<4	9.00	2	3960	200	70
DOT-0580-2	41	<2	4.2	1500	6	22.6	11	56	1.5	1.85	2.0	<1	<4	8.67	<2	5310	170	54
Arith. Mean	39	<2	4.0	1500	16	24.1	12	53	1.2	1.82	1.8	<1	<4	8.84	<2	4635	185	62
DOT-0583-1	40	<2	1.5	1700	18	14.7	19	110	1.7	4.35	2.9	<1	<3	9.16	<2	6850	270	88
DOT-0583-2	30	<2	4.5	2300	15	19.4	13	59	6.7	1.76	1.0	<1	<4	12.50	3	4670	250	190
Arith. Mean	35	<2	3.0	2000	16	17.0	16	84	4.2	3.06	2.0	<1	<3	10.83	<2	5760	260	139
DOT-0591-1	26	<2	4.4	1400	18	14.0	7	40	5.1	1.26	1.6	<1	<2	10.90	<2	3520	140	200
DOT-0591-2	28	<2	5.4	1600	17	18.7	9	39	4.5	1.24	1.4	<1	<3	11.20	<2	3110	220	230
DOT-0591-3	58	<2	5.5	1200	25	17.7	11	47	4.3	1.62	1.9	<1	<4	9.64	<2	4230	150	200
Arith. Mean	37	<2	5.1	1400	20	16.8	14	42	4.6	1.37	1.6	<1	<3	10.58	<2	3620	170	210
DOT-0592-1	48	<2	4.8	1800	13	21.4	9	45	4.7	1.33	1.9	<1	<5	10.60	<2	3590	180	200
DOT-0592-2	30	<2	5.9	1600	10	16.4	14	62	7.1	2.03	1.6	<1	<5	10.50	<2	4690	240	250
Arith. Mean	39	<2	5.4	1700	12	18.9	12	54	5.9	1.68	1.8	<1	<5	10.55	<2	4140	210	225
DOT-0593-1	39	<2	4.6	3300	4	19.4	15	56	8.8	1.87	2.3	<1	<4	7.23	<2	4590	210	140
DOT-0593-2	41	<2	5.5	1500	29	12.4	11	54	11.0	1.58	0.7	<1	<5	15.10	<2	3750	230	390
Arith. Mean	40	<2	5.0	2400	16	15.9	13	55	9.9	1.72	1.5	<1	<4	11.16	<2	4170	220	265
DOT-0594-1	27	<2	6.4	1800	13	15.8	12	66	5.7	2.23	1.5	<1	<3	6.42	<2	4620	220	130
DOT-0594-2	22	<2	4.7	2900	10	18.5	10	38	5.7	1.28	1.8	<1	<2	8.98	<2	2890	150	140
DOT-0594-3	116	<2	5.8	2100	78	17.3	15	56	6.4	2.01	1.7	<1	<4	10.00	<2	4160	160	170
Arith. Mean	55	<2	5.6	2267	34	17.2	12	53	5.9	1.84	1.7	<1	<3	8.47	<2	3890	177	147
DOT-0595-1	51	<2	9.4	1700	41	11.9	22	120	4.0	4.68	2.6	<1	<4	5.56	<2	6510	190	92
DOT-0595-2	46	<2	6.6	2400	95	17.5	12	61	13.0	1.72	2.4	<1	<4	8.53	<2	4330	250	200
Arith. Mean	48	<2	8.0	2050	68	14.7	17	90	8.5	3.20	2.5	<1	<4	7.04	<2	5420	220	146
DOT-0596-1	15	<2	3.5	2600	7	17.7	8	38	0.8	1.17	1.5	<1	<2	12.20	<2	2580	150	91
DOT-0596-2	30	<2	7.1	2200	18	16.5	9	50	7.2	1.49	2.2	<1	<3	11.80	<2	3820	240	190
Arith. Mean	22	<2	5.3	2400	12	17.1	8	44	4.0	1.33	1.8	<1	<2	12.00	<2	3200	195	140
DOT-0611-1	33	<2	3.7	820	53	18.8	11	35	0.7	1.04	0.8	<1	<3	15.60	<2	4120	180	140
DOT-0611-2	24	<2	2.0	840	47	17.9	9	29	1.1	0.91	1.4	<1	<2	8.96	<2	2170	170	120
Arith. Mean	28	<2	2.8	830	50	18.4	10	32	0.9	0.98	1.1	<1	<2	12.28	<2	3145	175	130
DOT-0622-1	97	<2	7.0	2200	21	16.4	14	65	2.4	1.65	2.0	<1	<4	11.70	<2	4180	100	110
DOT-0622-2	26	<2	5.4	2300	14	17.4	13	60	2.5	1.57	1.9	<1	<4	10.50	2	4090	190	120
Arith. Mean	62	<2	6.3	2250	18	16.9	14	62	2.4	1.61	2.0	<1	<4	11.10	<2	4135	145	115

Elements																		
Sb (ppm)	Sc (ppm)	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
0.9	4.5	<2	1300	<0.5	1.5	1.0	<1	2500	12.0	19	11.0	1.5	0.34	<0.5	0.86	0.13	951	2.02
0.9	3.8	<2	<500	<0.5	2.0	1.1	<1	2300	12.0	22	12.0	1.6	0.39	<0.5	0.80	0.12	NA	2.02
0.9	4.2	<2	<900	<0.5	1.8	1.0	<1	2400	12.0	20	11.5	1.6	0.36	<0.5	0.83	0.12	951	2.02
0.8	3.6	<2	<500	<0.5	1.4	<0.1	<1	2500	11.0	17	5.0	1.4	<0.04	<0.5	0.96	0.09	621	2.19
0.8	4.4	<2	<500	<0.5	2.5	<0.2	<1	2800	14.0	24	<5	1.6	<0.05	<0.5	0.80	0.16	615	2.15
0.8	4.0	<2	<500	<0.5	2.0	<0.1	<1	2650	12.5	20	<5	1.5	<0.04	<0.5	0.88	0.12	618	2.17
0.6	3.6	<2	<500	<0.5	1.4	<0.1	<1	2100	11.0	17	<5	1.4	<0.05	<0.5	0.72	0.08	1164	1.68
0.9	3.9	<2	<500	<0.5	1.2	<0.2	<1	2000	12.0	16	<5	1.6	0.52	<0.5	1.00	0.12	1119	1.74
0.8	3.8	<2	<500	<0.5	1.3	<0.1	<1	2050	11.5	16	<5	1.5	<0.28	<0.5	0.86	0.10	1142	1.71
0.8	4.2	<2	<500	<0.5	2.4	1.9	<1	3500	13.0	25	12.0	1.6	<0.05	<0.5	0.89	0.17	1329	1.80
0.9	3.3	<2	<500	<0.5	1.6	1.1	<1	3200	12.0	20	11.0	1.6	0.29	<0.5	0.62	0.17	NA	1.73
0.8	3.8	<2	<500	<0.5	2.0	1.5	<1	3350	12.5	22	11.5	1.6	<0.16	<0.5	0.76	0.17	1329	1.76
0.8	3.8	<2	<500	<0.5	2.0	1.9	<1	3700	13.0	23	<5	1.5	<0.05	<0.5	0.82	0.13	1913	1.83
0.7	4.8	<2	<500	<0.5	1.8	1.0	<1	3200	13.0	25	<5	1.8	<0.05	<0.5	0.73	0.20	1122	2.01
0.8	4.3	<2	<500	<0.5	1.9	1.4	<1	3450	13.0	24	<5	1.6	<0.05	<0.5	0.78	0.16	1518	1.92
0.6	4.0	<2	1700	<0.5	1.3	<0.1	<1	3300	13.0	23	<5	1.7	0.41	<0.5	1.10	0.17	1273	2.13
0.6	3.6	<2	1300	<0.5	2.4	1.2	<1	2900	13.0	23	7.0	1.7	0.35	<0.5	0.79	0.11	NA	2.19
0.6	3.8	<2	1500	<0.5	1.8	<0.6	<1	3100	13.0	23	<4	1.7	0.38	<0.5	0.94	0.14	1273	2.16
0.8	4.0	<2	<500	<0.5	1.4	1.0	<1	3300	12.0	19	13.0	1.6	<0.04	<0.5	1.05	0.14	1131	2.20
1.0	4.8	<2	<500	<0.5	1.6	1.9	<1	3200	15.0	27	<5	1.9	<0.05	<0.5	0.99	0.21	1156	2.26
0.9	4.4	<2	<500	<0.5	1.5	1.4	<1	3250	14.0	23	<9	0.8	<0.04	<0.5	1.02	0.18	1144	2.23
0.8	5.9	<2	1100	<0.5	4.2	<0.3	<1	2800	26.0	51	25.0	3.6	0.73	<0.5	1.19	0.18	NA	2.84
1.0	4.5	<2	<500	<0.5	0.9	1.4	<1	2600	12.0	21	<5	1.6	<0.06	<0.5	0.91	0.15	618	1.93
0.9	5.2	<2	<800	<0.5	2.6	<0.8	<1	2700	19.0	36	<15	2.6	<0.40	<0.5	1.05	0.16	618	2.38
4.2	3.5	<2	690	<0.5	2.3	1.4	<1	1900	13.0	24	7.0	1.8	0.28	<0.5	0.69	0.17	NA	1.81
0.7	3.2	<2	<500	<0.5	1.7	1.5	<1	2100	10.0	18	10.0	1.5	0.10	<0.5	0.86	0.14	NA	1.81
2.4	4.3	<2	<500	<0.5	1.8	1.7	<1	2100	14.0	24	<5	1.8	<0.06	<0.5	0.84	0.14	548	1.99
2.4	3.7	<2	<563	<0.5	1.9	1.5	<1	2033	12.3	22	<7	1.7	<0.15	<0.5	0.80	0.15	548	1.87
0.8	3.5	<2	<500	<0.5	1.5	1.0	<1	2200	11.0	15	<5	1.5	<0.05	<0.5	0.78	0.08	949	2.02
1.0	4.5	<2	<500	<0.5	3.3	1.6	<1	2800	16.0	28	<5	1.9	<0.06	<0.5	1.33	0.25	896	2.08
0.9	4.0	<2	<500	<0.5	2.4	1.3	<1	2500	13.5	22	<5	1.7	<0.06	<0.5	1.06	0.16	922	2.05
0.9	4.5	<2	<500	<0.5	1.7	1.4	<1	3100	14.0	26	<5	1.9	<0.05	<0.5	0.91	0.17	922	1.96
1.1	3.8	<2	<500	<0.5	0.8	1.2	<1	2500	13.0	21	12.0	1.5	<0.05	<0.5	0.96	0.20	1112	1.71
1.0	4.2	<2	<500	<0.5	1.2	1.3	<1	2800	13.5	24	<9	1.7	<0.05	<0.5	0.94	0.18	1017	1.84
0.8	4.3	<2	860	<0.5	2.7	1.6	<1	2000	14.0	24	<5	1.8	0.34	<0.5	0.85	<0.05	NA	2.33
0.8	3.2	<2	810	<0.5	1.5	<0.2	<1	2200	9.8	16	<5	1.5	0.29	<0.5	0.74	0.10	NA	2.36
0.7	4.0	<2	1700	<0.5	1.8	2.0	<1	2300	12.0	20	14.0	1.8	0.47	<0.5	0.78	0.17	NA	2.31
0.8	3.8	<2	1123	<0.5	2.0	<1.3	<1	2167	11.9	20	<8	1.7	0.37	<0.5	0.79	<0.11	NA	2.33
0.9	5.9	<2	<500	<0.5	3.6	2.1	<1	2300	22.0	43	21.0	2.7	0.54	<0.5	0.95	0.17	NA	3.02
1.2	4.5	<2	<500	<0.5	2.2	1.7	<1	2500	16.0	22	10.0	1.7	0.56	<0.5	1.09	0.05	815	2.09
1.0	5.2	<2	<500	<0.5	2.9	1.9	<1	2400	19.0	32	15.5	2.2	0.55	<0.5	1.02	0.11	815	2.56
0.7	2.8	<2	1500	<0.5	1.4	0.9	<1	3100	9.5	17	7.0	1.5	0.26	<0.5	0.66	0.11	NA	2.05
4.7	4.0	<2	1600	<0.5	2.5	1.0	<1	2300	13.0	25	<5	2.0	0.39	<0.5	0.81	0.17	NA	1.97
2.7	3.4	<2	1550	<0.5	2.0	1.0	<1	2700	11.2	21	<4	1.8	0.32	<0.5	0.74	0.14	NA	2.01
0.4	2.6	<2	<500	<0.5	1.4	<0.2	<1	2900	8.5	17	<5	1.0	<0.05	<0.5	0.67	0.07	2964	2.03
0.6	2.2	<2	<500	<0.5	1.3	0.7	<1	2500	7.0	12	12.0	1.1	<0.03	<0.5	0.39	0.05	NA	1.89
0.5	2.4	<2	<500	<0.5	1.4	<0.5	<1	2700	7.8	14	<8.5	1.0	<0.04	<0.5	0.53	0.06	2964	0.96
0.9	4.7	<2	1500	<0.5	2.3	<0.2	<1	3700	14.0	24	15.0	1.7	0.48	<0.5	1.15	0.12	2034	2.14
0.8	4.3	<2	1400	<0.5	1.4	<0.2	<1	3300	11.0	17	15.0	1.5	0.26	<0.5	0.65	0.13	2115	2.09
0.8	4.5	<2	1450	<0.5	1.8	<0.2	<1	3500	12.5	20	15.0	1.6	0.37	<0.5	0.90	0.12	2074	1.12

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)
								Elements										
DOT-0630-1	31	<2	2.0	1000	24	15.4	9	43	0.9	1.16	1.1	<1	<2	8.25	<2	2700	200	120
DOT-0630-2	29	<2	5.9	1300	18	21.0	11	57	2.0	1.78	1.3	<1	<5	11.10	<2	3780	230	140
Arith. Mean	30	<2	4.0	1150	21	18.2	10	50	1.4	1.47	1.2	<1	<4	9.68	<2	3240	215	130
DOT-0635-1	28	<2	5.1	4200	5	17.2	18	44	5.4	1.56	2.8	<1	<5	10.30	<2	4940	140	190
DOT-0635-2	28	<2	5.4	3200	94	14.3	14	44	4.1	1.37	2.3	<1	<3	8.15	<2	3600	180	170
Arith. Mean	28	<2	5.2	3700	50	15.8	16	44	4.8	1.46	2.6	<1	<4	9.22	<2	4270	160	180
DOT-0646-1	53	<2	4.6	1700	37	19.4	11	46	4.0	1.26	1.0	<1	<5	11.90	<2	3090	240	220
DOT-0646-2	157	<2	4.0	2300	27	20.5	13	49	2.8	1.66	2.1	<1	<4	11.20	<2	4280	210	190
Arith. Mean	105	<2	4.3	2000	32	20.0	12	48	3.4	1.46	1.6	<1	<4	11.55	<2	3685	225	205
DOT-0650-1	33	<2	7.4	2200	10	16.4	10	45	6.3	1.54	1.3	<1	<3	8.88	<2	3480	120	170
DOT-0650-2	19	<2	4.6	2100	7	18.3	13	54	4.9	1.62	2.8	<1	<5	8.12	4	4080	160	150
Arith. Mean	26	<2	6.0	2150	8	17.4	12	50	5.6	1.58	2.0	<1	<4	8.50	<3	3780	140	160
DOT-0660-1	25	<2	5.2	1100	10	16.2	8	34	3.5	1.10	1.5	<1	<3	12.20	2	2890	200	190
DOT-0660-2	15	<2	4.2	1100	9	15.9	7	34	3.0	1.03	1.1	<1	<3	9.09	<2	2610	190	180
Arith. Mean	20	<2	4.7	1100	10	16.0	8	34	3.2	1.06	1.3	<1	<3	10.64	<2	2750	195	185
DOT-0665-1	21	<2	4.9	850	35	16.1	8	48	2.0	1.46	1.6	<1	<3	8.07	2	3550	190	81
DOT-0665-2	22	<2	1.7	1700	9	15.5	10	36	1.4	1.04	1.5	<1	<2	12.00	<2	2740	100	75
Arith. Mean	22	<2	3.3	1275	22	15.8	9	42	1.7	1.25	1.6	<1	<2	10.04	<2	3145	145	78
DOT-0667-1	27	<2	8.4	980	160	13.9	11	57	2.6	1.95	2.1	<1	<3	10.80	<2	4710	150	180
DOT-0667-2	31	<2	5.2	970	7	18.6	12	69	2.7	2.22	2.7	<1	<4	11.70	2	6050	320	220
Arith. Mean	29	<2	6.8	975	84	16.2	12	63	2.6	2.08	2.4	<1	<3	11.25	<2	5380	235	200
DOT-0677-1	39	<2	4.3	2200	18	17.0	12	49	4.0	1.44	1.2	<1	<5	13.40	<2	3970	360	250
DOT-0677-2	41	<2	4.7	1600	44	14.4	12	61	3.2	1.54	1.2	<1	<2	15.10	<2	4040	340	280
Arith. Mean	40	<2	4.5	1900	31	15.7	12	55	3.6	1.49	1.2	<1	<4	14.25	<2	4005	350	265
DOT-0686-1	20	<2	3.2	1400	16	17.9	10	38	7.4	1.28	1.0	<1	<4	11.20	<2	3720	170	270
DOT-0686-2	32	<2	3.9	900	7	18.5	7	40	3.7	1.35	1.8	<1	<4	12.90	4	3910	250	260
Arith. Mean	26	<2	3.6	1150	12	18.2	8	39	5.6	1.32	1.4	<1	<4	12.05	<3	3815	210	265
DOT-0689-1	58	<2	5.7	740	6	14.8	18	120	2.8	4.91	2.6	<1	<4	9.36	<2	7650	360	170
DOT-0689-2	24	<2	3.8	1800	36	21.0	14	58	5.1	1.38	2.2	<1	<4	12.90	3	4340	210	230
Arith. Mean	41	<2	4.8	1270	21	17.9	16	89	4.0	3.14	2.4	<1	<4	11.13	<3	5995	285	200
DOT-0690-1	30	<2	5.5	1100	22	13.4	11	54	3.8	1.91	1.5	<1	<4	11.30	<2	3710	170	190
DOT-0690-2	19	<2	6.6	1200	21	17.9	12	57	3.3	1.96	1.7	<1	<4	12.90	<2	3670	190	180
Arith. Mean	24	<2	6.0	1150	22	15.6	12	56	3.6	1.94	1.6	<1	<4	24.10	<2	3690	180	185
DOT-0700-1	39	<2	5.2	1300	13	15.5	7	37	3.9	1.07	1.2	<1	<3	14.60	<2	2940	200	280
DOT-0700-2	26	<2	5.6	1700	10	11.8	8	41	4.1	1.24	1.6	<1	<4	14.60	<2	3650	170	280
Arith. Mean	32	<2	5.4	1500	12	13.6	8	39	4.0	1.16	1.4	<1	<4	14.60	<2	3295	185	280
DOT-0710-1	39	<2	4.6	980	19	16.2	8	42	2.1	1.55	2.0	<1	<3	9.68	<2	4090	160	140
DOT-0710-2	17	<2	6.5	1900	6	17.5	7	41	8.0	1.11	1.6	<1	<4	10.40	<2	3190	50	260
Arith. Mean	28	<2	5.6	1440	12	16.8	8	42	5.0	1.33	1.8	<1	<4	10.04	<2	3640	105	200
DOT-0720-1	28	7	4.4	1700	33	17.2	8	44	7.5	1.32	1.7	<1	<4	14.80	<2	3710	280	370
DOT-0720-2	14	<2	2.2	1500	19	20.9	8	39	6.7	1.13	1.8	<1	<5	14.40	<2	3100	230	350
Arith. Mean	21	<5	3.3	1600	26	19.0	8	42	7.1	1.22	1.8	<1	<4	14.60	<2	3405	255	360
DOT-0730-1	15	<2	3.2	1900	7	18.3	10	37	2.1	1.31	1.6	<1	<4	11.70	<2	4180	120	140
DOT-0730-2	24	<2	4.0	2000	10	17.4	9	47	2.0	1.57	1.6	<1	<4	12.80	<2	3900	210	200
Arith. Mean	20	<2	3.6	1950	8	17.8	10	42	2.0	1.44	1.6	<1	<4	12.25	<2	4040	165	170
DOT-0740-1	22	8	1.5	1700	64	12.9	9	46	4.5	1.53	1.4	<1	<3	12.90	<2	3970	230	420
DOT-0740-2	31	<2	6.0	1600	10	16.7	9	43	3.6	1.51	1.4	<1	<2	11.50	<2	3770	160	410
Arith. Mean	26	<5	3.8	1650	37	14.8	9	44	4.0	1.52	1.4	<1	<2	12.20	<2	3870	195	405

Elements																		
Sb (ppm)	Sc (ppm)	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
1.3	2.8	<2	<500	<0.5	1.7	<0.2	<1	2600	9.1	17	10.0	1.4	0.23	<0.5	0.49	0.05	NA	2.11
0.9	3.8	<2	<500	<0.5	1.6	1.0	<1	3300	13.0	24	9.0	1.6	<0.05	<0.5	0.88	0.17	2664	2.17
1.1	3.3	<2	<500	<0.5	1.6	<0.6	<1	2950	11.0	20	9.5	1.5	<0.14	<0.5	0.68	0.11	2664	2.14
0.9	4.0	<2	<500	<0.5	1.2	1.6	<1	2500	13.0	28	<5	1.7	<0.06	<0.5	0.94	0.15	1151	2.06
0.5	3.5	<2	550	<0.5	2.4	<0.2	<1	2300	11.0	23	<5	1.6	0.23	<0.5	0.65	0.07	NA	2.22
0.7	3.8	<2	<525	<0.5	1.8	<0.9	<1	2400	12.0	26	<5	1.6	<0.14	<0.5	0.80	0.11	1151	2.14
0.6	2.8	<2	<500	<0.5	1.8	0.8	<1	2100	8.9	15	14.0	1.1	<0.05	<0.5	0.84	0.10	894	2.14
0.8	3.9	<2	740	<0.5	0.9	<0.2	<1	2400	11.0	17	<5	1.5	<0.06	<0.5	0.96	0.20	876	2.03
0.7	3.4	<2	<620	<0.5	0.4	<0.5	<1	2250	10.0	16	<10	1.3	<0.05	<0.5	0.90	0.15	885	2.14
1.4	3.3	<2	<500	<0.5	2.0	1.4	<1	3000	12.0	26	<5	1.7	0.36	<0.5	0.96	0.17	NA	1.84
0.6	4.4	<2	<500	<0.5	1.7	0.7	<1	2900	13.0	19	<5	1.7	<0.05	<0.5	1.01	0.18	967	2.11
1.0	3.8	<2	<500	<0.5	1.8	1.0	<1	2950	12.5	22	<5	1.7	<0.20	<0.5	0.98	0.18	967	1.98
0.8	3.1	<2	<500	<0.5	2.1	<0.2	<1	2200	11.0	25	9.0	1.6	0.36	<0.5	0.75	0.13	NA	1.88
1.9	2.4	<2	780	<0.5	1.6	0.6	<1	2100	9.4	19	6.0	1.3	0.23	<0.5	0.79	0.15	NA	1.87
1.4	2.8	<2	<640	<0.5	1.8	<0.4	<1	2150	10.2	22	7.5	1.4	0.30	<0.5	0.77	0.14	NA	1.88
0.8	3.6	<2	<500	<0.5	2.5	1.6	<1	2800	12.0	22	11.0	1.7	0.34	<0.5	0.82	0.13	NA	2.19
0.5	2.9	<2	490	<0.5	1.9	0.9	<1	1900	9.5	18	<5	1.5	0.25	<0.5	0.74	0.06	NA	2.10
0.6	3.2	<2	<495	<0.5	2.2	1.2	<1	2350	10.8	20	<8	1.6	0.30	<0.5	0.78	0.11	NA	2.15
1.0	4.2	<2	<500	<0.5	2.7	1.4	<1	2200	16.0	28	<5	2.0	0.42	<0.5	0.95	0.06	NA	2.31
1.1	5.3	<2	<500	<0.5	2.8	1.2	<1	2700	18.0	34	21.0	2.2	0.26	<0.5	1.19	0.21	1138	2.08
1.0	4.8	<2	<500	<0.5	2.8	1.3	<1	2450	17.0	31	<13	2.1	0.34	<0.5	1.07	0.14	1138	2.20
0.8	3.6	<2	<500	<0.5	1.3	1.2	<1	2600	11.0	14	12.0	1.5	<0.06	<0.5	0.88	0.16	892	1.81
1.0	3.9	<2	<500	<0.5	1.6	<0.2	<1	2600	13.0	23	<5	1.5	<0.05	<0.5	1.13	0.20	806	2.03
0.9	3.8	<2	<500	<0.5	1.4	<0.7	<1	2600	12.0	18	<9	1.5	<0.06	<0.5	1.00	0.18	849	1.92
0.7	3.0	<2	<500	<0.5	1.1	<0.1	<1	2400	12.0	20	13.0	1.5	<0.04	<0.5	0.68	0.14	933	2.24
0.5	3.3	<2	<500	<0.5	0.8	1.2	<1	2100	10.0	22	<5	1.3	<0.05	<0.5	0.69	0.11	615	1.88
0.6	3.2	<2	<500	<0.5	1.0	<0.6	<1	2250	11.0	21	<9	1.4	<0.04	<0.5	0.68	0.12	774	2.06
1.5	6.6	<2	<500	<0.5	4.4	1.1	<1	2300	25.0	44	<5	3.1	<0.05	<0.5	1.37	0.17	912	1.84
0.7	3.6	<2	<500	<0.5	1.9	1.3	<1	2700	11.0	19	<5	1.4	0.48	<0.5	0.99	0.11	352	2.52
1.1	5.1	<2	<500	<0.5	3.2	1.2	<1	2500	18.0	32	<5	2.2	<0.26	<0.5	1.18	0.14	632	2.18
0.6	3.5	<2	<500	<0.5	1.5	1.0	<1	2000	12.0	26	<5	1.6	0.37	<0.5	0.82	0.09	NA	2.37
0.7	3.5	<2	<500	<0.5	1.7	1.2	<1	2100	12.0	22	13.0	1.6	<0.04	<0.5	0.77	0.08	NA	2.40
0.6	3.5	<2	<500	<0.5	1.6	1.1	<1	2050	12.0	24	<7	1.6	<0.20	<0.5	0.80	0.08	NA	2.38
0.7	2.7	<2	<500	<0.5	1.5	0.9	<1	2600	9.2	19	6.0	1.2	0.27	<0.5	0.60	0.12	NA	1.63
0.6	3.2	<2	1200	<0.5	1.9	1.4	<1	2600	11.0	20	<5	1.6	0.21	<0.5	0.74	0.12	NA	1.98
0.6	3.0	<2	<850	<0.5	1.7	1.2	<1	2600	10.6	20	<3.2	1.4	0.24	<0.5	0.67	0.12	NA	1.80
0.7	3.7	<2	<500	<0.5	1.9	<0.1	<1	2800	13.0	23	<5	2.0	0.50	<0.5	0.90	0.16	NA	2.45
0.8	3.1	<2	<500	<0.5	1.5	1.2	<1	2100	12.0	22	11.0	1.7	0.36	<0.5	0.85	0.07	NA	2.33
0.8	3.4	<2	<500	<0.5	1.7	<0.6	<1	2450	12.5	22	<6	1.8	0.43	<0.5	0.88	0.12	NA	2.39
1.2	3.4	<2	<500	<0.5	1.6	1.0	<1	2600	11.0	20	18.0	1.3	0.35	<0.5	1.00	0.20	706	2.04
0.6	2.9	<2	<500	<0.5	0.5	<0.1	<1	2300	8.7	18	13.0	1.2	<0.06	<0.5	0.50	0.10	867	2.09
0.9	3.2	<2	<500	<0.5	1.0	<0.6	<1	2450	9.8	19	15.5	1.2	<0.20	<0.5	0.75	0.15	786	2.06
0.6	3.2	<2	<500	<0.5	0.6	0.8	<1	2100	10.0	17	<5	1.4	0.31	<0.5	0.83	0.12	867	2.11
0.6	3.5	<2	910	<0.5	2.3	0.9	<1	2100	12.0	23	8.0	1.5	<0.05	<0.5	0.88	0.12	785	2.25
0.6	3.4	<2	<705	<0.5	1.4	0.8	<1	2100	11.0	20	<4.2	1.4	<0.18	<0.5	0.86	0.12	826	2.18
0.9	3.5	<2	<500	<0.5	2.1	1.4	<1	2400	12.0	24	10.0	1.7	0.38	<0.5	0.82	0.06	NA	1.82
0.8	3.6	<2	820	<0.5	1.8	0.2	<1	2200	12.0	22	12.0	1.8	0.17	<0.5	0.80	0.12	NA	1.81
0.8	3.6	<2	<660	<0.5	2.0	0.8	<1	2300	12.0	23	11.0	1.8	0.28	<0.5	0.81	0.09	NA	1.82

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)
								Elements										
DOT-0753-1	35	<2	3.4	3300	43	17.4	33	42	2.8	1.03	1.6	<1	<5	18.80	<2	3000	410	500
DOT-0753-2	15	<2	2.3	3300	45	16.6	30	26	2.9	0.85	1.2	<1	<5	13.90	<2	2380	310	370
Arith. Mean	25	<2	2.8	3300	44	17.0	32	34	2.8	1.44	1.4	<1	<5	16.35	<2	2690	360	435
DOT-0760-1	89	<2	5.5	2500	120	19.3	8	36	2.5	0.97	<0.5	<1	<3	10.90	<2	2480	240	230
DOT-0760-2	95	<2	7.0	2000	63	14.6	9	39	2.5	1.32	1.7	<1	<3	13.90	<2	3260	100	220
Arith. Mean	92	<2	6.8	2250	92	17.0	8	38	2.5	1.14	<1.1	<1	<3	12.40	<2	2870	170	225
DOT-0769-1	21	<2	4.6	1900	6	13.9	9	35	1.9	0.98	1.1	<1	<2	13.70	2	2550	99	210
DOT-0769-2	14	<2	3.4	1600	17	19.7	9	38	2.0	1.08	1.3	<1	<5	14.50	<2	3140	280	240
Arith. Mean	18	<2	4.0	1750	12	16.8	9	36	2.0	1.03	1.2	<1	<4	14.10	<2	2845	190	225
DOT-0783-1	28	<2	4.9	1400	23	21.3	8	55	1.6	1.44	2.1	<1	<3	11.40	<2	3600	160	63
DOT-0783-2	36	<2	3.7	1400	5	21.1	10	54	2.3	1.66	2.3	<1	<4	9.69	<2	4480	190	55
Arith. Mean	32	<2	4.3	1400	14	21.2	9	54	2.0	1.55	2.2	<1	<3	10.54	<2	4040	175	59
DOT-0793-1	24	<2	4.3	1400	69	19.5	11	35	5.3	1.28	1.1	<1	<5	18.00	<2	3510	300	260
DOT-0793-2	54	<2	3.0	1400	17	14.9	6	43	4.3	1.09	1.0	<1	<4	14.20	<2	3210	310	230
Arith. Mean	39	<2	3.6	1400	43	17.2	8	39	4.8	1.18	1.0	<1	<4	16.10	<2	3360	305	245
DOT-0800-1	20	<2	3.0	980	41	16.3	8	43	2.0	1.16	0.9	<1	<5	14.60	<2	2810	250	100
DOT-0800-2	9	<2	3.5	1600	82	18.0	8	23	4.7	0.65	<0.5	<1	<3	10.70	<2	2630	50	180
Arith. Mean	14	<2	3.2	1290	62	17.2	8	33	3.4	0.90	<0.7	<1	<4	12.65	<2	2720	150	140
DOT-0809-1	15	<2	3.9	2200	5	18.5	9	31	4.7	0.82	1.3	<1	<3	11.10	<2	2020	210	240
DOT-0809-2	16	<2	4.2	1700	4	19.2	10	27	2.8	0.78	0.8	<1	<3	9.57	<2	2070	150	150
Arith. Mean	16	<2	4.0	1950	4	18.8	10	29	3.8	0.80	1.0	<1	<3	10.34	<2	2045	180	195
DOT-0819-1	19	<2	4.2	1600	12	21.0	8	35	2.2	1.09	1.3	<1	<2	12.00	<2	2860	140	230
DOT-0819-2	22	<2	4.7	1600	46	24.0	8	42	2.4	1.09	1.3	<1	<4	12.50	<2	2780	280	210
Arith. Mean	20	<2	4.4	1600	29	22.5	8	38	2.3	1.09	1.3	<1	<3	12.25	<2	2820	210	220
DOT-0830-1	29	<2	4.1	2000	57	13.8	10	37	4.5	1.30	1.2	<1	<5	15.00	<2	3500	150	300
DOT-0830-2	23	<2	4.1	2000	58	16.9	9	44	5.0	1.18	1.6	<1	<4	14.90	<2	2960	350	270
Arith. Mean	26	<2	4.1	2000	58	15.4	10	40	4.8	1.24	1.4	<1	<4	14.95	<2	3230	250	285
DOT-0839-1	32	<2	4.1	1700	29	17.5	10	53	6.1	1.69	1.9	<1	<4	10.60	<2	4020	270	190
DOT-0839-2	23	<2	3.5	1800	29	18.8	14	63	4.7	2.00	1.9	<1	<5	11.10	<2	4940	370	200
Arith. Mean	28	<2	3.8	1800	29	18.2	12	58	5.4	1.84	1.9	<1	<4	10.85	<2	4480	320	195
DOT-0849-1	21	<2	3.6	1000	14	20.2	7	30	1.6	0.94	1.4	<1	<2	15.70	<2	2590	150	130
DOT-0849-2	90	<2	3.9	1000	26	16.9	7	36	2.0	1.24	1.4	<1	<4	14.70	<2	3440	130	140
Arith. Mean	56	<2	3.8	1000	20	18.6	7	33	1.8	1.09	1.4	<1	<3	15.20	<2	3015	140	135
DOT-0860-1	26	<2	4.3	1500	10	19.4	9	46	1.2	1.22	1.2	<1	<2	9.97	6	3170	180	62
DOT-0860-2	190	<2	4.0	1600	18	20.8	12	68	2.2	1.57	2.1	<1	<4	15.10	<2	3870	250	89
Arith. Mean	108	<2	4.2	1600	14	20.1	10	57	1.7	1.40	1.6	<1	<3	12.54	<4	3520	215	76
DOT-0870-1	26	<2	3.0	1900	3	17.9	10	39	5.5	1.22	2.0	<1	<4	11.50	<2	3270	150	200
DOT-0870-2	19	<2	3.6	2100	29	20.0	11	43	5.3	1.32	1.8	<1	<5	10.80	<2	3620	240	180
Arith. Mean	22	<2	3.8	2000	16	19.0	10	41	5.4	1.27	1.9	<1	<4	11.15	<2	3445	195	190
DOT-0890-1	16	<2	4.7	2400	29	21.2	10	29	5.5	0.97	1.7	<1	<3	9.79	<2	2900	180	160
DOT-0890-2	53	<2	3.4	2300	7	19.5	11	33	6.1	1.04	1.1	<1	<4	8.80	<2	3320	260	160
Arith. Mean	34	<2	4.0	2350	18	20.4	11	31	5.8	1.00	1.4	<1	<4	9.30	<2	3110	220	160
DOT-0900-1	39	<2	5.1	1900	10	19.5	11	45	6.2	1.52	2.3	<1	<3	8.10	<2	4220	100	160
DOT-0900-2	25	<2	8.0	1500	24	16.5	10	37	6.8	1.16	1.7	<1	<3	7.58	<2	3050	150	140
Arith. Mean	32	<2	6.6	1700	17	18.0	11	41	6.5	1.34	2.0	<1	<3	7.84	<2	3635	125	150
DOT-0910-1	53	<2	4.4	1600	9	19.4	11	38	2.0	1.41	1.6	<1	<3	11.10	<2	3640	200	200
DOT-0910-2	39	<2	3.0	1800	6	21.7	10	45	1.9	1.39	1.6	<1	<5	11.20	<2	3900	280	240
Arith. Mean	46	<2	3.7	1700	8	20.6	11	42	2.0	1.40	1.6	<1	<4	11.15	<2	3770	240	220

Elements																		
Sb (ppm)	Sc (ppm)	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
1.2	2.4	<2	<500	<0.5	1.5	<0.2	<1	2800	7.8	14	<5	1.0	<0.06	<0.5	0.64	0.12	2475	1.77
0.4	2.2	<2	<500	<0.5	1.0	<0.2	<1	2300	6.0	11	<5	0.9	<0.06	<0.5	0.71	0.14	2110	1.88
0.8	2.3	<2	<500	<0.5	1.2	<0.2	<1	2550	6.9	12	<5	1.0	<0.06	<0.5	0.68	0.13	2292	1.82
1.1	2.4	<2	830	<0.5	1.9	<0.3	<1	3000	8.6	18	<5	1.1	<0.04	<0.5	0.63	0.07	NA	1.57
1.0	3.0	<2	<500	<0.5	1.6	1.2	<1	2600	9.8	20	<5	1.4	<0.04	<0.5	0.66	0.07	NA	2.08
1.0	2.7	<2	<665	<0.5	1.8	<0.8	<1	2800	9.2	19	<5	1.2	<0.04	<0.5	0.64	0.07	NA	1.82
0.6	2.6	<2	540	<0.5	1.6	0.9	<1	2700	9.3	17	<5	1.4	0.17	<0.5	0.65	0.15	NA	1.84
0.5	2.8	<2	<500	<0.5	0.3	1.0	<1	2600	10.0	17	<5	1.3	<0.05	<0.5	0.66	0.11	1378	1.85
0.6	2.7	<2	<520	<0.5	1.0	1.0	<1	2650	9.6	17	<5	1.4	<0.11	<0.5	0.66	0.13	1378	1.84
0.5	3.6	<2	<500	<0.5	1.5	<0.2	<1	4500	11.0	20	<5	1.5	<0.05	<0.5	0.87	0.19	1429	2.29
0.8	4.3	<2	<500	<0.5	1.5	1.5	<1	4900	13.0	23	<5	1.7	0.18	<0.5	0.83	0.14	1462	2.41
0.6	4.0	<2	<500	<0.5	1.5	<0.8	<1	4700	12.0	22	<5	1.6	<0.12	<0.5	0.85	0.16	1446	2.35
0.7	3.0	<2	<500	<0.5	1.4	<0.2	<1	2500	9.0	15	15.0	1.2	<0.05	<0.5	0.64	0.09	641	1.88
0.9	3.0	<2	<500	<0.5	0.9	<0.2	<1	2000	9.5	13	<5	1.2	<0.06	<0.5	0.64	0.12	668	1.70
0.8	3.0	<2	<500	<0.5	1.2	<0.2	<1	2250	9.2	14	<7.5	1.2	<0.06	<0.5	0.64	0.10	654	1.79
0.8	3.0	<2	<500	<0.5	0.5	0.8	<1	3100	8.6	16	<5	1.1	0.53	<0.5	0.61	0.12	1713	1.89
0.7	2.2	<2	<500	<0.5	0.9	0.9	<1	4700	7.7	15	<5	0.9	<0.03	<0.5	0.49	0.11	1561	1.94
0.8	2.6	<2	<500	<0.5	0.7	0.8	<1	3900	8.2	16	<5	1.0	<0.28	<0.5	0.55	0.12	1637	1.92
5.2	2.2	<2	540	<0.5	0.8	0.9	<1	2800	6.9	14	6.0	0.9	<0.03	<0.5	0.57	0.09	NA	2.11
0.9	2.1	<2	<500	<0.5	0.5	0.7	<1	2400	5.8	13	<5	0.8	<0.03	<0.5	0.44	0.05	NA	2.03
3.0	2.2	<2	<520	<0.5	0.6	0.8	<1	2600	6.4	14	<5.5	0.8	<0.03	<0.5	0.50	0.07	NA	2.07
1.4	2.7	<2	1200	<0.5	1.6	1.1	<1	2300	9.1	17	5.0	1.4	0.27	<0.5	0.60	0.13	NA	2.06
0.6	2.7	<2	2400	<0.5	1.2	1.3	<1	2700	9.3	12	<5	1.1	<0.03	<0.5	0.73	0.05	1552	2.11
1.0	2.7	<2	1800	<0.5	1.4	1.2	<1	2500	9.2	14	<5	1.2	<0.15	<0.5	0.66	0.09	1552	2.08
1.0	3.4	<2	<500	<0.5	0.6	<0.2	<1	2100	11.0	29	<5	1.5	<0.06	0.8	0.82	0.16	609	1.86
0.7	3.1	<2	2800	<0.5	1.2	1.0	<1	2300	10.0	23	<5	1.2	<0.04	<0.5	0.76	0.15	680	1.82
0.8	3.2	<2	<1650	<0.5	0.9	<0.6	<1	2200	10.5	26	<5	1.4	<0.05	<0.6	0.79	0.16	644	1.84
0.8	4.0	<2	<500	<0.5	1.1	1.2	<1	2500	11.0	19	<5	1.5	0.33	<0.5	0.79	0.06	824	2.53
0.8	4.6	<2	<500	<0.5	2.6	1.3	<1	2600	14.0	28	17.0	1.8	0.28	<0.5	0.80	0.15	841	2.55
0.8	4.3	<2	<500	<0.5	1.8	1.2	<1	2550	12.5	24	<11	1.6	0.30	<0.5	0.80	0.10	832	2.54
2.3	2.6	<2	<500	<0.5	1.2	0.9	<1	2500	8.7	16	<5	1.3	0.31	<0.5	0.66	0.11	NA	2.27
0.4	3.3	<2	<500	<0.5	1.3	1.4	<1	3100	11.0	19	15.0	1.3	0.34	<0.5	0.67	0.13	1692	2.52
1.4	3.0	<2	<500	<0.5	1.2	1.2	<1	2800	9.9	18	<8	1.3	0.32	<0.5	0.66	0.12	1692	2.40
0.9	2.9	<2	500	<0.5	1.9	1.2	<1	2700	9.3	16	9.0	1.4	0.25	<0.5	0.59	0.06	NA	2.17
1.1	4.0	<2	<500	<0.5	1.5	1.1	<1	3600	12.0	22	<5	1.5	<0.04	<0.5	0.90	0.15	1444	2.19
1.0	3.4	<2	<500	<0.5	1.7	1.2	<1	3150	10.6	19	<7	1.4	<0.14	<0.5	0.74	0.10	1444	2.18
0.6	2.8	<2	<500	<0.5	0.9	<0.1	<1	3000	9.0	19	9.0	1.2	0.31	<0.5	0.62	0.12	758	1.53
2.0	3.3	<2	<500	<0.5	0.9	<0.2	<1	3100	11.0	18	<5	1.4	<0.06	<0.5	0.91	0.18	850	1.54
1.3	3.0	<2	<500	<0.5	0.9	<0.2	<1	3050	10.0	18	<7	1.3	<0.18	<0.5	0.76	0.15	804	1.54
0.8	2.6	<2	950	<0.5	1.4	1.4	<1	3000	8.6	16	<5	1.3	0.32	<0.5	0.61	0.14	NA	1.79
0.7	3.0	<2	<500	<0.5	1.1	<0.1	<1	3000	9.1	16	<5	1.2	<0.05	<0.5	0.72	0.10	1232	1.98
0.8	2.8	<2	<725	<0.5	1.2	<0.8	<1	3000	8.8	16	<5	1.2	<0.18	<0.5	0.66	0.12	1232	1.88
0.9	4.1	<2	<500	<0.5	2.0	1.1	<1	3100	13.0	21	14.0	1.6	0.43	<0.5	0.96	0.12	874	2.22
0.7	3.1	<2	<500	<0.5	1.9	1.4	<1	2600	11.0	19	11.0	1.5	0.35	<0.5	0.66	0.13	NA	2.26
0.8	3.6	<2	<500	<0.5	2.0	1.2	<1	2850	12.0	20	12.5	1.6	0.39	<0.5	0.81	0.12	874	2.24
0.8	3.8	<2	1200	<0.5	2.2	<0.2	<1	2600	11.0	16	<5	1.5	<0.06	<0.5	1.02	0.13	1218	2.00
0.7	3.7	<2	<500	<0.5	1.3	1.6	<1	2600	12.0	22	16.0	1.7	<0.05	<0.5	0.82	0.10	1260	1.99
0.8	3.8	<2	<850	<0.5	1.8	<0.9	<1	2600	11.5	19	<11	1.6	<0.06	<0.5	0.92	0.12	1239	2.00

Sample No.	Au (ppb)	Ag (ppm)	As (ppm)	Ba (ppm)	Br (ppm)	Ca (%)	Co (ppm)	Cr (ppm)	Cs (ppm)	Fe (%)	Hf (ppm)	Hg (ppm)	Ir (ppb)	K (%)	Mo (ppm)	Na (ppm)	Ni (ppm)	Rb (ppm)
								Elements										
DOT-0920-1	40	<2	10.0	1500	49	14.5	19	85	4.1	3.17	3.3	<1	<3	7.45	<2	6950	470	170
DOT-0920-2	42	<2	6.8	1300	5	16.6	21	77	3.8	3.03	3.5	<1	<5	7.79	<2	8090	430	140
Arith. Mean	41	<2	8.4	1400	27	15.6	20	81	4.0	3.10	3.4	<1	<4	7.62	<2	7520	450	155
DOT-0930-1	29	<2	5.9	760	29	16.0	8	42	1.6	1.34	1.2	<1	<3	14.10	<2	4700	100	70
DOT-0930-2	19	<2	4.2	760	7	13.6	6	37	1.4	1.17	1.5	<1	<3	11.90	<2	3740	69	80
Arith. Mean	24	<2	5.0	760	18	14.8	7	40	1.5	1.26	1.4	<1	<3	13.00	<2	4220	84	75
DOT-0940-1	21	<2	3.6	3000	6	21.9	21	42	7.0	1.26	1.0	<1	<4	9.87	<2	3970	180	130
DOT-0940-2	64	<2	6.9	3600	9	15.2	18	48	7.9	1.59	3.0	<1	<4	9.16	<2	3490	170	200
Arith. Mean	42	<2	5.2	3300	8	18.6	20	45	7.4	1.42	2.0	<1	<4	9.52	<2	3730	175	165
DOT-0947-1	31	<2	4.6	2200	14	17.8	14	46	8.3	1.11	1.6	<1	<3	7.12	<2	3140	210	220
DOT-0947-2	24	<2	1.8	2600	11	18.6	13	48	7.6	1.21	1.9	<1	<3	8.32	<2	3300	180	250
Arith. Mean	28	<2	3.2	2400	12	18.2	14	47	8.0	1.16	1.8	<1	<3	7.72	<2	3220	195	235
DOT-0958-1	21	<2	4.4	2200	19	20.1	13	36	6.8	1.08	1.5	<1	<3	8.25	<2	3530	140	140
DOT-0958-2	17	<2	3.6	1600	13	23.4	11	47	5.3	1.77	1.4	<1	<3	8.00	<2	4800	240	170
Arith. Mean	19	<2	4.0	1900	16	21.8	12	42	6.0	1.42	1.4	<1	<3	8.12	<2	4165	190	155
DOT-0959-1	15	<2	1.5	2900	<1	23.0	14	32	6.4	0.97	1.2	<1	<3	9.25	<2	3600	190	120
DOT-0959-2	25	<2	4.1	2300	3	23.2	13	36	6.8	1.06	1.6	<1	<4	6.10	<2	3470	110	160
Arith. Mean	20	<2	2.8	2600	<2	23.1	14	34	6.6	1.02	1.4	<1	<4	7.68	<2	3535	150	140
DOT-0970-1	68	<2	5.3	2100	10	17.4	10	66	5.7	2.07	2.3	<1	<4	9.59	<2	4840	410	200
DOT-0970-2	67	<2	4.6	2100	11	16.9	13	59	5.8	1.99	1.8	<1	<5	10.40	<2	4710	340	250
Arith. Mean	68	<2	5.0	2100	10	17.2	12	62	5.8	2.03	2.0	<1	<5	10.00	<2	4775	375	225
DOT-0990-1	28	<2	4.9	1500	11	21.3	9	60	5.2	1.82	2.1	<1	<4	11.40	<2	3830	210	220
DOT-0990-2	57	<2	4.3	1200	35	17.6	8	47	3.6	1.27	0.9	<1	<5	11.90	<2	3650	150	250
Arith. Mean	42	<2	4.6	1350	23	19.4	8	54	4.4	1.54	1.5	<1	<5	11.65	<2	3740	180	235
DOT-1000-1	51	<2	3.9	1100	11	16.5	11	41	3.2	1.66	0.7	<1	<5	10.70	<2	4050	170	110
DOT-1000-2	37	<2	4.3	1100	9	22.8	9	53	3.1	1.73	1.0	<1	<4	10.90	<2	4460	190	120
Arith. Mean	44	<2	4.1	1100	10	19.6	10	47	3.2	1.70	0.8	<1	<5	10.80	<2	4255	180	115
DOT-1010-1	140	<2	3.5	1300	11	18.9	9	63	4.1	1.54	1.9	<1	<4	11.50	<2	3800	170	240
DOT-1010-2	34	<2	2.6	1400	15	21.2	11	49	2.7	1.34	<0.5	<1	<3	12.40	<2	2770	290	7
Arith. Mean	87	<2	3.0	1350	13	20.0	10	56	3.4	1.44	<1.2	<1	<4	11.95	<2	3285	230	124
DOT-1030-1	23	<2	5.3	590	9	17.8	8	26	2.6	0.84	0.9	<1	<2	14.30	<2	2330	170	230
DOT-1030-2	100	<2	4.0	860	13	22.7	10	45	2.1	1.31	1.2	<1	<4	11.90	<2	3810	160	210
Arith. Mean	62	<2	4.6	725	11	20.2	9	36	2.4	1.08	1.0	<1	<3	13.10	<2	3070	165	220
DOT-1040-1	32	<2	7.5	2600	9	14.5	17	47	3.8	1.56	1.4	<1	<3	9.47	4	3440	310	170
DOT-1040-2	35	<2	4.5	2500	21	13.9	14	49	4.0	1.88	1.7	<1	<5	10.90	<2	4460	270	250
Arith. Mean	34	<2	6.0	2550	15	14.2	16	48	3.9	1.72	1.6	<1	<4	10.18	<3	3950	290	210
DOT-1050-1	9	<2	4.1	1500	8	21.5	10	43	2.8	1.23	1.9	<1	<4	9.04	<2	3340	230	120
DOT-1050-2	50	<2	2.8	1400	7	18.3	9	46	2.2	1.21	1.1	<1	<4	8.26	<2	2870	190	96
Arith. Mean	30	<2	3.4	1450	8	19.9	10	44	2.5	1.22	1.5	<1	<4	8.65	<2	3105	210	108
DOT-1056-1	102	<2	3.6	2600	21	21.3	10	48	3.7	1.37	1.9	<1	<4	11.20	<2	3690	300	200
DOT-1056-2	80	<2	3.9	2300	10	19.7	10	48	5.3	1.20	1.1	<1	<4	10.80	<2	3360	190	210
Arith. Mean	91	<2	3.8	2450	16	20	10	48	4.5	1.28	1.5	<1	<4	11	<2	3525	245	205

Elements																		
Sb (ppm)	Sc (ppm)	Se (ppm)	Sr (ppm)	Ta (ppm)	Th (ppm)	U (ppm)	W (ppm)	Zn (ppm)	La (ppm)	Ce (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Tb (ppm)	Yb (ppm)	Lu (ppm)	Mn (ppm)	Ash (%)
3.4	5.5	<2	680	<0.5	3.9	2.6	<1	2000	26.0	49	22.0	3.2	0.56	<0.5	1.36	0.19	NA	2.64
1.9	6.3	<2	<500	<0.5	3.2	1.1	<1	1700	27.0	49	23.0	3.1	0.73	<0.5	1.40	0.13	651	2.86
2.6	5.9	<2	<590	<0.5	3.6	1.8	<1	1850	26.5	49	22.5	3.2	0.64	<0.5	1.38	0.16	651	2.75
1.0	3.9	<2	<500	<0.5	2.7	0.4	<1	3100	13.0	24	12.0	1.8	0.52	<0.5	0.98	0.20	1630	1.88
1.1	3.4	<2	<500	<0.5	2.0	1.3	<1	2600	12.0	23	14.0	1.9	0.31	<0.5	0.91	0.12	NA	1.95
1.0	3.6	<2	<500	<0.5	2.4	0.8	<1	2850	12.5	24	13.0	1.8	0.42	<0.5	0.94	0.16	1630	1.91
3.4	3.2	<2	<500	<0.5	1.7	<0.2	<1	3500	10.0	21	<5	1.4	<0.05	<0.5	0.76	0.09	1288	1.91
3.7	3.7	<2	<500	<0.5	2.9	1.5	<1	3500	13.0	25	13.0	1.7	0.43	<0.5	0.93	0.10	NA	2.03
3.6	3.4	<2	<500	<0.5	2.3	<0.8	<1	3500	11.5	23	<9	1.6	<0.24	<0.5	0.84	0.10	1288	1.97
1.2	3.0	<2	1100	<0.5	1.3	2.4	<1	2100	9.5	17	<5	1.3	<0.03	<0.5	0.57	0.11	NA	1.85
0.9	3.2	<2	<500	<0.5	2.2	<0.2	<1	1900	9.8	17	<5	1.4	0.38	<0.5	0.81	<0.05	NA	1.78
1.0	3.1	<2	<800	<0.5	1.7	<1.3	<1	2000	9.6	17	<5	1.4	<0.20	<0.5	0.69	<0.08	NA	1.82
0.8	3.0	<2	1000	<0.5	1.4	1.2	<1	3000	9.2	15	12.0	1.4	0.32	<0.5	0.76	0.08	NA	1.95
0.5	3.8	<2	1500	<0.5	2.0	1.1	<1	2800	13.0	21	13.0	1.6	<0.03	<0.5	0.90	0.12	716	2.23
0.6	3.4	<2	1250	<0.5	1.7	1.2	<1	2900	11.1	18	12.5	1.5	<0.18	<0.5	0.83	0.10	716	2.09
3.5	3.0	<2	<500	<0.5	1.0	2.1	<1	2900	8.5	17	<5	1.4	<0.04	<0.5	0.59	0.13	NA	2.10
1.4	3.3	<2	<500	<0.5	0.9	1.1	<1	2800	9.3	18	<5	1.3	<0.05	0.7	0.60	0.12	1089	2.23
2.4	3.2	<2	<500	<0.5	1.0	1.6	<1	2850	8.9	18	<5	1.4	<0.05	<0.6	0.60	0.12	1089	2.16
1.9	4.7	<2	<500	<0.5	3.1	1.6	<1	2900	16.0	27	15.0	1.9	<0.05	<0.5	0.77	0.15	504	1.65
2.0	4.9	<2	<500	<0.5	1.5	1.2	1	3100	15.0	25	<5	2.0	<0.06	<0.5	0.86	0.17	573	1.72
2.0	4.8	<2	<500	<0.5	2.3	1.4	<1	3000	15.5	26	<10	2.0	<0.06	<0.5	0.82	0.16	538	1.68
0.7	4.2	<2	<500	<0.5	2.3	0.9	<1	3300	14.0	29	7.0	1.7	0.40	<0.5	0.95	0.07	822	2.09
0.6	3.7	<2	<500	<0.5	1.3	<0.2	<1	2900	12.0	19	<5	1.6	<0.06	<0.5	0.85	0.17	823	1.95
0.6	4.0	<2	<500	<0.5	1.8	<0.5	<1	3100	13.0	24	<6	1.6	<0.23	<0.5	0.92	0.12	822	2.02
0.9	3.9	<2	<500	<0.5	1.3	1.3	<1	2800	13.0	17	<5	1.7	0.42	<0.5	0.92	0.14	1364	2.21
0.8	4.1	<2	<500	<0.5	1.5	1.3	<1	3000	14.0	21	15.0	1.9	<0.05	<0.5	1.10	0.10	1154	2.23
0.8	4.0	<2	<500	<0.5	1.4	1.3	<1	2900	13.5	19	<10	1.8	<0.24	<0.5	1.01	0.12	1259	2.22
0.7	3.8	<2	<500	<0.5	0.4	<0.2	<1	2900	9.5	21	<5	1.3	<0.06	<0.5	1.02	0.19	523	1.90
0.6	3.0	<2	<500	<0.5	1.1	1.0	<1	2800	8.0	13	<5	1.1	<0.04	<0.5	0.56	0.05	628	2.02
0.6	3.4	<2	<500	<0.5	0.8	<0.6	<1	2850	8.8	17	<5	1.2	<0.05	<0.5	0.97	0.12	576	1.96
0.8	2.2	<2	<500	<0.5	1.1	0.9	<1	2600	7.2	12	7.0	1.1	0.17	<0.5	0.49	0.08	NA	1.84
0.6	3.5	<2	<500	<0.5	0.3	1.0	<1	3300	11.0	20	<5	1.5	<0.06	<0.5	0.78	0.16	1396	1.76
0.7	2.8	<2	<500	<0.5	0.7	1.0	<1	2950	9.1	16	<6	1.3	<0.12	<0.5	0.64	0.12	1396	0.80
0.9	3.2	<2	<500	<0.5	1.8	1.4	5	4200	11.0	16	15.0	1.6	<0.04	<0.5	0.62	0.07	NA	1.40
0.8	4.6	<2	<500	<0.5	1.6	1.3	<1	4000	14.0	22	<5	1.9	0.40	<0.5	0.67	0.17	1315	1.74
0.8	3.9	<2	<500	<0.5	1.7	1.4	<3	4100	12.0	19	<10	1.8	<0.22	<0.5	0.64	0.12	1315	1.57
0.8	3.4	<2	<500	<0.5	1.6	<0.1	<1	3600	11.0	18	<5	1.5	<0.05	<0.5	0.76	0.14	1593	2.12
0.6	3.3	<2	<500	<0.5	1.2	<0.2	<1	2800	9.0	18	<5	1.3	<0.06	<0.5	0.49	0.10	1315	2.30
0.7	3.4	<2	<500	<0.5	1.4	<0.2	<1	3200	10.0	18	<5	1.4	<0.06	<0.5	0.62	0.12	1454	2.21
0.8	3.9	<2	2900	<0.5	1.5	1.4	<1	2600	11.0	19	10.0	1.5	<0.06	1.1	0.69	0.16	632	2.15
0.5	3.2	<2	1700	<0.5	1.1	1.4	<1	2600	9.8	16	<5	1.3	0.57	<0.5	0.76	0.13	598	2.17
0.6	3.6	<2	2300	<0.5	1.3	1.4	<1	2600	10.4	18	<8	1.4	<0.32	<0.8	0.72	0.14	615	2.16

APPENDIX IV

Part 2: Duplicate Sample Analyses, Black Spruce *(Picea mariana)* Needles

Sample Number	Lab Number	Cu ppm	Ni ppm	Cr ppm	Zn ppm	Fe ppm	Mn %	Ash %
Dot-100	865111	95	241	4	937	1445	0.99	2.32
Dot-100	851224	78	144	nd	1324	1186	1.35	3.04
Dot-100	**A. Mean**	**87**	**193**	**2**	**1131**	**1316**	**1.17**	**2.68**
Dot-103	850977	69	159	3	1495	1361	3.05	3.14
Dot-103	861488	115	424	3	1198	2493	4.50	2.01
Dot-103	**A. Mean**	**92**	**292**	**3**	**1347**	**1927**	**3.78**	**2.58**
Dot-110D	865078	83	221	5	786	1256	1.32	2.55
Dot-110D	851027	84	196	4	899	1453	1.25	2.68
Dot-110	**A. Mean**	**84**	**209**	**5**	**843**	**1355**	**1.29**	**2.62**
Dot-120	865151	116	266	5	614	1684	1.58	3.02
Dot-120	850798	96	185	3	564	1276	1.37	3.56
Dot-120	**A. Mean**	**106**	**226**	**4**	**589**	**1480**	**1.48**	**3.29**
Dot-121	850925	131	283	9	915	1383	1.41	3.10
Dot-121D	865148	134	220	8	783	1807	1.33	3.46
Dot-121	**A. Mean**	**133**	**252**	**9**	**849**	**1595**	**1.37**	**3.28**
Dot-130D	865095	70	226	4	1250	1318	1.36	2.81
Dot-130D	850976	69	179	4	1264	1226	1.49	3.02
Dot-130	**A. Mean**	**70**	**203**	**4**	**1257**	**1272**	**1.43**	**2.92**
Dot-132	865096	106	199	6	818	1967	1.32	2.30
Dot-132	851232	73	197	4	981	1490	1.16	2.76
Dot-132	**A. Mean**	**90**	**198**	**5**	**900**	**1729**	**1.24**	**2.53**
Dot-138	865156	62	133	3	1418	969	1.90	3.17
Dot-138	850986	103	141	4	1266	1285	3.99	3.48
Dot-138	851239	99	184	nd	1239	1314	3.38	3.00
Dot-138	**A. Mean**	**88**	**153**	**2**	**1308**	**1189**	**3.09**	**3.22**
Dot-140	865337	71	125	nd	2142	1027	2.86	3.40
Dot-140D	865351	63	121	nd	2121	899	2.85	3.44
Dot-140	**A. Mean**	**67**	**123**	**nd**	**2132**	**963**	**2.86**	**3.42**
Dot-160	865268	84	175	5	2087	1419	3.34	2.68
Dot-160D	850769	84	179	3	2112	1085	3.24	2.77
Dot-160	**A. Mean**	**84**	**177**	**4**	**2100**	**1252**	**3.29**	**2.73**
Dot-230	865206	79	179	nd	939	1142	2.37	2.66
Dot-230D	851488	69	165	nd	974	1090	2.68	2.97
Dot-230	**A. Mean**	**74**	**172**	**nd**	**957**	**1116**	**2.53**	**2.82**
Dot-250	865211	79	97	nd	2652	1418	1.19	2.84
Dot-250D	865255	66	96	nd	2603	1316	1.34	2.76
Dot-250	**A. Mean**	**73**	**97**	**nd**	**2628**	**1367**	**1.27**	**2.80**
Dot-260	851006	59	101	3	1054	962	2.46	3.61
Dot-260D	865099	58	118	nd	1053	1720	2.54	3.43
Dot-260	**A. Mean**	**59**	**110**	**2**	**1054**	**1341**	**2.50**	**3.52**
Dot-270	851086	77	117	7	904	1108	0.83	3.43
Dot-270D	865072	81	112	7	994	1134	0.74	3.45
Dot-270	**A. Mean**	**79**	**115**	**7**	**949**	**1121**	**0.79**	**3.44**

Sample Number	Lab Number	Cu ppm	Ni ppm	Cr ppm	Zn ppm	Fe ppm	Mn %	Ash %
Dot-290	865185	62	213	5	779	1511	1.66	2.89
Dot-290D	850797	59	212	nd	752	1017	1.65	3.14
Dot-290	**A. Mean**	**61**	**213**	**3**	**766**	**1264**	**1.66**	**3.02**
Dot-315	865195	98	191	6	729	2690	1.82	2.58
Dot-315	850806	105	211	3	817	1025	1.81	2.74
Dot-315	**A. Mean**	**102**	**201**	**5**	**773**	**1858**	**1.82**	**2.66**
Dot-317	865193	126	204	10	871	1935	1.22	3.24
Dot-317	850918	119	131	6	884	1201	1.16	3.41
Dot-317	**A. Mean**	**123**	**168**	**8**	**878**	**1568**	**1.19**	**3.33**
Dot-319	865190	108	146	14	1094	6520	1.46	3.93
Dot-319	850779	77	70	3	1497	1296	2.05	3.49
Dot-319	**A. Mean**	**93**	**108**	**9**	**1296**	**3908**	**1.76**	**3.71**
Dot-320	865233	73	148	3	868	1684	1.59	3.03
Dot-320D	850775	73	134	3	920	1240	1.66	3.02
Dot-320	**A. Mean**	**73**	**141**	**3**	**894**	**1462**	**1.63**	**3.03**
Dot-330	851569	46	113	nd	1147	971	2.60	3.15
Dot-330D	865258	51	124	nd	1175	936	2.86	2.92
Dot-330	**A. Mean**	**26**	**119**	**nd**	**1161**	**954**	**2.73**	**3.04**
Dot-337	865250	74	205	nd	1567	911	2.78	3.35
Dot-337	851064	74	172	nd	1666	995	3.26	3.39
Dot-337	**A. Mean**	**74**	**189**	**nd**	**1617**	**953**	**3.02**	**3.37**
Dot-340	850946	86	205	5	1017	1223	2.16	3.26
Dot-340D	865322	85	173	5	917	1517	2.26	3.33
Dot-340D	851551	67	155	nd	1142	973	3.24	3.22
Dot-340	**A. Mean**	**79**	**178**	**3**	**1025**	**1238**	**2.59**	**3.27**
Dot-344	865101	81	123	5	1258	1952	3.06	3.56
Dot-344	850799	58	198	8	899	706	1.57	4.07
Dot-344	**A. Mean**	**70**	**161**	**7**	**1079**	**1329**	**2.32**	**3.82**
Dot-345	865053	156	251	13	1738	6560	2.18	2.99
Dot-345	850854	61	135	4	1336	775	1.83	3.45
Dot-345	**A. Mean**	**109**	**193**	**9**	**1537**	**3668**	**2.01**	**3.22**
Dot-360	850802	61	107	nd	1194	787	2.27	2.90
Dot-360D	865271	65	123	nd	1217	1053	2.31	2.65
Dot-360	**A. Mean**	**63**	**115**	**nd**	**1206**	**920**	**2.29**	**2.78**
Dot-381	851269	43	155	nd	864	910	0.89	3.47
Dot-381D	865107	70	170	nd	137	857	1.80	2.93
Dot-381	**A. Mean**	**57**	**163**	**nd**	**1106**	**884**	**1.35**	**3.20**
Dot-384	865039	64	168	4	1313	961	1.83	3.08
Dot-384	865085	52	148	nd	1375	1374	2.09	3.66
Dot-384	**A. Mean**	**58**	**158**	**2**	**1344**	**1168**	**1.96**	**3.37**
Dot-389	865105	85	66	nd	1588	1124	2.97	3.95
Dot-389	851420	66	52	nd	1978	1233	3.74	3.62
Dot-389	**A. Mean**	**76**	**59**	**nd**	**1783**	**1179**	**3.36**	**3.79**

Sample Number	Lab Number	Cu ppm	Ni ppm	Cr ppm	Zn ppm	Fe ppm	Mn %	Ash %
Dot-420D	850943	68	137	4	941	1089	2.56	2.95
Dot-420D	865331	75	142	3	852	1248	2.73	3.02
Dot-420	**A. Mean**	**72**	**140**	**4**	**897**	**1169**	**2.65**	**2.99**
Dot-453	865046	81	172	5	1594	3045	3.17	2.45
Dot-453	851513	52	95	nd	1480	1145	2.44	3.16
Dot-453	**A. Mean**	**67**	**134**	**3**	**1537**	**2095**	**2.81**	**2.81**
Dot-510	865285	65	169	nd	967	1095	1.65	3.14
Dot-510D	851056	68	172	4	1016	840	1.57	3.13
Dot-510	**A. Mean**	**67**	**171**	**2**	**992**	**968**	**1.61**	**3.14**
Dot-530	865112	66	146	3	1150	1204	1.28	3.53
Dot-530D	850787	55	175	nd	1148	856	1.30	3.50
Dot-530	**A. Mean**	**61**	**161**	**2**	**1149**	**1030**	**1.29**	**3.52**
Dot-570	865044	69	242	3	2054	1798	1.87	2.92
Dot-570D	865080	65	261	nd	2203	1512	1.87	2.86
Dot-570	**A. Mean**	**67**	**252**	**2**	**2129**	**1655**	**1.87**	**2.89**
Dot-580	850935	63	125	nd	2484	1027	2.83	2.70
Dot-580D	865025	67	132	4	2481	1343	2.62	2.55
Dot-580	**A. Mean**	**65**	**129**	**2**	**2483**	**1185**	**2.73**	**2.63**
Dot-583	865332	154	136	12	900	6090	2.27	2.67
Dot-583	851563	53	141	nd	904	1279	0.93	3.39
Dot-583	**A. Mean**	**104**	**139**	**6**	**902**	**3685**	**1.60**	**3.03**
Dot-591	865161	52	147	nd	705	1057	1.14	2.91
Dot-591D	851445	53	128	nd	780	1420	1.07	2.80
Dot-591	851454	59	150	nd	757	1204	0.90	2.83
Dot-591	**A. Mean**	**55**	**142**	**nd**	**747**	**1227**	**1.04**	**2.85**
Dot-593	865247	69	119	nd	1035	1271	1.36	2.57
Dot-593	850911	48	107	nd	916	773	1.81	3.55
Dot-593	**A. Mean**	**59**	**113**	**nd**	**976**	**1022**	**1.59**	**3.06**
Dot-594	851489	50	83	nd	1038	838	1.14	3.82
Dot-594	865084	58	120	3	753	1769	1.28	3.16
Dot-594D	850831	59	120	nd	764	974	1.27	3.08
Dot-594	**A. Mean**	**56**	**108**	**1**	**852**	**1194**	**1.23**	**3.35**
Dot-622	865057	61	98	6	2171	1174	1.24	3.45
Dot-622	865269	61	114	6	2154	1120	4.31	3.51
Dot-622	**A. Mean**	**61**	**106**	**6**	**2163**	**1147**	**2.78**	**3.48**
Dot-635	865009	54	95	3	1193	1665	2.25	3.02
Dot-635	865290	61	113	4	1184	1245	2.05	2.95
Dot-635	**A. Mean**	**58**	**104**	**4**	**1189**	**1455**	**2.15**	**2.99**
Dot-660	865288	48	155	3	1468	1062	1.61	2.97
Dot-660D	850771	48	158	nd	1650	786	1.81	2.92
Dot-660	**A. Mean**	**48**	**157**	**2**	**1559**	**924**	**1.71**	**2.95**

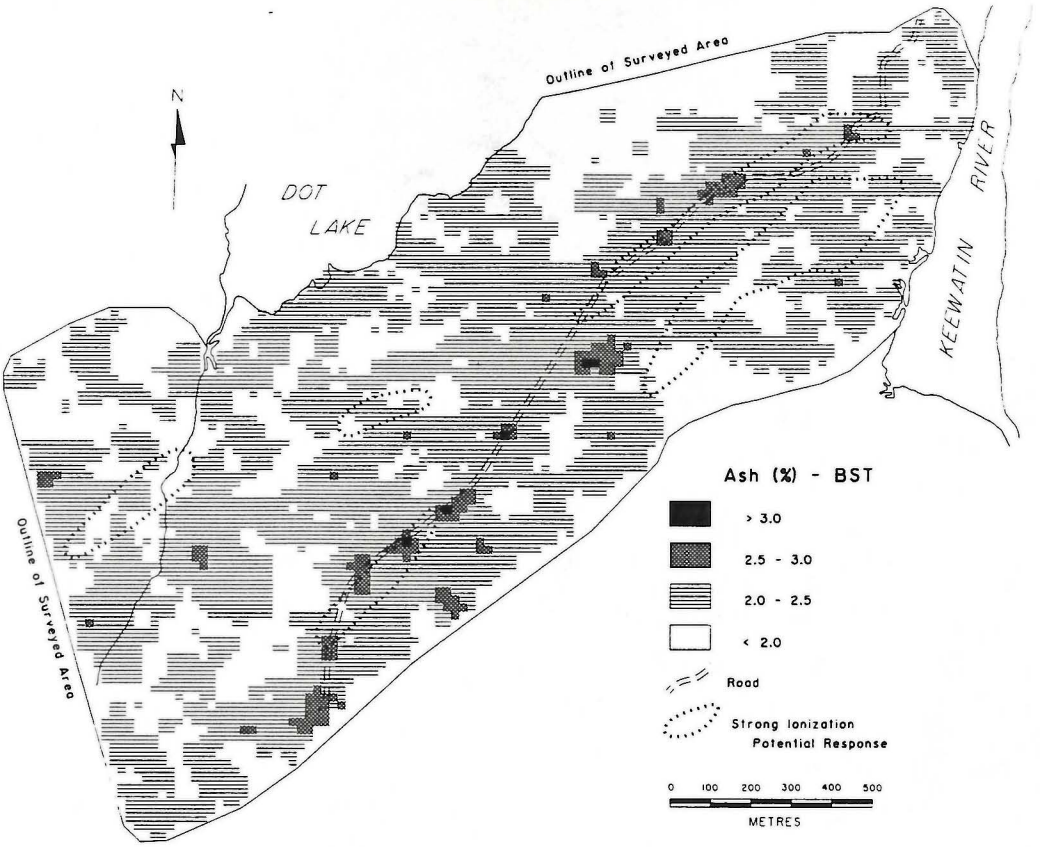
Sample Number	Lab Number	Cu ppm	Ni ppm	Cr ppm	Zn ppm	Fe ppm	Mn %	Ash %
Dot-665	865287	60	107	3	1384	1245	3.49	2.71
Dot-665	851599	46	51	nd	1200	956	2.14	4.43
Dot-665	**A. Mean**	**53**	**79**	**2**	**1292**	**1101**	**2.82**	**3.57**
Dot-667	865278	48	101	nd	1585	1124	2.29	3.26
Dot-667D	851304	37	95	nd	1627	978	2.30	3.39
Dot-667	**A. Mean**	**43**	**98**	**nd**	**1606**	**1051**	**2.30**	**3.33**
Dot-686	865120	70	79	3	949	1298	1.36	2.76
Dot-686	865248	71	330	nd	933	1398	1.22	2.72
Dot-686	**A. Mean**	**71**	**205**	**2**	**941**	**1348**	**1.29**	**2.74**
Dot-690	865144	69	100	nd	1067	1732	0.87	2.75
Dot-690D	865145	62	88	nd	1121	1840	0.82	2.95
Dot-690	**A. Mean**	**66**	**94**	**nd**	**1094**	**1786**	**0.85**	**2.85**
Dot-700	851357	65	119	nd	1087	1736	0.70	2.27
Dot-700D	865140	74	114	nd	1237	2002	0.74	2.31
Dot-700	**A. Mean**	**70**	**117**	**nd**	**1162**	**1869**	**0.72**	**2.29**
Dot-710	865257	57	163	nd	2186	2385	3.89	2.64
Dot-710D	865142	65	181	nd	2279	2378	3.67	2.27
Dot-710	**A. Mean**	**61**	**172**	**nd**	**2233**	**2382**	**3.78**	**2.46**
Dot-730	865238	72	84	6	830	2176	1.16	3.09
Dot-730D	851068	69	84	4	805	1445	1.17	3.24
Dot-730	**A. Mean**	**71**	**84**	**5**	**818**	**1811**	**1.17**	**3.17**
Dot-740	851577	43	105	nd	1130	1252	1.28	3.59
Dot-740D	865345	47	96	nd	1124	1179	1.26	3.49
Dot-740	**A. Mean**	**45**	**101**	**nd**	**1127**	**1216**	**1.27**	**3.54**
Dot-760	851451	66	146	nd	1466	1040	1.24	2.99
Dot-760D	865133	80	134	5	1423	1119	1.13	2.95
Dot-760	**A. Mean**	**73**	**140**	**3**	**1445**	**1080**	**1.19**	**2.97**
Dot-783	865244	64	70	nd	3075	1156	2.86	3.23
Dot-783D	851392	60	54	nd	3067	929	2.58	3.31
Dot-783	**A. Mean**	**62**	**62**	**nd**	**3071**	**1043**	**2.72**	**3.27**
Dot-809	865314	60	184	nd	1506	927	3.10	3.57
Dot-809D	851557	50	170	nd	1593	902	3.14	3.51
Dot-809	**A. Mean**	**55**	**177**	**nd**	**1550**	**915**	**3.12**	**3.54**
Dot-819	865317	46	153	nd	1050	936	1.87	3.27
Dot-819D	861625	46	135	nd	1075	1070	2.10	3.51
Dot-819	**A. Mean**	**46**	**144**	**nd**	**1063**	**1003**	**1.99**	**3.39**
Dot-830	865212	72	199	nd	626	2347	0.82	2.31
Dot-830D	861486	78	190	nd	598	1553	0.91	2.61
Dot-830	**A. Mean**	**75**	**195**	**nd**	**612**	**1950**	**0.87**	**2.46**
Dot-849	865313	60	81	3	1516	1076	2.40	3.21
Dot-849D	851587	47	65	nd	1494	1252	2.57	3.29
Dot-849	**A. Mean**	**54**	**73**	**2**	**1505**	**1164**	**2.49**	**3.25**

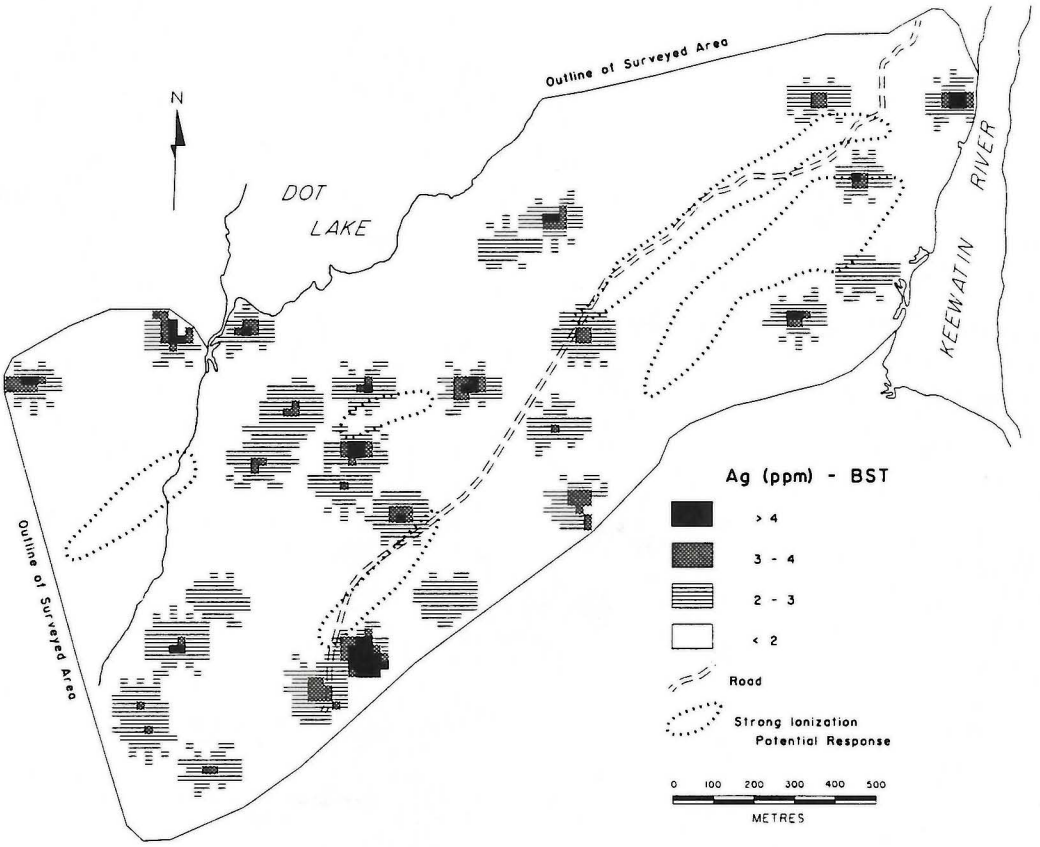
Sample Number	Lab Number	Cu ppm	Ni ppm	Cr ppm	Zn ppm	Fe ppm	Mn %	Ash %
Dot-870	865242	70	140	nd	1293	1220	1.11	2.76
Dot-870D	851552	48	89	nd	1341	1122	1.12	3.13
Dot-870	**A. Mean**	**59**	**115**	**nd**	**1317**	**1171**	**1.12**	**2.95**
Dot-888	865020	79	145	9	917	1440	0.66	2.11
Dot-888	851501	54	99	nd	1243	952	1.01	2.78
Dot-888	**A. Mean**	**67**	**122**	**5**	**1080**	**1196**	**0.84**	**2.45**
Dot-890	865312	61	154	nd	1267	766	2.42	3.27
Dot-890D	841110	48	144	nd	1304	877	2.49	3.35
Dot-890	**A. Mean**	**54**	**149**	**nd**	**1286**	**822**	**2.46**	**3.31**
Dot-900	865026	60	107	nd	1420	1145	1.42	2.79
Dot-900D	865319	53	100	nd	1346	1137	1.50	2.90
Dot-900	**A. Mean**	**57**	**104**	**nd**	**1383**	**1141**	**1.46**	**2.85**
Dot-910	865027	59	112	3	1383	1098	2.27	2.95
Dot-910D	865023	58	109	7	1416	1036	2.44	2.95
Dot-910	**A. Mean**	**59**	**111**	**5**	**1400**	**1067**	**2.36**	**2.95**
Dot-930	865128	73	121	5	1758	1893	3.31	2.26
Dot-930D	851525	60	115	3	1706	1723	3.33	2.32
Dot-930	**A. Mean**	**67**	**118**	**4**	**1732**	**1808**	**3.32**	**2.29**
Dot-940	865116	70	102	nd	1402	1054	1.77	2.83
Dot-940D	851354	51	79	nd	1248	951	2.02	3.17
Dot-940	**A. Mean**	**61**	**91**	**nd**	**1325**	**1003**	**1.90**	**3.00**
Dot-970	851265	62	199	6	751	1357	0.83	2.96
Dot-970D	865225	76	257	nd	801	1192	0.72	2.71
Dot-970	**A. Mean**	**69**	**228**	**3**	**776**	**1275**	**0.78**	**2.84**

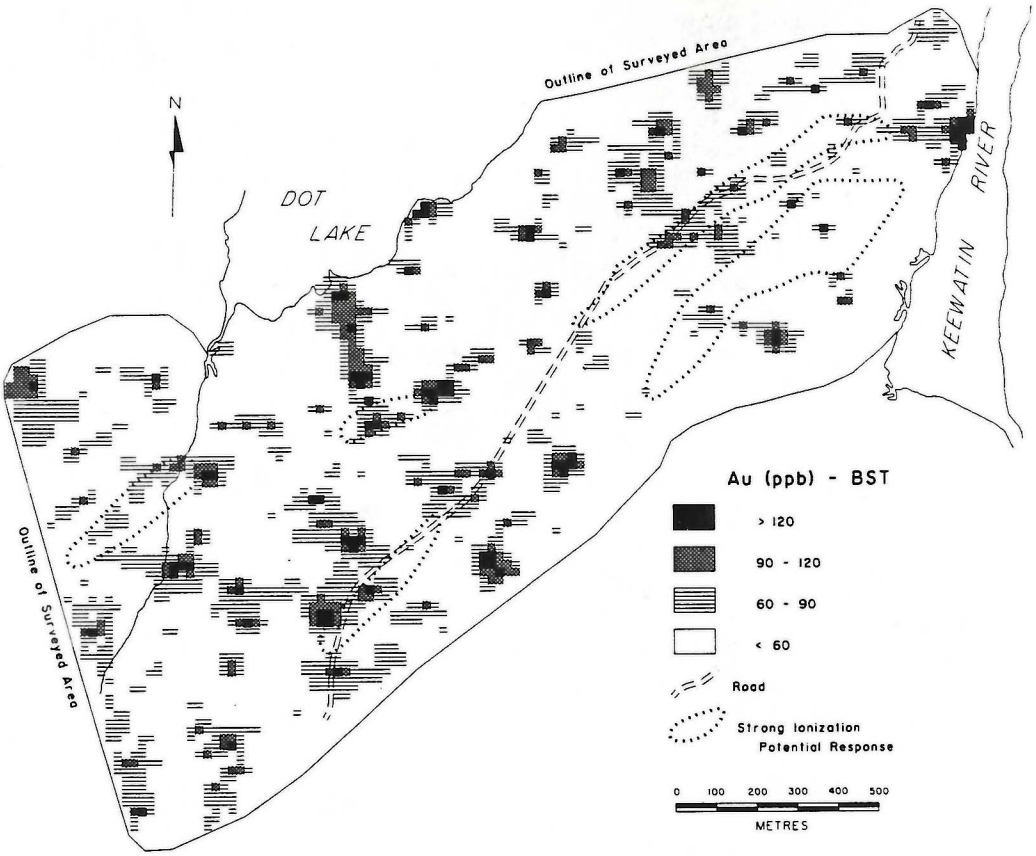
A. Mean - Arithmetic Mean
D - Duplicate
nd - not detected

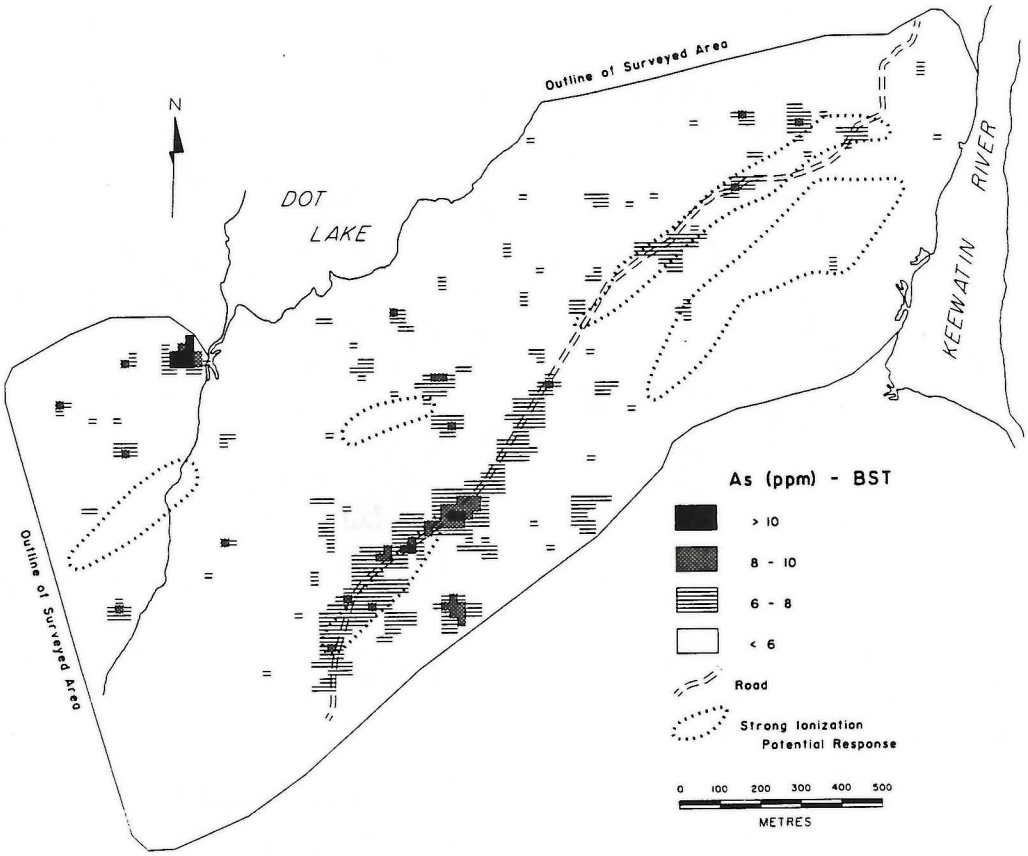
APPENDIX V

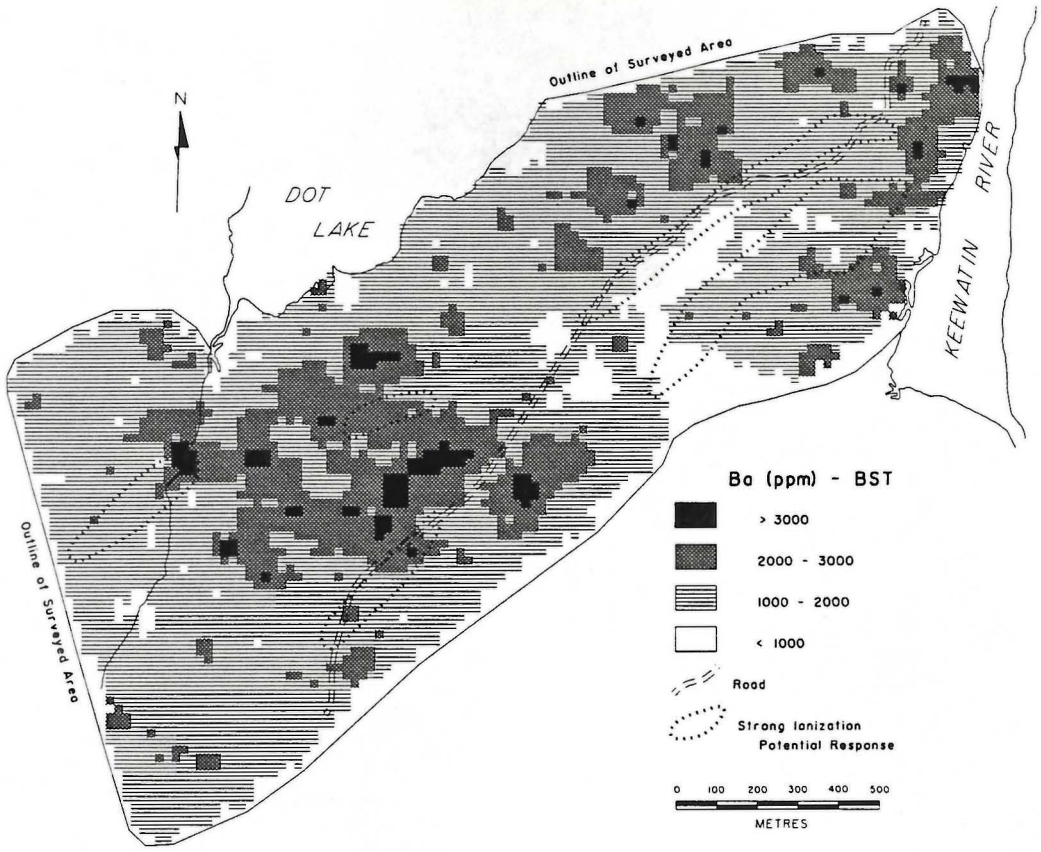
Part 1: Contour Maps, Black Spruce *(Picea mariana)* Twigs

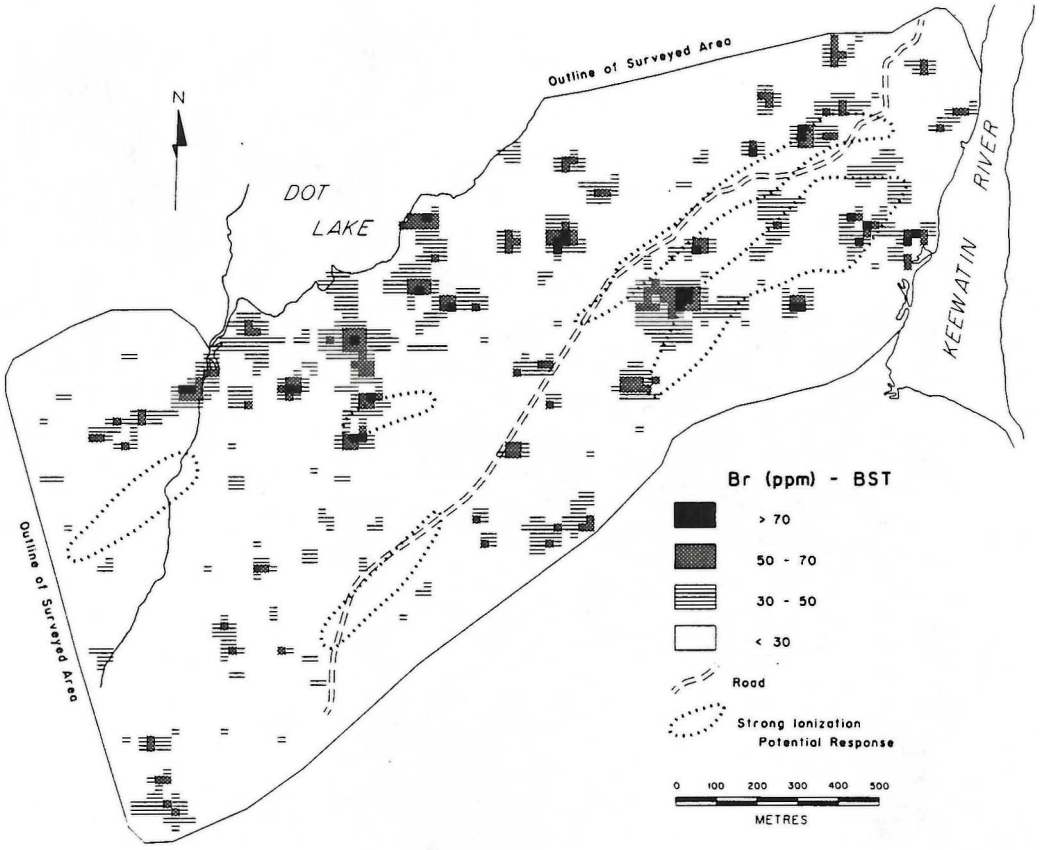

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
Ash (%) - BST
> 3.0
2.5 - 3.0
2.0 - 2.5
< 2.0
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

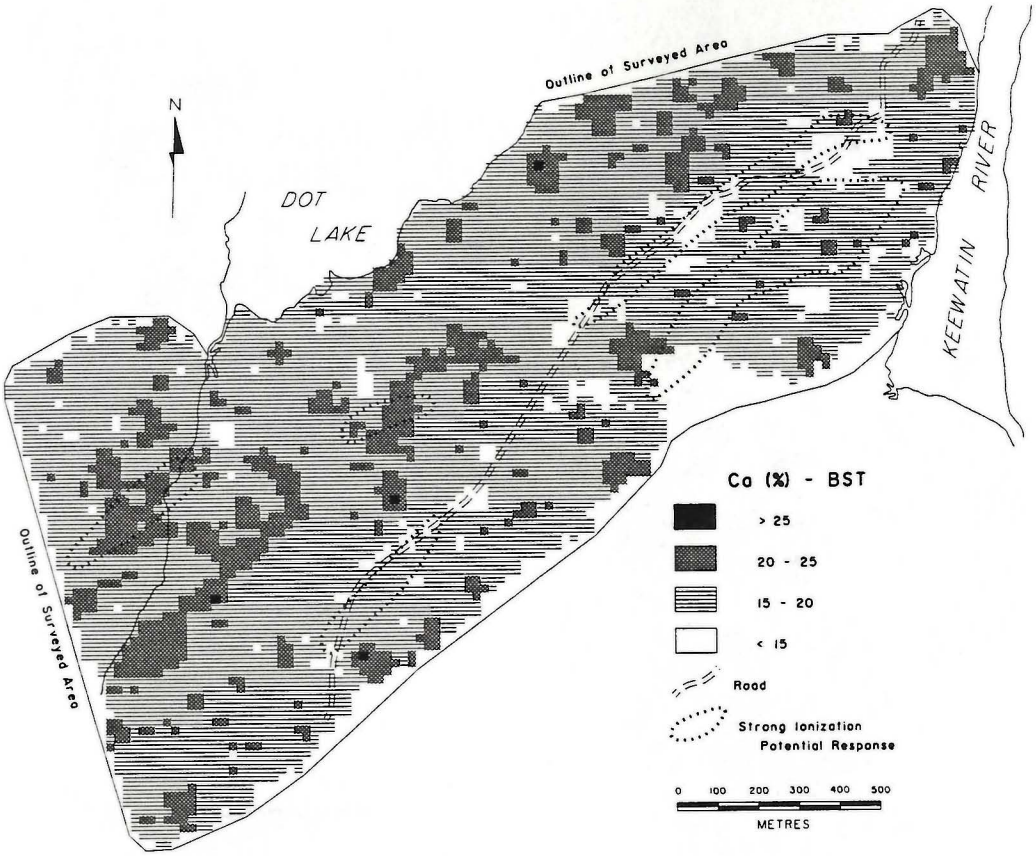

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
Ag (ppm) - BST
> 4
3 - 4
2 - 3
< 2
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

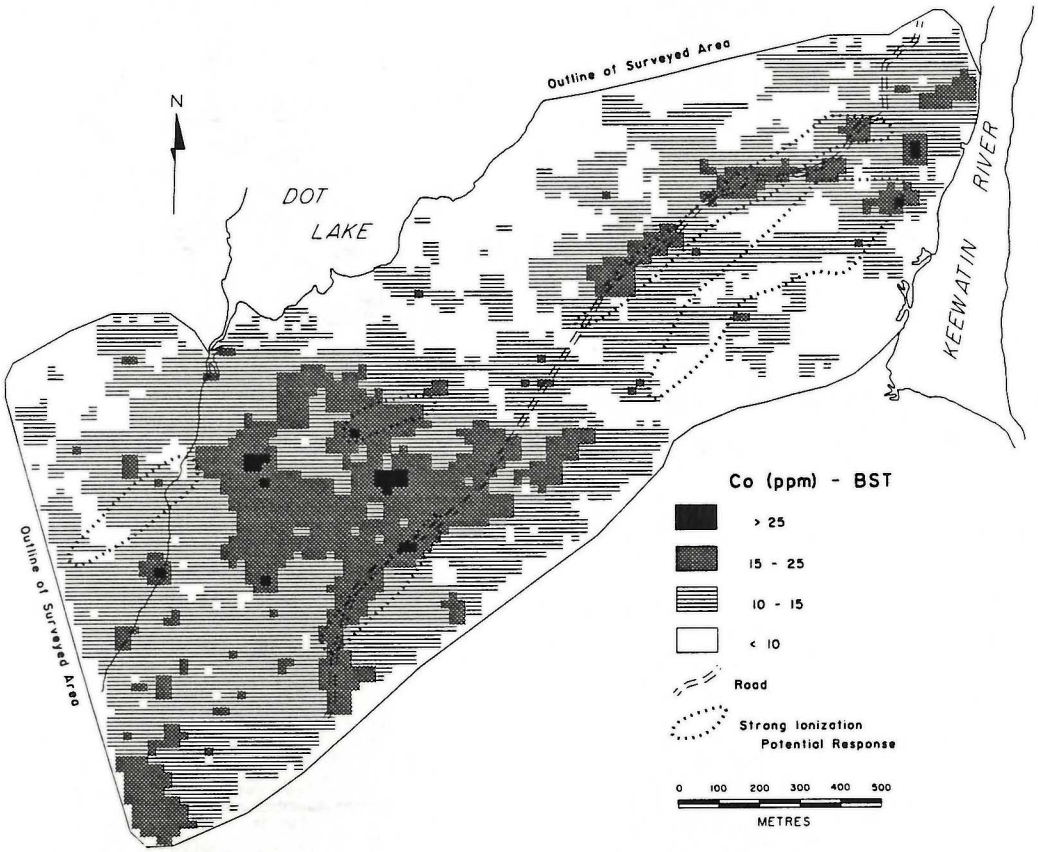

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
Au (ppb) - BST
> 120
90 - 120
60 - 90
< 60
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

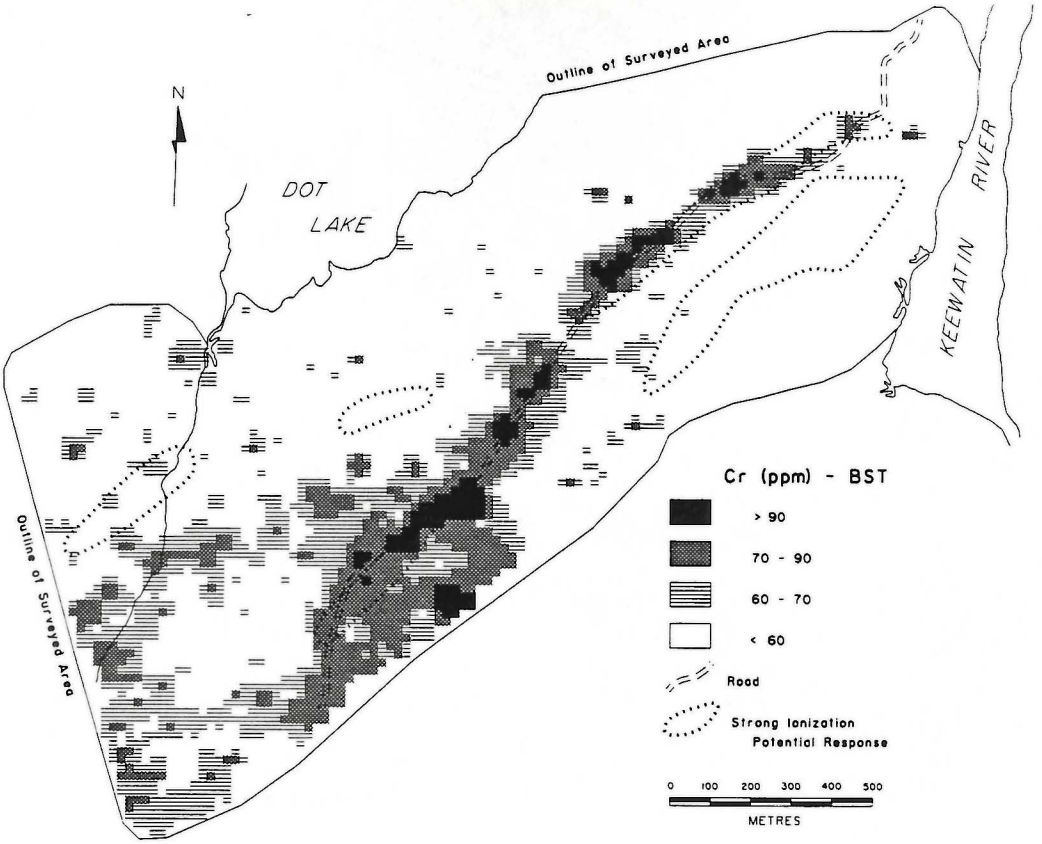

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
As (ppm) - BST
> 10
8 - 10
6 - 8
< 6
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

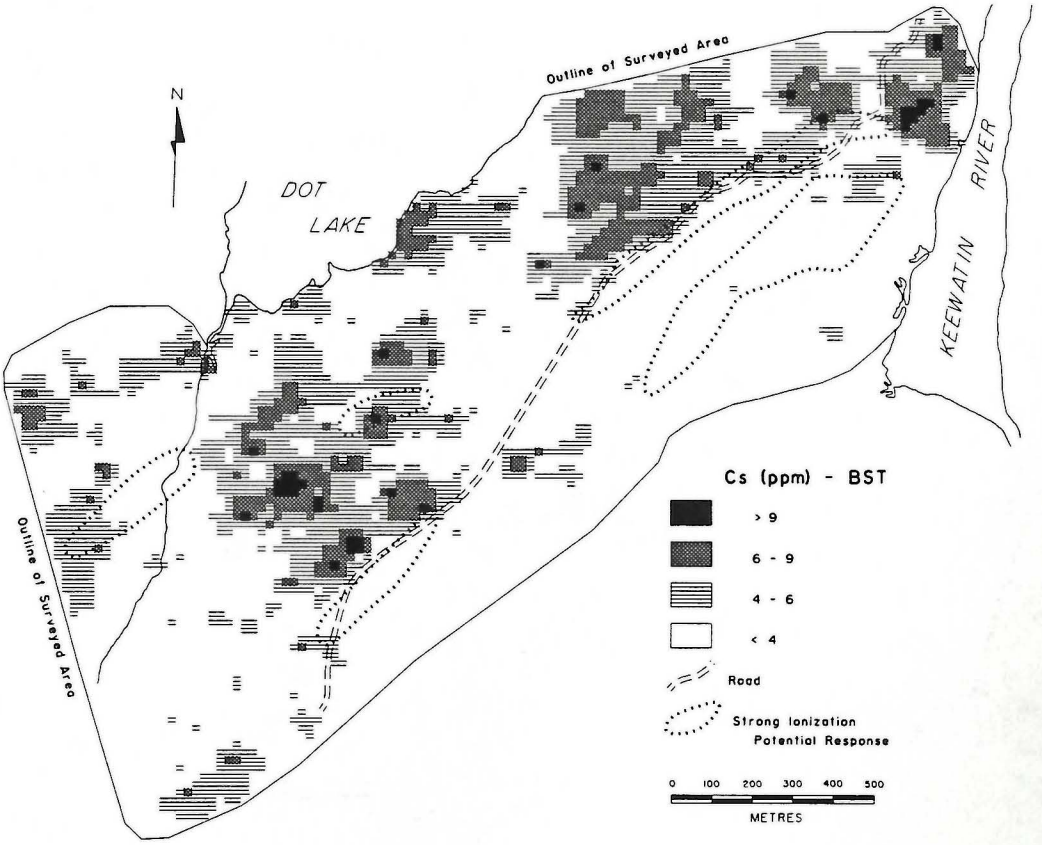

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
Ba (ppm) - BST
> 3000
2000 - 3000
1000 - 2000
< 1000
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

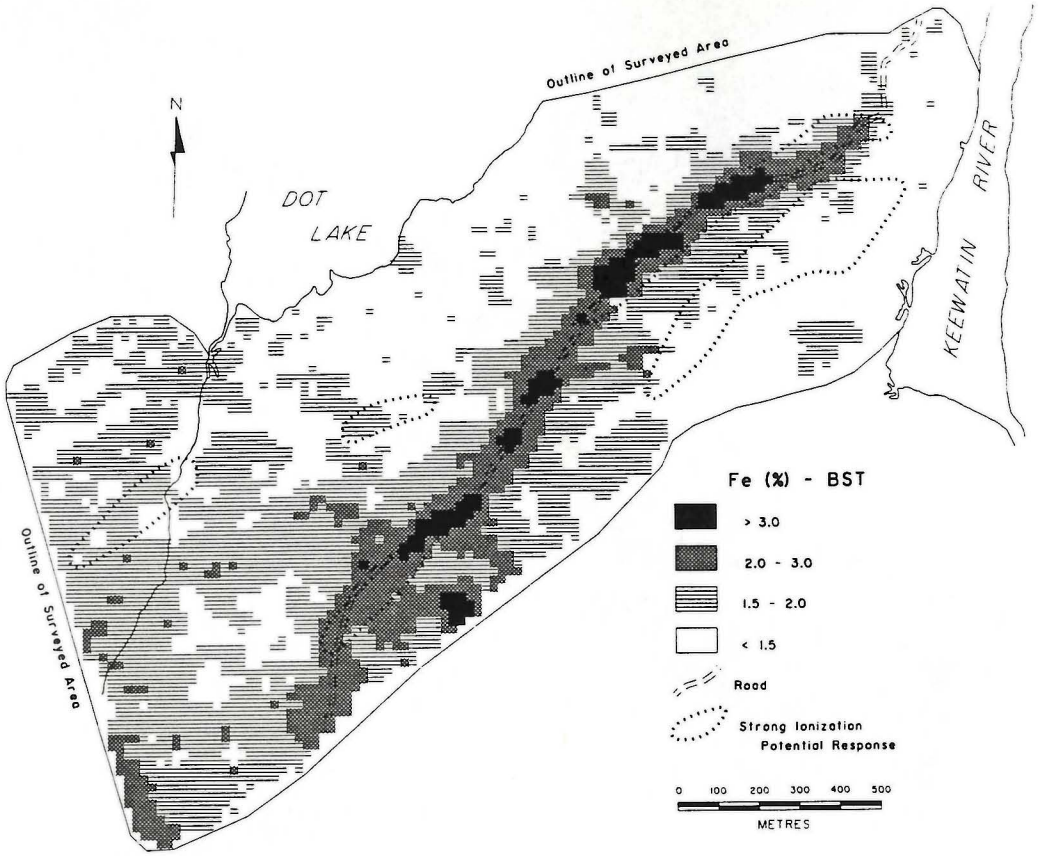

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
Br (ppm) - BST
> 70
50 - 70
30 - 50
< 30
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

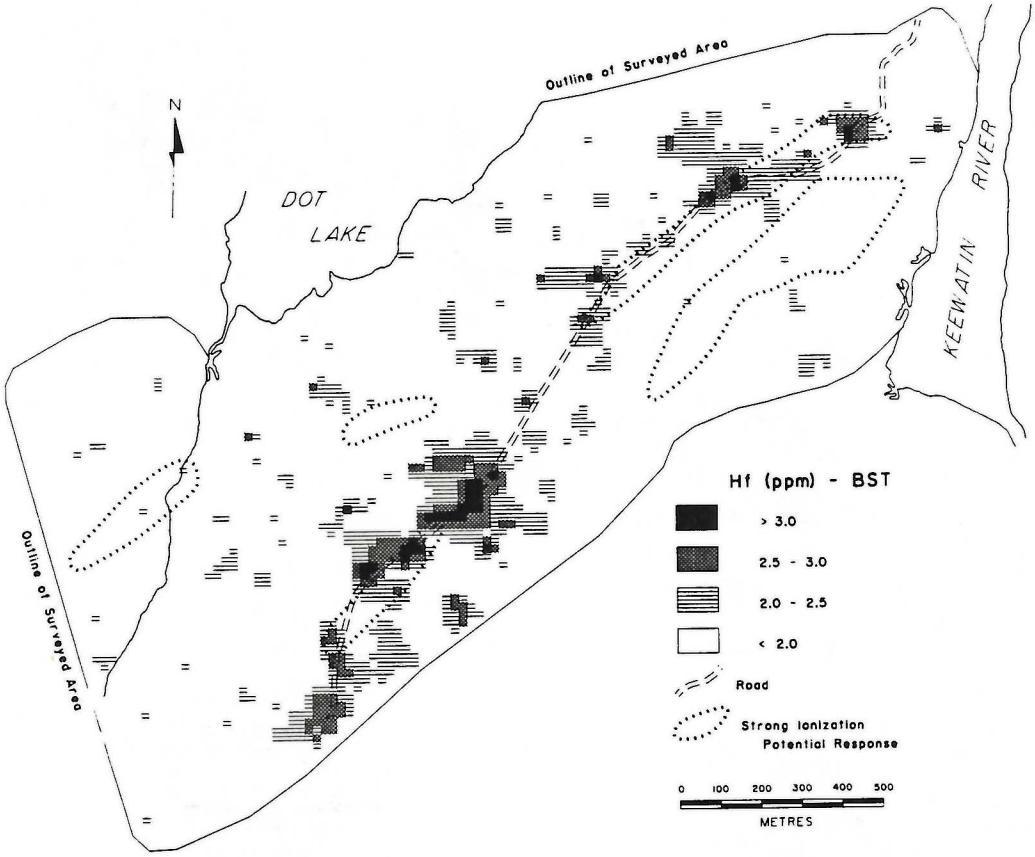

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN RIVER
Outline of Surveyed Area
Co (%) - BST
> 25
20 - 25
15 - 20
< 15
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

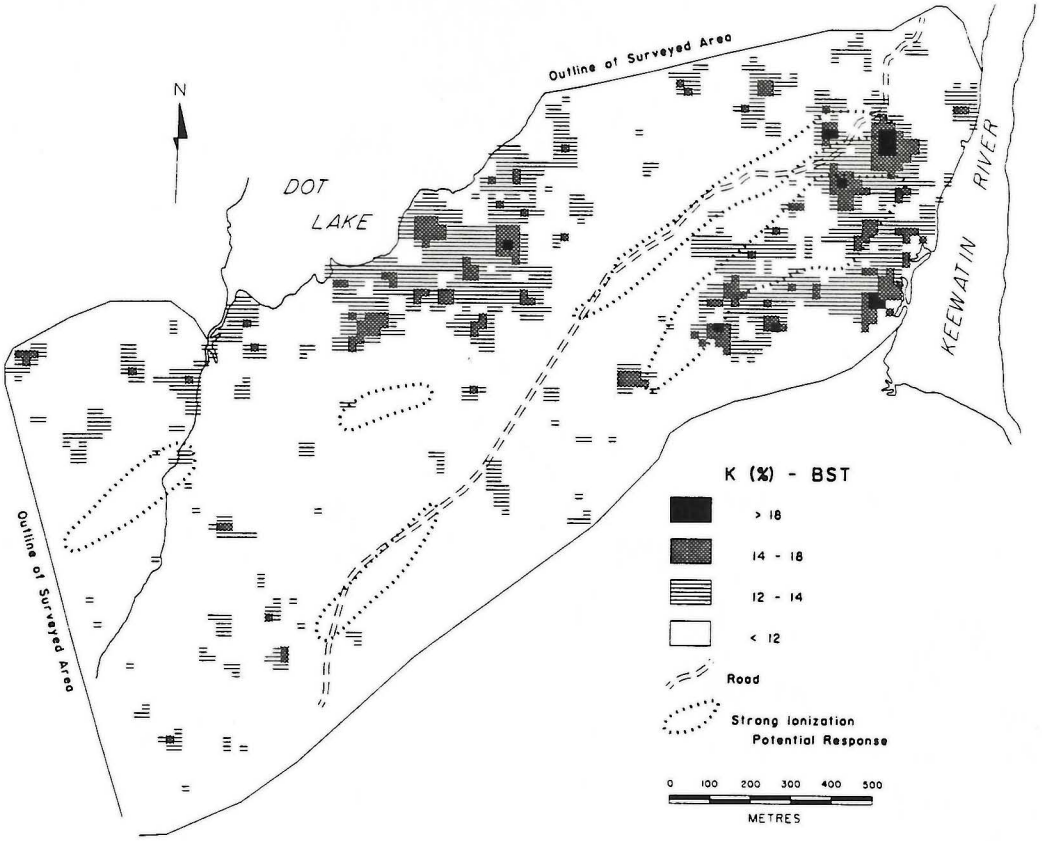

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN RIVER
Outline of Surveyed Area
Co (ppm) - BST
> 25
15 - 25
10 - 15
< 10
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

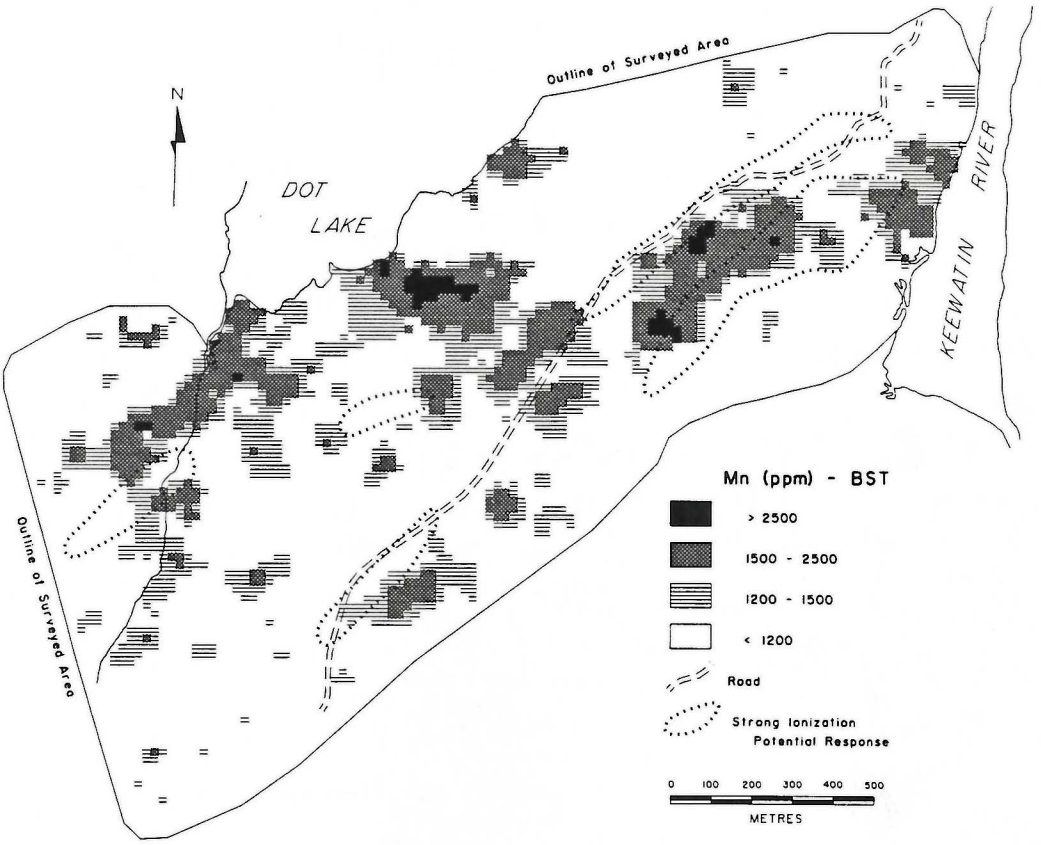

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
Cr (ppm) - BST
> 90
70 - 90
60 - 70
< 60
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

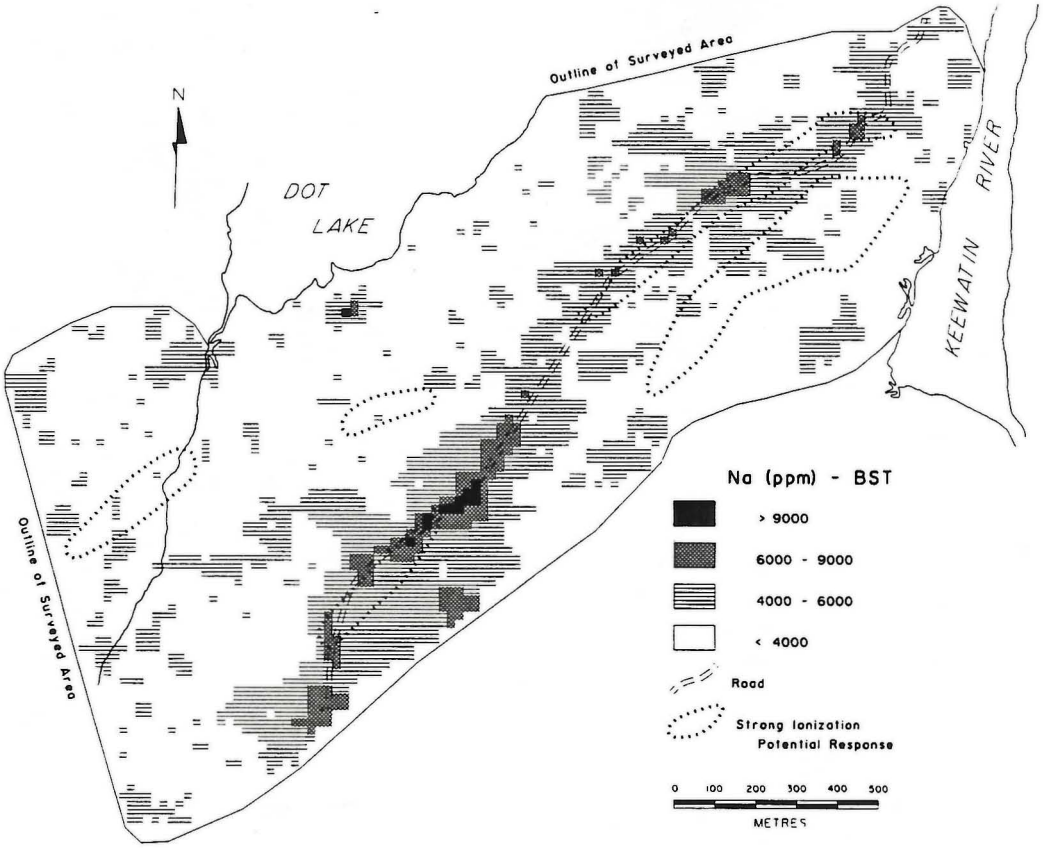

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
Cs (ppm) - BST
> 9
6 - 9
4 - 6
< 4
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

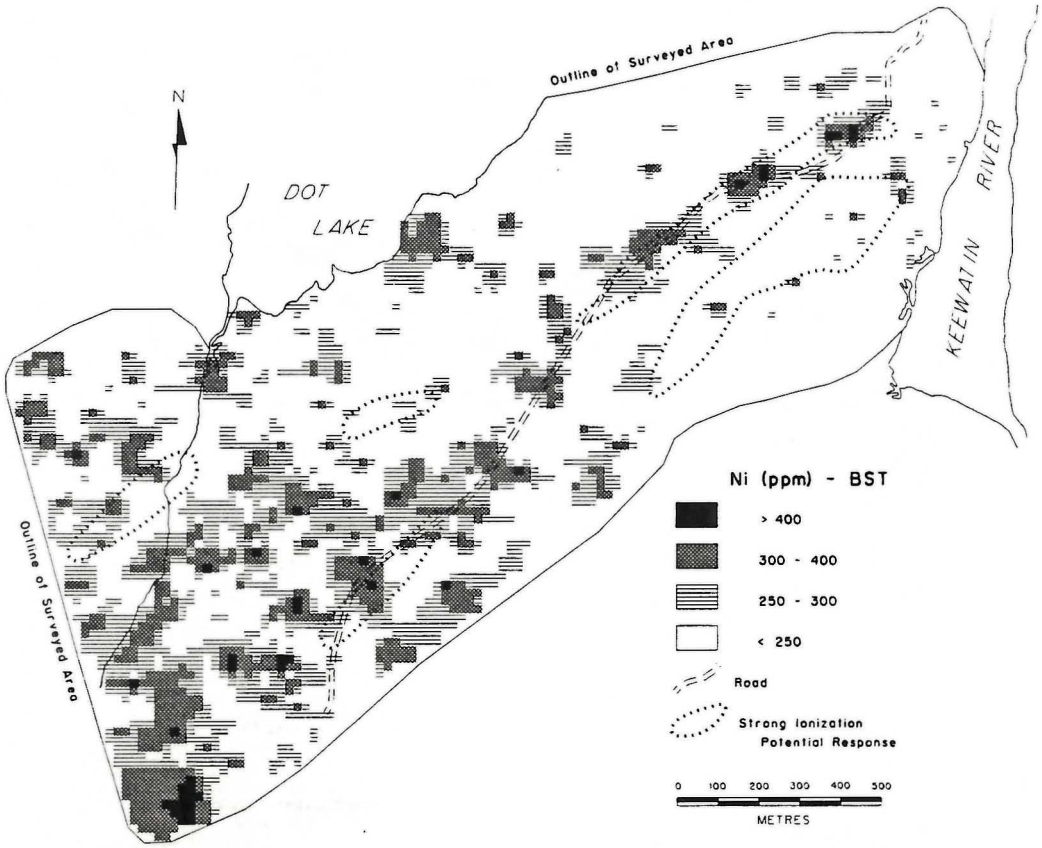

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN RIVER
Outline of Surveyed Area
Fe (%) - BST
> 3.0
2.0 - 3.0
1.5 - 2.0
< 1.5
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

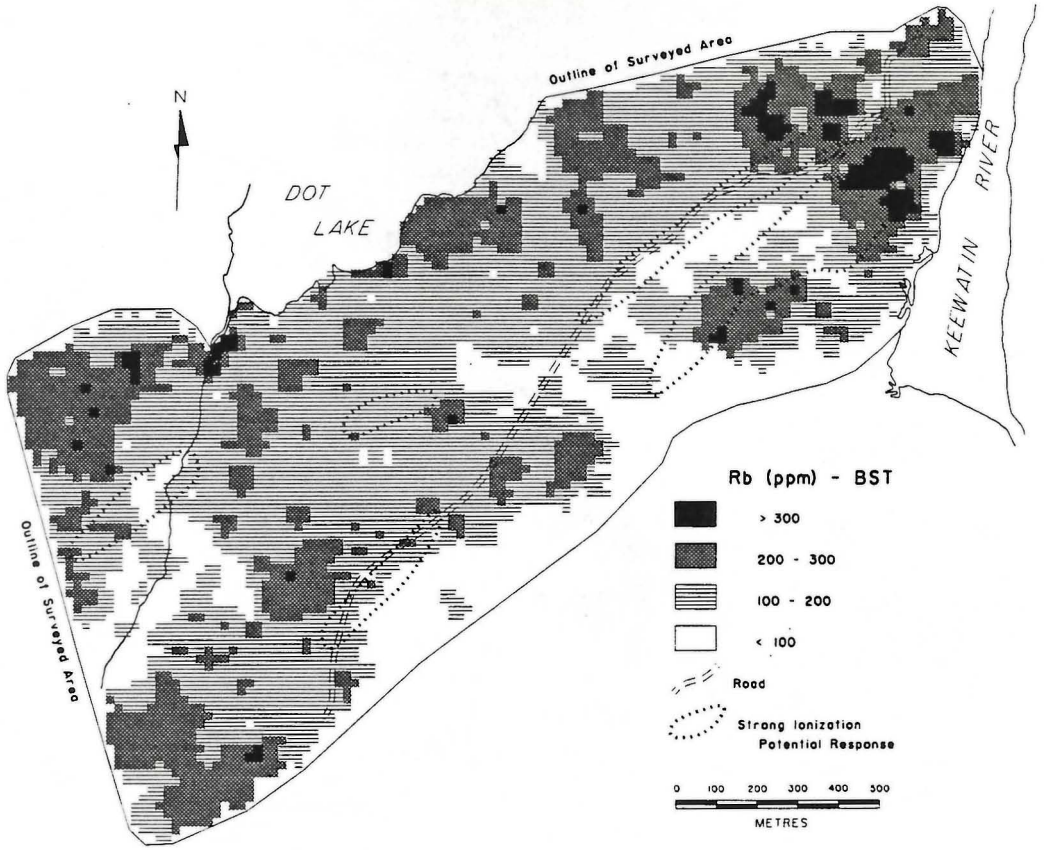

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN RIVER
Outline of Surveyed Area
Hf (ppm) - BST
> 3.0
2.5 - 3.0
2.0 - 2.5
< 2.0
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

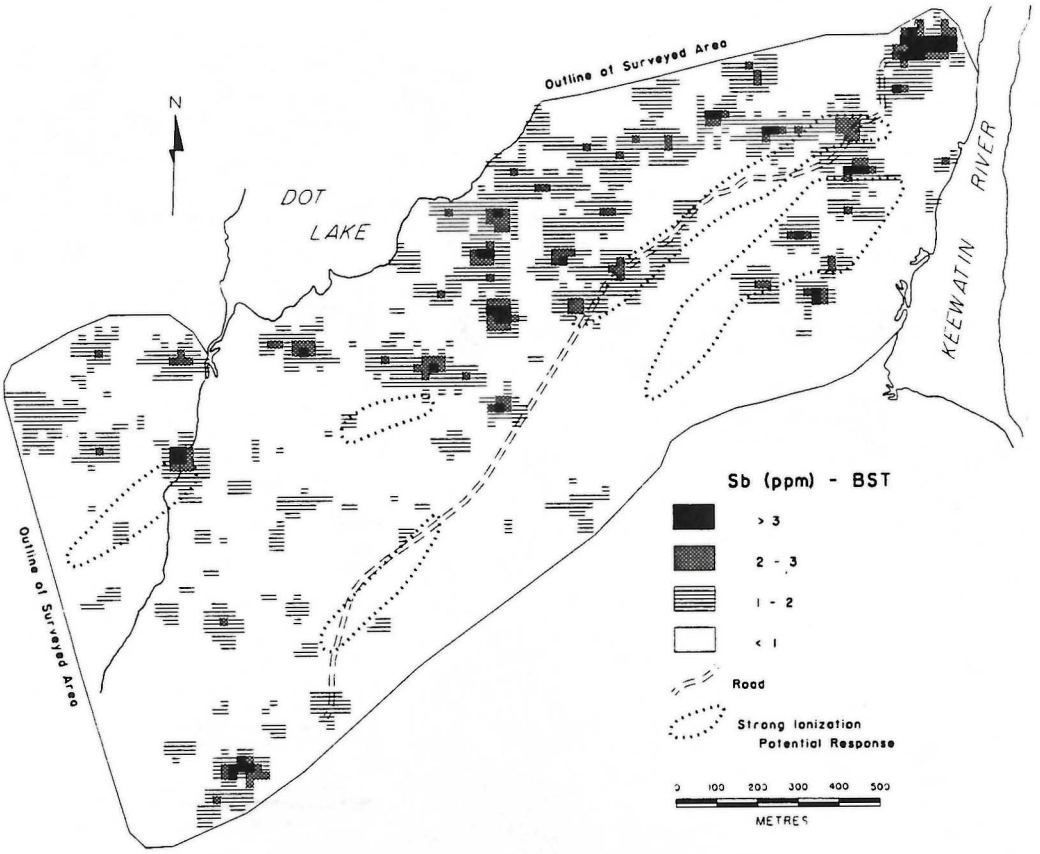

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
K (%) - BST
> 18
14 - 18
12 - 14
< 12
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

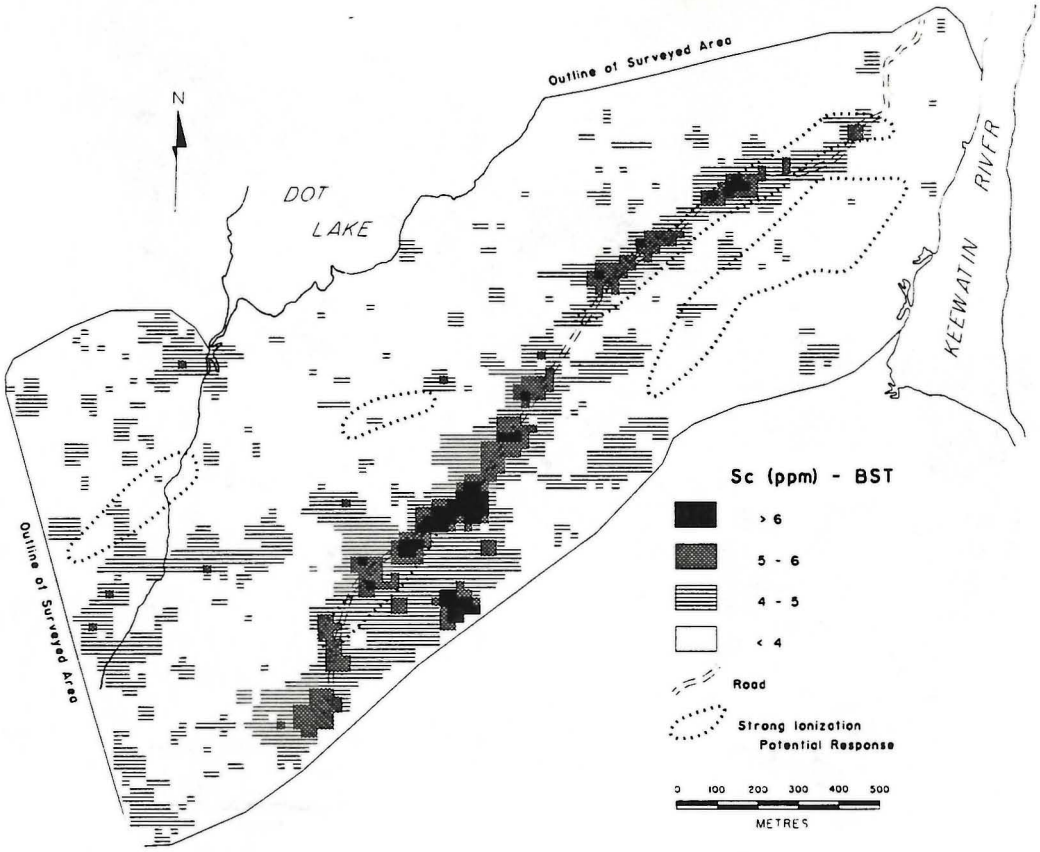

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
Mn (ppm) - BST
> 2500
1500 - 2500
1200 - 1500
< 1200
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

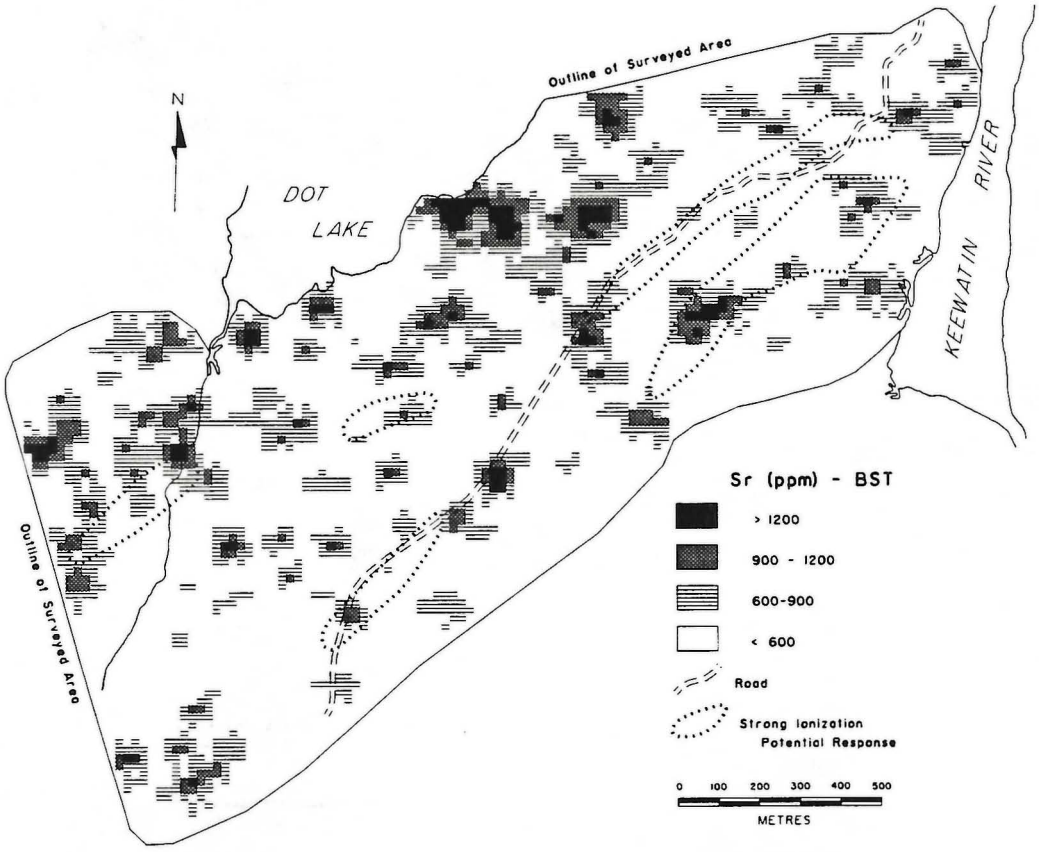

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
Na (ppm) - BST
> 9000
6000 - 9000
4000 - 6000
< 4000
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

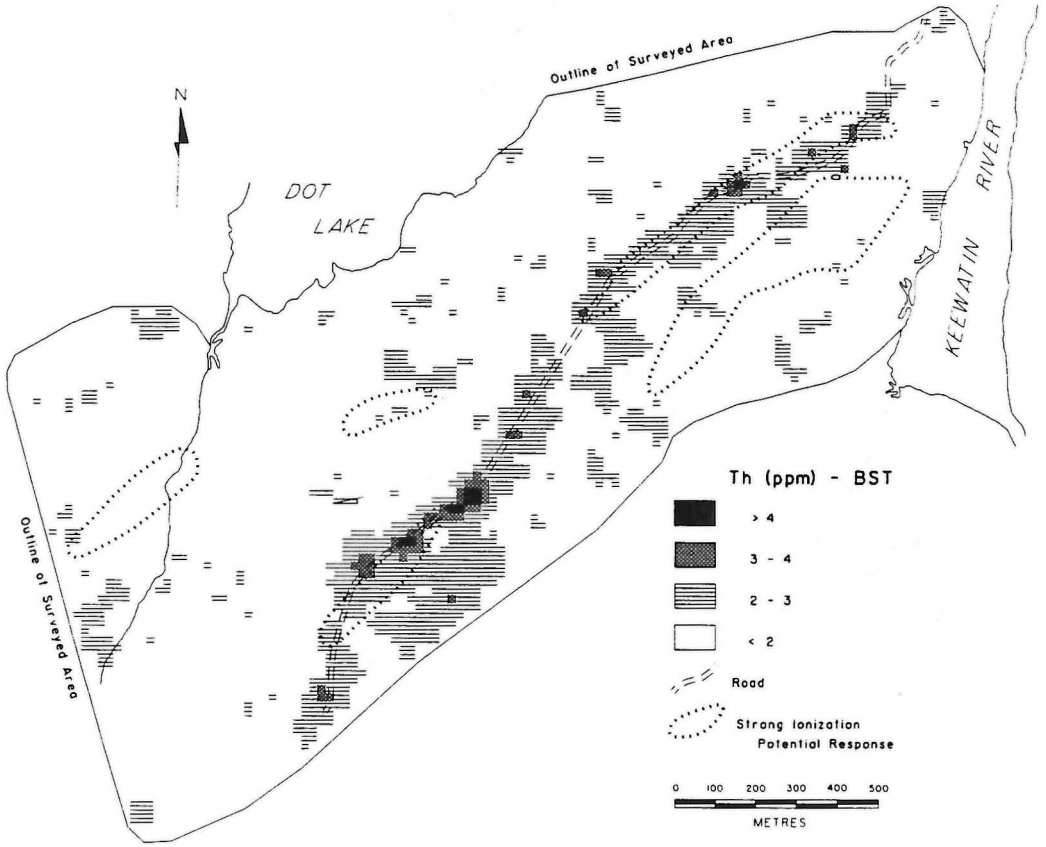

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
Ni (ppm) - BST
> 400
300 - 400
250 - 300
< 250
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

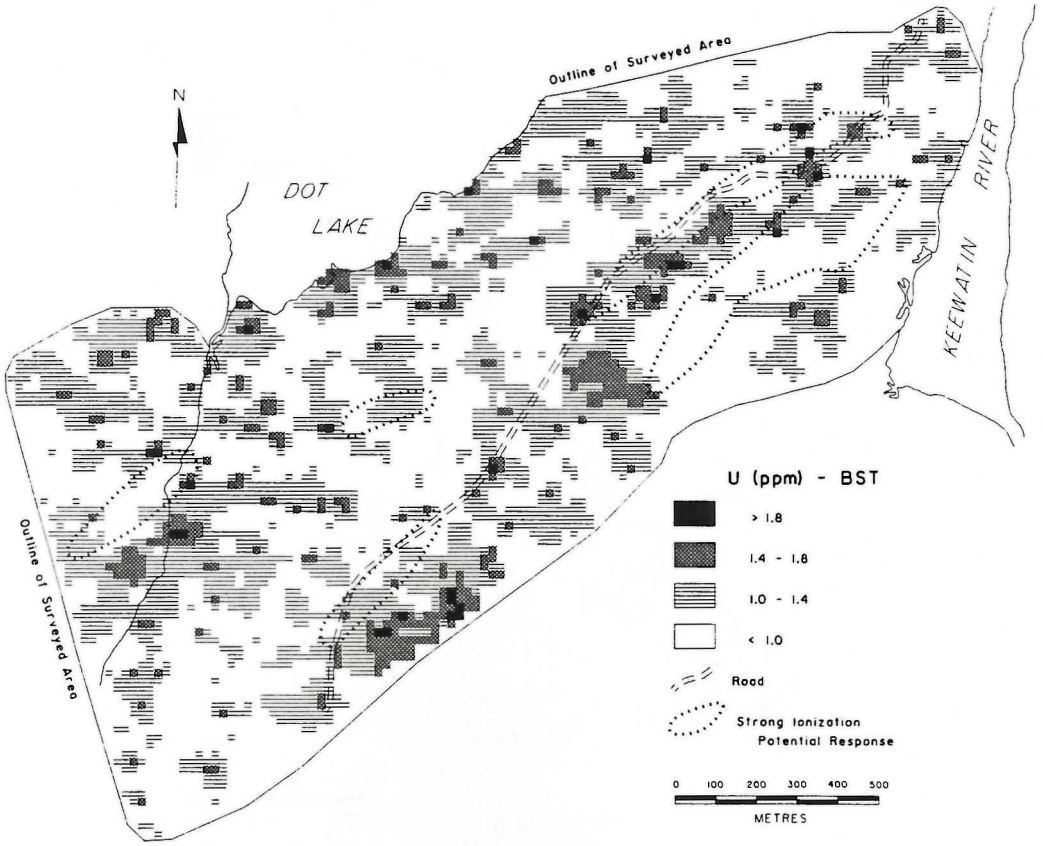

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
Rb (ppm) - BST
> 300
200 - 300
100 - 200
< 100
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

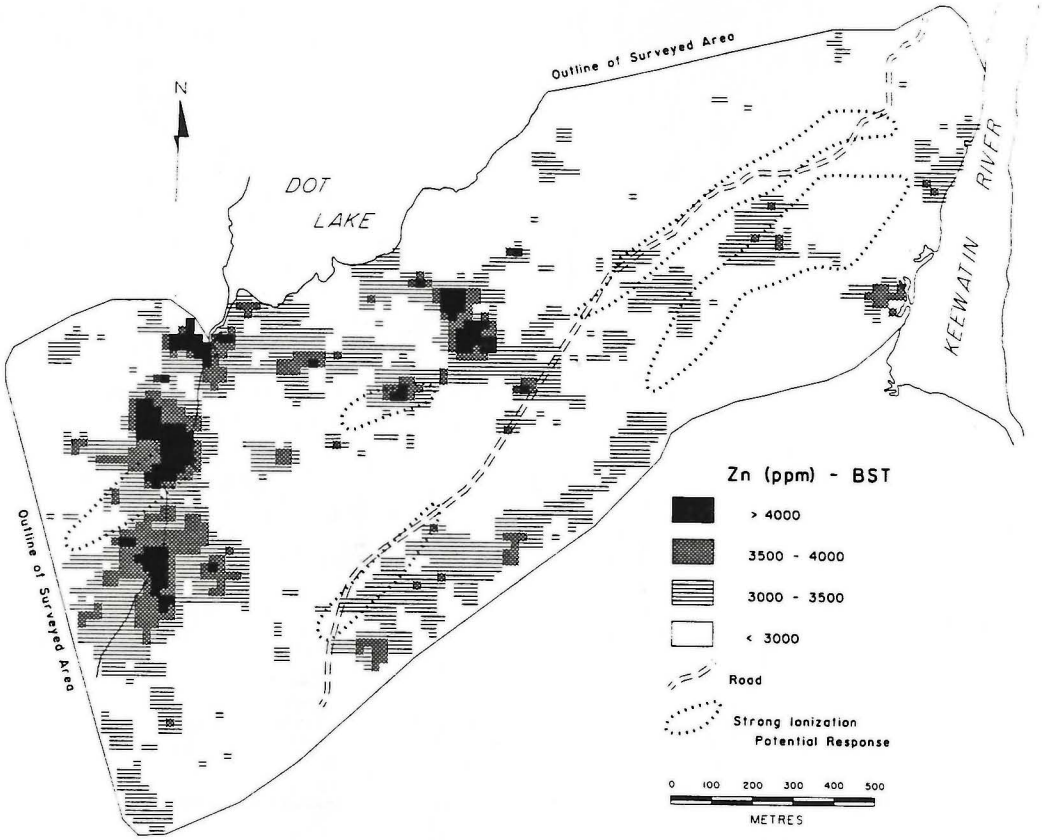

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
Sb (ppm) - BST
> 3
2 - 3
1 - 2
< 1
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

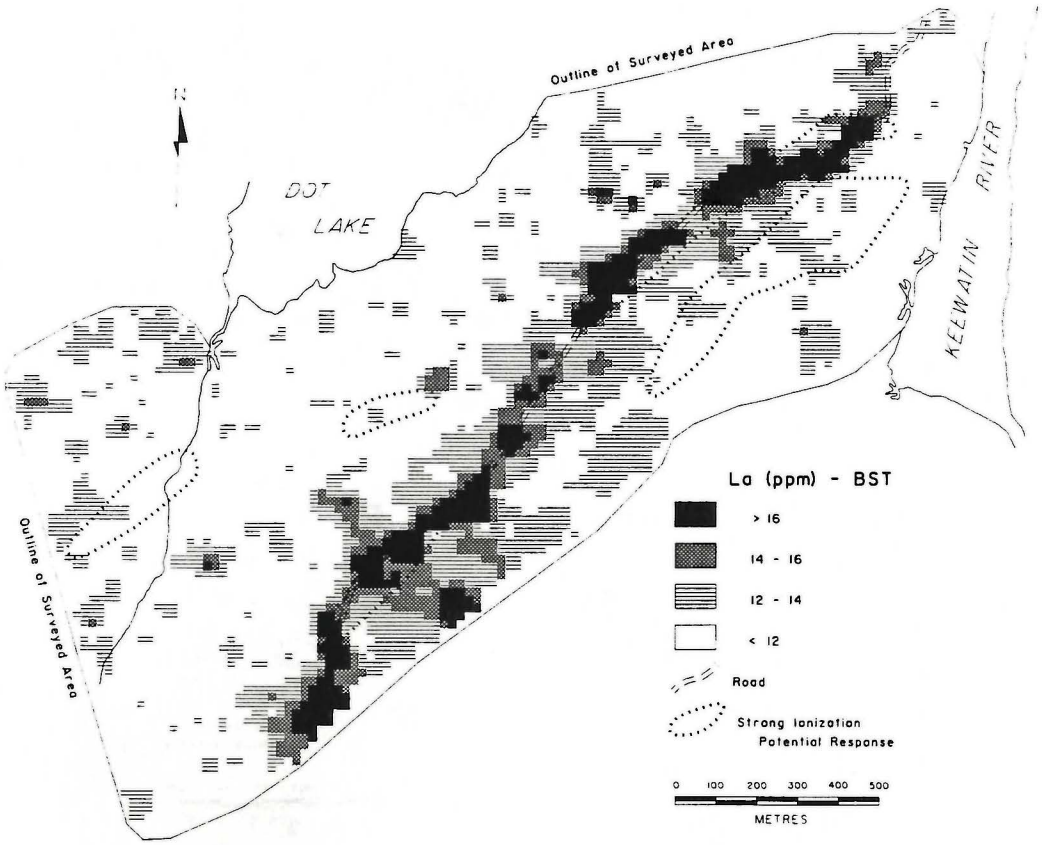

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
Sc (ppm) - BST
> 6
5 - 6
4 - 5
< 4
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

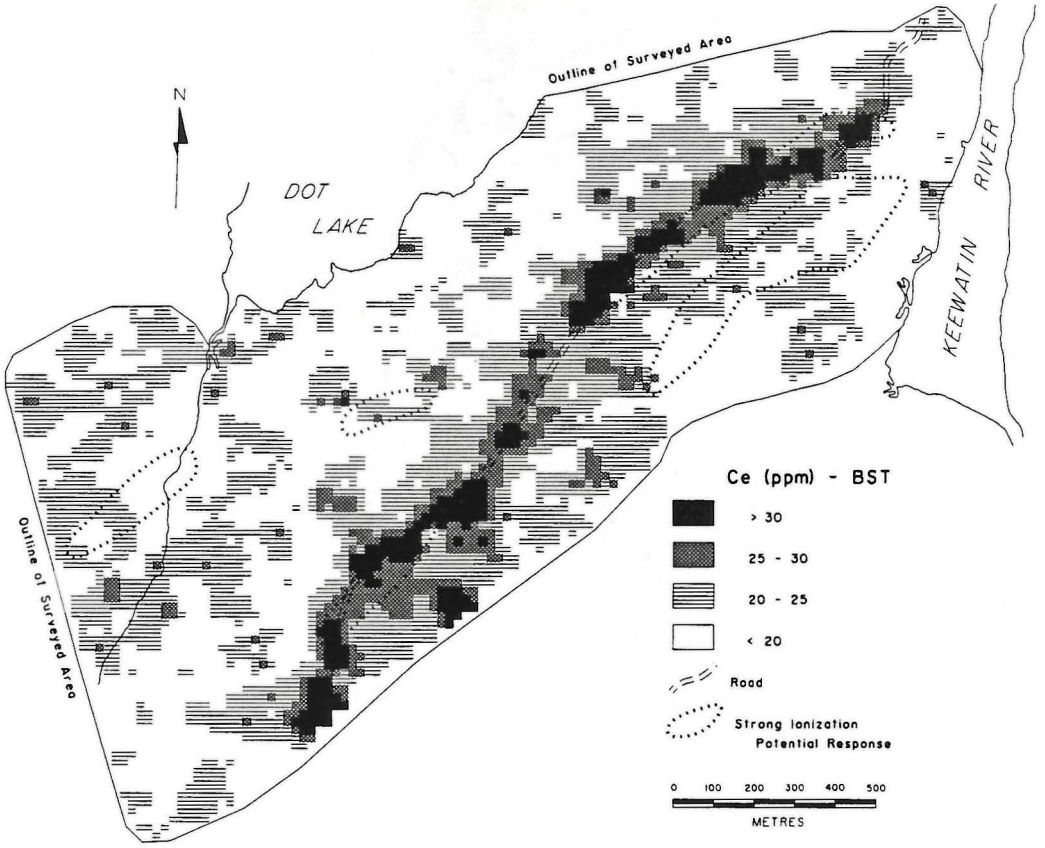

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
Sr (ppm) - BST
> 1200
900 - 1200
600-900
< 600
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

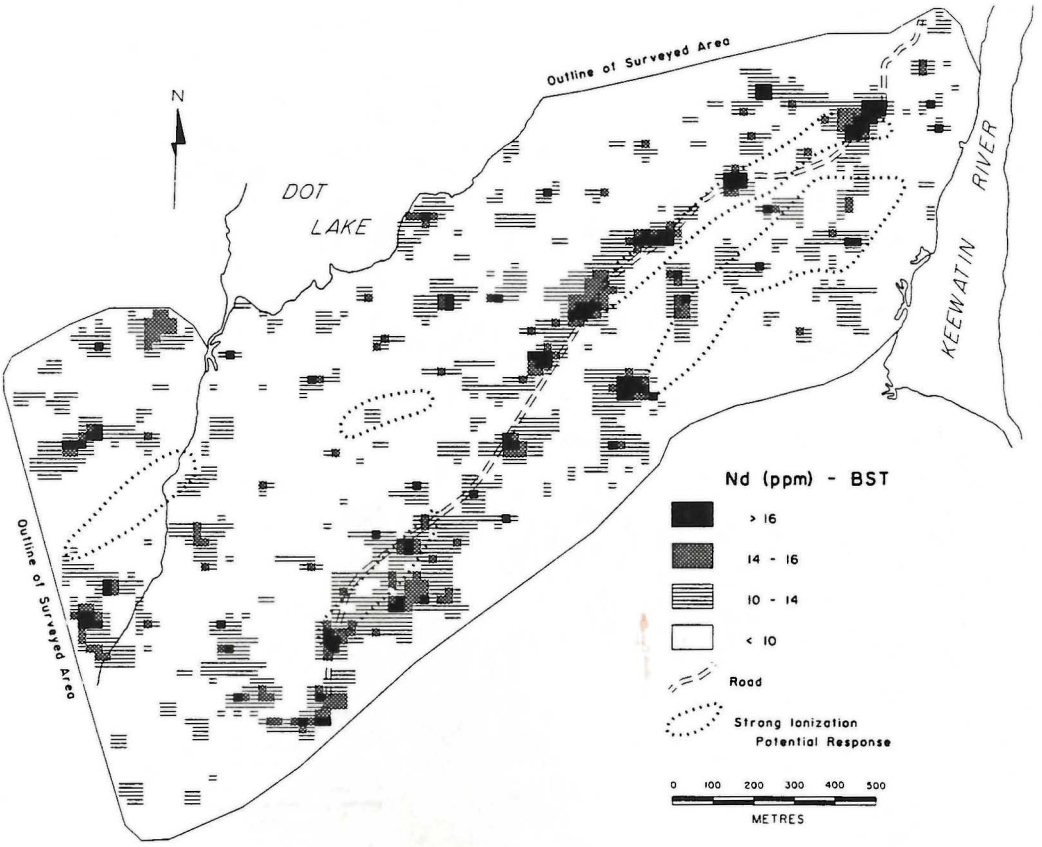

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN RIVER
Outline of Surveyed Area
Th (ppm) - BST
> 4
3 - 4
2 - 3
< 2
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

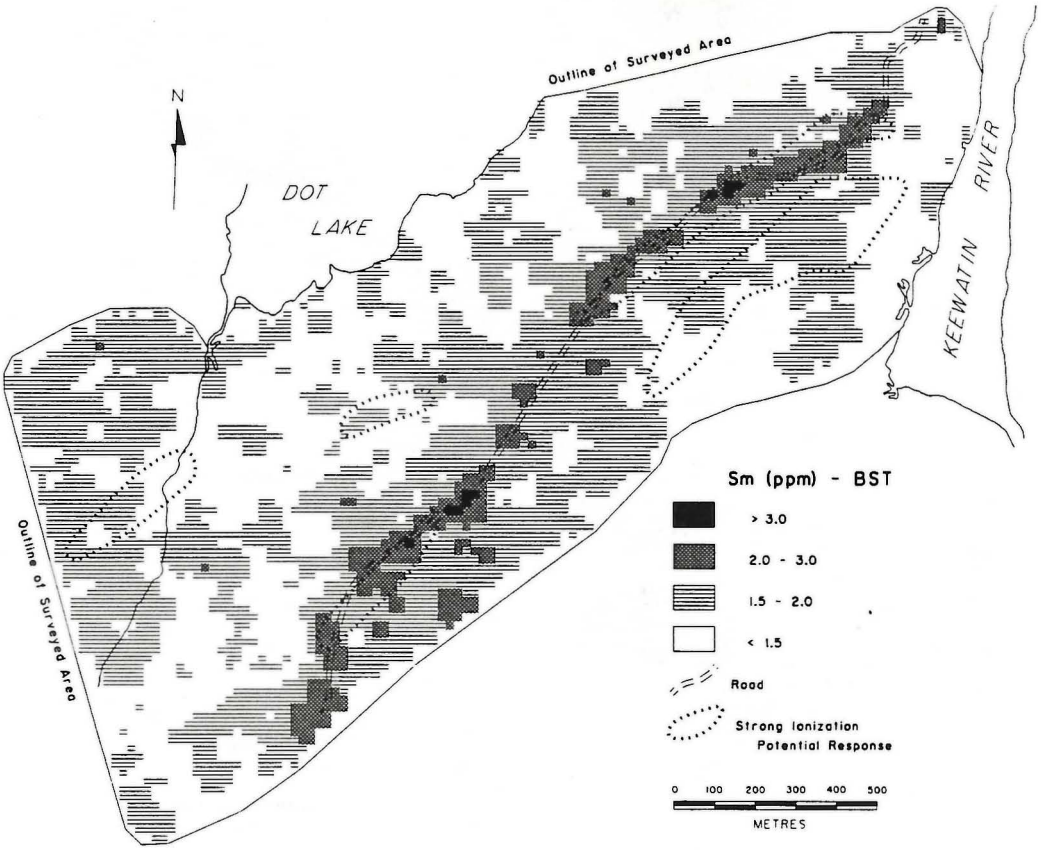

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN RIVER
Outline of Surveyed Area
U (ppm) - BST
> 1.8
1.4 - 1.8
1.0 - 1.4
< 1.0
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

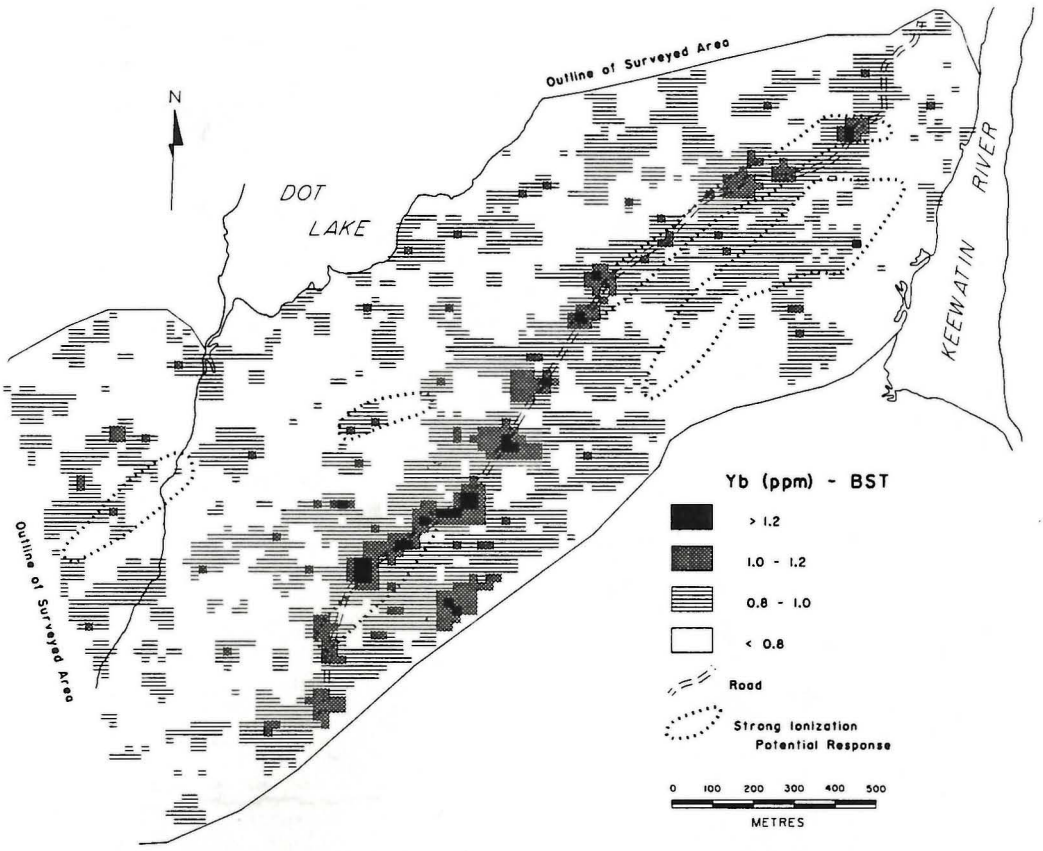

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN RIVER
Outline of Surveyed Area
Zn (ppm) - BST
> 4000
3500 - 4000
3000 - 3500
< 3000
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

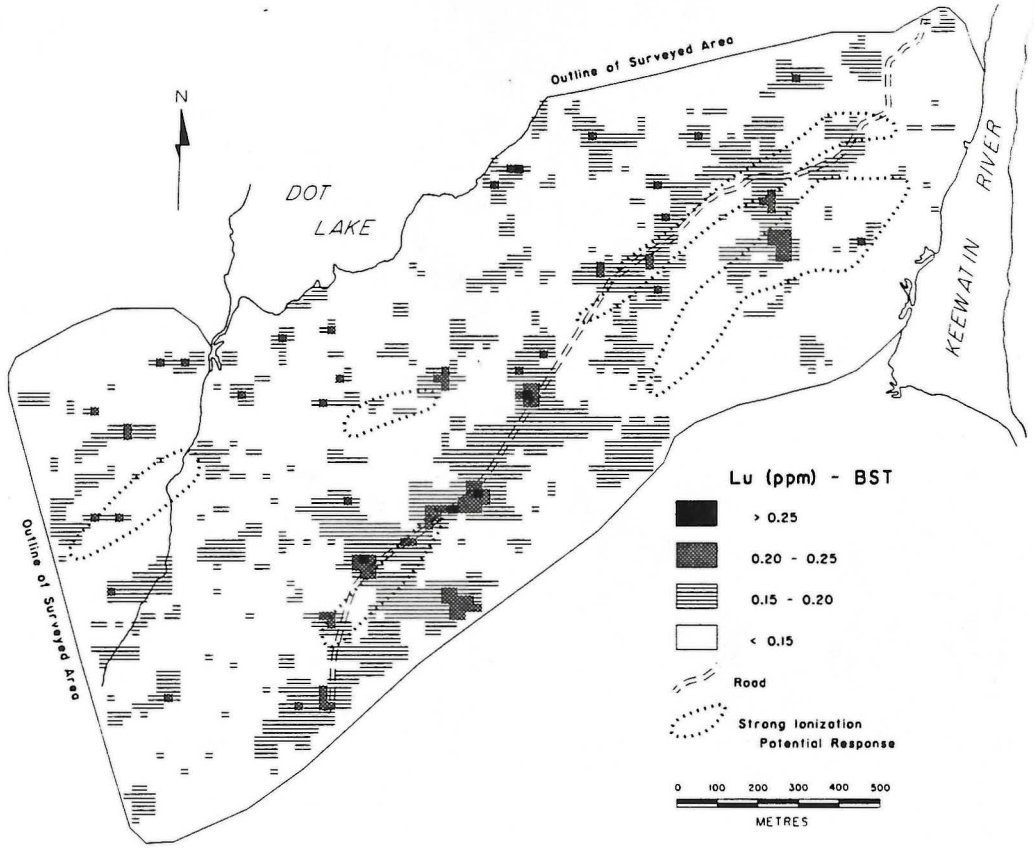

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN RIVER
Outline of Surveyed Area
La (ppm) - BST
> 16
14 - 16
12 - 14
< 12
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

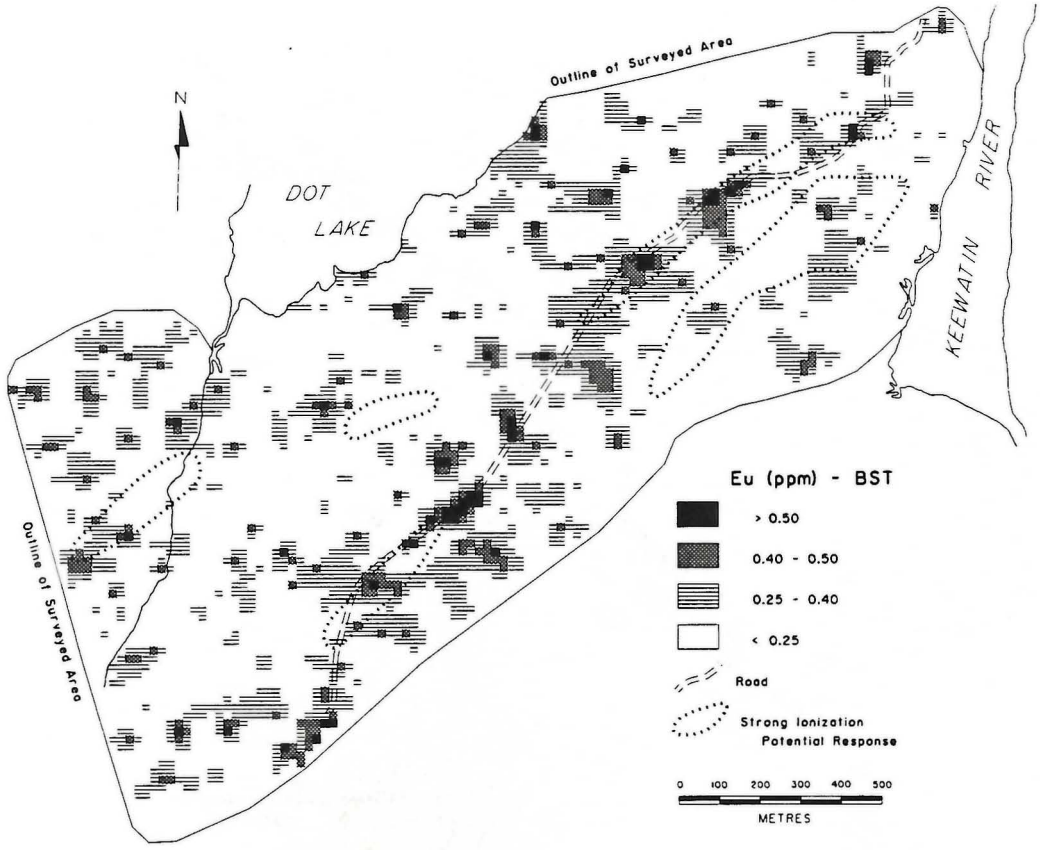

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
Ce (ppm) - BST
> 30
25 - 30
20 - 25
< 20
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

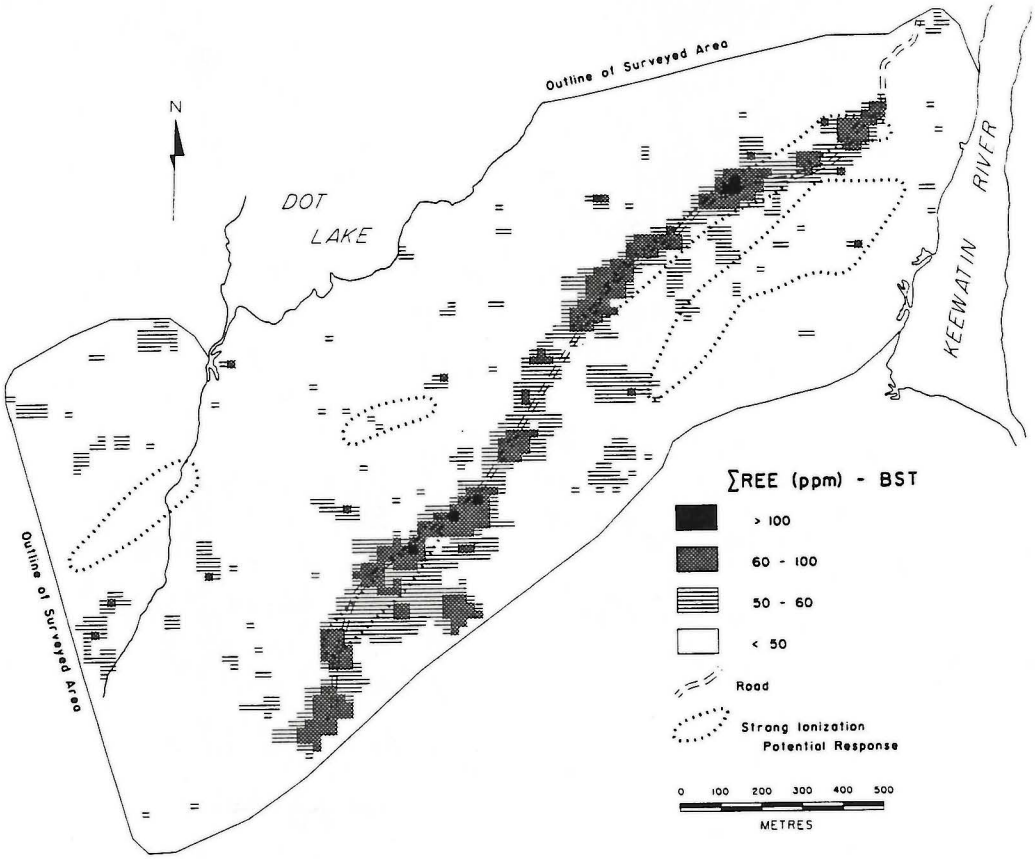

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
Nd (ppm) - BST
> 16
14 - 16
10 - 14
< 10
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

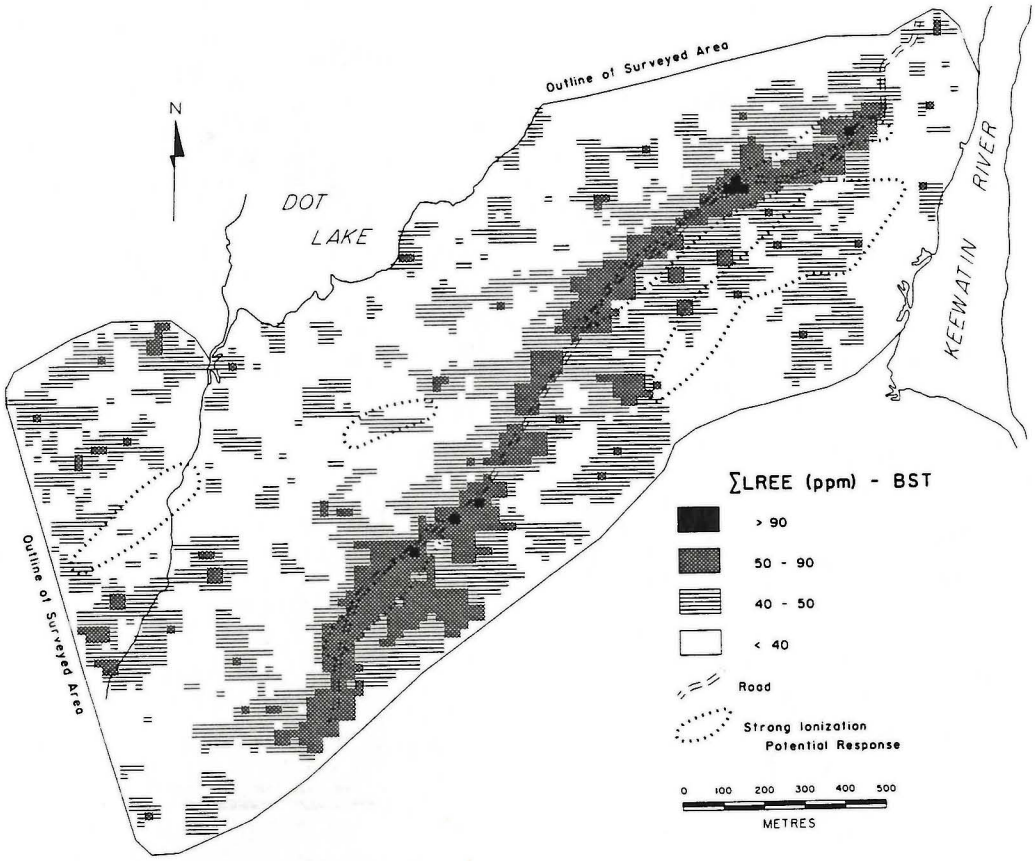

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
Sm (ppm) - BST
> 3.0
2.0 - 3.0
1.5 - 2.0
< 1.5
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

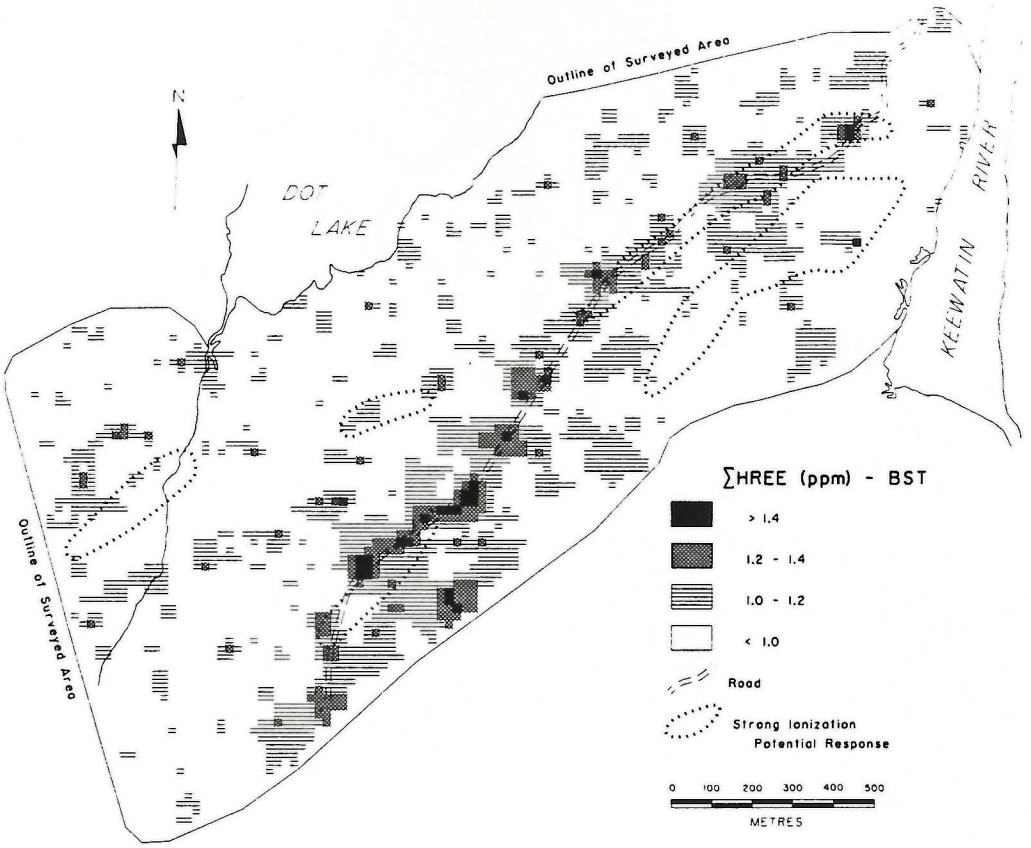

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
Yb (ppm) - BST
> 1.2
1.0 - 1.2
0.8 - 1.0
< 0.8
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

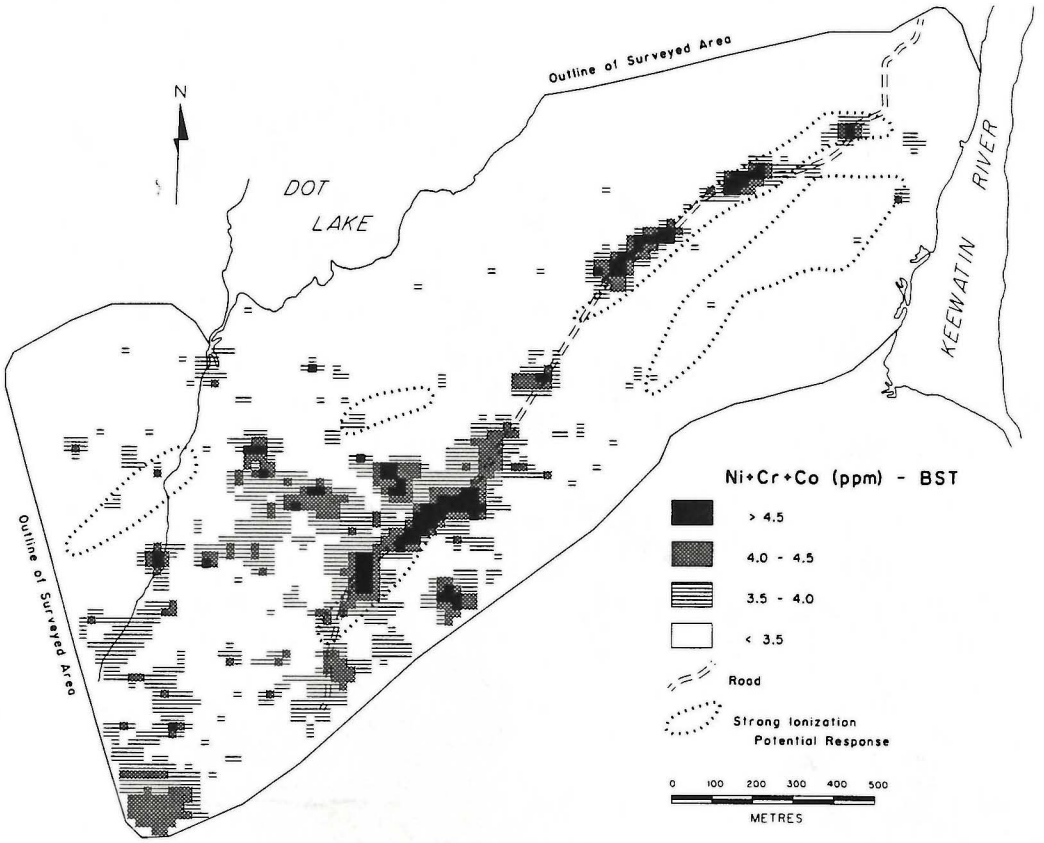

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN RIVER
Outline of Surveyed Area
Lu (ppm) - BST
> 0.25
0.20 - 0.25
0.15 - 0.20
< 0.15
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

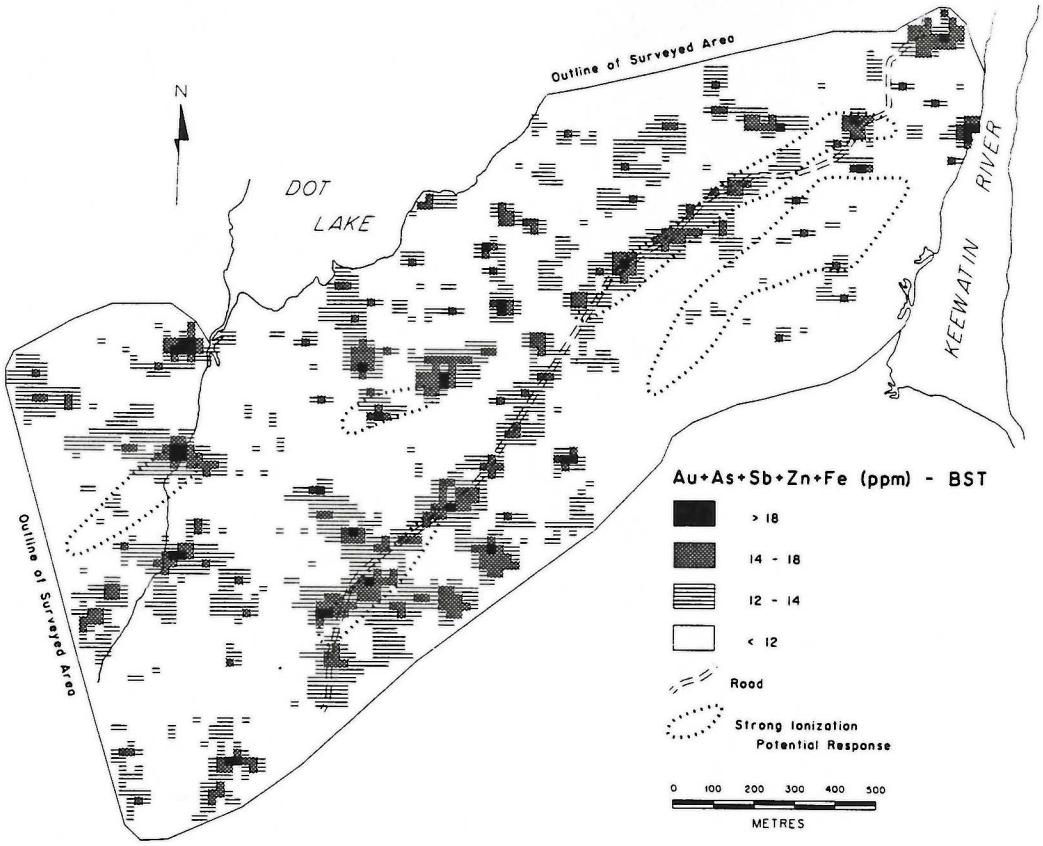

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN RIVER
Outline of Surveyed Area
Eu (ppm) - BST
> 0.50
0.40 - 0.50
0.25 - 0.40
< 0.25
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

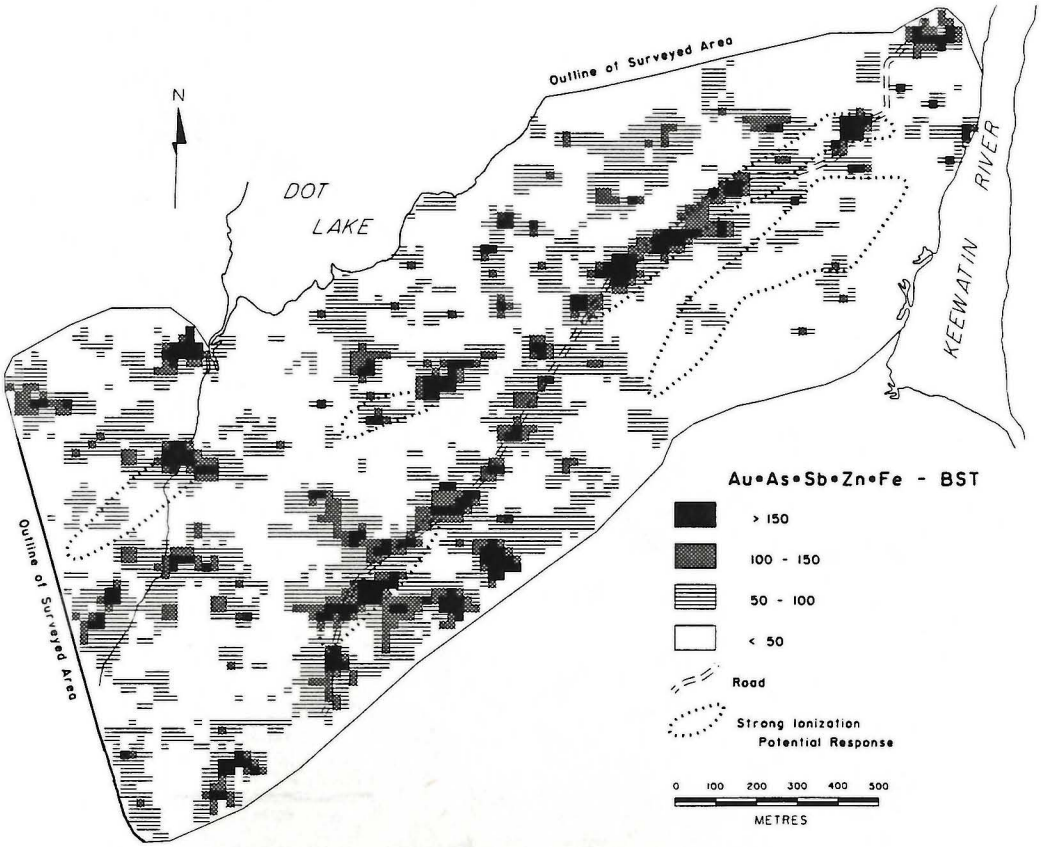

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN RIVER
Outline of Surveyed Area
∑REE (ppm) - BST
> 100
60 - 100
50 - 60
< 50
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

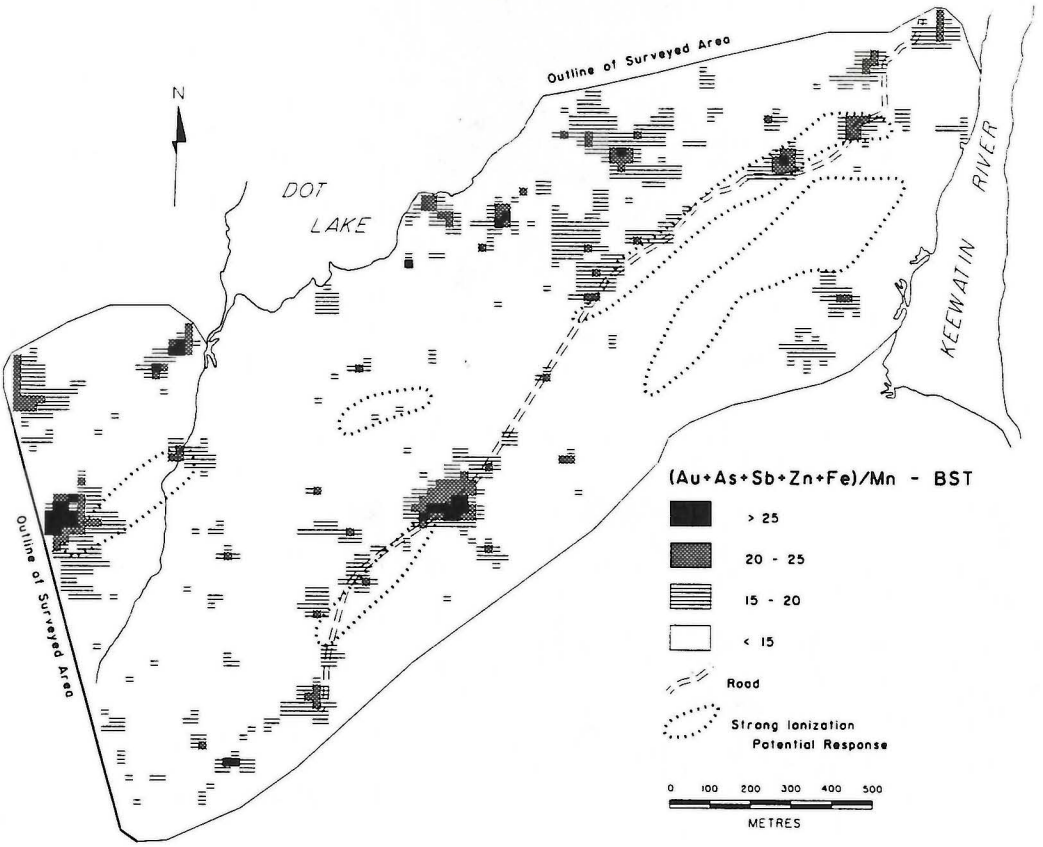

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN RIVER
Outline of Surveyed Area
∑LREE (ppm) - BST
> 90
50 - 90
40 - 50
< 40
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

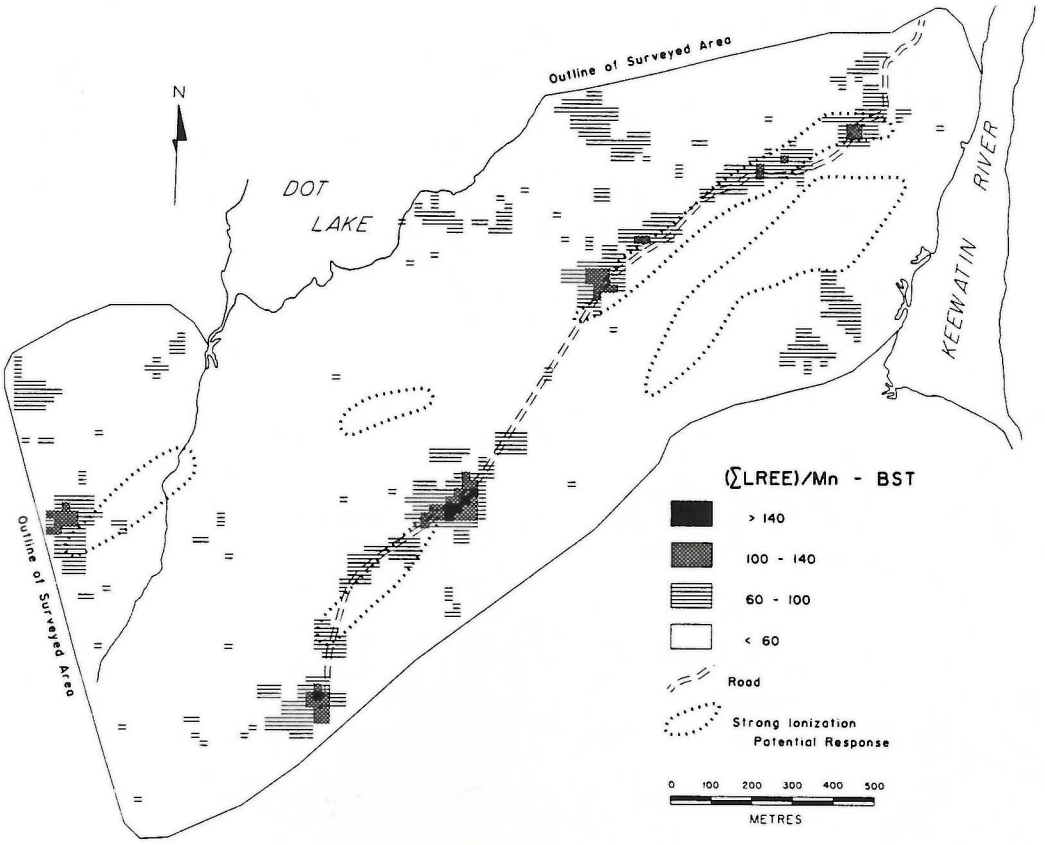

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
∑HREE (ppm) - BST
> 1.4
1.2 - 1.4
1.0 - 1.2
< 1.0
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

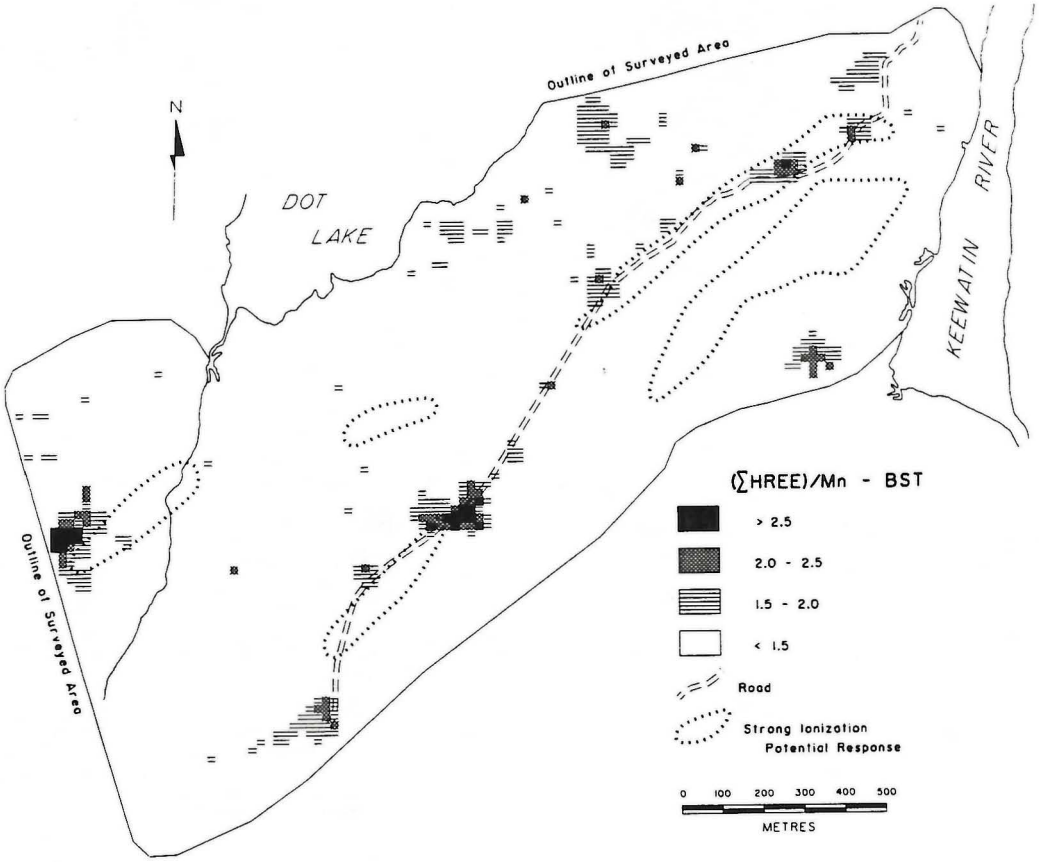

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
Ni+Cr+Co (ppm) - BST
> 4.5
4.0 - 4.5
3.5 - 4.0
< 3.5
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

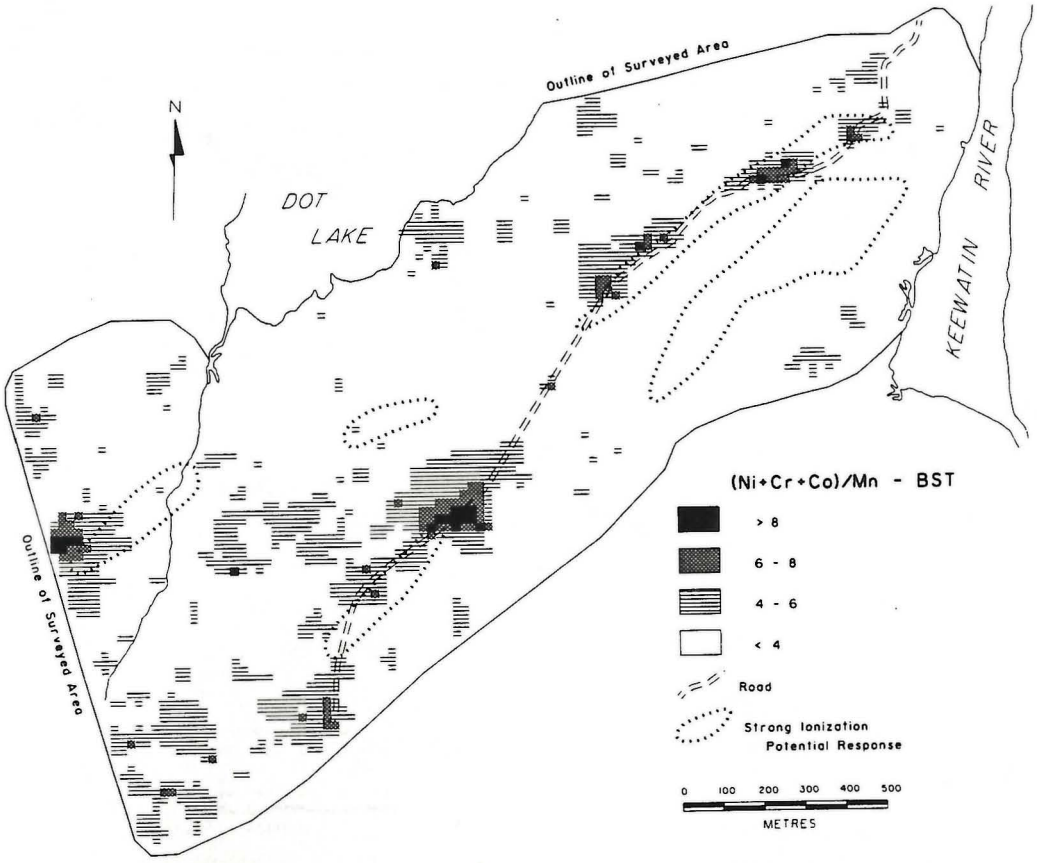

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
Au+As+Sb+Zn+Fe (ppm) - BST
> 18
14 - 18
12 - 14
< 12
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

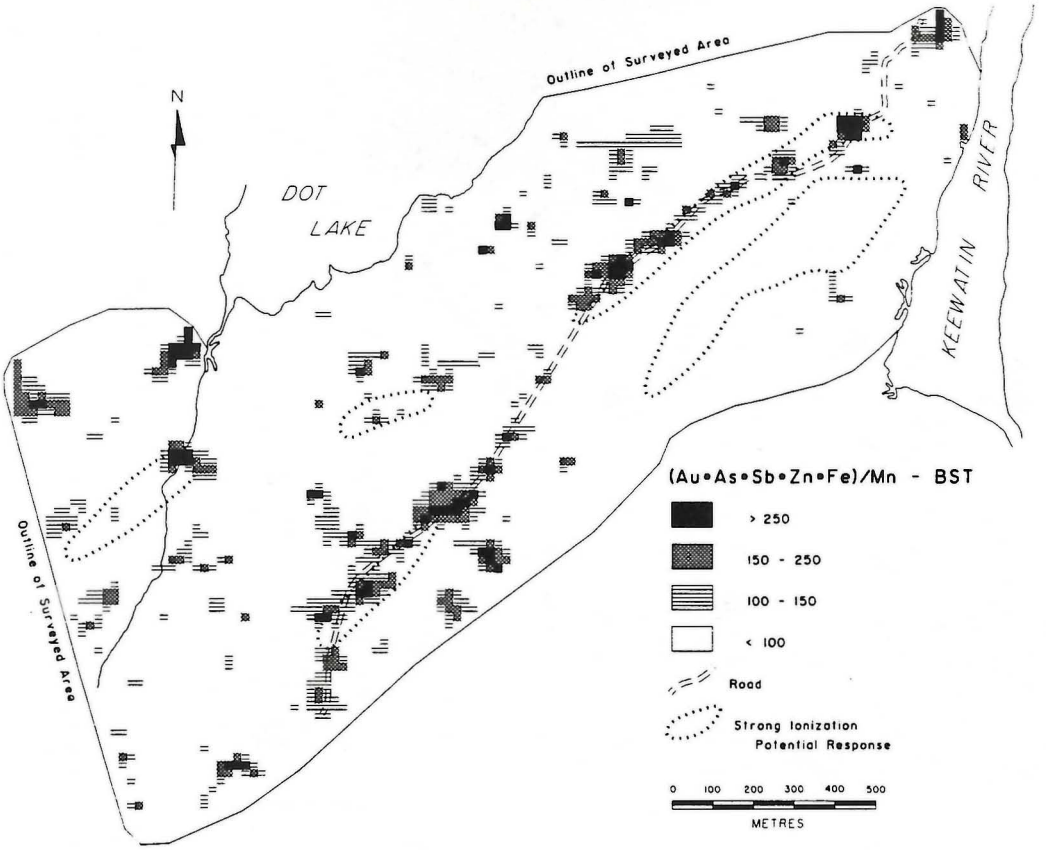

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
Au•As•Sb•Zn•Fe - BST
> 150
100 - 150
50 - 100
< 50
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

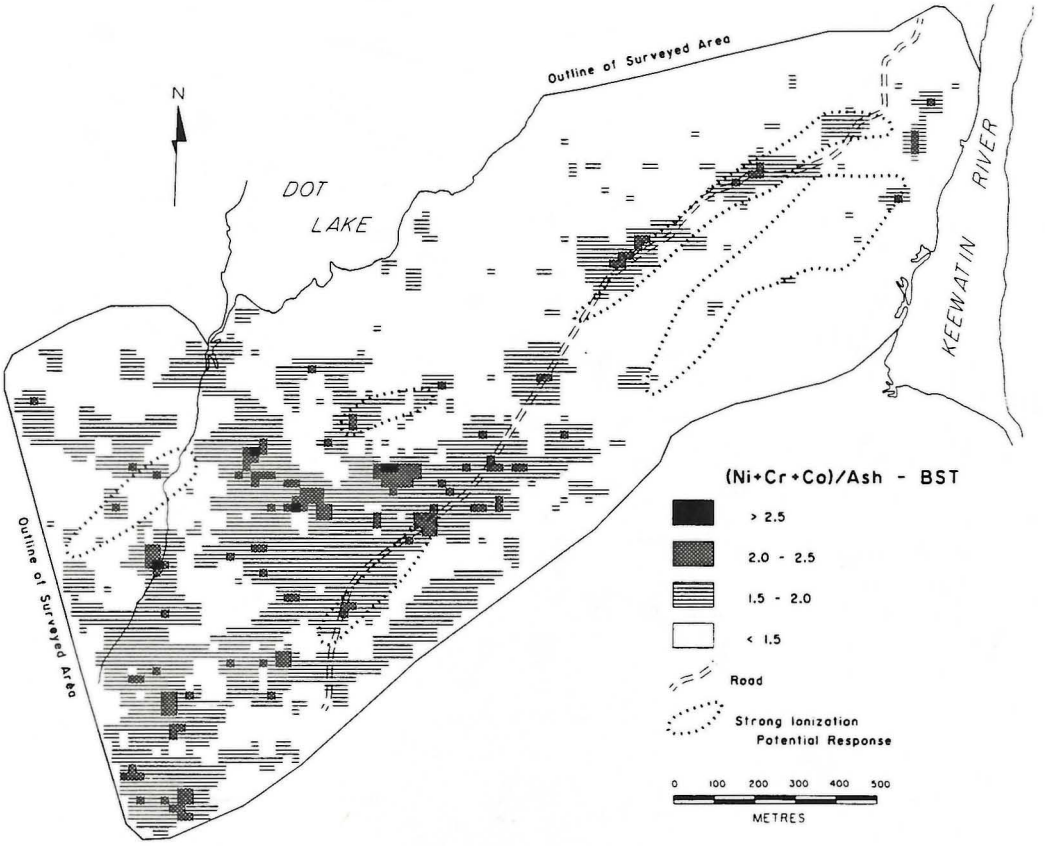

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
(Au+As+Sb+Zn+Fe)/Mn - BST
> 25
20 - 25
15 - 20
< 15
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

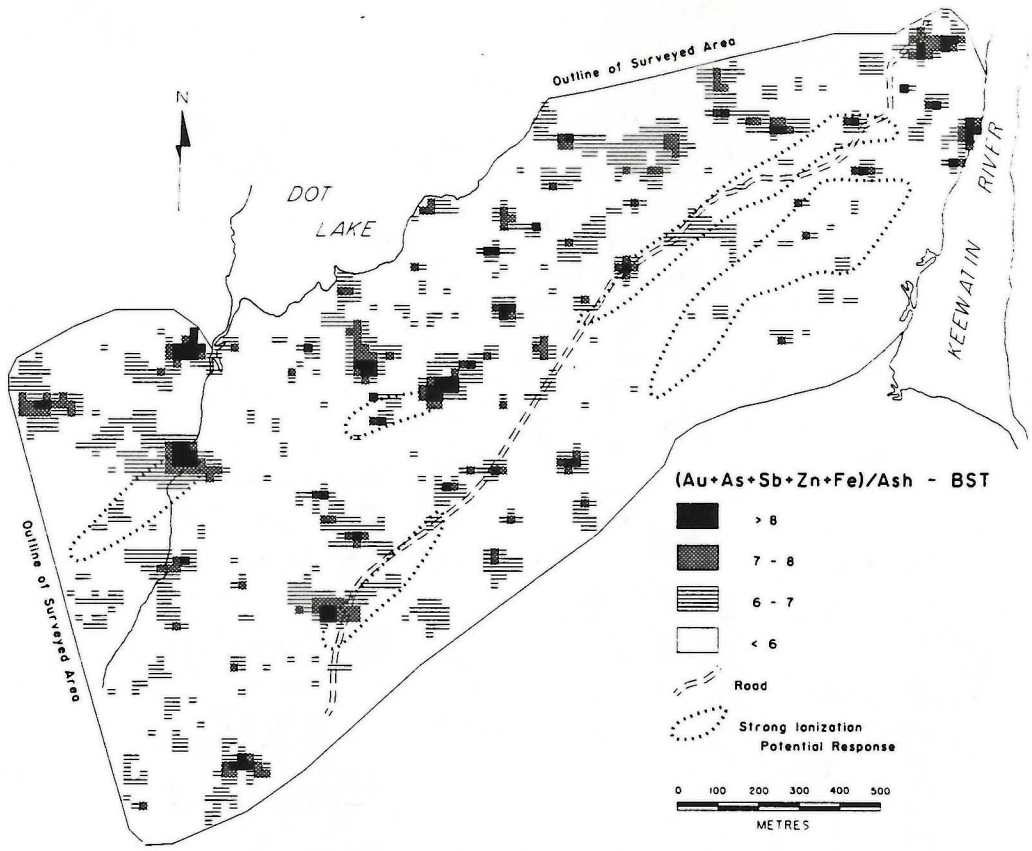

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
(∑LREE)/Mn - BST
> 140
100 - 140
60 - 100
< 60
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

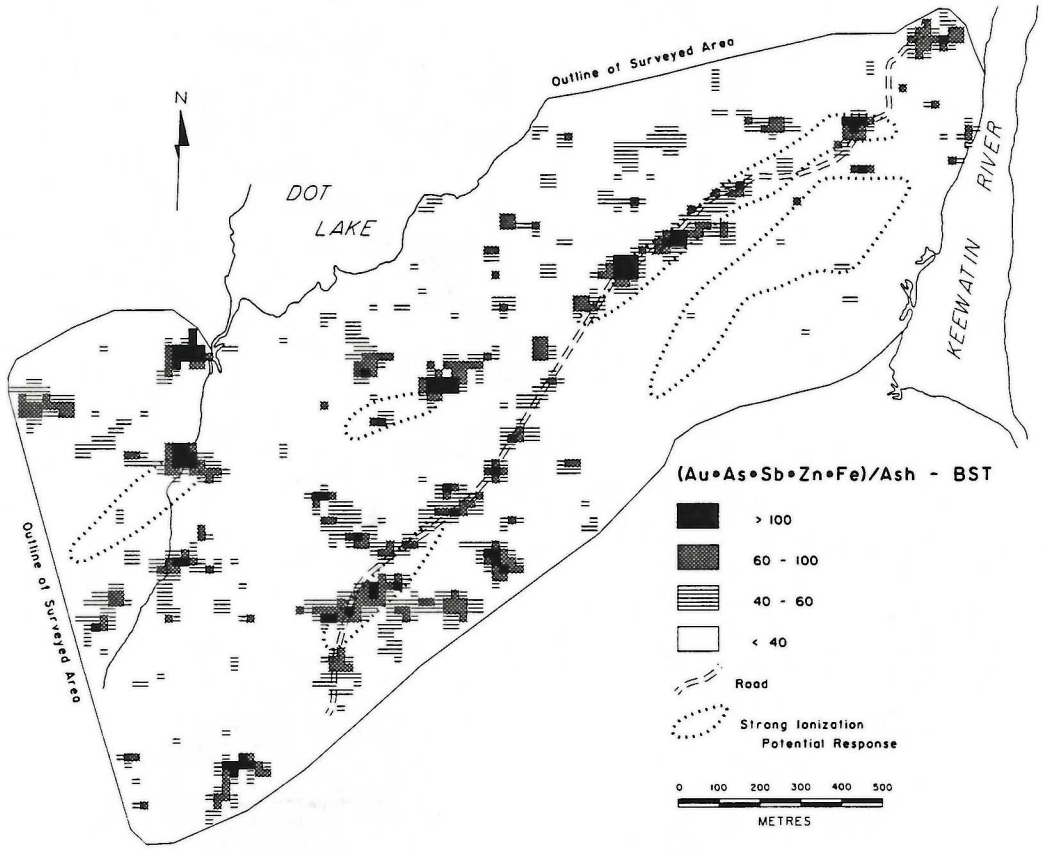

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
(∑HREE)/Mn - BST
> 2.5
2.0 - 2.5
1.5 - 2.0
< 1.5
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

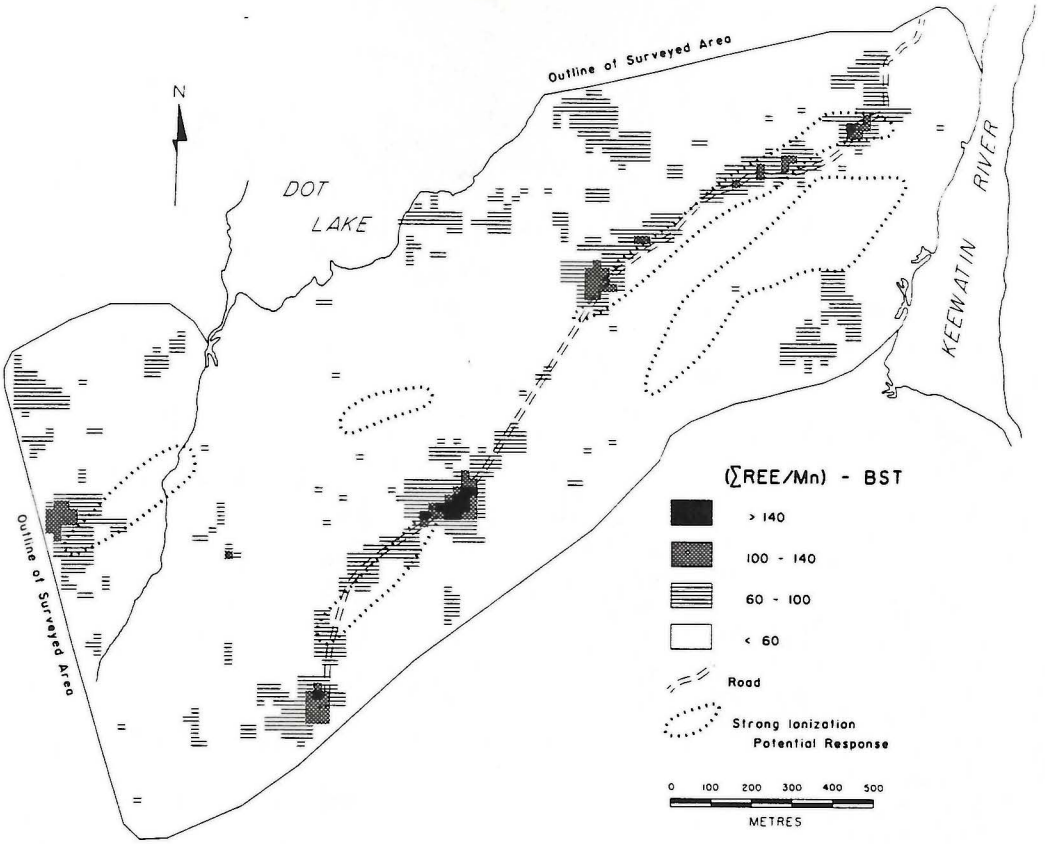

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
(Ni+Cr+Co)/Mn - BST
> 8
6 - 8
4 - 6
< 4
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

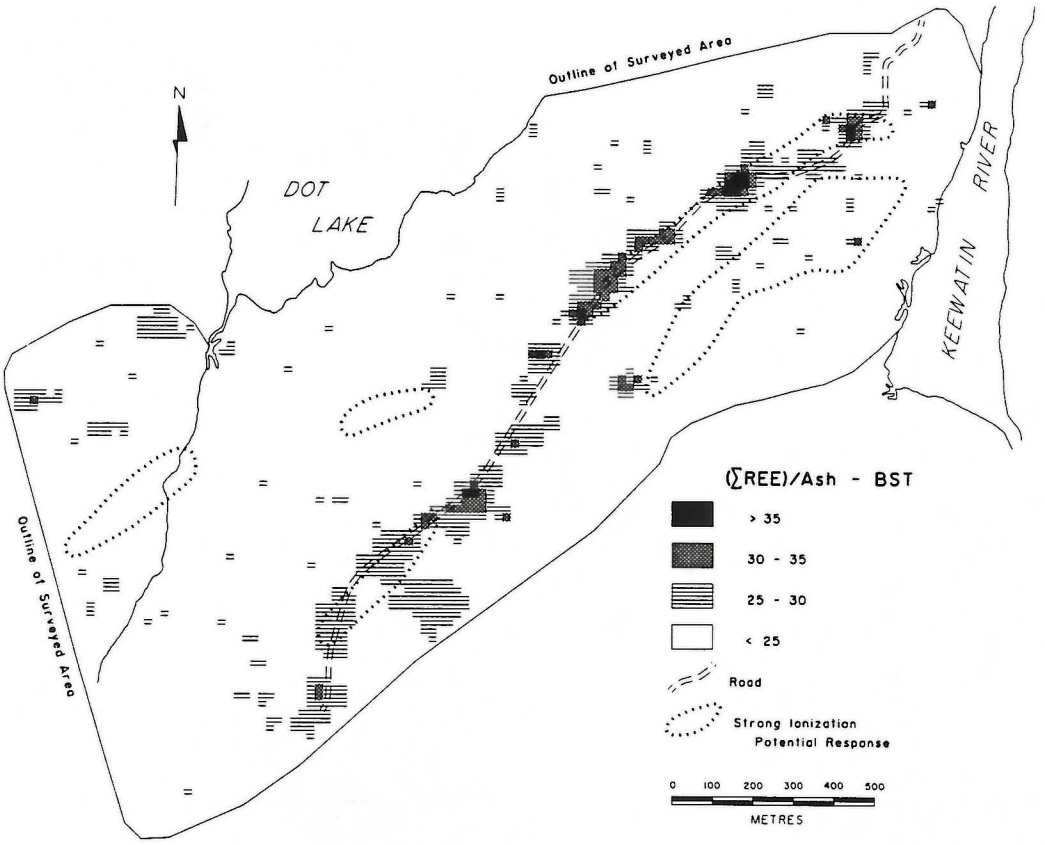

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN RIVER
Outline of Surveyed Area
(Au•As•Sb•Zn•Fe)/Mn - BST
> 250
150 - 250
100 - 150
< 100
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

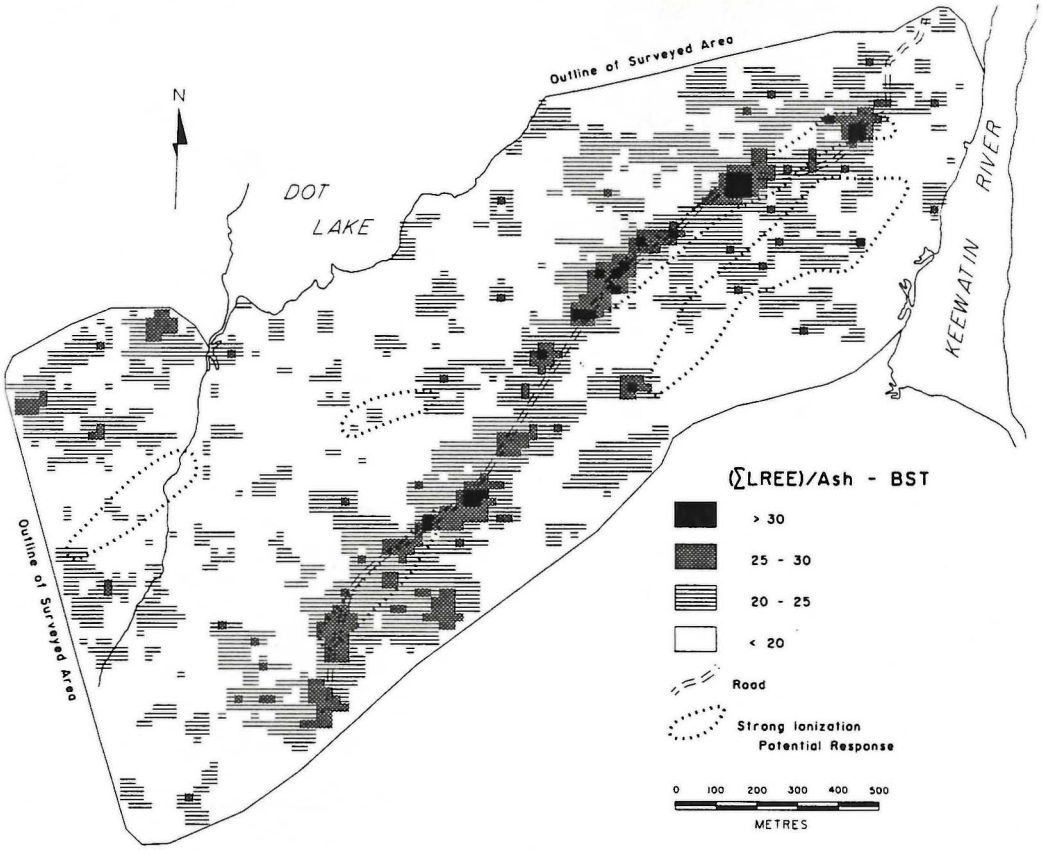

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN RIVER
Outline of Surveyed Area
(Ni+Cr+Co)/Ash - BST
> 2.5
2.0 - 2.5
1.5 - 2.0
< 1.5
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

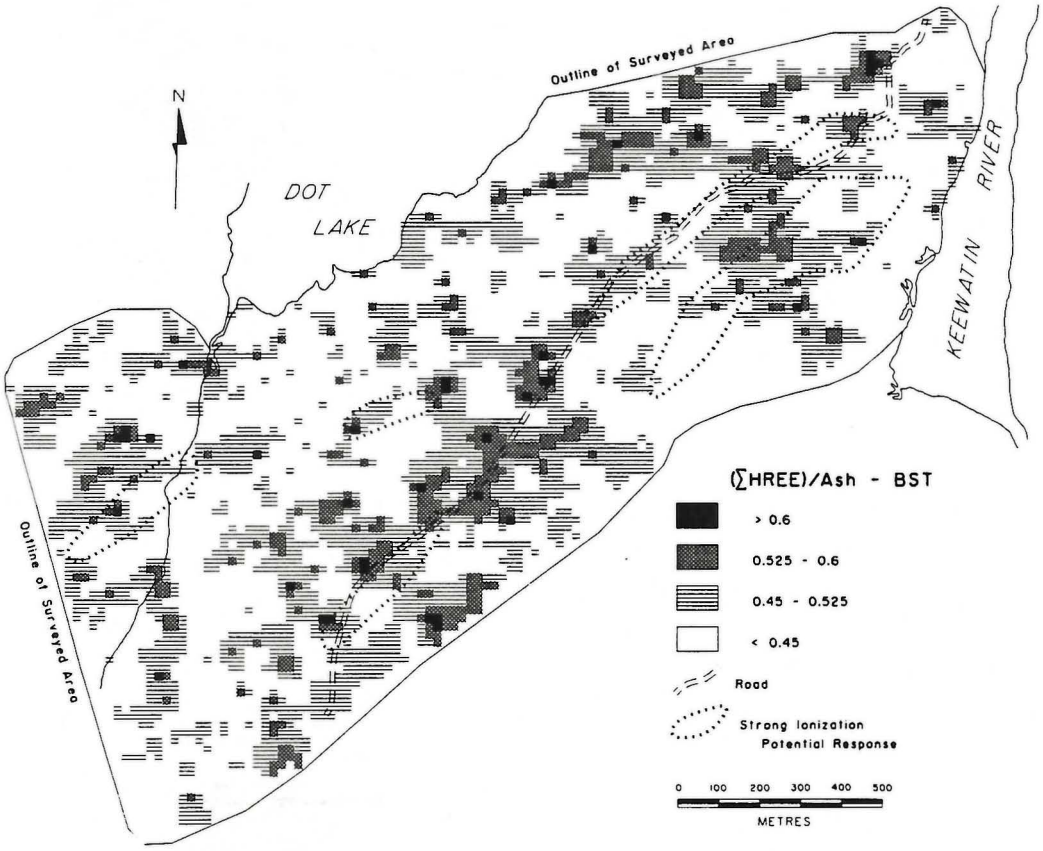

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
(Au+As+Sb+Zn+Fe)/Ash - BST
> 8
7 - 8
6 - 7
< 6
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES


Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
(Au•As•Sb•Zn•Fe)/Ash - BST
> 100
60 - 100
40 - 60
< 40
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES


Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
(∑REE/Mn) - BST
> 140
100 - 140
60 - 100
< 60
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

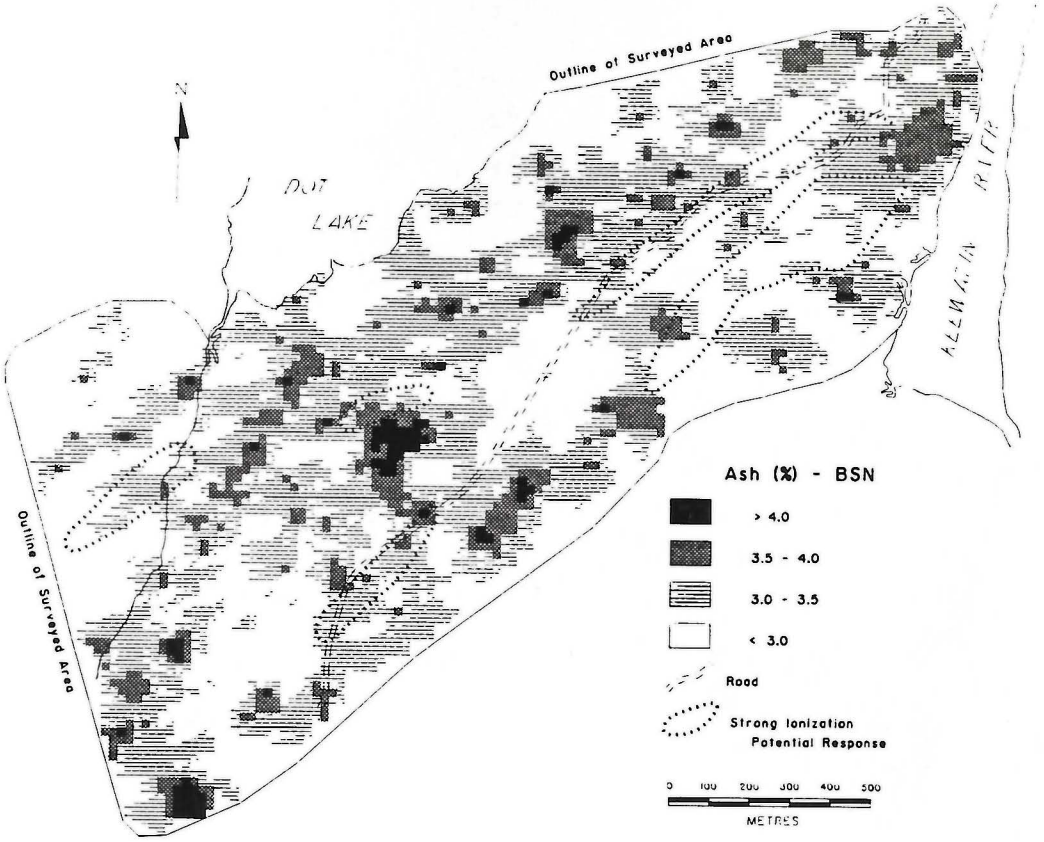

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
(∑REE)/Ash - BST
> 35
30 - 35
25 - 30
< 25
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

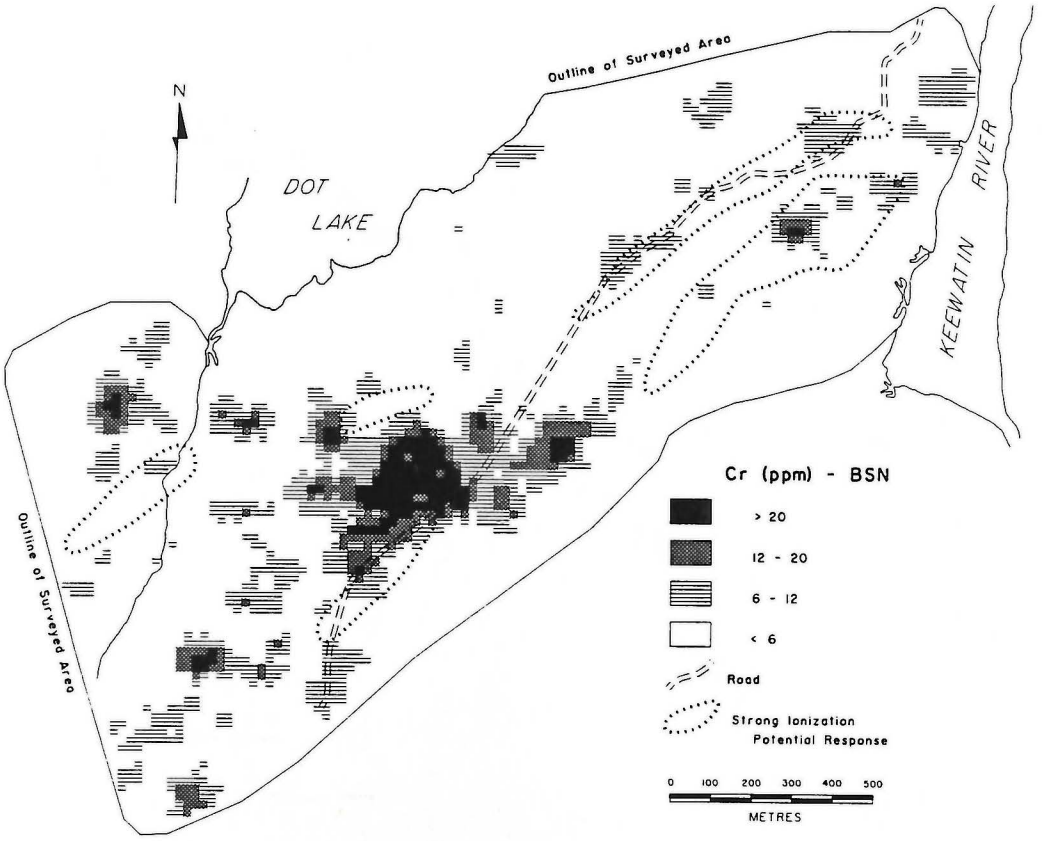

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN RIVER
Outline of Surveyed Area
(∑LREE)/Ash - BST
> 30
25 - 30
20 - 25
< 20
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

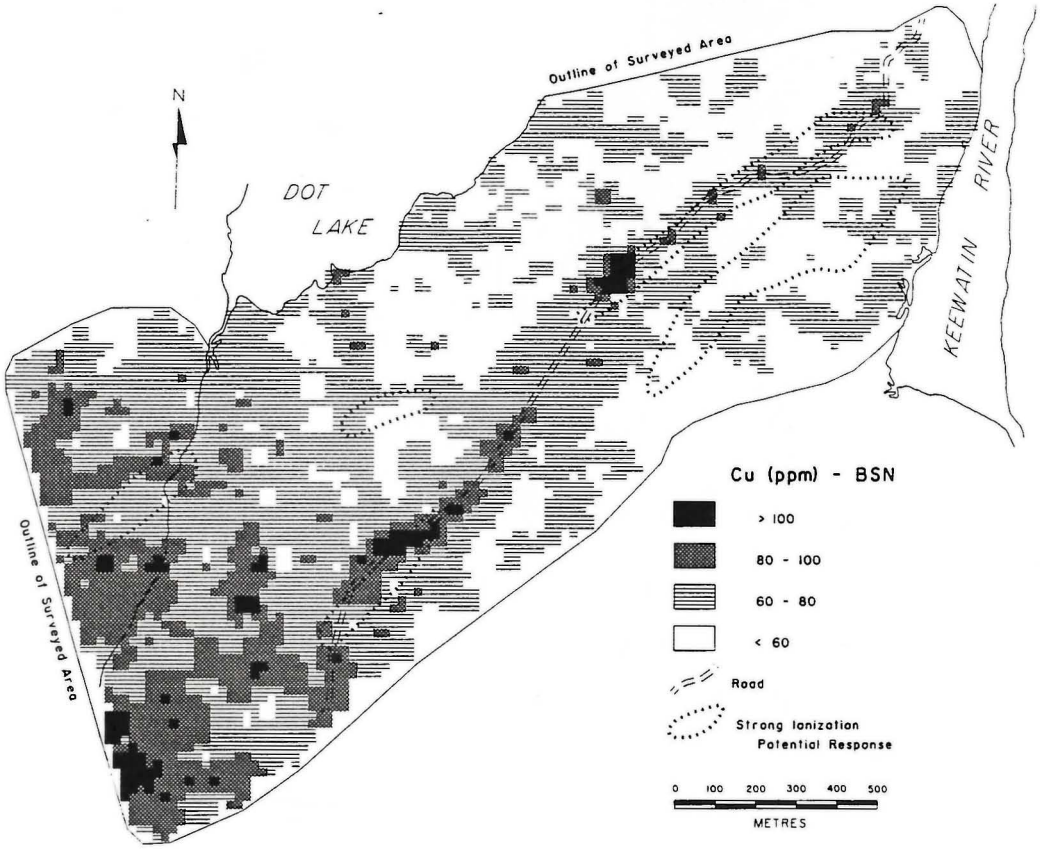

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN RIVER
Outline of Surveyed Area
(∑HREE)/Ash - BST
> 0.6
0.525 - 0.6
0.45 - 0.525
< 0.45
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

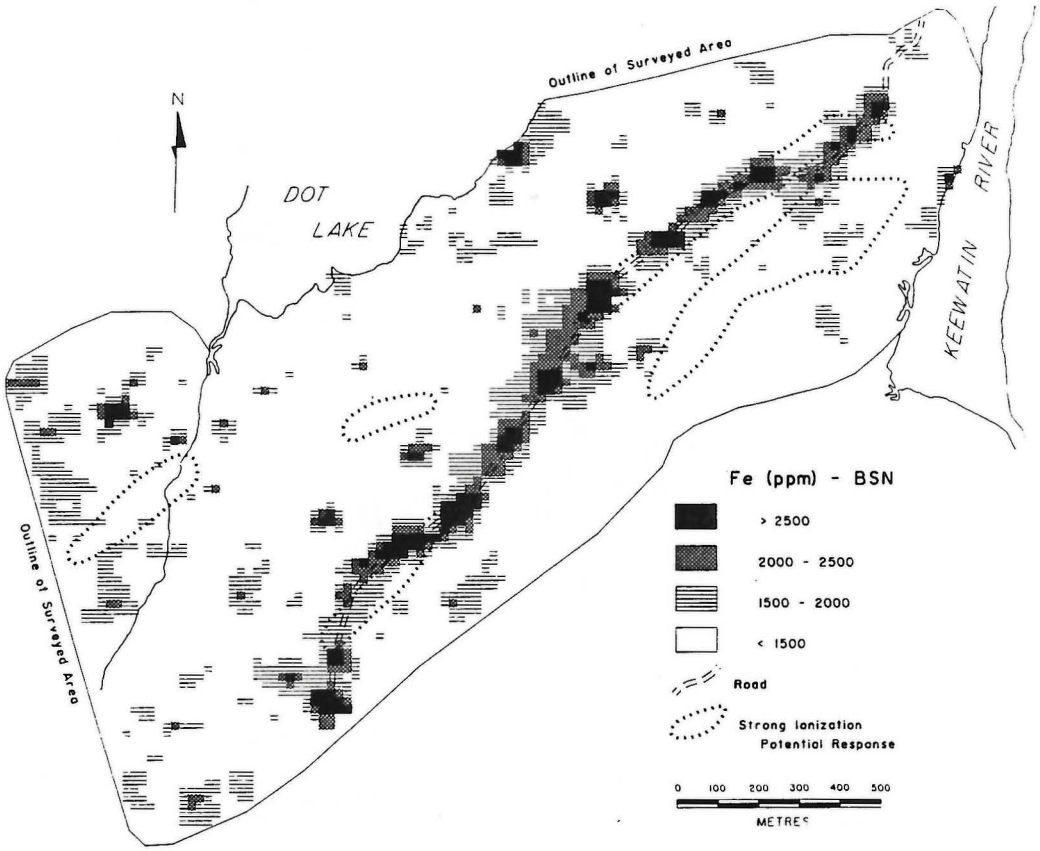
APPENDIX V

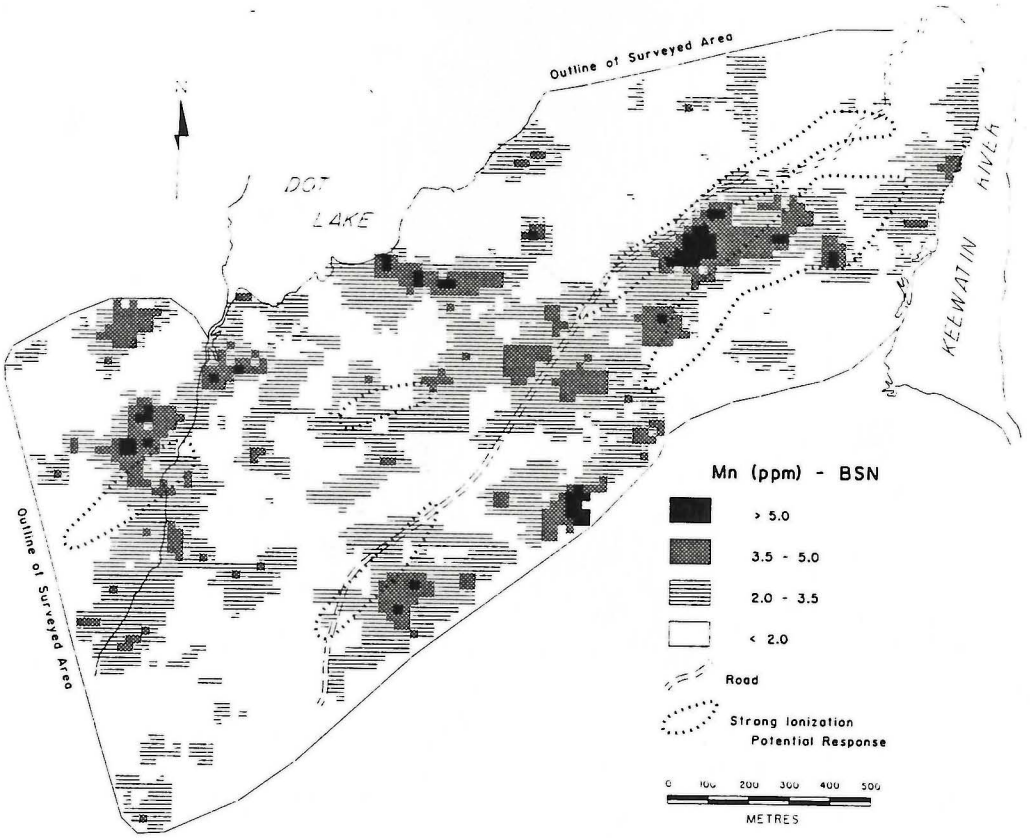
Part 2: Contour Maps, Black Spruce *(Picea mariana)* Needles

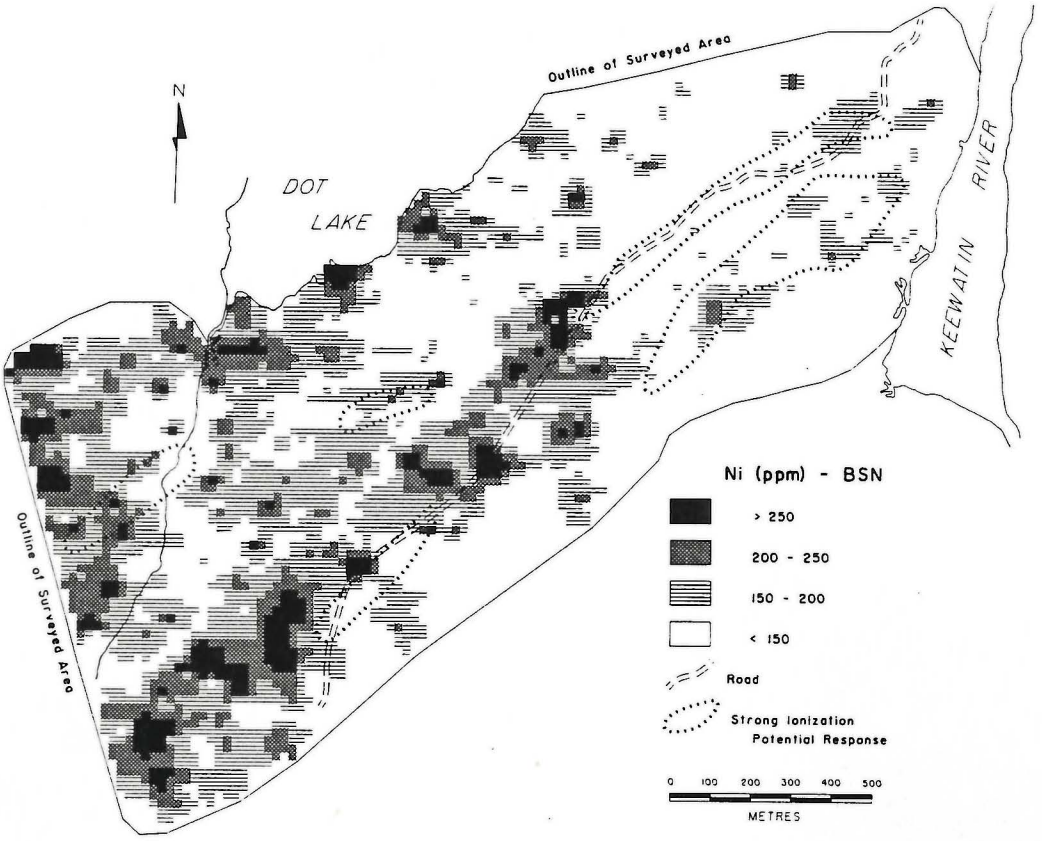

Outline of Surveyed Area
N
DOT
LAKE
Outline of Surveyed Area
Ash (%) - BSN
> 4.0
3.5 - 4.0
3.0 - 3.5
< 3.0
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

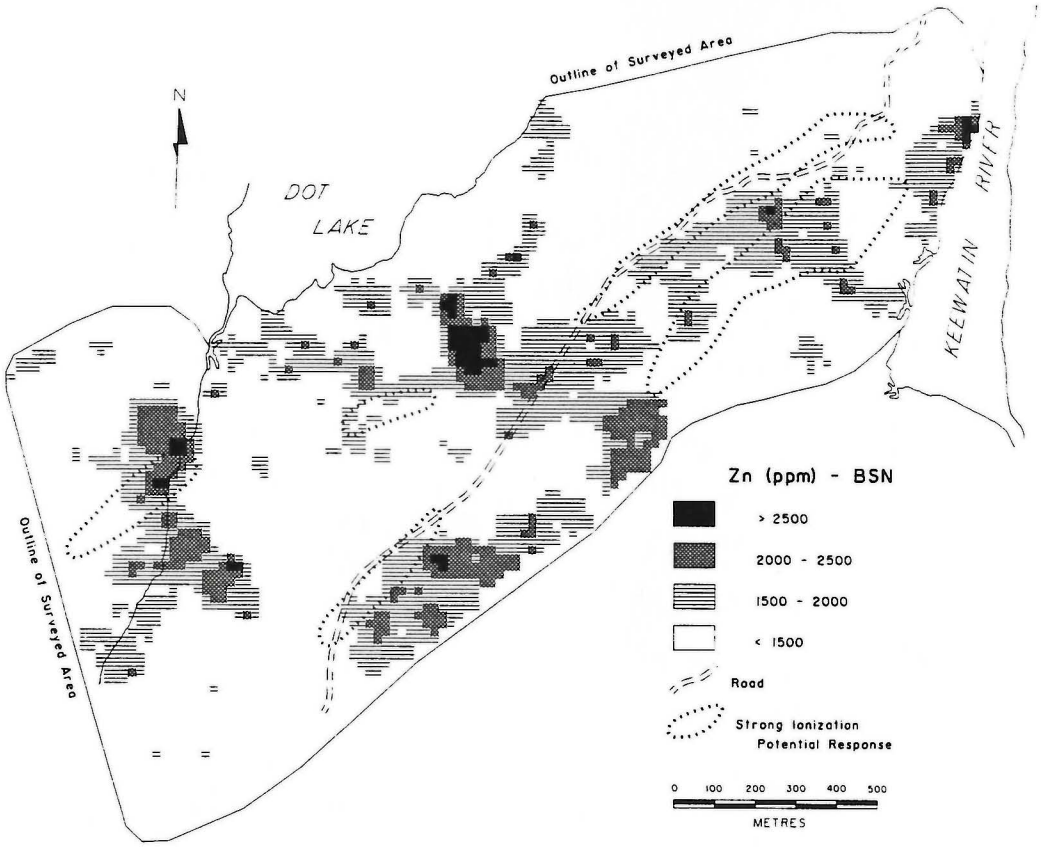

Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN
RIVER
Outline of Surveyed Area
Cr (ppm) - BSN
> 20
12 - 20
6 - 12
< 6
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES


Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN RIVER
Outline of Surveyed Area
Cu (ppm) - BSN
> 100
80 - 100
60 - 80
< 60
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES


Outline of Surveyed Area
N
DOT
LAKE
KEEWATIN RIVER
Outline of Surveyed Area
Fe (ppm) - BSN
> 2500
2000 - 2500
1500 - 2000
< 1500
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES


Outline of Surveyed Area
DOT
LAKE
KEEWATIN RIVER
Outline of Surveyed Area
Mn (ppm) - BSN
> 5.0
3.5 - 5.0
2.0 - 3.5
< 2.0
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES


N
Outline of Surveyed Area
DOT
LAKE
KEEWATIN RIVER
Outline of Surveyed Area
Ni (ppm) - BSN
> 250
200 - 250
150 - 200
< 150
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES


Outline of Surveyed Area
N
DOT
LAKE
KELWATIN
RIVER
Outline of Surveyed Area
Zn (ppm) - BSN
> 2500
2000 - 2500
1500 - 2000
< 1500
Road
Strong Ionization
Potential Response
0 100 200 300 400 500
METRES

APPENDIX VI

Part 1: Geochemical Analyses of Five Samples from the MacLellan Mine Access Road

Sample No. *Size Fraction*	Au ppb	As ppm	Br ppm	Co ppm	Cr ppm	Cs ppm	Hf ppm	Hg ppm	Ir ppb	Mo ppm	Rb ppm	Sb ppm	Sc ppm	Se ppm	Ta ppm	Th ppm	U ppm	W ppm	La ppm	Ce ppm
71-91-06320																				
<0.063 mm	16	8	<0.5	23	400	0.7	6.3	<1	<1	<2	35	0.3	19	10	0.6	9.5	1.6	3	22.6	48
0.063-0.125 mm	12	4	<0.5	21	390	0.6	4.7	<1	<1	<2	27	0.3	19	9.1	0.4	5.4	0.9	3	13.6	28
0.125-0.25 mm	11	3	<0.5	19	430	0.3	1.9	<1	<1	<2	27	0.3	20	5.9	<0.3	1.8	<0.1	<1	6.1	14
0.25-2.0 mm	4	2	<0.5	8.1	170	0.4	1.6	<1	<1	<2	47	0.1	8.6	1.8	<0.3	2.3	0.6	<1	7.1	14
71-91-06321																				
<0.063 mm	112	16	<0.5	29	440	0.9	4.9	3	<1	<2	38	0.7	16	18	0.6	8.3	1.6	3	20.6	41
0.063-0.125 mm	53	8	<0.5	25	580	0.6	4.6	2	<1	<2	29	0.5	22	10	0.4	4.3	0.8	<1	12.3	26
0.125-0.25 mm	23	4	<0.5	19	470	0.5	1.5	1	<1	<2	32	0.3	18	5.3	0.3	1.8	0.4	<1	5.6	12
0.25-2.0 mm	9	2	<0.5	7.5	200	0.4	1.5	<1	<1	<2	53	0.1	7.6	1.0	<0.3	1.8	0.5	<1	6.4	13
71-91-06322																				
<0.063 mm	83	85	1.9	30	410	1.1	7.7	<1	<1	3	50	0.5	17	<0.5	0.8	10	1.8	48	31.2	70
0.063-0.125 mm	53	60	1.2	26	380	0.8	6.2	<1	<1	3	39	0.4	16	<0.5	0.6	8.2	1.6	29	25.9	56
0.125-0.25 mm	30	33	0.9	17	280	0.9	4.1	<1	<1	<2	47	0.2	12	0.6	0.6	4.7	1.0	9	15.7	34
0.25-2.0 mm	11	18	0.9	8.0	110	0.5	1.7	<1	<1	<2	56	0.2	5.1	<0.5	<0.3	1.9	0.6	12	9.1	19
71-91-06323																				
<0.063 mm	45	15	<0.5	20	340	0.8	5.6	<1	<1	<2	37	0.2	16	9.3	0.4	8.2	1.6	5	20.1	43
0.063-0.125 mm	30	10	<0.5	17	330	0.4	5.2	<1	<1	<2	31	0.3	16	6.4	0.4	5.6	1.2	5	15.0	32
0.125-0.25 mm	27	6	0.6	15	320	0.5	3.2	<1	<1	<2	37	0.2	16	4.3	<0.3	3.9	0.8	<1	9.9	22
0.25-2.0 mm	5	3	<0.5	5.1	95	0.4	1.2	<1	<1	<2	48	<0.1	5.1	0.9	<0.3	1.7	0.3	<1	5.9	12
71-91-06324																				
<0.063 mm	11	6	<0.5	18	280	0.4	6.5	<1	<1	<2	38	0.2	13	8.8	<0.3	8.5	1.6	<1	20.4	44
0.063-0.125 mm	15	3	<0.5	17	350	<0.2	5.1	<1	<1	<2	33	0.2	17	5.1	0.4	5.0	1.0	<1	13.5	29
0.125-0.25 mm	5	3	<0.5	13	300	0.4	2.2	<1	<1	<2	34	0.2	16	3.3	<0.3	1.3	0.5	<1	4.6	11
0.25-2.0 mm	64	2	<0.5	8.8	180	0.4	1.4	<1	<1	<2	41	0.1	9.4	1.6	<0.3	1.8	0.6	<1	6.0	12

Sample No. *Size Fraction*	Au ppb	As ppm	Br ppm	Co ppm	Cr ppm	Cs ppm	Hf ppm	Hg ppm	Ir ppb	Mo ppm	Rb ppm	Sb ppm	Sc ppm	Se ppm	Ta ppm	Th ppm	U ppm	W ppm	La ppm	Ce ppm
71-91-06320																				
<0.063 mm	16	8	<0.5	23	400	0.7	6.3	<1	<1	<2	35	0.3	19	10	0.6	9.5	1.6	3	22.6	48
0.063-0.125 mm	12	4	<0.5	21	390	0.6	4.7	<1	<1	<2	27	0.3	19	9.1	0.4	5.4	0.9	3	13.6	28
0.125-0.25 mm	11	3	<0.5	19	430	0.3	1.9	<1	<1	<2	27	0.3	20	5.9	<0.3	1.8	<0.1	<1	6.1	14
0.25-2.0 mm	4	2	<0.5	8.1	170	0.4	1.6	<1	<1	<2	47	0.1	8.6	1.8	<0.3	2.3	0.6	<1	7.1	14
71-91-06321																				
<0.063 mm	112	16	<0.5	29	440	0.9	4.9	3	<1	<2	38	0.7	16	18	0.6	8.3	1.6	3	20.6	41
0.063-0.125 mm	53	8	<0.5	25	580	0.6	4.6	2	<1	<2	29	0.5	22	10	0.4	4.3	0.8	<1	12.3	26
0.125-0.25 mm	23	4	<0.5	19	470	0.5	1.5	1	<1	<2	32	0.3	18	5.3	0.3	1.8	0.4	<1	5.6	12
0.25-2.0 mm	9	2	<0.5	7.5	200	0.4	1.5	<1	<1	<2	53	0.1	7.6	1.0	<0.3	1.8	0.5	<1	6.4	13
71-91-06322																				
<0.063 mm	83	85	1.9	30	410	1.1	7.7	<1	<1	3	50	0.5	17	<0.5	0.8	10	1.8	48	31.2	70
0.063-0.125 mm	53	60	1.2	26	380	0.8	6.2	<1	<1	3	39	0.4	16	<0.5	0.6	8.2	1.6	29	25.9	56
0.125-0.25 mm	30	33	0.9	17	280	0.9	4.1	<1	<1	<2	47	0.2	12	0.6	0.6	4.7	1.0	9	15.7	34
0.25-2.0 mm	11	18	0.9	8.0	110	0.5	1.7	<1	<1	<2	56	0.2	5.1	<0.5	<0.3	1.9	0.6	12	9.1	19
71-91-06323																				
<0.063 mm	45	15	<0.5	20	340	0.8	5.6	<1	<1	<2	37	0.2	16	9.3	0.4	8.2	1.6	5	20.1	43
0.063-0.125 mm	30	10	<0.5	17	330	0.4	5.2	<1	<1	<2	31	0.3	16	6.4	0.4	5.6	1.2	5	15.0	32
0.125-0.25 mm	27	6	0.6	15	320	0.5	3.2	<1	<1	<2	37	0.2	16	4.3	<0.3	3.9	0.8	<1	9.9	22
0.25-2.0 mm	5	3	<0.5	5.1	95	0.4	1.2	<1	<1	<2	48	<0.1	5.1	0.9	<0.3	1.7	0.3	<1	5.9	12
71-91-06324																				
<0.063 mm	11	6	<0.5	18	280	0.4	6.5	<1	<1	<2	38	0.2	13	8.8	<0.3	8.5	1.6	<1	20.4	44
0.063-0.125 mm	15	3	<0.5	17	350	<0.2	5.1	<1	<1	<2	33	0.2	17	5.1	0.4	5.0	1.0	<1	13.5	29
0.125-0.25 mm	5	3	<0.5	13	300	0.4	2.2	<1	<1	<2	34	0.2	16	3.3	<0.3	1.3	0.5	<1	4.6	11
0.25-2.0 mm	64	2	<0.5	8.8	180	0.4	1.4	<1	<1	<2	41	0.1	9.4	1.6	<0.3	1.8	0.6	<1	6.0	12

Sample No. *Size Fraction*	Nd ppm	Sm ppm	Eu ppm	Tb ppm	Yb ppm	Lu ppm	Ba ppm	Sr ppm	Zr ppm	Y ppm	Be ppm	Ag ppm	Pb ppm	Cu ppm	Ni ppm	V ppm	Zn ppm	Nb ppm
71-91-06320																		
<0.063 mm	20	3.8	0.78	0.5	1.55	0.26	382	219	204	14	<1	0.4	10	260	310	100	150	<30
0.063-0.125 mm	13	2.6	0.65	0.4	1.16	0.20	338	218	181	8	<1	0.3	8	240	270	120	130	<30
0.125-0.25 mm	6	1.5	0.56	0.3	1.03	0.16	322	241	49	6	<1	0.3	10	340	260	110	210	<30
0.25-2.0 mm	6	1.2	0.63	0.2	0.67	0.10	608	295	68	4	1	<0.1	10	210	100	58	150	<30
71-91-06321																		
<0.063 mm	17	3.3	0.72	0.4	1.35	0.22	418	204	176	10	<1	2.9	120	1200	540	90	350	<30
0.063-0.125 mm	13	2.5	0.66	0.3	1.30	0.20	342	214	150	10	<1	1.7	64	750	400	100	360	<30
0.125-0.25 mm	6	1.4	0.54	0.2	0.88	0.14	365	232	76	8	<1	0.7	42	390	280	100	320	<30
0.25-2.0 mm	5	1.0	0.59	0.2	0.53	0.08	632	284	35	4	1	0.3	24	270	140	50	150	<30
71-91-06322																		
<0.063 mm	30	5.6	1.21	0.8	2.18	0.35	490	233	274	18	1	0.8	44	210	290	150	160	<30
0.063-0.125 mm	24	4.5	1.02	0.6	1.85	0.30	532	226	192	12	1	0.6	38	2600	260	130	190	<30
0.125-0.25 mm	14	2.8	0.85	0.4	1.51	0.25	593	257	155	14	1	0.4	22	140	170	84	190	<30
0.25-2.0 mm	7	1.4	0.67	0.2	0.60	0.10	720	298	39	4	1	<0.1	10	65	70	44	100	<30
71-91-06323																		
<0.063 mm	19	3.5	0.78	0.5	1.44	0.25	428	243	178	10	<1	0.7	10	270	280	110	140	<30
0.063-0.125 mm	14	2.7	0.72	0.4	1.36	0.22	409	244	192	12	<1	0.5	10	220	240	110	130	<30
0.125-0.25 mm	10	2.0	0.66	0.3	1.09	0.17	446	263	136	8	1	0.4	10	2800	200	100	180	<30
0.25-2.0 mm	5	0.91	0.55	0.2	0.39	0.07	708	294	35	2	1	<0.1	4	120	240	38	420	<30
71-91-06324																		
<0.063 mm	19	3.5	0.71	0.4	1.46	0.24	417	205	261	14	<1	0.5	6	270	280	90	100	<30
0.063-0.125 mm	13	2.6	0.63	0.4	1.35	0.22	375	221	226	12	<1	0.4	4	190	210	110	160	<30
0.125-0.25 mm	6	1.2	0.53	0.2	0.88	0.14	402	245	69	6	<1	0.2	<2	220	180	98	140	<30
0.25-2.0 mm	5	1.0	0.56	0.2	0.56	0.09	593	287	17	4	1	0.2	4	320	110	60	120	<30

APPENDIX VI

Part 2: **Ranges of geochemical data for samples from all size fractions (*i.e.*, <0.063-2.0 mm) from the MacLellan Mine Access Road. Trace element analyses in ppm unless otherwise indicated; major element analyses in weight percent**

	Sample Number									
Element	06320		06321		06322		06323		06324	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Au (ppb)	4	16	9	112	11	83	5	45	5	64
As	2	8	2	16	18	85	3	15	2	6
Br	<0.5	<0.5	<0.5	<0.5	0.9	1.9	<0.5	0.6	<0.5	<0.5
Co	8.1	23	7.5	29	8	30	5.1	20	8.8	18
Cr	170	430	200	580	110	410	95	340	180	350
Cs	0.3	0.7	0.4	0.9	0.5	1.1	0.4	0.8	<0.2	0.4
Hf	1.6	6.3	1.5	4.9	1.7	7.7	1.2	5.6	1.4	6.5
Hg	<1	<1	<1	3	<1	<1	<1	<1	<1	<1
Ir	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Mo	<2	<2	<2	<2	<2	<3	<2	<2	<2	<2
Rb	27	47	29	53	39	56	31	48	33	41
Sb	0.1	0.3	0.1	0.7	0.2	0.5	<0.1	0.3	0.1	0.2
Sc	8.6	20	7.6	22	5.1	17	5.1	16	9.4	17
Se	1.8	10	1	18	<0.5	0.6	0.9	9.3	1.6	8.8
Ta	<0.3	0.6	<0.3	0.6	<0.3	0.8	<0.3	0.4	<0.3	0.4
Th	1.8	9.5	1.8	8.3	1.9	10	1.7	8.2	1.0	8.5
V	<0.3	0.6	0.4	1.6	0.6	1.8	0.3	1.6	0.5	1.6
W	<1	3	<1	3	9	48	<1	5	<1	<1
La	6.1	22.6	5.6	20.6	9.1	31.2	5.9	20.1	4.6	20.4
Ce	14	48	12	41	19	70	12	43	11	44
Nd	6	20	5	17	7	30	5	19	5	19
Sm	1.2	3.8	1.0	3.3	1.4	5.6	0.91	3.5	1.0	3.5
Eu	0.56	0.78	0.54	0.72	0.67	1.21	0.55	0.78	0.53	0.71
Tb	0.2	0.5	0.2	0.4	0.2	0.8	0.2	0.5	0.2	0.4
Yb	0.67	1.55	0.53	1.35	0.6	2.18	0.39	1.44	0.56	1.46
Lu	0.1	0.26	0.08	0.22	0.1	0.35	0.07	0.25	0.09	0.24
Ba	322	608	342	632	490	720	409	708	375	593
Sr	218	295	204	284	226	298	243	294	205	287
Zr	49	204	35	176	39	274	35	192	17	261
Y	4	14	4	10	4	18	2	12	4	14
Be	<1	1	<1	1	1	1	<1	1	<1	1
Ag	<0.1	0.4	0.3	2.9	<0.1	0.8	<0.1	0.7	0.2	0.5
Pb	8	10	24	120	10	44	4	10	<2	6
Cu	210	340	270	1200	65	2600	120	2800	190	320
Ni	100	310	140	540	70	290	200	280	110	280
V	58	120	50	100	44	150	38	110	60	110
Zn	130	210	150	360	100	190	130	420	100	160
Nb	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30
SiO_2	50.03	69.71	46.18	71.51	57.15	75.73	51.97	74.12	52.19	69.10
TiO_2	0.16	0.49	0.15	0.51	0.20	0.99	0.13	0.56	0.18	0.47
Al_2O_3	10.61	11.48	9.81	10.91	11.48	13.71	11.05	11.83	10.06	11.37
Fe_2O_3	5.12	16.41	4.62	20.92	2.76	10.08	3.64	14.91	5.73	15.73
MnO	0.06	0.13	0.06	0.13	0.04	0.12	0.05	0.12	0.07	0.12
MgO	3.42	7.41	3.70	7.77	1.54	4.80	2.14	6.28	4.11	6.83
CaO	3.84	6.20	3.90	6.23	2.38	3.93	2.93	5.40	4.31	5.58
Na_2O	1.87	2.58	1.79	2.52	2.13	2.82	2.22	2.68	1.99	2.44
K_2O	1.10	1.92	1.14	2.08	1.62	2.36	1.34	2.22	1.32	1.84
P_2O_5	0.06	0.18	0.06	0.28	0.06	0.30	0.14	0.24	0.06	0.24

APPENDIX VI

Part 3: Ranges of geochemical data for samples from the <0.063 mm size fraction from the MacLellan Mine Access Road. Trace element analyses in ppm unless otherwise indicated; major element analyses in weight percent

	Minimum	Maximum
Au (ppb)	16	112
As	8	85
Br	<0.5	1.9
Co	18	30
Cr	280	440
Cs	0.4	1.1
Hf	4.3	7.7
Hg	<1	3
Ir	<1	<1
Mo	<2	<3
Rb	35	50
Sb	0.2	0.7
Sc	13	19
Se	<0.5	18
Ta	<0.3	0.8
Th	8.2	10
V	1.6	1.8
W	<1	50
La	20.1	31.2
Ce	41	70
Nd	17	30
Sm	3.3	5.6
Eu	0.71	1.21
Tb	0.4	0.8
Yb	1.35	2.18
Lu	0.22	0.35
Ba	382	490
Sr	204	243
Zr	176	274
Y	10	18
Be	<1	1
Ag	0.4	2.9
Pb	6	120
Cu	210	1200
Ni	280	540
V	90	150
Zn	140	350
Nb	<30	<30
SiO_2	46.18	57.15
TiO_2	0.47	0.99
Al_2O_3	9.79	13.71
Fe_2O_3	10.08	20.92
MnO	0.10	0.12
MgO	4.63	6.61
CaO	3.93	5.29
Na_2O	1.79	2.38
K_2O	1.30	1.62
P_2O_5	0.18	0.28

APPENDIX VII

Part 1: Geochemical Analyses of Five Tailings Samples, Farley (Ni-Cu) mine site, Lynn Lake

Sample No. *Size Fraction*	Au ppb	As ppm	Br ppm	Co ppm	Cr ppm	Cs ppm	Hf ppm	Hg ppm	Ir ppb	Mo ppm	Rb ppm	Sb ppm	Sc ppm	Se ppm	Ta ppm	Th ppm	U ppm	W ppm	La ppm	Ce ppm
71-91-06315																				
<0.063 mm	1910	60	<0.5	19	19	<0.3	<0.2	150	<2	10	<10	3.5	1.0	55	0.4	0.4	<0.5	<1	3.4	6
0.063-0.125 mm	1370	55	<0.5	25	52	<0.4	<0.2	150	<3	13	<10	3.0	1.7	60	<0.5	<0.2	<0.5	<1	3.4	7
0.125-0.25 mm	1860	56	<0.5	22	82	<0.4	<0.2	140	<3	9	<10	3.4	3.1	55	<0.5	<0.2	<0.5	<1	4.1	7
0.25-2.0 mm	2030	56	<0.5	24	64	<0.3	1.1	130	<2	16	<10	3.3	2.7	58	<0.3	0.4	<0.5	<1	3.9	8
71-91-06316																				
<0.063 mm	3220	56	<0.5	24	460	<0.2	2.0	49	<1	7	14	4.7	1.5	74	0.5	1.7	<0.2	3	7.3	15
0.063-0.125 mm	820	25	<0.5	30	660	<0.2	1.6	14	<1	<2	11	1.7	26	38	<0.3	0.9	<0.1	1	4.2	10
0.125-0.25 mm	137	14	<0.5	32	750	<0.2	1.0	5	<1	<2	<10	1.2	29	17	<0.3	1.4	<0.1	<1	4.2	10
0.25-2.0 mm	121	8	<0.5	25	630	0.3	0.7	2	<1	<2	13	0.7	24	7.9	<0.3	0.7	<0.1	2	3.3	8
71-91-06317																				
<0.063 mm	82	6	<0.5	37	630	<0.2	1.0	<1	<1	<2	12	0.4	22	23	<0.3	0.9	<0.1	<1	2.3	5
0.063-0.125 mm	29	3	0.5	32	730	0.3	0.7	<1	<1	<2	<10	0.4	29	13	<0.3	0.4	<0.1	<1	1.7	5
0.125-0.25 mm	33	2	<0.5	29	730	<0.2	0.5	<1	<1	<2	<10	0.4	29	6.5	<0.3	0.3	<0.1	<1	1.6	4
0.25-2.0 mm	32	3	<0.5	28	660	<0.2	0.4	<1	<1	<2	<10	0.3	27	4.6	<0.3	0.4	<0.1	<1	1.9	5
71-91-06318																				
<0.063 mm	38	6	<0.5	27	520	<0.2	1.8	<1	<1	<2	<10	0.5	22	22	0.3	1.4	<0.1	<1	3.4	8
0.063-0.125 mm	37	2	<0.5	28	620	<0.2	1.0	<1	<1	<2	<10	0.4	28	10	<0.3	0.4	<0.1	<1	2.0	5
0.125-0.25 mm	10	2	<0.5	25	600	0.3	0.5	<1	<1	<2	<10	0.3	25	5.8	<0.3	0.3	<0.1	<1	1.9	5
0.25-2.0 mm	24	2	<0.5	26	580	0.3	0.7	<1	<1	<2	10	0.3	25	8.5	0.3	0.4	<0.1	<1	2.2	5
71-91-06319																				
<0.063 mm	11	2	<0.5	45	1000	0.6	0.6	<1	<1	<2	<10	0.2	25	1.8	0.3	0.6	0.1	<1	5.6	12
0.063-0.125 mm	17	2	<0.5	43	970	<0.2	0.6	<1	<1	<2	<10	0.2	24	2.8	<0.3	0.5	<0.1	<1	4.9	11
0.125-0.25 mm	19	2	<0.5	48	910	0.6	0.5	<1	<1	<2	12	0.2	23	4.8	0.3	0.4	0.1	<1	4.8	11
0.25-2.0 mm	10	2	<0.5	80	1100	0.5	0.6	<1	<1	<2	11	0.3	25	2.6	<0.3	0.6	0.3	<1	5.0	12

Sample No. *Size Fraction*	SiO_2 %	TiO_2 %	Al_2O_3 %	Fe_2O_3 %	MnO %	MgO %	CaO %	Na_2O %	K_2O %	P_2O_5 %	LOI %	Total %
71-91-06315												
<0.063 mm	3.10	0.01	0.65	20.12	0.08	0.83	0.19	0.05	0.12	0.02	20.72	45.89
0.063-0.125 mm	4.83	0.03	0.89	19.25	0.10	0.89	0.39	0.12	0.08	0.04	18.20	44.82
0.125-0.25 mm	8.01	0.03	1.49	17.96	0.10	1.32	0.76	0.22	0.14	0.04	17.20	47.27
0.25-2.0 mm	11.99	0.04	2.14	19.11	0.09	1.39	0.82	0.41	0.30	0.06	17.32	53.67
71-91-06316												
<0.063 mm	29.46	0.38	5.78	28.00	0.10	6.76	4.38	0.86	0.36	0.02	12.68	88.78
0.063-0.125 mm	38.68	0.37	7.17	21.28	0.15	9.20	6.77	0.96	0.30	0.12	7.08	92.06
0.125-0.25 mm	46.85	0.32	9.21	16.81	0.16	10.95	8.05	1.18	0.36	0.06	5.52	99.45
0.25-2.0 mm	51.30	0.28	10.40	12.19	0.15	10.03	8.12	1.43	0.54	0.12	3.58	98.14
71-91-06317												
<0.063 mm	35.11	0.42	7.05	28.58	0.14	9.72	5.96	0.86	0.38	0.14	9.16	97.54
0.063-0.125 mm	43.90	0.42	8.31	19.39	0.18	11.56	7.79	0.95	0.32	0.08	5.18	98.06
0.125-0.25 mm	47.89	0.31	9.66	14.55	0.17	12.00	8.16	1.14	0.32	0.06	3.67	97.94
0.25-2.0 mm	48.94	0.29	10.69	13.75	0.17	11.84	8.48	1.20	0.30	0.08	3.48	99.23
71-91-06318												
<0.063 mm	37.35	0.61	7.61	26.35	0.16	9.54	6.35	0.85	0.32	0.12	8.66	97.94
0.063-0.125 mm	44.92	0.41	9.20	17.50	0.18	11.43	7.74	1.06	0.26	0.08	5.05	97.83
0.125-0.25 mm	48.09	0.31	10.51	14.54	0.17	11.30	8.15	1.21	0.28	0.06	4.26	98.87
0.25-2.0 mm	47.68	0.29	11.19	14.28	0.16	10.86	8.18	1.27	0.30	0.08	4.51	98.79
71-91-06319												
<0.063 mm	47.92	0.28	11.62	10.54	0.18	14.58	8.26	0.99	0.36	0.10	4.14	98.96
0.063-0.125 mm	46.77	0.27	11.35	12.02	0.17	14.07	8.09	1.01	0.38	0.10	4.45	98.68
0.125-0.25 mm	45.85	0.25	10.68	13.49	0.16	12.74	8.08	1.06	0.46	0.10	4.84	97.72
0.25-2.0 mm	45.83	0.26	12.03	11.22	0.17	14.54	8.50	1.01	0.40	0.12	4.21	98.28

Sample No. *Size Fraction*	Nd ppm	Sm ppm	Eu ppm	Tb ppm	Yb ppm	Lu ppm	Ba ppm	Sr ppm	Zr ppm	Y ppm	Be ppm	Ag ppm	Pb ppm	Cu ppm	Ni ppm	V ppm	Zn ppm	Nb ppm
71-91-06315																		
<0.063 mm	3	0.48	<0.05	0.1	0.20	0.03	25	12	8	2	<1	72	6900	50000	60	8	333000	<30
0.063-0.125 mm	3	0.38	<0.05	0.1	0.21	0.03	29	15	<1	<2	<1	62	4800	42000	70	22	325000	<30
0.125-0.25 mm	3	0.53	<0.05	0.1	0.21	0.03	48	31	<1	<2	<1	64	4200	41000	60	26	326000	<30
0.25-2.0 mm	3	0.56	<0.05	0.1	0.26	0.03	99	46	<1	<2	<1	67	5800	44000	90	24	250000	<30
71-91-06316																		
<0.063 mm	6	1.4	0.37	0.3	0.85	0.13	107	150	56	6	<1	53	760	52000	180	92	2500	<30
0.063-0.125 mm	5	1.1	0.43	0.2	0.82	0.14	102	153	45	6	<1	17	340	21000	250	110	11000	<30
0.125-0.25 mm	5	1.4	0.41	0.3	0.86	0.14	104	195	25	6	<1	6.5	250	9200	380	130	600	<30
0.25-2.0 mm	4	1.0	0.42	0.2	0.72	0.12	140	226	34	6	<1	2.5	130	2400	340	140	260	<30
71-91-06317																		
<0.063 mm	3	0.84	0.32	0.2	0.70	0.12	87	124	13	2	<1	1.0	34	780	450	130	220	<30
0.063-0.125 mm	3	0.95	0.39	0.2	0.84	0.14	84	144	22	4	<1	0.8	23	580	370	140	830	<30
0.125-0.25 mm	3	0.90	0.35	0.2	0.82	0.13	81	180	44	4	<1	0.7	18	520	320	150	800	<30
0.25-2.0 mm	3	0.90	0.36	0.2	0.72	0.12	86	204	34	4	<1	0.4	36	470	340	130	380	<30
71-91-06318																		
<0.063 mm	5	1.1	0.39	0.2	0.79	0.13	99	126	72	6	<1	1.2	12	940	350	140	330	<30
0.063-0.125 mm	3	0.97	0.39	0.2	0.83	0.13	87	152	24	6	<1	0.5	12	340	300	150	400	<30
0.125-0.25 mm	3	0.86	0.35	0.2	0.67	0.12	96	193	20	<2	<1	0.4	8	300	300	140	350	<30
0.25-2.0 mm	3	0.92	0.41	0.2	0.73	0.13	104	215	13	4	<1	0.4	10	360	300	130	380	<30
71-91-06319																		
<0.063 mm	6	1.1	0.41	0.2	0.75	0.13	107	226	4	4	<1	0.4	4	370	940	110	300	<30
0.063-0.125 mm	5	1.1	0.37	0.2	0.76	0.13	109	231	14	4	<1	0.6	<2	440	890	110	290	<30
0.125-0.25 mm	5	1.1	0.38	0.2	0.72	0.11	110	242	16	4	<1	0.9	8	610	960	110	370	<30
0.25-2.0 mm	6	1.2	0.46	0.2	0.77	0.13	107	227	30	2	<1	0.6	6	670	1700	120	350	<30

APPENDIX VII

Part 2: **Ranges of geochemical data for samples from all size fractions (*i.e.*, <0.063-2.0 mm) from the Farley mine site. Trace element analyses in ppm unless otherwise indicated; major element analyses in weight percent**

	Sample Number									
Element	06315		06316		06317		06318		06319	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Au (ppb)	1370	2030	121	3220	29	82	10	38	10	19
As	55	60	8	56	2	6	2	6	2	2
Br	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Co	19	25	24	32	28	37	25	28	43	80
Cr	19	82	460	750	630	730	520	620	910	1100
Cs	<0.4	<0.4	<0.2	0.3	<0.2	0.3	<0.2	0.3	0.5	0.6
Hf	<0.2	1.1	0.7	2.0	0.4	1.0	0.5	1.8	0.5	0.6
Hg	130	150	2	49	<1	<1	<1	<1	<1	<1
Ir	<3	<3	<1	<1	<1	<1	<1	<1	<1	<1
Mo	9	16	<2	7	<2	<2	<2	<2	<2	<2
Rb	<10	<10	11	14	<10	12	<10	10	11	12
Sb	3.0	3.5	0.7	4.7	0.3	0.4	0.3	0.5	0.2	0.3
Sc	1.0	3.1	1.5	29	22	29	22	28	0.23	0.25
Se	55	60	7.9	74	4.6	23	5.8	22	1.8	4.8
Ta	<0.3	0.4	<0.3	0.5	<0.3	<0.3	<0.3	0.3	<0.3	0.3
Th	<0.2	0.4	0.7	1.7	0.3	0.9	0.3	1.4	0.4	0.6
V	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3
W	<1	<1	<1	3	<1	<1	<1	<1	<1	<1
La	3.4	4.1	3.3	7.3	1.6	2.3	1.9	3.4	4.8	5.6
Ce	6	8	3	15	4	5	5	8	11	12
Nd	3	3	4	6	3	3	3	5	5	6
Sm	0.38	0.56	1	1.4	0.84	0.95	0.86	1.1	1.1	1.2
Eu	<0.5	<0.5	0.37	0.42	0.32	0.39	0.35	0.41	0.37	0.46
Tb	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2
Yb	0.20	0.26	0.72	0.86	0.70	0.84	0.67	0.83	0.72	0.77
Lu	0.03	0.3	0.12	0.14	0.12	0.14	0.12	0.13	0.11	0.13
Ba	25	99	102	140	81	87	87	104	107	110
Sr	12	46	150	226	124	204	126	215	226	242
Zr	<1	8	25	56	13	44	13	72	4	30
Y	<2	2	6	6	2	4	<2	6	2	4
Be	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ag	62	72	2.5	53	0.4	1.0	0.4	1.2	0.4	0.9
Pb	4200	6900	130	760	18	36	8	12	<2	8
Cu	41000	50000	2400	52000	470	780	300	940	370	670
Ni	60	90	180	380	320	450	300	350	890	1700
V	8	26	92	140	130	150	130	150	110	120
Zn	25000	33300	260	11000	220	830	330	400	290	370
Nb	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30
SiO_2	3.10	11.99	29.46	51.30	35.11	48.94	37.35	48.09	45.83	47.92
TiO_2	0.01	0.04	0.28	0.38	0.29	0.42	0.29	0.61	0.25	0.28
Al_2O_3	0.65	2.14	5.78	10.40	7.04	10.69	7.61	11.19	10.68	12.03
Fe_2O_3	17.96	20.12	12.19	28.00	13.75	28.58	14.28	26.35	10.54	12.02
MnO	0.08	0.10	0.10	0.16	0.14	0.18	0.16	0.18	0.16	0.18
MgO	0.83	1.39	6.76	10.95	9.72	12.00	9.54	11.43	12.74	14.58
CaO	0.19	0.82	4.38	8.12	5.96	8.48	6.35	8.18	8.08	8.50
Na_2O	0.05	0.41	0.86	1.43	0.86	1.20	0.85	1.27	0.99	1.06
K_2O	0.08	0.30	0.30	0.54	0.30	0.38	0.26	0.32	0.36	0.40
P_2O_5	0.02	0.06	0.02	0.12	0.06	0.14	0.06	0.12	0.10	0.12

APPENDIX VII

Part 3: Ranges of geochemical data for samples from the <0.063 mm size fraction from the Farley mine site. Trace element analyses in ppm unless otherwise indicated; major element analyses in weight percent

	Minimum	Maximum
Au (ppb)	11	3220
As	2	60
Br	<0.5	<0.5
Co	19	45
Cr	19	1000
Cs	<0.2	0.6
Hf	<0.2	2.0
Hg	<1	150
Ir	<1	<2
Mo	<2	10
Rb	<10	14
Sb	0.4	4.7
Sc	1.0	25
Se	1.8	74
Ta	<0.3	0.5
Th	0.4	1.7
V	<0.1	<0.5
W	<1	3
La	2.3	7.3
Ce	6	15
Nd	3	6
Sm	0.48	1.40
Eu	<0.05	0.41
Tb	0.1	0.3
Yb	0.20	0.85
Lu	0.03	0.13
Ba	25	107
Sr	12	226
Zr	4	72
Y	2	6
Be	<1	<1
Ag	0.4	72
Pb	4	6900
Cu	370	52000
Ni	60	940
V	8	140
Zn	220	333000
Nb	<30	<30
SiO_2	3.10	51.30
TiO_2	0.01	0.61
Al_2O_3	0.65	12.03
Fe_2O_3	10.54	28.58
MnO	0.08	0.18
MgO	0.83	14.58
CaO	0.19	8.50
Na_2O	0.05	1.43
K_2O	0.08	0.54
P_2O_5	0.02	0.14