

Ministry of Energy and Mines  
BC Geological Survey

Assessment Report  
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Geological, Geochemical

TOTAL COST: \$40,271.68

AUTHOR(S): Jacques Houle

SIGNATURE(S): 

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S):

YEAR OF WORK: 2015

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5582808/December 18, 2015

PROPERTY NAME: Head Bay

CLAIM NAME(S) (on which the work was done): 404999, 528854, 528855, 537379, 544930, 928421, 941280, 942912

COMMODITIES SOUGHT: Gold, Silver, Copper, Lead, Zinc, Iron, Magnetite

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 092E001, 092E005, 092E006, 092E015, 092E028, 092E063, 092E108,-09,-10

MINING DIVISION: Alberni

NTS/BCGS: 092E15E,-16E/092E.077,-078,-087,-088

LATITUDE: 49 ° 47 '19 " LONGITUDE: 126 ° 33 '17 " (at centre of work)

OWNER(S):

1) Canadian Dehua International Mines Group Inc.

2)

MAILING ADDRESS:

1450 - 1199 West Hastings Street

Vancouver, BC V6E 3T5

OPERATOR(S) [who paid for the work]:

1) Pioneer Exploration Corporation

2)

MAILING ADDRESS:

PO Box 17535 The Ritz PO

Vancouver, BC V6E 0B2

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):

granodiorite, quartz diorite, volcanic, limestone, Island Intrusive, Mount Washington Intrusive, Karmutsen, Quatsino, Lemare

Lake, Triassic, Jurassic, Eocene, Oligocene, Fe skarn, Zn skarn, Au-Ag Quartz Vein, iron, magnetite, gold, silver, copper, lead, zinc, arsenic, bismuth, cadmium, molybdenum, antimony, tellurium, limestone, marble, karst

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 9130, 10157, 11221, 12058, 13026, 13681, 13806, 16355, 17139, 17521, 18833, 22335, 29150, 32221, 33789, 34006, 34856

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
<b>GEOLOGICAL (scale, area)</b>			
<b>Ground, mapping</b>	1:2,000 scale, 112.5 hectares	537379, 544930, 928421, 941280	16,408.11
<b>Photo interpretation</b>			
<b>GEOPHYSICAL (line-kilometres)</b>			
<b>Ground</b>			
<b>Magnetic</b>			
<b>Electromagnetic</b>			
<b>Induced Polarization</b>			
<b>Radiometric</b>			
<b>Seismic</b>			
<b>Other</b>			
<b>Airborne</b>			
<b>GEOCHEMICAL (number of samples analysed for...)</b>			
<b>Soil</b>	187 samples analyzed for Au, multi-elements	537379, 544930, 928421, 941280	6,544.35
<b>Silt</b>			
<b>Rock</b>	20 samples analyzed for Au, multi-elements	404999, 519251, 528854, 528855, 537379	911.12
<b>Other</b>			
<b>DRILLING (total metres; number of holes, size)</b>			
<b>Core</b>			
<b>Non-core</b>			
<b>RELATED TECHNICAL</b>			
<b>Sampling/assaying</b>		404999, 519251, 528854, 528855, 537379	16,408.10
<b>Petrographic</b>			
<b>Mineralographic</b>			
<b>Metallurgic</b>			
<b>PROSPECTING (scale, area)</b>			
<b>PREPARATORY / PHYSICAL</b>			
<b>Line/grid (kilometres)</b>			
<b>Topographic/Photogrammetric (scale, area)</b>			
<b>Legal surveys (scale, area)</b>			
<b>Road, local access (kilometres)/trail</b>			
<b>Trench (metres)</b>			
<b>Underground dev. (metres)</b>			
<b>Other</b>			
		<b>TOTAL COST:</b>	<b>40,271.68</b>

**2015 Assessment Report for  
Geology and Geochemistry**

**November 2015**

**On the**

**Head Bay Property**

**Alberni Mining Division**

**BCGS 092E.077,-078,-087,-088  
NTS 092E 15E,-16W**

**UTM Zone 9N 5518000N 676000E**

**For**

**Canadian Dehua International Mines Group Inc.  
and Pioneer Exploration Corporation**

**Report written by**

**Jacques Houle, P.Eng.**

**December 18, 2015**

  
December 18, 2015



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**Appendices:**

**2015 Geological Data**

**Appendix 1**

**2015 Sample and Geochemistry Data**

**Appendix 2**

**2015 Mineral Tenure Data**

**Appendix 3**

**ARIS Title Page for 2015 Assessment Report**

**Attached**

## **Introduction**

### **Property location, access and physiography**

The Head Bay Property is located in the Alberni Mining Division, 20 km. southeast of the community of Tahsis, along the west coast of central Vancouver Island, BC, Canada. The property is centred at UTM Zone 9N, 5518000N 676000E on BCGS map sheets 092E.077,-078,-087,-088 and NTS map sheets 092E15E,-16W. The Head Bay Property is held by Canadian Dehua International Mines Group Inc. (“Dehua”) (FMC 276634), and Pioneer Exploration Corporation (“Pioneer”) provides services for Dehua. The property consists of 12 contiguous cell mineral claims covering approximately 1,063.5 hectares, overlapping and partially surrounding 6 contiguous legacy claims covering 525 hectares.

Paved provincial Highway 28 and the all-weather Head Bay Forest Service Road provide access year round to Tahsis, and to the northeast side of the property, and old and new mining and logging roads provide truck or foot access to most of the property. The Head Bay Property is a 30 minute drive from Tahsis, a 1 hour drive from Gold River, B.C., and a 3 hour drive from Campbell River, B.C. Tahsis and Gold River have basic services available, and Campbell River is a full service community serving two nearby major operating mines, the Myra Falls base metal operation and the Quinsam coal mine.

The topography of the Head Bay Property consists of rugged mountain slopes up to 1290 metres in elevation drained by steep, fast flowing rivers and creeks flattening along their marine estuaries near sea level. Two major rivers and their tributaries drain the property: in the northeast the Sucwoa River drains southeast into Head Bay, and in the northwest the Tsowwin River drains southwest in to Tahsis Inlet. The property is covered by first and second growth forest of several ages of regeneration, and logging roads at different stages of degeneration. The area of the claims is dense coastal rainforest typical of western Vancouver Island, with very heavy rain and high elevation snow in the fall to spring period, and moderate summers with occasional rain.

### **Property definition, owner, operator, geology and history**

The property owner and operator is Canadian Dehua International Mines Group Inc., a private Canadian corporation, who began acquiring cell mineral claims on Vancouver Island in 2012 and coal licenses elsewhere in BC and Canada since 2004. Pioneer Exploration Corporation is an independent private company providing services for Canadian Dehua International Mines Group Inc. The mineral claims of the Head Bay Property were purchased from Jo Shearer in 2012, who staked some of them as legacy mineral claims in 2003 to cover the locations of reverted crown granted mineral claims and favourable geology surrounding the past producing Glengarry, and eight other BC MINFILE occurrences.

See Figure 1 for the mineral tenure map of property at 1:250,000 scale, and Figure 2a for the infrastructure map of the property at 1:25,000 scale, including locations of BC MINFILE occurrences (listed in Table 2), and ARIS reports, taken from BC MapPlace. The claims total approximately 1,588.5 hectares and consist of 18 mineral claims, with details and status listed in Table 1:

**Table 1 – Cell Mineral Claims and Status as of December 18, 2015:**

Tenure Number	Claim Name	Owner	Tenure Type	Map Number	Issue Date	Good To Date	Status	Area (ha)
403908	ROB ROY	276634 (100%)	Mineral	092E	2003/jul/27	2017/dec/18	GOOD	400
404162	REFER TO LOT TABLE	276634 (100%)	Mineral	092E	2003/jul/21	2017/dec/18	GOOD	25
404163	REFER TO LOT TABLE	276634 (100%)	Mineral	092E	2003/jul/21	2017/dec/18	GOOD	25
404168	REFER TO LOT TABLE	276634 (100%)	Mineral	092E	2003/jul/21	2017/dec/18	GOOD	25
404999	ROB ROY 2	276634 (100%)	Mineral	092E	2003/sep/11	2017/dec/18	GOOD	25
405000	ROB ROY 3	276634 (100%)	Mineral	092E	2003/sep/11	2017/dec/18	GOOD	25
528854	HEAD BAY 1	276634 (100%)	Mineral	092E	2006/feb/24	2017/dec/18	GOOD	125.1374
528855	HEAD BAY 2	276634 (100%)	Mineral	092E	2006/feb/24	2017/dec/18	GOOD	62.5752
536940	GLENNGARRY FRAC	276634 (100%)	Mineral	092E	2006/jul/11	2017/dec/18	GOOD	41.7055
537379	ROB ROY 5	276634 (100%)	Mineral	092E	2006/jul/18	2017/dec/18	GOOD	62.5471
544930	HEAD BAY WEST	276634 (100%)	Mineral	092E	2006/nov/05	2017/dec/18	GOOD	62.5487
544931	HEAD BAY SOUTHWEST	276634 (100%)	Mineral	092E	2006/nov/05	2017/dec/18	GOOD	62.5766
928415	HEAD BAY 10	276634 (100%)	Mineral	092E	2011/nov/07	2017/dec/18	GOOD	41.7084
941273	ROB ROY 5	276634 (100%)	Mineral	092E	2012/jan/18	2017/dec/18	GOOD	208.5378
941280	ROB ROY 6	276634 (100%)	Mineral	092E	2012/jan/18	2017/dec/18	GOOD	125.1081
941286	ROB ROY 8	276634 (100%)	Mineral	092E	2012/jan/18	2017/dec/18	GOOD	104.2323
941430	ROB ROY 15	276634 (100%)	Mineral	092E	2012/jan/19	2017/dec/18	GOOD	104.2841
942929	WOA 2	276634 (100%)	Mineral	092E	2012/jan/27	2017/dec/18	GOOD	62.5503
Subtotal	6	Legacy Claims						525
Subtotal	12	Cell Claims						1063.51
<b>Totals</b>	<b>18</b>	<b>Claims</b>						<b>1588.51</b>

The Head Bay Property straddles an intense aeromagnetic high measuring 10 x 5 km kilometers elongated NW-SE. This aeromagnetic high is centered on a NW-SE trending extensional graben containing a preserved, gently NW-dipping Triassic to Jurassic volcanic-sedimentary sequence, including the Triassic Quatsino limestone unit. Stocks, dikes and sills of both the Jurassic Island Intrusive Suite and the Eocene to Oligocene Mount Washington Intrusive Suite locally intrude the layered rocks. This geological setting is ideal for porphyry and related skarn copper-gold-magnetite mineralization both within the intrusions and along the contacts between the intrusions and the limestone.

The Head Bay Property is partially underlain by rocks of the Upper Triassic Vancouver Group, consisting of the Karmutsen Formation mafic volcanic flows (uTrVK) in the northeast, overlain by a gently dipping sequence of Quatsino Formation limestone (uTrVQ) in the north and south, and the calc-alkaline intermediate Lemare Lake Formation volcanics, volcanoclastics and breccias of the Lower Jurassic Bonanza Group (IJLca) in the centre. These units have been faulted, folded and intruded by two large and differentiated granodiorite, quartz diorite and diorite stocks of the Early-Middle Jurassic Island Plutonic Suite (EMJgd), and a younger quartz diorite stock of the Eocene to Oligocene Mount Washington Intrusive Suite (EOIM).

See Figure 2b for the geological map of the Head Bay Property at 1:25,000 scale. The following geology legend lists rocks underlying the Head Bay Property, taken from the BCGS 2005 Geology layer in BC MapPlace, which applies to Figure 2b:

## EARLY TO MIDDLE JURASSIC

### *Mt. Washington Plutonic Suite*

EOIM quartz dioritic intrusive rocks

### *Island Plutonic Suite*

EMJlgd granodioritic to quartz dioritic intrusive rocks

## UPPER TRIASSIC TO MIDDLE JURASSIC

### *Bonanza Group*

#### Lemare Lake Formation

IJL intermediate volcanics, volcanoclastics, breccias

## UPPER TRIASSIC

### *Vancouver Group*

#### Quatsino Formation

uTrVQ limestone

#### Karmutsen Formation

uTrVK mafic volcanic flows

The Head Bay Property covers 8 BC MINFILE occurrences as follows:

**Table 2 – BC MINFILE Occurrence on the Head Bay Property:**

Name	MINFILE #	Status	Deposit Type	Commodities	On Claims
Glengarry	092E001	Past Producer	Fe Skarn	Iron, Magnetite, Copper	404162
Mohawk	092E005	Showing	Cu-Ag Qtz. Vein	Gold	528855
Vivian	092E006	Prospect	Cu-Ag Qtz. Vein	Gold, Silver, Lead, Zinc	537379
Rob Roy	092E015	Prospect	Fe Skarn	Iron, Magnetite	403908
Elaine	092E028	Past Producer	Cu-Ag Qtz. Vein	Gold, Silver, Copper	528854
Head Bay	092E063	Prospect	Au Skarn	Gold, Silver, Copper, Mercury, Zinc	403908
Middle Quarry	092E109	Showing	Cu-Ag Qtz. Vein	Gold, Silver, Arsenic	537379
North Tsowwin	092E110	Showing	Cu-Ag Qtz. Vein	Gold, Arsenic	544930

Historic exploration work on or immediately around the area of the Head Bay Property dates from 1902, and includes 16 assessment reports documenting work between 1981 and 2013, listed in Table 3 and summarized below:

**Table 3 – ARIS Reports for the Head Bay Property as of December 18, 2015:**

Report#	Year	Authors	Owner/Operator	Work Program / MINFILE #
9130	1981	White, G.D., Chabot, G.E.	Pan Ocean Oil Ltd.	Geochemical / 092E006, 092E109, 092E110
10157	1982	Chabot, G.E.	Pan Ocean Oil Ltd.	Geological, Geochemical / 092E005, 092E006, 092E109, 092E110
11221	1983	Cavey, G.	Crystal Mountain Resources Ltd. / Orequest Consultants Ltd.	Geological, Geochemical / 092E028
12058	1983	Robinson, J.E.	Aberford Resources Ltd.	Geological, Geochemical / 092E006, 092E109, 092E110



13026	1984	Flanagan, M.	Homestake Mineral Development Company	Geological, Geochemical / 092E001, 092E015, 092E063
13681	1985	Ronning, P.A.	Homestake Mineral Development Company	Geological, Geochemical / 092E001, 092E015, 092E063, 092E109, 092E110
13806	1985	Caulfield, D.A.	DeBock, N.B.	Prospecting, Geochemical / 092E005
16355	1987	Awmak, H.J.	Caulfield, D.A. / Great Keppel Resources Ltd.	Geological, Geochemical / 092E001, 092E015, 092E063
17139	1988	Awmak, H.J.	Cardinal Mineral Corporation / Equity Engineering Ltd.	Geological, Geochemical / 092E005
17521	1988	Awmak, H.J.	Centaur Resources Ltd. / Equity Engineering Ltd.	Geological, Geochemical, D. Drilling / 092E001, 092E015, 092E063
18833	1989	DeBock, N.B.	DeBock, N.B.	Prospecting, Geochemical / 092E006, 092E109, 092E110
22335	1992	Kasper, B.	DeBock, N.B.	Prospecting, Geochemical / 092E006, 092E109, 092E110
29150	2007	Shearer, J.T.	Homegold Resources Ltd./ Silverlake Capital Corporation	Prospecting, Geological, Geochemical / 092E001, 092E005, 092E006, 092E015, 092E028, 092E063, 092E109, 092E110
32221	2010	Shearer, J.T.	Homegold Resources Ltd.	Geological / 092E001, 092E005, 092E006, 092E015, 092E028, 092E063, 092E109, 092E110
33789	2012	Shearer, J.T.	Homegold Resources Ltd.	Geological / 092E001, 092E005, 092E006, 092E015, 092E028, 092E063, 092E109, 092E110
34006	2013	Shearer, J.T.	Canadian Dehua International Mines Group Inc.	Geological / 092E001, 092E005, 092E006, 092E015, 092E028, 092E063, 092E109, 092E110
34856	2014	Houle, J., Huang, R., Ickringill, M., Zhou, V.	Canadian Dehua International Mines Group Inc. / Pioneer Exploration Corporation	Geological, Geochemical, Geophysical / 092E001, 092E005, 092E006, 092E015, 092E028, 092E063, 092E109, 092E110

The bibliographies for the 8 MINFILE occurrences listed in Table 2 contain references to government reports describing the early work in the area of the Head Bay Property.

In 1981, Pan Ocean Oil Ltd. completed stream sediment, heavy mineral concentrate, and rock geochemistry on their Tah 1-19 claims covering the Vivian prospect and the Middle Quarry, Upper Quarry and North Tsowwin showings. Elevated values of gold and arsenic were found in heavy mineral concentrates and rock chips taken from the upper Tsowwin River, and other areas north of the current Head Bay Property.

In 1982, Pan Ocean Oil Ltd. completed geological mapping and rock geochemistry on their Tah 2-21 claims covering the Vivian prospect and the Middle Quarry, Upper Quarry and North Tsowwin showings. Two types of gold mineralization were discovered near the upper Tsowwin River: felsic intrusive dikes up to 4 m. thick containing pyrite and arsenopyrite yielded values up to 2.5 g/t gold; and quartz veins up to 0.1 m. thick yielded values up to 123 g/t gold.

In 1983, Crystal Mountain Resources Ltd. completed stream sediment, soil and rock geochemistry on their Elaine claim, covering the Elaine past producer. Soil sampling yielded up to 0.13 ppm gold.

In 1983, Aberford Resources Ltd. completed geological mapping and stream sediment, heavy mineral concentrate and rock geochemistry on their Tah 15, 18 and 19 claims covering the Vivian prospect and the Middle Quarry, Upper Quarry and North Tsowwin showings. Rock sampling at the Middle Quarry showing yielded up to 7.0 g/t gold from a 0.1 to 0.2 m. thick quartz vein. Heavy mineral concentrates from the north branch of the Tsowwin River near the Vivian prospect yielded up to 4.01 g/t gold.

In 1984, Homestake Mineral Development Company completed geological mapping and rock geochemistry on their Tah 22 claim, covering the Glengarry past producer, and the Rob Roy and Head Bay prospects. Rock sampling at the Head Bay prospect yielded up to 0.38 g/t gold, 5.1 g/t silver and 0.55% copper.

In 1985, Homestake Mineral Development Company completed geological mapping and rock geochemistry on their Tah 15, 18, 19 and 22 claims covering the Glengarry past producer, the Rob Roy, Head Bay and Vivian prospects, and the Middle Quarry, Upper Quarry and North Tsowwin showings. Rock sampling north of the property yielded up to 1.4 g/t gold, 26 ppm silver, 2.5% copper and 793 ppm zinc.

In 1985, N. DeBock completed prospecting and rock geochemistry on his Vig 1-2 claims, covering the Mohawk showing. The highest value obtained from rock geochemistry was from 0.75 m. channel sample taken from a vein exposed in the portal of the upper adit which yielded 1.08 g/t gold.

In 1987, Great Keppel Resources Ltd. completed geological mapping, ground magnetics, stream sediment, heavy mineral concentrate, soil and rock geochemistry on their Vig 3-5 claims covering the Glengarry past producer, and the Rob Roy and Head Bay prospects. Magnetic survey was limited in extent, but showed areas of high magnetic response in the area of the Head Bay prospect. Heavy mineral concentrate sampling yielded up to 0.83 ppm gold southeast of the Glengarry past producer; stream sediment sampling yielded up to 5.7 ppm gold northwest of the Glengarry past producer; and soil sampling yielded up to 3.1 ppm gold, 7.1 ppm silver, 1282 ppm copper, 5052 ppm lead and 1992 ppm zinc in the area of the Head Bay prospect. Rock sampling of the sulphide-quartz vein at the Head Bay prospect yielded an average of 9.16 g/t gold over 0.18 m. width in 7 trench channel samples, and up to 201 g/t gold and 84 g/t silver and 6.2% copper in grab samples.

In 1988, Cardinal Mineral Corporation completed geological mapping and stream sediment, soil and rock geochemistry on their Vig 1-2 claims, covering the Mohawk showing. Stream sediments yielded up to 8 ppm cadmium and 225 ppm zinc; soil samples yielded up to 6 ppm molybdenum and 348 ppm Zn; and rock sampling yielded up to 0.48 ppm gold, 595 ppm arsenic, 280 ppm copper and 488 ppm nickel.

In 1988, Centaur Resources Ltd. completed geological mapping, stream sediment, soil and rock geochemistry, and 437 m. of diamond drilling in 9 holes on their Vig 3,5,7,8 claims covering the Glengarry past producer and the Rob Roy and Head Bay prospects. Soil samples yielded up to 0.90 ppm gold, 128 ppm copper, 175 ppm lead and 1080 ppm zinc near two new skarn occurrences (VIG 8 West and VIG 8 East) located just

south of the present Head Bay Property. Rock samples from these skarn occurrences yielded up to 8.7 g/t gold, 55 g/t silver, 6.1% copper, 3.4% lead and 19% zinc. Diamond drilling at the Head Bay prospect yielded up to 0.25 m. @ 58.2 g/t gold, with 4 of 9 holes fanned from a single setup successfully intersecting the target quartz-sulphide zone.

In 1989, N.B. DeBock completed prospecting and rock geochemistry on his Vig 6 claim, covering the Vivian prospect and the Middle Quarry, Upper Quarry and North Tsowwin showings. Rock samples from the Vivian prospect yielded up to 115 g/t gold, 83 g/t silver, >1% arsenic, 142 ppm copper, 2280 ppb lead, and 1168 ppm Zn from select outcrop vein grab samples.

In 1992, N.B. DeBock completed geological mapping and stream sediment, stream moss mat and rock geochemistry on his Vig 6 claim, covering the Vivian prospect and the Middle Quarry, Upper Quarry and North Tsowwin showings. Stream sediment and moss mat samples yielded up to 0.81 ppm gold, 0.48 ppm silver, 158 ppm arsenic, 11 ppm lead, 145 ppm zinc. Rock samples from the southeast extension of the Vivian prospect yielded up to 114 g/t gold, 51 g/t silver, 1855 ppm arsenic, 4280 ppm lead and 4910 ppm zinc from select vein outcrop samples.

In 2007, Silverlake Capital Corporation completed prospecting, geological mapping, soil and rock geochemistry on Homegold Resources Ltd.'s Head Bay Property, covering the Glengarry and Elaine past producers, the Rob Roy, Head Bay and Vivian prospects, and the Mohawk, Middle Quarry, Upper Quarry and North Tsowwin showings. Soil samples yielded up to 0.29 ppm gold, 104 ppm arsenic, 167 ppm Zn near the Elaine past producer. Rock samples yielded up to 21.4 g/t gold, 11.3 g/t silver, 729 ppm arsenic, 160 ppm bismuth, 4213 ppm copper and 110 ppm zinc from the Head Bay prospect.

In 2010, Homegold Resources Ltd. completed prospecting and geological mapping on their Head Bay Property, covering the Glengarry and Elaine past producers, the Rob Roy, Head Bay and Vivian prospects, and the Mohawk, Middle Quarry, Upper Quarry and North Tsowwin showings.

In 2012, Canadian Dehua International Mines Group Inc. completed air photo interpretation on their Head Bay Property, covering the Glengarry and Elaine past producers, the Rob Roy, Head Bay and Vivian prospects, and the Mohawk, Middle Quarry, Upper Quarry and North Tsowwin showings.

In 2014, Pioneer Exploration Corporation on behalf of Canadian Dehua International Mines Group Inc. completed GPS grid-based geological mapping, soil and stream moss mat geochemistry and ground magnetics covering the Glengarry past producer, and the Rob Roy and Head Bay prospects; and limited prospecting and stream moss mat geochemistry near the Vivian prospect. In the Glengarry West Grid area, stream moss mat samples yielded up to 0.61 ppm gold and 462 ppm zinc; soil samples yielded up to 0.306 ppm gold, 3.97 ppm silver, 287 ppm arsenic, 3.01 ppm bismuth, 21.6 ppm cadmium, 171 ppm cobalt, 845 ppm copper, 12.6 ppm molybdenum, 294 ppm lead, 1.22 ppm tellurium and 3020 ppm zinc; rock samples yielded up to 2.72 ppm gold, 4.03 ppm silver, 342 ppm arsenic, 28.4 ppm bismuth, 132 ppm cobalt, 2960 ppm copper, 552 ppm zinc and 89.8% magnetite; and ground magnetic established 9 Fe/Cu/Zn Skarn target areas in 5 clusters worthy of follow up work. In the Vivian area, a new Fe/Zn Skarn target (Menace) was discovered, and yielded 4.29 ppm silver, 98.3 ppm cobalt, 336 ppm copper, 5700 ppm lead and 6.98% zinc in a rock sample; also worthy of follow up work.

## List of claims and work completed

On November 15, 2015 a 1 day site visit was conducted for Dehua personnel and visitors to the Head Bay Target area, led by the author and accompanied by C. Broda. From November 16, 2015 to November 25, 2015 the 4 person field crew led by the author mobilized to Tahsis, worked on the Head Bay Property, and demobilized from the project site for a total of 10 days. The 4 person field crew worked from a rented house/field office in Tahsis, and consisted of project manager J. Houle, prospector Ron Bilquist and geologists M. Brannstrom and C. Broda. GPS grid-controlled, systematic geological mapping, B horizon soil geochemical sampling and select outcrop rock geochemical sampling were conducted for 6.5 days in the Vivian Target Area (including Mohawk area) on cell mineral claims 528855, 544931, 537379, 544930, 928421 and 941280. In addition, prospecting and select rock geochemical sampling were conducted for 1.5 days in the Elaine Target Area (including Head Bay and VIG areas) on legacy mineral claims 404999, and cell mineral claims 528854, 942912 and 510251. All claims worked on were in good standing at the time of the field programs, and covered the areas on which the work was completed. These locations are shown in Figures 3a, 4a, and 4b at 1:10,000 scale.

J. Houle created grid co-ordinates using MS Excel and Geosoft Target software and entered them onto hand held Garmin GPS units used by each field crew member. Geological mapping of outcrops at 1:2,000 scale was conducted by M. Brannstrom and C. Broda each working along alternate 100 m. spaced lines. B horizon soil geochemical sampling was conducted by R. Bilquist and J. Houle each working along alternate 100 m. spaced lines at 50 m. intervals, concurrent with the geological mapping. Rock geochemical sampling was conducted by all 4 field crew members simultaneous with the mapping and soil sampling, targeting selected mineralized outcrop exposures.

All rock samples were taken in duplicate, with one from each sample pair retained as a reference sample, later cut into slabs with a rock saw, and described in detail by J. Houle using a binocular microscope. The other rock sample pair and all soil samples were kept in secure custody by J. Houle and sent by Greyhound Bus Parcel Express from Nanaimo, BC to AGAT Lab's Terrace BC facility on November 25, 2015.

Geological mapping in the Vivian Target area totaled approximately 1.1 square km., with 82 outcrop structural measurements taken and listed in Appendix 1, and outcrop mapping and geological interpretation of outcrop mapping shown in Figures 5a and 5b, respectively. In total 187 soil and 14 rock samples were taken in the Vivian Target area, plus 6 additional rock samples (20 in total) including 2 in the Mohawk area, 1 in the Head Bay area, 1 in the Elaine area and 2 in the VIG area.

The Vivian Target grid is centred at UTM Zone 9N, 5520750N 674250E, roughly in the middle of 4 BC MINFILE occurrences: Vivian 092E002, Upper Quarry 092E108, Middle Quarry 092E109, and North Tsowwin 092E110. GPS grid geological mapping and soil sampling lines were oriented at 060° Azimuth, roughly orthogonal to the long axis of the geological contact between mainly limestone to the southwest and mafic volcanics to the northeast. Work on the target was conducted over 6.5 days from November 18, 2015 to November 24, 2015. The southern-most line of 15 total planned lines was omitted completely from geological mapping and soil sampling due to time constraints.

The Mohawk area is centred at UTM Zone 9N 5518150N 674750E at the location of BC MINFILE occurrence Mohawk 092E005. Work on the Mohawk target was conducted during 0.5 days on November 24, 2015. The Head Bay area is centred at UTM Zone 9N 5519650N 678150E at the location of BC MINFILE occurrence Head Bay 092E063. Work on the Head Bay target was conducted during 1 day on November 15, 2015 during a site visit just prior to the 2015 field program. The Elaine area is centred at UTM Zone 9N 5518700N 679850E at the location of BC MINFILE occurrence Elaine 092E028. On November 17, 2015 an unsuccessful attempt was made to relocate and visit the occurrence during 0.5 days. The VIG area is centred at UTM Zone 9N 5516800N 679700E between the locations of BC MINFILE occurrences VIG East 092E103 and VIG West 092E104. Work on the VIG area was conducted during 0.5 days on November 17, 2015. The work attempted or completed in Elaine and VIG areas on November 17, 2015 occurred as a result of temporary snow accumulation along Tsowwin Main Road which prevented safe access to the Vivian Target area. Access was gained on November 18, 2015 after a warming trend which continued through the remainder of the 2015 program.

For each day of the geological mapping, outcrop locations and characteristics were recorded on waterproof loose-leaf paper in a field notebook, and the data was copied and plotted manually at 1:2,000 scale on a mylar base map at the end of each day.

At each soil and rock sample site, site characteristics were recorded on a pre-printed, waterproof, loose-leaf sample record form in a field notebook, and the sample number was recorded in triplicate: on the form, on a metal tag tied near the sample site and marked with flagging tape, and as a waypoint number in a hand-held Garmin Map 64ST GPS. The GPS location for each sample was recorded using the UTM NAD83 coordinate system. Sample data was recorded in MS Excel and saved at the end of each day.

On November 25, 2015 all 187 soil and 20 rock samples were sent by Greyhound Bus Parcel Express from Nanaimo, BC to AGAT Lab's Terrace BC facility, and geochemistry results from AGAT's analytical laboratory in Mississauga, Ont. were received by Pioneer Exploration Corporation including rock sample results on December 11, 2015 in Report 15D047982, and soil sample results on December 16, 2015 in Report 15D047986. At their Terrace facility AGAT prepared the soil and rock samples using packages 226012, 226012 and 226001 respectively, and then transferred the pulps to their laboratory in Mississauga, Ont. where they utilized 4-acid digestion and multi-element metals package 201071, and trace gold package 202052 for analysis of all the samples. All pulps and rejects from soil and rock samples were scheduled for disposal by AGAT at the request of the author, authorized by Pioneer and Dehua. Soil and rock sample locations, rock sample descriptions, geochemistry highlights, geochemistry reports and sample chain of custody forms from AGAT Labs appear in Appendix 2.

All geological outcrops were digitized using Geosoft Target by J. Houle, and structural data tabulated using MS Excel by M. Brannstrom and C. Broda, and then imported into Geosoft Target by J. Houle. Soil and rock geochemistry highlights for ten individual target and indicator elements with elevated values from 2015 (including 2014 data) were plotted using colour-coded gridding (for soils in ppm) and proportional size bubbles (for rocks in ppm) at 1:10,000 scale for the Elaine Target Area (Figures 3b to 3l inclusive) and for the Vivian Target Area (Figures 4c to 4m inclusive). Geological outcrop mapping, geological interpretation, soil geochemical compilation and target compilation of the Vivian Grid Area were plotted at 1:5,000 scale (Figure 5a to 5d inclusive).

## Technical Data, Interpretation and Conclusions

### Elaine Target Area Rock Sampling

Rock sampling from the 3 areas yielded highly elevated geochemistry values in target (gold, silver, copper, lead, zinc, iron) and/or indicator (bismuth, cadmium, copper, molybdenum, antimony, tellurium) elements shown in Figures 3b to 3l inclusive, and described as follows:

**Head Bay area sample E5123629** was a select outcrop grab taken from a 0.12 m. thick quartz-sulphide-chlorite breccia vein @ 103/70 exposed in a logging road cut at the site of BC MINFILE prospect 092E063 – Head Bay. The sample contained about 80% sulphides and 20% clustered quartz, epidote and garnets. Geochemistry yielded 9.92 ppm gold, 7.85 ppm silver, 655 ppm arsenic, 113 ppm bismuth, 685 ppm copper, and 1.15 ppm tellurium.

**Elaine area sample E5124787** was a select outcrop grab taken from a 0.11 m. thick quartz-chlorite-epidote-sulphide breccia @ 350/40 exposed in a logging road cut about 250 m. south of BC MINFILE past producer 092E028 – Elaine. The sample contained about 50% angular quartz clasts, and 50% fine grained matrix and stringers with chlorite, epidote and 1% sulphides. Geochemistry yielded 1.08 ppm silver and 969 ppm zinc.

**VIG area samples E5123685 and E5124266** were select outcrop grabs taken from a 2.0 m. thick by 5 m. long, N-S oriented, and variably zoned Cu/Zn skarn exposed in a logging road cut at the site of BC MINFILE showing 092E 104 – Vig West. Sample E5123685 contained 30% magnetite, 65% silicates including diopside, epidote and garnets, and 5% sulphides including chalcopyrite, pyrrhotite and bornite. Geochemistry yielded 0.137 ppm gold, 2.39 ppm silver, 1260 ppm copper and 800 ppm zinc. Sample E5124266 contained 60% silicates including epidote and garnets, and 40% sulphides including sphalerite, pyrite and chalcopyrite. Geochemistry results yielded 0.673 ppm gold, 11.7 ppm silver, 44.4 ppm bismuth, 1370 ppm cadmium, 251 ppm cobalt, 2750 ppm copper 143 ppm molybdenum, 666 ppm lead, 9.53 ppm tellurium and 29.4% zinc.

### Vivian Target Area Rock Sampling

Rock sampling from the 4 areas yielded low to moderately elevated geochemistry values in target (gold, silver, copper, lead, zinc, iron) and/or indicator (bismuth, cadmium, copper, molybdenum, antimony, tellurium) elements shown in Figures 4c to 4m inclusive, and described as follows:

**Upper Quarry area samples E5123686 and E5123687** were select outcrop grabs taken from quartz-sulphide veins exposed near BC MINFILE showing 092E108 – Upper Quarry. Sample E5123686 was taken from a 0.35 m. thick quartz-sulphide vein @ 334/61 exposed in a small quarry, and contained 80% quartz, 10% altered feldspar, 5% calcite, 5% sulphides mainly pyrite; and geochemistry yielded no elevated values. Sample E5123687 was taken from a 0.60 m. thick quartz-sulphide vein @ 317/28 exposed in a creek bank, and contained 40% quartz, 40% feldspar, 20% sulphides mainly pyrite; and geochemistry yielded 11.8 ppm antimony.

**Lower Quarry area samples E5123688, E5123692 and E5123693** were select outcrop grabs taken from a sheared 0.10 m. thick quartz vein @ 318/58 exposed at a previously documented occurrence from ARIS reports – Lower Quarry (E5123688), and from a 0.115 m. thick quartz-carbonate vein @ 329/89 (E5123692) and 0.10 m. thick silicified adjacent wall rock (E5123693) exposed in a logging road cut north of the quarry. Sample E5123688 contained 40% quartz, 40% diopside, 10% chlorite, and 10% vugs. Geochemistry yielded 0.498 ppm gold and 908 ppm arsenic. Sample E5123692 contained 75% quartz-chlorite-epidote vein, 25% chloritic, calcitic and sulphidic mafic volcanics including 1% pyrite. Geochemistry yielded 0.257 ppm gold and 726 ppm arsenic. Sample E5123693 contained chloritic, calcitic and sulphidic mafic volcanics including 2% pyrite. Geochemistry yielded 0.241 ppm gold and 1080 ppm arsenic.

**Vivian area samples E5123630 to E5123635 and E5123689 to E5123691** included select outcrop grabs taken from a 0.15 m. thick quartz-sulphide vein @ 320/70 (E5123630), and 0.15 m. thick adjacent mineralized footwall rock (E5123631) and 0.15 m. thick adjacent hanging wall rock (E5123632) exposed in the back of the Vivian South Adit along Tsowwin Creek, the site of BC MINFILE prospect 092E006 - Vivian. Sample E5123630 contained 80% altered volcanics, 20% quartz-sulphide stockwork stringers including 4% arsenopyrite and 1% pyrite. Geochemistry yielded 4.40 ppm gold, 5.4 ppm silver, 10700 ppm arsenic, 1.43 ppm bismuth, 144 ppm lead, 16 ppm antimony and 268 ppm zinc. Sample E5123631 contained altered volcanics with 0.2% pyrite. Geochemistry yielded no elevated values. Sample E5123632 contained magnetic intermediate intrusive including 70% feldspar, 20% quartz, 5% magnetite, 5% quartz-sulphide stockwork stringers including trace sphalerite. Geochemistry yielded 1.96 ppm silver. Select outcrop grabs were taken from a 0.05 m. thick quartz-sulphide vein @320/70 (E5123633), and 0.10 m. thick adjacent mineralized footwall rock (E5123634) and 0.15 m. thick adjacent hanging wall rock (E5123635) exposed in the face of the Vivian North Adit along Tsowwin Creek, 15 m. northwest of the South Adit. Sample E5123633 contained 50% altered volcanics and 50% brecciated and banded quartz-sulphide vein including 1.5% pyrite and 0.5% arsenopyrite. Geochemistry yielded 1.18 ppm gold, 6.26 ppm silver, 1970 ppm arsenic, 3.37 ppm bismuth, 469 ppm copper and 12.8 ppm antimony. Sample E5123634 contained 50% altered volcanics and 50% brecciated and banded quartz-sulphide vein including 1% pyrite and 0.5% arsenopyrite. Geochemistry yielded 0.181 ppm gold, 7.09 ppm silver, 1050 ppm arsenic, 6.62 ppm bismuth, 621 ppm copper and 10.2 ppm antimony. Sample E5123635 contained 90% altered volcanic and 10% thin quartz-calcite-sulphide stringers including minor pyrite. Geochemistry yielded 0.110 ppm gold, 1.33 ppm silver and 1140 ppm arsenic. Select outcrop grabs were taken from a 1.0 m. thick brecciated quartz vein @322/64 (E5123689) and adjacent parallel 0.5 m. thick quartz-sulphide vein (E5123690) exposed in the north wall of an old trench (Vivian Trench) located about 100 m. northwest of the Vivian North Adit. Sample E5123689 contained 70% quartz, 20% chlorite/sericite and 10% vugs. Geochemistry yielded 2.02 ppm bismuth, 310 ppm lead and 1.35 ppm tellurium. Sample E5123690 contained 85% quartz, 5% dendritic mineral?, 5% sulphides and 5% vugs; Geochemistry yielded 0.220 ppm gold and 1190 ppm arsenic. A select outcrop grab (E5123691) was taken from a 4.0 m. thick, sulphidic felsic intrusive dike @ 336/67 exposed along the south bank of the Tsowwin River, 75 m. east of the Vivian adits. The sample contained 75% quartz and 20% feldspar phenocrysts, and 5% disseminated sulphides. Geochemistry yielded 0.240 ppm gold and 1870 ppm arsenic.

**Mohawk area samples E5123636 and E5123637** were select float samples taken from the muck pile at or immediately down slope and west from the Mohawk Upper Adit.

Sample E5123636 was taken from a 0.25 m. x 0.25 m. angular boulder of altered and mineralized rock containing 25% altered volcanic and 75% quartz-sulphide veins including 10% zoned sulphides. Geochemistry yielded 0.769 ppm gold, 1.39 ppm silver, 1340 ppm arsenic, and 32.8 ppm antimony. Sample E5123637 was taken from a 0.25 m. x 0.10 m. angular boulder of banded and brecciated quartz-sulphide vein containing 1% very fine grained sulphides. Geochemistry yielded 28.1 ppm antimony.

## **Vivian Target Area Soil Sampling**

Soil sampling from 187 B horizon soil samples in the Vivian Grid yielded elevated values in target (gold, silver, copper, lead, zinc, iron) and/or indicator (bismuth, cadmium, copper, molybdenum, antimony, tellurium) elements up to 0.537 ppm gold, 5.41 ppm silver, 810 ppm arsenic, 9.36 ppm bismuth, 45.3 ppm molybdenum, and 4.25 ppm tellurium. The soil geochemistry results by element are shown in Figures 4c to 4m inclusive, compiled together in Figure 5c, and described by element as follows:

**Gold Geochemistry – Figure 4c** - 2 soil samples yielded gold values exceeding 0.100 ppm, including 1 exceeding 0.5 ppm. There are 5 areas of elevated gold values, none of which have more than 2 adjacent sample sites with elevated values. However, 3 areas in the southern part of the grid form a discontinuous 1 km. long trend oriented northeast. The northeast end of this trend is coincident with 2 rock samples sites at the Lower Quarry which yielded elevated gold values from quartz-sulphide veins: 0.257 ppm in E5123692 and 0.241 ppm in E5123693. The western part of the trend is adjacent to 1 rock sample site at the Vivian Trench which also yielded an elevated gold value from a quartz-sulphide vein: 0.220 ppm in E6123690.

**Silver Geochemistry – Figure 4d** – 6 soil samples yielded silver values exceeding 0.5 ppm, including 2 exceeding 1.00 ppm and 1 exceeding 5 ppm. There are 2 small areas of elevated silver values, 1 which has more than 1 site with elevated values. This area is centred on the Vivian Trench, and adjacent to a rock sample site at the Menace which yielded an elevated silver value from a zinc skarn in 2014: 4.29 ppm in E5124562; and also adjacent to a rock sample site at the Vivian North Adit which yielded elevated silver values from a quartz-sulphide vein: 6.29 ppm in E5123633, 7.09 ppm in E5123634 and 1.33 ppm in E5123635.

**Arsenic Geochemistry – Figure 4e** – 12 soil samples yielded arsenic values exceeding 250 ppm, including 5 exceeding 500 ppm. There are 3 areas of elevated arsenic values, 1 which has more than 1 site with elevated values. This area in the southern part of the grid forms a continuous 1 km. long trend oriented northeast with northwest trending elongations at each end. The elongation at the northeast end is coincident with the 2 rock samples sites at the Lower Quarry which yielded elevated arsenic values from quartz-sulphide veins: 726 ppm in E5123692 and 1080 ppm in E5123693. The elongation at the southwest end is coincident with 1 of 2 rock samples site at the Vivian Trench which also yielded an elevated arsenic value from a quartz-sulphide vein: 1190 ppm in E5123690.

**Bismuth Geochemistry – Figure 4f** – 8 soil samples yielded bismuth values exceeding 1 ppm, including 1 exceeding 5 ppm. There are 3 areas of elevated bismuth values, 2 which have more than 1 site with elevated values. The 2 areas in the southern part of the grid form a discontinuous 500 m. long trend oriented northeast with a southeast



trending elongation at the southwest end. The area of intersecting trend directions is coincident with 1 of 2 rock sample sites at the Vivian Trench which yielded an elevated Bismuth value from a quartz-sulphide vein: 2.02 ppm in E5124689.

**Cadmium Geochemistry – Figure 4g** – 4 soil samples yielded cadmium values exceeding 0.5 ppm. There are 3 areas with elevated cadmium values, 1 which has 2 adjacent sample sites with elevated values located in the northern part of the grid, forming a 200 m. diameter circular trend. The southern site is adjacent to 1 rock sample site at the Menace Fe/Zn Skarn which yielded an elevated Cadmium value in 2014 sample: 98.3 ppm in E5124562.

**Copper Geochemistry – Figure 4h** – 0 soil samples yielded copper values exceeding 100 ppm. At the Vivian North Adit, 2 rock samples yielded elevated copper values from a quartz-sulphide vein and adjacent wall rock samples: 469 ppm in E5123633 and 621 ppm in E5123634.

**Molybdenum Geochemistry – Figure 4i** – 12 soil samples yielded molybdenum values exceeding 5 ppm, including 1 exceeding 10 ppm. There are 3 areas of elevated molybdenum values, 2 of which have multiple sites with elevated values. In the northern part of the grid 4 adjacent sites have elevated values, forming an elliptical 300 m x 200 m. trend. In the southern part of the grid multiple sites with elevated values are discontinuously scattered over a 500 m. x 500 m. area. The southern site contains 2 rock sample sites with slightly elevated molybdenum values, including at the Menace Fe/Zn Skarn: 4.88 ppm in 2014 sample E5124562; and at the Vivian Trench: 3.27 ppm in E5123689 and 2.23 ppm in E5123690 from quartz+/-sulphide veins.

**Lead Geochemistry – Figure 4j** – 3 soil samples yielded lead values exceeding 25 ppm including 2 exceeding 50 ppm, all isolated values in the south part of the grid. The site with the highest value in soils was coincident with the Vivian Trench, which yielded an elevated lead value from a quartz-sulphide vein: 310 ppm in E5123689. That soil sample site is located 75 m. from Menace Fe/Zn Skarn which yielded a highly elevated Lead value in 2014 sample: 5700 ppm in E5124562.

**Antimony Geochemistry – Figure 4k** – 8 soil samples yielded antimony values exceeding 2.5 ppm. There are 5 areas with elevated antimony values, 2 which have 2 adjacent sample sites with elevated values, both located in the northern part of the grid along 2 alternate lines. 2 single sample sites with elevated values are adjacent to rock sample sites with elevated antimony values: 11.8 ppm in E5123687 in the northeast part of the grid, 12.8 ppm in E5123633, 10.2 ppm in E5123634 from a quartz-sulphide vein and adjacent wall rocks at the Vivian North Adit, and 16.0 ppm in E5123630 from a quartz-sulphide vein at the Vivian South Adit in the southern part of the grid.

**Tellurium Geochemistry – Figure 4l** - 7 soil samples yielded tellurium values exceeding 1.00 ppm. All 7 samples with elevated values form a single 300 m. x 200 m. elliptical area in the southern part of the grid. The southwestern part of that area contains one rock sample site with an elevated tellurium value: 1.35 ppm in E5123689 from a quartz vein at the Vivian Trench.

**Zinc Geochemistry – Figure 4m** – 19 soil samples yielded zinc values exceeding 100 ppm, including 1 exceeding 250 ppm. All but 1 sample with elevated values occur in the southern part of grid, forming a sinuous shape containing 2 rock sample sites with

elevated zinc values: 69800 (7%) zinc in 2014 Fe/Zn skarn sample E5124562 at the Menace, and 268 ppm in E5123630 from a quartz-sulphide vein at the Vivian South Adit.

## Vivian Target Area Geological Mapping

Geological mapping in the Vivian Grid area of the Head Bay Property (see Figure 5a for outcrop mapping by M. Brannstrom and C. Broda, Table 4 for geological legend by Brannstrom and Broda edited by Houle, and Figure 5b for geological interpretation by J. Houle) identified similar but more variable intrusive rock types than appears in the BCGS regional mapping (see Figure 3 and Table 4). However, the most extensively exposed intrusive rock types appear to be comparable, and therefore the 6 intrusive rock types mapped were assigned and interpreted to the most appropriate of 2 BCGS rock type based on geographic locations and aerial extent of the rock types: 4 intrusive rock types (**I Int**, **Hb Int**, **K Int** and **F Int**) occurring across the middle portion of the grid area as Early to Middle Jurassic Island Intrusive granodiorite (**EMJlgd**); and 2 intrusive rock types occurring only at the southern portion of the grid area as Eocene to Oligocene Mount Washington granodiorite (**EIOM**).

The layered rocks were found by geological mapping to be comparable in the western and southern portions of the grid but quite different in the eastern portion of the grid. The eastern portion of the grid is underlain by Karmutsen Formation Mafic Volcanics (**uTRVK**), in gradational, conformable contact with the Quatsino Formation Limestone (**uTrVQ**) along the central axis of the grid. This differs substantially and significantly from the BCGS mapping which shows Bonanza Group Lemare Lake Formation Volcanics (**IJL**) in fault contact with the Quatsino Formation Limestone. The significance is that the Karmutsen-Quatsino contact is the key skarn-bearing stratigraphic horizon on Vancouver Island. Some of the Quatsino Limestone exposed and mapped in the central grid area was found to be marbleized, mainly between the intrusives assigned to the granitic intrusive (**G Int** – interpreted as **EOIM**) in the southern portion of the grid area and the intrusives assigned to intermediate intrusive (**I Int** – interpreted as **EMJlgd**) across the middle portion of the grid area.

Sulphide mineralization containing target and/or indicator elements in the Vivian Grid area was found by geological mapping to occur in 2 styles: Quartz+/-Sulphide Veins and Silicate+/-Sulphide Skarns. Quartz Veins were found to occur within and to post-date all rock types, were generally narrow and contained mainly pyrite and locally arsenopyrite within the veins and in the immediately adjacent wall rocks. Quartz veins were mapped and sampled in 3 locations: Upper Quarry, Lower Quarry and Vivian Shafts/Trench. Skarns were found to occur only within the Limestone, and only in the south-central portion of the grid area in 2 locations: Menace Fe/Zn Skarn and in a road cut 275 m. to the northeast where limestone was found to be intruded by intermediate intrusive and hornblende intrusive dikes. The Menace Fe/Zn Skarn was exposed over 0.5 m. thickness and contained mainly magnetite and sphalerite, plus minor galena and trace chalcopyrite. It is possible that the 2 skarn occurrences have continuity between one another, as shown in Figure 5b. More significantly, the favourable Karmutsen-Quatsino contact has been intruded by at least 2 different intrusive events over much of the grid area, representing extensive opportunities for additional skarn mineralization occurring below surface. This is a similar geological setting to both the Glengarry area on the eastern portion of the Head Bay property, and to the VIG area immediately southeast of the property.

**Table 4 – Head Bay Vivian Grid Geological Legend:**

Colour	Symbol	Name	Description	BCGS
	<b>QV</b>	<b>Quartz+/-Sulphide Vein</b>	white-grey weathered, vuggy, sheared, brecciated to banded, 0.05m - 1.0m thick quartz-chlorite vein with 0-10% sulphides including pyrite, arsenopyrite	<b>QV</b>
	<b>SK</b>	<b>Silicate+/-Sulphide Skarn</b>	brown-black weathered, massive, 0.5m - 5.0m thick silicate skarn with 0-25% magnetite, 0-10% sulphides including sphalerite, galena, chalcopyrite, pyrrhotite	<b>SK</b>
	<b>G Int</b>	<b>Granitic Intrusive</b>	brown-green weathered, grey-pink fresh, medium grained, massive, equigranular quartz, feldspar, chlorite after hornblende/biotite	<b>EOIM</b>
	<b>PA Int</b>	<b>Plagioclase/Amphibole Intrusive</b>	black-brown-grey weather, grey-black (salt + pepper) fresh, fine to coarse grained, massive, plagioclase & amphibole phyrlic, chlorite after amphibole	<b>EOIM</b>
	<b>F Int</b>	<b>Felsic Intrusive</b>	buff-tan weathered, white-grey fresh, medium grained dikes with foliated by very fine grained biotite and by pyrite as cubes and disseminations	<b>EMJgd</b>
	<b>K Int</b>	<b>Potassium Feldspar Intrusive</b>	white-grey-pink weathered and fresh, massive, medium grained, feldspar phyrlic	<b>EMJgd</b>
	<b>Hb Int</b>	<b>Hornblende Intrusive</b>	grey-brown weathered, grey fresh, hornblende plagioclase phyrlic, weak but pervasive chlorite, minor local epidote	<b>EMJgd</b>
	<b>I Int</b>	<b>Intermediate Intrusive</b>	blue-green-grey-purple weathered, grey fresh, medium to fine grained at contact margins, plagioclase phyrlic, moderate pervasive chlorite, local weak to moderate magnetite	<b>EMJgd</b>
	<b>I Vol</b>	<b>Intermediate Volcanic</b>	buff-orange-brown weathered, grey-blue-green fresh, massive, fine to medium grained, plagioclase phyrlic, moderate pervasive chlorite, variable epidote, locally contains fragments	<b>IJL</b>
	<b>Lst/Mbl</b>	<b>Limestone/Marble</b>	grey weathered and fresh, fine grained, massive to weakly foliated; locally recrystallized to medium grained white marble	<b>uTrVQ</b>
	<b>M Vol</b>	<b>Mafic Volcanic</b>	dark green to brown weathered with rind, blue-grey fresh, fine grained, massive, locally greasy, pervasive chlorite	<b>uTrVK</b>

## Interpretation, Conclusions and Recommendations

The 2015 rock geochemistry program at the Head Bay Property was targeted primarily at sampling quartz-sulphide veins and the results were generally disappointing. None of the 14 rock samples taken from the Vivian Grid area yielded any economic grades of target elements, including the primary target element gold. Two other rock samples yielded economic grades of target elements from other areas:

- E5123629 – 9.22 ppm Gold from a select outcrop grab of a 0.12 m. thick quartz-sulphide vein at the Head Bay occurrence in the eastern portion of the property
- E5124266 – 29.4% zinc from a select outcrop grab of a 2 m. skarn occurrence at the VIG West occurrence immediately southeast of the property

The 2015 soil geochemistry results in the Vivian Grid area were very encouraging. Two large clusters of elevated multi-element were established as shown in Figures 5c and 5d as follows:

- South Skarn Target – 500 m x 400 m area containing semi-continuous elevated values in skarn indicator elements arsenic, bismuth, lead, molybdenum & tellurium; and isolated elevated values in gold, silver, cadmium, antimony & zinc
- North Skarn Target – 400 m x 200 m area containing isolated elevated values in gold, silver, arsenic, bismuth, cadmium, molybdenum & antimony; including a 150 m x 150 m core area with coincident elevated values in arsenic, cadmium & molybdenum

The 2015 geological mapping results in the Vivian Grid area were very encouraging. The program established an optimum geological setting for skarn mineralization along the central axis of the grid: the gradational contact between Karmutsen Formation Mafic Volcanics (**uTRVK**) and Quatsino Formation Limestone (**uTrVQ**) intruded by Early to Middle Jurassic Island Intrusive granodiorite (**EMJlgd**) and Eocene to Oligocene Mount Washington granodiorite (**EIOM**). The skarn targets are peripherally bounded by quartz+/-sulphide veins. The presence of the Menace Fe/Zn Skarn discovered in 2014 provides evidence of Fe/Zn +/-Pb/Ag skarn mineralization in outcrop within the grid area.

The Head Bay Property hosts excellent potential for the discovery of multiple Fe/Cu/Zn Skarn deposits in at least eight clusters: five on the Glengarry West Target area and two at the Vivian Target area. In addition, the large aeromagnetic anomalies west of the Head Bay Property remain unexplained. Continued systematic and phased exploration work is recommended.

**Table 5 – Proposed Work Program for the Head Bay Property:**

Item	Units	Unit Cost	Program Cost
Ground Geophysics	15 days – 1 geophysicist, 1 asst.	\$2,000 per day	\$ 30,000
Geological Mapping	15 days - 2 geologists (1Sr, 1Jr)	\$2,000 per day	\$ 30,000
Soil Sampling	15 days – 2 soil samplers	\$1,000 per day	\$ 15,000
Geochemistry	750 soil, mossmat, rock samples	\$40 per sample	\$ 30,000
Mechanized trenching	10 days – 1 backhoe & operator	\$2,000 per day	\$ 20,000
Diamond drilling	3,000 m. – all inclusive	\$200 per metre	\$ 600,000
Technical Reports	20 days - 1 geologist	\$750 per day	\$ 15,000
Contingency, cell claims	Estimate		\$ 10,000
<b>Totals</b>			<b>\$ 750,000</b>

Additional work programs may be recommended conditional upon results.

Respectfully submitted by:



Jacques Houle, P.Eng.

December 18, 2015



December 18, 2015

## Author's Qualifications

### I, Jacques Houle, P.Eng. Do hereby certify that:

I am currently self-employed as a consulting geologist by:  
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I graduated with a Bachelor's of Applied Science degree in Geological Engineering with specialization in Mineral Exploration from the University of Toronto in 1978.

I am a member in good standing with the Association of Professional Engineers and Geoscientists of British Columbia, the Society of Economic Geologists, the Association for Mineral Exploration British Columbia, and the Vancouver Island Exploration Group; I am also a member of the Technical Advisory Committee for Geoscience B.C., and of the advisory committee for the Earth Science Department of Vancouver Island University.

I have worked as a geologist for 37 years since graduating from university, including 5 years as a mine geologist in underground gold and silver mines, 15 years as an exploration manager, 3 years as a government geologist and 12 years as a mineral exploration consultant.

I am independent of Pioneer Exploration Corporation and its affiliated companies, and hold no interest in the subject property of this report.

## References

### B. C. Ministry of Energy and Mines websites:

Assessment Reports

<http://www.empr.gov.bc.ca/Mining/Geoscience/ARIS/Pages/default.aspx>

MapPlace

<http://www.empr.gov.bc.ca/Mining/Geoscience/MapPlace/Pages/default.aspx>

Mineral Deposit Profiles

<http://www.empr.gov.bc.ca/Mining/Geoscience/MineralDepositProfiles/Pages/default.aspx>

MINFILE

<http://www.em.gov.bc.ca/Mining/Geolsurv/Minfile/>

Property File

<http://www.empr.gov.bc.ca/mining/geoscience/propertyFile/Pages/default.aspx>

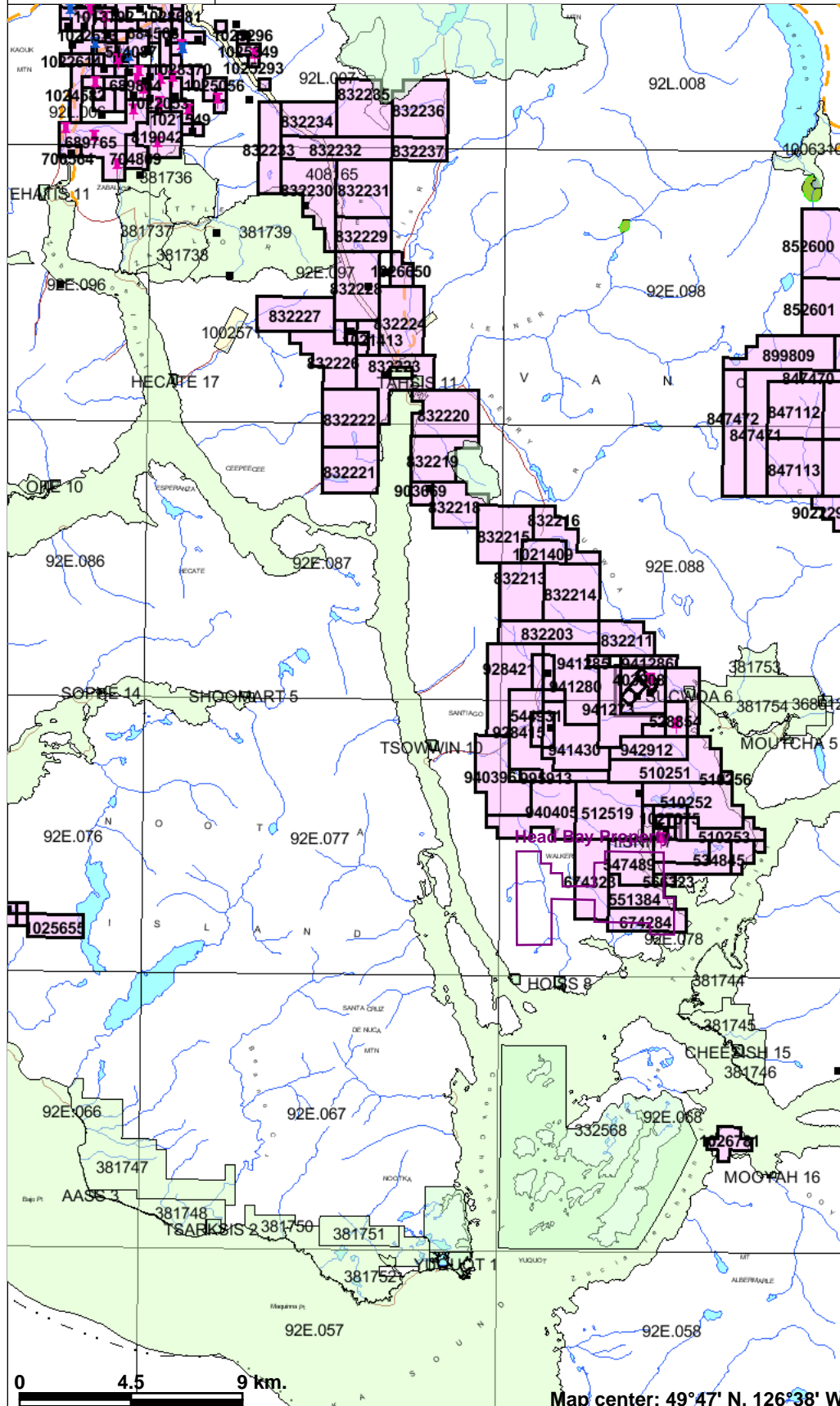
Ministry Publications

<http://www.empr.gov.bc.ca/Mining/Geoscience/PublicationsCatalogue/Pages/default.aspx>

Mineral Titles Online

<https://www.mtonline.gov.bc.ca/mtov/home.do>

# Head Bay Property



## Legend

### MINFILE Status

- ✖ Producer
- ✖ Past Producer
- ✖ Developed Prospect
- All others
- Indian Reserves
- National Parks
- Conservancy Areas
- Parks
- Federal Transfer Lands
- Mineral Tenure (current)
- Mineral Claim
- Mineral Lease
- Mineral Reserves (current)
- Placer Claim Designation
- Placer Lease Designation
- No Staking Reserve
- Conditional Reserve
- Release Required Reserve
- Surface Restriction
- Recreation Area
- Others
- First Nations Treaty Related Lands
- First Nations Treaty Lands
- BCGS Grid
- Annotation (1:250K)
- Transportation - Points (1:250K)
- ✈ Airfield
- ✈ Anchorage - Seaplane
- F Ferry Route
- H Heliport
- S Seaplane Base
- ✈ Air Field
- ✈ Airport
- ✈ Air Feature - Condition Unknown
- ✈ Airport.Abandoned
- Transportation - Lines (1:250K)
- Ferry Route
- Aerial Cableway
- Road (Gravel Undivided) - 1 Lane
- Road (Gravel Undivided) - 3 Lanes
- Road - Paved.lanes.2or More.Divided
- Road (Paved Undivided) - Not Elevated - 1 Lane
- Road (Paved Undivided) - Not Elevated - 2 Lanes
- Road - Paved.lanes.3or More.Undivided
- Road (Unimproved)

0 4.5 9 km.

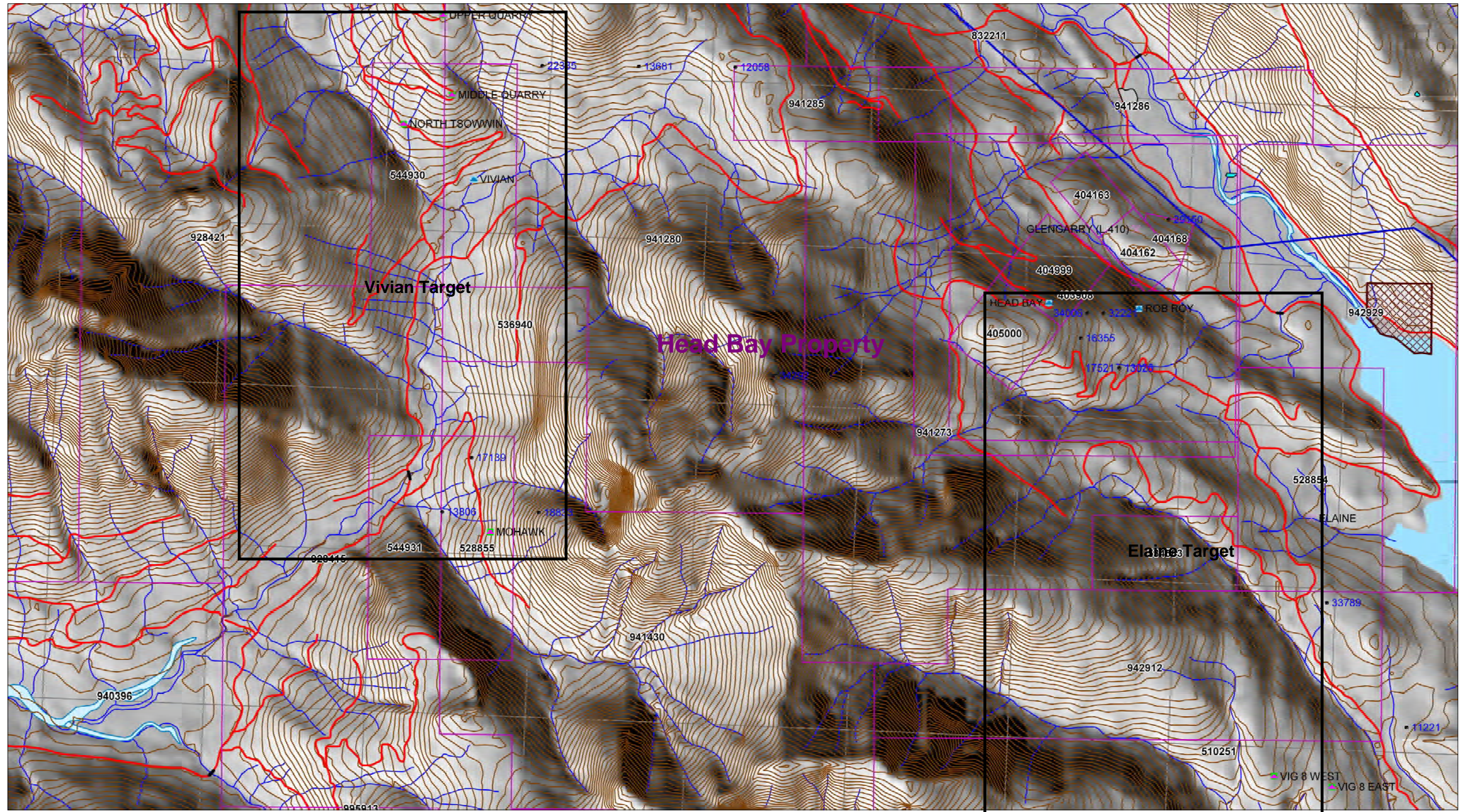
Map center: 49°47' N, 126°38' W



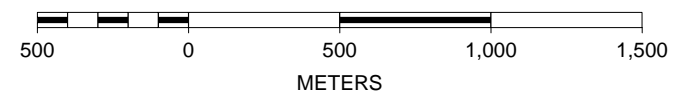
Scale: 1:250,000

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

Figure 1 Head Bay Property Location



SCALE 1 : 25,000



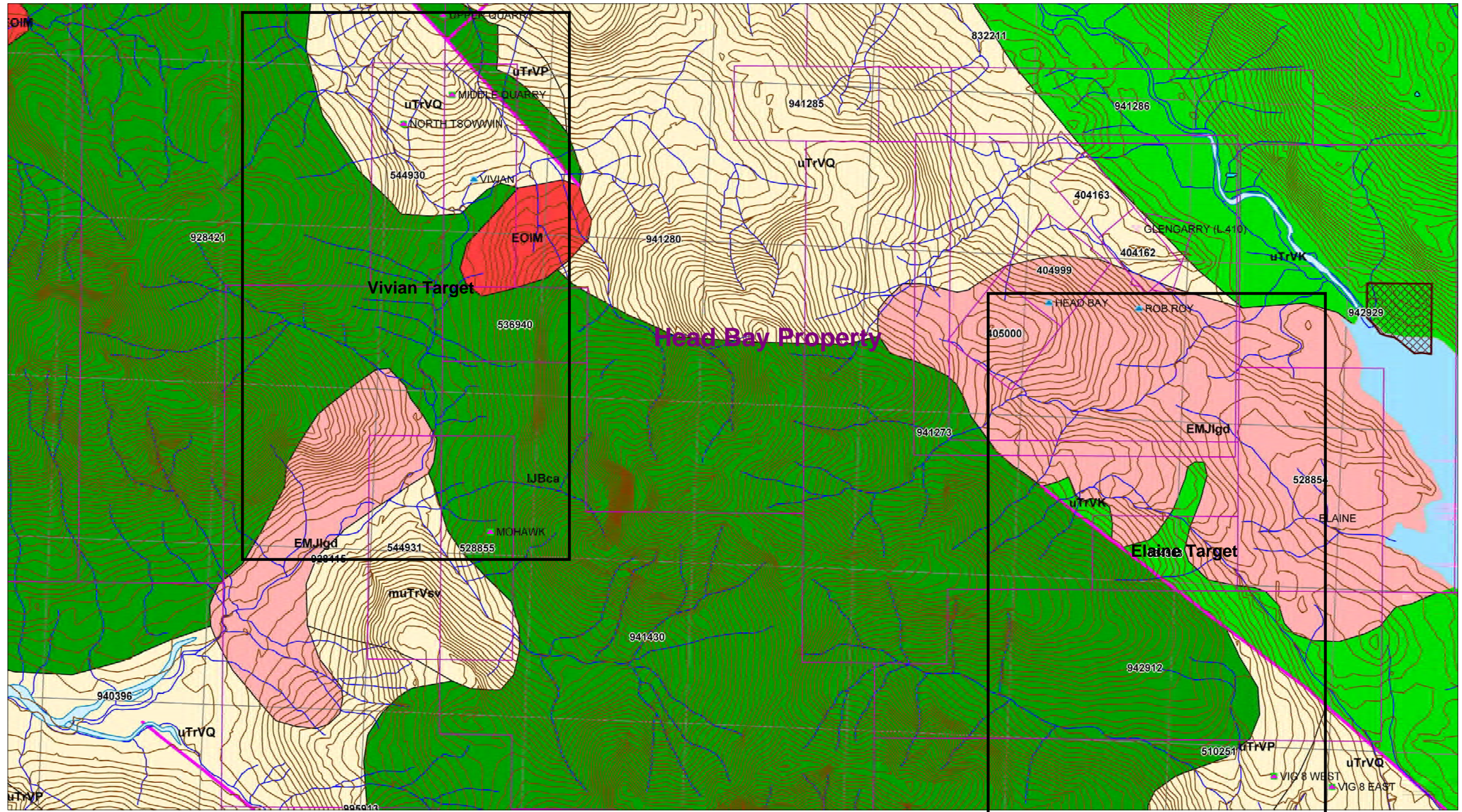
### Head Bay Property Infrastructure

Legend from BC Maplace

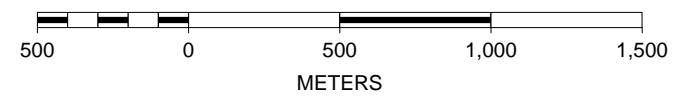
Figure 2a







SCALE 1 : 25,000

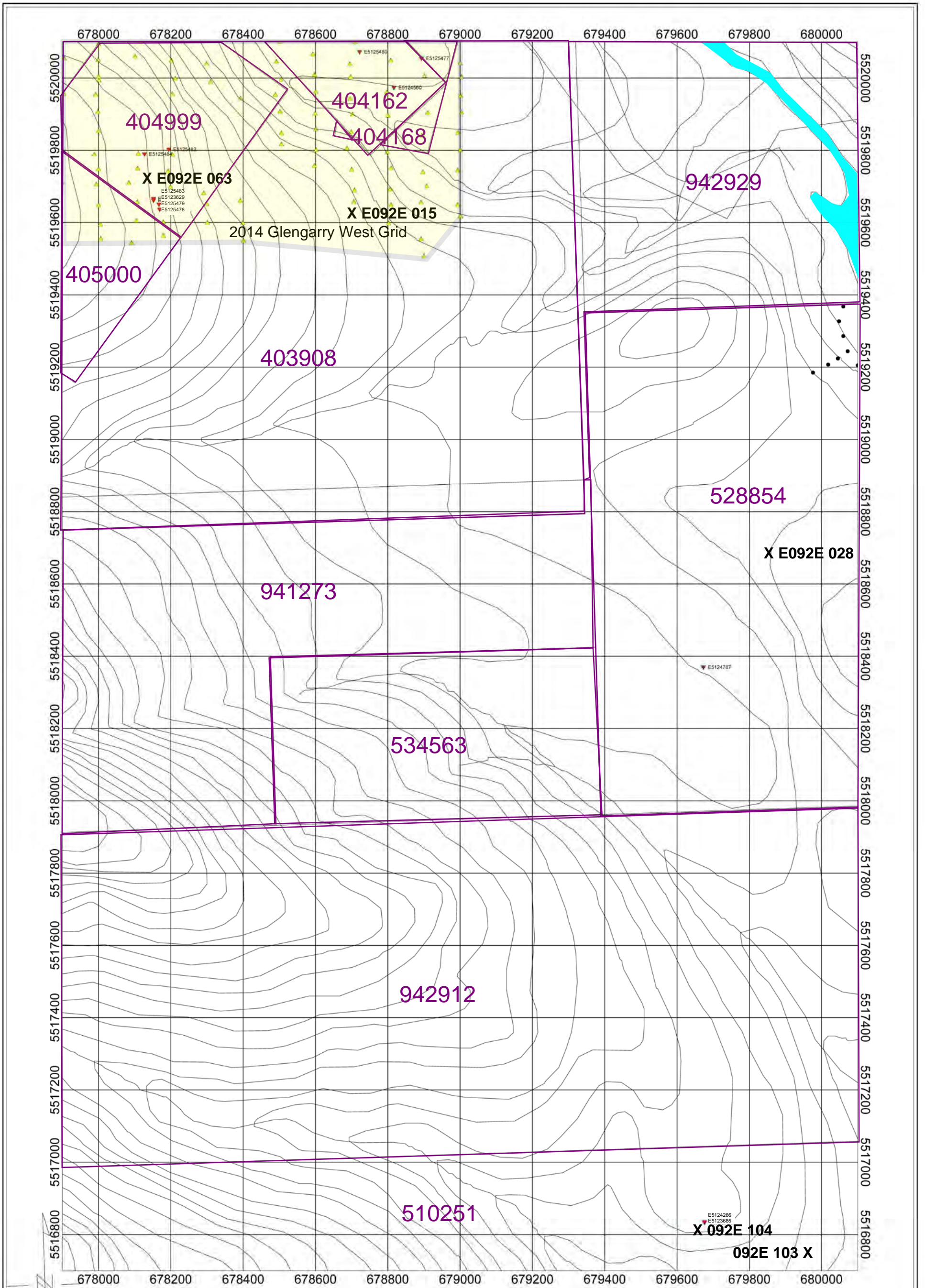


### Head Bay Property BCGS2005 Geology

Legend from BC Maplace

Figure 2b



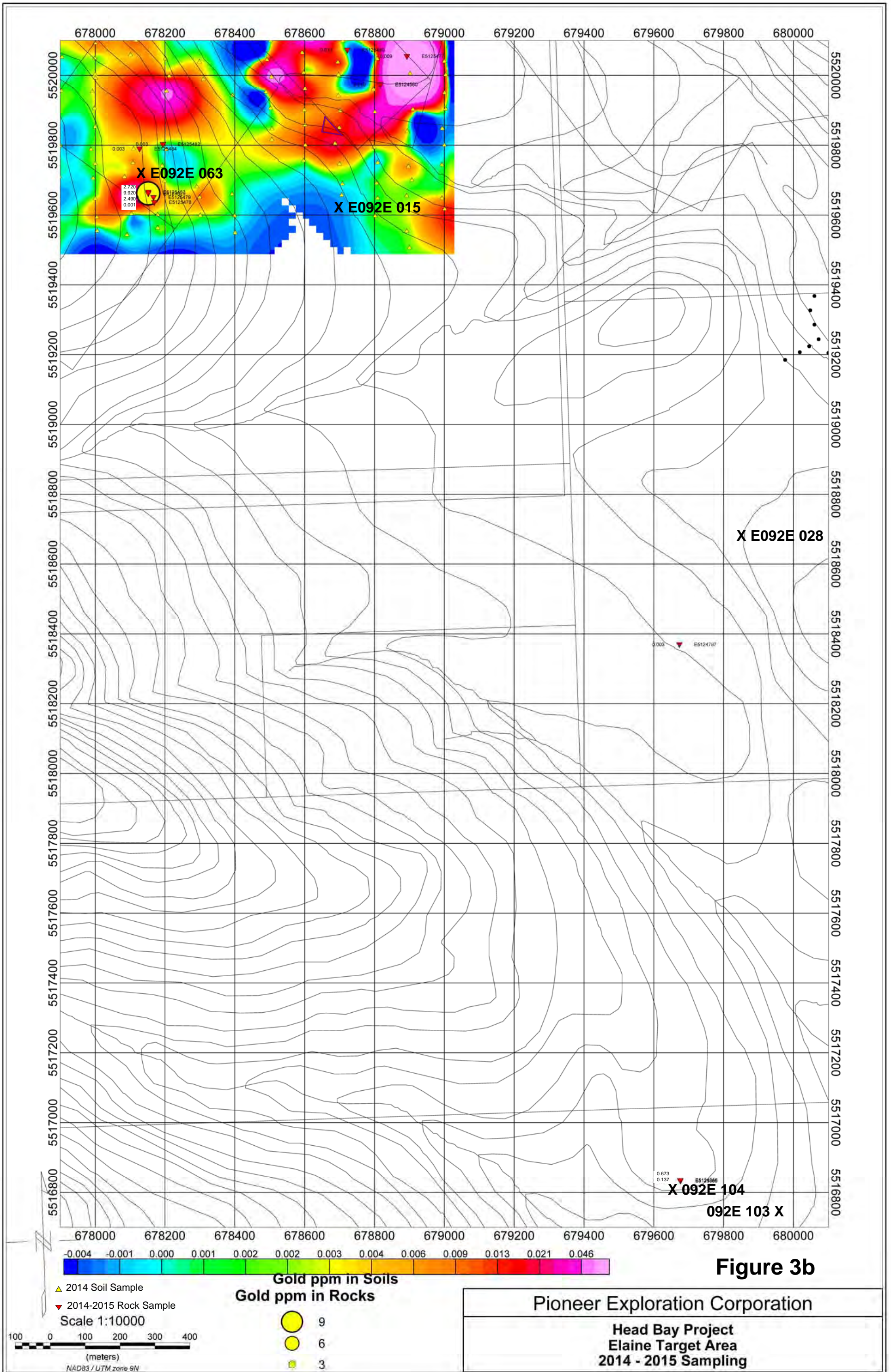


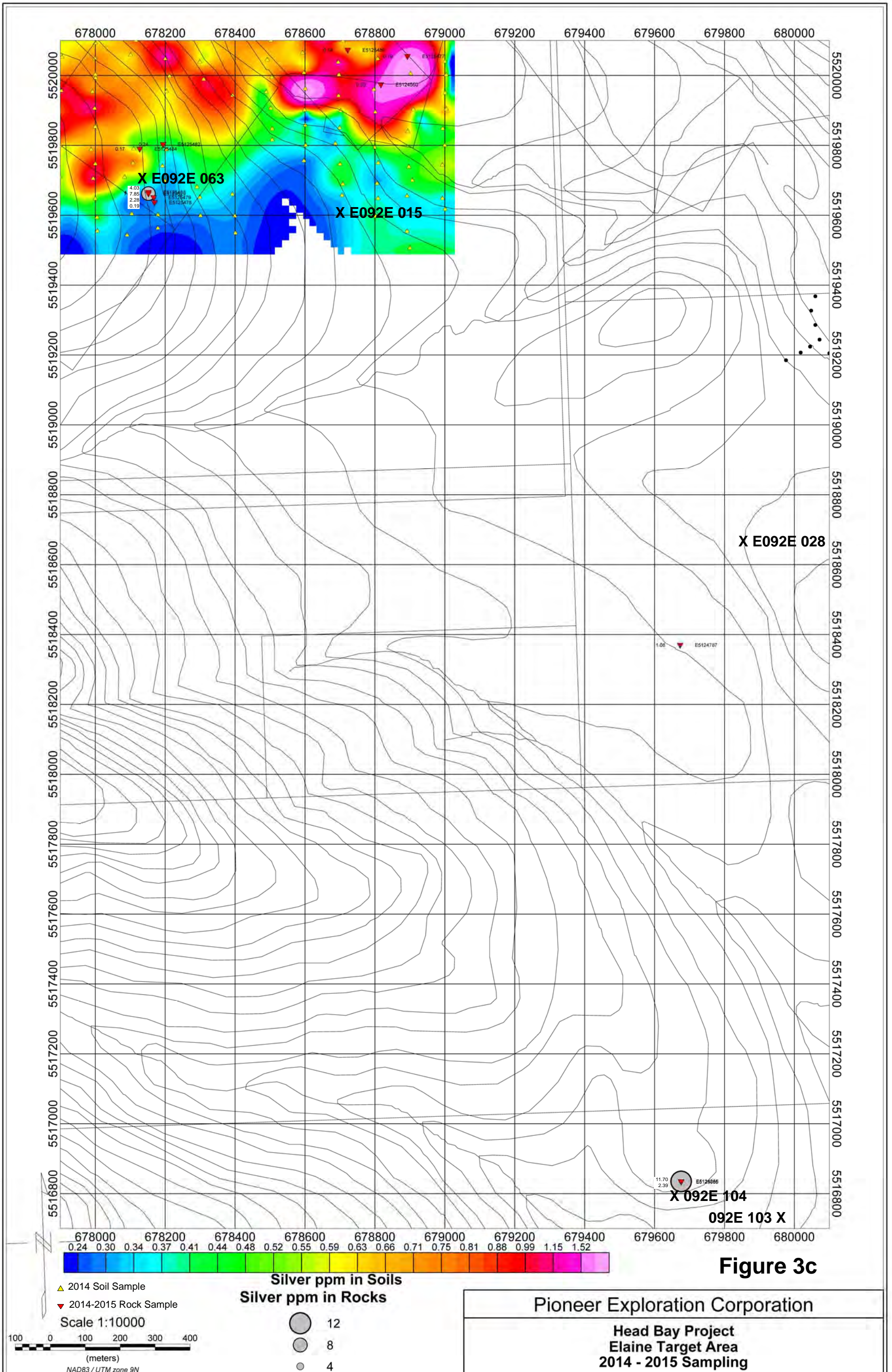
**Figure 3a**

Pioneer Exploration Corporation  
 Head Bay Project  
 Elaine Target Area  
 2015 Sampling

▲ 2014 Soil Sample Location  
 ▼ 2014-2015 Rock Sample Location/Number  
 X E092E 028 BC MINFILE Location/Number

Scale 1:10000  
 100 0 100 200 300 400  
 (meters)  
 NAD83 / UTM zone 9N

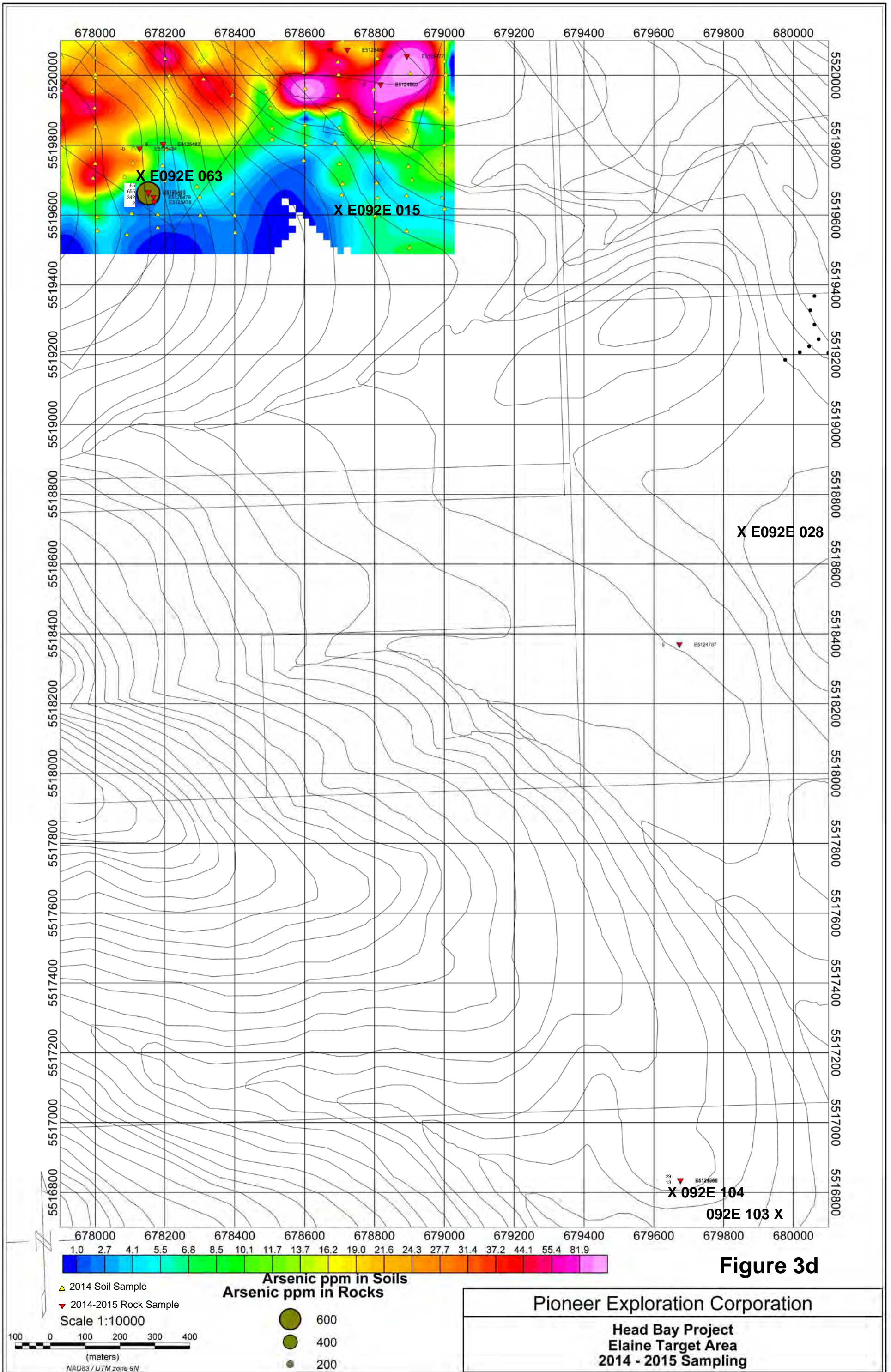


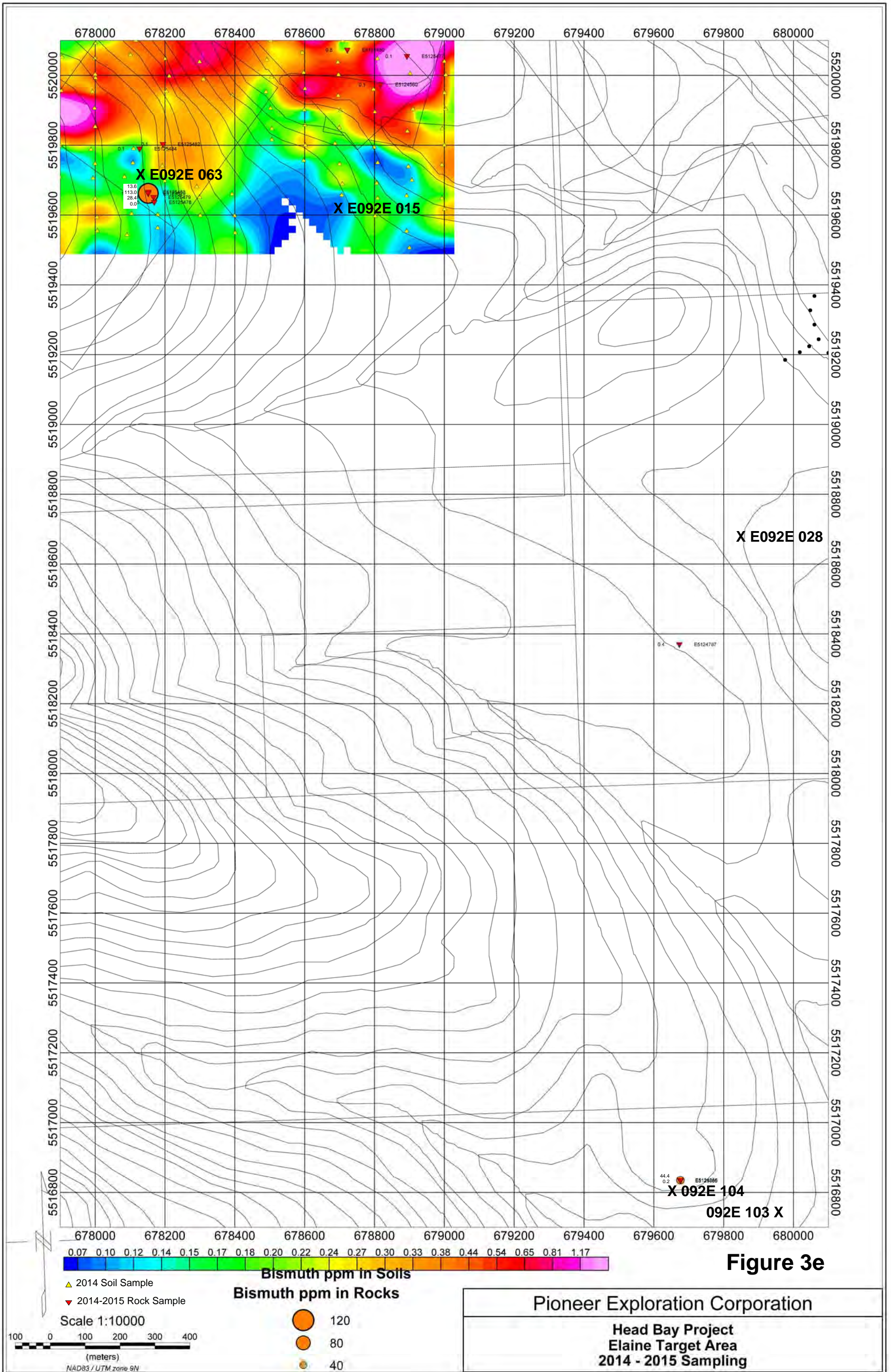


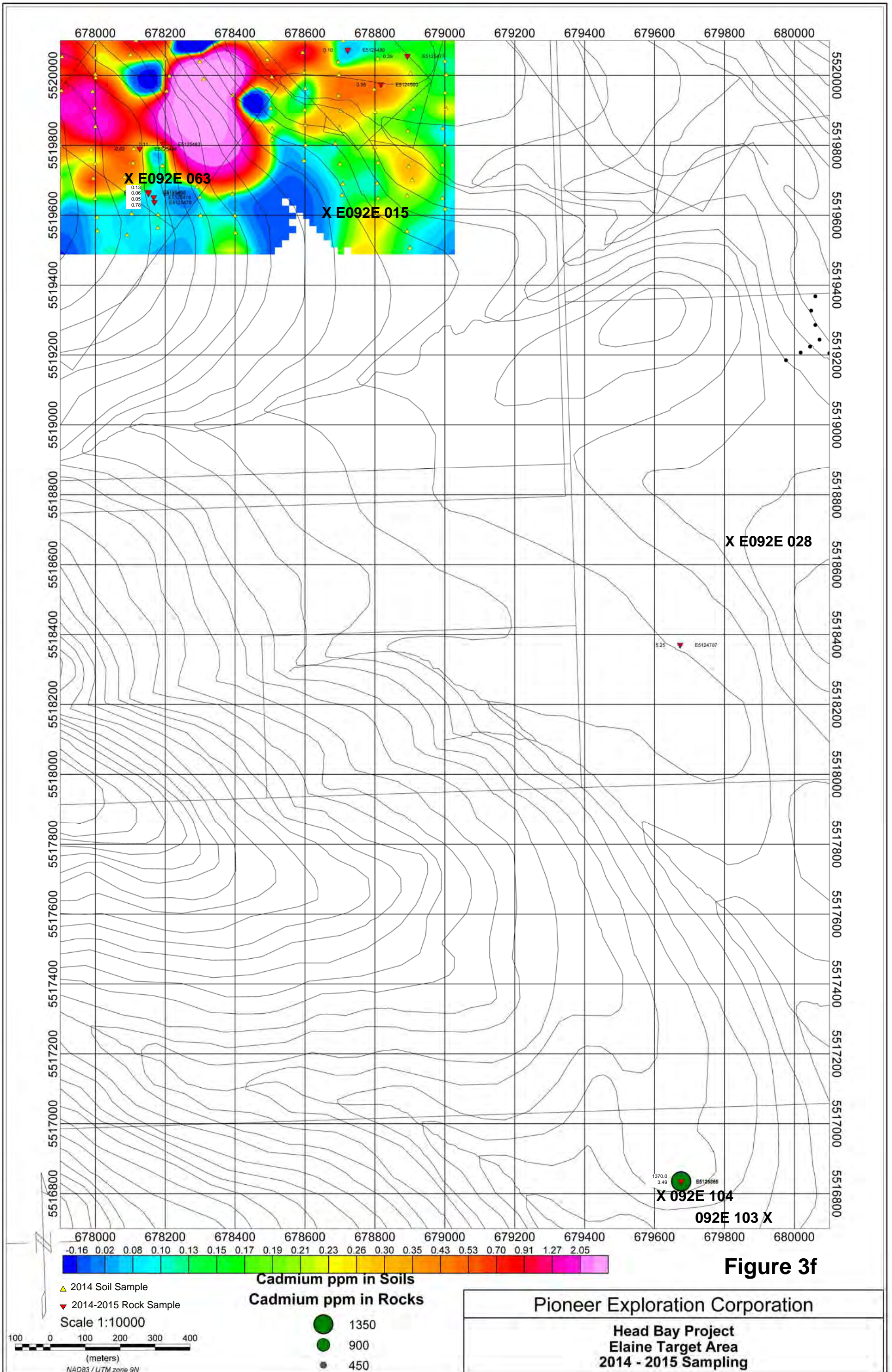
**Figure 3c**

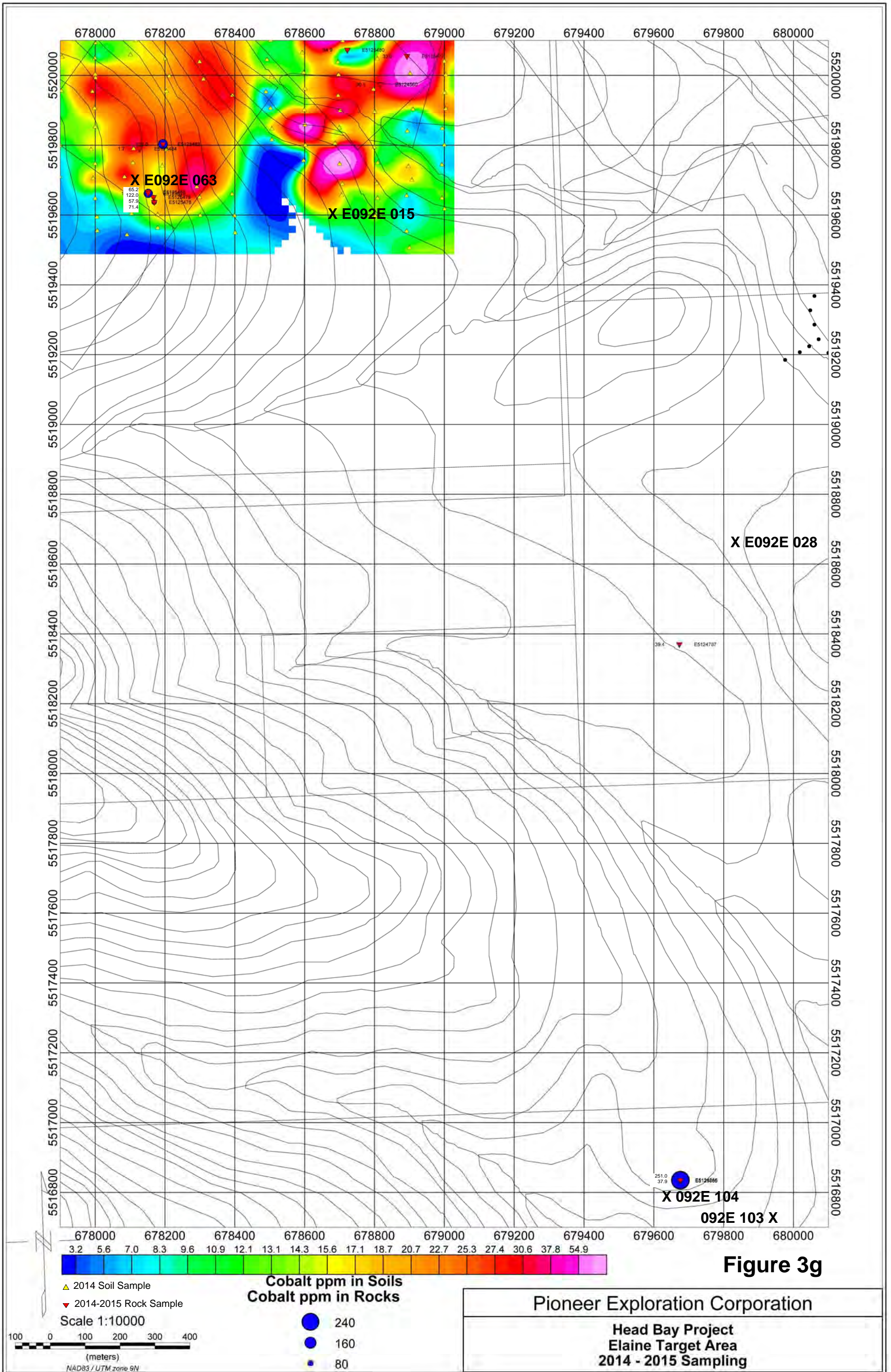
Pioneer Exploration Corporation

Head Bay Project  
Elaine Target Area  
2014 - 2015 Sampling

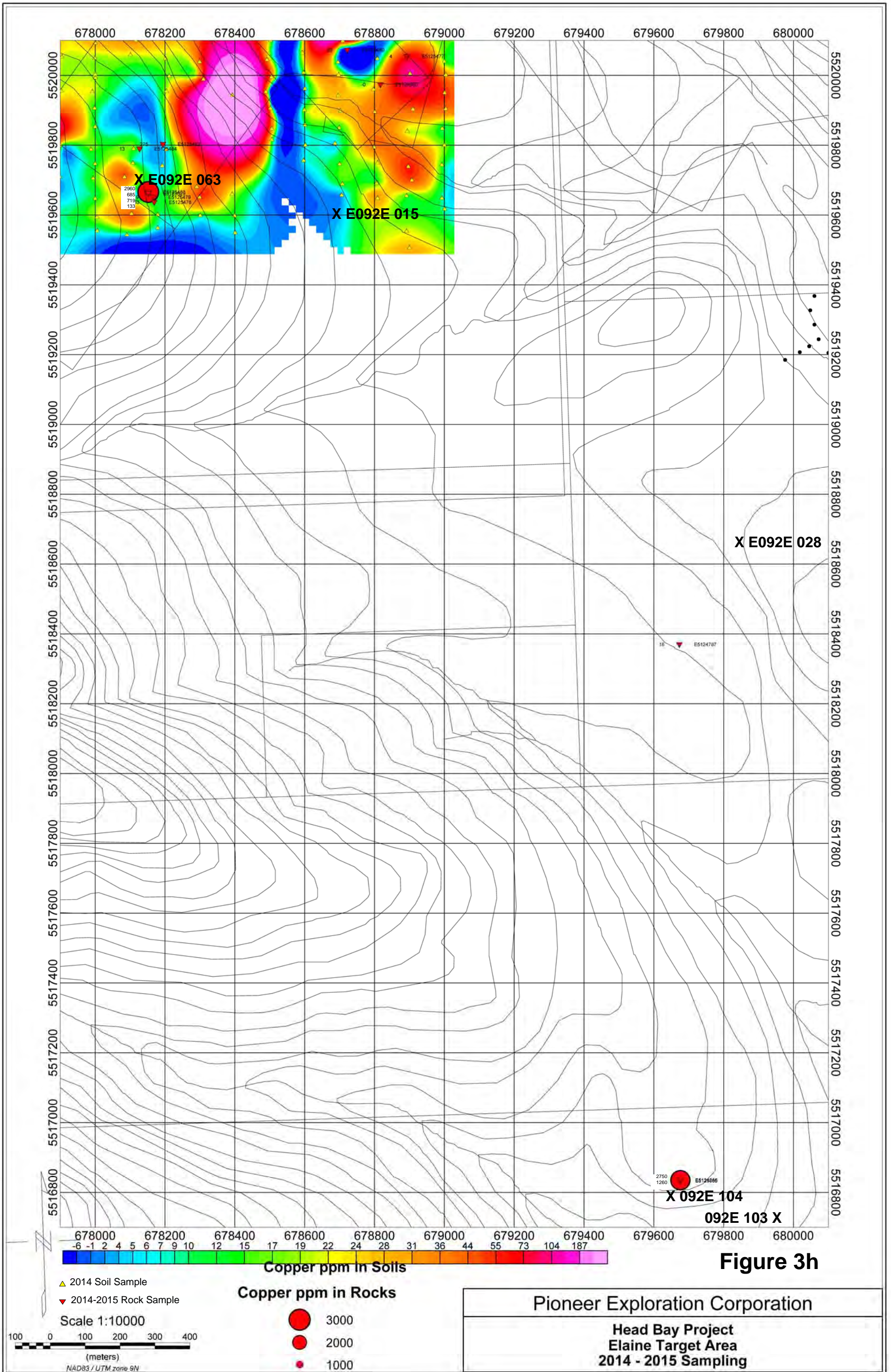








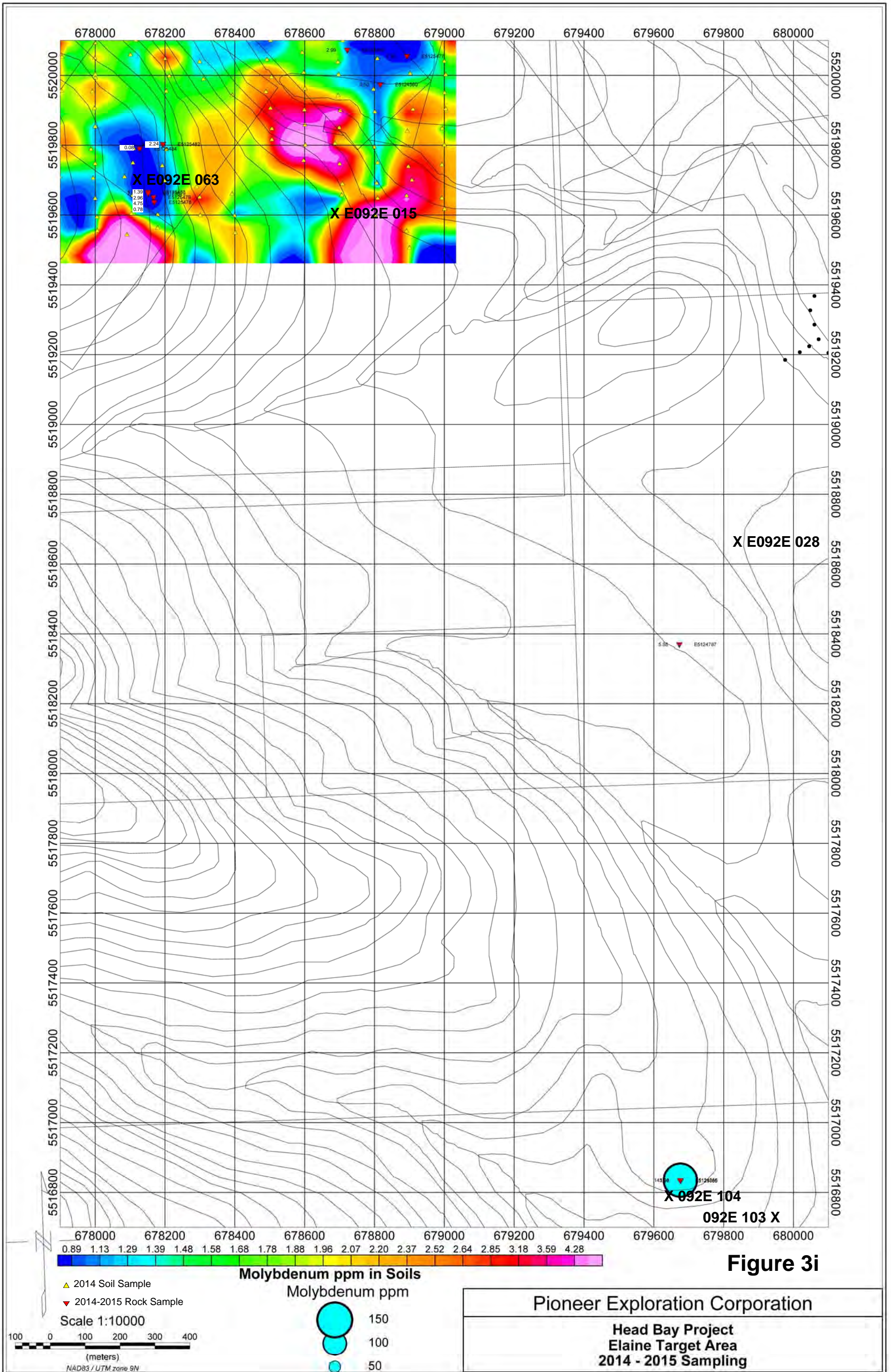


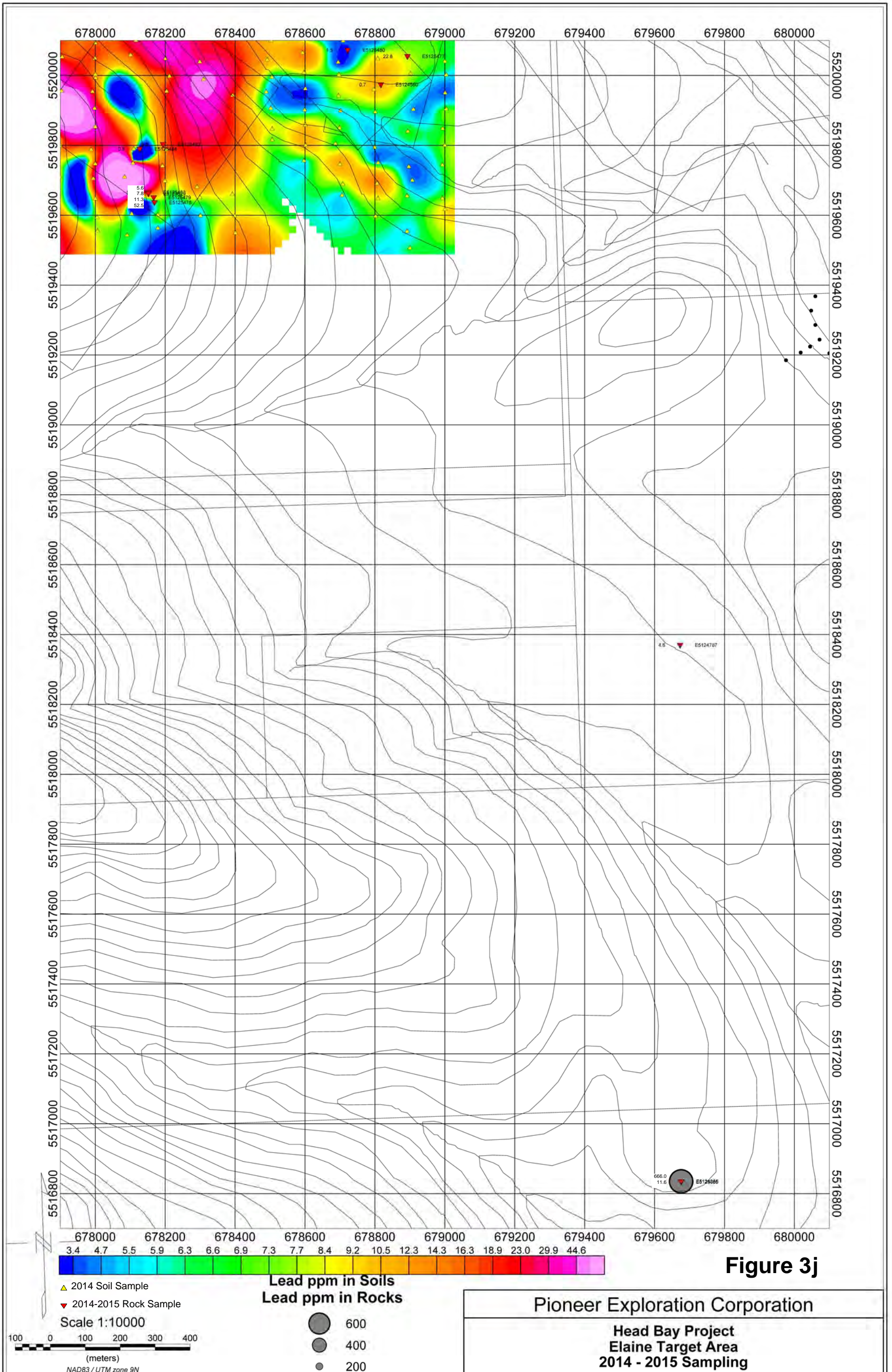


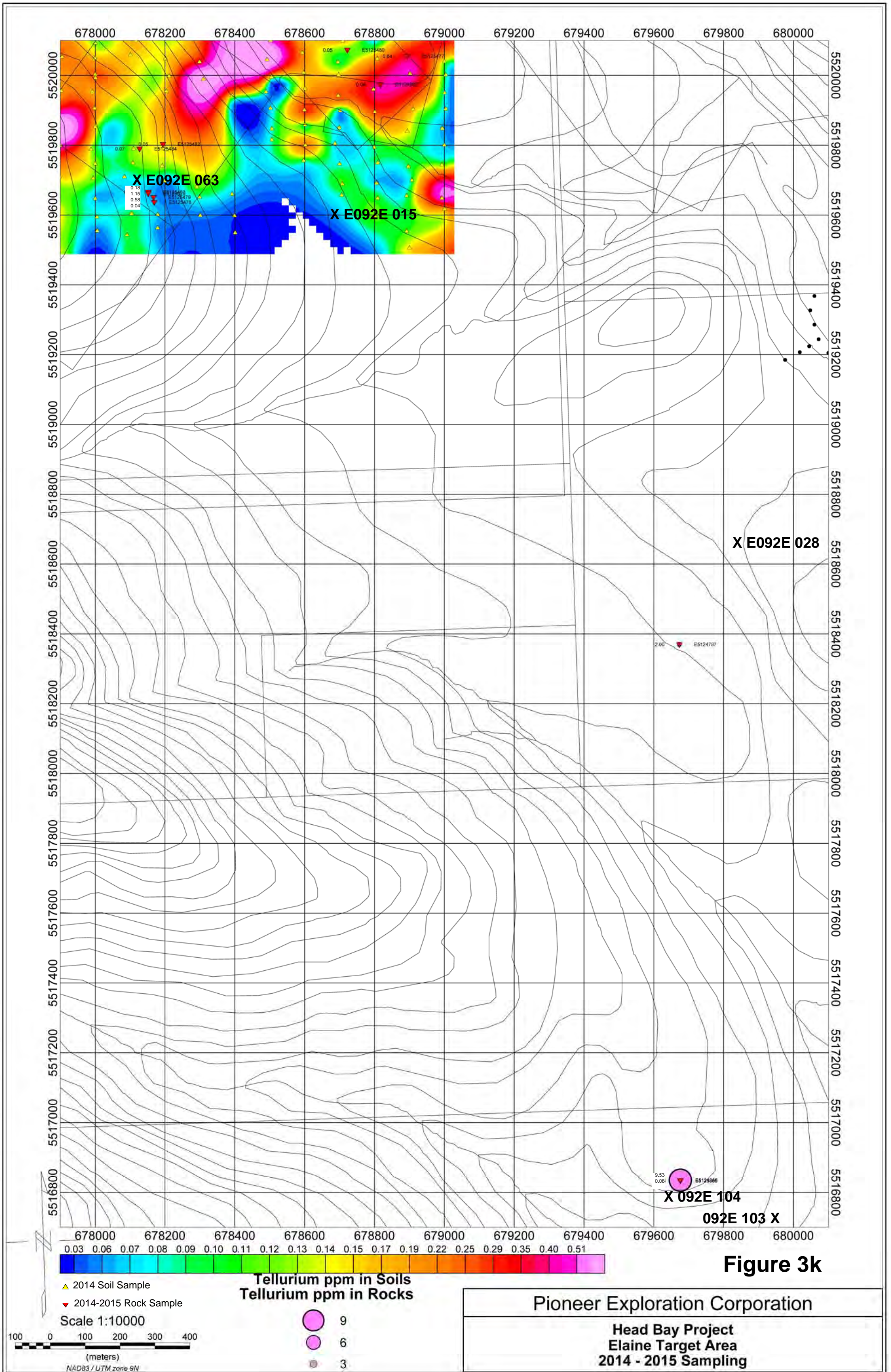
**Figure 3h**

Pioneer Exploration Corporation

Head Bay Project  
 Elaine Target Area  
 2014 - 2015 Sampling

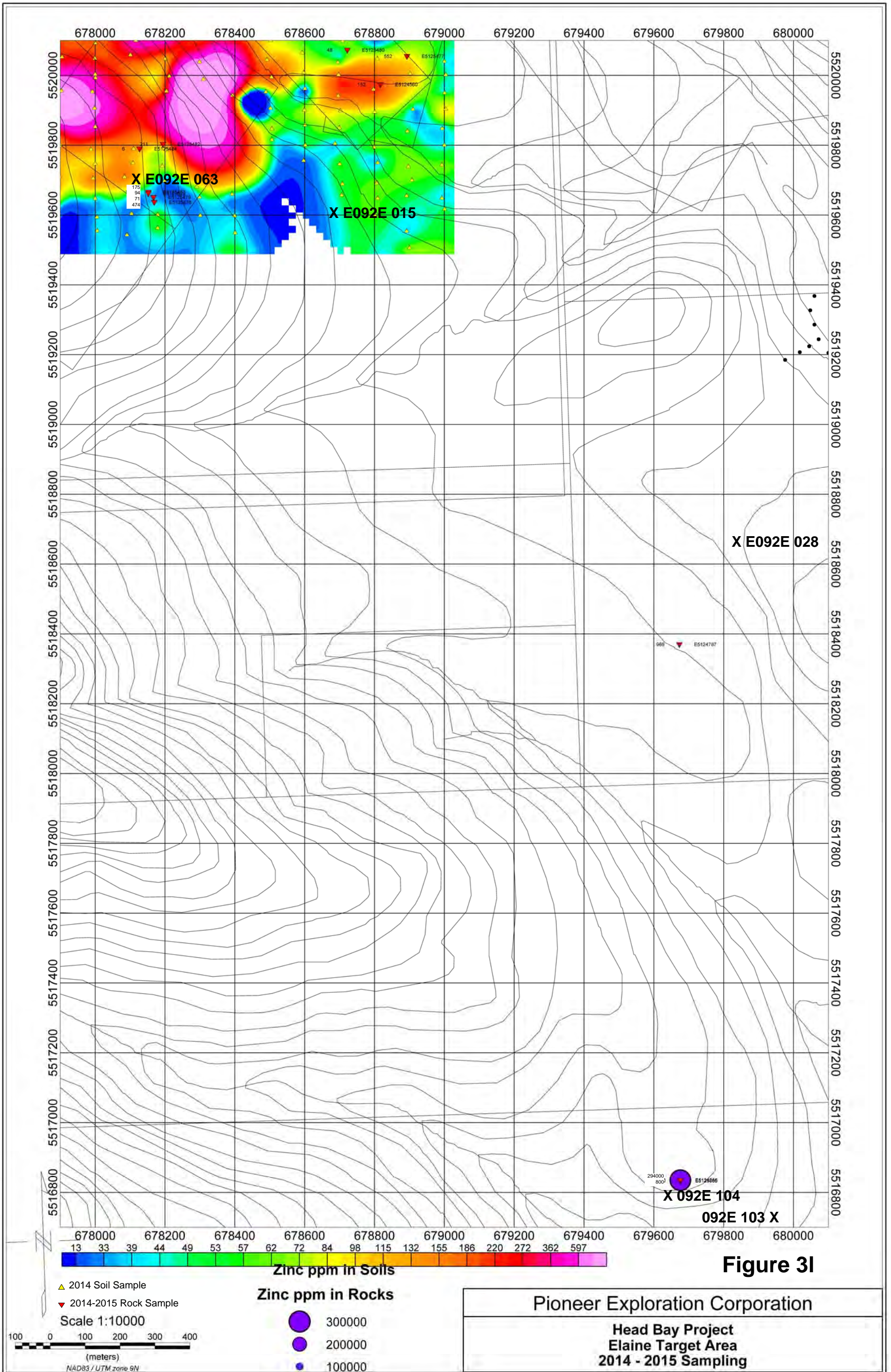






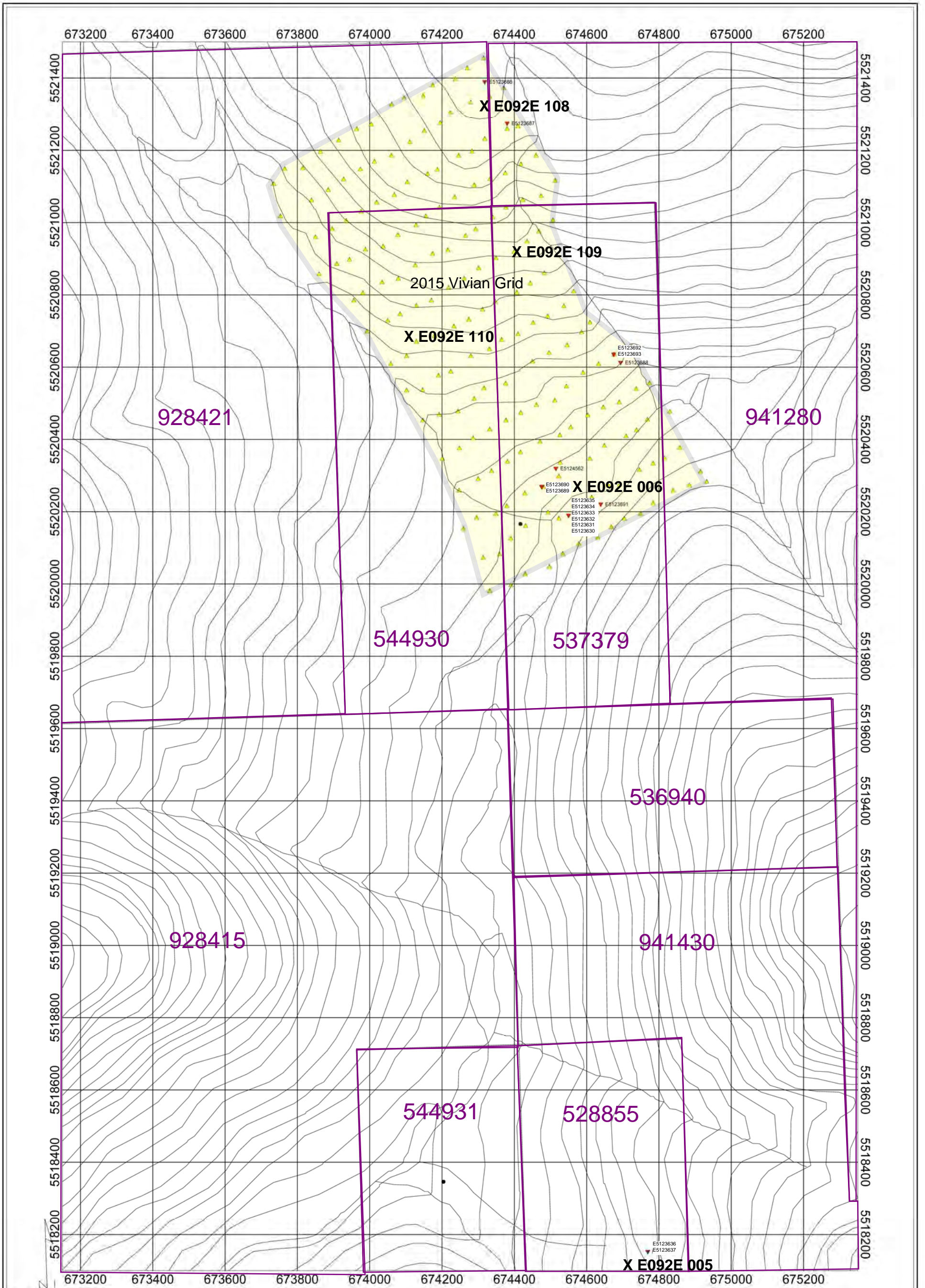
**Figure 3k**

Pioneer Exploration Corporation  
 Head Bay Project  
 Elaine Target Area  
 2014 - 2015 Sampling



**Figure 3I**

Pioneer Exploration Corporation  
 Head Bay Project  
 Elaine Target Area  
 2014 - 2015 Sampling

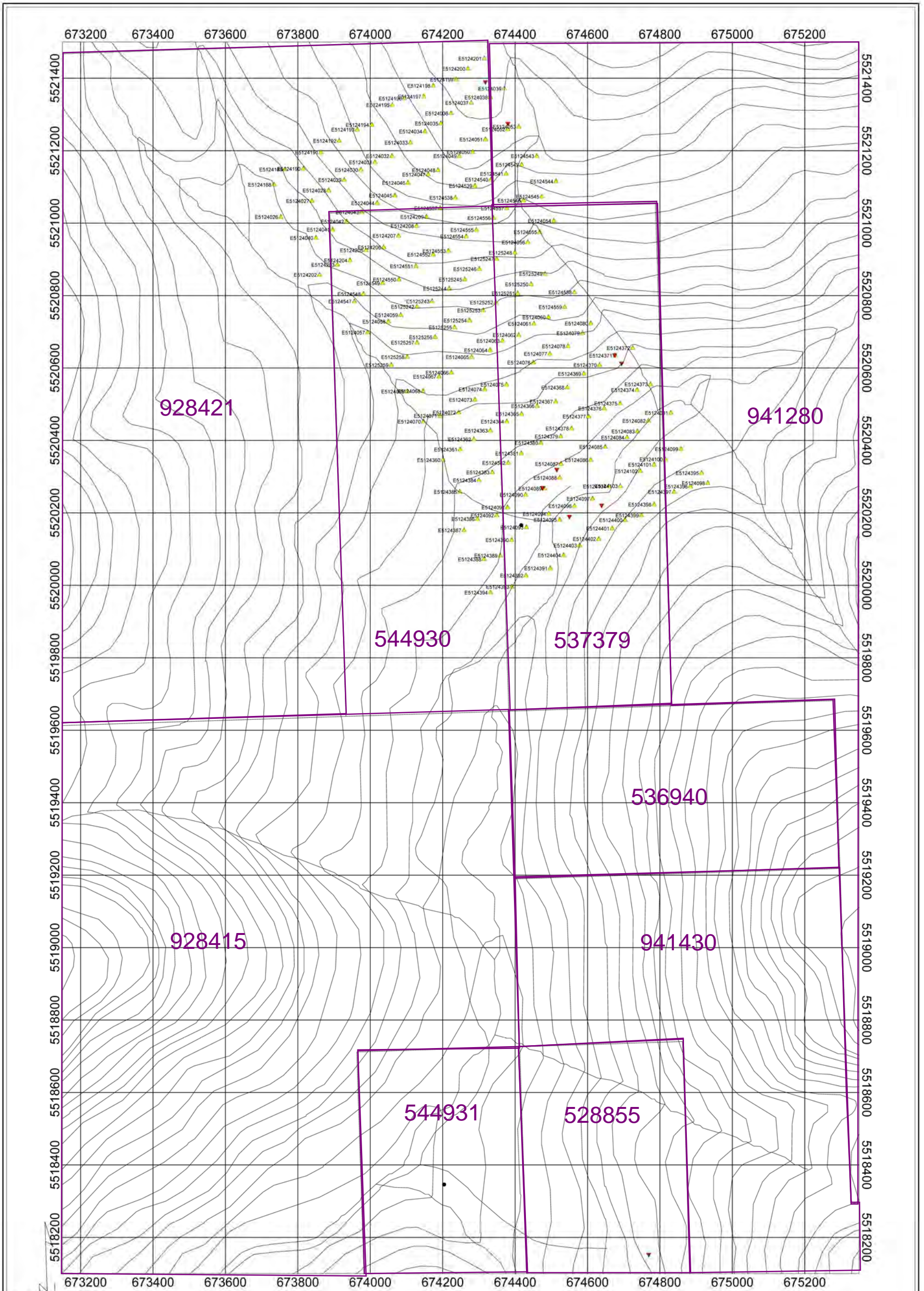


**Figure 4a**

- ▲ 2015 Soil Sample Location
- ▼ 2014-2015 Rock Sample Location/Number
- X E092E 006** BC MINFILE Location/Number

**Pioneer Exploration Corporation**  
**Head Bay Project**  
**Vivian Target Area**  
**2015 Sampling**

Scale 1:10000  
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 (meters)  
 NAD83 / UTM zone 9N



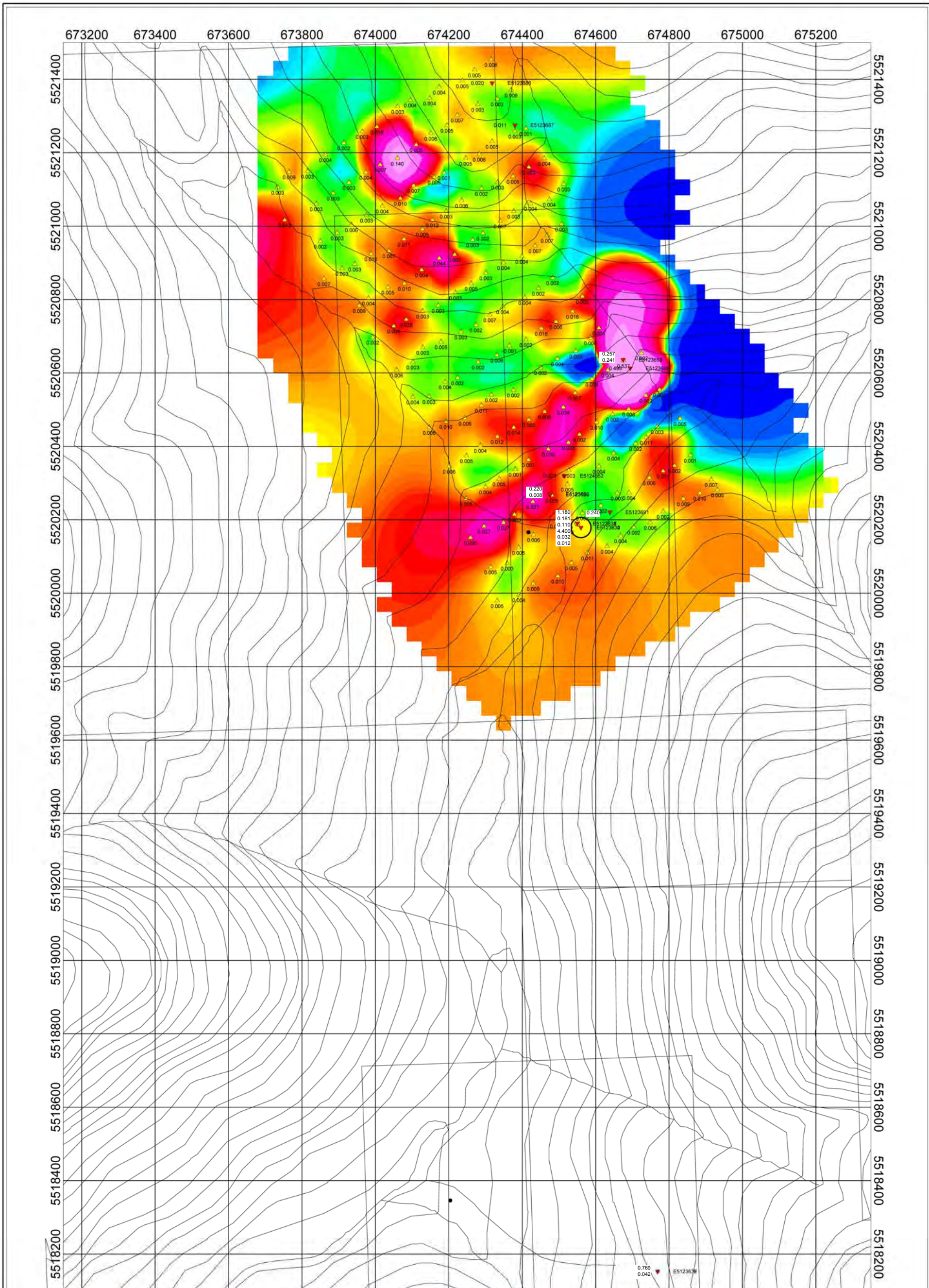
**Figure 4b**

- ▲ 2015 Soil Sample Location/Number
- ▼ 2014-2015 Rock Sample Location

**Pioneer Exploration Corporation**  
**Head Bay Project**  
**Vivian Target Area**  
**2015 Sampling**

Scale 1:10000  
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 (meters)  
 NAD83 / UTM zone 9N

**X E092E 028** BC MINFILE Location/Number



**Figure 4c**

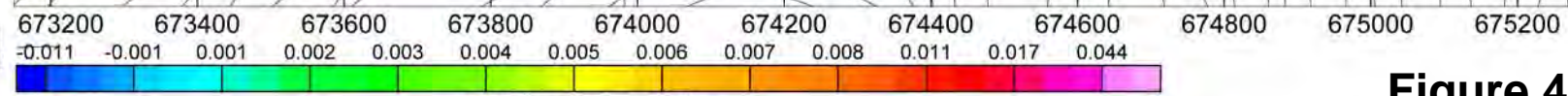
Pioneer Exploration Corporation  
 Head Bay Project  
 Vivian Target Area  
 2014 - 2015 Sampling

▲ 2015 Soil Sample  
 ▼ 2014-2015 Rock Sample  
 Scale 1:10000

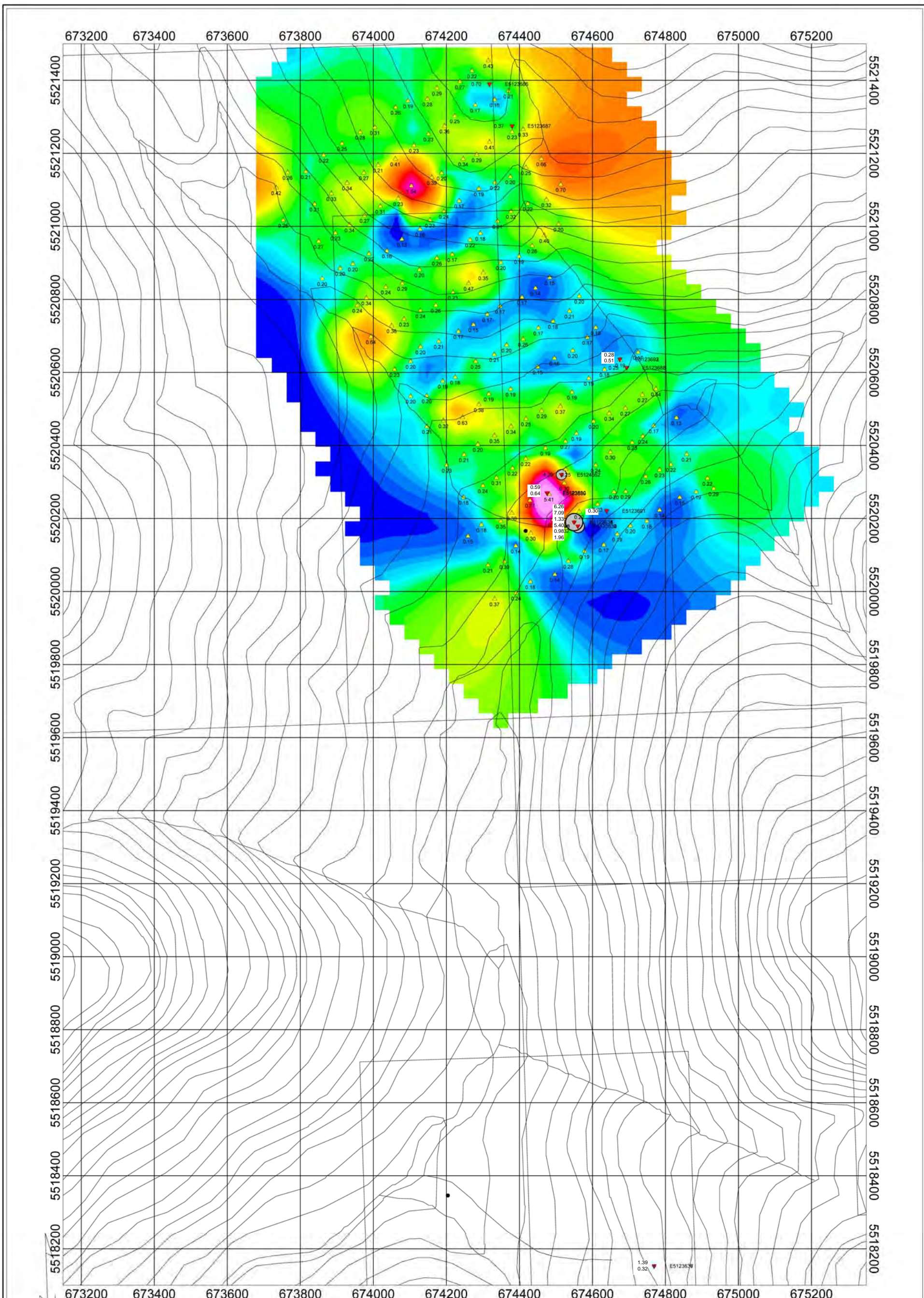
(meters)  
 NAD83 / UTM zone 9N

**Gold ppm in Soils**  
**Gold ppm in Rocks**

- 4.5
- 3
- 1.5







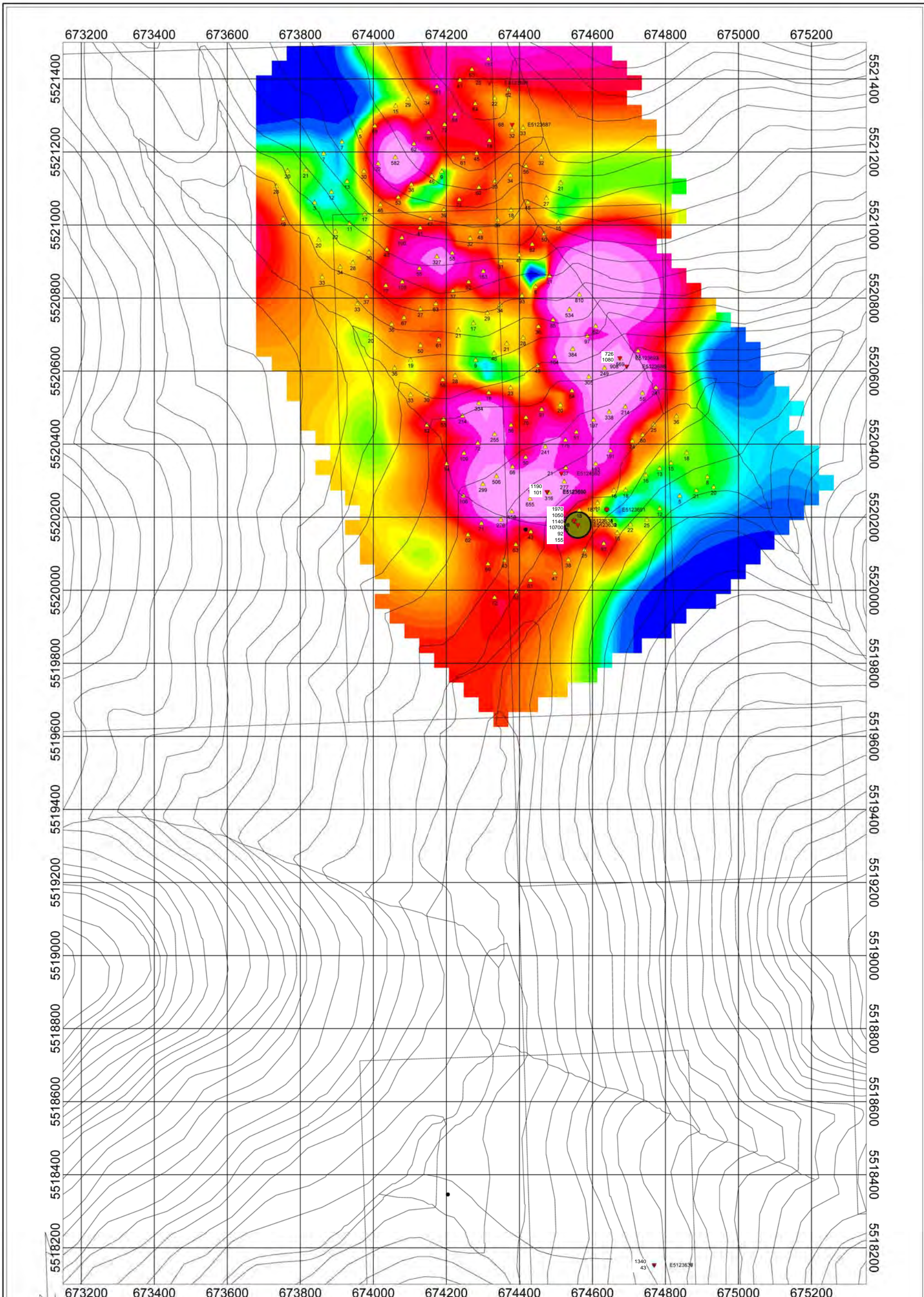
**Figure 4d**

Pioneer Exploration Corporation  
 Head Bay Project  
 Vivian Target Area  
 2014 - 2015 Sampling

▲ 2015 Soil Sample  
 ▼ 2014-2015 Rock Sample  
 Scale 1:10000  
 100 0 100 200 300 400 (meters)  
 NAD83 / UTM zone 9N

**Silver ppm in Soils**  
 0.14 0.17 0.19 0.20 0.22 0.23 0.25 0.28 0.32 0.36 0.43 0.49 0.56 0.63 0.71 0.84 0.93 1.14 1.49

**Silver ppm in Rocks**  
 ● 7.5  
 ● 5  
 ● 2.5



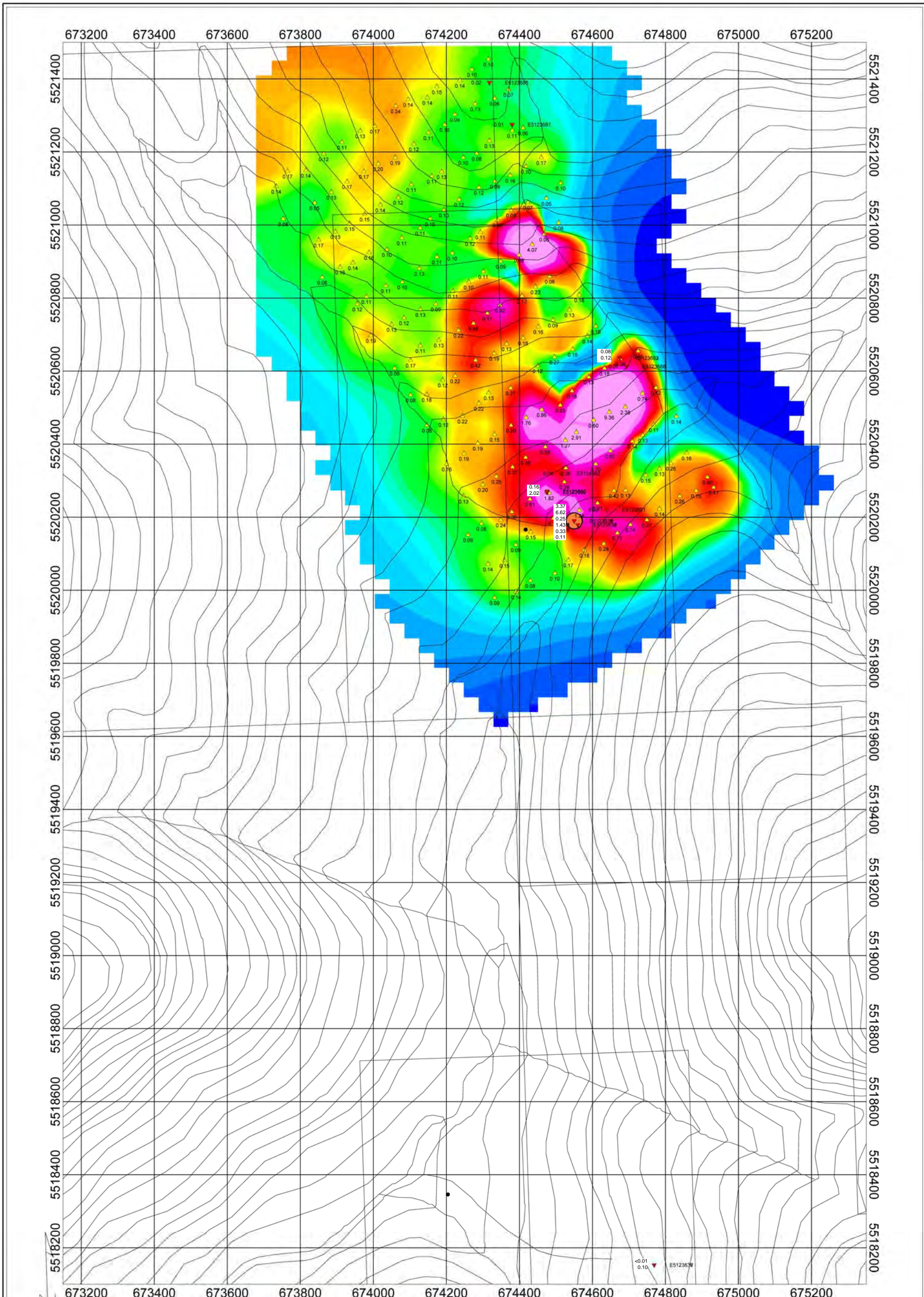
**Figure 4e**

Pioneer Exploration Corporation  
 Head Bay Project  
 Vivian Target Area  
 2014 - 2015 Sampling

▲ 2015 Soil Sample  
 ▼ 2014-2015 Rock Sample  
 Scale 1:10000  
 (meters)  
 NAD83 / UTM zone 9N

**Arsenic ppm in Soils**  
**Arsenic ppm in Rocks**

- 10500
- 7000
- 3500



**Figure 4f**

Pioneer Exploration Corporation  
 Head Bay Project  
 Vivian Target Area  
 2014 - 2015 Sampling

**Bismuth ppm in Soils**

**Bismuth ppm in Rocks**

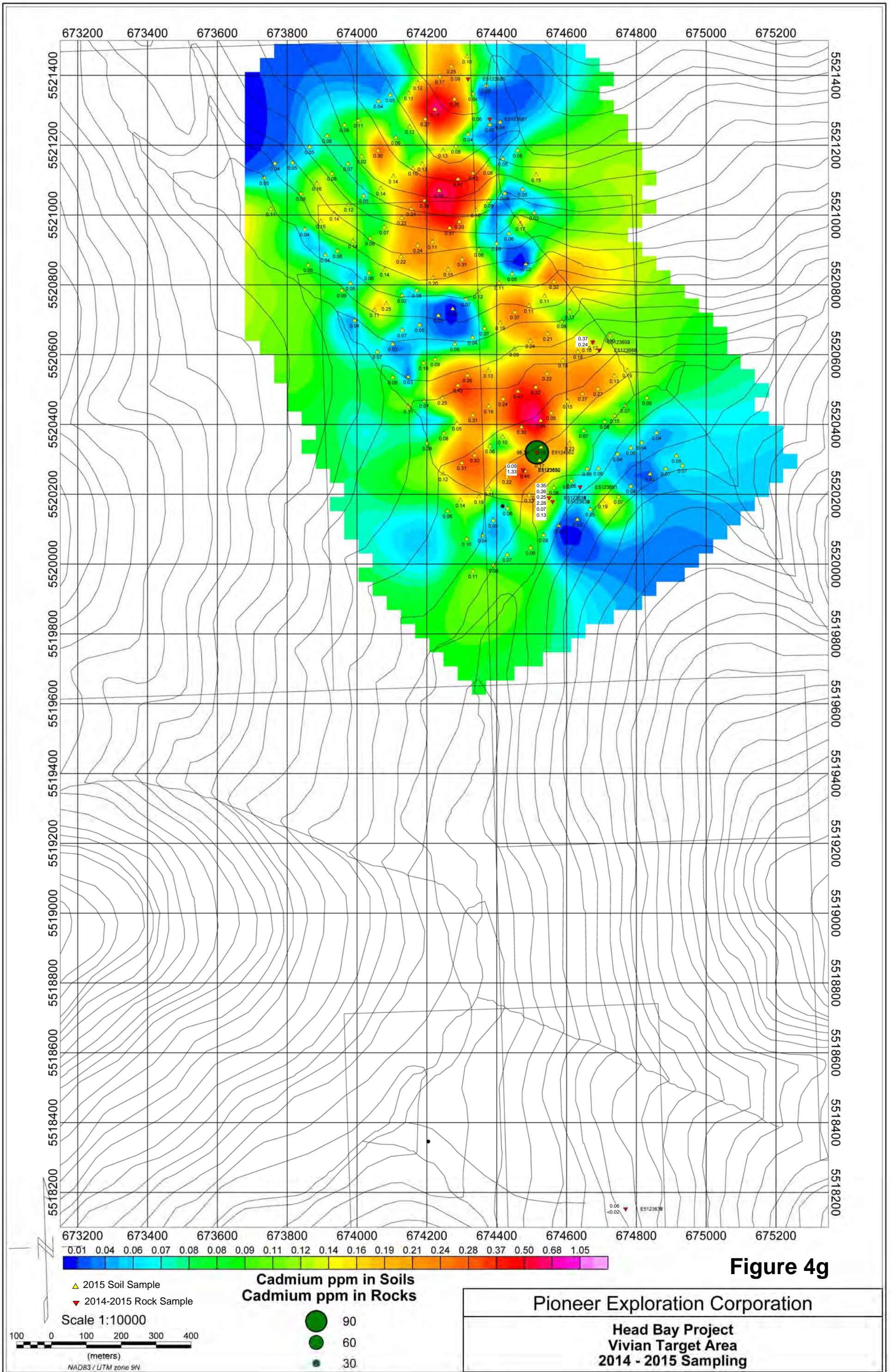
- 6.75
- 4.5
- 2.25

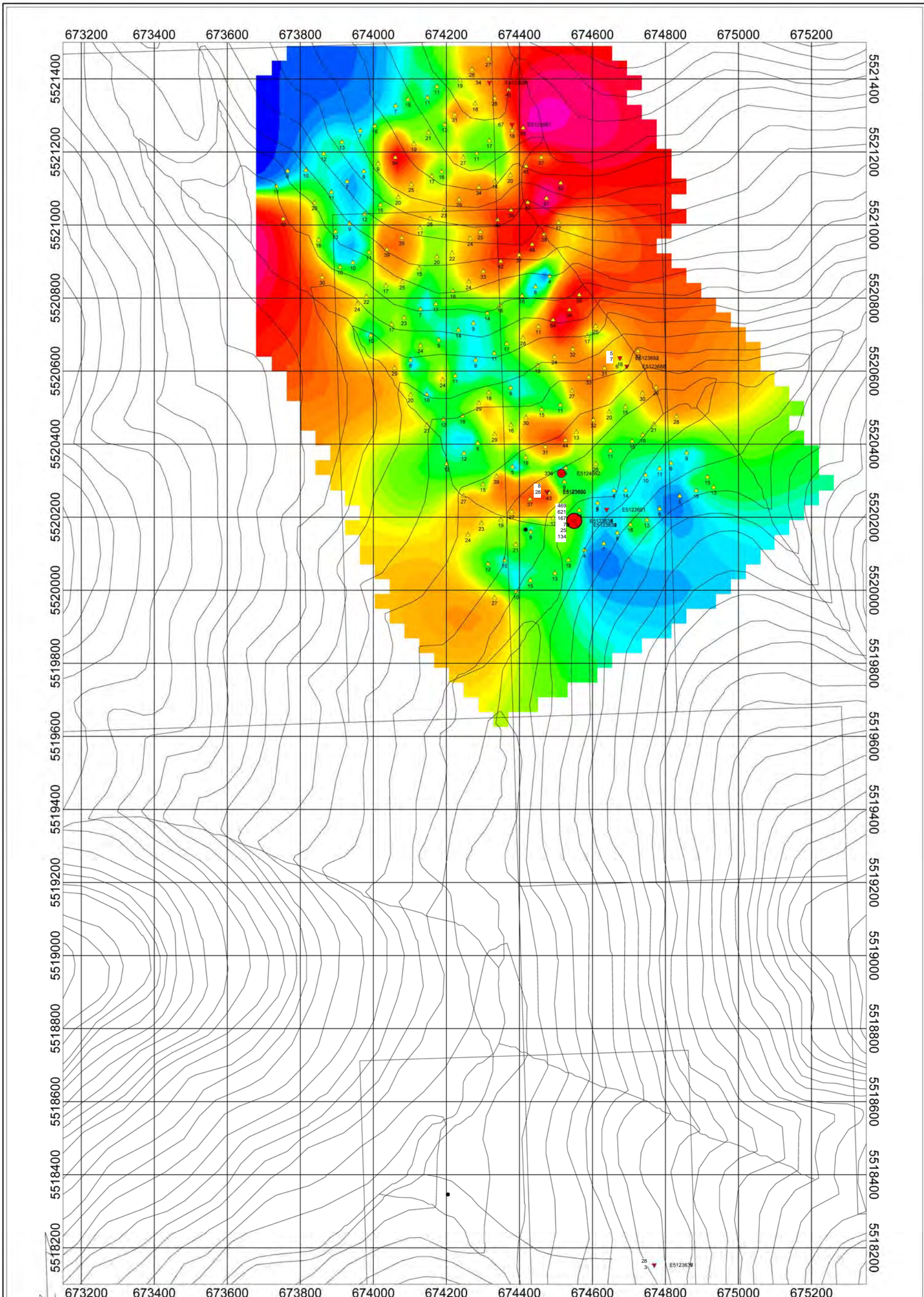
▲ 2015 Soil Sample  
 ▼ 2014-2015 Rock Sample

Scale 1:10000

100 0 100 200 300 400  
 (meters)

NAD83 / UTM zone 9N





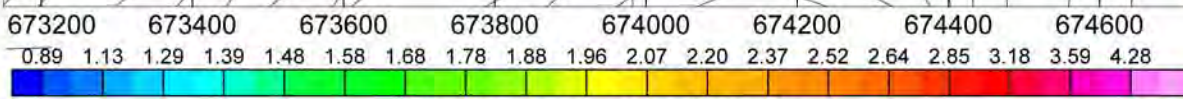
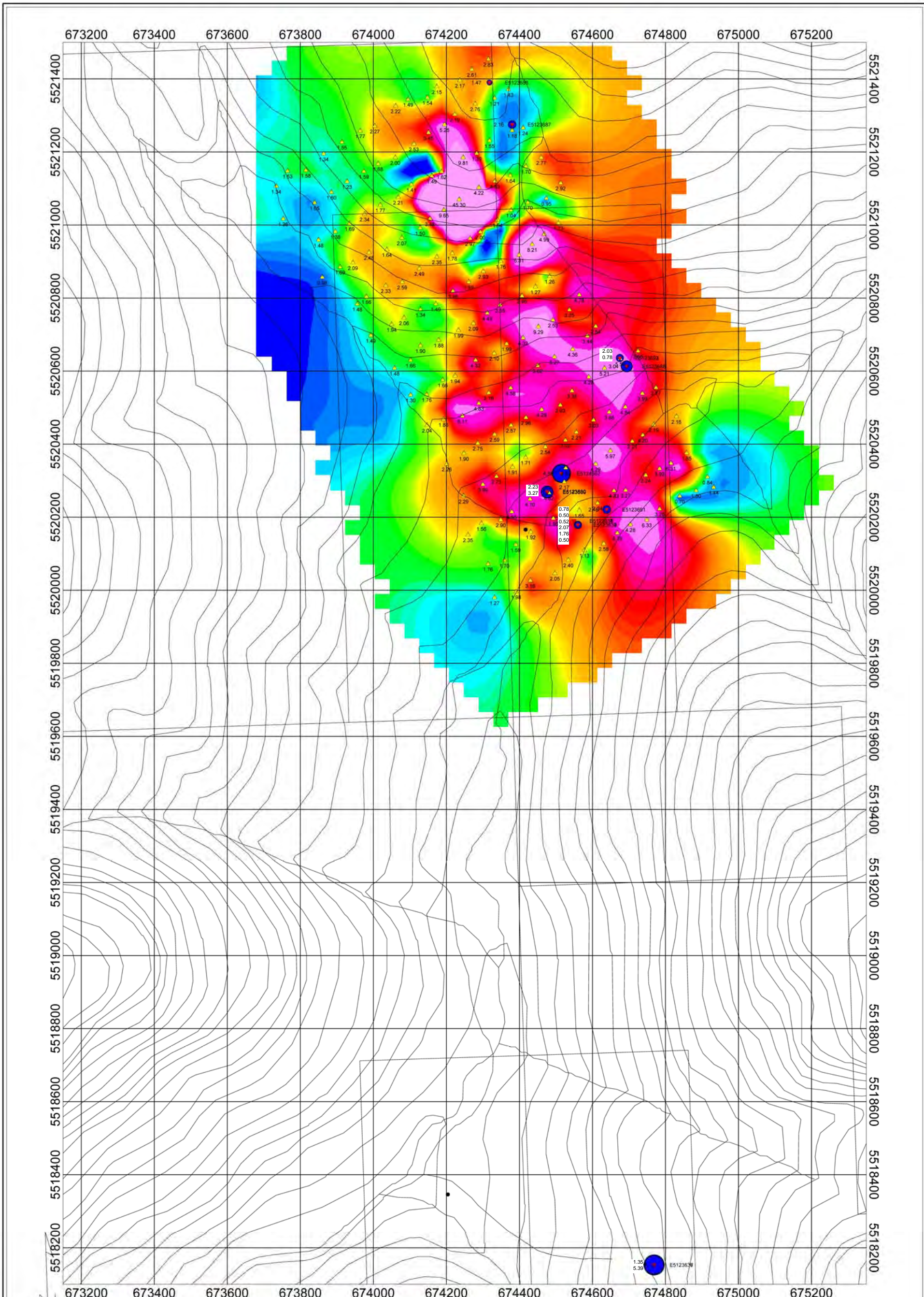
**Figure 4h**

Pioneer Exploration Corporation  
 Head Bay Project  
 Vivian Target Area  
 2014 - 2015 Sampling

▲ 2015 Soil Sample  
 ▼ 2014-2015 Rock Sample  
 Scale 1:10000  
 100 0 100 200 300 400 (meters)  
 NAD83 / UTM zone 9N

**Copper ppm in Soils**  
 -4 3 6 8 9 10 12 13 15 17 19 20 22 24 26 29 32 37 45 59 97 184

**Copper ppm in Rocks**  
 ● 600  
 ● 400  
 ● 200



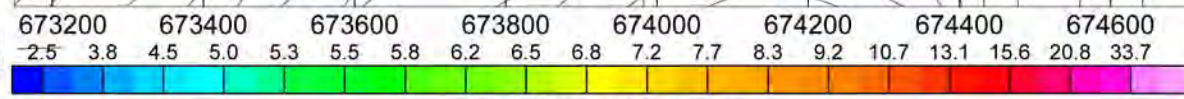
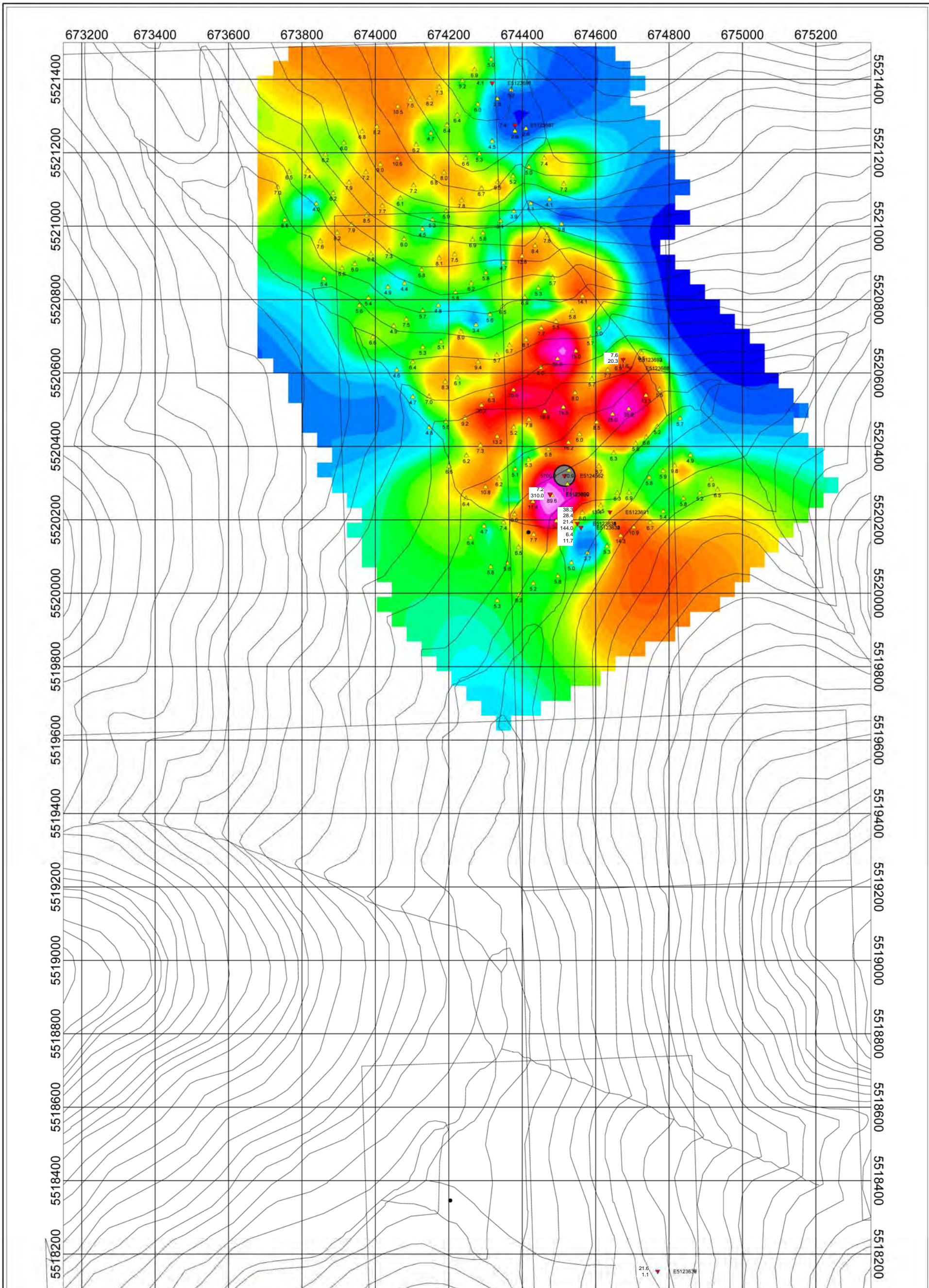
▲ 2015 Soil Sample  
 ▼ 2014-2015 Rock Sample  
 Scale 1:10000  
 100 0 100 200 300 400  
 (meters)  
 NAD83 / UTM zone 9N

**Molybdenum ppm in Soils**  
**Molybdenum ppm in Rocks**

● 6  
 ● 4  
 ● 2

**Figure 4i**

Pioneer Exploration Corporation  
 Head Bay Project  
 Vivian Target Area  
 2014 - 2015 Sampling

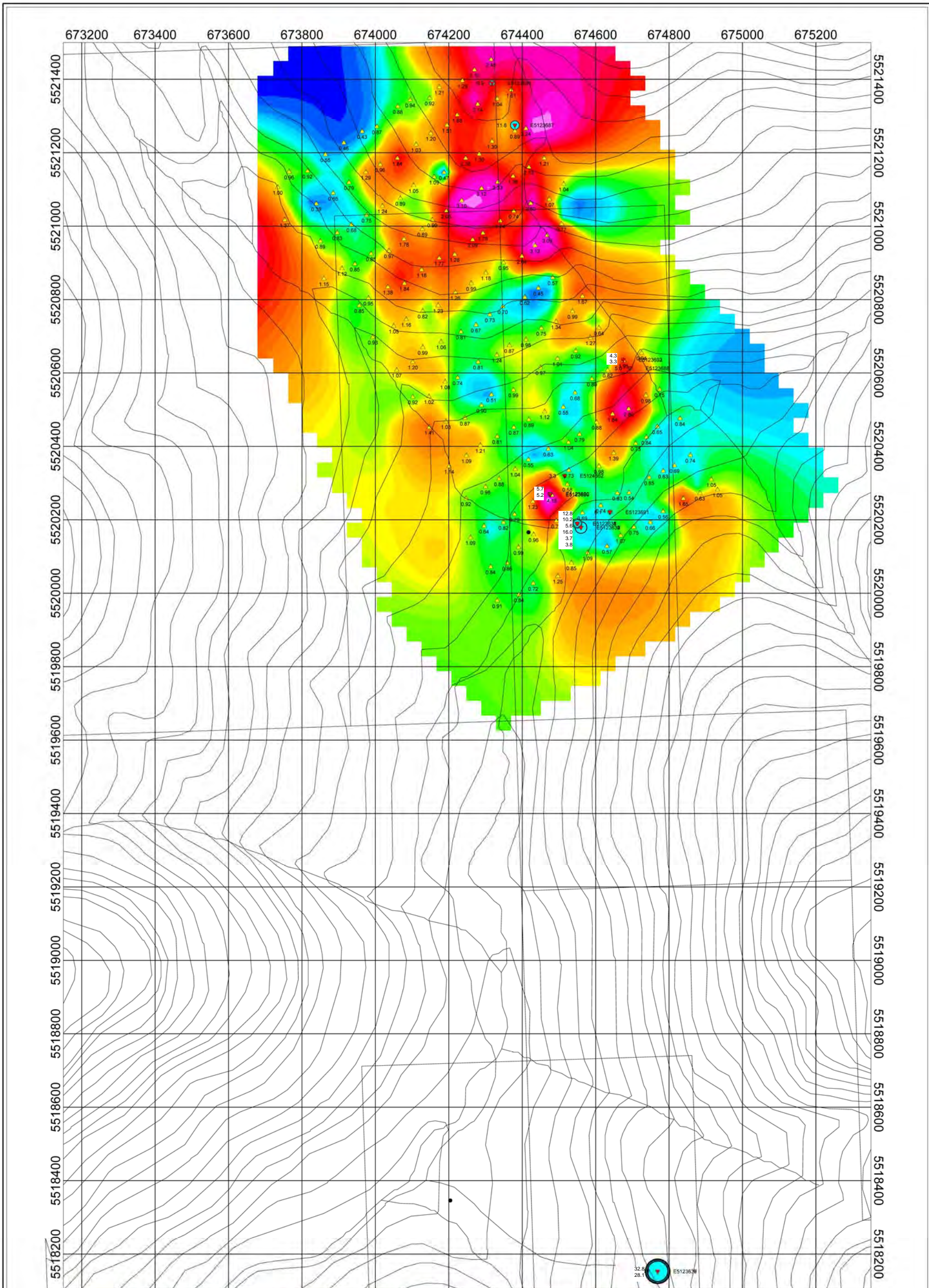


**Figure 4j**

▲ 2015 Soil Sample  
 ▼ 2014-2015 Rock Sample  
 Scale 1:10000  
 100 0 100 200 300 400  
 (meters)  
 NAD83 / UTM zone 9N

**Lead ppm in Soils**  
**Lead ppm in Rocks**  
 ● 6000  
 ● 4000  
 ● 2000

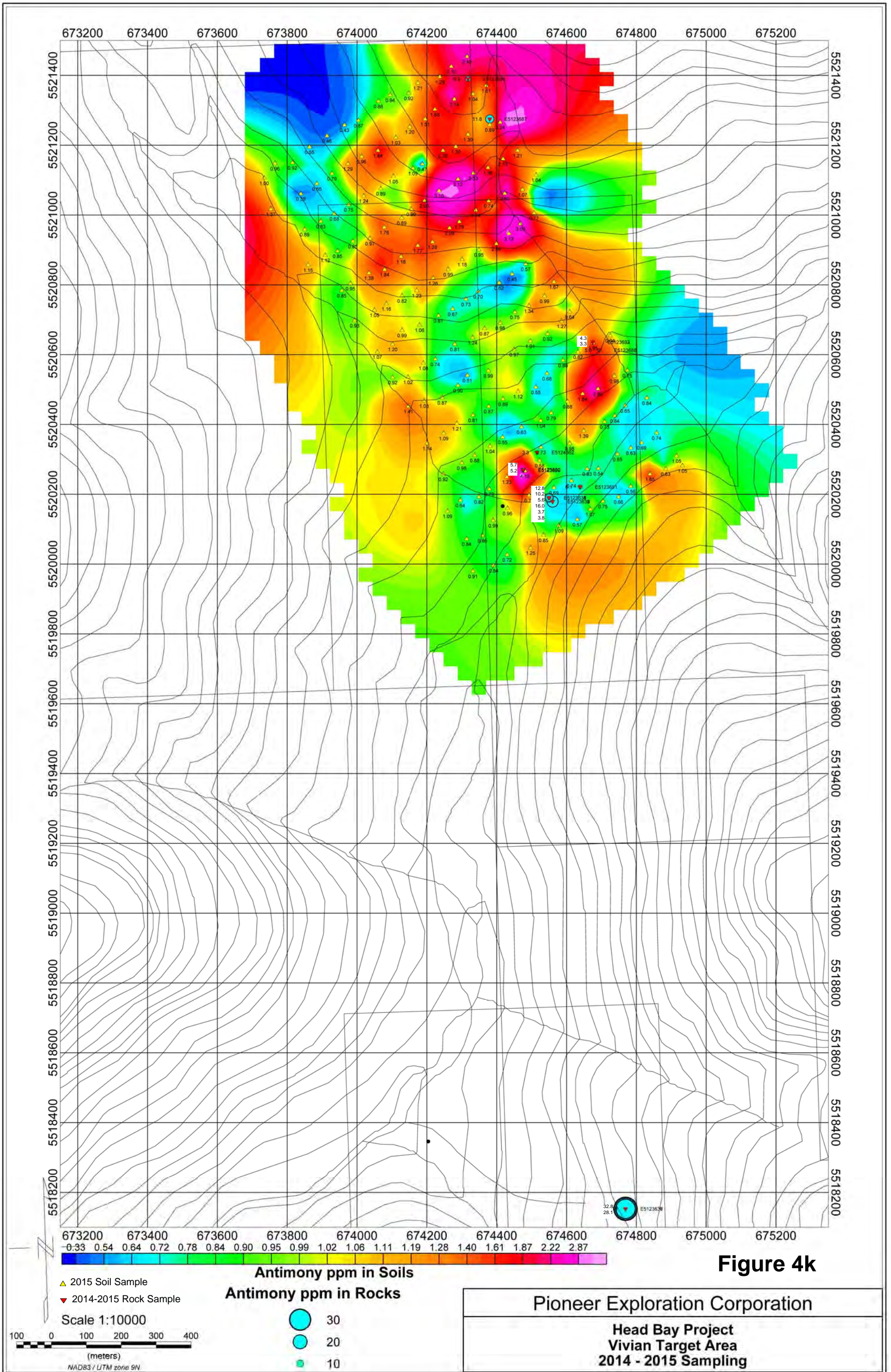
Pioneer Exploration Corporation  
 Head Bay Project  
 Vivian Target Area  
 2014 - 2015 Sampling

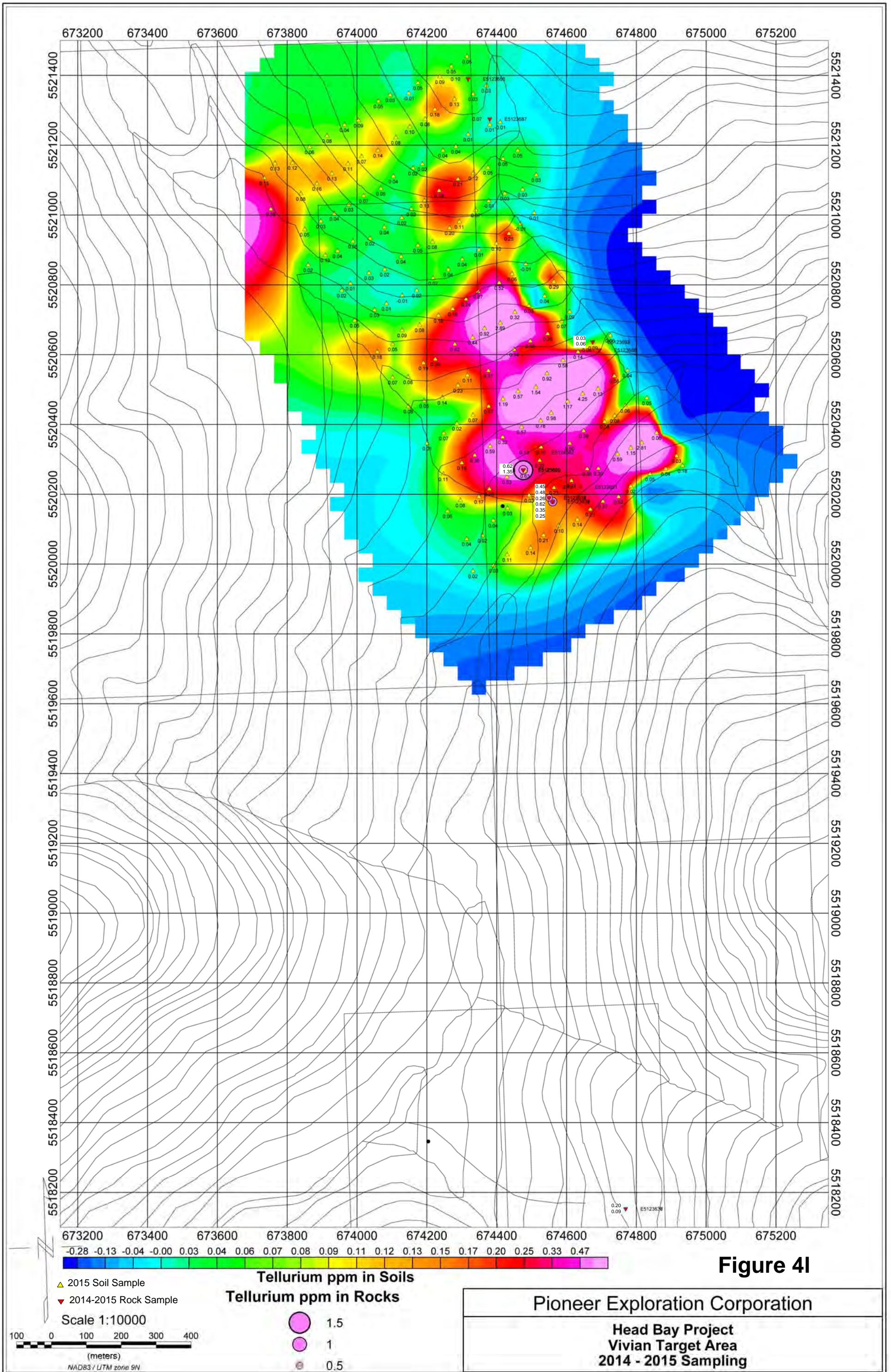


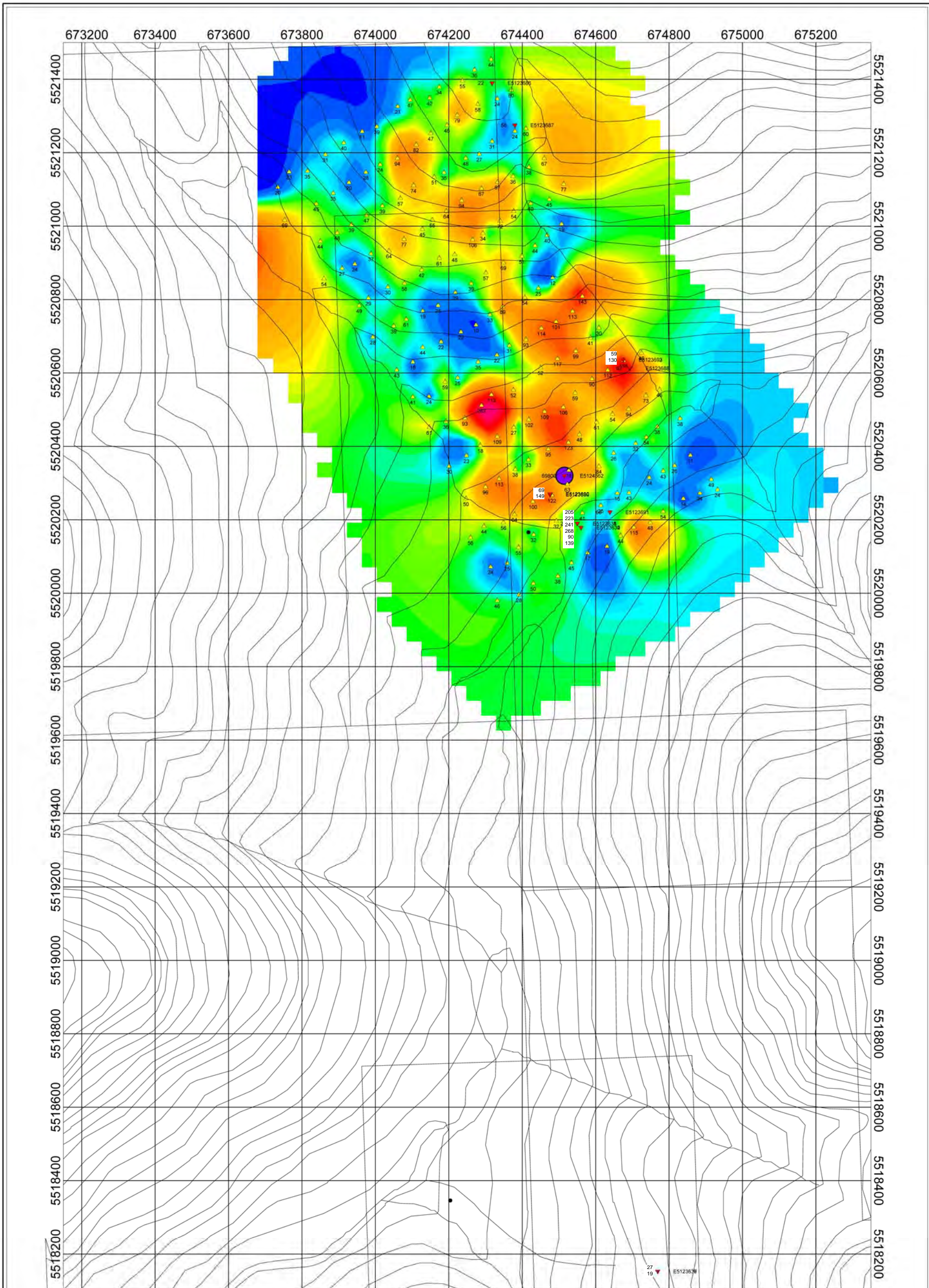
**Figure 4k**

Pioneer Exploration Corporation  
 Head Bay Project  
 Vivian Target Area  
 2014 - 2015 Sampling









**Figure 4m**

Pioneer Exploration Corporation  
 Head Bay Project  
 Vivian Target Area  
 2014 - 2015 Sampling

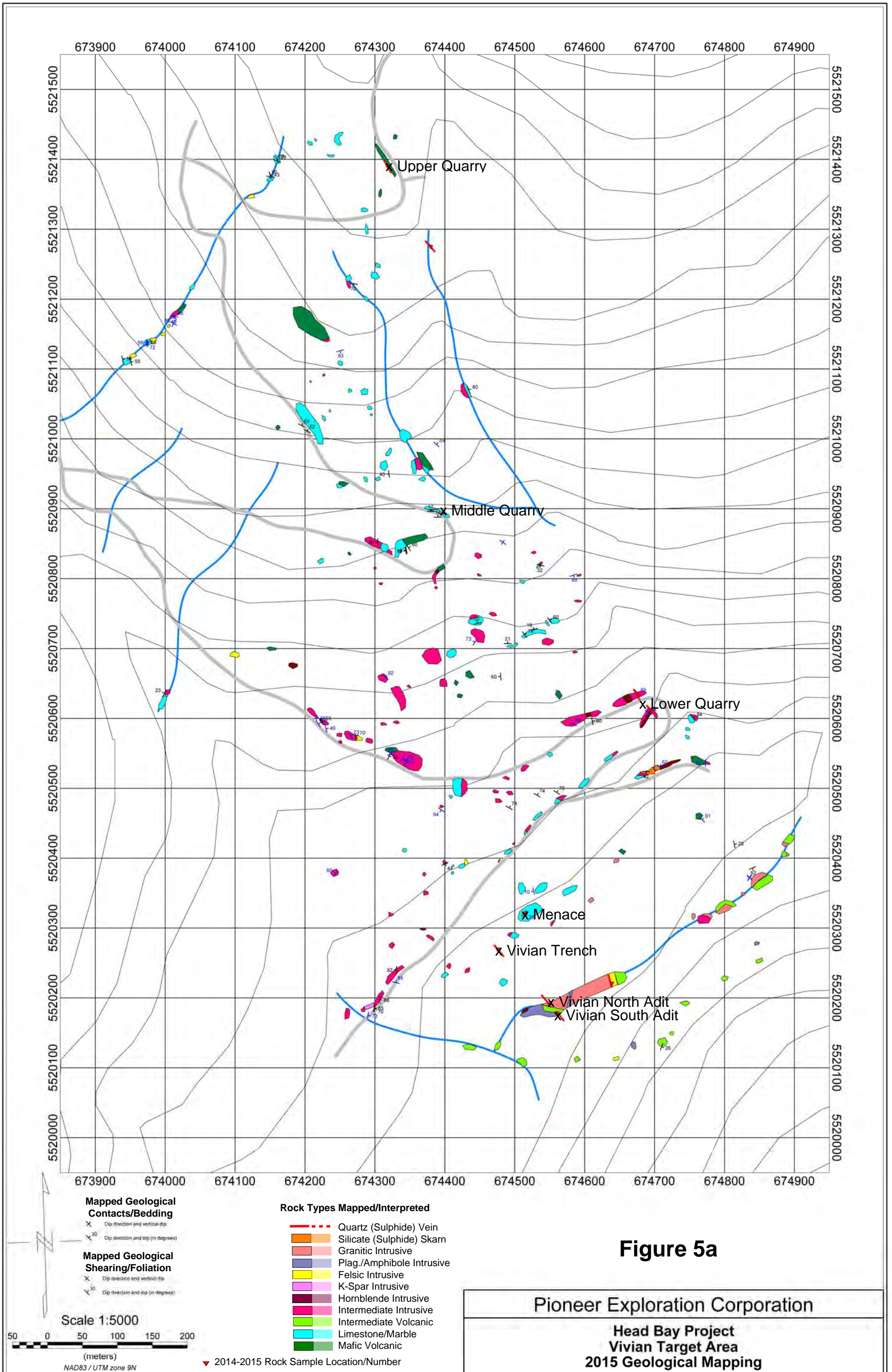
**Zinc ppm in Soils**  
 Zinc ppm in Rocks

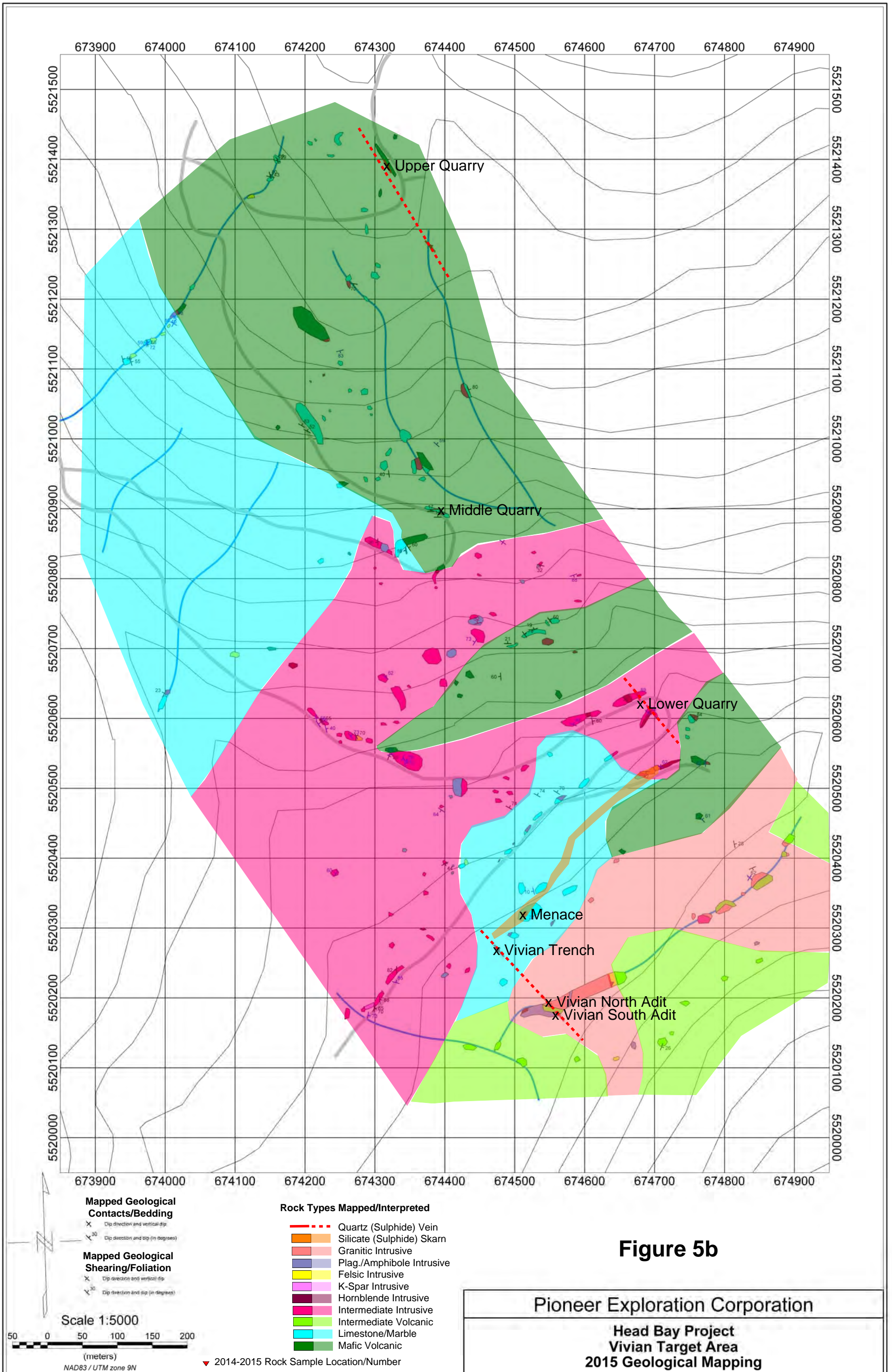
▲ 2015 Soil Sample  
 ▼ 2014-2015 Rock Sample

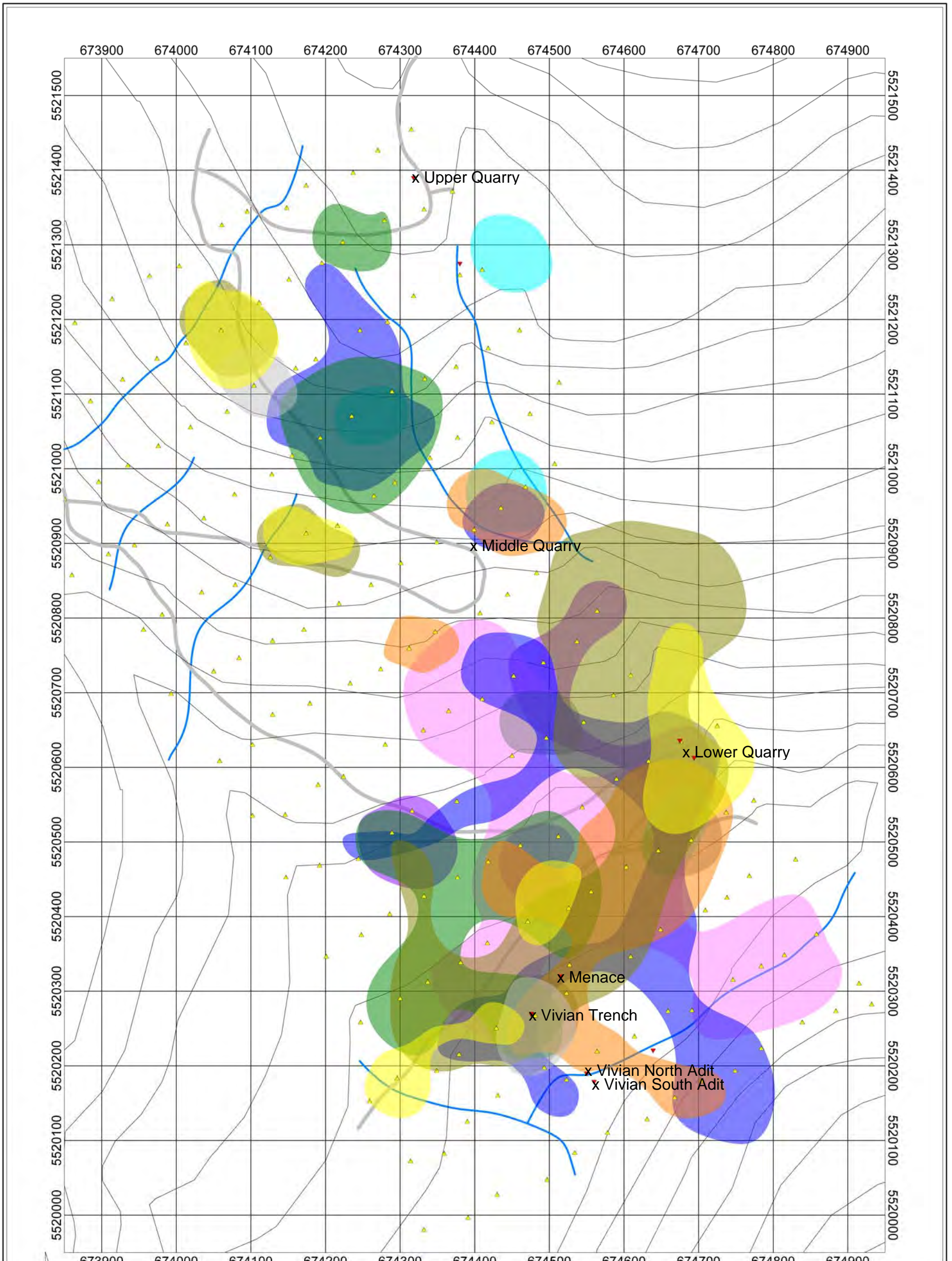
Scale 1:10000

● 75000  
 ● 50000  
 ● 25000

100 0 100 200 300 400  
 (meters)  
 NAD83 / UTM zone 9N







673900 674000 674100 674200 674300 674400 674500 674600 674700 674800 674900

5521500 5521400 5521300 5521200 5521100 5521000 5520900 5520800 5520700 5520600 5520500 5520400 5520300 5520200 5520100 5520000

673900 674000 674100 674200 674300 674400 674500 674600 674700 674800 674900

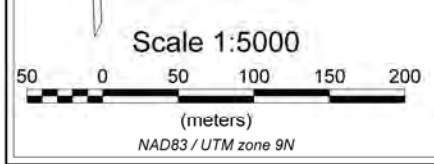
Elevated Au in Soils    Elevated Ag in Soils    Elevated As in Soils    Elevated Bi in Soils    Elevated Cd in Soils    Elevated Mo in Soils    Elevated Pb in Soils    Elevated Sb in Soils    Elevated Te in Soils    Elevated Zn in Soils



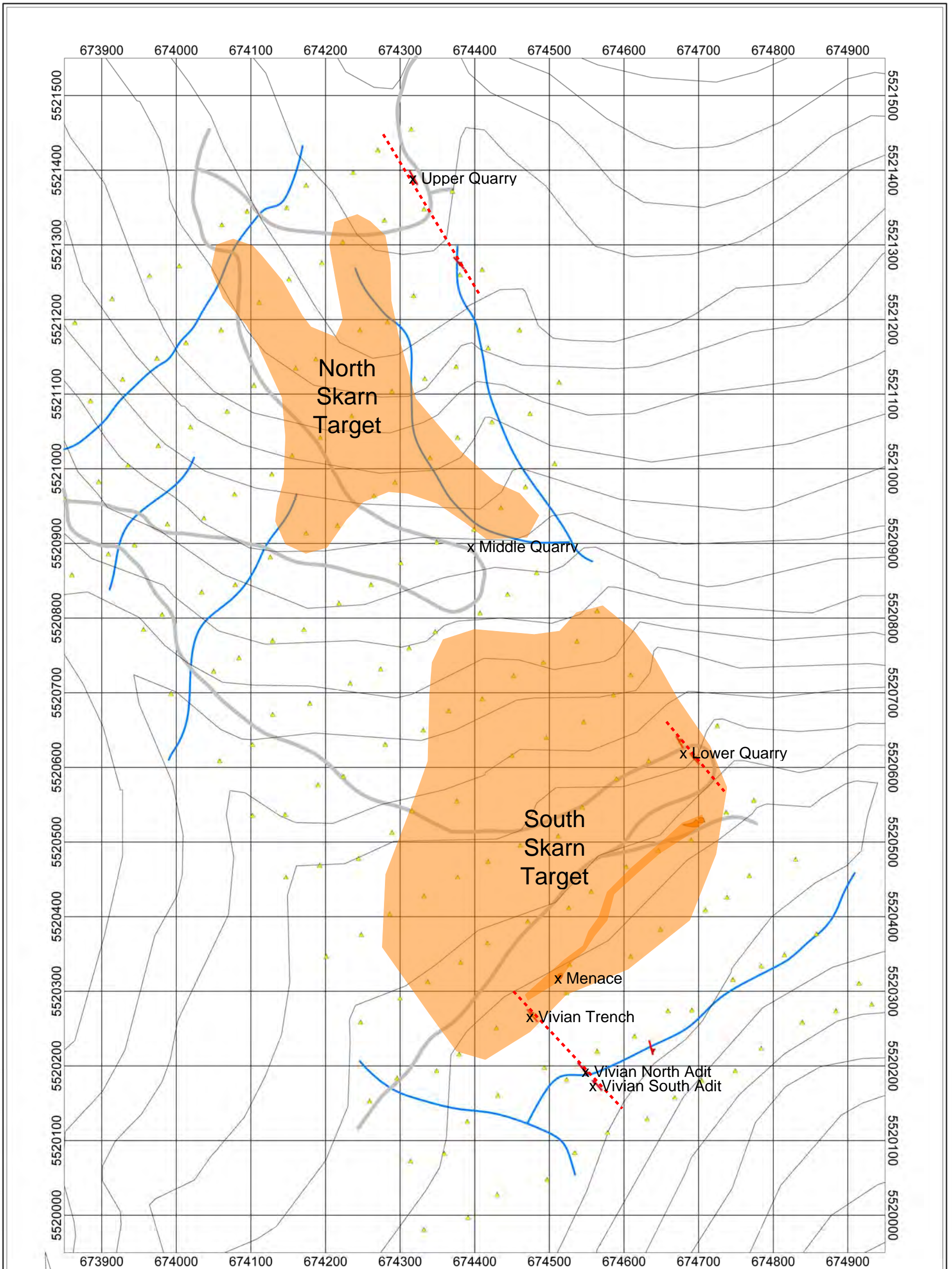
**Figure 5c**

Pioneer Exploration Corporation

Head Bay Project  
Vivian Target Area  
2015 Geochemical Compilation

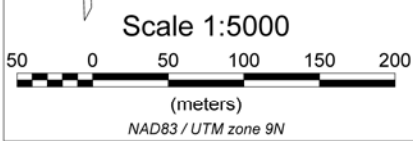


▲ 2015 Soil Sample Location  
▼ 2014-2015 Rock Sample Location



**Figure 5d**

- Targets Mapped/Interpreted**
- - - Quartz (Sulfide) Vein
  - Silicate (Sulfide) Skarn
  - ▲ 2015 Soil Sample Location
  - ▼ 2014-2015 Rock Sample Location



Pioneer Exploration Corporation

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**Head Bay Project  
Vivian Target Area  
2015 Target Compilation**

**Appendix 1**  
**Geological Data**



### Head Bay Bedding and Contacts

Type	Easting	Northing	Elevation	Strike	Dip	Details
Contact	674225	5520595	370	323	65	
Contact	673999	5520636	361	205	23	
Bedding	674304	5520852	493	180	20	
Contact	674316	5520840	507			intrusive
Contact	674195	5521019	542	300	83	
Contact	674203	5521011	540	297	52	
Contact	674658	5520627	319	140	90	
Contact	674611	5520596	328	350	60	
Contact	674320	5520546	364	19	35	
Contact	674273	5520575	381	334	70	
Contact	674447	5520736	448	255	32	
Contact	674537	5520819	442	103	32	
contact	674270	5521222		100	70	
Contact	674434	5521070		335	80	
Contact	674160	5521398		286	68	
Contact	674756	5520600		314	84	
Contact	674492	5520472		300	74	
Contact	674400	5520392		60	44	
Contact	674814	5520420		348	28	
Contact	674710	5520130		20	26	
Contact	674840	5520386		68	62	
Bedding	674150	5521377		345	43	
Bedding	674160	5521399		336	29	
Bedding	674320	5520950		172	40	
Bedding	674344	5520840		170	18	
Bedding	674490	5520707		270	21	
Bedding	674528	5520727		245	19	
Dyke	674150	5521375		284	80	
Dyke	674348	5520844		328	60	
Sill	674345	5520841		170	18	
Dyke	674380	5520896		267	17	
Dyke	674390	5520888		270	14	
Dyke	674480	5520660		176	60	
Dyke	674550	5520740		324	60	
Dyke	674514	5520720		324	78	
Dyke	674688	5520524		92	42	
Dyke	674532	5520490		300	74	
Dyke	674560	5520494		302	70	
Contact	674299	5520185	234	355	65	
Contact	674299	5520185	234	24	70	
Contact	674307	5520197	233	357	88	
Contact	674331	5520240	236	180	82	
Contact	673939	5521114	492	345	55	
Contact	674195	5521019	542	300	83	
Contact	673974	5521137	508	345	55	
Contact	673951	5521110	494	345	55	

### Head Bay Structures and Foliations

Type	Easting	Northing	Elevation	Strike	Dip
Fracture	674216	5520600	300	355	56
Fracture	674219	5520592	375	326	75
Fracture	674230	5520585	378	345	40
Fracture	674250	5521126	593	75	83
Fracture	674584	5520591	335	290	45
Fracture	674395	5520469	331	124	64
Fracture	674244	5520378	314	210	60
Fracture	674290	5520175	238	10	73
Fracture	674343	5520536	357	353	72
Fracture	674344	5520539	367	310	58
Fracture	674340	5520543	353	30	57
Fracture	674323	5520548	365	262	56
Fracture	674265	5520575	369	320	73
Fracture	674315	5520659	417	305	62
Fracture	674443	5520709	426	212	73
Fracture	674584	5520805	418	70	88
Shear	674675	5520636	314	328	89
Shear	674388	5520992		311	59
Shear	674690	5520608		318	58
Epi stringer	674773	5520536		182	87
Serpentine	674708	5520531		290	62
fracture	674836	5520372		210	90
Fracture	674836	5520372		134	90
Fracture	674290	5520175		10	73
Shear	674330	5520222	236	285	85
Fracture	674515	5520320	232	25	25
Fracture	674527	5520353	259	165	10
Fracture	674483	5520852	487	125	90
Fracture	674768	5520455	245	314	61
Fracture	674250	5521126	593	75	83
Fracture	674013	5521175	538	324	48
Fracture	674013	5521175	538	97	40
Fracture	674012	5521165	534	210	46
Fracture	674012	5521165	534	300	90
Fracture	673974	5521137	508	52	72
Fracture	673974	5521137	508	192	59

### Head Bay Vivian Grid Geological Legend

Colour	Symbol	Name	Description	BCGS
	QV	Quartz+/-Sulphide Vein	white-grey weathered, vuggy, sheared, brecciated to banded, 0.05m - 1.0m thick quartz-chlorite vein with 0-10% sulphides including pyrite, arsenopyrite	QV
	SK	Silicate+/-Sulphide Skarn	brown-black weathered, massive, 0.5m - 5.0m thick silicate skarn with 0-25% magnetite, 0-10% sulphides including sphalerite, galena, chalcopyrite, pyrrhotite	SK
	G Int	Granitic Intrusive	brown-green weathered, grey-pink fresh, medium grained, massive, equigranular quartz, feldspar, chlorite after hornblende/biotite	Eqd
	PA Int	Plagioclase/Amphibole Intrusive	black-brown-grey weather, grey-black (salt + pepper) fresh, fine to coarse grained, massive, plagioclase & amphibole phyric, chlorite after amphibole	Eqd
	F Int	Felsic Intrusive	buff-tan weathered, white-grey fresh, medium grained dikes with foliated by very fine grained biotite and by pyrite as cubes and disseminations	EMJlgd
	K Int	Potassium Feldspar Intrusive	white-grey-pink weathered and fresh, massive, medium grained, feldspar phyric	EMJlgd
	Hb Int	Hornblende Intrusive	grey-brown weathered, grey fresh, hornblende plagioclase phyric, weak but pervasive chlorite, minor local epidote	EMJlgd
	I Int	Intermediate Intrusive	blue-green-grey-purple weathered, grey fresh, medium to fine grained at contact margins, plagioclase phyric, moderate pervasive chlorite, local weak to moderate magnetite	EMJlgd
	I Vol	Intermediate Volcanic	buff-orange-brown weathered, grey-blue-green fresh, massive, fine to medium grained, plagioclase phyric, moderate pervasive chlorite, variable epidote, locally contains fragments	IJL
	Lst/Mbl	Limestone/Marble	grey weathered and fresh, fine grained, massive to weakly foliated; locally recrystallized to medium grained white marble	uTrVQ
	M Vol	Mafic Volcanic	dark green to brown weathered with rind, blue-grey fresh, fine grained, massive, locally greasy, pervasive chlorite	uTrVK

## **Appendix 2**

### **Sample and Geochemistry Data**

Rock Sample Locations for Head Bay Project					UTM Zone	Eastings	Northing	Elevation	
Sample #	Date	Sampler	Property	Location	Details				
E5123629	15-Nov-15	C. Broda	Head Bay	Head Bay Occurrence	Select outcrop grab from 0.12 m. thick quartz-sulphide vein @ 103/70 containing 75% Py, 5% FeOx	9N	678152	5519662	408
E5123630	23-Nov-15	J.Houle	Head Bay	Vivian South Adit along south side of Tsowwin River near Grid Stn 312	select grab from adit back 2 m. from adit portal of 0.15 m. quartz sulphide vein @ 320/70	9N	674560	5520179	215
E5123631	23-Nov-15	J.Houle	Head Bay	Vivian South Adit along south side of Tsowwin River near Grid Stn 312	select grab from adit back 2 m. from adit portal of 0.15 m. sulphide-mineralized intermediate intrusive along footwall of quartz sulphide vein @ 320/70	9N	674560	5520179	215
E5123632	23-Nov-15	J.Houle	Head Bay	Vivian South Adit along south side of Tsowwin River near Grid Stn 312	select grab from adit back 2 m. from adit portal of 0.15 m. sulphide-mineralized intermediate intrusive along hangingwall of quartz sulphide vein @ 320/70	9N	674560	5520179	215
E5123633	23-Nov-15	J.Houle	Head Bay	Vivian North Adit along north side of Tsowwin River near Grid Stn 312	select grab from adit face 2 m. from adit portal of 0.05 m. quartz sulphide vein @ 320/70	9N	674550	5520190	213
E5123634	23-Nov-15	J.Houle	Head Bay	Vivian North Adit along north side of Tsowwin River near Grid Stn 312	select grab from adit face 2 m. from adit portal of 0.10 m. sulphide-mineralized intermediate intrusive along footwall of quartz sulphide vein @ 320/70	9N	674550	5520190	213
E5123635	23-Nov-15	J.Houle	Head Bay	Vivian North Adit along north side of Tsowwin River near Grid Stn 312	select grab from adit face 2 m. from adit portal of 0.10 m. sulphide-mineralized intermediate intrusive along hangingwall of quartz sulphide vein @ 320/70	9N	674550	5520190	213
E5123636	24-Nov-15	J.Houle	Head Bay	Mohawk occurrence muckpile possibly at or below Upper Adit	Select grab from muckpile broken from 0.25 by 0.25 m. angular boulder of altered and mineralized rock containing 10% sulphides, 5% FeOx	9N	674769	5518153	293
E5123637	24-Nov-15	J.Houle	Head Bay	Mohawk occurrence muckpile possibly at or below Upper Adit	Select grab from muckpile broken from 0.25 by 0.10 m. angular boulder of banded and brecciated quartz vein	9N	674769	5518153	293
E5123685	17-Nov-15	C Broda	Head Bay	VIG - along west side of overgrown logging road - see sketch	2 meter wide exposure of skarn hosted in limestone, patchy mineralization (70% of skarn unit). In mineralized patches magnetite composes 50% with trace py and cpy. Mineralized pods make up 1 - 2 % of o/c. Undulating contact between limestone and skarn.	9N	679676	5516834	203
E5123686	18-Nov-15	C. Broda	Head Bay	Vivian Grid, upper quarry, near 1419	35 cm wide qtz sulphide vein grab sample in mafic volcanics, 334/61, 3% py disseminated and blebby, localized up to 10%, mineralization is not consistent in vein, 10% Fe oxide weathering	9N	674318	5521390	615
E5123687	19-Nov-15	C. Broda	Head Bay	Vivian Grid, Line 13, Site 1319	0.6 m wide qtz sulphide vein grab sample. Hosted in intermediate volcanics along East bank of creek 4 meters above creek bed, 317/28. 10% py with trace cpy localized, rest of vein consists of <10% py w/ trace cpy, 10% Feoxide	9N	674380	5521275	616
E5123688	21-Nov-15	C. Broda	Head Bay	Vivian Grid, Lower Quarry	12 cm thick qtz vein grab sample north side of lower quarry. Hosted in shear zone bwn intermediate intrusives on the NE and hornblende intrusives on the SW. 30 % chlorite altered frags, 60% qtz (50% euhedral 50% sub/anhydral), 08% black weathering of unknown mineral, 2% Fe Oxide, Trace epi.	9N	674694	5520613	320
E5123689	22-Nov-15	C. Broda	Head Bay	Vivian Grid, Line 4, 30 m south of 411, Vivian Trench	1 m qtz breccia Fe Oxide vein select grab sample hosted in 322/64 shear zone in intermediate intrusives. 30% Fe oxide weathering, 5% unknown black oxidation. Located in trench on E side of N wall, in contact with banded qtz sulphide vein to the East.	9N	674476	5520269	219
E5123690	22-Nov-15	C. Broda	Head Bay	Vivian Grid, Line 4, 30 m south of 411, Vivian Trench	0.5m banded qtz sulphide vein select grab sample hosted in 322/64 shear zone in intermediate intrusives. 10% oxidized sulphides (py), 5 % Fe oxide weathering. In trench on E side of N wall, in contact with Qtz vein from E5123689 to the west.	9N	674476	5520270	219
E5123691	23-Nov-15	C. Broda	Head Bay	Vivian Grid, South of 313 in Creek bed	4m wide felsic intrusive select grab sample. Dyke cross cuts Volcanics to the east and Dioritic intrusives to the west. Contact at 336/67. Banding occurs along both contacts approx 1 m into the vein with 1cm spacing. Banding has orientation 336/67. 2% disseminated cubic py, 2% Fe oxide weathering.	9N	674639	5520221	226
E5123692	24-Nov-15	C. Broda	Head Bay	Vivian grid, near 618, above lower quarry on north side of road	Select grab from 329/89 qtz/carb vein hosted in shear zone. Vein is 11.5 cm where sampled, but pinches out to 2 cm. Vein contains chlorite altered rock fragments (5-10%), trace disseminated pyrite in silvers of wall rock, and 1% Fe oxide weathering. Located north west of qtz vein in lower quarry, sample number E5123688. Chloritized intermediate intrusive on the west and Hornblende phytic intrusive on the east	9N	674675	5520636	314
E5123693	24-Nov-15	C. Broda	Head Bay	Vivian grid, near 618, above lower quarry on north side of road	Select wall rock grab from wall rock west of qtz/carb vein in sample E5123692. Chloritized, silicified wall rock with 1-2% py, zone approx 10 cm thick, Fe oxide weathering 1%. Silicification minor - moderate.	9N	674675	5520636	314
E5124266	17-Nov-15	R. Bilquist	Head Bay	VIG - 1 m, north of sample E5123685 - see sketch	skarn hosted in limestone containing 60% semi-massive sulphide mineralization consisting of sphalerite, galena, pyrite, possible chalcocopyrite	9N	679676	5516835	203
E5124787	17-Nov-15	M.Brannstrom	Head Bay	Hisnit Main rd cut (NW side), near Elaine minifile occurrence. Select grab.	0.11 m wide auto-brecciated intrusive dike w/<1% pyrite, dissem, blebs. Matrix supp., chloritized clasts angular poorly sorted, some silicification.	9N	679673	5518370	70



Rock Sample Geochemistry Highlights for Head Bay Project																			
Sample #	Easting	Northing	Elevation	Au (ppm)	Ag (ppm)	As (ppm)	Bi (ppm)	Cd (ppm)	Co (ppm)	Cu (ppm)	Mo (ppm)	Pb (ppm)	Sb (ppm)	Te (ppm)	Zn (ppm)	Ca (%)	Fe (%)	Magnetic (%)	S (%)
E5123629	678152	5519662	408	9.920	7.85	655	113	0.06	122	685	2.96	7.8	1.32	1.15	93.6	0.17	28.4		>10
E5123630	674560	5920179	215	4.400	5.40	10700	1.43	2.28	41.4	76.6	2.07	144	16	0.62	268	0.15	7.9		0.27
E5123631	674560	5920179	215	0.032	0.98	92	0.33	0.07	14.8	24.5	1.76	6.3	3.67	0.35	90.4	2.8	3.5		0.12
E5123632	674560	5920179	215	0.012	1.96	155	0.11	0.13	52.7	134	0.5	11.7	3.75	0.25	139	0.39	7.7		0.13
E5123633	674550	5520190	213	1.180	6.26	1970	3.37	0.35	34.6	469	0.78	38.3	12.8	0.45	205	6.31	6.99		1.83
E5123634	674550	5520190	213	0.181	7.09	1050	6.62	0.26	32.8	621	0.5	28.4	10.2	0.48	223	7.06	6.99		1.82
E5123635	674550	5520190	213	0.110	1.33	1140	0.25	0.25	32.3	15.7	0.52	21.4	5.62	0.26	241	7.37	6.43		0.82
E5123636	674769	5518153	293	0.769	1.39	1340	0.1	0.06	16.6	28.1	1.35	21.6	32.8	0.2	27.1	0.34	9.13		4.84
E5123637	674769	5518153	293	0.042	0.32	43.1	<0.01	<0.02	0.78	3	5.39	1.1	28.1	0.09	18.9	0.02	0.64		0.03
E5123685	679676	5516834	203	0.137	2.39	13.2	0.23	3.49	37.9	1260	1.94	11.6	2.77	0.08	800	6.63	37.6		0.26
E5123686	674318	5521390	615	0.020	0.70	24.9	0.02	0.09	37.8	33.6	1.47	4.1	6.87	0.1	21.5	9.19	9.55		9.56
E5123687	674380	5521275	616	0.011	0.37	67.8	0.01	0.06	31.6	66.6	2.16	7.4	11.8	0.07	57.8	0.06	18.6		>10
E5123688	674694	5520613	320	0.498	0.25	908	0.07	0.1	2.7	6.2	3.04	6.9	5.05	0.04	61.5	0.1	2.26		0.08
E5123689	674476	5520269	219	0.008	0.64	101	2.02	1.33	6.37	27.9	3.27	310	5.24	1.35	149	0.08	1.47		0.03
E5123690	674476	5520270	219	0.220	0.59	1190	0.16	0.09	0.85	7.5	2.23	7.2	5.67	0.62	68.6	0.03	1.21		0.17
E5123691	674639	5520221	226	0.240	0.30	1870	0.02	0.07	0.7	3.2	2.16	13.4	6.1	0.1	67.9	0.55	1.47		0.83
E5123692	674675	5520636	314	0.257	0.28	726	0.08	0.37	6.67	5.1	2.03	7.6	4.28	0.03	58.6	8.84	2.96		0.68
E5123693	674675	5520636	314	0.241	0.51	1080	0.12	0.24	24.2	7.3	0.78	20.3	3.31	0.06	130	3.65	6.55		2
E5124266	679676	5516835	203	0.673	11.70	28.7	44.4	1370	251	2750	143	666	1.89	9.53	294000	6.66	6.27		>10
E5124787	679673	5518370	70	0.003	1.08	8.9	0.38	5.25	39.4	16	5.88	4.6	0.34	2	969	1.81	3.95		1.94

Soil Sample Locations for Head Bay Project

Sample #	Date	Sampler	Property	Location	Sample Depth (m)	Soil Horizon	Soil Colour	Particle Size	% Organics	Gradient (degrees)	Ground Cover	Cultural Impacts	Bedrock Litho	Float Litho	UTM Zone	Easting	Northing	Elevation	Remarks
E5124026	18-Nov-15	R. Bilquist	Head Bay	wiv 1406	0.15 B	Orange	silt	0 35 S	2nd growth	logging					9N	673753	5521017	416	
E5124027	18-Nov-15	R. Bilquist	Head Bay	wiv 1408	0.1 B	Orange	sandy silt	0 14 S	2nd growth	logging					9N	673839	5521061	463	occas pebble in soil
E5124028	18-Nov-15	R. Bilquist	Head Bay	wiv 1409	0.2 B	Orange/Red	silt	0 12 S	2nd growth	logging					9N	673885	5521090	479	occas pebble in soil
E5124029	18-Nov-15	R. Bilquist	Head Bay	wiv 1410	0.15 B	Orange	silt	2 26 SE	2nd growth	logging				volc	9N	673928	5521119	498	some pebbles, root hairs; possible soil over till
E5124030	18-Nov-15	R. Bilquist	Head Bay	wiv 1411	0.2 B	Orange	silt	0	2nd growth	logging					9N	673974	5521147	509	occas pebble in soil
E5124031	18-Nov-15	R. Bilquist	Head Bay	wiv 1412	0.15 B	Orange	silt	0 22 W	2nd growth	logging					9N	674013	5521168	534	steep creek bank
E5124032	18-Nov-15	R. Bilquist	Head Bay	wiv 1413	0.2 C	grey brown	sandy silt	0 18 W	2nd growth	logging				volc, limestone	9N	674060	5521185	559	
E5124033	18-Nov-15	R. Bilquist	Head Bay	wiv 1414	0.3 C (tilt?)	grey brown	pebbly silt	0 15 SW	2nd growth	logging					9N	674111	5521222	577	possible till, no 'B'
E5124034	18-Nov-15	R. Bilquist	Head Bay	wiv 1415	0.1 B	Orange	silt	0 10 S	2nd growth	logging					9N	674151	5521253	594	
E5124035	18-Nov-15	R. Bilquist	Head Bay	wiv 1416	0.15 B	Orange	silt	1 16 SW	2nd growth	logging					9N	674195	5521275	614	some root hairs; small pebbles
E5124036	18-Nov-15	R. Bilquist	Head Bay	wiv 1417	0.2 B/C	orange/brown	sandy silt	0 07 SW	2nd growth	logging	below road, logging		limestone		9N	674223	5521303	629	
E5124037	18-Nov-15	R. Bilquist	Head Bay	wiv 1418	0.2 B	Orange	silt, sand	2 08 W	2nd growth	logging		limestone	limestone		9N	674279	5521332	638	
E5124038	18-Nov-15	R. Bilquist	Head Bay	wiv 1419	0.2 B	Orange	silt	2 07 SW	2nd growth	logging	below road, logging				9N	674332	5521347	635	
E5124039	18-Nov-15	R. Bilquist	Head Bay	wiv 1420	0.05 B (A)	orange/brown	silt, clay pebbles	3 02 W	2nd growth	logging					9N	674370	5521371	631	
E5124040	19-Nov-15	R. Bilquist	Head Bay	1307	0.25 B	orange brown	silt, pebbles	3 20 SW	2nd growth	logging			volc, limestone		9N	673850	5520959	401	from top side road bank
E5124041	19-Nov-15	R. Bilquist	Head Bay	1308	0.15 B	orange	silt, pebbles	5 16 SW	2nd growth	logging					9N	673896	5520982	436	
E5124042	19-Nov-15	R. Bilquist	Head Bay	1309	0.3 B/A	red orange	clay, silt, pebbles	15 18 SW	2nd growth	logging					9N	673935	5521004	464	
E5124043	19-Nov-15	R. Bilquist	Head Bay	1310	0.15 B	red orange	silt, pebbles	5 22 SW	2nd growth	logging					9N	673976	5521030	491	
E5124044	19-Nov-15	R. Bilquist	Head Bay	1311	0.05 B	orange brown	clay, silt, pebbles	2 18 SW	2nd growth	logging					9N	674019	5521055	512	
E5124045	19-Nov-15	R. Bilquist	Head Bay	1312	0.1 B	orange brown	silt, pebbles	2 12 S	2nd growth	logging					9N	674068	5521076	527	
E5124046	19-Nov-15	R. Bilquist	Head Bay	1313	0.2 C/B	brown orange	silt, clay pebbles	5 12 SW	2nd growth	logging, below road			limestone		9N	674104	5521111	546	possible contamination from road above sample
E5124047	19-Nov-15	R. Bilquist	Head Bay	1314	0.15 B	orange red	silt, pebbles	1 08 S	2nd growth	logging					9N	674160	5521134	562	
E5124048	19-Nov-15	R. Bilquist	Head Bay	1315	0.1 C/B	brown red	silt, pebbles	10 27 SW	2nd growth	logging		volc	volc		9N	674187	5521146	577	very steep; large o/c above sample (medium volc)
E5124049	19-Nov-15	R. Bilquist	Head Bay	1316	0.1 B	orange	clay, silt, pebbles	2 08 SW	2nd growth	logging					9N	674246	5521185	600	
E5124050	19-Nov-15	R. Bilquist	Head Bay	1317	0.2 B	orange	clay, silt	2 25 SW	old growth					limestone	9N	674283	5521196	603	NE bank of SE flowing stream
E5124051	19-Nov-15	R. Bilquist	Head Bay	1318	0.1 B	orange	clay, silt	2 04 SW	old growth					limestone	9N	674318	5521231	617	
E5124052	19-Nov-15	R. Bilquist	Head Bay	1319	0.15 B	orange brown	clay silt	2 24 E	old growth						9N	674380	5521259	615	from west bank south flowing stream
E5124053	19-Nov-15	R. Bilquist	Head Bay	1320	0.25 B	orange brown	clay silt	5 12 SE	old growth						9N	674410	5521266	609	
E5124054	19-Nov-15	R. Bilquist	Head Bay	1019	0.2 B	orange grey	clay silt	2 14 SE	old growth						9N	674507	5521006	511	
E5124055	19-Nov-15	R. Bilquist	Head Bay	1018	0.15 B	orange red	silt clay	15 24 E	old growth			limestone	limestone		9N	674468	5520975	508	
E5124056	19-Nov-15	R. Bilquist	Head Bay	1017	0.05 B	orange brown	clay silt	2 38 NE	old growth			limestone	limestone		9N	674435	5520947	513	
E5124057	20-Nov-15	R. Bilquist	Head Bay	1007	0.2 B/C	red brown	clay silt pebbles	10 20 S	2nd growth	logging					9N	673993	5520938	385	
E5124058	20-Nov-15	R. Bilquist	Head Bay	1008	0.2 B/C	orange red	clay silt pebbles	5 12 S	2nd growth	logging			volcanic		9N	674050	5520728	394	rounded volc boulders
E5124059	20-Nov-15	R. Bilquist	Head Bay	1009	0.05 B/C	red brown	silt sand pebbles	2 20 SW	2nd growth	logging					9N	674084	5520746	411	
E5124060	20-Nov-15	J. Houle	Head Bay	816	0.05 B	brown orange	silt clay pebbles	0 30SE	2nd growth	logging			volcanic		9N	674492	5520740	444	
E5124061	20-Nov-15	J. Houle	Head Bay	815	0.1 B	brown orange	silt clay pebbles	0 20SE	2nd growth	logging			volcanic	volcanic	9N	674452	5520722	441	
E5124062	20-Nov-15	J. Houle	Head Bay	814	0.1 B	brown yellow	silt clay	0 30SE	2nd growth	logging		limestone	limestone		9N	674410	5520691	431	
E5124063	20-Nov-15	J. Houle	Head Bay	813	0.1 B/A	brown	silt clay pebbles	5 30SE	2nd growth	logging			volcanic		9N	674365	5520675	433	
E5124064	20-Nov-15	J. Houle	Head Bay	812	0.5 B	brown orange	silt clay pebbles	0 15SW	2nd growth	logging			volcanic		9N	674331	5520649	420	
E5124065	20-Nov-15	J. Houle	Head Bay	811	0.2 B	brown orange	silt clay pebbles	0 15S	2nd growth	logging			volcanic	volcanic	9N	674280	5520630	399	
E5124066	21-Nov-15	J. Houle	Head Bay	810	0.25 B	brown orange	silt clay pebbles	5 20SW	2nd growth	logging, road		volcanic	volcanic		9N	674224	5520587	360	sample from NE side road cut above outcrop
E5124067	21-Nov-15	J. Houle	Head Bay	809	0.15 B	brown orange	silt clay pebbles	0 25E	2nd growth	logging			volcanic		9N	674190	5520576	352	sample from crest of west bank of small creek
E5124068	21-Nov-15	J. Houle	Head Bay	808	0.15 B	brown orange	silt clay pebbles	0 10S	2nd growth	logging			volcanic		9N	674146	5520536	358	
E5124069	21-Nov-15	J. Houle	Head Bay	807	0.3 B	brown orange	silt clay pebbles	0 25SW	2nd growth	logging, road			volcanic		9N	674102	5520535	357	sample from crest of NE side of road cut over 2m+ till
E5124070	21-Nov-15	J. Houle	Head Bay	707	0.2 B	brown	silt clay pebbles	0 30SW	2nd growth	logging			volcanic		9N	674147	5520452	331	
E5124071	21-Nov-15	J. Houle	Head Bay	708	0.2 B	brown orange	silt clay pebbles	0 20SE	2nd growth	logging			volcanic		9N	674192	5520468	336	
E5124072	21-Nov-15	J. Houle	Head Bay	709	0.15 B	brown orange	silt clay pebbles	5 20 S	2nd growth	logging			volcanic		9N	674244	5520477	341	
E5124073	21-Nov-15	J. Houle	Head Bay	710	0.2 B	brown orange	silt clay pebbles	5 20 S	2nd growth	logging			volcanic	volcanic	9N	674289	5520512	347	
E5124074	21-Nov-15	J. Houle	Head Bay	711	0.25 B/C	brown orange	silt clay pebbles	0 15S	2nd growth	logging, road		volcanic	volcanic		9N	674316	5520541	356	sample from NE crest of road cut over outcrop
E5124075	21-Nov-15	J. Houle	Head Bay	712	0.05 B	brown orange	silt clay pebbles	5 20S	2nd growth	logging			volcanic		9N	674376	5520554	360	
E5124076	21-Nov-15	J. Houle	Head Bay	714	0.05 B	brown orange	silt clay pebbles	5 25SE	2nd growth	logging			limestone	volcanic	9N	674450	5520615	383	
E5124077	21-Nov-15	J. Houle	Head Bay	715	0.1 B	brown yellow	silt clay pebbles	0 15SE	2nd growth	logging			limestone, volc.		9N	674496	5520639	376	limestone outcrops within 25 m. northwest of sample site
E5124078	21-Nov-15	J. Houle	Head Bay	716	0.05 B	brown yellow	silt clay	0 10E	2nd growth	logging			limestone		9N	674546	5520660	374	sample from west bank of very small creek
E5124079	21-Nov-15	J. Houle	Head Bay	717	0.15 B/C	brown orange	silt clay pebbles	0 25SE	2nd growth	logging			volcanic, lst		9N	674586	5520696	381	
E5124080	21-Nov-15	J. Houle	Head Bay	718	0.2 B/C	brown yellow	silt clay pebbles	5 30SE	2nd growth	logging			volcanic		9N	674609	5520723	374	
E5124081	21-Nov-15	J. Houle	Head Bay	419	0.2 B/C	brown orange	silt clay pebbles	0 15E	2nd growth	logging			volcanic, lst		9N	674830	5520476	266	sample 30 m. downslope of logging road
E5124082	21-Nov-15	J. Houle	Head Bay	418	0.1 B	brown orange	silt clay	0 10S	2nd growth	logging			volcanic		9N	674768	5520454	262	
E5124083	21-Nov-15	J. Houle	Head Bay	417	0.05 B	brown orange	silt clay	0	2nd growth	logging			volcanic		9N	674738	5520425	257	
E5124084	22-Nov-15	J. Houle	Head Bay	416	0.15 B	brown orange	silt clay	0 10SE	2nd growth	logging			volcanic		9N	674709	5520408	239	
E5124085	22-Nov-15	J. Houle	Head Bay	415	0.25 B	brown orange	silt clay	5 10SE	2nd growth	logging			volcanic		9N	674649	5520382	236	15 m. west of m.g. felsic intrusive outcrop in small creek
E5124086	22-Nov-15	J. Houle	Head Bay	414	0.3 B	brown orange	silt clay pebbles	0 10S	2nd growth	logging			felsic intr.	volcanic	9N	674609	5520346	234	sample from top of till exposed 0.2 m. +
E5124087	22-Nov-15	J. Houle	Head Bay	413	0.25 B	brown orange	silt clay	5 25S	2nd growth	logging		marble	volc., limestone		9N	674527	5520335	238	sample 5 m. southeast of limestone outcrop
E5124088	22-Nov-15	J. Houle	Head Bay	412	0.15 B	brown orange	silt clay pebbles	0 20S	2nd growth	logging			zinc skarn	volcanic	9N	674523	5520297	227	sample 10 m. south of Menace showing
E5124089	22-Nov-15	J. Houle	Head Bay	411	0.25 B	brown orange	silt clay	0 20S	2nd growth	logging		marble	marble, Mt.bx		9N	674481	5520267	233	0.02 m rounded float of Mt. Breccia at sample site
E5124090	2																		



**Soil Sample Locations for Head Bay Project**

Sample #	Date	Sampler	Property	Location	Sample Depth (m)	Soil Horizon	Soil Colour	Particle Size	% Organics	Gradient (degrees)	Ground Cover	Cultural Impacts	Bedrock Litho	Float Litho	UTM Zone	Easting	Northing	Elevation	Remarks
E5124194	18-Nov-15	J. Houle	Head Bay	1513	0.3 B	Brown/Orange	silt, clay	5	15 W	2nd growth	logging		volcanic	9N	674004	5521271	558	soil overlying till	
E5124195	18-Nov-15	J. Houle	Head Bay	1514	0.3 B	Brown/Orange	silt, clay	5	15 W	2nd growth	logging		volcanic	9N	674061	5521326	587		
E5124196	18-Nov-15	J. Houle	Head Bay	1515	0.15 B	Brown/Orange	silt, clay	5	15 SW	2nd growth	logging		volcanic	9N	674095	5521344	598		
E5124197	18-Nov-15	J. Houle	Head Bay	1516	0.2 B	Brown/Orange	silt, clay	5	30 SE	2nd growth	logging		volc. limestone	9N	674148	5521349	613	sample along north bank of small creek	
E5124198	18-Nov-15	J. Houle	Head Bay	1517	0.1 B	Brown/Orange	silt, clay	5	10 SW	2nd growth	logging		silt, volc. list	9N	674174	5521379	625	sample along north bank of very small creek	
E5124199	18-Nov-15	J. Houle	Head Bay	1518	0.05 B	Brown/Orange	silt, clay, pebbles	5	10 S	2nd growth	logging		limestone	9N	674237	5521396	643	possible karst topography	
E5124200	18-Nov-15	J. Houle	Head Bay	1519	0.1 B	Brown/Orange	silt, clay, pebbles	5	5 SW	2nd growth	logging		limestone, volc.	9N	674270	5521426	651	karst topography	
E5124201	18-Nov-15	J. Houle	Head Bay	1520	0.05 B/C	Brown/Orange	silt, clay, pebbles	5	0	2nd growth	logging		volc. limestone	9N	674315	5521454	659	northeast side of old road	
E5124202	19-Nov-15	J. Houle	Head Bay	1206	0.1 B	brown	silt clay pebbles	5	20 SW	2nd growth	logging		volcanic	9N	673860	5520857	403		
E5124203	19-Nov-15	J. Houle	Head Bay	1207	0.35 B	brown orange	silt clay pebbles	5	20 S	2nd growth	logging, road		volcanic	9N	673909	5520885	415	from NE side of old road	
E5124204	19-Nov-15	J. Houle	Head Bay	1208	0.1 B	brown orange	silt clay pebbles	5	20 SW	2nd growth	logging		volcanic	9N	673944	5520897	433		
E5124205	19-Nov-15	J. Houle	Head Bay	1209	0.1 B	brown orange	silt clay pebbles	5	25 SW	2nd growth	logging		volcanic	9N	673988	5520925	456		
E5124206	19-Nov-15	J. Houle	Head Bay	1210	0.25 B	brown orange	silt clay	5	20 SW	2nd growth	logging		felsic intr./volc.?	9N	674037	5520933	476		
E5124207	19-Nov-15	J. Houle	Head Bay	1211	0.15 B	brown yellow	silt clay pebbles	5	20 S	2nd growth	logging		volcanic	9N	674078	5520965	497		
E5124208	19-Nov-15	J. Houle	Head Bay	1212	0.2 B	brown orange	silt clay pebbles	5	10 S	2nd growth	logging		volcanic	9N	674128	5520992	514		
E5124209	19-Nov-15	J. Houle	Head Bay	1213	0.3 B	brown orange	silt clay	5	10 SW	2nd growth	logging		volc. limestone	9N	674155	5521017	525		
E5124360	21-Nov-15	R Bilquist	Head Bay	607	0.35 B	orange red	clay silt pebbles	1	50 S	2nd growth	logging		volcanic	9N	674201	5520346	295	east bank of large creek; dangerous entry; outcrop in creek	
E5124361	21-Nov-15	R Bilquist	Head Bay	608	0.2 B	orange red	silt clay pebbles	1	18 S	2nd growth	logging			9N	674248	5520375	294	outcrop in creek 10 mts west	
E5124362	21-Nov-15	R Bilquist	Head Bay	609	0.15 B	orange brown	silt clay	2	16 SW	2nd growth	logging			9N	674286	5520403	303		
E5124363	21-Nov-15	R Bilquist	Head Bay	610	0.1 B	orange red	silt pebbles	0	20 S	2nd growth	logging		volcanic	9N	674332	5520427	307		
E5124364	21-Nov-15	R Bilquist	Head Bay	611	0.15 B	orange	silt, pebbles	0	20 SE	2nd growth	logging		volcanic	9N	674377	5520452	318	outcrop 15 mts towards 610	
E5124365	21-Nov-15	R Bilquist	Head Bay	612	0.1 B	orange brown	silt pebbles	2	28 SE	2nd growth	logging		limest, volc	9N	674418	5520473	323	large out crop above sample site	
E5124366	21-Nov-15	R Bilquist	Head Bay	613	0.15 B	orange red	silt clay pebbles	2	20 SE	2nd growth	logging		limestone	9N	674461	5520495	321	outcrops above sample site	
E5124367	21-Nov-15	R Bilquist	Head Bay	614	0.2 B/C	brown orange	silt clay pebbles	1	10 25 S	2nd growth	logging		limest, volc	9N	674512	5520507	319	outcrops above, large breccia boulder 3m below	
E5124368	21-Nov-15	R Bilquist	Head Bay	615	0.2 B	orange red	silt clay pebbles	2	30 SE	2nd growth	logging		limestone	9N	674544	5520546	329	limestone outcrops	
E5124369	21-Nov-15	R Bilquist	Head Bay	616	0.25 B	orange brown	silt pebbles	0	50 S	2nd growth	logging		volc?	9N	674590	5520584	338	sample from top side road cut	
E5124370	21-Nov-15	R Bilquist	Head Bay	617	0.15 B	orange	silt, pebbles	1	35 SE	2nd growth	logging		limest, volc	9N	674633	5520608	336	sample from top side road cut	
E5124371	21-Nov-15	R Bilquist	Head Bay	618	0.05 B/C	orange yellow	silt pebbles	15	18 E	2nd growth	logging		volcanic	9N	674676	5520634	341	above road cut	
E5124372	21-Nov-15	R Bilquist	Head Bay	619	0.05 B	orange yellow	silt clay pebbles	0	28 SE	2nd growth	logging		volcanic	9N	674725	5520655	330		
E5124373	21-Nov-15	R Bilquist	Head Bay	519	0.05 B	orange	silt clay	5	16 S	2nd growth	logging			9N	674774	5520555	290		
E5124374	21-Nov-15	R Bilquist	Head Bay	518	0.2 B	orange brown	silt pebbles	2	38 SE	2nd growth	logging		volc	9N	674737	5520539	283	top side road cut	
E5124375	22-Nov-15	R Bilquist	Head Bay	517	0.1 B/A	brown orange	silt clay	10	18 SE	2nd growth	logging			9N	674680	5520502	269		
E5124376	22-Nov-15	R Bilquist	Head Bay	516	0.15 B	orange red	silt clay	5	18 SE	2nd growth	logging		limestone	9N	674646	5520498	274	outcrops below 15 mts west of station	
E5124377	22-Nov-15	R Bilquist	Head Bay	515	0.05 B	orange	silt pebbles	1	20 SE	2nd growth	logging			9N	674603	5520466	280	outcrops below station	
E5124378	22-Nov-15	R Bilquist	Head Bay	514	0.2 B	orange brown	silt clay pebbles	1	20 S	2nd growth	logging		limestone	9N	674556	5520433	272	below road	
E5124379	22-Nov-15	R Bilquist	Head Bay	513	0.35 B	orange red	silt clay pebbles	0	15 SE	2nd growth	logging			9N	674526	5520411	271		
E5124380	22-Nov-15	R Bilquist	Head Bay	512	0.25 B	orange red	silt pebbles	2	25 SE	2nd growth	logging		limestone volc	9N	674471	5520393	268	from top side road bank	
E5124381	22-Nov-15	R Bilquist	Head Bay	511	0.05 B	orange	silt pebbles	0	20 SE	2nd growth	logging			9N	674417	5520364	273	o/c's above line from 511 to 512	
E5124382	22-Nov-15	R Bilquist	Head Bay	510	0.1 B	orange brown	silt clay	1	28 SE	2nd growth	logging		limestone	9N	674381	5520338	267	outcrops at, and above line	
E5124383	22-Nov-15	R Bilquist	Head Bay	509	0.25 B/C	red brown	silt clay pebbles	2	25 SE	2nd growth	logging		limestone volc	9N	674337	5520312	272	outcrop below line to east of station	
E5124384	22-Nov-15	R Bilquist	Head Bay	508	0.15 B	orange red	silt clay pebbles	0	20 S	2nd growth	logging			9N	674300	5520290	267	outcrops alone line from 509	
E5124385	22-Nov-15	R Bilquist	Head Bay	507	0.15 B	orange brown	silt clay pebbles	0	32 S	2nd growth	logging			9N	674247	5520258	265	east bank large creek	
E5124386	22-Nov-15	R Bilquist	Head Bay	407	0.3 B	orange	silt pebbles	0	25 S	2nd growth	logging		volcanic	9N	674296	5520183	229		
E5124387	22-Nov-15	R Bilquist	Head Bay	406	0.2 B	orange red	silt pebbles	2	15 E	2nd growth	logging			9N	674259	5520152	232		
E5124388	22-Nov-15	R Bilquist	Head Bay	306	0.15 B	orange red	silt pebbles	2	28 E	2nd growth	logging			9N	674314	5520072	218		
E5124389	22-Nov-15	R Bilquist	Head Bay	307	0.2 B	orange red	silt pebbles	2	24 E	2nd growth	logging			9N	674359	5520082	213		
E5124390	22-Nov-15	R Bilquist	Head Bay	308	0.35 B	orange	silt clay pebbles	1	10 NE	2nd growth	logging			9N	674390	5520125	216	just west of large stream	
E5124391	22-Nov-15	R Bilquist	Head Bay	209	0.3 B	orange yellow	silt clay	2	02 E	2nd growth	logging			9N	674497	5520047	214		
E5124392	22-Nov-15	R Bilquist	Head Bay	208	0.05 B	orange red	silt clay pebbles	4	25 SW	2nd growth	logging			9N	674430	5520027	215		
E5124393	22-Nov-15	R Bilquist	Head Bay	207	0.2 B	orange yellow	silt clay	2	04 E	2nd growth	logging			9N	674391	5519986	213		
E5124394	22-Nov-15	R Bilquist	Head Bay	206	0.05 B	orange red	silt clay pebbles	1	10 E	2nd growth	logging			9N	674332	5519980	214		
E5124395	23-Nov-15	R Bilquist	Head Bay	219	0.2 B/C	orange grey	clay silt pebbles	2	20 NE	2nd growth	logging			9N	674915	5520310	246		
E5124396	23-Nov-15	R Bilquist	Head Bay	218	0.2 B	orange	silt clay	0	10 NE	2nd growth	logging			9N	674884	5520273	256		
E5124397	23-Nov-15	R Bilquist	Head Bay	217	0.05 B	orange	silt clay	5	04 SW	2nd growth	logging			9N	674839	5520258	255	granitic outcrop proximal	
E5124398	23-Nov-15	R Bilquist	Head Bay	216	0.1 B/C	orange grey	clay silt	0	10 W	2nd growth	logging		volcanic	9N	674784	5520223	250	outcrop, volcanic w/epidote	
E5124399	23-Nov-15	R Bilquist	Head Bay	214	0.15 B	orange	clay silt	0	10 NW	2nd growth	logging		volcanic	9N	674749	5520193	246		
E5124400	23-Nov-15	R Bilquist	Head Bay	213	0.25 B	orange brown	clay silt	1	15 SW	2nd growth	logging		volc. limestn gran	9N	674704	5520180	238		
E5124401	23-Nov-15	R Bilquist	Head Bay	212	0.1 B/C	orange brown	silt clay	0	10 W	2nd growth	logging		volcanic	9N	674668	5520157	226	ribbon from old grid station	
E5124402	23-Nov-15	R Bilquist	Head Bay	211	0.1 B	orange	clay silt	0	14 SW	2nd growth	logging		granitic	9N	674631	5520128	214	granitic outcrop; foliation about 342 degrees	
E5124403	23-Nov-15	R Bilquist	Head Bay	210	0.3 B	orange brown	silt clay	0	04 SW	2nd growth	logging			9N	674578	5520110	209		
E5124404	23-Nov-15	R Bilquist	Head Bay	209	0.1 B	orange	silt clay pebbles	1	10 W	2nd growth	logging			9N	674534	5520083	209		
E5124537	19-Nov-15	J. Houle	Head Bay	1214	0.15 B	brown	silt clay pebbles	0	20 SW	2nd growth	logging		volcanic	9N	674193	5521041	548		
E5124538	19-Nov-15	J. Houle	Head Bay	1215	0.1 B	brown orange	silt clay	0	5 S	2nd growth	logging		volcanic	9N	674235	5521070	578	karst topography	
E5124539	19-Nov-15	J. Houle	Head Bay	1216	0.05 B	brown yellow	silt clay	0	5 SE	old growth	logging		limestone	9N	674289	5521103	589	karst topography	
E5124540	19-Nov-15	J. Houle	Head Bay	1217	0.1 B	brown yellow	silt clay	0	25 SW	old growth	logging		limestone	9N	674333	5521120	593		
E5124541	19-Nov-15	J. Houle	Head Bay	1218	0.2 B	brown orange	silt clay pebbles	0	12 ESE	old growth	logging		volcanic w/ Py	9N	674375	5521136	599	rusty volcanic float (pyrite) in a fallen tree root	
E5124542	19-Nov-15	J. Houle	Head Bay	1219	0.25 B	brown orange	silt clay pebbles	5	40 SW	old growth	logging		volcanic	9N	674418	5521161	589	from crest of NE bank of creek	
E5124543	19-Nov-15	J. Houle	Head Bay	1220	0.15 B	brown yellow	silt clay	0	10 SE	old growth	logging			9N	674460	5521185	587		
E5124544	19-Nov-15	J. Houle	Head Bay	1120	0.3 B	brown yellow	silt clay	0	20 SE	old growth	logging		volcanic	9N	674513	5521115	560	from crest of NW bank of small creek	
E5124545	19-Nov-15	J. Houle	Head Bay	1119	0.2 B	brown yellow	silt clay pebbles	0	25 E	old growth	logging		volcanic	9N	674474	5521073	560		
E5124546	19-Nov-15	J. Houle	Head Bay	1118	0.05 B	brown yellow	silt clay pebbles	0	20 SE	old growth	logging		volcanic	9N	674423	5521062	565	from crest of W bank of creek	
E5124547	20-Nov-15	J. Houle	Head Bay	1107	0.2 B	brown orange	silt clay pebbles	0	10 S	2nd growth	logging, road		volcanic	9N	673956	5520784	398	sample 50 m. downhill from logging road	
E5124548	20-Nov-15	J. Houle	Head Bay	1108	0.35 B	brown orange	silt clay pebbles	5	12S	2nd growth	logging		volcanic	9N	673981	5520804	410		
E5124549	20-Nov-15	J. Houle	Head Bay	1109	0.2 B	brown orange	silt clay	0	15S	2nd growth	logging		volcanic	9N	674034	5520834	424		
E5124550	20-Nov-15	J. Houle	Head Bay	1110	0.2 B	brown orange	silt clay	0	25S	2nd growth	logging		volcanic	9N	674079	5520844	447		

**Soil Sample Locations for Head Bay Project**

Sample #	Date	Sampler	Property	Location	Sample Depth (m)	Soil Horizon	Soil Colour	Particle Size	% Organics	Gradient (degrees)	Ground Cover	Cultural Impacts	Bedrock Litho	Float Litho	UTM Zone	Easting	Northing	Elevation	Remarks
E5125243	20-Nov-15	R Bilquist	Head Bay	1011	0.3	B	orange	clay silt	2	32 SE	2nd growth	logging			9N	674171	5520784	450	
E5125244	20-Nov-15	R Bilquist	Head Bay	1012	0.15	A/B	brown orange	silt clay	10	22 SW	2nd growth	logging		limestone	9N	674218	5520819	467	large limestone boulders between 1012 and 1011
E5125245	20-Nov-15	R Bilquist	Head Bay	1013	0.15	B	orange	silt clay	2	15 S	2nd growth	logging		limestone, volc.	9N	674261	5520844	488	
E5125246	20-Nov-15	R Bilquist	Head Bay	1014	0.05	B	orange red	silt clay	2	22 SW	2nd growth	logging	volcanic	volc. limestone	9N	674301	5520873	511	
E5125247	20-Nov-15	R Bilquist	Head Bay	1015	0.1	B	orange	silt	2	25 S	2nd growth	logging			9N	674349	5520901	527	
E5125248	20-Nov-15	R Bilquist	Head Bay	1016	0.4	B/C	orange red	silt clay pebbles	5	26 SE	2nd growth	logging			9N	674399	5520918	527	
E5125249	20-Nov-15	R Bilquist	Head Bay	917	0.1	B	orange yellow	clay silt pebbles	1	50 E	2nd growth	logging		volcanic	9N	674483	5520860	476	
E5125250	20-Nov-15	R Bilquist	Head Bay	916	0.05	B	orange	clay silt pebbles	1	30 E	2nd growth	logging	volcanic	volcanic	9N	674444	5520831	497	
E5125251	20-Nov-15	R Bilquist	Head Bay	915	0.15	B	orange red	silt clay	2	25 SE	2nd growth	logging		volc. limestone	9N	674407	5520806	502	float is possible rubble from road construction
E5125252	20-Nov-15	R Bilquist	Head Bay	914	0.1	B	orange	silt clay	2	38 S	2nd growth	logging			9N	674347	5520781	490	large out crop from just past 914 almost to 915
E5125253	20-Nov-15	R Bilquist	Head Bay	913	0.1	B	orange	silt clay	1	24 S	2nd growth	logging		volcanic	9N	674312	5520759	476	
E5125254	20-Nov-15	R Bilquist	Head Bay	912	0.2	B	orange brown	silt clay pebbles	2	32 S	2nd growth	logging		volcanic	9N	674274	5520731	453	
E5125255	20-Nov-15	R Bilquist	Head Bay	911	0.25	B	orange brown	silt pebbles	2	18 SW	2nd growth	logging		volcanic	9N	674233	5520712	431	
E5125256	20-Nov-15	R Bilquist	Head Bay	910	0.2	B	orange	silt clay	1	20 S	2nd growth	logging		volcanic	9N	674179	5520685	406	
E5125257	20-Nov-15	R Bilquist	Head Bay	909	0.25	B	orange red	silt clay pebbles	1		2nd growth	logging			9N	674129	5520670	390	
E5125258	21-Nov-15	R Bilquist	Head Bay	908	0.35	B	orange brown	clay silt	2	12 SE	2nd growth	logging			9N	674102	5520630	361	
E5125259	21-Nov-15	R Bilquist	Head Bay	907	0.2	B	orange	silt clay	2	34 S	2nd growth	logging			9N	674058	5520608	361	

Soil Sample Geochemistry Highlights for Head Bay Project																
Sample #	Easting	Northing	Elevation	Au (ppm)	Ag (ppm)	As (ppm)	Bi (ppm)	Cd (ppm)	Co (ppm)	Cu (ppm)	Mo (ppm)	Pb (ppm)	Sb (ppm)	Te (ppm)	Zn (ppm)	
E5124026	673753	5521017	416	0.013	0.25	48.6	0.08	0.11	13.6	39.7	1.36	5.8	1.37	0.38	68.7	
E5124027	673839	5521061	463	0.003	0.21	2.8	0.05	0.08	7.39	19.6	1.05	4	0.39	0.08	44.9	
E5124028	673885	5521090	479	0.003	0.33	11.5	0.13	0.16	3.95	10.5	1.6	6.2	0.65	0.16	34.6	
E5124029	673928	5521119	498	0.003	0.34	12.8	0.17	0.08	2.86	6.7	1.23	7.9	0.79	0.13	20.2	
E5124030	673974	5521147	509	0.004	0.27	30.1	0.17	0.07	3.27	9	1.59	7.2	1.29	0.11	27.5	
E5124031	674013	5521168	534	0.007	0.21	21.9	0.2	0.02	2.66	8.7	1.88	9	0.96	0.07	24	
E5124032	674060	5521185	559	0.14	0.41	582	0.19	0.3	24.4	54	2	10.6	1.84	0.14	93.6	
E5124033	674111	5521222	577	0.005	0.23	62.4	0.12	0.06	12.8	18.5	2.53	6.2	1.03	0.08	82.3	
E5124034	674151	5521253	594	0.006	0.23	103	0.11	0.12	6.11	20.8	3.45	4.7	1.2	0.1	46.5	
E5124035	674195	5521275	614	0.005	0.36	71.8	0.1	0.27	8.2	12.7	5.25	6.4	1.51	0.08	46.1	
E5124036	674223	5521303	629	0.007	0.25	83.9	0.09	0.72	21.3	31.3	2.19	6.4	1.68	0.18	78.5	
E5124037	674279	5521332	638	0.003	0.17	54.1	0.13	0.26	6.84	18.4	2.76	6	2.74	0.13	57.8	
E5124038	674332	5521347	635	0.002	0.16	21.7	0.06	0.04	12.7	28.3	1.21	2.9	1.04	0.03	23.7	
E5124039	674370	5521371	631	0.006	0.21	61.9	0.07	0.09	24.1	43.4	1.43	5.2	1.61	0.03	60.4	
E5124040	673850	5520959	401	0.002	0.27	20.1	0.17	0.04	5.53	15.5	1.48	7.6	0.89	0.05	43.8	
E5124041	673896	5520982	436	0.003	0.23	22.1	0.13	0.15	5.46	13.3	1.38	8.2	0.83	0.03	48.3	
E5124042	673935	5521004	464	0.006	0.34	10.9	0.15	0.14	3.46	9	1.69	7.9	0.68	0.04	38.5	
E5124043	673976	5521030	491	0.003	0.27	16.6	0.15	0.12	5.66	11.6	2.34	8.5	0.75	0.03	46.9	
E5124044	674019	5521055	512	0.004	0.31	45.8	0.14	0.05	5.68	15	1.77	7.7	1.24	0.07	38.9	
E5124045	674068	5521076	527	0.01	0.23	52.6	0.12	0.14	8.6	19.8	2.21	6.1	0.89	0.05	56.6	
E5124046	674104	5521111	546	0.007	1.54	38	0.11	0.14	11.7	25.2	1.41	7.2	1.05	0.04	73.5	
E5124047	674160	5521134	562	0.005	0.39	45.9	0.11	0.1	8.89	17	1.49	6.8	1.09	0.02	50.5	
E5124048	674187	5521146	577	0.001	0.2	9.1	0.13	0.13	17.2	16.4	1.62	8	0.47	0.02	34.9	
E5124049	674246	5521185	600	0.005	0.34	60.7	0.1	0.13	9.92	27.4	9.81	6.6	2.26	0.04	48.3	
E5124050	674283	5521196	603	0.008	0.29	45.3	0.08	0.08	4.09	10.6	1.39	5.3	1.3	0.04	27.1	
E5124051	674318	5521231	617	0.005	0.41	78.4	0.13	0.04	7.42	17.3	1.55	4.5	1.39	0.01	30.9	
E5124052	674380	5521259	615	0.003	0.23	32.3	0.11	0.05	8.34	17.8	1.18	2.6	0.89	0.01	23.6	
E5124053	674410	5521266	609	0.001	0.33	33.1	0.06	0.04	54.5	87.5	1.24	2.6	3.24	<0.01	60	
E5124054	674507	5521006	511	0.003	0.2	16.3	0.08	0.03	9.85	16.8	1.73	2.8	0.77	0.01	18.9	
E5124055	674468	5520975	508	0.007	0.4	50.1	0.06	0.17	17.9	38.4	4.99	7.8	3.09	<0.01	39.8	
E5124056	674435	5520947	513	0.007	0.26	82.2	4.07	0.06	9.33	47.5	8.21	8.4	3.12	0.25	43.5	
E5124057	673993	5520698	385	0.002	0.64	20	0.19	0.04	3.57	9.8	1.49	6.6	0.93	0.05	28	
E5124058	674050	5520728	394	0.004	0.36	36.2	0.13	0.11	7.32	17.1	1.94	4.9	1.05	0.03	39.3	
E5124059	674084	5520746	411	0.028	0.23	67.3	0.12	0.25	13.3	22.7	2.06	7.5	1.16	0.01	60.7	
E5124060	674492	5520740	444	0.006	0.18	85	0.09	0.11	24.4	63.9	2.53	5.5	1.34	0.03	101	
E5124061	674452	5520722	441	0.018	0.17	36.1	0.16	0.37	8.86	11.3	9.29	7.7	0.75	0.32	114	
E5124062	674410	5520691	431	0.002	0.26	28	0.18	0.19	16.1	27.6	4.32	8.1	0.98	2.89	92.5	
E5124063	674365	5520675	433	<0.001	0.2	21.1	0.13	0.07	6.25	17	1.99	6.7	0.87	0.92	30.6	
E5124064	674331	5520649	420	0.006	0.21	45.7	0.19	0.04	5.21	10.8	2.1	5.7	1.24	0.44	22.2	
E5124065	674280	5520630	390	0.002	0.25	9	0.42	0.05	3.45	8.7	4.32	9.4	0.81	0.42	34.9	
E5124066	674224	5520587	360	0.002	0.18	28.4	0.22	0.09	4.84	10.7	1.94	6.1	0.74	0.26	24.6	
E5124067	674190	5520576	352	0.004	0.19	57.9	0.12	0.1	10.1	24.3	1.66	8.3	1.08	0.19	59	
E5124068	674146	5520536	358	0.003	0.2	29.8	0.18	0.03	4.81	9.6	1.76	7	1.02	0.08	24.3	
E5124069	674102	5520535	357	0.004	0.2	32.5	0.08	0.09	6.7	20.4	1.3	4.7	0.92	0.07	41.3	
E5124070	674147	5520452	331	0.006	0.21	81.8	0.08	0.11	12.4	21	2.04	4.8	1.41	0.08	61	
E5124071	674192	5520468	336	0.01	0.32	53.4	0.12	0.07	5.73	11.5	1.88	5.6	1.03	0.05	36.2	
E5124072	674244	5520477	341	0.006	0.63	214	0.22	0.25	7.58	16.4	6.11	9.2	0.87	0.14	93.4	
E5124073	674289	5520512	347	0.011	0.38	334	0.22	0.43	10.9	29.2	4.83	20.2	0.9	0.23	283	

Soil Sample Geochemistry Highlights for Head Bay Project																
Sample #	Easting	Northing	Elevation	Au (ppm)	Ag (ppm)	As (ppm)	Bi (ppm)	Cd (ppm)	Co (ppm)	Cu (ppm)	Mo (ppm)	Pb (ppm)	Sb (ppm)	Te (ppm)	Zn (ppm)	
E5124074	674316	5520541	356	0.002	0.19	18.1	0.13	0.26	23.1	17.8	2.16	6.3	0.51	0.11	113	
E5124075	674376	5520554	360	0.002	0.19	22.5	0.27	0.13	5.96	8.9	4.58	20.6	0.99	0.37	51.5	
E5124076	674450	5520615	383	0.002	0.15	48.6	0.12	0.09	8.43	17.8	3.02	6	0.97	0.14	52.2	
E5124077	674496	5520639	376	0.004	0.16	104	0.27	0.24	10.2	24	5.27	55.8	1.01	0.55	117	
E5124078	674546	5520660	374	0.005	0.2	384	0.15	0.21	11.8	31.5	4.36	15	0.92	0.26	98.8	
E5124079	674586	5520696	381	0.006	0.17	96.6	0.14	0.08	6.66	16.7	3.44	5.7	1.27	0.07	40.9	
E5124080	674609	5520723	374	0.001	0.15	61.6	0.16	0.11	3.08	25.6	2.54	5	0.64	0.09	30.4	
E5124081	674830	5520476	266	0.005	0.13	36.3	0.14	0.09	7.9	27.6	2.16	5.7	0.84	0.05	37.9	
E5124082	674768	5520454	262	0.003	0.17	24.8	0.11	0.07	7.15	21	2.19	5.2	0.65	0.06	37.7	
E5124083	674738	5520425	257	0.011	0.24	79.5	0.13	0.15	10.5	16.2	4.2	6.6	0.84	0.08	54.1	
E5124084	674709	5520408	239	0.002	0.23	23.5	0.14	0.08	6.81	15.4	2.71	5.8	0.73	0.08	32.3	
E5124085	674649	5520382	236	0.004	0.3	191	0.87	0.07	5.43	11	5.97	6.3	1.39	0.39	25.6	
E5124086	674609	5520346	234	0.004	0.24	193	0.7	0.23	9.04	25.8	4.29	8.7	0.98	0.5	83.7	
E5124087	674527	5520335	238	0.003	0.25	37	0.36	0.19	6.02	9	4.52	10.9	0.73	0.15	78.3	
E5124088	674523	5520297	227	0.005	0.3	277	0.39	0.17	3.98	9.3	2.17	17.1	0.58	0.22	62.5	
E5124089	674481	5520267	233	0.005	5.41	316	1.82	0.46	25.5	43	4.82	89.6	4.18	0.63	122	
E5124090	674429	5520250	230	0.037	0.77	655	0.61	0.22	16	37.3	4.1	11.4	1.23	0.53	100	
E5124091	674379	5520215	230	0.003	0.38	150	0.3	0.11	13	26.8	4.55	8.6	0.79	0.26	64	
E5124092	674349	5520193	231	0.027	0.35	276	0.24	0.19	6.08	18.8	2.9	7.4	0.82	0.17	56.3	
E5124093	674431	5520160	214	0.006	0.3	43.2	0.15	0.06	6.55	7.7	1.92	7.7	0.96	0.03	32.2	
E5124094	674493	5520197	210	0.012	0.32	46.4	0.1	0.13	6.04	11.5	1.96	5.7	0.77	0.03	31.8	
E5124095	674523	5520181	210	0.008	0.32	155	0.18	0.23	8.54	20.8	4.96	7.7	0.78	0.09	61.4	
E5124096	674564	5520219	227	0.002	0.22	18.3	1.24	0.08	6.88	14.2	1.65	6	0.69	0.23	40.8	
E5124097	674614	5520239	230	0.002	0.23	10.5	0.21	0.06	3.62	6.1	2.34	5.5	0.74	0.24	24.7	
E5124098	674932	5520282	243	0.005	0.29	19.7	0.41	0.07	5.54	12.9	1.44	6.5	1.05	0.18	24.4	
E5124099	674858	5520376	242	0.001	0.21	18	0.16	0.04	3.59	8.7	1.85	4.9	0.74	0.06	11.2	
E5124100	674815	5520348	238	0.002	0.22	14.7	0.26	0.04	7.31	8.5	6.31	9.8	0.69	2.81	26.1	
E5124101	674784	5520333	235	0.017	0.23	12.8	0.13	0.06	7.58	10.8	3.92	5.9	0.63	1.15	43.3	
E5124102	674746	5520315	233	0.006	0.26	15.6	0.15	0.04	5.37	10.3	2.24	5.8	0.85	0.59	23.9	
E5124103	674691	5520274	228	0.004	0.29	17.8	0.13	0.06	8.16	13.8	3.27	6.9	0.54	0.39	42.9	
E5124104	674659	5520273	225	0.003	0.2	16	0.42	0.06	4	7.6	4.33	6.3	0.93	0.36	14.7	
E5124188	673734	5521106	451	0.003	0.42	27.9	0.14	0.05	5.17	10.6	1.34	7	1	0.15	20	
E5124189	673765	5521148	465	0.009	0.26	19.8	0.17	0.04	4.15	5.7	1.53	6.5	0.96	0.13	22.5	
E5124190	673815	5521150	477	0.003	0.21	21.2	0.14	0.05	6.25	9.6	1.58	7.4	0.92	0.12	34.8	
E5124191	673864	5521195	498	0.004	0.22	7.1	0.12	0.05	6.32	12.4	1.34	6.2	0.55	0.06	31.3	
E5124192	673914	5521227	519	0.002	0.25	6.6	0.11	0.08	5.56	12.8	1.55	6	0.46	0.08	39.8	
E5124193	673964	5521258	539	0.003	0.28	4.7	0.13	0.09	2.02	6.6	1.77	6.8	0.43	0.04	11	
E5124194	674004	5521271	558	0.008	0.31	58.5	0.17	0.11	6.32	16.2	2.27	8.2	0.87	0.09	39.4	
E5124195	674061	5521326	587	0.003	0.26	14.7	0.24	0.04	3.41	7.1	2.22	10.5	0.88	0.05	21.3	
E5124196	674095	5521344	598	0.004	0.19	28.9	0.14	0.05	9.6	16.3	1.49	7.5	0.94	0.03	47.4	
E5124197	674148	5521349	613	0.004	0.28	34.4	0.14	0.11	7.56	11.4	1.54	8.2	0.92	<0.01	41.9	
E5124198	674174	5521379	625	0.004	0.29	151	0.15	0.12	6.13	11.3	2.15	7.3	1.21	0.05	34.2	
E5124199	674237	5521396	643	0.005	0.27	40.8	0.14	0.17	8.66	19.1	2.17	5.2	1.29	0.09	55.4	
E5124200	674270	5521426	651	0.005	0.22	63.1	0.1	0.25	12.5	28.2	2.61	6.9	2.12	0.05	36.1	
E5124201	674315	5521454	659	0.008	0.43	137	0.1	0.1	13.4	27	2.83	5	2.45	0.05	44.3	
E5124202	673860	5520857	403	0.007	0.2	32.5	0.08	0.09	15.5	29.9	0.98	5.4	1.15	0.02	54.1	
E5124203	673909	5520885	415	0.003	0.2	33.7	0.16	0.04	5.48	10.4	1.69	6.6	1.12	0.13	26.8	
E5124204	673944	5520897	433	0.003	0.2	27.6	0.14	0.08	4.63	10.4	2.09	6	0.85	0.04	24.2	

Soil Sample Geochemistry Highlights for Head Bay Project																
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E5124205	673988	5520925	456	0.01	0.22	30.1	0.16	0.14	5.06	11.2	2.48	6.8	0.85	0.05	36.5	
E5124206	674037	5520933	476	0.007	0.16	42.8	0.1	0.08	12.7	39.1	1.64	7.3	0.97	0.02	63.7	
E5124207	674078	5520965	497	0.011	0.13	99.6	0.11	0.07	13.6	34.8	2.07	6	1.78	0.04	76.6	
E5124208	674128	5520992	514	0.005	0.16	41.4	0.11	0.22	6.81	16.9	1.5	4.5	0.89	0.02	44.9	
E5124209	674155	5521017	525	0.012	0.23	46.9	0.1	0.24	9.15	24.6	3.18	5.3	0.99	0.02	54.7	
E5124360	674201	5520346	295	0.006	0.23	73.9	0.16	0.08	4.73	12.3	2.26	6.6	1.14	0.01	29.9	
E5124361	674248	5520375	294	0.005	0.21	109	0.19	0.08	4.14	12.1	1.9	6.2	1.09	0.07	22.7	
E5124362	674286	5520403	303	0.004	0.2	71.5	0.19	0.05	3.76	7.5	2.75	7.3	1.21	0.02	17.7	
E5124363	674332	5520427	307	0.012	0.35	255	0.15	0.31	20.1	29	2.59	13.2	0.81	0.07	109	
E5124364	674377	5520452	318	0.014	0.34	55.5	0.2	0.16	5.86	15.8	2.57	5.2	0.87	0.07	27.3	
E5124365	674418	5520473	323	0.005	0.25	69.5	1.76	0.24	14.8	29.7	2.96	7.8	0.89	1.19	102	
E5124366	674461	5520495	321	0.008	0.29	90.8	0.86	0.41	9.69	15	4.28	16.8	1.12	0.57	109	
E5124367	674512	5520507	319	0.034	0.37	19.8	0.33	0.32	13	11	2.93	19.5	0.55	1.54	106	
E5124368	674544	5520546	329	0.007	0.19	53.6	0.18	0.22	9.14	27.3	3.35	8	0.68	0.92	59.3	
E5124369	674590	5520584	338	0.004	0.19	305	0.13	0.18	16.4	32.5	4.28	5.7	0.8	0.58	89.8	
E5124370	674633	5520608	336	0.004	0.18	249	0.18	0.18	21.3	31.1	5.21	7.7	0.82	0.14	112	
E5124371	674676	5520634	341	0.537	0.19	569	0.38	0.12	27.5	16.3	5.54	11.6	1.95	0.09	155	
E5124372	674725	5520655	330	0.002	0.17	50.9	0.41	0.1	16	32.3	2.65	6.5	0.94	0.06	46	
E5124373	674774	5520555	290	0.002	0.34	241	0.12	0.19	7.86	25.6	2.77	5.5	0.75	0.04	46.4	
E5124374	674737	5520539	283	0.003	0.27	54.7	0.74	0.13	12.9	29.9	3.99	13.3	0.98	0.08	73	
E5124375	674690	5520502	269	0.008	0.27	214	2.38	0.27	11	15	4.54	35.8	2.8	0.13	93.9	
E5124376	674646	5520488	274	0.002	0.34	338	9.36	0.27	8.97	20.1	3.88	25	1.84	4.25	54.1	
E5124377	674603	5520466	280	0.01	0.2	197	0.6	0.15	13.6	32	3.03	8.5	0.88	1.17	61.2	
E5124378	674556	5520433	272	0.002	0.19	50.8	2.91	0.05	4.89	13.1	2.21	6	0.79	0.98	48.2	
E5124379	674526	5520411	271	0.033	0.27	175	1.27	0.85	24	43.9	3.02	16.2	1.04	0.78	123	
E5124380	674471	5520393	268	0.03	0.19	241	0.58	0.3	16.5	30.9	2.54	6.8	0.63	0.57	94.6	
E5124381	674417	5520364	273	0.007	0.22	50.2	0.38	0.1	9.02	18.7	1.71	5.3	0.55	0.32	33.3	
E5124382	674381	5520338	267	0.001	0.22	66	0.37	0.06	12.8	4.6	1.91	5.1	1.04	0.59	38.2	
E5124383	674337	5520312	272	0.005	0.31	506	0.26	0.33	18.1	38.8	2.73	6.2	0.88	0.36	113	
E5124384	674300	5520290	267	0.004	0.24	299	0.2	0.31	5.47	14.5	3.99	10.8	0.98	0.19	96.2	
E5124385	674247	5520258	265	0.005	0.18	106	0.13	0.12	8.73	27	2.29	6.4	0.92	0.11	49.8	
E5124386	674296	5520183	229	0.037	0.18	71.3	0.08	0.14	11.9	23.1	1.56	4.7	0.64	0.08	43.7	
E5124387	674259	5520152	232	0.02	0.15	62.4	0.09	0.06	10	24.1	2.35	6.4	1.09	0.06	56.2	
E5124388	674314	5520072	218	0.005	0.21	69.1	0.14	0.1	6.21	12.4	1.76	5.8	0.84	0.04	23.5	
E5124389	674359	5520082	213	0.003	0.3	42.7	0.15	0.04	6.48	10	1.7	5.6	0.86	0.02	25.3	
E5124390	674390	5520125	216	0.005	0.14	62.9	0.09	0.05	9.01	20.5	1.59	6.5	0.99	0.04	55	
E5124391	674497	5520047	214	0.01	0.14	47.3	0.1	0.09	7.44	12.5	2.05	5.8	1.25	0.14	38.3	
E5124392	674430	5520027	215	0.009	0.18	60.9	0.08	0.07	8.15	14.7	3.16	5.2	0.72	0.11	49.9	
E5124393	674391	5519996	213	0.004	0.24	52	0.14	0.08	6.9	10.1	1.98	6.2	0.84	0.03	28.3	
E5124394	674332	5519980	214	0.005	0.37	72.2	0.09	0.11	8.24	27	1.27	5.3	0.91	0.02	45.8	
E5124395	674915	5520310	246	0.007	0.22	8	0.4	0.05	15.1	14.8	0.84	6.9	1.05	0.03	48.7	
E5124396	674884	5520273	256	0.01	0.19	20.5	0.15	0.07	6.85	16	1.5	5.2	0.63	0.04	34	
E5124397	674839	5520258	255	0.009	0.15	5	0.26	0.03	4.34	4.7	0.7	5.8	1.65	0.05	14.2	
E5124398	674784	5520223	250	0.002	0.14	11.5	0.14	0.04	9.29	5.6	3.26	5.4	0.56	0.02	54	
E5124399	674749	5520193	246	0.006	0.18	25.2	0.27	0.07	8.73	12.7	6.33	6.7	0.66	0.52	48.4	
E5124400	674704	5520180	238	0.002	0.2	21.9	0.74	0.19	32.9	15.6	4.28	10.9	0.75	0.37	115	
E5124401	674668	5520157	226	0.004	0.19	15.6	0.71	0.05	7.26	7.7	4.39	14.3	1.07	0.21	43.6	
E5124402	674631	5520128	214	0.004	0.17	92.5	0.28	0.03	3.77	6.8	2.58	5.3	0.57	0.14	19.4	

Soil Sample Geochemistry Highlights for Head Bay Project																
Sample #	Easting	Northing	Elevation	Au (ppm)	Ag (ppm)	As (ppm)	Bi (ppm)	Cd (ppm)	Co (ppm)	Cu (ppm)	Mo (ppm)	Pb (ppm)	Sb (ppm)	Te (ppm)	Zn (ppm)	
E5124403	674578	5520110	209	0.011	0.19	24.8	0.18	<0.02	1.36	3.9	1.13	3.7	1.09	0.1	16.9	
E5124404	674534	5520083	209	0.005	0.28	37.8	0.17	0.08	7.13	18.1	2.4	5	0.85	0.21	45	
E5124537	674193	5521041	548	0.003	0.24	38.9	0.1	0.34	10.8	22.8	9.65	5.9	2.05	0.13	63.7	
E5124538	674235	5521070	578	0.006	0.17	71.5	0.12	0.68	11	29.2	45.3	7.8	3.1	0.28	93.7	
E5124539	674289	5521103	589	0.002	0.19	62	0.12	0.41	13.1	34.3	4.22	6.7	3.12	0.21	66.7	
E5124540	674333	5521120	593	0.003	0.22	32.7	0.09	0.42	18	14.3	4.63	9.5	2.33	0.12	97.3	
E5124541	674375	5521136	599	0.006	0.2	33.8	0.16	0.08	13.1	20.3	1.64	5.2	1.26	0.05	36.3	
E5124542	674418	5521161	589	0.023	0.25	56.4	0.1	0.05	7.67	45.3	1.7	5	2.13	0.05	38.4	
E5124543	674460	5521185	587	0.004	0.66	32.2	0.17	0.08	8.43	26.7	2.77	7.4	1.21	0.05	66.6	
E5124544	674513	5521115	560	0.003	0.7	20.6	0.1	0.15	17.8	51.7	2.92	7.2	1.04	0.03	76.9	
E5124545	674474	5521073	560	0.004	0.32	26.6	0.05	0.05	13.9	87.4	0.95	4.1	1.07	0.03	44.8	
E5124546	674423	5521062	565	0.004	0.22	44.8	0.07	0.04	12.7	43.3	1.7	4.1	2.6	0.03	40.3	
E5124547	673956	5520784	398	0.009	0.24	32.6	0.12	0.09	8.94	23.5	1.48	5.6	0.85	0.02	48.8	
E5124548	673981	5520804	410	0.004	0.34	36.7	0.11	0.05	7.33	21.5	1.66	5.4	0.95	0.01	29.3	
E5124549	674034	5520834	424	0.005	0.24	77.4	0.11	0.06	5.06	16.5	2.33	4.9	1.38	0.03	29.6	
E5124550	674079	5520844	447	0.01	0.29	102	0.1	0.14	8.69	25.2	2.59	4.4	1.84	0.02	57.6	
E5124551	674126	5520881	477	0.004	0.2	55.1	0.13	0.22	10.1	15.2	2.49	5.8	1.18	0.04	42.1	
E5124552	674174	5520913	491	0.044	0.26	327	0.11	0.24	7.79	19.9	2.35	8.1	1.77	0.05	61.2	
E5124553	674216	5520923	504	0.002	0.17	57.6	0.1	0.11	11	21.5	1.78	7.5	1.28	0.08	48.4	
E5124554	674265	5520963	530	0.003	0.22	32.3	0.12	0.51	15.3	24.3	2.97	6.9	2.09	0.2	106	
E5124555	674293	5520981	554	0.002	0.18	48.1	0.11	0.2	8.27	25.4	2	5.6	1.75	0.11	34.1	
E5124556	674340	5521014	557	0.007	0.21	38.9	0.08	0.18	18.4	45.9	1.54	5.1	1.74	0.07	72.2	
E5124557	674377	5521041	567	0.003	0.32	18	0.05	0.05	17	39.1	1.04	3.9	0.74	<0.01	54.1	
E5124558	674564	5520809	418	0.005	0.2	810	0.18	0.32	23.6	57.8	4.78	14.1	1.67	0.29	143	
E5124559	674537	5520768	431	0.016	0.21	534	0.13	0.11	20	34.2	3.25	5.8	0.99	0.04	113	
E5125242	674129	5520769	432	0.003	0.24	27.1	0.13	0.02	3.92	7.1	1.34	5.7	0.82	<0.01	19.2	
E5125243	674171	5520784	450	0.003	0.26	62.6	0.09	0.08	8.14	17.1	1.49	4.8	1.23	0.02	25.4	
E5125244	674218	5520819	467	0.003	0.23	36.6	0.11	0.2	5.74	17.8	3.95	5.8	1.26	0.07	28.7	
E5125245	674261	5520844	488	0.005	0.47	51.6	0.1	0.15	7.47	24	1.59	6.2	0.99	0.04	39.3	
E5125246	674301	5520873	511	0.003	0.35	153	0.11	0.31	23.8	33.3	2.93	5.8	1.18	0.04	56.5	
E5125247	674349	5520901	527	0.004	0.2	31.1	0.09	0.08	19.6	41.5	1.76	4.7	0.95	0.01	68.9	
E5125248	674399	5520918	527	0.004	0.19	40.7	0.09	0.09	10.8	36.5	6.31	13.8	2.04	0.1	51	
E5125249	674483	5520860	476	0.002	0.15	21.1	0.08	<0.02	2.79	4.1	1.26	5.7	0.57	<0.01	12.1	
E5125250	674444	5520831	497	0.002	0.14	9.3	0.23	0.05	4.31	5.8	1.27	5.3	0.45	0.06	25	
E5125251	674407	5520806	502	0.004	0.17	93.4	0.12	0.11	7.77	15.7	2.46	6.9	0.62	0.52	53.9	
E5125252	674347	5520781	490	0.004	0.17	34	0.92	0.12	11.2	17.5	3.55	6.5	0.7	0.27	89	
E5125253	674312	5520759	476	0.007	0.17	29.3	0.51	0.07	6.08	13.9	4.49	5.6	0.73	0.24	32.5	
E5125254	674274	5520731	453	0.002	0.15	17.1	0.48	<0.02	4.55	8.7	2.09	3.4	0.67	0.16	9.6	
E5125255	674233	5520712	431	0.003	0.17	20.8	0.22	0.03	5.16	13.8	1.99	8	0.81	0.16	22.2	
E5125256	674179	5520685	406	0.005	0.21	61.4	0.13	0.05	3.75	9.3	1.88	5.1	1.06	0.08	22.4	
E5125257	674129	5520670	390	0.003	0.2	49.7	0.11	0.07	10.3	23.5	1.9	5.3	0.99	0.09	43.7	
E5125258	674102	5520630	361	0.003	0.2	19	0.17	0.03	2.93	5.5	1.66	6.4	1.2	0.05	15.7	
E5125259	674058	5520608	361	0.006	0.23	35.8	0.09	0.07	8.41	28.9	1.48	4.6	1.07	0.18	43.1	





# AGAT Laboratories

5623 McAdam Road  
Mississauga, ON  
L4Z 1N9

webmining.agatlabs.com • www.agatlabs.com

P: 905.501.9998 • F: 905.501.0589

## Chain of Custody Record • Mining

**Report To**

Company: Pioneer Exploration Corporation

Contact: Vincent Li

Address: 1450 - 1155 West Hastings Street  
Vancouver BC V6E 3T5

Phone: 604-336-7666 Fax: 604-425-0776

AGAT Quote #: 48108NM

Client Project #: Head Bay

**Report Information**

Name: Vincent Li

Email: vincent.li@dehua.ca

**Analysis Authorization**

Name: Jacques Houle

Email: jhoule06@shaw.ca

**Report Format**

Single Package per page

Multiple Packages per page

Excel Format Included

**Laboratory Use Only**

Arrival Condition:  Good  POOR (complete notes)

AGAT WO#: 15D 047986

Received: Nov 30/15

Notes:

**Turnaround Time Required (TAT)**

Regular TAT  Rush TAT

*Rush surcharges may apply*

**Material Matter**

Drill Core  Pulp

Rock  Water

Till/Soil/Silt  Other (specify below)

Concentrate

**Grade**  Trace  Ore

**Sample Preparation**

No Prep Required - Run as Received

AGAT Sample Prep Code (specify below)

226-012

Other weigh samples

**Sample Storage**  
*(Pulp and Reject Material Handling Upon Analysis Completion)*

Return to Client

Discard Material

Store Reject for 60 days (and return to client)

Store Pulp for 90 days (and return to client)

Store beyond 60/90 days (Storage fees apply)

**Courier**

Greyhound

Print Name

Date: Nov 30/15 Page 1 of 1

**Invoice To** Same Yes  / No

Company: \_\_\_\_\_

Contact: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

PO#: \_\_\_\_\_

AGAT Analysis Method												
Sample Sequence Number	Quantity	202-052	201-071	201-072 (if required)								
E5124026	E5124104	79	✓	✓	✓							
E5124188	E5124209	22	✓	✓	✓							
E5124360	E5124404	45	✓	✓	✓							
E5124537	E5124559	23	✓	✓	✓							
E5125242	E5125259	18	✓	✓	✓							
<b>Total</b>	<b>Samples</b>	<b>187</b>										

Signature: Jacques Houle Date: 25-Nov-2015

Signature: Shailee Edwards Date: Nov 30/15

**Special Instruction**



CLIENT NAME: PIONEER EXPLORATION CORPORATION  
708 - 1155 WEST PENDER STREET  
VANCOUVER, BC V6E2P4  
(604) 336-7666

ATTENTION TO: VINCENT LI

PROJECT: Head Bay

AGAT WORK ORDER: 15D047982

SOLID ANALYSIS REVIEWED BY: Kevin Motomura, Data Review Supervisor

DATE REPORTED: Dec 11, 2015

PAGES (INCLUDING COVER): 11

Should you require any information regarding this analysis please contact your client services representative at (905) 501-9998

\*NOTES

All samples are stored at no charge for 90 days. Please contact the lab if you require additional sample storage time.



## Certificate of Analysis

AGAT WORK ORDER: 15D047982

PROJECT: Head Bay

5623 McADAM ROAD  
MISSISSAUGA, ONTARIO  
CANADA L4Z 1N9  
TEL (905)501-9998  
FAX (905)501-0589  
<http://www.agatlabs.com>

CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

### (201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015

DATE RECEIVED: Nov 30, 2015

DATE REPORTED: Dec 11, 2015

SAMPLE TYPE: Rock

Analyte:	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe
Unit:	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%
RDL:	0.01	0.01	0.2	1	0.05	0.01	0.01	0.02	0.01	0.05	0.5	0.01	0.2	0.01
E5123629 (7243379)	7.85	3.57	655	50	0.16	113	0.17	0.06	1.37	122	123	0.20	685	28.4
E5123630 (7243380)	5.40	6.83	10700	246	1.77	1.43	0.15	2.28	11.5	41.4	80.5	0.74	76.6	7.90
E5123631 (7243381)	0.98	7.99	92.0	470	1.26	0.33	2.80	0.07	22.1	14.8	19.7	0.45	24.5	3.50
E5123632 (7243382)	1.96	8.59	155	295	1.23	0.11	0.39	0.13	13.7	52.7	38.6	0.91	134	7.70
E5123633 (7243383)	6.26	6.52	1970	199	1.35	3.37	6.31	0.35	23.0	34.6	51.8	0.94	469	6.99
E5123634 (7243384)	7.09	6.08	1050	182	1.24	6.62	7.06	0.26	24.4	32.8	40.4	0.79	621	6.99
E5123635 (7243385)	1.33	6.41	1140	95	0.95	0.25	7.37	0.25	11.2	32.3	86.6	0.34	15.7	6.43
E5123636 (7243386)	1.39	5.36	1340	133	1.17	0.10	0.34	0.06	31.5	16.6	35.8	2.64	28.1	9.13
E5123637 (7243387)	0.32	0.53	43.1	13	0.11	<0.01	0.02	<0.02	5.17	0.78	38.5	0.21	3.0	0.64
E5123685 (7243388)	2.39	0.65	13.2	7	3.85	0.23	6.63	3.49	0.26	37.9	15.2	0.06	1260	37.6
E5123686 (7243389)	0.70	3.69	24.9	151	0.34	0.02	9.19	0.09	15.4	37.8	36.0	0.78	33.6	9.55
E5123687 (7243390)	0.37	4.86	67.8	69	0.43	0.01	0.06	0.06	7.53	31.6	347	1.51	66.6	18.6
E5123688 (7243391)	0.25	1.14	908	50	0.21	0.07	0.10	0.10	6.32	2.70	80.4	0.04	6.2	2.26
E5123689 (7243392)	0.64	0.88	101	19	0.49	2.02	0.08	1.33	2.75	6.37	31.5	0.11	27.9	1.47
E5123690 (7243393)	0.59	5.59	1190	345	1.89	0.16	0.03	0.09	46.2	0.85	26.4	0.32	7.5	1.21
E5123691 (7243394)	0.30	5.46	1870	831	2.06	0.02	0.55	0.07	49.3	0.70	22.6	0.53	3.2	1.47
E5123692 (7243395)	0.28	2.59	726	94	0.32	0.08	8.84	0.37	13.5	6.67	62.5	0.14	5.1	2.96
E5123693 (7243396)	0.51	7.30	1080	241	0.89	0.12	3.65	0.24	20.0	24.2	21.5	0.33	7.3	6.55
E5124266 (7243397)	11.7	5.64	28.7	42	1.09	44.4	6.66	1370	53.1	251	17.0	0.11	2750	6.27
E5124787 (7243398)	1.08	5.25	8.9	23	1.08	0.38	1.81	5.25	44.3	39.4	39.9	0.05	16.0	3.95

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 15D047982

PROJECT: Head Bay

5623 McADAM ROAD  
MISSISSAUGA, ONTARIO  
CANADA L4Z 1N9  
TEL (905)501-9998  
FAX (905)501-0589  
<http://www.agatlabs.com>

CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

### (201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015

DATE RECEIVED: Nov 30, 2015

DATE REPORTED: Dec 11, 2015

SAMPLE TYPE: Rock

Sample ID (AGAT ID)	Analyte: Unit: RDL:	Ga ppm 0.05	Ge ppm 0.05	Hf ppm 0.1	In ppm 0.005	K % 0.01	La ppm 0.5	Li ppm 0.1	Mg % 0.01	Mn ppm 1	Mo ppm 0.05	Na % 0.01	Nb ppm 0.1	Ni ppm 0.2	P ppm 10
E5123629 (7243379)		9.72	0.32	1.9	0.253	0.35	0.7	18.6	1.65	897	2.96	<0.01	11.1	29.2	81
E5123630 (7243380)		17.9	0.47	1.0	0.120	1.91	6.9	29.7	3.01	2130	2.07	0.59	6.3	26.5	719
E5123631 (7243381)		19.7	0.19	1.2	0.039	1.84	10.6	20.3	1.51	688	1.76	2.38	10.1	9.6	628
E5123632 (7243382)		20.2	0.57	1.0	0.068	1.82	5.6	31.9	3.82	1280	0.50	1.99	8.3	49.9	698
E5123633 (7243383)		17.9	0.15	1.6	0.136	2.25	9.8	14.9	3.37	2240	0.78	0.51	5.1	33.3	790
E5123634 (7243384)		18.4	<0.05	1.6	0.129	2.06	11.0	14.2	3.64	2170	0.50	0.39	6.4	25.5	640
E5123635 (7243385)		15.4	<0.05	1.0	0.100	0.71	3.9	28.1	4.17	2250	0.52	1.81	4.2	47.4	749
E5123636 (7243386)		19.7	0.56	2.2	0.133	2.38	12.1	9.7	0.15	341	1.35	0.07	11.3	10.9	2380
E5123637 (7243387)		1.63	0.92	0.2	0.011	0.14	2.2	34.7	0.04	43	5.39	0.02	0.4	3.3	16
E5123685 (7243388)		6.90	<0.05	<0.1	0.236	0.03	<0.5	3.2	2.77	7110	1.94	0.05	0.5	1.4	<10
E5123686 (7243389)		10.6	<0.05	1.1	0.080	1.32	6.0	4.8	0.55	1820	1.47	0.30	3.6	3.9	726
E5123687 (7243390)		11.8	<0.05	1.4	0.051	1.02	2.7	15.5	1.64	189	2.16	0.45	11.7	142	431
E5123688 (7243391)		3.72	<0.05	0.1	0.021	0.13	2.6	12.1	0.67	1260	3.04	<0.01	0.7	2.9	281
E5123689 (7243392)		3.04	<0.05	<0.1	0.011	0.07	1.6	33.5	0.78	1120	3.27	0.02	0.3	7.9	43
E5123690 (7243393)		20.7	<0.05	1.7	0.054	2.05	25.4	6.3	0.13	260	2.23	1.99	24.6	1.5	43
E5123691 (7243394)		22.0	<0.05	0.9	0.052	2.14	26.6	5.8	0.04	324	2.16	3.06	22.1	1.4	100
E5123692 (7243395)		7.40	<0.05	0.6	0.076	0.70	5.5	9.6	0.84	3300	2.03	0.29	2.9	4.2	539
E5123693 (7243396)		21.2	0.10	1.2	0.100	1.82	7.8	15.2	1.79	1800	0.78	1.93	8.1	7.1	1450
E5124266 (7243397)		23.7	<0.05	2.7	0.441	0.15	23.6	4.2	0.82	2890	143	0.02	24.7	3.1	<10
E5124787 (7243398)		20.4	0.40	0.4	0.243	0.09	19.8	3.0	0.58	578	5.88	3.84	9.5	3.2	1130

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 15D047982

PROJECT: Head Bay

5623 McADAM ROAD  
 MISSISSAUGA, ONTARIO  
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 TEL (905)501-9998  
 FAX (905)501-0589  
<http://www.agatlabs.com>

CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

(201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015	DATE RECEIVED: Nov 30, 2015					DATE REPORTED: Dec 11, 2015					SAMPLE TYPE: Rock				
Analyte:	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	
Unit:	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	
RDL:	0.1	0.1	0.002	0.01	0.05	0.1	0.5	0.2	0.2	0.05	0.01	0.1	0.01	0.01	
E5123629 (7243379)	7.8	10.8	<0.002	>10	1.32	33.9	2.8	2.0	15.7	1.63	1.15	1.5	0.59	0.05	
E5123630 (7243380)	144	50.1	<0.002	0.27	16.0	32.8	1.4	1.1	53.2	0.87	0.62	0.6	0.52	0.48	
E5123631 (7243381)	6.3	43.8	<0.002	0.12	3.67	13.9	1.0	0.8	432	0.95	0.35	1.3	0.31	0.28	
E5123632 (7243382)	11.7	52.9	<0.002	0.13	3.75	43.7	1.2	1.0	370	1.25	0.25	0.8	0.42	0.38	
E5123633 (7243383)	38.3	66.7	<0.002	1.83	12.8	30.5	1.8	1.0	198	0.49	0.45	0.6	0.53	0.45	
E5123634 (7243384)	28.4	67.6	<0.002	1.82	10.2	28.0	2.1	1.1	233	0.54	0.48	0.6	0.50	0.37	
E5123635 (7243385)	21.4	21.3	<0.002	0.82	5.62	35.6	0.9	0.6	261	0.64	0.26	0.3	0.41	0.13	
E5123636 (7243386)	21.6	74.7	<0.002	4.84	32.8	24.4	1.5	2.0	19.6	0.98	0.20	0.8	0.87	0.41	
E5123637 (7243387)	1.1	5.4	<0.002	0.03	28.1	0.8	<0.5	0.2	2.2	<0.05	0.09	<0.1	0.01	0.03	
E5123685 (7243388)	11.6	0.8	<0.002	0.26	2.77	0.3	0.6	0.6	67.3	<0.05	0.08	<0.1	<0.01	<0.01	
E5123686 (7243389)	4.1	46.4	<0.002	9.56	6.87	24.4	1.5	0.8	251	0.32	0.10	0.4	0.64	0.24	
E5123687 (7243390)	7.4	36.9	<0.002	>10	11.8	31.4	1.1	0.6	73.0	1.09	0.07	0.5	0.47	0.32	
E5123688 (7243391)	6.9	5.1	<0.002	0.08	5.05	3.0	<0.5	0.2	4.9	<0.05	0.04	<0.1	0.06	0.06	
E5123689 (7243392)	310	2.8	<0.002	0.03	5.24	2.8	<0.5	<0.2	10.4	<0.05	1.35	<0.1	0.02	0.03	
E5123690 (7243393)	7.2	71.9	<0.002	0.17	5.67	3.1	<0.5	2.8	37.9	1.63	0.62	4.5	0.05	0.36	
E5123691 (7243394)	13.4	62.1	<0.002	0.83	6.10	2.2	<0.5	2.4	93.3	1.43	0.10	4.1	0.05	0.30	
E5123692 (7243395)	7.6	21.2	<0.002	0.68	4.28	12.0	0.6	0.5	383	0.09	0.03	0.5	0.23	0.18	
E5123693 (7243396)	20.3	51.2	<0.002	2.00	3.31	33.7	1.4	1.2	235	0.44	0.06	1.3	0.65	0.42	
E5124266 (7243397)	666	2.8	0.054	>10	1.89	4.0	73.3	3.4	1370	1.65	9.53	3.0	0.14	0.07	
E5124787 (7243398)	4.6	2.5	<0.002	1.94	0.34	15.6	3.3	5.6	343	0.57	2.00	1.6	0.43	0.01	

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 15D047982

PROJECT: Head Bay

5623 McADAM ROAD  
 MISSISSAUGA, ONTARIO  
 CANADA L4Z 1N9  
 TEL (905)501-9998  
 FAX (905)501-0589  
<http://www.agatlabs.com>

CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

(201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015	DATE RECEIVED: Nov 30, 2015			DATE REPORTED: Dec 11, 2015			SAMPLE TYPE: Rock	
Analyte:	U	V	W	Y	Zn	Zr	Zn-OL	
Unit:	ppm	ppm	ppm	ppm	ppm	ppm	%	
Sample ID (AGAT ID)	RDL:	0.005	0.5	0.1	0.1	0.5	0.5	0.01
E5123629 (7243379)		0.138	443	1.1	3.3	93.6	9.3	
E5123630 (7243380)		0.267	260	2.1	23.3	268	13.7	
E5123631 (7243381)		0.268	66.9	1.2	8.6	90.4	33.9	
E5123632 (7243382)		0.265	280	1.1	11.9	139	19.8	
E5123633 (7243383)		0.282	212	1.4	20.2	205	42.6	
E5123634 (7243384)		0.281	208	1.3	23.7	223	46.6	
E5123635 (7243385)		0.145	230	1.6	19.2	241	23.8	
E5123636 (7243386)		0.359	102	106	21.7	27.1	50.7	
E5123637 (7243387)		0.024	1.8	2.6	1.5	18.9	5.0	
E5123685 (7243388)		3.73	4.9	1.4	0.9	800	1.2	
E5123686 (7243389)		0.236	179	1.3	21.6	21.5	37.1	
E5123687 (7243390)		0.256	194	0.7	3.5	57.8	42.1	
E5123688 (7243391)		0.087	11.3	0.7	7.2	61.5	3.2	
E5123689 (7243392)		3.35	20.6	0.3	4.7	149	2.3	
E5123690 (7243393)		1.08	<0.5	1.3	11.8	68.6	53.1	
E5123691 (7243394)		0.444	<0.5	1.2	7.2	67.9	25.9	
E5123692 (7243395)		0.174	64.1	0.6	21.1	58.6	14.0	
E5123693 (7243396)		0.188	193	0.9	20.5	130	31.9	
E5124266 (7243397)		1.44	4.7	0.6	73.4	>10000	55.0	29.4
E5124787 (7243398)		0.457	73.6	0.8	38.9	969	7.8	

Comments: RDL - Reported Detection Limit  
 7243379-7243398 As, Sb values may be low due to digestion losses.

Certified By:

# Certificate of Analysis

AGAT WORK ORDER: 15D047982

PROJECT: Head Bay

 5623 McADAM ROAD  
 MISSISSAUGA, ONTARIO  
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 TEL (905)501-9998  
 FAX (905)501-0589  
<http://www.agatlabs.com>

CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

**(202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)**

DATE SAMPLED: Nov 30, 2015

DATE RECEIVED: Nov 30, 2015

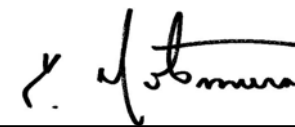
DATE REPORTED: Dec 11, 2015

SAMPLE TYPE: Rock

Sample ID (AGAT ID)	Analyte:	Sample Login Weight	Au
	Unit:	kg	ppm
	RDL:	0.01	0.001
E5123629 (7243379)		1.62	9.92
E5123630 (7243380)		1.98	4.40
E5123631 (7243381)		0.74	0.032
E5123632 (7243382)		0.86	0.012
E5123633 (7243383)		2.48	1.18
E5123634 (7243384)		0.98	0.181
E5123635 (7243385)		1.64	0.110
E5123636 (7243386)		1.68	0.769
E5123637 (7243387)		1.38	0.042
E5123685 (7243388)		0.84	0.137
E5123686 (7243389)		1.84	0.020
E5123687 (7243390)		1.96	0.011
E5123688 (7243391)		0.94	0.498
E5123689 (7243392)		0.76	0.008
E5123690 (7243393)		1.02	0.220
E5123691 (7243394)		0.56	0.240
E5123692 (7243395)		0.74	0.257
E5123693 (7243396)		0.96	0.241
E5124266 (7243397)		2.32	0.673
E5124787 (7243398)		1.28	0.003

Comments: RDL - Reported Detection Limit

Certified By:





CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

(201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

Parameter	REPLICATE #1				RPD													
	Sample ID	Original	Replicate	RPD														
Ag	7243393	0.589	0.540	8.7%														
Al	7243393	5.59	5.34	4.6%														
As	7243393	1190	1210	1.7%														
Ba	7243393	345	344	0.3%														
Be	7243393	1.89	1.96	3.6%														
Bi	7243393	0.162	0.144	11.8%														
Ca	7243393	0.03	0.02															
Cd	7243393	0.086	0.079	8.5%														
Ce	7243393	46.2	45.8	0.9%														
Co	7243393	0.85	0.85	0.0%														
Cr	7243393	26.4	27.1	2.6%														
Cs	7243393	0.322	0.332	3.1%														
Cu	7243393	7.54	7.14	5.4%														
Fe	7243393	1.21	1.21	0.0%														
Ga	7243393	20.7	20.5	1.0%														
Ge	7243393	< 0.05	< 0.05	0.0%														
Hf	7243393	1.7	1.6	6.1%														
In	7243393	0.054	0.054	0.0%														
K	7243393	2.05	2.06	0.5%														
La	7243393	25.4	25.8	1.6%														
Li	7243393	6.3	6.3	0.0%														
Mg	7243393	0.128	0.122	4.8%														
Mn	7243393	260	254	2.3%														
Mo	7243393	2.23	2.05	8.4%														
Na	7243393	1.99	2.03	2.0%														
Nb	7243393	24.6	22.9	7.2%														
Ni	7243393	1.49	1.24	18.3%														
P	7243393	43	63															
Pb	7243393	7.20	6.13	16.1%														
Rb	7243393	71.9	70.3	2.3%														
Re	7243393	< 0.002	< 0.002	0.0%														



CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

S	7243393	0.17	0.17	0.0%												
Sb	7243393	5.67	5.47	3.6%												
Sc	7243393	3.1	2.6	17.5%												
Se	7243393	< 0.5	< 0.5	0.0%												
Sn	7243393	2.8	3.2	13.3%												
Sr	7243393	37.9	34.5	9.4%												
Ta	7243393	1.63	1.46	11.0%												
Te	7243393	0.62	0.45													
Th	7243393	4.5	4.5	0.0%												
Ti	7243393	0.05	0.05	0.0%												
Tl	7243393	0.357	0.348	2.6%												
U	7243393	1.08	1.04	3.8%												
V	7243393	< 0.5	< 0.5	0.0%												
W	7243393	1.3	1.3	0.0%												
Y	7243393	11.8	11.1	6.1%												
Zn	7243393	68.6	61.1	11.6%												
Zr	7243393	53.1	49.7	6.6%												

(202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)

		REPLICATE #1														
Parameter	Sample ID	Original	Replicate	RPD												
Au	7243393	0.220	0.230	4.4%												





CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

**(201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish**

Parameter	CRM #1 (ref.1P5L)				CRM #2 (ref.CDN-ME-1304)									
	Expect	Actual	Recovery	Limits	Expect	Actual	Recovery	Limits						
Ag					34	35	103%	90% - 110%						
Al	6.96	6.58	95%	90% - 110%										
Ba	186	172	93%	90% - 110%										
Ca	4.01	3.78	94%	90% - 110%										
Ce	24	24	98%	90% - 110%										
Co	22.1	20.3	92%	90% - 110%										
Cu	88.6	89.7	101%	90% - 110%	2680	2690	100%	90% - 110%						
Fe	7.56	7.27	96%	90% - 110%										
K	2.021	2.014	100%	90% - 110%										
Mg	2.412	2.288	95%	90% - 110%										
Mn	1510	1573	104%	90% - 110%										
Na	0.617	0.646	105%	90% - 110%										
Ni	77.1	70.8	92%	90% - 110%										
P	892	861	96%	90% - 110%										
Pb					2580	2528	98%	90% - 110%						
S	0.348	0.367	105%	90% - 110%										
Sr	92.8	96.6	104%	90% - 110%										
Zn	208	219	105%	90% - 110%	2200	2109	96%	90% - 110%						

**(202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)**

Parameter	CRM #1 (ref.1P5L)				CRM #2 (ref.GSP7K)									
	Expect	Actual	Recovery	Limits	Expect	Actual	Recovery	Limits						
Au	1.53	1.58	103%	90% - 110%	0.694	0.634	91%	90% - 110%						

## Method Summary

CLIENT NAME: PIONEER EXPLORATION CORPORATION

AGAT WORK ORDER: 15D047982

PROJECT: Head Bay

ATTENTION TO: VINCENT LI

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Solid Analysis			
Ag	MIN-200-12020		ICP-MS
Al	MIN-200-12020		ICP/OES
As	MIN-200-12020		ICP-MS
Ba	MIN-200-12020		ICP-MS
Be	MIN-200-12020		ICP-MS
Bi	MIN-200-12020		ICP-MS
Ca	MIN-200-12020		ICP/OES
Cd	MIN-200-12020		ICP-MS
Ce	MIN-200-12020		ICP-MS
Co	MIN-200-12020		ICP-MS
Cr	MIN-200-12020		ICP/OES
Cs	MIN-200-12020		ICP-MS
Cu	MIN-200-12020		ICP-MS
Fe	MIN-200-12020		ICP/OES
Ga	MIN-200-12020		ICP-MS
Ge	MIN-200-12020		ICP-MS
Hf	MIN-200-12020		ICP-MS
In	MIN-200-12020		ICP-MS
K	MIN-200-12020		ICP/OES
La	MIN-200-12020		ICP-MS
Li	MIN-200-12020		ICP-MS
Mg	MIN-200-12020		ICP/OES
Mn	MIN-200-12020		ICP/OES
Mo	MIN-200-12020		ICP-MS
Na	MIN-200-12020		ICP/OES
Nb	MIN-200-12020		ICP-MS
Ni	MIN-200-12020		ICP-MS
P	MIN-200-12020		ICP/OES
Pb	MIN-200-12020		ICP-MS
Rb	MIN-200-12020		ICP-MS
Re	MIN-200-12020		ICP-MS
S	MIN-200-12020		ICP/OES
Sb	MIN-200-12020		ICP-MS
Sc	MIN-200-12020		ICP-MS
Se	MIN-200-12020		ICP-MS
Sn	MIN-200-12020		ICP-MS
Sr	MIN-200-12020		ICP-MS
Ta	MIN-200-12020		ICP-MS
Te	MIN-200-12020		ICP-MS
Th	MIN-200-12020		ICP-MS
Ti	MIN-200-12020		ICP/OES
Tl	MIN-200-12020		ICP-MS
U	MIN-200-12020		ICP-MS
V	MIN-200-12020		ICP/OES
W	MIN-200-12020		ICP-MS
Y	MIN-200-12020		ICP-MS
Zn	MIN-200-12020		ICP-MS
Zr	MIN-200-12020		ICP-MS
Zn-OL	MIN-200-12035/12018		ICP/OES

## Method Summary

CLIENT NAME: PIONEER EXPLORATION CORPORATION

AGAT WORK ORDER: 15D047982

PROJECT: Head Bay

ATTENTION TO: VINCENT LI

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Sample Login Weight	MIN-12009		BALANCE
Au	MIN-200-12006	BUGBEE, E: A Textbook of Fire Assaying	ICP-OES

CLIENT NAME: PIONEER EXPLORATION CORPORATION  
708 - 1155 WEST PENDER STREET  
VANCOUVER, BC V6E2P4  
(604) 336-7666

ATTENTION TO: VINCENT LI

PROJECT: Head Bay

AGAT WORK ORDER: 15D047986

SOLID ANALYSIS REVIEWED BY: Kevin Motomura, Data Review Supervisor

DATE REPORTED: Dec 16, 2015

PAGES (INCLUDING COVER): 42

Should you require any information regarding this analysis please contact your client services representative at (905) 501-9998

\*NOTES

All samples are stored at no charge for 90 days. Please contact the lab if you require additional sample storage time.



## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

5623 McADAM ROAD  
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CANADA L4Z 1N9  
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FAX (905)501-0589  
<http://www.agatlabs.com>

CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

### (201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015

DATE RECEIVED: Nov 30, 2015

DATE REPORTED: Dec 16, 2015

SAMPLE TYPE: Soil

Analyte:	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe
Unit:	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%
RDL:	0.01	0.01	0.2	1	0.05	0.01	0.01	0.02	0.01	0.05	0.5	0.01	0.2	0.01
E5124026 (7243399)	0.25	7.70	48.6	261	1.33	0.08	1.21	0.11	35.8	13.6	46.2	1.64	39.7	4.68
E5124027 (7243400)	0.21	8.87	2.8	223	0.90	0.05	0.70	0.08	20.1	7.39	23.6	0.54	19.6	4.30
E5124028 (7243401)	0.33	7.24	11.5	152	0.68	0.13	0.40	0.16	31.2	3.95	21.3	0.78	10.5	6.68
E5124029 (7243402)	0.34	6.26	12.8	116	0.58	0.17	0.35	0.08	17.5	2.86	17.2	0.58	6.7	8.54
E5124030 (7243403)	0.27	5.63	30.1	107	0.58	0.17	0.41	0.07	20.1	3.27	37.8	0.61	9.0	7.49
E5124031 (7243404)	0.21	5.90	21.9	136	0.68	0.20	0.37	0.02	23.7	2.66	16.2	0.60	8.7	8.56
E5124032 (7243405)	0.41	8.03	582	379	1.79	0.19	1.49	0.30	47.4	24.4	40.6	1.75	54.0	5.79
E5124033 (7243406)	0.23	7.88	62.4	292	1.18	0.12	0.57	0.06	38.0	12.8	27.1	2.71	18.5	4.09
E5124034 (7243407)	0.23	7.22	103	104	0.75	0.11	0.23	0.12	27.7	6.11	30.7	1.03	20.8	8.64
E5124035 (7243408)	0.36	7.83	71.8	104	0.67	0.10	0.44	0.27	25.2	8.20	33.1	1.53	12.7	8.79
E5124036 (7243409)	0.25	7.92	83.9	183	1.22	0.09	1.04	0.72	45.6	21.3	36.2	2.27	31.3	5.15
E5124037 (7243410)	0.17	6.58	54.1	105	0.54	0.13	0.17	0.26	25.0	6.84	41.9	1.40	18.4	8.51
E5124038 (7243411)	0.16	5.45	21.7	46	0.19	0.06	0.12	0.04	10.4	12.7	8.9	0.35	28.3	13.2
E5124039 (7243412)	0.21	5.88	61.9	118	0.62	0.07	0.39	0.09	23.4	24.1	337	1.97	43.4	6.65
E5124040 (7243413)	0.27	6.65	20.1	223	0.93	0.17	0.59	0.04	38.7	5.53	29.8	1.47	15.5	8.17
E5124041 (7243414)	0.23	6.11	22.1	153	0.85	0.13	0.45	0.15	26.8	5.46	16.5	0.81	13.3	6.07
E5124042 (7243415)	0.34	5.15	10.9	163	0.77	0.15	0.40	0.14	23.9	3.46	18.0	0.90	9.0	7.24
E5124043 (7243416)	0.27	6.02	16.6	184	0.71	0.15	0.49	0.12	31.3	5.66	30.8	0.96	11.6	7.67
E5124044 (7243417)	0.31	7.00	45.8	168	0.82	0.14	0.37	0.05	27.4	5.68	20.2	1.00	15.0	6.59
E5124045 (7243418)	0.23	8.14	52.6	170	1.01	0.12	0.29	0.14	52.2	8.60	20.5	1.68	19.8	6.07
E5124046 (7243419)	1.54	6.69	38.0	236	1.03	0.11	0.61	0.14	31.6	11.7	16.9	1.28	25.2	5.37
E5124047 (7243420)	0.39	6.99	45.9	240	0.95	0.11	0.44	0.10	30.5	8.89	21.0	1.24	17.0	6.47
E5124048 (7243421)	0.20	3.59	9.1	87	0.46	0.13	0.44	0.13	14.6	17.2	8.8	0.84	16.4	8.82
E5124049 (7243422)	0.34	6.68	60.7	93	0.46	0.10	0.17	0.13	18.8	9.92	50.7	0.98	27.4	8.91
E5124050 (7243423)	0.29	6.01	45.3	90	0.64	0.08	0.13	0.08	24.5	4.09	30.5	0.72	10.6	5.32
E5124051 (7243424)	0.41	5.83	78.4	71	0.37	0.13	0.07	0.04	16.0	7.42	22.7	0.60	17.3	9.07
E5124052 (7243425)	0.23	6.49	32.3	85	0.48	0.11	0.11	0.05	18.6	8.34	34.3	1.21	17.8	10.6
E5124053 (7243426)	0.33	4.80	33.1	75	0.84	0.06	0.11	0.04	20.9	54.5	474	1.08	87.5	7.73
E5124054 (7243427)	0.20	5.36	16.3	90	0.55	0.08	0.17	0.03	9.08	9.85	61.8	0.91	16.8	6.69
E5124055 (7243428)	0.40	6.66	50.1	109	0.59	0.06	0.08	0.17	10.4	17.9	52.0	3.22	38.4	8.74
E5124056 (7243429)	0.26	7.32	82.2	172	0.82	4.07	0.14	0.06	21.7	9.33	13.6	2.55	47.5	4.63
E5124057 (7243430)	0.64	5.18	20.0	137	0.55	0.19	0.36	0.04	21.3	3.57	24.1	0.52	9.8	7.10

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

5623 McADAM ROAD  
MISSISSAUGA, ONTARIO  
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<http://www.agatlabs.com>

CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

### (201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015	DATE RECEIVED: Nov 30, 2015		DATE REPORTED: Dec 16, 2015		SAMPLE TYPE: Soil									
Analyte:	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe
Unit:	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%
RDL:	0.01	0.01	0.2	1	0.05	0.01	0.01	0.02	0.01	0.05	0.5	0.01	0.2	0.01
E5124058 (7243431)	0.36	6.49	36.2	162	0.79	0.13	0.55	0.11	28.1	7.32	33.3	1.38	17.1	6.23
E5124059 (7243432)	0.23	6.69	67.3	214	1.10	0.12	0.83	0.25	33.1	13.3	23.9	1.31	22.7	5.41
E5124060 (7243433)	0.18	10.2	85.0	164	1.00	0.09	0.18	0.11	30.9	24.4	69.3	2.64	63.9	5.84
E5124061 (7243434)	0.17	7.92	36.1	135	1.44	0.16	0.87	0.37	52.6	8.86	13.2	1.06	11.3	4.71
E5124062 (7243435)	0.26	9.14	28.0	162	1.36	0.18	0.33	0.19	45.7	16.1	25.2	1.69	27.6	5.26
E5124063 (7243436)	0.20	6.10	21.1	123	0.76	0.13	0.57	0.07	18.4	6.25	37.5	1.00	17.0	5.82
E5124064 (7243437)	0.21	5.15	45.7	89	0.70	0.19	0.55	0.04	19.4	5.21	10.5	0.69	10.8	5.14
E5124065 (7243438)	0.25	6.25	9.0	146	0.66	0.42	0.94	0.05	22.8	3.45	17.8	0.89	8.7	6.55
E5124066 (7243439)	0.18	5.67	28.4	117	0.68	0.22	0.34	0.09	17.9	4.84	24.8	0.80	10.7	6.42
E5124067 (7243440)	0.19	7.71	57.9	134	0.67	0.12	0.33	0.10	26.4	10.1	34.8	1.40	24.3	5.91
E5124068 (7243441)	0.20	5.47	29.8	139	0.62	0.18	0.28	0.03	21.6	4.81	23.1	0.82	9.6	7.83
E5124069 (7243442)	0.20	7.74	32.5	163	0.84	0.08	0.26	0.09	30.7	6.70	21.7	0.85	20.4	6.60
E5124070 (7243443)	0.21	7.39	81.8	176	0.99	0.08	0.38	0.11	40.0	12.4	34.9	1.63	21.0	6.43
E5124071 (7243444)	0.32	6.33	53.4	104	0.53	0.12	0.29	0.07	26.8	5.73	37.1	0.73	11.5	8.43
E5124072 (7243445)	0.63	7.19	214	121	0.94	0.22	0.44	0.25	33.9	7.58	58.8	1.51	16.4	6.56
E5124073 (7243446)	0.38	8.27	334	133	1.06	0.22	0.49	0.43	45.2	10.9	46.7	1.55	29.2	6.53
E5124074 (7243447)	0.19	7.59	18.1	189	1.76	0.13	0.78	0.26	50.0	23.1	16.8	0.99	17.8	6.44
E5124075 (7243448)	0.19	6.27	22.5	120	0.82	0.27	1.73	0.13	27.6	5.96	23.5	0.72	8.9	7.93
E5124076 (7243449)	0.15	7.69	48.6	92	0.67	0.12	0.34	0.09	22.8	8.43	30.0	0.81	17.8	9.82
E5124077 (7243450)	0.16	7.09	104	58	0.93	0.27	0.44	0.24	20.1	10.2	26.0	0.66	24.0	7.12
E5124078 (7243451)	0.20	7.43	384	153	1.02	0.15	0.40	0.21	35.8	11.8	49.8	1.55	31.5	7.63
E5124079 (7243452)	0.17	6.17	96.6	90	0.60	0.14	0.48	0.08	17.9	6.66	34.3	0.90	16.7	9.31
E5124080 (7243453)	0.15	6.96	61.6	44	0.93	0.16	0.71	0.11	34.5	3.08	8.7	0.36	25.6	4.45
E5124081 (7243454)	0.13	7.59	36.3	105	0.83	0.14	0.25	0.09	42.4	7.90	53.3	1.26	27.6	7.11
E5124082 (7243455)	0.17	7.78	24.8	93	0.57	0.11	0.26	0.07	27.3	7.15	55.0	0.95	21.0	6.56
E5124083 (7243456)	0.24	7.57	79.5	93	0.74	0.13	0.30	0.15	51.7	10.5	68.3	0.97	16.2	7.03
E5124084 (7243457)	0.23	7.14	23.5	92	0.71	0.14	0.31	0.08	24.2	6.81	50.6	1.05	15.4	6.87
E5124085 (7243458)	0.30	5.21	191	82	0.43	0.87	0.34	0.07	24.1	5.43	48.7	0.28	11.0	8.48
E5124086 (7243459)	0.24	6.96	193	109	0.86	0.70	1.09	0.23	20.2	9.04	50.8	1.46	25.8	6.42
E5124087 (7243460)	0.25	6.53	37.0	69	0.73	0.36	0.24	0.19	17.6	6.02	47.5	0.62	9.0	6.19
E5124088 (7243461)	0.30	6.52	277	74	1.40	0.39	0.23	0.17	40.0	3.98	20.0	0.62	9.3	4.73
E5124089 (7243462)	5.41	4.73	316	5630	0.59	1.82	0.42	0.46	21.2	25.5	22.2	0.41	43.0	6.27

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

### (201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015	DATE RECEIVED: Nov 30, 2015		DATE REPORTED: Dec 16, 2015		SAMPLE TYPE: Soil									
Analyte:	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe
Unit:	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%
RDL:	0.01	0.01	0.2	1	0.05	0.01	0.01	0.02	0.01	0.05	0.5	0.01	0.2	0.01
E5124090 (7243463)	0.77	7.83	655	127	1.53	0.61	1.06	0.22	59.5	16.0	50.2	1.10	37.3	6.38
E5124091 (7243464)	0.38	7.09	150	101	0.91	0.30	0.34	0.11	38.7	13.0	48.5	0.97	26.8	7.60
E5124092 (7243465)	0.35	7.95	276	91	0.71	0.24	0.41	0.19	33.5	6.08	44.4	0.72	18.8	7.40
E5124093 (7243466)	0.30	6.43	43.2	148	0.60	0.15	0.35	0.06	26.4	6.55	50.1	1.09	7.7	7.76
E5124094 (7243467)	0.32	7.21	46.4	112	0.55	0.10	0.36	0.13	22.2	6.04	56.0	0.93	11.5	6.08
E5124095 (7243468)	0.32	7.52	155	89	0.88	0.18	0.42	0.23	39.1	8.54	48.7	1.67	20.8	7.07
E5124096 (7243469)	0.22	7.49	18.3	82	0.85	1.24	0.10	0.08	27.5	6.88	19.3	1.03	14.2	10.3
E5124097 (7243470)	0.23	5.32	10.5	89	0.66	0.21	0.56	0.06	26.3	3.62	31.0	0.85	6.1	5.36
E5124098 (7243471)	0.29	5.15	19.7	80	0.58	0.41	0.56	0.07	24.1	5.54	35.8	0.77	12.9	5.50
E5124099 (7243472)	0.21	5.13	18.0	69	0.51	0.16	0.35	0.04	19.8	3.59	33.4	0.47	8.7	8.01
E5124100 (7243473)	0.22	5.65	14.7	146	0.68	0.26	0.53	0.04	19.3	7.31	68.1	2.67	8.5	5.14
E5124101 (7243474)	0.23	6.82	12.8	148	0.62	0.13	0.33	0.06	19.3	7.58	66.0	2.14	10.8	4.84
E5124102 (7243475)	0.26	6.06	15.6	92	0.61	0.15	0.47	0.04	24.6	5.37	42.6	0.63	10.3	6.64
E5124103 (7243476)	0.29	7.29	17.8	160	0.78	0.13	0.40	0.06	32.3	8.16	51.1	1.88	13.8	4.75
E5124104 (7243477)	0.20	4.91	16.0	98	0.78	0.42	0.67	0.06	22.5	4.00	30.6	0.76	7.6	3.91
E5124188 (7243478)	0.42	5.20	27.9	164	0.62	0.14	0.82	0.05	24.9	5.17	36.4	0.74	10.6	6.24
E5124189 (7243479)	0.26	5.45	19.8	164	0.71	0.17	0.60	0.04	27.3	4.15	39.0	0.94	5.7	4.75
E5124190 (7243480)	0.21	6.48	21.2	244	0.83	0.14	0.67	0.05	29.4	6.25	37.4	0.86	9.6	7.72
E5124191 (7243481)	0.22	6.32	7.1	243	0.79	0.12	0.63	0.05	26.5	6.32	23.7	0.75	12.4	7.93
E5124192 (7243482)	0.25	8.13	6.6	288	1.11	0.11	0.46	0.08	43.4	5.56	19.7	1.03	12.8	7.30
E5124193 (7243483)	0.28	4.17	4.7	92	0.54	0.13	0.23	0.09	20.5	2.02	14.5	0.49	6.6	4.89
E5124194 (7243484)	0.31	6.57	58.5	191	0.86	0.17	0.76	0.11	28.9	6.32	18.8	1.08	16.2	7.85
E5124195 (7243485)	0.26	5.77	14.7	199	0.66	0.24	0.43	0.04	27.3	3.41	16.2	1.16	7.1	6.66
E5124196 (7243486)	0.19	8.07	28.9	257	0.91	0.14	0.38	0.05	36.8	9.60	18.7	2.01	16.3	6.74
E5124197 (7243487)	0.28	6.48	34.4	178	0.70	0.14	0.31	0.11	26.1	7.56	18.3	0.85	11.4	7.94
E5124198 (7243488)	0.29	6.18	151	110	0.64	0.15	0.26	0.12	23.3	6.13	27.7	1.10	11.3	8.73
E5124199 (7243489)	0.27	7.07	40.8	89	0.56	0.14	0.17	0.17	15.0	8.66	29.3	1.72	19.1	9.33
E5124200 (7243490)	0.22	7.14	63.1	143	0.70	0.10	0.20	0.25	31.0	12.5	31.7	2.04	28.2	7.44
E5124201 (7243491)	0.43	6.09	137	125	0.63	0.10	0.14	0.10	23.3	13.4	23.3	1.88	27.0	8.12
E5124202 (7243492)	0.20	7.13	32.5	317	1.39	0.08	1.41	0.09	34.0	15.5	36.3	1.20	29.9	4.52
E5124203 (7243493)	0.20	6.70	33.7	142	0.76	0.16	0.36	0.04	23.6	5.48	21.5	0.63	10.4	7.50
E5124204 (7243494)	0.20	5.61	27.6	146	0.79	0.14	0.30	0.08	25.1	4.63	22.6	0.86	10.4	7.36

Certified By:

# Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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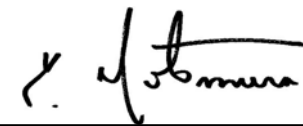
CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

## (201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015	DATE RECEIVED: Nov 30, 2015			DATE REPORTED: Dec 16, 2015			SAMPLE TYPE: Soil							
Analyte:	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe
Unit:	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%
RDL:	0.01	0.01	0.2	1	0.05	0.01	0.01	0.02	0.01	0.05	0.5	0.01	0.2	0.01
E5124205 (7243495)	0.22	5.92	30.1	176	0.80	0.16	0.33	0.14	28.3	5.06	21.8	0.88	11.2	6.63
E5124206 (7243496)	0.16	5.97	42.8	254	0.88	0.10	0.32	0.08	33.1	12.7	23.9	1.23	39.1	5.97
E5124207 (7243497)	0.13	8.49	99.6	238	1.05	0.11	0.29	0.07	44.9	13.6	23.2	1.87	34.8	5.75
E5124208 (7243498)	0.16	8.15	41.4	172	0.94	0.11	0.33	0.22	26.7	6.81	20.8	1.29	16.9	5.84
E5124209 (7243499)	0.23	5.38	46.9	133	0.55	0.10	0.88	0.24	26.3	9.15	21.9	1.02	24.6	8.59
E5124360 (7243500)	0.23	5.68	73.9	109	0.44	0.16	0.29	0.08	18.8	4.73	69.9	0.89	12.3	11.0
E5124361 (7243501)	0.21	5.56	109	100	0.53	0.19	0.33	0.08	17.0	4.14	50.4	0.55	12.1	8.26
E5124362 (7243502)	0.20	3.54	71.5	90	0.43	0.19	0.32	0.05	18.4	3.76	30.6	0.40	7.5	6.74
E5124363 (7243503)	0.35	9.11	255	98	1.15	0.15	0.54	0.31	34.7	20.1	38.1	0.75	29.0	5.17
E5124364 (7243504)	0.34	6.07	55.5	86	0.56	0.20	0.24	0.16	13.5	5.86	33.8	0.54	15.8	7.16
E5124365 (7243505)	0.25	7.10	69.5	92	1.32	1.76	0.85	0.24	18.7	14.8	42.9	0.67	29.7	6.40
E5124366 (7243506)	0.29	5.52	90.8	87	0.92	0.86	0.44	0.41	21.3	9.69	29.3	0.68	15.0	6.23
E5124367 (7243507)	0.37	4.71	19.8	92	0.86	0.33	0.67	0.32	21.9	13.0	25.0	0.64	11.0	5.08
E5124368 (7243508)	0.19	6.83	53.6	92	0.67	0.18	0.18	0.22	34.0	9.14	52.6	1.09	27.3	7.46
E5124369 (7243509)	0.19	8.77	305	135	1.08	0.13	0.48	0.18	26.5	16.4	48.0	1.32	32.5	7.16
E5124370 (7243510)	0.18	7.70	249	137	1.22	0.18	0.26	0.18	40.5	21.3	53.6	1.19	31.1	6.86
E5124371 (7243511)	0.19	13.2	569	208	1.83	0.38	0.60	0.12	30.4	27.5	27.2	1.38	16.3	7.47
E5124372 (7243512)	0.17	8.62	50.9	77	0.64	0.41	6.22	0.10	23.0	16.0	13.7	0.41	32.3	7.88
E5124373 (7243513)	0.34	5.76	241	89	0.41	0.12	0.24	0.19	15.7	7.86	66.7	0.70	25.6	9.14
E5124374 (7243514)	0.27	7.04	54.7	153	1.25	0.74	0.72	0.13	37.2	12.9	34.8	1.01	29.9	5.44
E5124375 (7243515)	0.27	4.99	214	94	0.63	2.38	1.91	0.27	25.2	11.0	38.6	1.12	15.0	4.92
E5124376 (7243516)	0.34	4.93	338	90	0.56	9.36	1.09	0.27	21.5	8.97	31.4	0.88	20.1	6.17
E5124377 (7243517)	0.20	6.63	197	119	0.75	0.60	0.48	0.15	43.1	13.6	45.9	1.23	32.0	7.22
E5124378 (7243518)	0.19	9.03	50.8	97	1.31	2.91	0.82	0.05	35.6	4.89	12.2	0.53	13.1	6.18
E5124379 (7243519)	0.27	9.25	175	174	1.63	1.27	1.64	0.85	39.1	24.0	44.6	1.77	43.9	5.83
E5124380 (7243520)	0.19	9.38	241	130	1.37	0.58	0.60	0.30	38.0	16.5	39.6	0.89	30.9	5.75
E5124381 (7243521)	0.22	6.41	50.2	105	0.65	0.38	0.38	0.10	20.4	9.02	29.5	0.50	18.7	6.19
E5124382 (7243522)	0.22	6.42	66.0	118	0.42	0.37	0.11	0.06	5.33	12.8	59.6	1.04	4.6	8.31
E5124383 (7243523)	0.31	10.1	506	134	1.56	0.26	1.78	0.33	37.3	18.1	35.3	1.05	38.8	6.52
E5124384 (7243524)	0.24	6.22	299	113	0.95	0.20	0.37	0.31	35.5	5.47	34.0	1.07	14.5	6.31
E5124385 (7243525)	0.18	8.90	106	129	0.84	0.13	0.33	0.12	18.9	8.73	59.0	1.50	27.0	5.96
E5124386 (7243526)	0.18	8.61	71.3	121	0.88	0.08	0.40	0.14	21.7	11.9	42.4	0.95	23.1	4.80

Certified By:







## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

### (201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015

DATE RECEIVED: Nov 30, 2015

DATE REPORTED: Dec 16, 2015

SAMPLE TYPE: Soil

Sample ID (AGAT ID)	Analyte: Unit: RDL:	Ag ppm 0.01	Al % 0.01	As ppm 0.2	Ba ppm 1	Be ppm 0.05	Bi ppm 0.01	Ca % 0.01	Cd ppm 0.02	Ce ppm 0.01	Co ppm 0.05	Cr ppm 0.5	Cs ppm 0.01	Cu ppm 0.2	Fe % 0.01
E5124387 (7243527)		0.15	14.5	62.4	138	0.95	0.09	0.62	0.06	27.9	10.0	46.2	0.98	24.1	5.78
E5124388 (7243528)		0.21	4.95	69.1	110	0.55	0.14	0.36	0.10	20.3	6.21	53.0	1.01	12.4	7.13
E5124389 (7243529)		0.30	4.80	42.7	122	0.49	0.15	0.45	0.04	25.2	6.48	54.8	0.67	10.0	7.27
E5124390 (7243530)		0.14	9.87	62.9	143	0.83	0.09	0.45	0.05	20.2	9.01	35.1	1.15	20.5	5.44
E5124391 (7243531)		0.14	6.44	47.3	198	0.72	0.10	0.73	0.09	25.1	7.44	56.9	0.96	12.5	5.23
E5124392 (7243532)		0.18	11.2	60.9	119	0.78	0.08	0.72	0.07	28.2	8.15	36.3	1.00	14.7	4.70
E5124393 (7243533)		0.24	4.89	52.0	121	0.51	0.14	0.49	0.08	23.0	6.90	61.2	0.59	10.1	8.39
E5124394 (7243534)		0.37	7.89	72.2	147	0.84	0.09	0.42	0.11	26.8	8.24	46.0	0.97	27.0	5.55
E5124395 (7243535)		0.22	5.02	8.0	265	0.47	0.40	0.89	0.05	10.0	15.1	89.8	0.89	14.8	8.04
E5124396 (7243536)		0.19	5.80	20.5	91	0.56	0.15	0.38	0.07	18.0	6.85	45.9	0.81	16.0	6.73
E5124397 (7243537)		0.15	4.22	5.0	151	0.68	0.26	0.46	0.03	21.1	4.34	14.0	0.80	4.7	2.86
E5124398 (7243538)		0.14	5.64	11.5	205	1.28	0.14	0.85	0.04	30.0	9.29	20.6	1.57	5.6	4.90
E5124399 (7243539)		0.18	6.62	25.2	96	1.18	0.27	0.65	0.07	28.0	8.73	53.8	1.36	12.7	5.59
E5124400 (7243540)		0.20	6.97	21.9	121	1.63	0.74	1.12	0.19	38.3	32.9	50.2	3.11	15.6	7.27
E5124401 (7243541)		0.19	4.78	15.6	95	0.62	0.71	1.61	0.05	30.9	7.26	32.9	0.76	7.7	6.71
E5124402 (7243542)		0.17	6.03	92.5	96	0.65	0.28	0.32	0.03	19.1	3.77	31.0	0.66	6.8	6.63
E5124403 (7243543)		0.19	5.32	24.8	58	0.92	0.18	0.15	<0.02	47.1	1.36	11.2	0.64	3.9	3.93
E5124404 (7243544)		0.28	8.19	37.8	104	0.84	0.17	0.31	0.08	29.0	7.13	51.0	1.54	18.1	8.72
E5124537 (7243545)		0.24	6.23	38.9	110	0.56	0.10	0.35	0.34	25.4	10.8	46.6	1.35	22.8	6.96
E5124538 (7243546)		0.17	7.38	71.5	51	0.33	0.12	0.19	0.68	12.2	11.0	72.3	1.12	29.2	8.48
E5124539 (7243547)		0.19	7.30	62.0	121	0.80	0.12	0.17	0.41	17.2	13.1	84.6	2.12	34.3	5.71
E5124540 (7243548)		0.22	4.56	32.7	135	0.74	0.09	0.30	0.42	22.1	18.0	55.5	1.40	14.3	5.35
E5124541 (7243549)		0.20	5.59	33.8	86	0.50	0.16	0.22	0.08	15.8	13.1	55.8	1.65	20.3	12.1
E5124542 (7243550)		0.25	6.73	56.4	127	0.52	0.10	0.12	0.05	13.1	7.67	122	1.79	45.3	8.47
E5124543 (7243551)		0.66	6.97	32.2	186	0.71	0.17	0.16	0.08	18.7	8.43	86.7	3.04	26.7	8.26
E5124544 (7243552)		0.70	9.40	20.6	211	0.90	0.10	0.15	0.15	56.2	17.8	82.9	3.08	51.7	6.89
E5124545 (7243553)		0.32	9.08	26.6	116	0.67	0.05	0.08	0.05	6.49	13.9	30.3	3.92	87.4	8.80
E5124546 (7243554)		0.22	6.92	44.8	54	0.41	0.07	0.06	0.04	8.59	12.7	21.4	1.48	43.3	19.0
E5124547 (7243555)		0.24	7.19	32.6	203	0.94	0.12	0.42	0.09	30.6	8.94	27.3	1.27	23.5	5.35
E5124548 (7243556)		0.34	7.45	36.7	157	0.86	0.11	0.45	0.05	36.4	7.33	29.4	0.96	21.5	7.17
E5124549 (7243557)		0.24	6.30	77.4	140	0.65	0.11	0.26	0.06	30.4	5.06	24.7	0.93	16.5	6.33
E5124550 (7243558)		0.29	7.32	102	168	0.89	0.10	0.22	0.14	31.5	8.69	30.9	1.56	25.2	5.41

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

### (201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015	DATE RECEIVED: Nov 30, 2015							DATE REPORTED: Dec 16, 2015				SAMPLE TYPE: Soil			
Analyte:	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	
Unit:	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	
RDL:	0.01	0.01	0.2	1	0.05	0.01	0.01	0.02	0.01	0.05	0.5	0.01	0.2	0.01	
E5124551 (7243559)	0.20	6.58	55.1	201	1.20	0.13	0.40	0.22	37.0	10.1	24.6	1.51	15.2	5.29	
E5124552 (7243560)	0.26	6.79	327	107	0.74	0.11	1.14	0.24	20.8	7.79	44.2	1.03	19.9	8.82	
E5124553 (7243561)	0.17	6.50	57.6	99	0.54	0.10	0.21	0.11	20.9	11.0	58.1	1.05	21.5	9.63	
E5124554 (7243562)	0.22	8.59	32.3	148	0.85	0.12	0.28	0.51	25.3	15.3	52.6	2.58	24.3	5.90	
E5124555 (7243563)	0.18	5.83	48.1	76	0.49	0.11	0.18	0.20	11.1	8.27	45.9	0.72	25.4	10.1	
E5124556 (7243564)	0.21	8.29	38.9	118	0.81	0.08	0.21	0.18	24.0	18.4	62.7	1.83	45.9	7.03	
E5124557 (7243565)	0.32	7.31	18.0	93	0.29	0.05	0.12	0.05	4.50	17.0	21.8	2.55	39.1	9.48	
E5124558 (7243566)	0.20	8.11	810	88	1.52	0.18	0.72	0.32	46.8	23.6	41.3	1.75	57.8	8.57	
E5124559 (7243567)	0.21	8.76	534	139	1.29	0.13	0.32	0.11	36.0	20.0	68.5	2.30	34.2	6.26	
E5125242 (7243568)	0.24	4.96	27.1	120	0.59	0.13	0.29	0.02	21.1	3.92	23.4	0.55	7.1	7.04	
E5125243 (7243569)	0.26	4.86	62.6	88	0.52	0.09	0.18	0.08	22.1	8.14	20.8	0.53	17.1	7.07	
E5125244 (7243570)	0.23	4.56	36.6	90	0.38	0.11	0.37	0.20	18.2	5.74	40.3	0.46	17.8	6.15	
E5125245 (7243571)	0.47	6.17	51.6	89	0.56	0.10	0.20	0.15	16.0	7.47	54.0	0.92	24.0	7.39	
E5125246 (7243572)	0.35	6.37	153	145	0.77	0.11	0.61	0.31	20.8	23.8	38.1	2.94	33.3	6.10	
E5125247 (7243573)	0.20	7.99	31.1	157	1.06	0.09	0.28	0.08	38.6	19.6	47.1	2.06	41.5	6.15	
E5125248 (7243574)	0.19	5.92	40.7	47	0.54	0.09	0.19	0.09	31.2	10.8	32.1	0.82	36.5	7.71	
E5125249 (7243575)	0.15	5.15	21.1	177	0.74	0.08	0.12	<0.02	30.2	2.79	8.3	1.08	4.1	1.56	
E5125250 (7243576)	0.14	7.04	9.3	223	1.04	0.23	0.68	0.05	24.3	4.31	17.4	1.05	5.8	3.65	
E5125251 (7243577)	0.17	7.11	93.4	105	0.92	0.12	0.30	0.11	21.0	7.77	37.8	1.42	15.7	6.35	
E5125252 (7243578)	0.17	8.02	34.0	167	1.06	0.92	0.50	0.12	33.5	11.2	27.3	2.30	17.5	6.63	
E5125253 (7243579)	0.17	6.37	29.3	143	0.75	0.51	0.45	0.07	21.6	6.08	20.5	1.11	13.9	5.69	
E5125254 (7243580)	0.15	4.71	17.1	124	0.53	0.48	0.30	<0.02	14.6	4.55	15.2	0.60	8.7	3.82	
E5125255 (7243581)	0.17	5.25	20.8	103	0.52	0.22	0.31	0.03	16.1	5.16	36.2	0.63	13.8	7.15	
E5125256 (7243582)	0.21	5.30	61.4	54	0.54	0.13	0.16	0.05	22.9	3.75	20.1	0.54	9.3	10.1	
E5125257 (7243583)	0.20	7.35	49.7	145	0.72	0.11	0.38	0.07	29.1	10.3	36.3	1.04	23.5	7.34	
E5125258 (7243584)	0.20	3.94	19.0	97	0.51	0.17	0.30	0.03	21.6	2.93	23.6	0.57	5.5	4.35	
E5125259 (7243585)	0.23	7.27	35.8	184	0.60	0.09	0.49	0.07	24.0	8.41	37.3	0.75	28.9	7.67	

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

### (201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015	DATE RECEIVED: Nov 30, 2015					DATE REPORTED: Dec 16, 2015					SAMPLE TYPE: Soil				
Analyte:	Ga	Ge	Hf	In	K	La	Li	Mg	Mn	Mo	Na	Nb	Ni	P	
Unit:	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	
RDL:	0.05	0.05	0.1	0.005	0.01	0.5	0.1	0.01	1	0.05	0.01	0.1	0.2	10	
E5124026 (7243399)	17.0	<0.05	4.1	0.076	0.76	14.4	16.5	1.28	743	1.36	1.80	13.7	16.3	1310	
E5124027 (7243400)	14.8	<0.05	2.1	0.073	0.54	7.7	12.5	0.63	476	1.05	1.45	10.8	4.9	714	
E5124028 (7243401)	22.4	0.14	3.7	0.118	0.37	11.3	13.9	0.34	288	1.60	1.23	15.0	4.2	747	
E5124029 (7243402)	29.6	0.39	3.4	0.122	0.32	7.9	7.9	0.24	249	1.23	1.27	16.1	2.9	571	
E5124030 (7243403)	29.5	0.82	4.0	0.091	0.33	9.0	8.8	0.28	274	1.59	1.28	14.9	4.5	545	
E5124031 (7243404)	33.2	0.84	4.1	0.115	0.40	10.5	5.5	0.22	234	1.88	1.61	16.2	3.4	352	
E5124032 (7243405)	20.3	0.32	3.5	0.116	1.32	19.9	19.1	1.94	2270	2.00	2.03	12.1	15.4	1220	
E5124033 (7243406)	21.8	<0.05	3.1	0.094	1.06	15.2	22.2	1.24	563	2.53	1.80	11.6	9.9	1110	
E5124034 (7243407)	23.2	0.35	2.9	0.132	0.34	10.4	17.6	0.41	232	3.45	1.18	11.4	4.5	758	
E5124035 (7243408)	29.6	0.31	2.4	0.122	0.37	9.8	17.9	0.81	296	5.25	0.90	15.9	8.3	618	
E5124036 (7243409)	17.2	<0.05	2.5	0.107	0.96	12.0	17.4	0.75	2490	2.19	0.76	7.6	15.1	1160	
E5124037 (7243410)	18.1	0.17	2.7	0.133	0.41	7.7	19.7	0.49	219	2.76	0.72	8.8	9.3	620	
E5124038 (7243411)	28.2	0.47	2.0	0.098	0.13	4.4	1.7	0.21	193	1.21	1.34	5.2	2.9	851	
E5124039 (7243412)	20.4	0.41	2.8	0.081	0.38	8.7	11.7	0.77	681	1.43	1.09	16.2	57.6	679	
E5124040 (7243413)	29.2	0.33	3.5	0.101	0.61	14.7	10.8	0.42	476	1.48	1.69	17.2	5.4	728	
E5124041 (7243414)	21.1	0.28	3.1	0.092	0.45	11.5	9.5	0.41	384	1.38	1.50	12.8	3.9	673	
E5124042 (7243415)	23.8	0.38	2.9	0.104	0.45	10.9	6.8	0.25	332	1.69	1.53	13.0	4.8	726	
E5124043 (7243416)	22.8	0.43	3.1	0.146	0.50	12.3	11.3	0.64	448	2.34	1.39	11.0	9.6	562	
E5124044 (7243417)	25.6	0.32	3.5	0.104	0.48	10.9	14.5	0.44	352	1.77	1.71	14.0	4.2	476	
E5124045 (7243418)	21.2	0.07	3.2	0.103	0.50	13.2	19.2	0.47	350	2.21	1.39	11.4	6.3	651	
E5124046 (7243419)	20.5	0.13	3.1	0.083	0.73	13.2	12.4	0.79	1000	1.41	1.75	11.2	6.8	919	
E5124047 (7243420)	21.0	0.27	3.2	0.111	0.66	12.3	16.8	0.71	462	1.49	2.05	11.5	5.6	574	
E5124048 (7243421)	22.2	1.40	2.9	0.096	0.19	7.2	4.9	0.33	2290	1.62	1.23	10.5	3.9	1880	
E5124049 (7243422)	20.6	0.25	2.2	0.140	0.40	5.9	16.8	0.52	349	9.81	0.79	8.0	11.9	827	
E5124050 (7243423)	22.4	0.69	3.2	0.095	0.30	10.9	4.7	0.22	276	1.39	1.79	11.7	4.4	737	
E5124051 (7243424)	24.3	0.80	2.7	0.098	0.21	7.2	4.7	0.34	258	1.55	1.34	9.6	4.8	919	
E5124052 (7243425)	28.5	0.80	2.6	0.119	0.34	8.3	6.1	0.45	229	1.18	1.02	9.6	5.2	586	
E5124053 (7243426)	22.0	0.89	3.4	0.052	0.20	8.3	11.3	0.43	320	1.24	0.81	23.8	213	486	
E5124054 (7243427)	23.4	0.55	2.7	0.050	0.33	4.5	3.6	0.11	103	1.73	0.59	11.4	12.7	364	
E5124055 (7243428)	20.4	0.57	2.2	0.095	0.92	5.0	6.2	0.49	145	4.99	0.27	8.2	9.2	1000	
E5124056 (7243429)	20.7	0.25	2.8	0.088	0.70	10.2	16.2	0.32	156	8.21	0.60	11.4	5.6	397	
E5124057 (7243430)	27.5	0.77	3.3	0.093	0.35	9.2	4.4	0.29	281	1.49	1.49	13.6	4.4	567	

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

### (201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015

DATE RECEIVED: Nov 30, 2015

DATE REPORTED: Dec 16, 2015

SAMPLE TYPE: Soil

Analyte:	Ga	Ge	Hf	In	K	La	Li	Mg	Mn	Mo	Na	Nb	Ni	P
Unit:	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm
RDL:	0.05	0.05	0.1	0.005	0.01	0.5	0.1	0.01	1	0.05	0.01	0.1	0.2	10
E5124058 (7243431)	19.9	0.38	2.9	0.097	0.49	11.8	14.2	0.48	560	1.94	1.53	11.8	8.1	1090
E5124059 (7243432)	19.9	0.15	2.6	0.082	0.68	14.0	13.0	0.71	1130	2.06	1.68	10.0	8.8	1130
E5124060 (7243433)	14.7	<0.05	1.9	0.120	0.58	7.8	27.3	0.92	355	2.53	0.77	6.1	36.2	1140
E5124061 (7243434)	24.4	<0.05	3.2	0.100	0.28	17.1	39.6	2.69	1860	9.29	1.42	12.1	8.6	824
E5124062 (7243435)	19.7	<0.05	5.7	0.091	0.42	11.2	38.1	2.28	1080	4.32	1.30	15.3	15.4	721
E5124063 (7243436)	21.0	0.10	2.6	0.077	0.34	8.5	13.5	0.38	348	1.99	1.34	9.8	7.1	875
E5124064 (7243437)	27.6	0.41	3.7	0.071	0.26	9.4	5.1	0.20	189	2.10	1.53	14.9	3.6	473
E5124065 (7243438)	25.3	<0.05	3.0	0.081	0.42	10.9	7.9	0.22	331	4.32	0.92	13.5	5.0	694
E5124066 (7243439)	23.4	<0.05	2.6	0.075	0.32	8.4	6.3	0.24	197	1.94	1.34	10.4	5.3	708
E5124067 (7243440)	17.2	<0.05	2.4	0.103	0.44	8.1	17.3	0.74	409	1.66	1.19	8.6	10.5	784
E5124068 (7243441)	31.8	1.03	3.9	0.090	0.42	9.6	6.1	0.36	308	1.76	1.34	12.6	5.8	518
E5124069 (7243442)	17.1	0.15	2.8	0.118	0.39	9.9	18.1	0.60	285	1.30	1.33	10.3	7.4	368
E5124070 (7243443)	20.2	0.17	2.6	0.099	0.61	10.6	20.0	0.81	445	2.04	1.45	10.2	12.5	842
E5124071 (7243444)	24.0	0.44	2.6	0.123	0.32	10.5	14.3	0.43	253	1.88	1.30	10.7	6.6	650
E5124072 (7243445)	22.1	0.14	2.4	0.097	0.35	9.8	30.0	0.49	207	6.11	1.18	10.6	16.2	701
E5124073 (7243446)	19.4	<0.05	2.6	0.102	0.39	10.9	33.9	1.16	421	4.83	1.16	10.4	11.3	917
E5124074 (7243447)	24.5	1.01	1.8	0.143	0.51	13.3	18.6	0.48	774	2.16	1.73	11.7	5.5	1270
E5124075 (7243448)	25.3	1.91	1.7	0.109	0.28	11.3	14.1	0.60	782	4.58	2.13	12.3	5.2	1230
E5124076 (7243449)	26.2	1.34	1.8	0.136	0.27	7.6	17.2	1.11	449	3.02	1.60	10.6	5.3	683
E5124077 (7243450)	23.2	1.76	1.7	0.124	0.15	7.2	37.6	2.52	642	5.27	1.48	11.4	6.4	716
E5124078 (7243451)	22.0	1.79	1.7	0.136	0.36	9.8	46.6	0.95	382	4.36	1.27	9.3	10.0	731
E5124079 (7243452)	27.7	2.31	1.9	0.125	0.23	8.3	14.7	0.81	291	3.44	1.52	10.7	6.1	695
E5124080 (7243453)	26.4	1.59	1.2	0.129	0.13	13.6	10.0	0.60	143	2.54	3.86	15.7	2.0	240
E5124081 (7243454)	21.0	1.32	1.5	0.126	0.32	12.0	18.4	0.72	401	2.16	1.50	9.5	10.0	852
E5124082 (7243455)	18.2	1.16	1.6	0.118	0.28	8.6	18.3	0.65	252	2.19	1.24	8.2	8.5	669
E5124083 (7243456)	19.3	1.18	1.5	0.135	0.28	10.4	21.1	0.85	304	4.20	1.14	8.1	16.0	691
E5124084 (7243457)	23.3	1.57	1.7	0.122	0.26	8.9	16.0	0.54	251	2.71	1.41	10.5	7.3	565
E5124085 (7243458)	27.5	2.99	1.7	0.108	0.20	8.4	6.0	0.95	150	5.97	1.36	10.4	5.1	451
E5124086 (7243459)	20.3	1.77	1.4	0.080	0.37	11.9	25.4	1.02	1150	4.29	1.64	10.2	11.6	975
E5124087 (7243460)	18.4	1.91	1.5	0.123	0.18	7.9	23.7	1.83	266	4.52	0.94	9.8	7.3	577
E5124088 (7243461)	25.0	1.46	1.4	0.136	0.21	15.8	14.5	0.58	494	2.17	2.41	15.1	3.6	571
E5124089 (7243462)	17.3	4.14	1.8	0.149	0.06	4.2	19.7	6.90	2730	4.82	0.32	5.5	8.0	851

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

### (201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015	DATE RECEIVED: Nov 30, 2015					DATE REPORTED: Dec 16, 2015					SAMPLE TYPE: Soil				
Analyte:	Ga	Ge	Hf	In	K	La	Li	Mg	Mn	Mo	Na	Nb	Ni	P	
Unit:	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	
RDL:	0.05	0.05	0.1	0.005	0.01	0.5	0.1	0.01	1	0.05	0.01	0.1	0.2	10	
E5124090 (7243463)	18.8	1.20	1.7	0.168	0.27	16.2	33.2	1.13	1420	4.10	1.38	9.1	9.8	895	
E5124091 (7243464)	21.4	1.23	1.7	0.200	0.27	11.3	25.2	1.58	1400	4.55	1.45	9.0	9.4	701	
E5124092 (7243465)	20.6	1.31	1.7	0.113	0.23	9.1	24.2	0.75	268	2.90	1.04	10.2	5.4	714	
E5124093 (7243466)	29.6	1.69	1.8	0.145	0.38	11.7	14.6	0.71	502	1.92	1.10	13.8	6.6	468	
E5124094 (7243467)	21.1	1.00	1.4	0.108	0.28	9.6	13.0	0.59	423	1.96	0.92	10.5	8.0	722	
E5124095 (7243468)	24.4	1.42	2.1	0.140	0.29	11.0	19.4	0.83	336	4.96	1.10	11.6	9.0	623	
E5124096 (7243469)	27.7	1.50	1.9	0.225	0.32	12.7	13.9	0.47	209	1.65	1.01	9.7	3.7	621	
E5124097 (7243470)	32.6	2.95	1.7	0.091	0.27	11.8	4.1	0.27	266	2.34	1.54	15.1	4.8	370	
E5124098 (7243471)	27.4	2.37	1.8	0.089	0.20	10.9	6.1	0.43	298	1.44	1.66	13.6	5.9	597	
E5124099 (7243472)	33.5	2.18	2.3	0.108	0.18	9.0	3.4	0.24	168	1.85	1.47	13.4	3.9	451	
E5124100 (7243473)	26.4	2.39	5.1	0.075	0.44	9.7	10.4	0.46	304	6.31	1.78	14.5	5.9	731	
E5124101 (7243474)	23.5	1.59	2.0	0.106	0.51	8.1	20.7	0.85	248	3.92	1.65	12.0	11.1	468	
E5124102 (7243475)	31.2	2.23	2.0	0.126	0.24	10.7	10.6	0.36	215	2.24	1.54	13.9	5.7	438	
E5124103 (7243476)	23.1	1.37	1.8	0.114	0.52	10.6	21.9	0.73	300	3.27	1.88	11.0	9.9	633	
E5124104 (7243477)	25.6	2.36	1.6	0.096	0.29	11.1	4.2	0.21	164	4.33	2.13	15.1	5.4	413	
E5124188 (7243478)	28.2	1.97	1.8	0.082	0.44	10.7	6.6	0.40	483	1.34	1.66	14.0	5.7	656	
E5124189 (7243479)	27.3	2.08	1.6	0.093	0.45	13.3	11.4	0.32	488	1.53	1.44	14.5	5.2	733	
E5124190 (7243480)	25.5	1.57	2.8	0.155	0.60	13.4	15.7	0.61	487	1.58	1.83	14.8	6.7	378	
E5124191 (7243481)	26.2	1.45	2.5	0.165	0.55	11.5	8.1	0.50	476	1.34	1.66	14.6	5.2	484	
E5124192 (7243482)	27.4	1.22	2.8	0.152	0.54	14.9	13.1	0.47	426	1.55	1.24	14.8	4.0	778	
E5124193 (7243483)	13.7	1.23	1.3	0.080	0.21	10.0	4.9	0.10	241	1.77	0.73	9.2	3.1	612	
E5124194 (7243484)	28.5	1.85	2.1	0.139	0.49	11.9	13.0	0.39	530	2.27	1.49	14.5	4.3	748	
E5124195 (7243485)	27.8	1.83	2.1	0.123	0.52	13.2	9.3	0.30	306	2.22	1.85	13.7	3.9	366	
E5124196 (7243486)	25.9	1.49	2.5	0.146	0.67	16.7	19.1	0.81	560	1.49	1.67	13.7	5.1	601	
E5124197 (7243487)	29.2	1.91	2.5	0.144	0.46	12.3	12.7	0.61	449	1.54	1.49	12.8	5.4	567	
E5124198 (7243488)	27.0	1.93	2.4	0.165	0.36	10.4	17.8	0.41	518	2.15	1.01	12.8	6.1	831	
E5124199 (7243489)	23.2	1.47	2.3	0.179	0.31	6.6	26.6	0.54	432	2.17	0.72	10.8	8.1	991	
E5124200 (7243490)	21.0	1.49	2.2	0.121	0.57	9.2	23.0	0.53	638	2.61	1.06	8.4	8.3	854	
E5124201 (7243491)	23.5	1.86	2.5	0.128	0.42	8.5	15.6	0.51	553	2.83	0.78	8.4	5.3	770	
E5124202 (7243492)	18.7	1.49	1.5	0.079	0.89	14.8	14.4	1.15	1030	0.98	2.41	10.0	11.3	947	
E5124203 (7243493)	28.9	0.28	2.2	0.110	0.43	9.0	11.2	0.38	374	1.69	1.54	13.4	3.5	454	
E5124204 (7243494)	24.1	0.59	1.8	0.126	0.39	10.8	12.1	0.32	366	2.09	1.26	12.3	4.3	680	

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

### (201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015	DATE RECEIVED: Nov 30, 2015					DATE REPORTED: Dec 16, 2015					SAMPLE TYPE: Soil				
Analyte:	Ga	Ge	Hf	In	K	La	Li	Mg	Mn	Mo	Na	Nb	Ni	P	
Unit:	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	
RDL:	0.05	0.05	0.1	0.005	0.01	0.5	0.1	0.01	1	0.05	0.01	0.1	0.2	10	
E5124205 (7243495)	21.9	0.56	2.0	0.127	0.43	10.1	17.3	0.34	305	2.48	1.42	12.0	4.6	716	
E5124206 (7243496)	21.4	0.59	2.5	0.124	0.68	8.7	22.4	0.96	604	1.64	1.69	10.2	10.2	400	
E5124207 (7243497)	21.6	0.21	2.3	0.102	0.72	13.1	23.3	0.98	507	2.07	1.58	11.0	9.8	544	
E5124208 (7243498)	18.2	<0.05	2.1	0.094	0.42	11.2	18.7	0.36	279	1.50	1.33	10.6	4.4	1140	
E5124209 (7243499)	18.1	0.22	1.4	0.125	0.39	7.4	16.7	0.49	435	3.18	1.10	7.1	7.5	657	
E5124360 (7243500)	35.0	0.68	1.5	0.151	0.31	8.3	10.1	0.34	312	2.26	1.21	14.0	6.1	521	
E5124361 (7243501)	26.0	0.62	1.5	0.106	0.28	7.8	8.7	0.36	240	1.90	1.48	11.1	7.1	518	
E5124362 (7243502)	29.5	1.00	1.8	0.074	0.25	8.8	3.7	0.23	335	2.75	0.99	14.8	4.0	376	
E5124363 (7243503)	14.9	0.18	1.4	0.085	0.27	10.4	23.0	1.23	561	2.59	1.08	7.5	9.7	1230	
E5124364 (7243504)	21.4	0.34	1.5	0.103	0.23	5.4	17.2	0.39	183	2.57	1.21	8.4	4.8	806	
E5124365 (7243505)	16.1	<0.05	1.4	0.096	0.22	5.6	32.8	1.86	429	2.96	0.83	8.2	13.9	860	
E5124366 (7243506)	21.9	0.22	1.5	0.105	0.21	7.7	27.6	1.16	363	4.28	1.34	9.5	5.5	794	
E5124367 (7243507)	15.7	<0.05	4.4	0.089	0.27	7.3	23.4	3.63	1770	2.93	1.15	10.5	8.6	1140	
E5124368 (7243508)	16.0	<0.05	1.6	0.146	0.26	4.6	28.3	1.92	347	3.35	0.81	7.0	11.7	643	
E5124369 (7243509)	20.6	0.28	1.5	0.104	0.41	8.5	28.8	0.69	519	4.28	1.08	7.7	15.1	1160	
E5124370 (7243510)	21.8	<0.05	4.2	0.114	0.39	8.7	31.3	0.80	390	5.21	1.30	10.3	16.6	618	
E5124371 (7243511)	26.5	0.33	2.1	0.166	0.89	8.2	40.4	1.10	832	5.54	1.64	9.3	15.2	814	
E5124372 (7243512)	23.9	<0.05	1.9	0.096	0.25	7.1	14.7	1.60	490	2.65	0.90	6.8	6.0	306	
E5124373 (7243513)	18.3	<0.05	1.3	0.130	0.25	4.6	17.9	0.56	227	2.77	0.86	6.8	9.6	1030	
E5124374 (7243514)	24.4	0.16	1.6	0.108	0.38	10.2	21.7	1.03	615	3.99	2.21	10.8	10.3	639	
E5124375 (7243515)	20.4	<0.05	1.5	0.087	0.21	10.1	22.1	2.70	1950	4.54	1.23	9.5	8.5	817	
E5124376 (7243516)	17.8	<0.05	1.2	0.099	0.23	6.2	22.8	2.48	512	3.88	1.20	5.3	8.0	747	
E5124377 (7243517)	17.2	<0.05	1.5	0.123	0.35	7.5	22.3	1.19	310	3.03	1.20	6.9	13.1	688	
E5124378 (7243518)	34.4	<0.05	1.3	0.178	0.27	14.4	17.4	0.43	415	2.21	3.53	18.6	2.5	482	
E5124379 (7243519)	17.4	<0.05	1.6	0.099	0.45	20.1	27.1	1.70	3380	3.02	1.60	8.5	12.9	1560	
E5124380 (7243520)	17.4	<0.05	1.7	0.096	0.38	11.4	23.5	1.13	1190	2.54	1.45	8.2	11.2	1110	
E5124381 (7243521)	20.4	<0.05	1.8	0.090	0.31	6.8	15.4	0.55	498	1.71	1.46	9.1	5.5	698	
E5124382 (7243522)	31.4	0.27	1.3	0.067	0.24	2.5	30.8	3.44	268	1.91	0.78	6.3	12.5	542	
E5124383 (7243523)	19.9	<0.05	1.5	0.107	0.40	10.4	25.3	0.95	867	2.73	1.63	8.8	11.1	1450	
E5124384 (7243524)	23.2	0.11	1.5	0.101	0.28	17.3	28.3	0.46	265	3.99	1.27	7.8	5.7	682	
E5124385 (7243525)	19.5	<0.05	1.6	0.099	0.38	5.7	28.8	0.66	302	2.29	1.05	10.0	13.5	760	
E5124386 (7243526)	14.4	<0.05	1.3	0.075	0.34	8.4	13.7	0.75	472	1.56	0.82	6.2	13.0	1320	

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

### (201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015	DATE RECEIVED: Nov 30, 2015					DATE REPORTED: Dec 16, 2015					SAMPLE TYPE: Soil				
Analyte:	Ga	Ge	Hf	In	K	La	Li	Mg	Mn	Mo	Na	Nb	Ni	P	
Unit:	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	
RDL:	0.05	0.05	0.1	0.005	0.01	0.5	0.1	0.01	1	0.05	0.01	0.1	0.2	10	
E5124387 (7243527)	19.1	<0.05	1.8	0.100	0.39	7.1	25.1	0.72	438	2.35	1.07	10.6	11.3	776	
E5124388 (7243528)	26.0	0.25	1.4	0.102	0.33	9.1	13.3	0.39	409	1.76	1.19	9.5	7.5	876	
E5124389 (7243529)	23.9	0.24	1.3	0.115	0.34	10.9	10.8	0.54	499	1.70	1.30	11.4	10.0	766	
E5124390 (7243530)	16.2	0.06	1.5	0.083	0.38	5.7	21.0	0.90	460	1.59	1.11	7.8	10.3	608	
E5124391 (7243531)	19.8	<0.05	1.3	0.076	0.57	12.3	12.3	0.78	445	2.05	1.82	4.1	12.1	422	
E5124392 (7243532)	15.6	<0.05	1.0	0.066	0.31	7.8	17.2	0.74	498	3.16	1.01	6.6	9.5	955	
E5124393 (7243533)	27.9	0.16	1.4	0.112	0.32	10.0	9.5	0.57	533	1.98	1.05	12.5	6.9	701	
E5124394 (7243534)	16.5	0.06	1.4	0.076	0.39	10.6	19.0	0.65	434	1.27	1.19	6.4	11.3	965	
E5124395 (7243535)	28.0	0.21	1.2	0.069	0.51	5.0	4.2	1.28	963	0.84	2.15	6.5	17.7	754	
E5124396 (7243536)	22.9	0.33	1.4	0.105	0.27	7.0	13.4	0.59	232	1.50	1.56	8.7	7.9	599	
E5124397 (7243537)	27.0	0.29	2.3	0.054	0.35	10.3	7.5	0.28	178	0.70	0.89	7.5	4.1	158	
E5124398 (7243538)	29.1	0.11	1.6	0.096	1.03	12.5	11.6	0.59	652	3.26	2.90	12.9	5.4	573	
E5124399 (7243539)	28.7	2.25	2.3	0.100	0.26	12.4	21.0	0.48	1000	6.33	2.05	15.2	8.5	682	
E5124400 (7243540)	31.6	1.80	1.7	0.156	0.31	13.3	39.9	0.54	1910	4.28	1.72	14.1	9.0	1030	
E5124401 (7243541)	29.2	2.93	1.5	0.105	0.25	14.7	5.6	0.35	1490	4.39	1.31	15.0	3.7	577	
E5124402 (7243542)	28.2	1.70	1.4	0.098	0.25	8.7	6.4	0.27	172	2.58	1.79	13.4	3.6	495	
E5124403 (7243543)	27.4	1.48	1.5	0.100	0.27	20.3	4.3	0.14	104	1.13	2.04	16.7	1.7	279	
E5124404 (7243544)	30.0	1.66	2.2	0.176	0.32	10.9	21.9	0.57	255	2.40	1.52	15.8	6.2	516	
E5124537 (7243545)	19.9	1.25	1.6	0.099	0.45	7.0	21.4	0.76	492	9.65	0.94	8.7	13.7	745	
E5124538 (7243546)	22.0	0.30	1.6	0.070	0.43	2.5	39.8	5.23	240	45.3	0.20	7.5	19.0	493	
E5124539 (7243547)	22.9	1.47	2.0	0.091	0.50	6.5	25.4	0.41	800	4.22	0.67	9.6	18.0	748	
E5124540 (7243548)	13.8	0.84	1.3	0.085	0.22	7.7	17.7	0.39	1820	4.63	0.29	5.5	10.4	866	
E5124541 (7243549)	29.7	2.04	2.3	0.120	0.23	7.4	9.6	0.28	544	1.64	1.01	11.6	11.8	1470	
E5124542 (7243550)	20.1	1.70	1.9	0.122	0.45	5.8	16.8	0.58	159	1.70	0.91	7.4	20.0	1240	
E5124543 (7243551)	22.8	1.73	2.0	0.145	0.54	9.9	39.7	0.63	277	2.77	0.77	9.9	14.8	620	
E5124544 (7243552)	20.8	1.45	1.4	0.107	0.53	7.8	47.4	1.10	240	2.92	1.10	7.2	24.9	610	
E5124545 (7243553)	21.4	1.21	1.2	0.112	0.78	2.9	40.7	0.96	223	0.95	0.29	4.6	15.3	689	
E5124546 (7243554)	31.7	1.32	1.8	0.256	0.19	3.9	14.8	0.34	184	1.70	0.92	5.7	4.2	1020	
E5124547 (7243555)	19.7	1.41	2.1	0.097	0.53	11.5	17.9	0.72	488	1.48	1.52	10.3	7.6	594	
E5124548 (7243556)	23.2	1.23	2.2	0.094	0.44	11.4	10.5	0.58	439	1.66	1.51	11.3	5.7	671	
E5124549 (7243557)	23.0	1.39	2.7	0.107	0.41	10.7	15.5	0.37	272	2.33	1.35	11.0	5.2	541	
E5124550 (7243558)	19.6	1.12	1.9	0.089	0.53	9.7	23.2	0.52	283	2.59	1.33	9.9	8.3	640	

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

5623 McADAM ROAD  
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CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

### (201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015	DATE RECEIVED: Nov 30, 2015					DATE REPORTED: Dec 16, 2015					SAMPLE TYPE: Soil				
Analyte:	Ga	Ge	Hf	In	K	La	Li	Mg	Mn	Mo	Na	Nb	Ni	P	
Unit:	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	
RDL:	0.05	0.05	0.1	0.005	0.01	0.5	0.1	0.01	1	0.05	0.01	0.1	0.2	10	
E5124551 (7243559)	20.8	1.51	1.8	0.082	0.56	14.3	15.6	0.48	566	2.49	1.77	10.8	5.7	676	
E5124552 (7243560)	21.1	1.11	2.6	0.116	0.31	9.5	23.0	0.36	311	2.35	0.90	9.4	9.8	941	
E5124553 (7243561)	22.1	1.29	2.4	0.144	0.38	7.8	22.1	0.61	347	1.78	1.17	8.3	9.9	646	
E5124554 (7243562)	20.2	0.93	1.9	0.112	1.05	6.3	31.9	0.95	1150	2.97	0.79	8.4	21.8	710	
E5124555 (7243563)	25.7	1.63	2.0	0.104	0.25	4.9	12.8	0.49	259	2.00	0.88	7.6	12.3	902	
E5124556 (7243564)	17.9	1.08	1.9	0.098	0.49	6.4	29.6	0.98	371	1.54	0.74	6.6	18.9	876	
E5124557 (7243565)	20.3	1.15	1.1	0.096	0.76	2.0	30.1	1.77	435	1.04	0.21	4.6	7.7	668	
E5124558 (7243566)	25.8	1.53	1.7	0.188	0.17	11.7	57.5	2.13	2420	4.78	0.83	7.8	13.5	771	
E5124559 (7243567)	22.2	1.14	1.5	0.127	0.40	9.7	37.1	0.83	337	3.25	1.16	9.5	16.6	638	
E5125242 (7243568)	24.3	1.88	2.3	0.093	0.35	9.3	3.9	0.25	214	1.34	1.52	11.6	3.7	522	
E5125243 (7243569)	20.8	1.65	2.5	0.092	0.22	8.4	8.3	0.24	202	1.49	1.22	8.6	4.1	1000	
E5125244 (7243570)	19.7	1.64	1.8	0.068	0.32	6.5	9.8	1.57	199	3.95	1.25	7.6	8.8	739	
E5125245 (7243571)	18.1	1.32	1.9	0.109	0.23	7.1	23.9	0.53	454	1.59	0.83	6.8	9.0	1040	
E5125246 (7243572)	20.9	1.71	1.8	0.080	0.49	11.8	25.4	0.91	1890	2.93	0.91	6.5	13.0	1540	
E5125247 (7243573)	23.6	1.47	1.9	0.102	0.51	11.8	29.1	1.05	484	1.76	1.39	10.8	14.8	746	
E5125248 (7243574)	17.2	0.28	1.8	0.090	0.19	3.2	55.8	4.77	210	6.31	0.32	5.1	11.3	498	
E5125249 (7243575)	16.8	0.87	2.1	0.034	0.42	15.8	4.9	0.15	95	1.26	1.44	10.4	2.5	178	
E5125250 (7243576)	25.0	0.73	1.9	0.060	0.55	12.5	9.9	0.30	283	1.27	1.61	10.8	3.1	391	
E5125251 (7243577)	23.2	0.72	2.3	0.126	0.27	9.5	32.3	0.34	270	2.46	1.24	10.0	5.3	1070	
E5125252 (7243578)	20.9	0.92	2.1	0.110	0.44	13.2	34.7	0.42	309	3.55	0.96	9.7	7.2	932	
E5125253 (7243579)	23.4	1.07	1.7	0.080	0.36	10.7	17.4	0.31	242	4.49	1.18	9.4	4.4	796	
E5125254 (7243580)	20.6	1.24	2.1	0.050	0.29	7.5	5.8	0.22	97	2.09	1.12	8.8	3.3	373	
E5125255 (7243581)	26.7	1.92	2.6	0.081	0.28	7.3	8.8	0.43	161	1.99	1.09	11.0	4.2	655	
E5125256 (7243582)	29.2	1.74	2.6	0.135	0.18	10.0	6.6	0.30	228	1.88	1.01	11.4	2.7	868	
E5125257 (7243583)	22.4	1.61	2.1	0.109	0.48	9.4	17.6	0.98	476	1.90	1.54	11.2	8.2	537	
E5125258 (7243584)	31.5	3.29	2.5	0.067	0.27	10.5	4.2	0.20	341	1.66	1.25	16.5	3.0	373	
E5125259 (7243585)	23.6	<0.05	1.7	0.089	0.49	8.2	10.6	0.64	403	1.48	1.60	12.5	8.5	530	

Certified By:





## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

### (201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015

DATE RECEIVED: Nov 30, 2015

DATE REPORTED: Dec 16, 2015

SAMPLE TYPE: Soil

Analyte:	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl
Unit:	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm
RDL:	0.1	0.1	0.002	0.01	0.05	0.1	0.5	0.2	0.2	0.05	0.01	0.1	0.01	0.01
E5124026 (7243399)	5.8	24.6	<0.002	0.05	1.37	25.9	2.4	2.0	189	1.23	0.38	3.7	0.51	0.17
E5124027 (7243400)	4.0	13.4	<0.002	0.06	0.39	19.2	4.0	1.3	129	0.68	0.08	1.6	0.49	0.08
E5124028 (7243401)	6.2	12.6	<0.002	0.08	0.65	16.6	5.8	1.6	127	1.29	0.16	3.7	0.69	0.08
E5124029 (7243402)	7.9	10.7	<0.002	0.07	0.79	12.0	3.1	2.5	121	1.30	0.13	3.7	0.92	0.07
E5124030 (7243403)	7.2	11.7	<0.002	0.03	1.29	13.8	2.9	2.3	116	1.14	0.11	3.6	0.87	0.09
E5124031 (7243404)	9.0	14.1	<0.002	0.03	0.96	13.8	2.5	2.4	156	1.15	0.07	3.8	0.98	0.08
E5124032 (7243405)	10.6	42.8	<0.002	0.04	1.84	31.0	1.8	1.8	174	1.27	0.14	2.5	0.64	0.27
E5124033 (7243406)	6.2	42.3	<0.002	0.04	1.03	23.6	2.2	1.4	170	1.32	0.08	3.0	0.54	0.23
E5124034 (7243407)	4.7	14.5	<0.002	0.06	1.20	21.3	2.9	1.5	93.4	1.08	0.10	2.5	0.71	0.10
E5124035 (7243408)	6.4	16.4	<0.002	0.07	1.51	17.1	2.5	1.2	113	1.38	0.08	2.5	0.65	0.17
E5124036 (7243409)	6.4	34.4	<0.002	0.05	1.68	32.1	3.0	1.2	85.3	0.83	0.18	2.0	0.54	0.24
E5124037 (7243410)	6.0	14.9	<0.002	0.06	2.74	17.6	2.8	1.3	87.3	0.99	0.13	2.5	0.54	0.17
E5124038 (7243411)	2.9	4.0	<0.002	0.05	1.04	26.8	2.0	1.1	81.5	0.54	0.03	1.0	0.71	0.05
E5124039 (7243412)	5.2	14.2	<0.002	0.10	1.61	33.0	1.8	1.2	190	1.04	0.03	1.3	0.87	0.11
E5124040 (7243413)	7.6	22.9	<0.002	0.04	0.89	22.0	3.1	2.2	170	1.30	0.05	3.3	0.85	0.15
E5124041 (7243414)	8.2	15.6	<0.002	0.08	0.83	15.7	3.3	1.8	142	1.02	0.03	2.9	0.72	0.09
E5124042 (7243415)	7.9	16.7	<0.002	0.06	0.68	11.0	2.5	1.8	141	0.86	0.04	3.1	0.72	0.09
E5124043 (7243416)	8.5	17.9	<0.002	0.04	0.75	14.7	2.6	1.8	146	0.76	0.03	3.1	0.69	0.11
E5124044 (7243417)	7.7	19.6	<0.002	0.04	1.24	18.3	2.8	1.9	164	1.03	0.07	3.1	0.77	0.12
E5124045 (7243418)	6.1	22.8	<0.002	0.07	0.89	23.1	5.1	1.5	130	1.02	0.05	3.0	0.60	0.13
E5124046 (7243419)	7.2	28.4	<0.002	0.05	1.05	20.0	2.5	1.6	163	0.77	0.04	2.6	0.65	0.14
E5124047 (7243420)	6.8	22.8	<0.002	0.04	1.09	18.7	2.5	1.6	179	0.90	0.02	3.0	0.66	0.15
E5124048 (7243421)	8.0	7.7	<0.002	0.08	0.47	19.7	3.2	1.8	111	0.52	0.02	1.4	1.35	0.06
E5124049 (7243422)	6.6	14.9	<0.002	0.06	2.26	21.3	3.2	1.2	81.3	0.72	0.04	1.8	0.64	0.27
E5124050 (7243423)	5.3	10.2	<0.002	0.03	1.30	20.0	2.5	1.7	104	0.71	0.04	1.9	0.85	0.14
E5124051 (7243424)	4.5	7.5	<0.002	0.05	1.39	25.6	3.2	1.5	67.2	0.58	0.01	1.6	0.96	0.09
E5124052 (7243425)	2.6	14.2	<0.002	0.04	0.89	28.0	2.4	1.8	54.4	0.64	0.01	2.1	0.79	0.12
E5124053 (7243426)	2.6	6.8	<0.002	0.03	3.24	48.2	2.1	1.3	174	1.25	<0.01	1.0	1.42	0.07
E5124054 (7243427)	2.8	9.6	<0.002	0.02	0.77	18.8	1.7	1.2	157	0.59	0.01	1.2	1.14	0.13
E5124055 (7243428)	7.8	40.2	<0.002	0.06	3.09	33.1	2.4	1.0	78.1	0.58	<0.01	1.0	0.98	0.40
E5124056 (7243429)	8.4	39.0	<0.002	0.02	3.12	19.2	1.7	3.3	46.8	1.13	0.25	2.8	0.61	0.42
E5124057 (7243430)	6.6	11.2	<0.002	0.04	0.93	12.7	2.5	2.2	125	0.88	0.05	3.0	0.81	0.08

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

### (201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015

DATE RECEIVED: Nov 30, 2015

DATE REPORTED: Dec 16, 2015

SAMPLE TYPE: Soil

Analyte:	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl
Unit:	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm
RDL:	0.1	0.1	0.002	0.01	0.05	0.1	0.5	0.2	0.2	0.05	0.01	0.1	0.01	0.01
E5124058 (7243431)	4.9	19.4	<0.002	0.06	1.05	16.9	3.6	1.6	134	1.03	0.03	2.8	0.63	0.14
E5124059 (7243432)	7.5	27.3	<0.002	0.05	1.16	22.0	2.8	1.5	158	0.63	0.01	2.6	0.62	0.19
E5124060 (7243433)	5.5	33.1	<0.002	0.06	1.34	27.6	3.6	0.7	157	0.78	0.03	2.4	0.37	0.23
E5124061 (7243434)	7.7	14.9	0.003	0.05	0.75	19.3	2.5	1.9	212	0.84	0.32	3.2	0.51	0.22
E5124062 (7243435)	8.1	24.4	<0.002	0.04	0.98	20.5	2.6	1.4	175	1.38	2.89	9.2	0.44	0.32
E5124063 (7243436)	6.7	14.6	<0.002	0.06	0.87	17.4	2.2	1.4	183	0.63	0.92	2.5	0.67	0.16
E5124064 (7243437)	5.7	11.4	<0.002	0.03	1.24	19.7	2.6	2.1	166	0.94	0.44	2.9	1.06	0.12
E5124065 (7243438)	9.4	16.9	<0.002	0.04	0.81	12.0	2.0	2.1	188	0.92	0.42	3.7	0.67	0.20
E5124066 (7243439)	6.1	13.2	<0.002	0.04	0.74	16.2	2.3	1.6	148	0.57	0.26	2.5	0.72	0.12
E5124067 (7243440)	8.3	18.8	<0.002	0.07	1.08	19.6	3.5	1.1	106	0.81	0.19	2.5	0.54	0.12
E5124068 (7243441)	7.0	14.5	<0.002	0.04	1.02	17.6	2.8	2.3	106	0.82	0.08	3.3	1.10	0.09
E5124069 (7243442)	4.7	14.9	<0.002	0.05	0.92	17.9	3.2	1.1	123	0.77	0.07	2.7	0.50	0.10
E5124070 (7243443)	4.8	24.9	<0.002	0.04	1.41	20.2	2.5	1.2	131	0.75	0.08	2.4	0.61	0.16
E5124071 (7243444)	5.6	12.6	<0.002	0.05	1.03	17.4	3.9	1.4	99.5	0.72	0.05	3.0	0.69	0.10
E5124072 (7243445)	9.2	16.1	<0.002	0.05	0.87	18.7	2.8	1.7	162	0.75	0.14	2.4	0.58	0.15
E5124073 (7243446)	20.2	17.8	<0.002	0.06	0.90	21.4	3.7	1.4	161	0.99	0.23	2.8	0.56	0.19
E5124074 (7243447)	6.3	19.2	0.002	0.07	0.51	27.9	3.2	1.7	184	0.86	0.11	1.4	0.75	0.18
E5124075 (7243448)	20.6	9.1	<0.002	0.06	0.99	16.7	2.7	3.1	343	0.65	0.37	1.8	1.16	0.10
E5124076 (7243449)	6.0	11.5	<0.002	0.06	0.97	20.6	2.1	1.7	117	0.84	0.14	1.3	0.72	0.12
E5124077 (7243450)	55.8	6.1	<0.002	0.05	1.01	16.3	2.7	1.7	101	0.80	0.55	1.9	0.65	0.10
E5124078 (7243451)	15.0	16.5	<0.002	0.07	0.92	20.9	2.8	1.6	122	0.81	0.26	2.0	0.63	0.19
E5124079 (7243452)	5.7	9.6	<0.002	0.06	1.27	19.8	2.5	2.1	138	0.73	0.07	1.7	1.03	0.10
E5124080 (7243453)	5.0	4.0	<0.002	0.03	0.64	17.6	2.2	2.6	161	1.04	0.09	1.0	0.70	0.05
E5124081 (7243454)	5.7	14.2	<0.002	0.05	0.84	24.0	3.2	1.5	132	0.94	0.05	1.9	0.53	0.14
E5124082 (7243455)	5.2	11.5	<0.002	0.08	0.65	25.0	4.1	1.3	109	0.75	0.06	2.0	0.55	0.10
E5124083 (7243456)	6.6	12.5	<0.002	0.06	0.84	22.7	4.3	1.2	141	0.75	0.08	1.9	0.50	0.11
E5124084 (7243457)	5.8	12.8	<0.002	0.07	0.73	21.3	3.5	1.7	126	0.84	0.08	2.1	0.63	0.11
E5124085 (7243458)	6.3	6.9	<0.002	0.04	1.39	15.0	2.6	1.7	146	0.62	0.39	1.6	0.76	0.06
E5124086 (7243459)	8.7	14.7	0.003	0.05	0.98	17.8	2.0	1.6	157	0.73	0.50	1.6	0.72	0.17
E5124087 (7243460)	10.9	6.8	<0.002	0.06	0.73	13.1	3.1	1.4	97.8	0.77	0.15	2.3	0.54	0.06
E5124088 (7243461)	17.1	8.4	<0.002	0.05	0.58	15.5	2.8	2.5	81.0	1.13	0.22	1.4	0.44	0.10
E5124089 (7243462)	89.6	2.5	0.002	0.19	4.18	10.8	3.0	1.2	129	0.35	0.63	1.5	0.49	0.07

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

### (201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015	DATE RECEIVED: Nov 30, 2015					DATE REPORTED: Dec 16, 2015					SAMPLE TYPE: Soil				
Analyte:	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	
Unit:	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	
RDL:	0.1	0.1	0.002	0.01	0.05	0.1	0.5	0.2	0.2	0.05	0.01	0.1	0.01	0.01	
E5124090 (7243463)	11.4	12.6	<0.002	0.06	1.23	27.2	3.3	1.5	148	0.66	0.53	2.2	0.49	0.17	
E5124091 (7243464)	8.6	11.3	<0.002	0.06	0.79	19.7	2.9	1.4	134	0.75	0.26	2.4	0.55	0.12	
E5124092 (7243465)	7.4	9.4	<0.002	0.09	0.82	19.3	4.6	1.4	135	0.78	0.17	2.2	0.58	0.09	
E5124093 (7243466)	7.7	12.9	<0.002	0.11	0.96	23.2	4.3	2.1	98.4	0.98	0.03	3.2	0.75	0.10	
E5124094 (7243467)	5.7	10.5	<0.002	0.09	0.77	22.2	4.9	1.3	84.0	0.78	0.03	2.4	0.54	0.07	
E5124095 (7243468)	7.7	17.2	<0.002	0.07	0.78	21.6	3.9	2.8	79.5	0.91	0.09	1.9	0.59	0.10	
E5124096 (7243469)	6.0	17.2	<0.002	0.06	0.69	24.3	2.5	2.1	43.3	0.80	0.23	2.0	0.77	0.14	
E5124097 (7243470)	5.5	10.5	<0.002	0.04	0.74	19.1	2.4	2.7	103	0.72	0.24	1.5	0.87	0.10	
E5124098 (7243471)	6.5	8.9	<0.002	0.05	1.05	19.2	2.7	2.9	142	0.66	0.18	1.3	0.84	0.07	
E5124099 (7243472)	4.9	6.5	<0.002	0.04	0.74	15.2	2.4	2.4	117	0.70	0.06	1.7	0.78	0.06	
E5124100 (7243473)	9.8	20.0	<0.002	0.03	0.69	21.3	2.9	2.0	216	1.02	2.81	7.1	0.82	0.16	
E5124101 (7243474)	5.9	22.4	<0.002	0.04	0.63	22.5	3.3	1.7	216	0.88	1.15	2.3	0.66	0.17	
E5124102 (7243475)	5.8	9.2	<0.002	0.03	0.85	21.7	3.3	2.4	127	0.84	0.59	2.2	0.83	0.08	
E5124103 (7243476)	6.9	21.2	<0.002	0.04	0.54	22.4	3.3	1.6	177	0.93	0.39	2.4	0.53	0.16	
E5124104 (7243477)	6.3	9.8	<0.002	0.04	0.93	14.9	2.4	4.0	157	0.91	0.36	1.9	0.82	0.11	
E5124188 (7243478)	7.0	12.5	<0.002	0.05	1.00	16.3	2.5	2.0	189	0.84	0.15	2.4	0.78	0.09	
E5124189 (7243479)	6.5	15.6	<0.002	0.06	0.96	16.9	3.4	2.2	155	0.78	0.13	2.6	0.74	0.12	
E5124190 (7243480)	7.4	17.8	<0.002	0.06	0.92	18.2	3.4	2.1	169	0.97	0.12	4.0	0.78	0.13	
E5124191 (7243481)	6.2	17.3	<0.002	0.06	0.55	16.2	3.0	2.1	182	0.90	0.06	3.0	0.73	0.10	
E5124192 (7243482)	6.0	17.8	<0.002	0.12	0.46	21.1	5.7	2.0	137	1.18	0.08	3.2	0.66	0.12	
E5124193 (7243483)	6.8	9.0	<0.002	0.08	0.43	9.4	4.3	1.2	71.3	0.58	0.04	2.6	0.50	0.05	
E5124194 (7243484)	8.2	21.0	<0.002	0.05	0.87	15.8	3.6	2.1	159	0.90	0.09	2.8	0.81	0.10	
E5124195 (7243485)	10.5	19.1	<0.002	0.05	0.88	14.5	2.9	2.5	173	0.85	0.05	3.0	0.84	0.11	
E5124196 (7243486)	7.5	27.0	<0.002	0.05	0.94	20.8	3.6	2.0	160	1.10	0.03	2.9	0.75	0.13	
E5124197 (7243487)	8.2	17.2	<0.002	0.06	0.92	16.2	3.8	2.0	137	0.80	<0.01	2.7	0.79	0.10	
E5124198 (7243488)	7.3	15.4	<0.002	0.07	1.21	17.0	3.0	2.2	97.9	0.78	0.05	2.5	0.70	0.15	
E5124199 (7243489)	5.2	15.4	<0.002	0.09	1.29	18.1	5.0	1.6	83.8	0.73	0.09	2.7	0.63	0.14	
E5124200 (7243490)	6.9	22.8	<0.002	0.07	2.12	21.8	3.0	1.2	115	0.65	0.05	2.2	0.65	0.20	
E5124201 (7243491)	5.0	19.1	<0.002	0.07	2.45	24.1	3.3	1.4	105	0.56	0.05	2.0	0.68	0.15	
E5124202 (7243492)	5.4	28.2	<0.002	0.04	1.15	25.3	2.3	1.4	260	0.73	0.02	1.9	0.57	0.15	
E5124203 (7243493)	6.6	13.3	<0.002	0.06	1.12	14.8	2.7	2.2	103	0.66	0.13	2.1	0.92	0.10	
E5124204 (7243494)	6.0	14.0	<0.002	0.07	0.85	13.6	3.2	1.7	104	0.64	0.04	2.3	0.73	0.12	

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

### (201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015

DATE RECEIVED: Nov 30, 2015

DATE REPORTED: Dec 16, 2015

SAMPLE TYPE: Soil

Analyte:	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl
Unit:	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm
RDL:	0.1	0.1	0.002	0.01	0.05	0.1	0.5	0.2	0.2	0.05	0.01	0.1	0.01	0.01
E5124205 (7243495)	6.8	15.0	<0.002	0.07	0.85	13.7	4.1	1.6	119	0.69	0.05	2.6	0.68	0.12
E5124206 (7243496)	7.3	20.8	<0.002	0.05	0.97	16.2	2.7	1.4	125	0.62	0.02	1.9	0.64	0.17
E5124207 (7243497)	6.0	30.6	<0.002	0.08	1.78	27.6	3.5	1.4	152	0.91	0.04	2.5	0.64	0.18
E5124208 (7243498)	4.5	16.9	<0.002	0.07	0.89	22.0	3.9	1.4	120	0.82	0.02	2.3	0.60	0.11
E5124209 (7243499)	5.3	12.8	<0.002	0.05	0.99	14.6	2.2	1.1	108	0.46	0.02	1.5	0.60	0.14
E5124360 (7243500)	6.6	10.5	<0.002	0.06	1.14	14.8	2.5	2.2	103	0.75	0.01	2.0	0.85	0.11
E5124361 (7243501)	6.2	9.8	<0.002	0.05	1.09	14.3	2.5	1.8	124	0.56	0.07	2.0	0.78	0.09
E5124362 (7243502)	7.3	9.6	<0.002	0.03	1.21	12.9	2.0	2.3	88.6	0.53	0.02	2.1	1.13	0.09
E5124363 (7243503)	13.2	9.5	<0.002	0.08	0.81	19.0	3.3	0.9	105	0.46	0.07	1.3	0.46	0.11
E5124364 (7243504)	5.2	8.2	<0.002	0.05	0.87	15.4	3.0	1.3	114	0.52	0.07	1.4	0.65	0.09
E5124365 (7243505)	7.8	7.9	<0.002	0.06	0.89	15.3	2.9	1.1	98.7	0.48	1.19	1.3	0.50	0.13
E5124366 (7243506)	16.8	8.1	<0.002	0.06	1.12	13.8	2.4	1.6	152	0.50	0.57	1.5	0.68	0.11
E5124367 (7243507)	19.5	7.4	<0.002	0.06	0.55	11.4	2.9	1.3	116	0.75	1.54	6.2	0.49	0.12
E5124368 (7243508)	8.0	11.1	<0.002	0.07	0.68	15.0	2.9	0.9	98.5	0.55	0.92	2.2	0.40	0.12
E5124369 (7243509)	5.7	17.6	0.003	0.06	0.80	20.0	3.0	1.1	146	0.57	0.58	1.6	0.58	0.18
E5124370 (7243510)	7.7	16.5	<0.002	0.05	0.82	17.4	3.3	1.3	127	0.56	0.14	1.4	0.57	0.18
E5124371 (7243511)	11.6	31.7	<0.002	0.03	1.95	24.7	2.3	1.6	89.0	0.60	0.09	1.2	0.91	0.37
E5124372 (7243512)	6.5	5.8	<0.002	0.06	0.94	27.9	2.7	1.1	452	0.46	0.06	1.5	0.69	0.07
E5124373 (7243513)	5.5	9.8	<0.002	0.06	0.75	14.8	3.1	1.1	99.5	0.43	0.04	1.3	0.50	0.13
E5124374 (7243514)	13.3	15.9	<0.002	0.04	0.98	16.3	2.6	2.2	112	0.67	0.08	1.9	0.67	0.27
E5124375 (7243515)	35.8	9.2	<0.002	0.06	2.80	14.4	1.9	1.4	133	0.45	0.13	1.7	0.63	0.14
E5124376 (7243516)	25.0	9.3	<0.002	0.06	1.84	14.4	1.8	1.1	143	0.23	4.25	1.3	0.54	0.12
E5124377 (7243517)	8.5	13.9	<0.002	0.06	0.88	17.7	2.3	1.0	143	0.40	1.17	1.6	0.57	0.15
E5124378 (7243518)	6.0	10.1	<0.002	0.03	0.79	15.4	1.9	2.9	106	0.96	0.98	1.6	0.49	0.21
E5124379 (7243519)	16.2	18.2	<0.002	0.09	1.04	26.3	2.7	1.1	202	0.50	0.78	1.7	0.52	0.26
E5124380 (7243520)	6.8	13.5	<0.002	0.06	0.63	24.3	2.8	1.1	140	0.48	0.57	1.7	0.52	0.17
E5124381 (7243521)	5.3	10.0	<0.002	0.07	0.55	16.8	3.8	1.2	140	0.53	0.32	1.9	0.63	0.10
E5124382 (7243522)	5.1	8.1	<0.002	0.05	1.04	30.2	2.2	1.1	63.3	0.39	0.59	0.8	0.79	0.12
E5124383 (7243523)	6.2	11.8	0.004	0.08	0.88	20.5	3.3	1.3	188	0.54	0.36	1.3	0.62	0.14
E5124384 (7243524)	10.8	10.8	<0.002	0.07	0.98	15.9	3.5	1.6	120	0.34	0.19	1.9	0.66	0.11
E5124385 (7243525)	6.4	13.9	<0.002	0.06	0.92	18.0	4.0	1.2	103	0.65	0.11	2.0	0.53	0.15
E5124386 (7243526)	4.7	10.9	<0.002	0.07	0.64	20.4	3.2	0.8	81.2	0.41	0.08	1.9	0.39	0.11

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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<http://www.agatlabs.com>

CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

### (201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015

DATE RECEIVED: Nov 30, 2015

DATE REPORTED: Dec 16, 2015

SAMPLE TYPE: Soil

Analyte:	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl
Unit:	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm
RDL:	0.1	0.1	0.002	0.01	0.05	0.1	0.5	0.2	0.2	0.05	0.01	0.1	0.01	0.01
E5124387 (7243527)	6.4	10.7	<0.002	0.14	1.09	32.9	4.5	1.3	94.2	0.70	0.06	2.1	0.50	0.11
E5124388 (7243528)	5.8	13.8	<0.002	0.05	0.84	17.0	3.4	1.6	116	0.35	0.04	2.0	0.73	0.14
E5124389 (7243529)	5.6	10.3	<0.002	0.07	0.86	17.3	3.4	1.5	114	0.56	0.02	2.1	0.70	0.11
E5124390 (7243530)	6.5	10.0	<0.002	0.10	0.99	20.7	2.9	1.0	60.4	0.44	0.04	1.6	0.51	0.11
E5124391 (7243531)	5.8	17.0	<0.002	0.04	1.25	16.9	2.0	1.3	180	0.17	0.14	1.3	0.64	0.17
E5124392 (7243532)	5.2	8.6	<0.002	0.10	0.72	21.1	3.3	1.0	75.6	0.30	0.11	1.5	0.46	0.08
E5124393 (7243533)	6.2	8.9	<0.002	0.06	0.84	19.8	3.4	1.7	88.4	0.57	0.03	2.3	0.81	0.08
E5124394 (7243534)	5.3	12.3	<0.002	0.07	0.91	20.3	2.8	1.2	93.2	0.37	0.02	1.7	0.56	0.13
E5124395 (7243535)	6.9	14.6	<0.002	0.05	1.05	23.1	2.1	1.2	249	0.30	0.03	0.8	0.84	0.15
E5124396 (7243536)	5.2	10.0	<0.002	0.06	0.63	15.4	2.8	1.4	140	0.34	0.04	1.2	0.74	0.08
E5124397 (7243537)	5.8	10.9	<0.002	0.03	1.65	18.1	2.0	1.7	107	0.30	0.05	1.7	1.10	0.14
E5124398 (7243538)	5.4	30.8	0.002	0.02	0.56	18.7	2.0	1.9	157	0.61	0.02	1.2	0.61	0.18
E5124399 (7243539)	6.7	12.1	<0.002	0.03	0.66	23.1	3.4	2.2	199	0.74	0.52	2.4	1.10	0.09
E5124400 (7243540)	10.9	18.0	<0.002	0.05	0.75	23.1	3.3	2.2	170	0.82	0.37	2.3	0.82	0.14
E5124401 (7243541)	14.3	10.0	<0.002	0.04	1.07	23.9	3.3	3.6	250	0.69	0.21	2.6	1.74	0.08
E5124402 (7243542)	5.3	10.1	<0.002	0.04	0.57	18.6	2.2	2.0	101	0.68	0.14	1.4	0.74	0.10
E5124403 (7243543)	3.7	10.6	<0.002	0.03	1.09	14.8	1.6	3.0	50.2	0.89	0.10	1.4	0.55	0.10
E5124404 (7243544)	5.0	17.3	<0.002	0.09	0.85	27.6	4.3	2.1	106	1.16	0.21	2.0	0.67	0.10
E5124537 (7243545)	5.9	19.4	<0.002	0.05	2.05	16.4	2.6	1.1	103	0.56	0.13	1.5	0.55	0.35
E5124538 (7243546)	7.8	15.9	0.002	0.06	3.10	13.7	2.7	0.9	26.4	0.71	0.28	1.1	0.54	0.76
E5124539 (7243547)	6.7	21.9	<0.002	0.04	3.12	19.4	3.3	1.3	90.2	0.74	0.21	1.7	0.73	0.40
E5124540 (7243548)	9.5	12.3	<0.002	0.05	2.33	18.1	2.2	0.8	46.2	0.31	0.12	1.1	0.56	0.22
E5124541 (7243549)	5.2	9.4	<0.002	0.07	1.26	24.7	3.2	1.9	130	0.69	0.05	1.8	1.33	0.09
E5124542 (7243550)	5.0	17.7	<0.002	0.06	2.13	22.8	2.3	1.1	156	0.64	0.05	1.6	0.61	0.18
E5124543 (7243551)	7.4	23.8	<0.002	0.05	1.21	20.8	2.2	1.4	154	0.78	0.05	2.5	0.55	0.19
E5124544 (7243552)	7.2	21.9	<0.002	0.04	1.04	28.5	3.5	0.9	310	0.90	0.03	1.8	0.47	0.19
E5124545 (7243553)	4.1	29.1	<0.002	0.05	1.07	34.3	2.5	0.8	77.4	0.67	0.03	1.1	0.72	0.15
E5124546 (7243554)	4.1	9.0	<0.002	0.08	2.60	24.0	2.8	1.3	104	0.53	0.03	1.1	0.69	0.07
E5124547 (7243555)	5.6	19.7	<0.002	0.07	0.85	19.9	3.6	1.5	145	0.73	0.02	2.4	0.60	0.12
E5124548 (7243556)	5.4	15.9	<0.002	0.07	0.95	25.6	3.9	1.7	131	0.73	0.01	2.6	0.76	0.10
E5124549 (7243557)	4.9	17.2	<0.002	0.05	1.38	17.3	3.6	1.6	125	0.63	0.03	2.7	0.63	0.11
E5124550 (7243558)	4.4	25.4	<0.002	0.06	1.84	18.5	3.5	1.2	129	0.77	0.02	2.2	0.54	0.15

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

### (201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015

DATE RECEIVED: Nov 30, 2015

DATE REPORTED: Dec 16, 2015

SAMPLE TYPE: Soil

Analyte:	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl
Unit:	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm
RDL:	0.1	0.1	0.002	0.01	0.05	0.1	0.5	0.2	0.2	0.05	0.01	0.1	0.01	0.01
E5124551 (7243559)	5.8	22.2	<0.002	0.06	1.18	17.3	3.1	1.5	154	0.74	0.04	2.2	0.66	0.14
E5124552 (7243560)	8.1	13.8	0.004	0.06	1.77	20.9	3.0	1.3	85.7	0.65	0.05	2.0	0.72	0.15
E5124553 (7243561)	7.5	15.2	<0.002	0.06	1.28	24.2	4.4	1.3	117	0.53	0.08	2.0	0.76	0.18
E5124554 (7243562)	6.9	42.6	<0.002	0.04	2.09	24.1	3.4	1.2	118	0.61	0.20	1.7	0.67	0.56
E5124555 (7243563)	5.6	9.8	<0.002	0.06	1.75	18.6	2.6	1.3	97.8	0.48	0.11	1.4	0.78	0.14
E5124556 (7243564)	5.1	22.3	<0.002	0.06	1.74	26.9	3.7	1.0	105	0.55	0.07	1.6	0.62	0.21
E5124557 (7243565)	3.9	32.1	<0.002	0.05	0.74	30.9	2.5	0.7	46.0	0.33	<0.01	0.8	0.64	0.16
E5124558 (7243566)	14.1	12.0	0.002	0.05	1.67	28.7	2.3	1.4	252	0.55	0.29	1.5	0.67	0.18
E5124559 (7243567)	5.8	24.5	<0.002	0.04	0.99	24.3	2.8	1.7	132	0.74	0.04	1.9	0.55	0.24
E5125242 (7243568)	5.7	12.5	<0.002	0.06	0.82	14.1	2.9	4.5	116	0.62	<0.01	2.5	0.74	0.08
E5125243 (7243569)	4.8	8.3	<0.002	0.07	1.23	21.1	3.1	1.3	110	0.50	0.02	1.6	0.86	0.09
E5125244 (7243570)	5.8	10.4	<0.002	0.07	1.26	14.9	2.7	1.2	145	0.38	0.07	1.3	0.63	0.11
E5125245 (7243571)	6.2	9.5	<0.002	0.07	0.99	16.4	3.7	1.2	102	0.44	0.04	1.8	0.57	0.12
E5125246 (7243572)	5.8	29.6	0.002	0.06	1.18	25.6	2.8	1.2	134	0.41	0.04	1.5	0.69	0.21
E5125247 (7243573)	4.7	25.2	<0.002	0.06	0.95	30.6	2.7	1.8	153	0.72	0.01	1.8	0.57	0.19
E5125248 (7243574)	13.8	7.9	<0.002	0.04	2.04	18.4	2.4	0.9	47.2	0.38	0.10	1.2	0.50	0.15
E5125249 (7243575)	5.7	20.6	<0.002	0.02	0.57	8.3	1.0	1.5	124	0.74	<0.01	3.4	0.43	0.27
E5125250 (7243576)	5.3	22.1	<0.002	0.03	0.45	13.3	1.3	1.9	184	0.82	0.06	3.4	0.43	0.26
E5125251 (7243577)	6.9	15.6	<0.002	0.06	0.62	22.9	3.0	1.5	109	0.66	0.52	2.6	0.55	0.18
E5125252 (7243578)	6.5	26.5	<0.002	0.05	0.70	19.2	3.5	6.5	135	0.74	0.27	2.9	0.56	0.23
E5125253 (7243579)	5.6	18.4	<0.002	0.04	0.73	15.1	2.1	2.3	164	0.61	0.24	2.5	0.56	0.18
E5125254 (7243580)	3.4	12.2	<0.002	0.02	0.67	12.4	2.0	1.9	144	0.47	0.16	2.5	0.61	0.15
E5125255 (7243581)	8.0	10.4	<0.002	0.05	0.81	14.9	2.7	1.8	124	0.64	0.16	2.5	0.81	0.11
E5125256 (7243582)	5.1	7.9	<0.002	0.05	1.06	18.5	3.2	1.8	84.4	0.54	0.08	1.8	0.67	0.07
E5125257 (7243583)	5.3	18.2	<0.002	0.05	0.99	28.6	4.5	1.5	147	0.70	0.09	2.3	0.72	0.13
E5125258 (7243584)	6.4	10.5	<0.002	0.03	1.20	15.7	2.5	2.7	105	0.74	0.05	2.6	1.09	0.08
E5125259 (7243585)	4.6	15.3	<0.002	0.04	1.07	18.3	3.5	1.7	147	0.72	0.18	1.7	0.73	0.11

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## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

5623 McADAM ROAD  
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<http://www.agatlabs.com>

CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

(201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015	DATE RECEIVED: Nov 30, 2015				DATE REPORTED: Dec 16, 2015		SAMPLE TYPE: Soil
Analyte:	U	V	W	Y	Zn	Zr	
Unit:	ppm	ppm	ppm	ppm	ppm	ppm	
RDL:	0.005	0.5	0.1	0.1	0.5	0.5	
E5124026 (7243399)	2.97	115	1.4	32.8	68.7	79.2	
E5124027 (7243400)	1.09	89.3	0.6	20.7	44.9	55.4	
E5124028 (7243401)	1.65	139	1.1	20.7	34.6	105	
E5124029 (7243402)	1.37	188	1.1	14.2	20.2	109	
E5124030 (7243403)	2.00	214	1.2	15.2	27.5	123	
E5124031 (7243404)	1.54	203	1.2	18.1	24.0	144	
E5124032 (7243405)	2.59	141	1.1	41.5	93.6	102	
E5124033 (7243406)	3.47	125	1.1	26.2	82.3	102	
E5124034 (7243407)	2.32	219	1.0	20.6	46.5	87.8	
E5124035 (7243408)	3.31	188	0.9	13.9	46.1	80.0	
E5124036 (7243409)	5.27	159	0.7	29.0	78.5	80.7	
E5124037 (7243410)	3.75	192	1.0	10.7	57.8	83.6	
E5124038 (7243411)	0.450	445	0.5	8.4	23.7	59.5	
E5124039 (7243412)	0.754	306	0.6	15.4	60.4	93.3	
E5124040 (7243413)	1.85	190	1.1	33.6	43.8	113	
E5124041 (7243414)	1.58	143	0.9	23.0	48.3	103	
E5124042 (7243415)	1.33	145	0.8	14.5	38.5	88.1	
E5124043 (7243416)	1.51	145	0.8	16.5	46.9	100	
E5124044 (7243417)	1.61	176	1.3	19.8	38.9	126	
E5124045 (7243418)	2.26	134	1.1	28.5	56.6	100	
E5124046 (7243419)	1.46	135	0.9	25.5	73.5	108	
E5124047 (7243420)	1.67	147	1.0	16.4	50.5	103	
E5124048 (7243421)	0.705	263	0.8	13.1	34.9	93.4	
E5124049 (7243422)	4.62	192	0.7	11.2	48.3	71.6	
E5124050 (7243423)	1.67	139	1.6	13.5	27.1	99.6	
E5124051 (7243424)	0.753	275	1.0	11.3	30.9	86.1	
E5124052 (7243425)	0.931	278	0.7	17.4	23.6	73.5	
E5124053 (7243426)	0.706	380	0.3	9.4	60.0	112	
E5124054 (7243427)	3.57	365	0.7	8.0	18.9	87.6	
E5124055 (7243428)	2.32	304	0.5	14.9	39.8	77.6	
E5124056 (7243429)	2.75	121	1.0	12.3	43.5	88.1	
E5124057 (7243430)	1.34	194	0.8	14.5	28.0	100	

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## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

### (201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015

DATE RECEIVED: Nov 30, 2015

DATE REPORTED: Dec 16, 2015

SAMPLE TYPE: Soil

Analyte:	U	V	W	Y	Zn	Zr
Unit:	ppm	ppm	ppm	ppm	ppm	ppm
RDL:	0.005	0.5	0.1	0.1	0.5	0.5
Sample ID (AGAT ID)						
E5124058 (7243431)	1.94	144	0.9	19.3	39.3	97.2
E5124059 (7243432)	3.21	137	0.8	28.2	60.7	93.7
E5124060 (7243433)	2.79	148	0.5	15.5	101	59.3
E5124061 (7243434)	5.86	119	1.2	31.4	114	104
E5124062 (7243435)	4.71	129	1.9	18.1	92.5	83.2
E5124063 (7243436)	1.77	178	1.0	11.8	30.6	79.9
E5124064 (7243437)	1.62	234	1.1	15.3	22.2	140
E5124065 (7243438)	1.64	145	1.4	13.7	34.9	91.6
E5124066 (7243439)	1.46	195	1.1	14.7	24.6	85.9
E5124067 (7243440)	2.57	141	0.9	14.7	59.0	76.5
E5124068 (7243441)	1.83	267	1.0	16.3	24.3	125
E5124069 (7243442)	1.47	121	0.8	15.7	41.3	85.9
E5124070 (7243443)	3.01	148	0.8	21.9	61.0	89.8
E5124071 (7243444)	2.29	191	0.8	16.0	36.2	90.9
E5124072 (7243445)	3.52	166	0.8	17.7	93.4	80.9
E5124073 (7243446)	4.99	157	1.0	19.4	283	77.2
E5124074 (7243447)	3.06	153	1.1	30.2	113	50.5
E5124075 (7243448)	3.02	191	1.2	14.1	51.5	55.8
E5124076 (7243449)	2.71	196	0.7	11.3	52.2	52.8
E5124077 (7243450)	4.96	223	0.9	10.0	117	55.8
E5124078 (7243451)	5.95	186	0.8	14.9	98.8	57.2
E5124079 (7243452)	1.88	248	0.9	10.4	40.9	63.0
E5124080 (7243453)	1.02	122	0.6	13.8	30.4	35.3
E5124081 (7243454)	2.51	169	0.6	16.3	37.9	44.9
E5124082 (7243455)	2.26	170	0.6	14.6	37.7	48.6
E5124083 (7243456)	3.31	174	0.6	20.2	54.1	47.2
E5124084 (7243457)	2.25	186	0.7	11.5	32.3	53.2
E5124085 (7243458)	1.91	240	0.8	11.4	25.6	56.7
E5124086 (7243459)	9.54	207	0.8	20.4	83.7	47.2
E5124087 (7243460)	2.50	153	0.8	8.7	78.3	49.3
E5124088 (7243461)	5.23	74.5	0.7	21.1	62.5	45.2
E5124089 (7243462)	7.05	173	1.3	8.1	122	58.8

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## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

(201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015	DATE RECEIVED: Nov 30, 2015			DATE REPORTED: Dec 16, 2015			SAMPLE TYPE: Soil
Analyte:	U	V	W	Y	Zn	Zr	
Unit:	ppm	ppm	ppm	ppm	ppm	ppm	
RDL:	0.005	0.5	0.1	0.1	0.5	0.5	
E5124090 (7243463)	11.3	143	0.8	36.9	100	51.5	
E5124091 (7243464)	4.68	196	1.0	16.7	64.0	52.2	
E5124092 (7243465)	5.05	165	0.8	17.7	56.3	53.7	
E5124093 (7243466)	2.04	183	0.9	15.7	32.2	52.9	
E5124094 (7243467)	1.39	136	0.7	13.0	31.8	40.7	
E5124095 (7243468)	4.03	175	0.7	18.7	61.4	67.4	
E5124096 (7243469)	0.919	257	0.6	17.0	40.8	55.0	
E5124097 (7243470)	0.850	192	0.7	12.7	24.7	57.2	
E5124098 (7243471)	1.31	201	0.7	14.2	24.4	55.7	
E5124099 (7243472)	1.26	201	0.7	11.4	11.2	74.9	
E5124100 (7243473)	2.01	211	1.4	10.6	26.1	63.5	
E5124101 (7243474)	2.28	169	1.0	11.7	43.3	59.8	
E5124102 (7243475)	1.48	210	1.0	13.3	23.9	64.6	
E5124103 (7243476)	2.42	135	0.8	12.2	42.9	54.9	
E5124104 (7243477)	1.25	151	0.9	12.7	14.7	55.2	
E5124188 (7243478)	1.45	189	0.9	13.3	20.0	53.5	
E5124189 (7243479)	1.86	151	1.0	15.7	22.5	50.3	
E5124190 (7243480)	1.84	155	1.1	18.1	34.8	66.8	
E5124191 (7243481)	1.28	140	0.8	18.1	31.3	68.5	
E5124192 (7243482)	1.69	118	0.8	30.7	39.8	66.3	
E5124193 (7243483)	1.88	76.3	0.8	9.2	11.0	40.4	
E5124194 (7243484)	1.42	177	1.0	17.8	39.4	65.0	
E5124195 (7243485)	1.31	135	1.2	13.1	21.3	71.5	
E5124196 (7243486)	1.52	126	1.2	19.9	47.4	72.7	
E5124197 (7243487)	1.36	151	0.9	14.2	41.9	79.1	
E5124198 (7243488)	2.26	176	0.9	11.7	34.2	76.9	
E5124199 (7243489)	2.09	219	0.8	12.0	55.4	74.5	
E5124200 (7243490)	2.69	188	0.9	12.0	36.1	65.5	
E5124201 (7243491)	1.69	215	0.8	15.0	44.3	84.9	
E5124202 (7243492)	1.37	126	0.7	28.5	54.1	42.6	
E5124203 (7243493)	1.58	192	1.2	13.1	26.8	65.8	
E5124204 (7243494)	1.40	154	0.9	16.9	24.2	50.7	

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## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

(201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015	DATE RECEIVED: Nov 30, 2015				DATE REPORTED: Dec 16, 2015		SAMPLE TYPE: Soil
Analyte:	U	V	W	Y	Zn	Zr	
Unit:	ppm	ppm	ppm	ppm	ppm	ppm	
RDL:	0.005	0.5	0.1	0.1	0.5	0.5	
E5124205 (7243495)	1.69	128	0.9	12.7	36.5	55.2	
E5124206 (7243496)	1.38	114	0.8	11.4	63.7	68.7	
E5124207 (7243497)	1.65	142	0.9	18.8	76.6	68.8	
E5124208 (7243498)	1.27	150	0.8	13.9	44.9	57.6	
E5124209 (7243499)	2.71	160	0.5	10.4	54.7	41.2	
E5124360 (7243500)	1.49	252	0.8	8.4	29.9	46.2	
E5124361 (7243501)	1.36	203	0.7	8.2	22.7	49.0	
E5124362 (7243502)	1.38	224	0.8	9.3	17.7	62.1	
E5124363 (7243503)	10.7	114	0.5	27.4	109	43.5	
E5124364 (7243504)	1.89	203	0.7	8.0	27.3	53.2	
E5124365 (7243505)	4.20	163	0.7	11.2	102	43.4	
E5124366 (7243506)	5.91	175	0.8	12.5	109	54.5	
E5124367 (7243507)	4.06	131	1.0	10.9	106	45.5	
E5124368 (7243508)	4.07	138	0.8	7.4	59.3	41.8	
E5124369 (7243509)	12.0	181	0.7	20.3	89.8	48.6	
E5124370 (7243510)	8.72	190	0.9	21.6	112	160	
E5124371 (7243511)	4.16	192	1.4	19.7	155	73.6	
E5124372 (7243512)	1.56	295	0.7	15.5	46.0	66.9	
E5124373 (7243513)	1.95	187	0.6	6.5	46.4	48.0	
E5124374 (7243514)	3.51	148	0.7	18.0	73.0	47.2	
E5124375 (7243515)	3.44	139	1.2	11.8	93.9	51.3	
E5124376 (7243516)	2.60	146	0.7	9.2	54.1	45.1	
E5124377 (7243517)	3.53	160	0.6	12.4	61.2	47.5	
E5124378 (7243518)	1.43	81.8	0.7	20.1	48.2	38.7	
E5124379 (7243519)	29.9	132	0.8	43.1	123	52.7	
E5124380 (7243520)	9.01	134	0.7	29.9	94.6	52.1	
E5124381 (7243521)	1.60	160	0.6	10.7	33.3	63.3	
E5124382 (7243522)	1.78	344	0.8	3.8	38.2	47.1	
E5124383 (7243523)	13.1	148	0.6	31.0	113	52.4	
E5124384 (7243524)	11.1	160	0.7	24.7	96.2	49.8	
E5124385 (7243525)	2.45	157	0.7	6.9	49.8	49.0	
E5124386 (7243526)	1.97	100	0.7	15.3	43.7	34.8	

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## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

(201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015

DATE RECEIVED: Nov 30, 2015

DATE REPORTED: Dec 16, 2015

SAMPLE TYPE: Soil

Analyte:	U	V	W	Y	Zn	Zr
Unit:	ppm	ppm	ppm	ppm	ppm	ppm
RDL:	0.005	0.5	0.1	0.1	0.5	0.5
E5124387 (7243527)	4.09	131	0.7	20.3	56.2	53.1
E5124388 (7243528)	1.80	194	0.6	10.1	23.5	44.7
E5124389 (7243529)	1.68	170	0.7	13.3	25.3	39.8
E5124390 (7243530)	1.78	105	0.7	12.3	55.0	39.5
E5124391 (7243531)	2.52	156	0.6	14.6	38.3	40.7
E5124392 (7243532)	3.33	102	0.6	17.5	49.9	29.0
E5124393 (7243533)	1.93	197	0.7	13.4	28.3	40.5
E5124394 (7243534)	1.91	145	0.6	18.0	45.8	39.1
E5124395 (7243535)	0.457	340	0.3	7.7	48.7	40.2
E5124396 (7243536)	1.41	180	0.5	8.5	34.0	47.0
E5124397 (7243537)	0.776	168	0.4	10.5	14.2	68.0
E5124398 (7243538)	0.945	158	0.5	12.3	54.0	54.7
E5124399 (7243539)	1.91	223	1.2	18.0	48.4	77.4
E5124400 (7243540)	1.54	179	1.0	23.7	115	55.9
E5124401 (7243541)	1.02	334	0.8	17.9	43.6	46.1
E5124402 (7243542)	0.834	168	0.6	12.3	19.4	49.2
E5124403 (7243543)	0.699	82.1	0.8	11.3	16.9	45.4
E5124404 (7243544)	1.37	194	0.8	16.0	45.0	71.8
E5124537 (7243545)	4.81	171	0.7	10.8	63.7	55.0
E5124538 (7243546)	7.34	224	0.8	6.2	93.7	53.8
E5124539 (7243547)	6.64	245	1.0	7.8	66.7	67.4
E5124540 (7243548)	7.28	240	0.8	18.6	97.3	45.3
E5124541 (7243549)	1.15	387	1.0	10.2	36.3	71.3
E5124542 (7243550)	2.63	242	0.6	9.0	38.4	60.1
E5124543 (7243551)	1.86	176	0.6	10.3	66.6	68.8
E5124544 (7243552)	2.17	176	0.5	10.5	76.9	46.4
E5124545 (7243553)	2.88	387	0.4	7.0	44.8	40.5
E5124546 (7243554)	0.813	386	0.6	9.4	40.3	54.4
E5124547 (7243555)	1.68	122	0.8	16.8	48.8	58.3
E5124548 (7243556)	1.79	167	1.0	22.5	29.3	66.6
E5124549 (7243557)	1.63	151	0.9	15.2	29.6	93.6
E5124550 (7243558)	1.51	134	0.9	13.2	57.6	68.2

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

(201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

DATE SAMPLED: Nov 30, 2015	DATE RECEIVED: Nov 30, 2015			DATE REPORTED: Dec 16, 2015			SAMPLE TYPE: Soil
Analyte:	U	V	W	Y	Zn	Zr	
Unit:	ppm	ppm	ppm	ppm	ppm	ppm	
RDL:	0.005	0.5	0.1	0.1	0.5	0.5	
E5124551 (7243559)	2.30	131	0.8	18.8	42.1	61.7	
E5124552 (7243560)	6.85	215	0.9	15.6	61.2	72.8	
E5124553 (7243561)	3.47	234	0.7	12.4	48.4	80.2	
E5124554 (7243562)	7.81	264	0.8	13.0	106	68.1	
E5124555 (7243563)	3.04	273	0.7	8.2	34.1	65.1	
E5124556 (7243564)	2.88	231	0.7	11.7	72.2	57.7	
E5124557 (7243565)	1.22	342	0.3	5.1	54.1	35.4	
E5124558 (7243566)	13.4	234	0.8	38.4	143	62.1	
E5124559 (7243567)	3.01	169	0.8	13.1	113	50.5	
E5125242 (7243568)	1.27	158	0.7	11.6	19.2	73.2	
E5125243 (7243569)	1.44	208	0.6	16.5	25.4	79.5	
E5125244 (7243570)	2.21	190	0.5	10.7	28.7	60.1	
E5125245 (7243571)	2.05	185	0.5	10.5	39.3	62.8	
E5125246 (7243572)	6.07	235	0.5	22.1	56.5	54.3	
E5125247 (7243573)	3.19	178	0.6	20.8	68.9	61.9	
E5125248 (7243574)	4.60	188	0.7	7.6	51.0	60.7	
E5125249 (7243575)	1.56	57.8	0.8	9.3	12.1	63.9	
E5125250 (7243576)	1.42	79.5	0.9	10.7	25.0	58.5	
E5125251 (7243577)	1.41	152	1.1	13.2	53.9	70.2	
E5125252 (7243578)	2.47	149	1.0	17.5	89.0	63.2	
E5125253 (7243579)	1.98	145	0.8	10.7	32.5	56.1	
E5125254 (7243580)	1.35	134	0.8	9.5	9.6	68.9	
E5125255 (7243581)	1.91	224	0.8	11.2	22.2	88.6	
E5125256 (7243582)	1.35	158	0.6	15.1	22.4	79.8	
E5125257 (7243583)	1.95	174	0.8	19.0	43.7	67.8	
E5125258 (7243584)	1.25	216	1.0	11.7	15.7	90.2	
E5125259 (7243585)	1.30	196	0.9	14.3	43.1	56.6	

Comments: RDL - Reported Detection Limit  
 7243399-7243585 As, Sb values may be low due to digestion losses.

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

5623 McADAM ROAD  
 MISSISSAUGA, ONTARIO  
 CANADA L4Z 1N9  
 TEL (905)501-9998  
 FAX (905)501-0589  
<http://www.agatlabs.com>

CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

(202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)

DATE SAMPLED: Nov 30, 2015

DATE RECEIVED: Nov 30, 2015

DATE REPORTED: Dec 16, 2015

SAMPLE TYPE: Soil

Sample ID (AGAT ID)	Analyte: Unit: RDL:	Sample Login Weight kg	Au ppm
E5124026 (7243399)		0.58	0.013
E5124027 (7243400)		0.60	0.003
E5124028 (7243401)		0.42	0.003
E5124029 (7243402)		0.46	0.003
E5124030 (7243403)		0.36	0.004
E5124031 (7243404)		0.44	0.007
E5124032 (7243405)		0.56	0.140
E5124033 (7243406)		0.54	0.005
E5124034 (7243407)		0.40	0.006
E5124035 (7243408)		0.38	0.005
E5124036 (7243409)		0.42	0.007
E5124037 (7243410)		0.44	0.003
E5124038 (7243411)		0.36	0.002
E5124039 (7243412)		0.24	0.006
E5124040 (7243413)		0.34	0.002
E5124041 (7243414)		0.36	0.003
E5124042 (7243415)		0.34	0.006
E5124043 (7243416)		0.38	0.003
E5124044 (7243417)		0.32	0.004
E5124045 (7243418)		0.40	0.010
E5124046 (7243419)		0.40	0.007
E5124047 (7243420)		0.36	0.005
E5124048 (7243421)		0.30	0.001
E5124049 (7243422)		0.34	0.005
E5124050 (7243423)		0.38	0.008
E5124051 (7243424)		0.32	0.005
E5124052 (7243425)		0.38	0.003
E5124053 (7243426)		0.32	0.001
E5124054 (7243427)		0.40	0.003
E5124055 (7243428)		0.34	0.007
E5124056 (7243429)		0.42	0.007

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## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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ATTENTION TO: VINCENT LI

(202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)

DATE SAMPLED: Nov 30, 2015

DATE RECEIVED: Nov 30, 2015

DATE REPORTED: Dec 16, 2015

SAMPLE TYPE: Soil

Sample ID (AGAT ID)	Analyte: Unit: RDL:	Sample Login Weight kg	Au ppm
E5124057 (7243430)		0.38	0.002
E5124058 (7243431)		0.50	0.004
E5124059 (7243432)		0.48	0.028
E5124060 (7243433)		0.40	0.006
E5124061 (7243434)		0.24	0.018
E5124062 (7243435)		0.30	0.002
E5124063 (7243436)		0.24	<0.001
E5124064 (7243437)		0.26	0.006
E5124065 (7243438)		0.28	0.002
E5124066 (7243439)		0.28	0.002
E5124067 (7243440)		0.32	0.004
E5124068 (7243441)		0.28	0.003
E5124069 (7243442)		0.40	0.004
E5124070 (7243443)		0.34	0.006
E5124071 (7243444)		0.28	0.010
E5124072 (7243445)		0.26	0.006
E5124073 (7243446)		0.34	0.011
E5124074 (7243447)		0.28	0.002
E5124075 (7243448)		0.32	0.002
E5124076 (7243449)		0.24	0.002
E5124077 (7243450)		0.24	0.004
E5124078 (7243451)		0.26	0.005
E5124079 (7243452)		0.28	0.006
E5124080 (7243453)		0.30	0.001
E5124081 (7243454)		0.36	0.005
E5124082 (7243455)		0.24	0.003
E5124083 (7243456)		0.24	0.011
E5124084 (7243457)		0.30	0.002
E5124085 (7243458)		0.32	0.004
E5124086 (7243459)		0.30	0.004
E5124087 (7243460)		0.24	0.003

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## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

(202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)

DATE SAMPLED: Nov 30, 2015      DATE RECEIVED: Nov 30, 2015      DATE REPORTED: Dec 16, 2015      SAMPLE TYPE: Soil

Sample ID (AGAT ID)	Analyte: Unit: RDL:	Sample Login Weight kg 0.01	Au ppm 0.001
E5124088 (7243461)		0.28	0.005
E5124089 (7243462)		0.28	0.005
E5124090 (7243463)		0.30	0.037
E5124091 (7243464)		0.26	0.003
E5124092 (7243465)		0.26	0.027
E5124093 (7243466)		0.26	0.006
E5124094 (7243467)		0.30	0.012
E5124095 (7243468)		0.32	0.008
E5124096 (7243469)		0.24	0.002
E5124097 (7243470)		0.28	0.002
E5124098 (7243471)		0.24	0.005
E5124099 (7243472)		0.26	0.001
E5124100 (7243473)		0.26	0.002
E5124101 (7243474)		0.36	0.017
E5124102 (7243475)		0.32	0.006
E5124103 (7243476)		0.42	0.004
E5124104 (7243477)		0.32	0.003
E5124188 (7243478)		0.28	0.003
E5124189 (7243479)		0.24	0.009
E5124190 (7243480)		0.22	0.003
E5124191 (7243481)		0.26	0.004
E5124192 (7243482)		0.20	0.002
E5124193 (7243483)		0.16	0.003
E5124194 (7243484)		0.28	0.008
E5124195 (7243485)		0.24	0.003
E5124196 (7243486)		0.32	0.004
E5124197 (7243487)		0.32	0.004
E5124198 (7243488)		0.24	0.004
E5124199 (7243489)		0.34	0.005
E5124200 (7243490)		0.30	0.005
E5124201 (7243491)		0.32	0.008

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

(202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)

DATE SAMPLED: Nov 30, 2015      DATE RECEIVED: Nov 30, 2015      DATE REPORTED: Dec 16, 2015      SAMPLE TYPE: Soil

Sample ID (AGAT ID)	Analyte: Unit: RDL:	Sample Login Weight kg	Au ppm
E5124202 (7243492)		0.46	0.007
E5124203 (7243493)		0.24	0.003
E5124204 (7243494)		0.22	0.003
E5124205 (7243495)		0.26	0.010
E5124206 (7243496)		0.28	0.007
E5124207 (7243497)		0.28	0.011
E5124208 (7243498)		0.34	0.005
E5124209 (7243499)		0.26	0.012
E5124360 (7243500)		0.38	0.006
E5124361 (7243501)		0.36	0.005
E5124362 (7243502)		0.32	0.004
E5124363 (7243503)		0.36	0.012
E5124364 (7243504)		0.38	0.014
E5124365 (7243505)		0.42	0.005
E5124366 (7243506)		0.36	0.008
E5124367 (7243507)		0.36	0.034
E5124368 (7243508)		0.40	0.007
E5124369 (7243509)		0.44	0.004
E5124370 (7243510)		0.38	0.004
E5124371 (7243511)		0.38	0.537
E5124372 (7243512)		0.46	0.002
E5124373 (7243513)		0.48	0.002
E5124374 (7243514)		0.34	0.003
E5124375 (7243515)		0.42	0.008
E5124376 (7243516)		0.36	0.002
E5124377 (7243517)		0.36	0.010
E5124378 (7243518)		0.40	0.002
E5124379 (7243519)		0.40	0.033
E5124380 (7243520)		0.30	0.030
E5124381 (7243521)		0.40	0.007
E5124382 (7243522)		0.32	0.001

Certified By:





## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

(202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)

DATE SAMPLED: Nov 30, 2015

DATE RECEIVED: Nov 30, 2015

DATE REPORTED: Dec 16, 2015

SAMPLE TYPE: Soil

Sample ID (AGAT ID)	Analyte: Unit: RDL:	Sample Login Weight kg 0.01	Au ppm 0.001
E5124383 (7243523)		0.48	0.005
E5124384 (7243524)		0.34	0.004
E5124385 (7243525)		0.36	0.005
E5124386 (7243526)		0.40	0.037
E5124387 (7243527)		0.42	0.020
E5124388 (7243528)		0.32	0.005
E5124389 (7243529)		0.34	0.003
E5124390 (7243530)		0.40	0.005
E5124391 (7243531)		0.36	0.010
E5124392 (7243532)		0.40	0.009
E5124393 (7243533)		0.38	0.004
E5124394 (7243534)		0.38	0.005
E5124395 (7243535)		0.38	0.007
E5124396 (7243536)		0.38	0.010
E5124397 (7243537)		0.34	0.009
E5124398 (7243538)		0.48	0.002
E5124399 (7243539)		0.36	0.006
E5124400 (7243540)		0.32	0.002
E5124401 (7243541)		0.44	0.004
E5124402 (7243542)		0.36	0.004
E5124403 (7243543)		0.42	0.011
E5124404 (7243544)		0.46	0.005
E5124537 (7243545)		0.24	0.003
E5124538 (7243546)		0.22	0.006
E5124539 (7243547)		0.30	0.002
E5124540 (7243548)		0.24	0.003
E5124541 (7243549)		0.28	0.006
E5124542 (7243550)		0.22	0.023
E5124543 (7243551)		0.22	0.004
E5124544 (7243552)		0.28	0.003
E5124545 (7243553)		0.24	0.004

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

(202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)

DATE SAMPLED: Nov 30, 2015

DATE RECEIVED: Nov 30, 2015

DATE REPORTED: Dec 16, 2015

SAMPLE TYPE: Soil

Sample ID (AGAT ID)	Analyte: Unit: RDL:	Sample Login Weight kg	Au ppm
E5124546 (7243554)		0.34	0.004
E5124547 (7243555)		0.28	0.009
E5124548 (7243556)		0.26	0.004
E5124549 (7243557)		0.24	0.005
E5124550 (7243558)		0.24	0.010
E5124551 (7243559)		0.28	0.004
E5124552 (7243560)		0.26	0.044
E5124553 (7243561)		0.24	0.002
E5124554 (7243562)		0.26	0.003
E5124555 (7243563)		0.26	0.002
E5124556 (7243564)		0.28	0.007
E5124557 (7243565)		0.28	0.003
E5124558 (7243566)		0.26	0.005
E5124559 (7243567)		0.32	0.016
E5125242 (7243568)		0.40	0.003
E5125243 (7243569)		0.26	0.003
E5125244 (7243570)		0.34	0.003
E5125245 (7243571)		0.36	0.005
E5125246 (7243572)		0.38	0.003
E5125247 (7243573)		0.34	0.004
E5125248 (7243574)		0.32	0.004
E5125249 (7243575)		0.40	0.002
E5125250 (7243576)		0.44	0.002
E5125251 (7243577)		0.36	0.004
E5125252 (7243578)		0.38	0.004
E5125253 (7243579)		0.38	0.007
E5125254 (7243580)		0.38	0.002
E5125255 (7243581)		0.36	0.003
E5125256 (7243582)		0.42	0.005
E5125257 (7243583)		0.36	0.003
E5125258 (7243584)		0.32	0.003

Certified By:



# Certificate of Analysis

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

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CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

(202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)

DATE SAMPLED: Nov 30, 2015

DATE RECEIVED: Nov 30, 2015

DATE REPORTED: Dec 16, 2015

SAMPLE TYPE: Soil

Analyte:	Sample Login Weight	Au
Unit:	kg	ppm
Sample ID (AGAT ID)	RDL:	
E5125259 (7243585)	0.36	0.006

Comments: RDL - Reported Detection Limit

Certified By:



CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

(201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

Parameter	REPLICATE #1				REPLICATE #2				REPLICATE #3				REPLICATE #4			
	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD
Ag	7243399	0.255	0.269	5.3%	7243539	< 0.01	< 0.01	0.0%	7243421	0.205	0.227	10.2%	7243440	0.19	0.19	0.0%
Al	7243585	7.27	7.70	5.7%	7243420	6.99	6.74	3.6%	7243440	7.71	8.00	3.7%	7243493	6.70	6.24	7.1%
As	7243399	48.6	46.5	4.4%	7243420	45.9	47.5	3.4%	7243421	9.12	8.82	3.3%	7243440	57.9	57.2	1.2%
Ba	7243399	261	247	5.5%	7243420	240	231	3.8%	7243421	87	88	1.1%	7243440	134	135	0.7%
Be	7243399	1.33	1.40	5.1%	7243420	0.948	0.943	0.5%	7243421	0.457	0.449	1.8%	7243440	0.67	0.70	4.4%
Bi	7243399	0.08	0.08	0.0%	7243420	0.11	0.11	0.0%	7243421	0.125	0.117	6.6%	7243440	0.12	0.08	
Ca	7243585	0.49	0.51	4.0%	7243420	0.44	0.42	4.7%	7243440	0.33	0.34	3.0%	7243493	0.36	0.33	8.7%
Cd	7243399	0.11	0.15		7243420	0.10	0.12	18.2%	7243421	0.127	0.122	4.0%	7243440	0.10	0.10	0.0%
Ce	7243399	35.8	33.6	6.3%	7243420	30.5	29.7	2.7%	7243421	14.6	14.4	1.4%	7243440	26.4	26.3	0.4%
Co	7243399	13.6	13.6	0.0%	7243420	8.89	8.81	0.9%	7243421	17.2	16.6	3.6%	7243440	10.1	10.2	1.0%
Cr	7243585	37.3	37.2	0.3%	7243420	21.0	21.0	0.0%	7243440	34.8	35.4	1.7%	7243493	21.5	16.7	25.1%
Cs	7243399	1.64	1.54	6.3%	7243420	1.24	1.19	4.1%	7243421	0.838	0.811	3.3%	7243440	1.40	1.50	6.9%
Cu	7243585	28.9	30.8	6.4%	7243420	17.0	16.7	1.8%	7243440	24.3	24.3	0.0%	7243493	10.4	10.8	3.8%
Fe	7243585	7.67	7.98	4.0%	7243420	6.47	6.19	4.4%	7243440	5.91	6.12	3.5%	7243493	7.50	7.51	0.1%
Ga	7243399	17.0	16.2	4.8%	7243420	21.0	20.2	3.9%	7243421	22.2	23.2	4.4%	7243440	17.2	17.1	0.6%
Ge	7243399	< 0.05	< 0.05	0.0%	7243420	0.27	0.27	0.0%	7243421	1.40	1.76	22.8%	7243440	< 0.05	< 0.05	0.0%
Hf	7243399	4.1	2.8		7243420	3.2	3.2	0.0%	7243421	2.90	2.23	26.1%	7243440	2.4	2.4	0.0%
In	7243399	0.076	0.075	1.3%	7243420	0.111	0.107	3.7%	7243421	0.0956	0.0929	2.9%	7243440	0.103	0.0931	10.1%
K	7243585	0.492	0.518	5.1%	7243420	0.66	0.64	3.1%	7243440	0.439	0.456	3.8%	7243493	0.43	0.43	0.0%
La	7243399	14.4	13.7	5.0%	7243420	12.3	12.1	1.6%	7243421	7.2	7.0	2.8%	7243440	8.06	7.90	2.0%
Li	7243399	16.5	17.1	3.6%	7243420	16.8	16.8	0.0%	7243421	4.9	5.0	2.0%	7243440	17.3	17.9	3.4%
Mg	7243585	0.642	0.678	5.5%	7243420	0.71	0.71	0.0%	7243440	0.740	0.745	0.7%	7243493	0.38	0.38	0.0%
Mn	7243585	403	417	3.4%	7243420	462	462	0.0%	7243440	409	407	0.5%	7243493	374	363	3.0%
Mo	7243399	1.36	1.29	5.3%	7243420	1.49	1.42	4.8%	7243421	1.62	1.70	4.8%	7243440	1.66	1.71	3.0%
Na	7243585	1.60	1.68	4.9%	7243420	2.05	2.01	2.0%	7243440	1.19	1.20	0.8%	7243493	1.54	1.59	3.2%
Nb	7243399	13.7	10.6	25.5%	7243420	11.5	10.9	5.4%	7243421	10.5	10.1	3.9%	7243440	8.6	8.2	4.8%
Ni	7243585	8.5	9.2	7.9%	7243420	5.6	6.7	17.9%	7243440	10.5	9.82	6.7%	7243493	3.5	4.0	13.3%
P	7243585	530	612	14.4%	7243420	574	588	2.4%	7243440	784	817	4.1%	7243493	454	419	8.0%
Pb	7243399	5.8	5.3	9.0%	7243420	6.81	7.40	8.3%	7243421	8.04	8.42	4.6%	7243577	< 0.1	< 0.1	0.0%
Rb	7243399	24.6	23.9	2.9%	7243420	22.8	21.4	6.3%	7243421	7.67	8.05	4.8%	7243440	18.8	18.6	1.1%
Re	7243399	< 0.002	< 0.002	0.0%	7243420	< 0.002	< 0.002	0.0%	7243421	< 0.002	< 0.002	0.0%	7243440	< 0.002	< 0.002	0.0%



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S	7243585	0.04	0.05	22.2%	7243420	0.04	0.04	0.0%	7243440	0.071	0.064	10.4%	7243493	0.06	0.06	0.0%
Sb	7243399	1.37	1.25	9.2%	7243420	1.09	1.06	2.8%	7243421	0.471	0.404	15.3%	7243440	1.08	1.16	7.1%
Sc	7243399	25.9	26.0	0.4%	7243420	18.7	18.5	1.1%	7243421	19.7	19.6	0.5%	7243440	19.6	20.5	4.5%
Se	7243399	2.4	2.2	8.7%	7243420	2.5	2.3	8.3%	7243421	3.2	3.4	6.1%	7243440	3.5	3.2	9.0%
Sn	7243399	2.0	1.5		7243420	1.55	1.46	6.0%	7243421	1.8	1.8	0.0%	7243440	1.1	1.1	0.0%
Sr	7243399	189	181	4.3%	7243420	179	170	5.2%	7243421	111	118	6.1%	7243440	106	108	1.9%
Ta	7243399	1.23	1.10	11.2%	7243420	0.903	0.915	1.3%	7243421	0.522	0.464	11.8%	7243440	0.807	0.731	9.9%
Te	7243399	0.38	0.32	17.1%	7243420	0.02	0.04		7243421	0.02	0.05		7243440	0.19	0.13	
Th	7243399	3.7	3.2	14.5%	7243420	2.99	2.90	3.1%	7243421	1.38	1.21	13.1%	7243440	2.5	2.5	0.0%
Ti	7243585	0.73	0.75	2.7%	7243420	0.66	0.65	1.5%	7243440	0.54	0.54	0.0%	7243493	0.92	0.95	3.2%
Tl	7243399	0.170	0.165	3.0%	7243420	0.149	0.141	5.5%	7243421	0.06	0.06	0.0%	7243440	0.123	0.128	4.0%
U	7243399	2.97	2.93	1.4%	7243420	1.67	1.65	1.2%	7243421	0.705	0.605	15.3%	7243440	2.57	2.73	6.0%
V	7243585	196	199	1.5%	7243420	147	140	4.9%	7243440	141	151	6.8%	7243493	192	193	0.5%
W	7243399	1.4	1.0		7243420	1.0	1.0	0.0%	7243421	0.8	0.6	28.6%	7243440	0.91	0.82	10.4%
Y	7243399	32.8	31.0	5.6%	7243420	16.4	15.6	5.0%	7243421	13.1	11.6	12.1%	7243440	14.7	14.4	2.1%
Zn	7243585	43.1	51.3	17.4%	7243420	50.5	52.8	4.5%	7243440	59.0	57.9	1.9%	7243493	26.8	29.4	9.3%
Zr	7243399	79.2	73.3	7.7%	7243420	103	99.3	3.7%	7243421	93.4	71.9	26.0%	7243440	76.5	78.4	2.5%

	REPLICATE #5				REPLICATE #6				REPLICATE #7				REPLICATE #8			
Parameter	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD
Ag	7243447	0.19	0.19	0.0%	7243467	0.320	0.336	4.9%	7243486	0.19	0.18	5.4%	7243493	0.198	0.207	4.4%
Al	7243512	8.62	8.63	0.1%	7243532	11.2	11.9	6.1%								
As	7243447	18.1	15.9	12.9%	7243467	46.4	48.7	4.8%	7243486	28.9	30.1	4.1%	7243493	33.7	33.8	0.3%
Ba	7243447	189	201	6.2%	7243467	112	108	3.6%	7243486	257	250	2.8%	7243493	142	141	0.7%
Be	7243447	1.76	1.70	3.5%	7243467	0.55	0.60	8.7%	7243486	0.91	0.90	1.1%	7243493	0.76	0.74	2.7%
Bi	7243447	0.13	0.13	0.0%	7243467	0.10	0.10	0.0%	7243486	0.14	0.13	7.4%	7243493	0.16	0.16	0.0%
Ca	7243512	6.22	6.68	7.1%	7243532	0.72	0.76	5.4%								
Cd	7243447	0.264	0.319	18.9%	7243467	0.13	0.13	0.0%	7243486	0.05	0.05	0.0%	7243493	0.041	0.046	11.5%
Ce	7243447	50.0	52.9	5.6%	7243467	22.2	20.8	6.5%	7243486	36.8	36.1	1.9%	7243493	23.6	25.1	6.2%
Co	7243447	23.1	20.7	11.0%	7243467	6.04	6.03	0.2%	7243486	9.60	9.66	0.6%	7243493	5.48	5.49	0.2%
Cr	7243512	13.7	13.3	3.0%	7243532	36.3	37.6	3.5%								
Cs	7243447	0.99	1.07	7.8%	7243467	0.927	0.919	0.9%	7243486	2.01	2.00	0.5%	7243493	0.633	0.660	4.2%
Cu	7243512	32.3	33.9	4.8%	7243532	14.7	14.6	0.7%								
Fe	7243512	7.88	8.05	2.1%	7243532	4.70	4.89	4.0%								
Ga	7243447	24.5	23.2	5.5%	7243467	21.1	21.7	2.8%	7243486	25.9	27.0	4.2%	7243493	28.9	32.5	11.7%



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Ge	7243447	1.01	1.10	8.5%	7243467	1.00	1.03	3.0%	7243486	1.49	1.64	9.6%	7243493	0.28	0.52	
Hf	7243447	1.8	1.8	0.0%	7243467	1.4	1.4	0.0%	7243486	2.5	2.5	0.0%	7243493	2.15	2.01	6.7%
In	7243447	0.143	0.138	3.6%	7243467	0.108	0.108	0.0%	7243486	0.146	0.143	2.1%	7243493	0.110	0.117	6.2%
K	7243512	0.25	0.25	0.0%	7243532	0.31	0.32	3.2%								
La	7243447	13.3	14.1	5.8%	7243467	9.6	9.4	2.1%	7243486	16.7	16.2	3.0%	7243493	9.00	9.67	7.2%
Li	7243447	18.6	18.1	2.7%	7243467	13.0	13.7	5.2%	7243486	19.1	19.3	1.0%	7243493	11.2	11.2	0.0%
Mg	7243512	1.60	1.63	1.9%	7243532	0.74	0.76	2.7%								
Mn	7243512	490	505	3.0%	7243532	498	526	5.5%								
Mo	7243447	2.16	2.05	5.2%	7243467	1.96	1.96	0.0%	7243486	1.49	1.52	2.0%	7243493	1.69	1.92	12.7%
Na	7243512	0.90	0.93	3.3%	7243532	1.01	1.05	3.9%								
Nb	7243447	11.7	11.6	0.9%	7243467	10.5	10.8	2.8%	7243486	13.7	13.9	1.4%	7243493	13.4	11.7	13.5%
Ni	7243512	6.03	6.38	5.6%	7243532	9.5	9.8	3.1%								
P	7243512	306	310	1.3%	7243532	955	950	0.5%								
Pb	7243447	6.29	6.56	4.2%	7243467	5.75	6.17	7.0%	7243486	7.46	6.83	8.8%	7243493	6.56	6.19	5.8%
Rb	7243447	19.2	18.6	3.2%	7243467	10.5	11.0	4.7%	7243486	27.0	28.8	6.5%	7243493	13.3	15.2	13.3%
Re	7243447	0.002	0.002	0.0%	7243467	< 0.002	< 0.002	0.0%	7243486	< 0.002	< 0.002	0.0%	7243493	< 0.002	< 0.002	0.0%
S	7243512	0.058	0.052	10.9%	7243532	0.10	0.10	0.0%								
Sb	7243447	0.515	0.521	1.2%	7243467	0.77	0.75	2.6%	7243486	0.94	0.94	0.0%	7243493	1.12	1.13	0.9%
Sc	7243447	27.9	25.7	8.2%	7243467	22.2	22.5	1.3%	7243486	20.8	20.7	0.5%	7243493	14.8	15.6	5.3%
Se	7243447	3.23	3.25	0.6%	7243467	4.93	5.08	3.0%	7243486	3.65	3.80	4.0%	7243493	2.73	3.38	21.3%
Sn	7243447	1.7	1.7	0.0%	7243467	1.34	1.42	5.8%	7243486	2.0	2.0	0.0%	7243493	2.2	2.3	4.4%
Sr	7243447	184	185	0.5%	7243467	84.0	88.1	4.8%	7243486	160	166	3.7%	7243493	103	120	15.2%
Ta	7243447	0.865	0.926	6.8%	7243467	0.780	0.798	2.3%	7243486	1.10	1.01	8.5%	7243493	0.66	0.54	20.0%
Te	7243447	0.11	0.17		7243467	0.03	< 0.01		7243486	0.03	0.02		7243493	0.13	0.09	
Th	7243447	1.4	1.4	0.0%	7243467	2.4	2.5	4.1%	7243486	2.9	2.8	3.5%	7243493	2.09	2.26	7.8%
Ti	7243512	0.691	0.696	0.7%	7243532	0.46	0.47	2.2%								
Tl	7243447	0.18	0.18	0.0%	7243467	0.07	0.08	13.3%	7243486	0.128	0.123	4.0%	7243493	0.10	0.10	0.0%
U	7243447	3.06	3.06	0.0%	7243467	1.39	1.43	2.8%	7243486	1.52	1.47	3.3%	7243493	1.58	1.55	1.9%
V	7243512	295	290	1.7%	7243532	102	99.4	2.6%								
W	7243447	1.09	0.90	19.1%	7243467	0.7	0.7	0.0%	7243486	1.16	1.02	12.8%	7243493	1.21	1.06	13.2%
Y	7243447	30.2	30.2	0.0%	7243467	13.0	13.2	1.5%	7243486	19.9	20.6	3.5%	7243493	13.1	14.8	12.2%
Zn	7243512	46.0	50.3	8.9%	7243532	49.9	49.6	0.6%								
Zr	7243447	50.5	48.5	4.0%	7243467	40.7	39.6	2.7%	7243486	72.7	75.4	3.6%	7243493	65.8	69.9	6.0%



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Parameter	REPLICATE #9				REPLICATE #10				REPLICATE #11				REPLICATE #12			
	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD
Ag	7243512	0.172	0.163	5.4%	7243532	0.18	0.19	5.4%	7243539	0.183	0.154	17.2%	7243558	0.29	0.17	
As	7243512	50.9	45.6	11.0%	7243532	60.9	63.1	3.5%	7243539	25.2	21.9	14.0%	7243558	102	99.7	2.3%
Ba	7243512	77	81	5.1%	7243532	119	122	2.5%	7243539	96	98	2.1%	7243558	168	165	1.8%
Be	7243512	0.642	0.632	1.6%	7243532	0.783	0.733	6.6%	7243539	1.18	1.18	0.0%	7243558	0.893	1.00	11.3%
Bi	7243512	0.41	0.46	11.5%	7243532	0.084	0.092	9.1%	7243539	0.274	0.298	8.4%	7243558	0.095	0.087	8.8%
Cd	7243512	0.104	0.129	21.5%	7243532	0.07	0.07	0.0%	7243539	0.068	0.055	21.1%	7243558	0.142	0.133	6.5%
Ce	7243512	23.0	24.3	5.5%	7243532	28.2	28.3	0.4%	7243539	28.0	29.9	6.6%	7243558	31.5	32.8	4.0%
Co	7243512	16.0	15.3	4.5%	7243532	8.15	8.04	1.4%	7243539	8.73	8.76	0.3%	7243558	8.69	8.71	0.2%
Cs	7243512	0.41	0.42	2.4%	7243532	1.00	1.02	2.0%	7243539	1.36	1.41	3.6%	7243558	1.56	1.54	1.3%
Ga	7243512	23.9	22.8	4.7%	7243532	15.6	16.3	4.4%	7243539	28.7	28.0	2.5%	7243558	19.6	18.9	3.6%
Ge	7243512	< 0.05	< 0.05	0.0%	7243532	< 0.05	< 0.05	0.0%	7243539	2.25	2.28	1.3%	7243558	1.12	0.904	21.3%
Hf	7243512	1.9	1.9	0.0%	7243532	1.0	1.0	0.0%	7243539	2.3	2.3	0.0%	7243558	1.9	1.9	0.0%
In	7243512	0.096	0.104	8.0%	7243532	0.0663	0.0624	6.1%	7243539	0.100	0.0975	2.5%	7243558	0.0894	0.0901	0.8%
La	7243512	7.08	7.26	2.5%	7243532	7.8	7.8	0.0%	7243539	12.4	12.8	3.2%	7243558	9.7	9.8	1.0%
Li	7243512	14.7	14.9	1.4%	7243532	17.2	17.3	0.6%	7243539	21.0	21.3	1.4%	7243558	23.2	25.9	11.0%
Mo	7243512	2.65	2.51	5.4%	7243532	3.16	3.25	2.8%	7243539	6.33	6.34	0.2%	7243558	2.59	2.59	0.0%
Nb	7243512	6.8	6.7	1.5%	7243532	6.57	6.42	2.3%	7243539	15.2	14.1	7.5%	7243558	9.9	9.6	3.1%
Pb	7243512	6.5	7.9	19.4%	7243532	5.20	5.67	8.6%	7243539	6.72	7.25	7.6%	7243558	4.4	5.4	20.4%
Rb	7243512	5.8	5.5	5.3%	7243532	8.6	8.9	3.4%	7243539	12.1	11.7	3.4%	7243558	25.4	24.9	2.0%
Re	7243512	< 0.002	< 0.002	0.0%	7243532	< 0.002	< 0.002	0.0%	7243539	< 0.002	< 0.002	0.0%	7243558	< 0.002	< 0.002	0.0%
Sb	7243512	0.94	1.03	9.1%	7243532	0.717	0.672	6.5%	7243539	0.657	0.639	2.8%	7243558	1.84	1.86	1.1%
Sc	7243512	27.9	28.3	1.4%	7243532	21.1	20.9	1.0%	7243539	23.1	23.8	3.0%	7243558	18.5	19.8	6.8%
Se	7243512	2.7	2.6	3.8%	7243532	3.30	3.36	1.8%	7243539	3.38	3.09	9.0%	7243558	3.53	3.82	7.9%
Sn	7243512	1.12	1.18	5.2%	7243532	0.97	0.95	2.1%	7243539	2.2	2.1	4.7%	7243558	1.23	1.28	4.0%
Sr	7243512	452	471	4.1%	7243532	75.6	82.9	9.2%	7243539	199	190	4.6%	7243558	129	127	1.6%
Ta	7243512	0.463	0.486	4.8%	7243532	0.300	0.308	2.6%	7243539	0.74	0.79	6.5%	7243558	0.77	0.73	5.3%
Te	7243512	0.064	0.069	7.5%	7243532	0.11	0.03		7243539	0.52	0.44	16.7%	7243558	0.02	0.05	
Th	7243512	1.5	1.5	0.0%	7243532	1.5	1.5	0.0%	7243539	2.41	2.34	2.9%	7243558	2.2	2.2	0.0%
Tl	7243512	0.07	0.07	0.0%	7243532	0.083	0.088	5.8%	7243539	0.094	0.102	8.2%	7243558	0.146	0.139	4.9%
U	7243512	1.56	1.61	3.2%	7243532	3.33	3.23	3.0%	7243539	1.91	2.08	8.5%	7243558	1.51	1.58	4.5%
W	7243512	0.7	0.7	0.0%	7243532	0.57	0.51	11.1%	7243539	1.2	1.1	8.7%	7243558	0.9	0.8	11.8%
Y	7243512	15.5	15.6	0.6%	7243532	17.5	18.2	3.9%	7243539	18.0	17.1	5.1%	7243558	13.2	13.1	0.8%



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Zr	7243512	66.9	63.2	5.7%	7243532	29.0	27.8	4.2%	7243539	77.4	71.3	8.2%	7243558	68.2	65.3	4.3%
REPLICATE #13																
Parameter	Sample ID	Original	Replicate	RPD												
Ag	7243577	0.17	0.17	0.0%												
As	7243577	93.4	96.3	3.1%												
Ba	7243577	105	107	1.9%												
Be	7243577	0.921	0.928	0.8%												
Bi	7243577	0.12	0.12	0.0%												
Cd	7243577	0.11	0.12	8.7%												
Ce	7243577	21.0	20.8	1.0%												
Co	7243577	7.77	7.88	1.4%												
Cs	7243577	1.42	1.47	3.5%												
Ga	7243577	23.2	23.8	2.6%												
Ge	7243577	0.72	0.92	24.4%												
Hf	7243577	2.34	2.39	2.1%												
In	7243577	0.126	0.135	6.9%												
La	7243577	9.5	9.6	1.0%												
Li	7243577	32.3	33.2	2.7%												
Mo	7243577	2.46	2.48	0.8%												
Nb	7243577	10.0	8.92	11.4%												
Pb	7243577	6.9	5.5	22.6%												
Rb	7243577	15.6	16.2	3.8%												
Re	7243577	< 0.002	< 0.002	0.0%												
Sb	7243577	0.62	0.61	1.6%												
Sc	7243577	22.9	22.6	1.3%												
Se	7243577	3.03	3.28	7.9%												
Sn	7243577	1.5	1.5	0.0%												
Sr	7243577	109	108	0.9%												
Ta	7243577	0.66	0.58	12.9%												
Te	7243577	0.52	0.41													
Th	7243577	2.57	2.10	20.1%												
Tl	7243577	0.18	0.17	5.7%												
U	7243577	1.41	1.41	0.0%												
W	7243577	1.07	0.81	27.7%												





CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

Y	7243577	13.2	13.8	4.4%												
Zr	7243577	70.2	65.7	6.6%												

(202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)

	REPLICATE #1				REPLICATE #2				REPLICATE #3				REPLICATE #4			
Parameter	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD
Au	7243474	0.017	0.004		7243494	0.003	0.009		7243440	0.0038	0.0047	21.2%	7243459	0.0044	0.0054	20.4%
	REPLICATE #5				REPLICATE #6											
Parameter	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD								
Au	7243555	0.009	0.006		7243575	0.002	0.004									



CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

(201-071) 4 Acid Digest - Metals Package, ICP/ICP-MS finish

Parameter	CRM #1 (ref.GTS-2a)				CRM #2 (ref.CDN-ME-1304)				CRM #3 (ref.GTS-2a)				CRM #4 (ref.GTS-2a)			
	Expect	Actual	Recovery	Limits	Expect	Actual	Recovery	Limits	Expect	Actual	Recovery	Limits	Expect	Actual	Recovery	Limits
Ag					34	35	102%	90% - 110%								
Al	6.96	6.7	96%	90% - 110%					6.96	6.67	96%	90% - 110%	6.96	6.83	98%	90% - 110%
Ba	186	173	93%	90% - 110%					186	169	91%	90% - 110%	186	176	95%	90% - 110%
Ca	4.01	3.63	91%	90% - 110%					4.01	3.96	99%	90% - 110%	4.01	3.84	96%	90% - 110%
Ce	24	22	92%	90% - 110%					24	23	94%	90% - 110%	24	23	95%	90% - 110%
Co	22.1	21.2	96%	90% - 110%					22.1	21.1	96%	90% - 110%	22.1	20.7	94%	90% - 110%
Cu	88.6	87.5	99%	90% - 110%	2680	2785	104%	90% - 110%	88.6	87.8	99%	90% - 110%	88.6	88	99%	90% - 110%
Fe	7.56	7.42	98%	90% - 110%					7.56	6.96	92%	90% - 110%	7.56	7	93%	90% - 110%
K	2.021	2.092	103%	90% - 110%					2.021	2.031	100%	90% - 110%	2.021	2.045	101%	90% - 110%
Mg	2.412	2.357	98%	90% - 110%					2.412	2.244	93%	90% - 110%	2.412	2.276	94%	90% - 110%
Mn	1510	1492	99%	90% - 110%					1510	1486	98%	90% - 110%	1510	1599	106%	90% - 110%
Na	0.617	0.569	92%	90% - 110%					0.617	0.64	104%	90% - 110%	0.617	0.67	109%	90% - 110%
Ni	77.1	76	99%	90% - 110%					77.1	76.9	100%	90% - 110%	77.1	70	91%	90% - 110%
P	892	869	97%	90% - 110%					892	864	97%	90% - 110%	892	891	100%	90% - 110%
Pb					2580	2483	96%	90% - 110%								
S	0.348	0.347	100%	90% - 110%					0.348	0.345	99%	90% - 110%	0.348	0.356	102%	90% - 110%
Sr	92.8	88	95%	90% - 110%					92.8	89.7	97%	90% - 110%	92.8	91.3	98%	90% - 110%
Zn	208	216	104%	90% - 110%	2200	2142	97%	90% - 110%	208	214	103%	90% - 110%	208	196	94%	90% - 110%
	CRM #5 (ref.CDN-ME-1304)				CRM #6 (ref.GTS-2a)											
Parameter	Expect	Actual	Recovery	Limits	Expect	Actual	Recovery	Limits								
Ag	34	36	104%	90% - 110%												
Al					6.96	6.61	95%	90% - 110%								
Ba					186	176	94%	90% - 110%								
Ca					4.01	3.89	97%	90% - 110%								
Ce					24	23	94%	90% - 110%								
Co					22.1	19.9	90%	90% - 110%								
Cu	2680	2587	97%	90% - 110%	88.6	85.2	96%	90% - 110%								
Fe					7.56	7.26	96%	90% - 110%								
K					2.021	2.064	102%	90% - 110%								
Mg					2.412	2.305	96%	90% - 110%								
Mn					1510	1538	102%	90% - 110%								



CLIENT NAME: PIONEER EXPLORATION CORPORATION

ATTENTION TO: VINCENT LI

Na					0.617	0.663	107%	90% - 110%									
Ni					77.1	72.5	94%	90% - 110%									
P					892	946	106%	90% - 110%									
Pb	2580	2592	100%	90% - 110%													
S					0.348	0.37	106%	90% - 110%									
Sr					92.8	89.3	96%	90% - 110%									
Zn	2200	2122	96%	90% - 110%	208	202	97%	90% - 110%									

(202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)

Parameter	CRM #1 (ref.1P5L)				CRM #2 (ref.GSP4C)				CRM #3 (ref.GSP7K)				CRM #4 (ref.1P5L)			
	Expect	Actual	Recovery	Limits	Expect	Actual	Recovery	Limits	Expect	Actual	Recovery	Limits	Expect	Actual	Recovery	Limits
Au	1.53	1.5	98%	90% - 110%	0.362	0.334	92%	90% - 110%	0.694	0.745	107%	90% - 110%	1.53	1.46	95%	90% - 110%
Parameter	CRM #5 (ref.GS6D)				CRM #6 (ref.GSP7K)											
	Expect	Actual	Recovery	Limits	Expect	Actual	Recovery	Limits								
Au	6.09	5.77	95%	90% - 110%	0.694	0.755	109%	90% - 110%								

## Method Summary

CLIENT NAME: PIONEER EXPLORATION CORPORATION

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

ATTENTION TO: VINCENT LI

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Solid Analysis			
Ag	MIN-200-12020		ICP-MS
Al	MIN-200-12020		ICP/OES
As	MIN-200-12020		ICP-MS
Ba	MIN-200-12020		ICP-MS
Be	MIN-200-12020		ICP-MS
Bi	MIN-200-12020		ICP-MS
Ca	MIN-200-12020		ICP/OES
Cd	MIN-200-12020		ICP-MS
Ce	MIN-200-12020		ICP-MS
Co	MIN-200-12020		ICP-MS
Cr	MIN-200-12020		ICP/OES
Cs	MIN-200-12020		ICP-MS
Cu	MIN-200-12020		ICP-MS
Fe	MIN-200-12020		ICP/OES
Ga	MIN-200-12020		ICP-MS
Ge	MIN-200-12020		ICP-MS
Hf	MIN-200-12020		ICP-MS
In	MIN-200-12020		ICP-MS
K	MIN-200-12020		ICP/OES
La	MIN-200-12020		ICP-MS
Li	MIN-200-12020		ICP-MS
Mg	MIN-200-12020		ICP/OES
Mn	MIN-200-12020		ICP/OES
Mo	MIN-200-12020		ICP-MS
Na	MIN-200-12020		ICP/OES
Nb	MIN-200-12020		ICP-MS
Ni	MIN-200-12020		ICP-MS
P	MIN-200-12020		ICP/OES
Pb	MIN-200-12020		ICP-MS
Rb	MIN-200-12020		ICP-MS
Re	MIN-200-12020		ICP-MS
S	MIN-200-12020		ICP/OES
Sb	MIN-200-12020		ICP-MS
Sc	MIN-200-12020		ICP-MS
Se	MIN-200-12020		ICP-MS
Sn	MIN-200-12020		ICP-MS
Sr	MIN-200-12020		ICP-MS
Ta	MIN-200-12020		ICP-MS
Te	MIN-200-12020		ICP-MS
Th	MIN-200-12020		ICP-MS
Ti	MIN-200-12020		ICP/OES
Tl	MIN-200-12020		ICP-MS
U	MIN-200-12020		ICP-MS
V	MIN-200-12020		ICP/OES
W	MIN-200-12020		ICP-MS
Y	MIN-200-12020		ICP-MS
Zn	MIN-200-12020		ICP-MS
Zr	MIN-200-12020		ICP-MS
Sample Login Weight	MIN-12009		BALANCE

## Method Summary

CLIENT NAME: PIONEER EXPLORATION CORPORATION

AGAT WORK ORDER: 15D047986

PROJECT: Head Bay

ATTENTION TO: VINCENT LI

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Au	MIN-200-12006	BUGBEE, E: A Textbook of Fire Assaying	ICP-OES

**Appendix 3**  
**Mineral Tenure Data**



Print and Close

Cancel

## Mineral Titles Online

## Mineral Claim Exploration and Development Work/Expiry Date Change

Confirmation

**Recorder:** CANADIAN DEHUA INTERNATIONAL MINES GROUP INC. (276634) **Submitter:** CANADIAN DEHUA INTERNATIONAL MINES GROUP INC. (276634)  
**Recorded:** 2015/DEC/18 **Effective:** 2015/DEC/18  
**D/E Date:** 2015/DEC/18

## Confirmation

If you have not yet submitted your report for this work program, your technical work report is due in 90 days. The Exploration and Development Work/Expiry Date Change event number is required with your report submission. **Please attach a copy of this confirmation page to your report.** Contact Mineral Titles Branch for more information.

**Event Number:** 5582808

**Work Type:** Technical Work  
**Technical Items:** Geochemical, Geological

**Work Start Date:** 2015/AUG/01  
**Work Stop Date:** 2015/DEC/18  
**Total Value of Work:** \$ 40271.68  
**Mine Permit No:**

## Summary of the work value:

Title Number	Claim Name/Property	Issue Date	Good To Date	New Good To Date	# of Days Forward	Area in Ha	Applied Work Value	Submission Fee
941286	ROB ROY 8	2012/jan/18	2015/dec/30	2017/dec/18	719	104.23	\$ 2527.28	\$ 0.00
528855	HEAD BAY 2	2006/feb/24	2015/dec/30	2017/dec/18	719	62.58	\$ 1649.01	\$ 0.00
536940	GLENNGARRY FRAC	2006/jul/11	2015/dec/30	2017/dec/18	719	41.71	\$ 1099.62	\$ 0.00
537379	ROB ROY 5	2006/jul/18	2015/dec/30	2017/dec/18	719	62.55	\$ 1649.13	\$ 0.00
544930	HEAD BAY WEST	2006/nov/05	2015/dec/30	2017/dec/18	719	62.55	\$ 1649.18	\$ 0.00
544931	HEAD BAY SOUTHWEST	2006/nov/05	2015/dec/30	2017/dec/18	719	62.58	\$ 1649.91	\$ 0.00
403908	ROB ROY	2003/jul/27	2015/dec/30	2017/dec/18	719	400.00	\$ 10717.30	\$ 0.00
404162	REFER TO LOT TABLE	2003/jul/21	2015/dec/30	2017/dec/18	719	25.00	\$ 544.83	\$ 0.00
404163	REFER TO LOT TABLE	2003/jul/21	2015/dec/30	2017/dec/18	719	25.00	\$ 544.83	\$ 0.00
404168	REFER TO LOT TABLE	2003/jul/21	2015/dec/30	2017/dec/18	719	25.00	\$ 544.83	\$ 0.00
404999	ROB ROY 2	2003/sep/11	2015/dec/30	2017/dec/18	719	25.00	\$ 544.83	\$ 0.00
405000	ROB ROY 3	2003/sep/11	2015/dec/30	2017/dec/18	719	25.00	\$ 544.83	\$ 0.00
528854	HEAD BAY 1	2006/feb/24	2015/dec/30	2017/dec/18	719	125.14	\$ 3364.90	\$ 0.00
928415	HEAD BAY 10	2011/nov/07	2015/dec/30	2017/dec/18	719	41.71	\$ 1052.59	\$ 0.00
941430	ROB ROY 15	2012/jan/19	2015/dec/30	2017/dec/18	719	104.28	\$ 2527.10	\$ 0.00
941280	ROB ROY 6	2012/jan/18	2015/dec/30	2017/dec/18	719	125.11	\$ 3033.44	\$ 0.00
941273	ROB ROY 5	2012/jan/18	2015/dec/30	2017/dec/18	719	208.54	\$ 5056.33	\$ 0.00
942929	WOA 2	2012/jan/27	2015/dec/30	2017/dec/18	719	62.55	\$ 1508.92	\$ 0.00

**Financial Summary:**

**Total applied work value:** \$ 40208.86

**PAC name:** Canadian Dehua International Mines Group

**Debited PAC amount:** \$ 0.0

**Credited PAC amount:** \$ 62.82

**Total Submission Fees:** \$ 0.0

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**Total Paid:** **\$ 0.0**

*Please print this page for your records.*

The event was successfully saved.

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## Head Bay Property 2015 Assessment Cost Statement

Exploration Work type	Comment	Days			Totals
<b>Personnel (Name)* / Position</b>					
	<b>Field Days (list actual days)</b>	<b>Days</b>	<b>Rate</b>	<b>Subtotal*</b>	
Jacques Houle - Project manager	November 15-25, 2015	10.0	\$808.50	\$8,085.00	
Ron Bilquist - Prospector	November 16-25, 2015	9.0	\$462.00	\$4,158.00	
Marie Brannstrom - Geologist	November 16-25, 2015	9.0	\$404.25	\$3,638.25	
Cody Broda - Geologist	November 15-24, 2015	9.5	\$288.75	\$2,743.13	
				<b>\$18,624.38</b>	<b>\$18,624.38</b>
<b>Office Studies</b>					
<b>List Personnel (note - Office only, do not include field days)</b>					
Literature search	Jacques Houle - Project manager	1.85	\$808.50	\$1,495.73	
Report preparation	Jacques Houle - Project manager	5.7	\$808.50	\$4,608.45	
				<b>\$6,104.18</b>	<b>\$6,104.18</b>
<b>Geochemical Surveying</b>					
	<b>Number of Samples</b>	<b>No.</b>	<b>Rate</b>	<b>Subtotal</b>	
Stream sediment		0	\$0.00	\$0.00	
Soil	AGAT Labs Work Order 15D047986	187	\$35.00	\$6,544.35	
Rock	AGAT Labs Work Order 15D047982	20	\$45.56	\$911.12	
				<b>\$7,455.47</b>	<b>\$7,455.47</b>
<b>Transportation</b>					
		<b>No.</b>	<b>Rate</b>	<b>Subtotal</b>	
truck rental - Houle	November 15-25, 2015	4.30	\$404.25	\$1,738.28	
truck rental - Broda	November 16 & 24, 2015	1.10	\$404.25	\$444.68	
Ferries - Bilquist & Brannstrom	November 15 & 25, 2015			\$26.74	
				<b>\$2,209.69</b>	<b>\$2,209.69</b>
<b>Accommodation &amp; Food</b>					
	<b>Rates per day</b>				
Accommodation/Meals in Gold R.	November 15, 2015 for 2 people	2.00	\$23.10	\$46.20	
Accommodation/Meals in Tahsis	November 16-25, 2015 for 4 people	37.67	\$138.59	\$5,220.60	
Meals			\$0.00	\$0.00	
				<b>\$5,266.80</b>	<b>\$5,266.80</b>
<b>Equipment Rentals</b>					
Field Gear - Houle	Field equipment, tools, communications, supplies, etc.			\$611.17	
Other (Specify)					
				<b>\$611.17</b>	<b>\$611.17</b>
<b>TOTAL Expenditures</b>					<b>\$40,271.68</b>