

**GEOCHEMICAL REPORT**  
**ON THE**  
**PRINCE GEORGE PORPHYRY PROJECT**  
**BIO PROPERTY**

OMINECA MINING DIVISION,  
British Columbia  
NTS: 093K/16  
Latitude 54° 51' 30" N, Longitude 124° 19' 7" W

MTO Event Numbers – 5036246

XSTRATA CANADA CORPORATION

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Statement of Expenditures  
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## **1.0 INTRODUCTION**

The Bio property is composed of seven contiguous tenures that have been acquired through an option agreement with Uwe Schmidt. Bio is one of several properties in the Prince George and Fort St James areas belonging to Xstrata's Prince George Porphyry Exploration Project, a grassroots initiative focused on the discovery of alkali Cu-Au porphyry deposits in the Quesnel Terrane of British Columbia.

In the fall of 2011, Xstrata conducted a small soil sampling program on the Bio property. A total of 79 Ah and 80 MMI samples, across four sample line, were collected between September 21<sup>st</sup> and 29<sup>th</sup>. Additional work on the Bio property included prospecting but no outcrops were located on the property.

## **2.0 PROPERTY DESCRIPTION AND LOCATION**

Bio property is located in central British Columbia, approximately 48 kilometers north of the town of Fort St James. The property covers an area of 2716.20 hectares centered at 54° 51' 30" north latitude and 124° 19' 7" west longitude. It is located in the Omineca Mining Division within the limits of NTS sheets 93K/16.

Bio consists of seven contiguous mineral tenures, and one separate mineral tenure to the north that will not be considered in the writing of this report. The Bio property is part of an option agreement between Uwe Schmidt and Xstrata Copper. At this stage in the option agreement, the tenures are being operated by Xstrata and have been transferred into Xstrata's name in trust of the agreement. A regional property location map and tenure map are provided below in Figures 2.1 and 2.2. Table 2.1 lists the mineral tenures included in the Bio property.

## **3.0 ACCESS, CLIMATE, INFRASTRUCTURE AND PHYSIOGRAPHY**

Fort St James is the nearest town to the property with amenities which include food and lodging, fuel, and minimal equipment and supplies. Road access to Bio is obtained from the town of Fort St James by driving north on the North Road/Germansen FSR for approximately 63.3km. At 63.3km turn left and head west for approximately 7.1km to arrive on the northern tip of the Bio property.

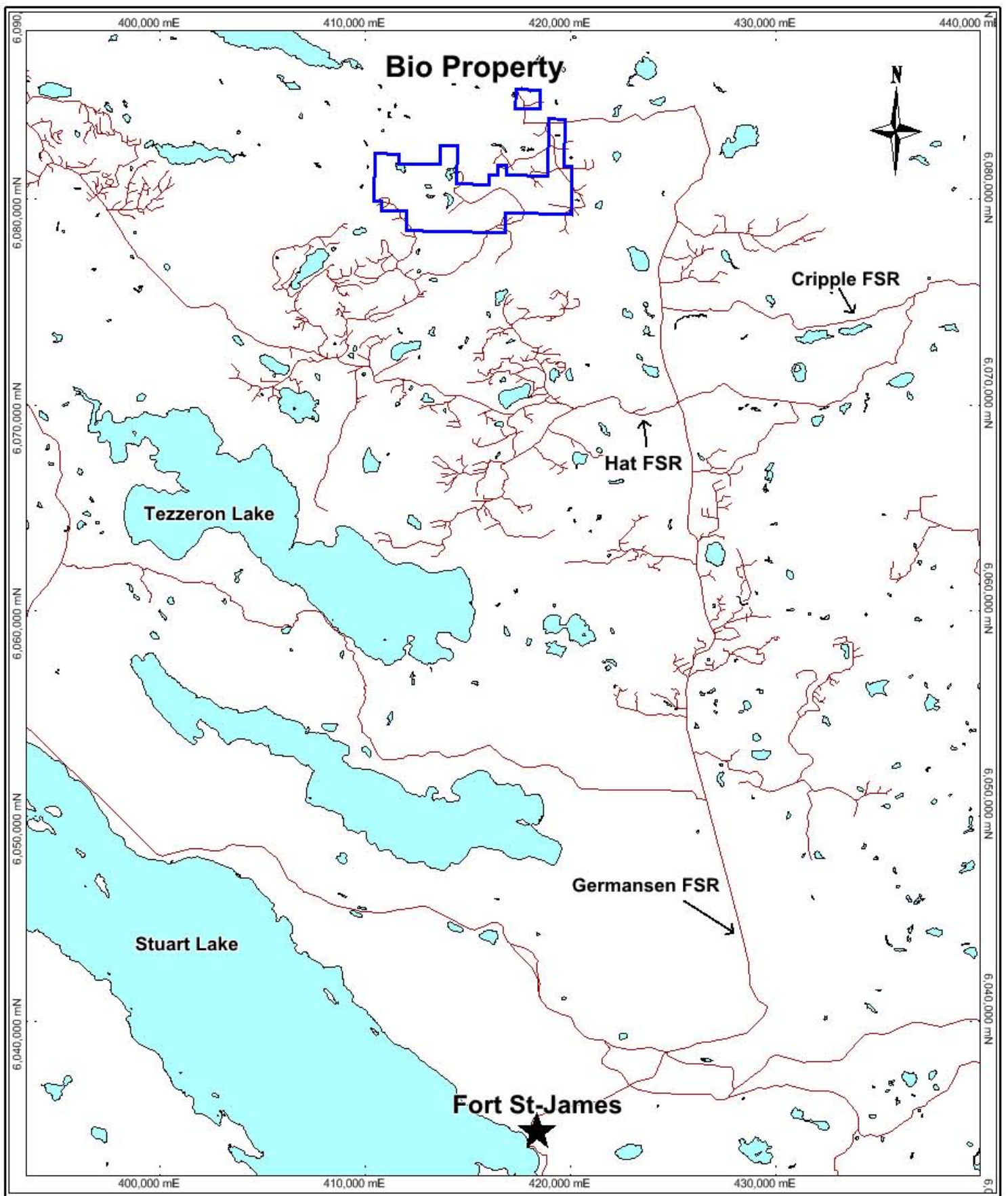
Topography in the Fort St James area consists of rolling ridgelines with flat valley bottoms. Outcrop exposure on the property is generally poor, with the exception of areas of higher elevation, as quaternary glacial sediments cover most of the ground. Vegetative cover consists mainly of Pine and Spruce with Aspen and Fir. Logging is very active over several sections of this property resulting in many logged out cut blocks in different stages of regrowth.

**Table 2.1** Bio property tenure information

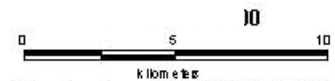
Tenure Number	Claim Name	Tenure Type	Tenure Sub Type	Map Number	Issue Date	Area (ha)
832369	BIO 1	Mineral	Claim	093K	2010/aug/29	223.4242
832370	BIO 2	Mineral	Claim	093K	2010/aug/29	279.2197
832371	BIO3	Mineral	Claim	093K	2010/aug/29	465.5042
832372	BIO4	Mineral	Claim	093K	2010/aug/29	353.6998
832373	BIO5	Mineral	Claim	093K	2010/aug/29	465.2983
841105	BIO6	Mineral	Claim	093K	2010/dec/17	465.453
841106	BIO7	Mineral	Claim	093K	2010/dec/17	465.3666

#### 4.0 HISTORY

A large amount of historical exploration has taken place on the Bio property in the 1980's and 1990's. Previous work mainly includes soil sampling and geophysical surveys with two holes drilled in the early 1990's by Rio Algom Exploration Inc. Refer to Table 4.1 for a summary of historical work. Regional geochemical surveys (rock, soil, stream, lake, etc) and geophysical surveys have also been carried out in this area as part of the QuestBC geosciences initiative.



**2011 Bio Property  
Location Map**



Projection : UTM NAD 83 Zone 10

**Figure 2.1** Bio property regional location map

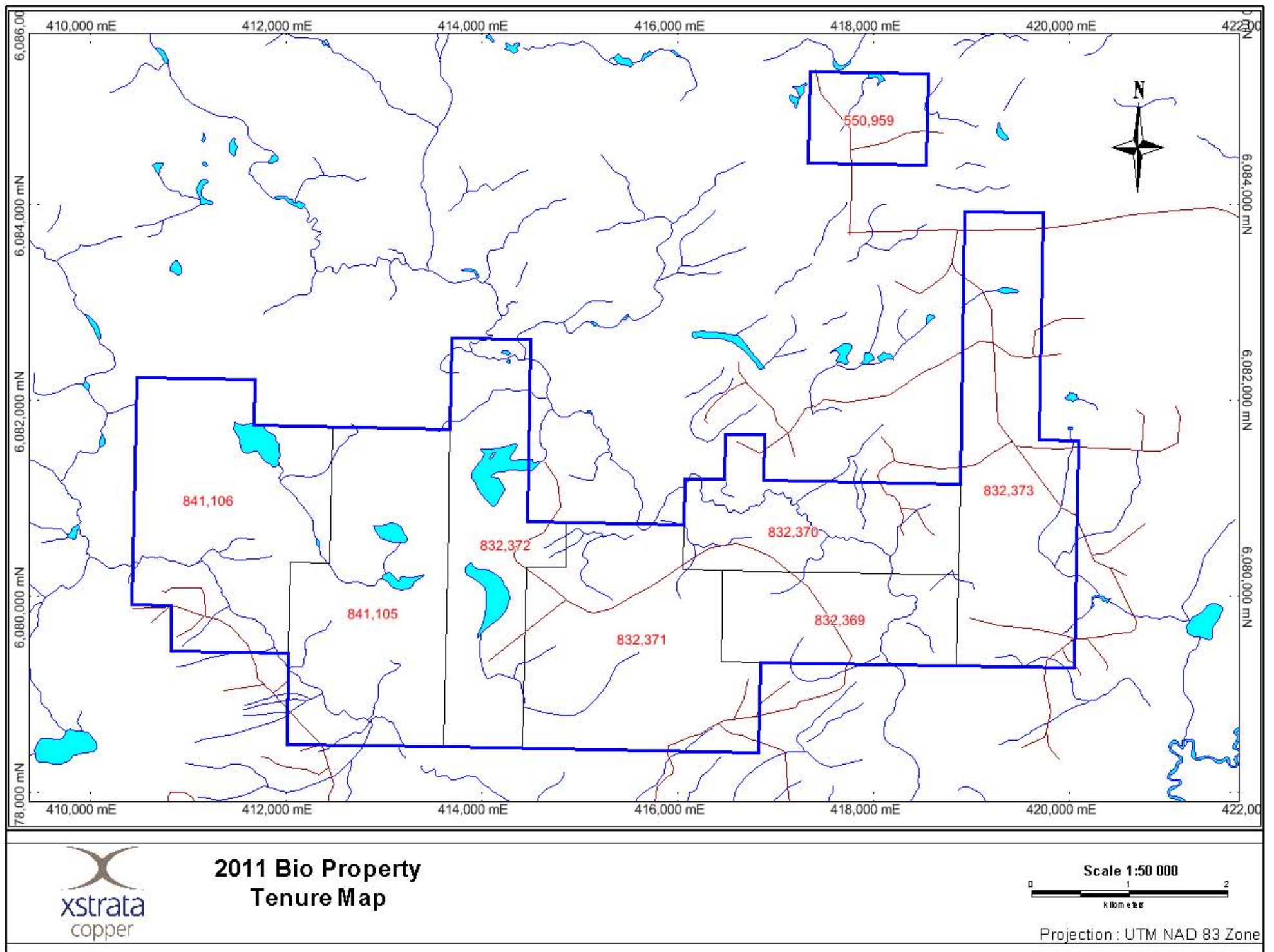


Figure 2.2 Bio property tenure map



**Table 4.1** Bio property historical work summary

Owner	Operator	Year	Work Type	Region	N.T.S.	Lat.	Long.	Work Details
Big Valley Resources Inc.	Uwe Schmidt and Northwest Geological	1987	Geochemical Survey	Bio Region	93K/16W	54° 51' 32"N	124° 10' 31"W	In total 1660 soil samples were collected.
Rio Algom Exploration Inc.	Uwe Schmidt, A. A. Halleran and A. D. Halleran	1989	Geochemical Survey and Geophysics	Bio Region	93K/16W	54° 51'N	124° 20'W	A total of 1267 B-horizon soil samples were collected at 50m spacings. A helicopter borne magnetometer and VLF-EM survey totalling 633 line kilometers were also flown.
Rio Algom Exploration Inc.	Uwe Schmidt, A. A. Halleran and A. D. Halleran	1990	Geological Mapping, Trenching and Geochemical Survey	Bio Region	93K/16W	54° 51'N	124°20'W	A total of 3400 grid soil samples were collected, 1:5000 scale geological mapping was completed and some had trenching was also completed.
Rio Algom Exploration Inc.	Uwe Schmidt, A. A. Halleran and A. D. Halleran	1991	Gephysical Survey, Trenching and Drilling	Bio Region	93K/16W	54° 51'N	124° 20'W	A total of 581m of excavator trenching was completed. An IP survey totalling 10km was also completed and the results used as targets for two diamond drill holes totalling 242m.
Birch Mountain Resources Ltd.	Birch Mountain Resources Ltd.	1996	Geological Mapping and Geochemical Survey	Bio Region	93K/16W	54° 52'N	124° 16'W	In total 4 rock samples were collected from the mapping program as well as 17 stream samples and 247 soil samples.
A.D. Halleran	A.D. Halleran	1994	Trenching and Geochemical Survey	Bio Region	93K/16W	55° 52'N	124° 16'W	Trenching was done to expose .2-.6 meter wide massive sulphide veins. They were then sampled for assay.
Goldcap Inc.	Bailey Geological Consultants Ltd.	1990	Detailed Re-logging of Drill Core	Bio Region	93K/16W	55° 52'N	124° 16'W	Re-logged core from holes drilled by Black Swan Gold Mines Ltd.
Noranda Exploration Company Ltd., Goldcap Inc., and Black Swan Gold Mines Ltd.	Black Swan Gold Mines Ltd.	1989	Geochemical Survey	Bio Region	93K/16W	55° 52'N	124° 16'W	A total of 460 B-horizon and 13 A-horizon soil samples were taken at 25m spacings.
Noranda Exploration Company Ltd., Goldcap Inc., and Black Swan Gold Mines Ltd.	Black Swan Gold Mines Ltd.	1989	Geochemical Survey	Bio Region	93K/16W	55° 52'N	124° 16'W	A total of 430 B-horizon soil samples were collected.



## 5.0 GEOLOGICAL SETTING

The Quesnel Terrane, commonly referred to as the Quesnellia, is an accreted arc terrane lining the eastern margin of the Intermontane Belt at its tectonic boundary with the Omineca Belt. The Quesnel Terrane formed in an island arc setting outboard to the ancestral North American continental margin in the Early Jurassic (Panteleyev *et al.*, 1996). Early Mesozoic, alkaline and calc-alkaline island arc magmatism generated many porphyry copper deposits including: Mount Milligan, Mouse Mountain, Mont Polley, Copper Mountain, etc.

The Quesnel Terrane near Prince George is fault-bounded to the east by Late Paleozoic meta-sedimentary (volcanic and plutonic) oceanic rocks of the Slide Mountain Accreted Complex and the Cache Creek Accreted Complex to the west (forearc). This is most likely due to the southern extension of the Pinchi fault system (Bailey, 1988). In the Prince George region, the Quesnel Terrane is composed of Takla Group and/or Nicola group Mesozoic strata consisting of fine clastic sediments overlain by a thick sequence of Late Triassic alkaline volcanic and volcanoclastic rocks. Alkaline and calc-alkaline intrusions are sourced from magmatism in the Early Jurassic, Middle Jurassic and Mid-Cretaceous.

## 6.0 SOIL GEOCHEMISTRY PROGRAM

A soil sampling program was undertaken in September 2011 on the Bio property. 79 Ah and 80 MMI samples were collected from the central area of the property. Sampling was completed over 7 days from September 21<sup>st</sup> to 29<sup>th</sup>. Four broad traverse lines were completed across the Bio property: Three southwest-northeast lines spaced 800 meters apart with 100m between samples; and one northwest-southeast line crosscutting the other three with samples spaced 100 meters apart. Sampling targeted the magnetic low between two highs. Sample locations are shown in Figure 6.1.

Samples were collected by Xstrata field personnel T. Quwezance, M. Sam, T. McDonald, and R. Wilthermuth. Acme Labs and SGS Labs both performed internal QA/QC on the samples sufficient for the scope of this sampling program. The sampling and results were supervised by Xstrata geologist Neil Van Wychen.

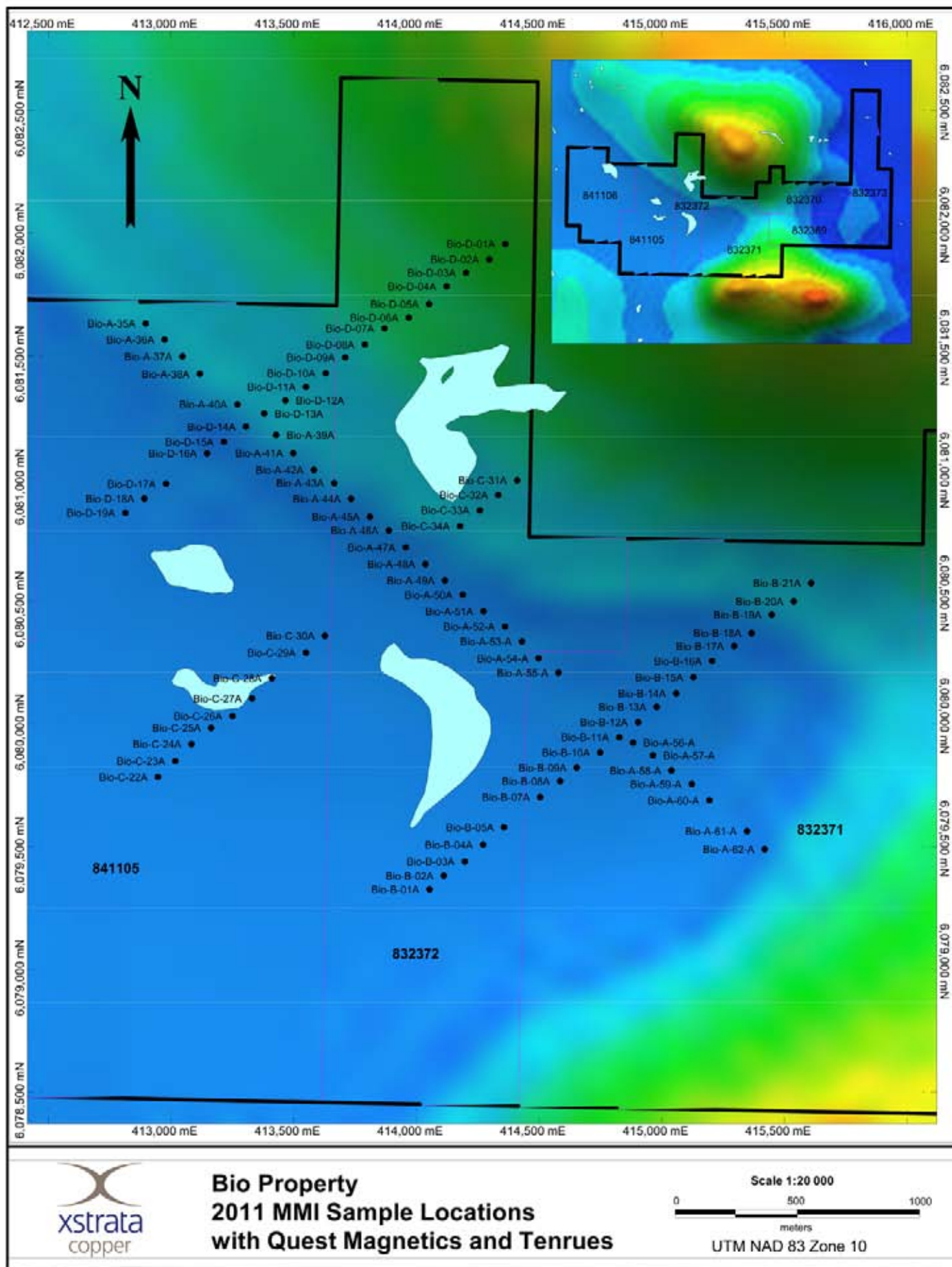


Figure 6.1 Bio MMI sample location map

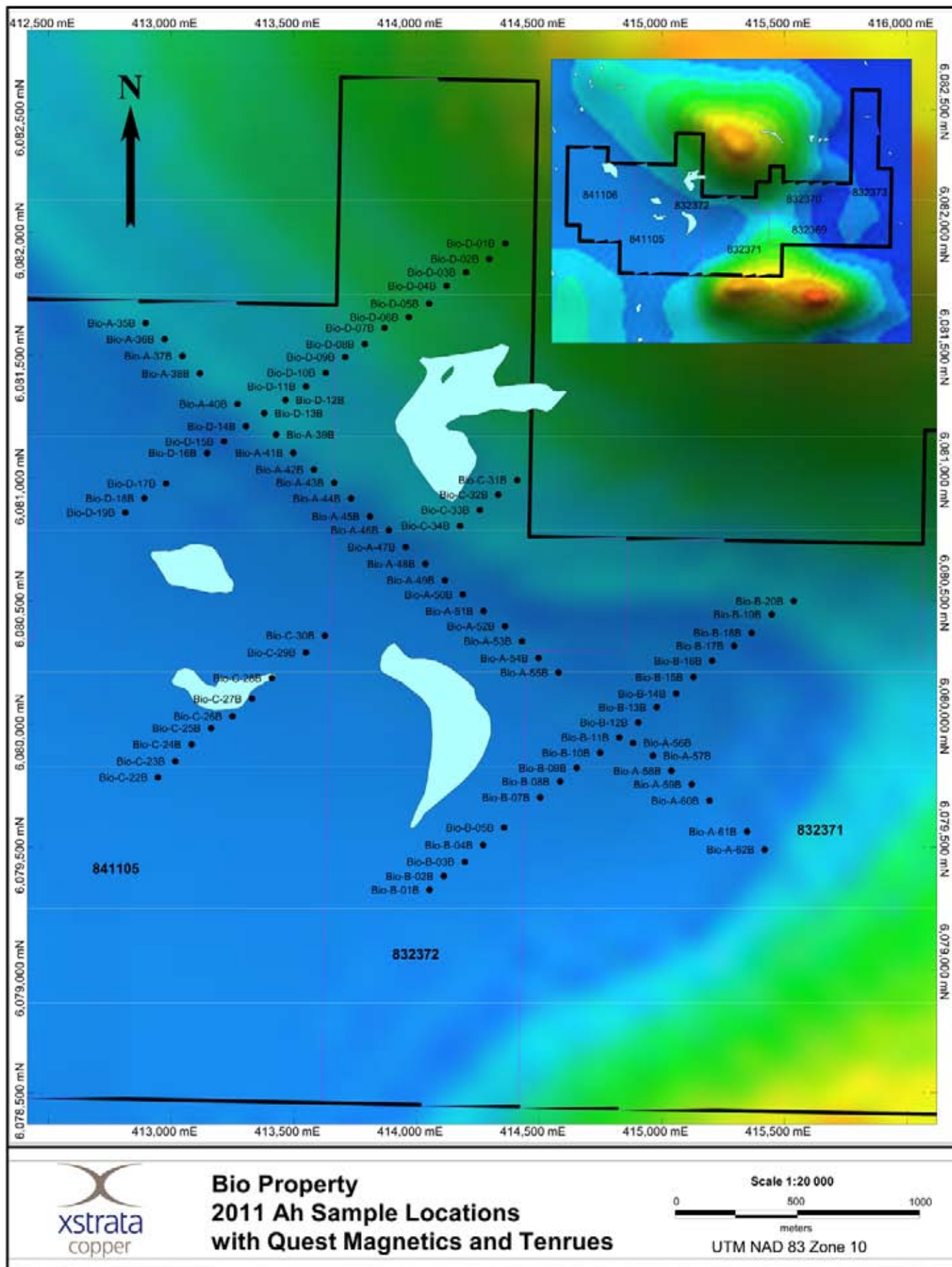


Figure 6.2 Bio Ah Sample location map

## **6.1 Soil Sampling Methods**

Samples were taken on optimal sites. As such, some areas of sampling were restricted by swampy ground conditions or recent clear-cut activity (Ah Horizon) and a sample could not be taken.

UTM (NAD 83; Zone 10) coordinates were recorded by GPS at each sample site and later entered into digital format. Where possible, a piece of labeled flagging tape was tied to foliage at sample sites.

To extract the MMI samples, holes were dug into the soil profile with unpainted non-metallic shovels. Samples were collected at 10-25 cm below the organic layer with a plastic gardening shovel and placed into numbered zip-lock bags.

The Ah samples were collected from the interface between the organic cover layer and the organic soil layer. Usually, a piece of moss was peeled back and the sample was collected by hand or plastic gardening shovel and placed into a labeled Kraft envelope.

## **6.2 Laboratory Procedures**

Ah samples were shipped via courier to Acme Laboratories in Smithers, BC in buckets. Once received at the laboratory, the samples were prepared by air drying wet or damp samples at 60°C and then sieving to -80 mesh. They were analyzed with a modified Aqua Regia digestion to determine ultra low detection limits for 53 elements (Acme Code 1F05).

MMI samples were packaged in white pales and shipped via courier to SGS Mineral Services in Toronto. The samples were prepared and analyzed according to SGS's MMI-M5 analytical methods, which provides analysis of 53 elements.

## **7.0 RESULTS**

MMI values ranged from 160ppb to 2420ppb Cu; <5ppb to 13ppb Mo; <0.1ppb to 0.5ppb Au; and 6ppb to 96ppb Ag. Ah values ranged from 4.86ppm to 117.44ppm Cu; 0.44ppm to 9.81ppm Mo; <0.2ppb to 29.7ppb Au; and 48ppb to 656ppb Ag.

Summarized results of the soil sampling program are listed in Tables 7.1 and 7.2 below. Refer to Appendix A for MMI and Ah result maps; and Appendix B for the certificates of analysis.



**Table 7.1** MMI results for Bio property

Bio Property MMI										
Sample ID	NAD83; Zone 10		Cu (ppb)	Mo (ppb)	Pb (ppb)	Zn (ppb)	Ag (ppb)	Au (ppb)	Pt (ppb)	Pd (ppb)
	Easting	Northing								
Bio-A-35A	412896	6081631	310	<5	140	1750	50	<0.1	<1	<1
Bio-A-36A	412973	6081566	160	<5	60	3960	6	<0.1	<1	<1
Bio-A-37A	413046	6081497	270	<5	170	670	14	<0.1	<1	<1
Bio-A-38A	413117	6081426	780	<5	120	280	42	<0.1	<1	<1
Bio-A-39A	413428	6081177	1120	<5	310	240	11	<0.1	<1	<1
Bio-A-40A	413270	6081302	2420	10	10	90	96	0.2	<1	<1
Bio-A-41A	413498	6081103	290	6	70	840	37	<0.1	<1	<1
Bio-A-42A	413582	6081035	620	<5	100	240	50	0.2	<1	<1
Bio-A-43A	413665	6080981	270	6	90	390	24	0.1	<1	<1
Bio-A-44A	413733	6080917	1340	<5	50	130	59	0.2	<1	<1
Bio-A-45A	413810	6080844	260	<5	100	320	81	0.1	<1	<1
Bio-A-46A	413887	6080788	510	<5	70	230	30	0.2	<1	<1
Bio-A-47A	413956	6080719	230	<5	90	520	51	0.3	<1	<1
Bio-A-48A	414036	6080651	480	<5	50	1260	7	<0.1	<1	<1
Bio-A-49A	414116	6080584	580	7	50	480	9	0.1	<1	<1
Bio-A-50A	414189	6080526	450	<5	150	760	22	<0.1	<1	<1
Bio-A-51A	414273	6080459	560	<5	110	430	36	0.2	<1	<1
Bio-A-52-A	414361	6080397	200	<5	140	740	14	<0.1	<1	<1
Bio-A-53-A	414430	6080336	370	<5	150	670	22	0.2	<1	<1
Bio-A-54-A	414498	6080267	550	<5	100	620	23	0.2	<1	<1
Bio-A-55-A	414579	6080209	300	5	160	1810	28	0.1	<1	<1
Bio-A-56-A	414883	6079924	340	<5	80	1150	35	<0.1	<1	<1
Bio-A-57-A	414964	6079872	520	5	110	950	39	<0.1	<1	<1
Bio-A-58-A	415039	6079810	430	5	110	1730	14	<0.1	<1	<1
Bio-A-59-A	415122	6079755	320	<5	90	3260	10	<0.1	<1	<1
Bio-A-60-A	415194	6079689	770	<5	100	250	48	0.1	<1	<1
Bio-A-61-A	415347	6079563	330	<5	160	3640	87	<0.1	<1	<1
Bio-A-62-A	415419	6079490	400	6	130	1530	21	<0.1	<1	<1
Bio-B-01A	414053	6079326	440	<5	80	470	7	<0.1	<1	<1
Bio-B-02A	414112	6079382	310	<5	80	150	20	0.2	<1	<1
Bio-B-03A	414197	6079440	480	<5	60	260	11	0.2	<1	<1
Bio-B-04A	414272	6079508	650	<5	70	110	39	0.2	<1	<1
Bio-B-05A	414357	6079579	260	<5	110	210	70	0.2	<1	<1
Bio-B-07A	414504	6079702	390	<5	110	240	55	0.2	<1	<1
Bio-B-08A	414586	6079767	460	5	80	190	28	0.2	<1	<1
Bio-B-09A	414653	6079822	620	<5	90	330	7	0.2	<1	<1
Bio-B-10A	414749	6079884	410	<5	70	370	12	0.2	<1	<1
Bio-B-11A	414827	6079946	450	<5	80	880	25	0.1	<1	<1
Bio-B-12A	414904	6080007	850	5	70	170	14	0.5	<1	<1
Bio-B-13A	414979	6080069	490	8	50	380	21	0.2	<1	<1
Bio-B-14A	415059	6080124	550	<5	60	310	16	<0.1	<1	<1
Bio-B-15A	415129	6080190	310	8	120	410	28	<0.1	<1	<1
Bio-B-16A	415205	6080256	520	<5	80	640	10	<0.1	<1	<1

Table 7.1 continued

Bio Property MMI										
Sample ID	NAD83; Zone 10		Cu (ppb)	Mo (ppb)	Pb (ppb)	Zn (ppb)	Ag (ppb)	Au (ppb)	Pt (ppb)	Pd (ppb)
	Easting	Northing								
Bio-B-17A	415295	6080317	290	<5	120	770	48	0.2	<1	<1
Bio-B-18A	415366	6080370	470	5	120	430	16	0.2	<1	<1
Bio-B-19A	415448	6080445	640	<5	120	1040	59	0.1	<1	<1
Bio-B-20A	415538	6080499	980	8	40	30	18	0.3	<1	<1
Bio-B-21A	415609	6080574	600	<5	150	510	26	0.1	<1	<1
Bio-C-22A	412946	6079784	740	5	100	270	20	0.5	<1	<1
Bio-C-23A	413017	6079849	460	5	110	340	16	0.2	<1	<1
Bio-C-24A	413083	6079918	270	7	120	1660	17	<0.1	<1	<1
Bio-C-25A	413163	6079984	270	<5	70	90	45	0.3	<1	<1
Bio-C-26A	413250	6080032	340	<5	90	1770	27	0.1	<1	<1
Bio-C-27A	413330	6080104	330	<5	120	200	19	0.1	<1	<1
Bio-C-28A	413411	6080186	570	<5	100	290	18	0.1	<1	<1
Bio-C-29A	413550	6080290	340	13	130	260	26	0.1	<1	<1
Bio-C-30A	413627	6080359	440	<5	90	350	36	0.2	<1	<1
Bio-C-31A	414410	6080992	710	<5	100	220	23	0.1	<1	<1
Bio-C-32A	414333	6080933	1340	<5	90	590	25	0.2	<1	<1
Bio-C-33A	414258	6080870	740	<5	150	630	30	<0.1	<1	<1
Bio-C-34A	414178	6080806	370	5	100	320	35	0.2	<1	<1
Bio-D-01A	414362	6081955	940	8	70	70	41	0.5	<1	<1
Bio-D-02A	414297	6081892	880	<5	140	50	72	0.5	<1	<1
Bio-D-03A	414202	6081838	470	8	140	150	57	0.4	<1	<1
Bio-D-04A	414123	6081782	230	5	90	620	23	<0.1	<1	<1
Bio-D-05A	414052	6081710	190	7	130	100	40	0.3	<1	<1
Bio-D-06A	413969	6081655	300	7	100	650	42	<0.1	<1	<1
Bio-D-07A	413870	6081611	330	<5	70	140	20	0.4	<1	<1
Bio-D-08A	413789	6081545	550	5	140	990	48	0.5	<1	<1
Bio-D-09A	413710	6081493	160	7	80	380	25	<0.1	<1	<1
Bio-D-10A	413630	6081429	240	<5	120	150	33	0.2	<1	<1
Bio-D-11A	413550	6081373	360	<5	140	1460	41	0.2	<1	<1
Bio-D-12A	413466	6081318	710	<5	280	580	22	0.2	<1	<1
Bio-D-13A	413380	6081264	390	<5	190	910	16	<0.1	<1	<1
Bio-D-14A	413305	6081211	620	<5	200	880	18	<0.1	<1	<1
Bio-D-15A	413215	6081149	250	<5	110	250	27	0.2	<1	<1
Bio-D-16A	413147	6081102	280	<5	140	160	51	0.1	<1	<1
Bio-D-17A	412979	6080978	320	<5	120	610	33	0.1	<1	<1
Bio-D-18A	412891	6080918	350	<5	130	1190	18	0.1	<1	<1
Bio-D-19A	412813	6080860	290	<5	60	720	37	0.2	<1	<1

**Table 7.2** Ah results for Bio property

Bio Property Ah										
Sample ID	NAD83; Zone 10		Cu (ppm)	Mo (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppb)	Au (ppb)	Pt (ppb)	Pd (ppb)
	Easting	Northing								
Bio-A-35B	412896	6081631	41.53	1.11	6.61	195.1	535	2.6	<2	<10
Bio-A-36B	412973	6081566	23.07	0.93	5.11	110.7	251	<0.2	<2	<10
Bio-A-37B	413046	6081497	33.65	1.45	6.32	82.8	328	0.3	<2	<10
Bio-A-38B	413117	6081426	39.85	0.97	4.32	71.2	164	2.1	<2	<10
Bio-A-39B	413428	6081177	117.44	9.81	10.11	131.5	301	5.1	<2	<10
Bio-A-40B	413270	6081302	106.41	1.36	5.56	96	333	1.3	<2	<10
Bio-A-41B	413498	6081103	42.81	1.46	6.9	161.4	312	1	<2	<10
Bio-A-42B	413582	6081035	20.54	0.96	4.68	84.8	379	3.1	<2	<10
Bio-A-43B	413665	6080981	19.56	1.05	4.1	56.7	112	4.3	<2	<10
Bio-A-44B	413733	6080917	48.75	0.64	4.24	62.1	178	6.8	<2	<10
Bio-A-45B	413810	6080844	17.03	0.89	4.49	95.1	464	0.9	<2	<10
Bio-A-46B	413887	6080788	30.91	0.78	3.78	73	193	1	<2	<10
Bio-A-47B	413956	6080719	25.2	0.96	4.86	98	293	2	<2	<10
Bio-A-48B	414036	6080651	27.76	0.9	5.06	136.7	382	3.6	<2	<10
Bio-A-49B	414116	6080584	27.37	0.79	4.2	98.2	136	2	<2	<10
Bio-A-50B	414189	6080526	31.66	0.74	4.45	96.7	149	0.8	<2	<10
Bio-A-51B	414273	6080459	25.65	0.88	4.3	99.9	202	3.7	<2	<10
Bio-A-52B	414361	6080397	16.9	0.7	4.09	97.7	142	1.4	<2	<10
Bio-A-53B	414430	6080336	24.15	0.92	5.07	61.7	122	1.9	<2	<10
Bio-A-54B	414498	6080267	22.29	0.81	3.76	68.4	133	2.7	<2	<10
Bio-A-55B	414579	6080209	23.53	0.94	4.19	106.2	229	6.3	<2	<10
Bio-A-56B	414883	6079924	22.26	0.9	3.23	72.2	338	0.9	<2	<10
Bio-A-57B	414964	6079872	41	0.92	4.11	78.2	137	1.3	<2	<10
Bio-A-58B	415039	6079810	25.51	0.87	3.72	92.7	242	9.2	<2	<10
Bio-A-59B	415122	6079755	28.78	0.98	3.67	71.1	131	0.9	<2	<10
Bio-A-60B	415194	6079689	35.13	1.21	3.64	72.5	481	1.9	<2	<10
Bio-A-61B	415347	6079563	24.36	1.74	5.87	87.8	656	0.7	<2	<10
Bio-A-62B	415419	6079490	16.48	0.81	4.21	59.3	153	1.3	<2	<10
Bio-B-01B	414053	6079326	43.79	0.92	4.82	68.4	69	2.2	2	<10
Bio-B-02B	414112	6079382	21.64	0.83	4.22	83.3	231	1.7	<2	<10
Bio-B-03B	414197	6079440	39.89	0.76	3.73	55.2	97	2.3	<2	<10
Bio-B-04B	414272	6079508	25.55	0.9	4.64	78.2	417	0.5	<2	<10
Bio-B-05B	414357	6079579	15.36	0.92	5.94	92.5	298	0.9	<2	<10
Bio-B-07B	414504	6079702	4.86	0.46	4.96	28.2	112	1.1	<2	<10
Bio-B-08B	414586	6079767	18.31	1.3	5.16	67.8	384	1.8	<2	<10
Bio-B-09B	414653	6079822	32.72	0.93	4	86.7	424	2.9	<2	<10
Bio-B-10B	414749	6079884	37.82	0.83	4.42	69.2	190	2.2	<2	<10
Bio-B-11B	414827	6079946	25.51	0.65	4.46	102	334	2.1	<2	<10
Bio-B-12B	414904	6080007	23.9	0.52	3.47	49.2	110	1.9	<2	<10
Bio-B-13B	414979	6080069	18.12	0.82	3.78	74.8	216	2.3	<2	<10
Bio-B-14B	415059	6080124	69.96	1.19	6.87	128.5	540	2.1	<2	<10
Bio-B-15B	415129	6080190	28.47	1.5	6.53	110.2	161	1.7	<2	<10
Bio-B-16B	415205	6080256	11.7	0.56	4.45	50.3	158	2	<2	<10



Table 7.2 continued

Bio Property Ah										
Sample ID	NAD83; Zone 10		Cu (ppm)	Mo (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppb)	Au (ppb)	Pt (ppb)	Pd (ppb)
	Easting	Northing								
Bio-B-17B	415295	6080317	9.76	0.86	5.75	57.8	211	1	<2	<10
Bio-B-18B	415366	6080370	23.59	0.84	4.13	53.2	172	2.4	<2	<10
Bio-B-19B	415448	6080445	26.15	0.81	5.16	87.5	205	1.9	<2	<10
Bio-B-20B	415538	6080499	42.47	0.63	4.63	50.5	321	3.9	<2	<10
Bio-C-22B	412946	6079784	6.61	0.44	5.12	37.6	95	2.1	<2	<10
Bio-C-23B	413017	6079849	20.18	0.65	4.05	60.2	125	28.5	<2	<10
Bio-C-24B	413083	6079918	13.69	0.98	4.35	63.5	53	1.9	<2	<10
Bio-C-25B	413163	6079984	16.07	0.87	4.35	58.6	189	6.4	<2	<10
Bio-C-26B	413250	6080032	24.34	1.13	5.44	94.7	163	1.6	<2	<10
Bio-C-27B	413330	6080104	20.28	0.92	4.58	44.7	81	2.3	<2	<10
Bio-C-28B	413411	6080186	17.58	0.9	4.13	67.7	117	2	<2	<10
Bio-C-29B	413550	6080290	38.37	2.27	6.57	116.5	339	3.6	<2	<10
Bio-C-30B	413627	6080359	34.24	1.11	4.06	67.8	241	2.1	<2	<10
Bio-C-31B	414410	6080992	24.08	0.79	3.82	59.5	437	0.4	<2	<10
Bio-C-32B	414333	6080933	31.65	0.89	3.96	67.7	213	2.2	<2	<10
Bio-C-33B	414258	6080870	28.14	0.97	4.13	75.2	439	3.8	<2	<10
Bio-C-34B	414178	6080806	16.76	0.75	3.51	50	96	3	<2	<10
Bio-D-01B	414362	6081955	14.87	1.21	4.4	45.4	215	4.9	<2	<10
Bio-D-02B	414297	6081892	16.32	0.76	4	47.1	222	2.7	<2	<10
Bio-D-03B	414202	6081838	20.57	1.21	4.68	96.5	263	29.7	<2	<10
Bio-D-04B	414123	6081782	13.12	1.07	5.08	77.5	170	1.3	<2	<10
Bio-D-05B	414052	6081710	15.29	0.88	4.1	47.9	128	3.8	<2	<10
Bio-D-06B	413969	6081655	11.17	0.75	4.38	63.4	228	3.2	<2	<10
Bio-D-07B	413870	6081611	11.58	0.85	4.66	63	48	1.5	<2	<10
Bio-D-08B	413789	6081545	11.23	0.95	4.98	80.8	160	3.8	<2	<10
Bio-D-09B	413710	6081493	13.56	1.17	5.22	71.4	137	1.7	<2	<10
Bio-D-10B	413630	6081429	18.35	1.08	5.01	103.9	206	1.4	<2	<10
Bio-D-11B	413550	6081373	11.25	1.02	5.13	50.8	169	0.6	<2	<10
Bio-D-12B	413466	6081318	48.73	1.7	7.68	133.3	123	4	<2	<10
Bio-D-13B	413380	6081264	27.58	3.99	6.44	70.9	285	6.9	<2	<10
Bio-D-14B	413305	6081211	30.91	1.2	7.65	143.7	117	1.2	<2	<10
Bio-D-15B	413215	6081149	17.44	0.91	4.37	92.1	238	1.3	<2	<10
Bio-D-16B	413147	6081102	15.8	0.96	5.09	69.3	226	1	<2	<10
Bio-D-17B	412979	6080978	14.46	0.87	6.7	123.2	216	1.3	<2	<10
Bio-D-18B	412891	6080918	43.56	2.17	7.34	182.1	391	3.4	<2	<10
Bio-D-19B	412813	6080860	17.55	1.37	5.13	87.8	271	1.5	<2	<10

## 8.0 RECOMMENDATIONS

Several copper highs, up to 2420 ppbCu, were noted in the MMI sampling. However, the samples associated with these high values were fairly isolated. Recommended follow-up work includes prospecting on the western portion of the property and ground checking the sample locations with higher copper values.

## 9.0 STATEMENT OF COSTS

A total cost of \$19,869.64 was calculated for the 2011 Bio soil geochemistry program. Included in the total are:

- Day wages for the geologist and field staff
- Room and board in Prince George and Fort St James for the geologist and field staff
- Rental truck and gas for the geologist and field staff
- Laboratory costs for the soil samples
- Cost of report writing
- 15% overhead for office management

Details of the charges are outlined in Appendix C.

## 10.0 REFERENCES

Bailey, D.G (1988): Geology of the central Quesnel belt, Swift River, south-Central British Columbia (93B/16, 93A/12, 93G/1); *in Geological Fieldwork 2005, BC Ministry of Energy, Mines and Petroleum Resources*, Paper 1989-1, pages 167-172.

Panteleyev, A., Bailey, D.G., Bloodgood, M.A. and Hancock, K.D. (1996): Geology and mineral deposits of the Quesnel River Horsefly map area, central Quesnel Trough, British Columbia; *BC Ministry of Energy, Mines and Petroleum Resources*, Bulletin 97, 156 pages.

## 11.0 STATEMENT OF QUALIFICATIONS

I, Gordon Maxwell, of the town Timmins, Ontario, do certify that:

1. I am a Geologist residing at 118 Bergeron Court, Timmins, Ontario
2. I graduated from University of Manitoba in 1982 with a BSc Hon. Geology
3. I am a professional Geologist, registered (0263) in good standing with the Association of Professional Geoscientists of Ontario (APGO).
4. I have been practicing my profession since 1982 and I currently hold the position of Exploration Manager with Xstrata Canada Corporation.

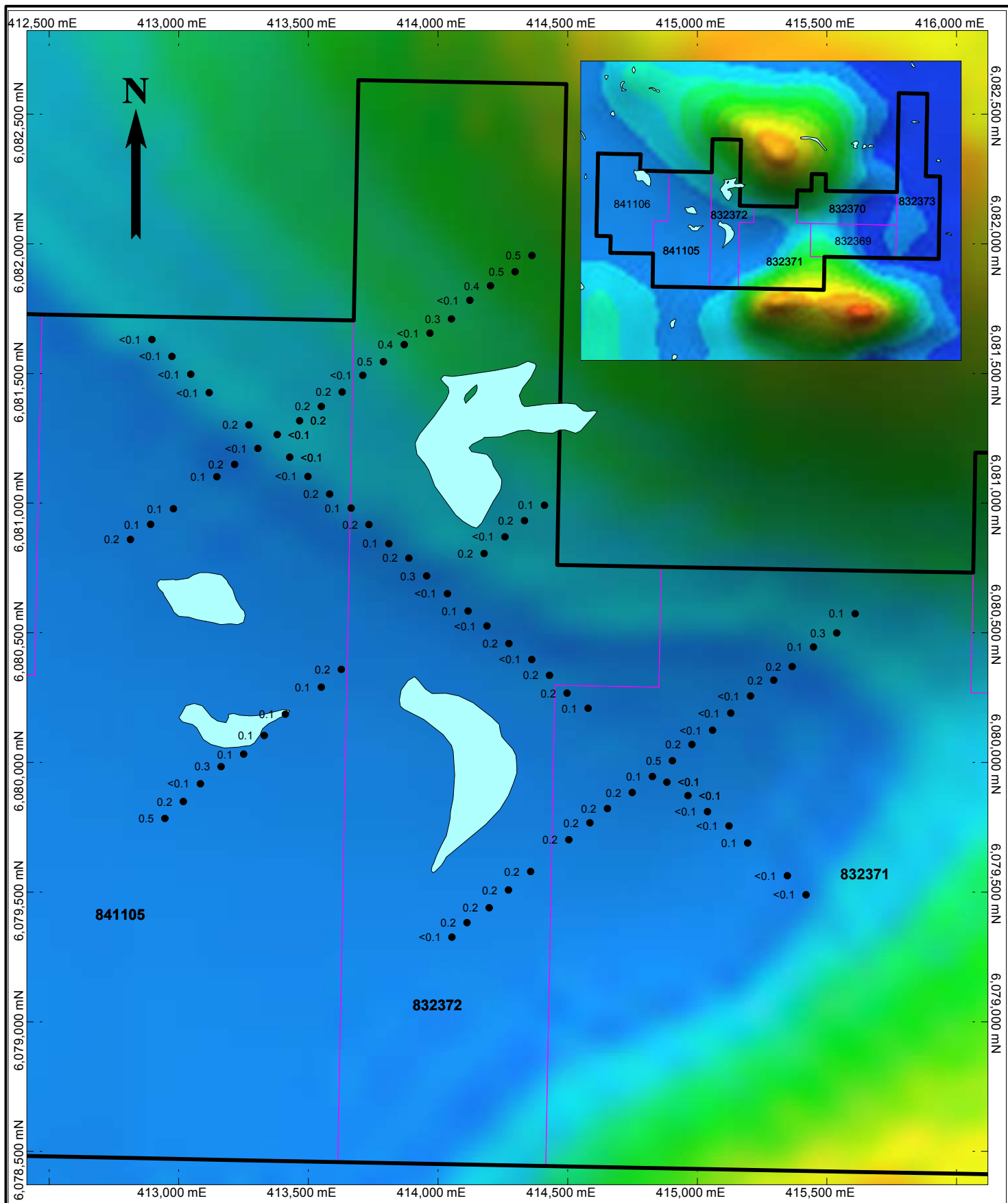
Dated at Timmins, ON  
March 10, 2012



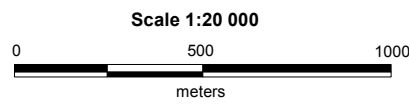
A handwritten signature in blue ink, appearing to read "Gordon Maxwell".

Gordon Maxwell  
Exploration Manager  
Xstrata Canada Corporation

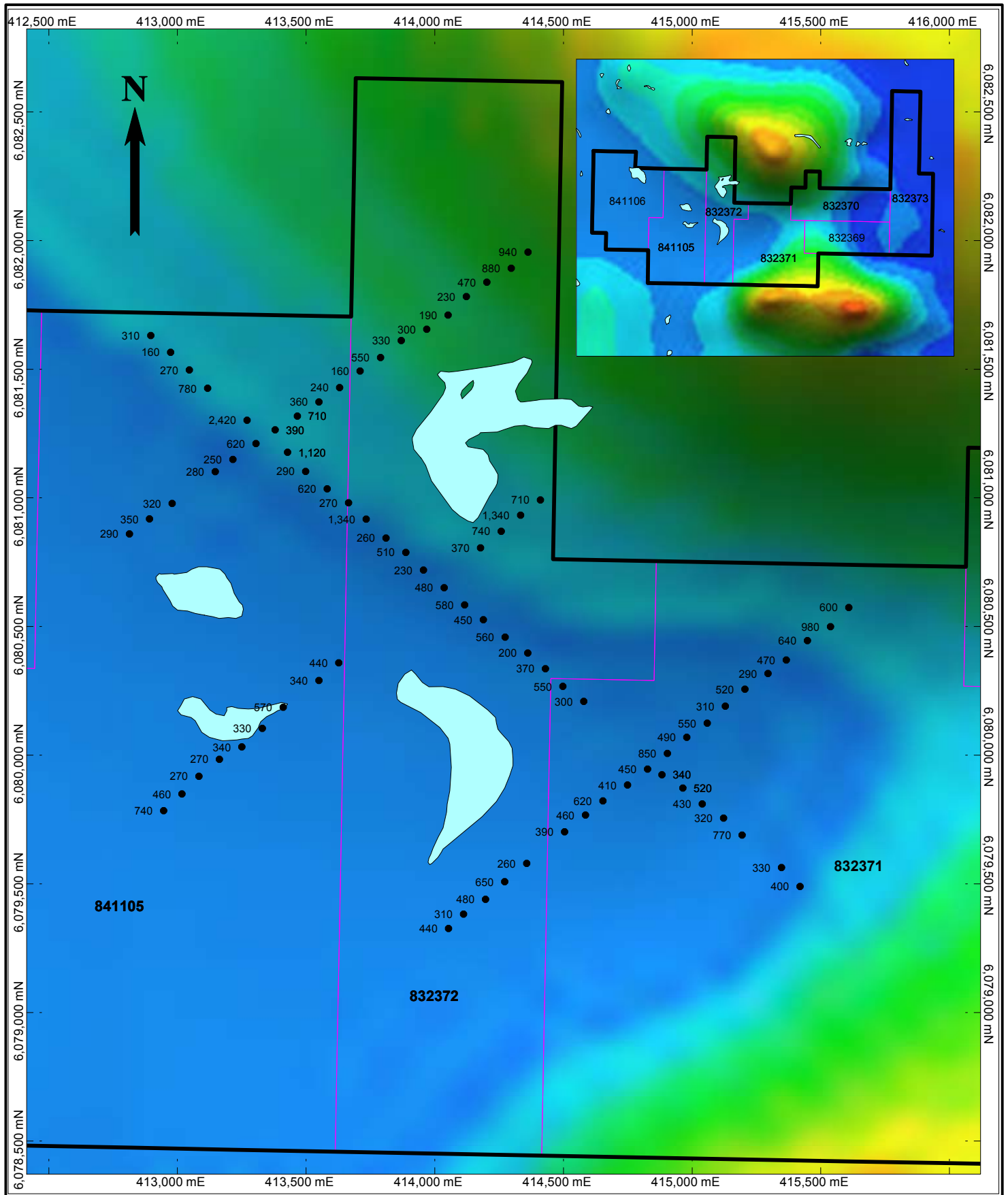
**APPENDIX A – Soil Geochemistry Figures**



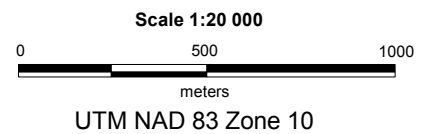
**Bio Property**  
**2011 MMI Gold Values (ppb)**  
**with Quest Magnetics and Tenrues**

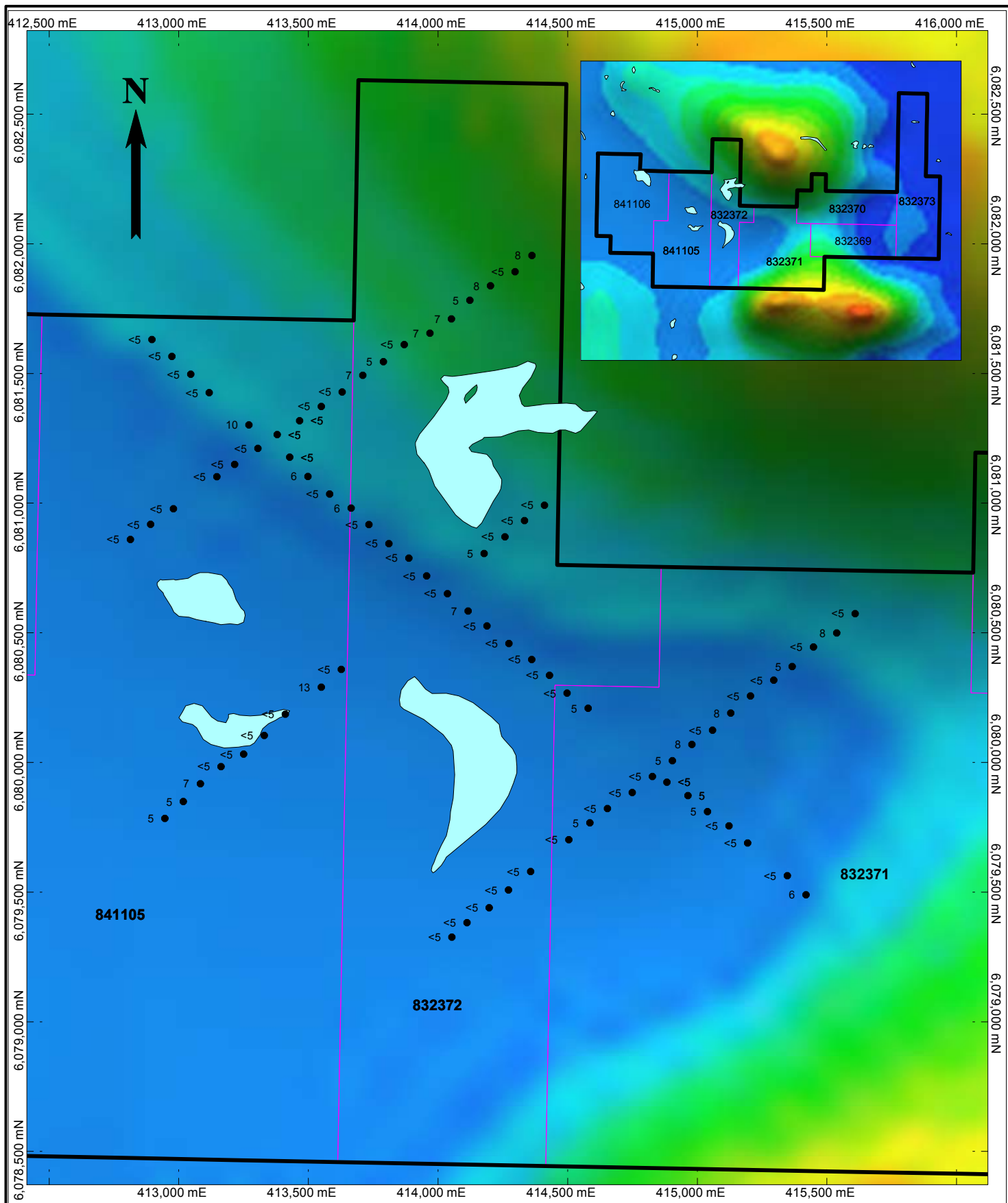


UTM NAD 83 Zone 10

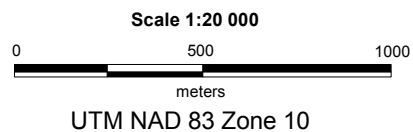


**Bio Property**  
**2011 MMI Copper Values (ppb)**  
**with Quest Magnetics and Tenrues**

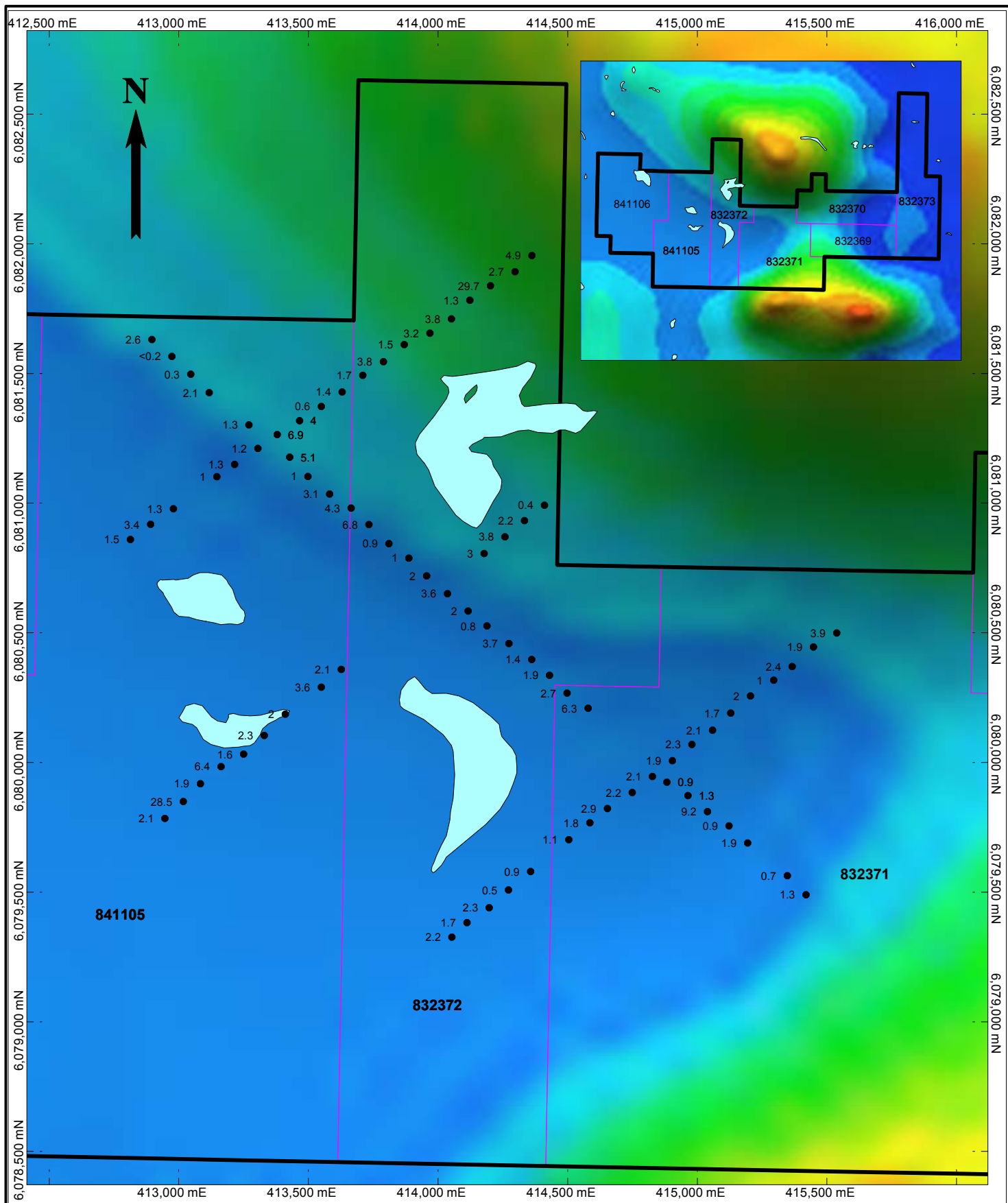




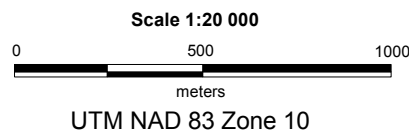
**Bio Property**  
**2011 MMI Molybdenum Values (ppb)**  
**with Quest Magnetics and Tenrues**

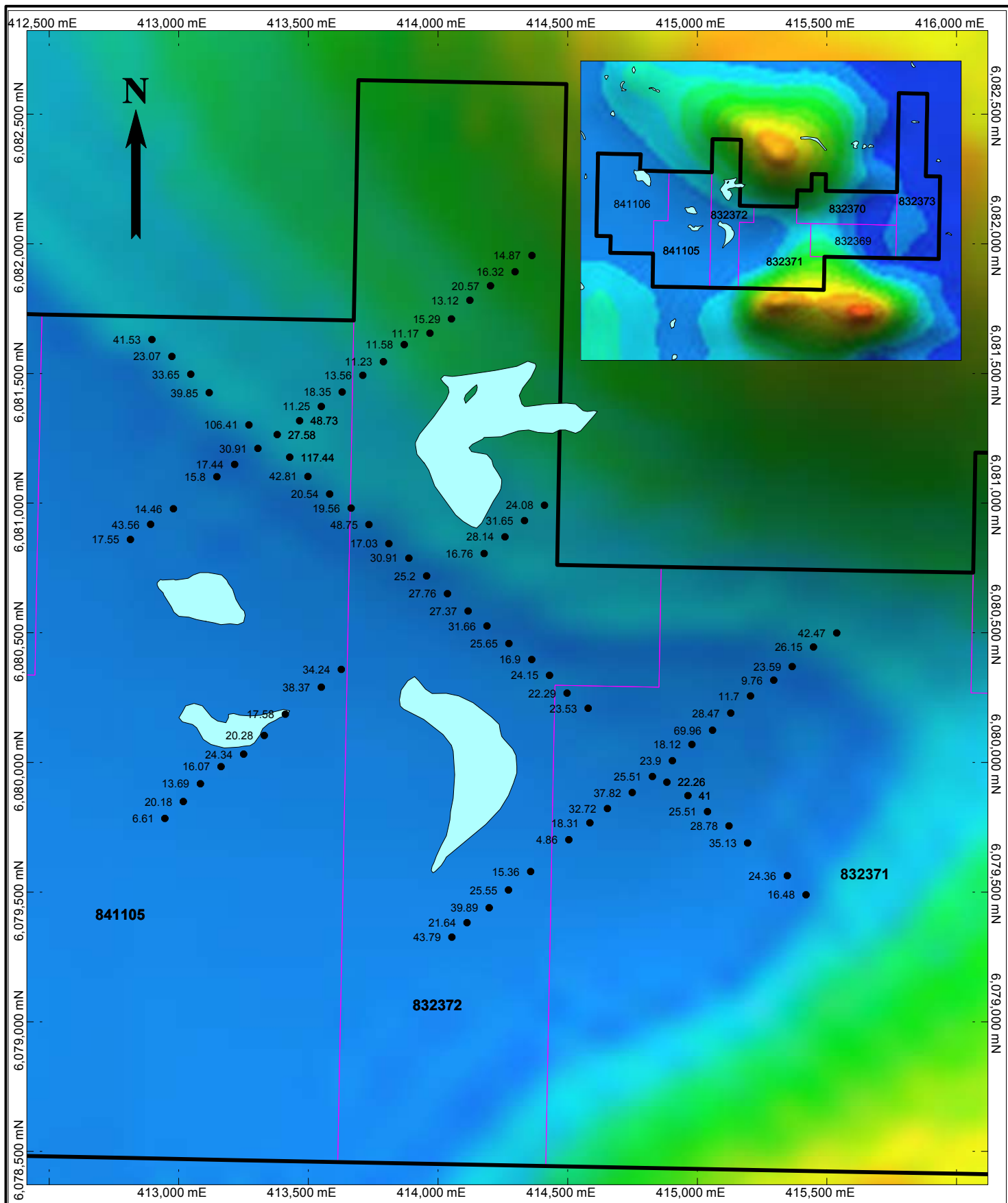




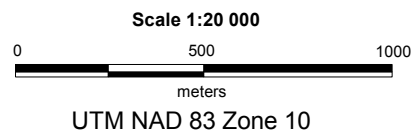


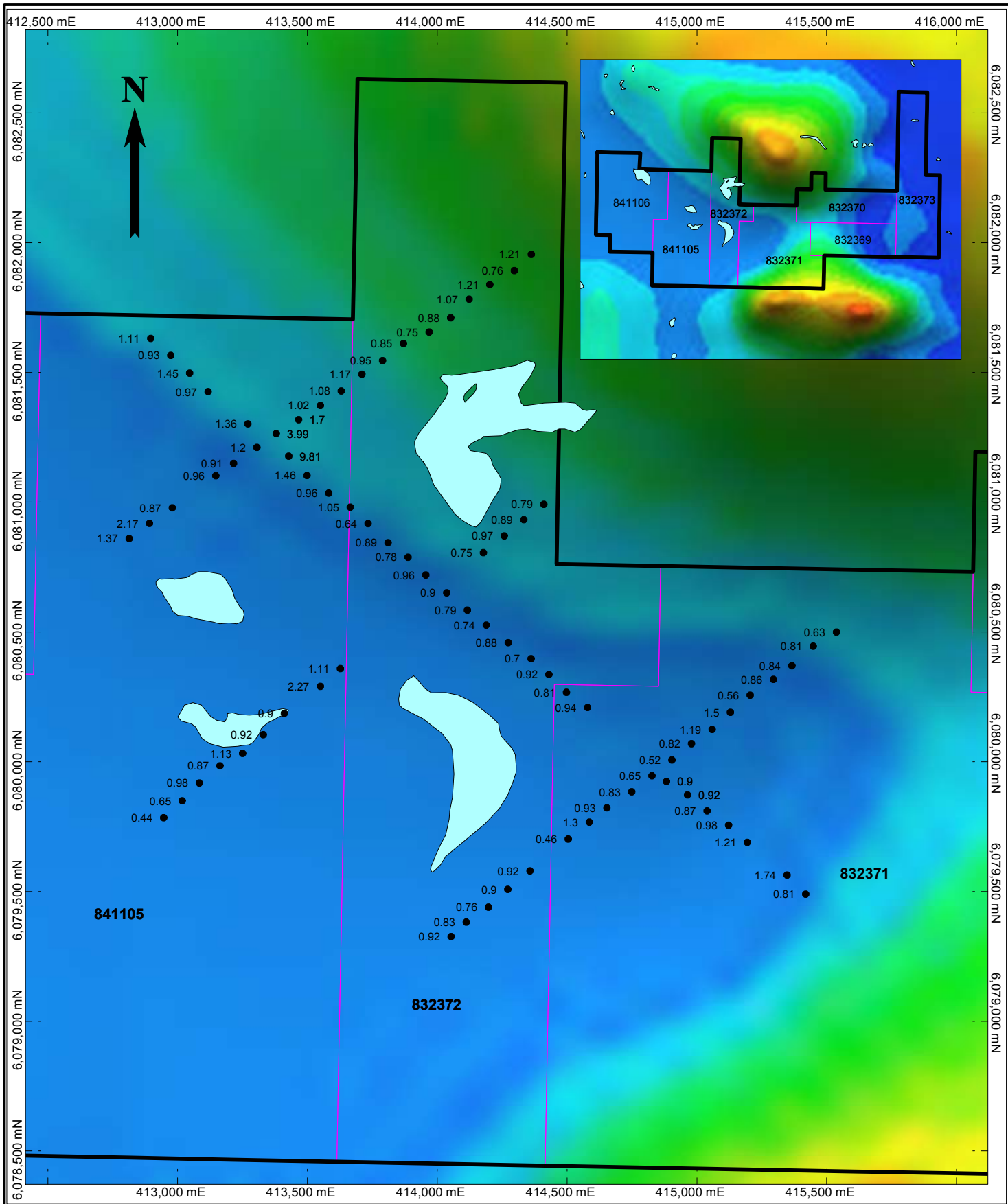
**Bio Property  
2011 Ah Gold Values (ppb)  
with Quest Magnetics and Tenrues**



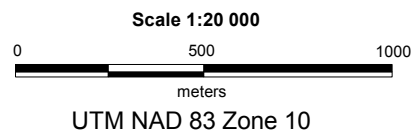


**Bio Property  
2011 Ah Copper Values (ppm)  
with Quest Magnetics and Tenrues**





**Bio Property**  
**2011 Ah Molybdenum Values (ppm)**  
**with Quest Magnetics and Tenrues**



**APPENDIX B - Soil Geochemistry Assays**



## Certificate of Analysis

Work Order: TO117234

To: **Margie MacLeod**  
Accounts Payable  
**Xstrata Copper Canada**  
Kidd Mine Exploration  
Highway 655 North, PO Box 1140  
TIMMINS  
ON P4N 7H9

Date: Nov 09, 2011

P.O. No. : -  
Project No. : -  
No. Of Samples : 53  
Date Submitted : Oct 26, 2011  
Report Comprises : Pages 1 to 13  
(Inclusive of Cover Sheet)

**Distribution of unused material:**

Return to client:

Certified By :

Lawrence Ng

Regional Business Manager (GEOCHEM)

**SGS Minerals Services (Toronto) is accredited by Standards Council of Canada (SCC) and conforms to the requirements of ISO/IEC 17025 for specific tests as indicated on the scope of accreditation to be found at <http://www.scc.ca/en/programs/lab/mineral.shtml>**

Report Footer: L.N.R. = Listed not received I.S. = Insufficient Sample  
n.a. = Not applicable -- = No result  
\*INF = Composition of this sample makes detection impossible by this method  
M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion  
Methods marked with an asterisk (e.g. \*NAAG8V) were subcontracted  
Methods marked with the @ symbol (e.g. @AAS21E) denote accredited tests

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Element	Ag	Al	As	Au	Ba	Bi	Ca	Cd	Ce	Co
Method	MMI-M5	MMI-M5	MMI-M5	MM-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
Det.Lim.	1	1	10	0.1	10	1	10	1	5	5
Units	ppb	ppm	ppb	ppb	ppb	ppb	ppm	ppb	ppb	ppb
Bio-D-01A	41	157	20	0.5	2430	<1	200	9	127	84
Bio-D-02A	72	128	20	0.5	3170	<1	130	6	321	55
Bio-D-03A	57	189	20	0.4	690	<1	40	14	49	33
Bio-D-04A	23	188	10	<0.1	2100	<1	140	22	15	91
Bio-D-05A	40	188	20	0.3	3740	<1	190	7	25	106
Bio-D-06A	42	206	<10	<0.1	1250	<1	110	24	19	101
Bio-D-07A	20	118	10	0.4	1150	<1	290	22	29	72
Bio-D-08A	48	110	<10	0.5	3950	<1	380	31	44	49
Bio-D-09A	25	204	<10	<0.1	1330	<1	100	16	24	76
Bio-D-10A	93	214	10	0.2	1030	<1	100	15	18	29
Bio-D-11A	41	195	10	0.2	2270	<1	170	34	41	62
Bio-D-12A	22	183	<10	0.2	1800	<1	260	26	36	116
Bio-D-13A	16	188	<10	<0.1	1520	<1	280	45	24	115
Bio-D-14A	18	238	<10	<0.1	1060	<1	100	24	30	104
Bio-D-15A	27	186	20	0.2	2510	<1	140	16	33	47
Bio-D-16A	51	164	10	0.1	1590	<1	200	16	30	57
Bio-D-17A	33	174	<10	0.1	820	<1	150	26	24	107
Bio-D-18A	18	183	<10	0.1	2230	<1	200	54	12	52
Bio-D-19A	37	89	<10	0.2	1590	<1	380	69	25	41
Bio-B-01A	7	158	<10	<0.1	1900	<1	290	19	40	82
Bio-B-02A	20	130	10	0.2	2020	<1	230	11	99	24
Bio-B-03A	11	107	<10	0.2	3030	<1	270	13	145	33
Bio-B-04A	39	148	10	0.2	2480	<1	200	15	207	19
Bio-B-05A	70	171	<10	0.2	880	<1	50	16	28	35
Bio-B-06A	23	167	<10	0.1	1170	<1	150	36	21	92
Bio-B-07A	55	218	10	0.2	2240	<1	70	17	57	40
Bio-B-08A	28	203	20	3.2	2300	<1	130	7	119	28
Bio-B-09A	7	167	30	3.2	3240	<1	170	14	194	32
Bio-B-10A	12	150	<10	0.2	2600	<1	230	12	149	28
Bio-B-11A	25	220	10	0.1	1840	<1	150	42	120	58
Bio-B-12A	14	278	30	0.5	4570	<1	80	4	236	47
Bio-B-13A	21	184	10	0.2	1830	<1	90	13	49	136
Bio-B-14A	16	117	<10	<0.1	3340	<1	270	19	71	17
Bio-B-15A	28	201	10	<0.1	740	<1	50	34	27	93
Bio-B-16A	10	239	<10	<0.1	1810	<1	40	15	63	259
Bio-B-17A	48	202	<10	0.2	1240	<1	80	38	29	86
Bio-B-18A	16	159	20	0.2	3780	<1	180	21	183	152
Bio-B-19A	59	149	10	0.1	2880	<1	180	51	120	135
Bio-B-20A	18	93	20	0.3	2660	<1	290	7	183	49
Bio-B-21A	26	256	20	0.1	2500	<1	50	23	94	197
Bio-C-22A	20	240	30	0.5	4220	<1	60	7	303	53
Bio-C-23A	15	133	30	0.2	3530	<1	200	11	180	94
Bio-C-24A	17	207	10	<0.1	2110	<1	120	29	20	48

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Element Method	Ag MMI-M5	Al MMI-M5	As MMI-M5	Au MMI-M5	Ba MMI-M5	Bi MMI-M5	Ca MMI-M5	Cd MMI-M5	Ce MMI-M5	Co MMI-M5
Det.Lim.	1	1	10	0.1	10	1	10	1	5	5
Units	ppb	ppm	ppb	ppb	ppm	ppb	ppm	ppb	ppb	ppb
Bio-C-25A	45	101	<10	0.3	2220	<1	400	21	20	32
Bio-C-26A	27	94	<10	0.1	6850	<1	410	61	32	100
Bio-C-27A	19	123	<10	0.1	2820	<1	310	23	85	69
Bio-C-28A	18	154	<10	0.1	2230	<1	240	41	106	27
Bio-C-29A	26	230	20	0.1	1640	<1	130	21	43	173
Bio-C-30A	36	127	<10	0.2	2350	<1	270	22	112	41
Bio-C-31A	23	170	10	0.1	2010	<1	210	19	150	38
Bio-C-32A	25	194	<10	0.2	2450	<1	210	52	219	60
Bio-C-33A	30	203	<10	<0.1	1950	<1	170	28	134	80
Bio-C-34A	35	189	<10	0.2	1890	<1	170	19	61	46
*Rep Bio-O-12A	21	177	<10	0.1	1750	<1	260	23	36	96
*Rep Bio-B-02A	20	126	10	0.2	1990	<1	220	11	88	23
*Rep Bio-B-10A	12	147	10	0.3	2510	<1	240	11	150	29
*Rep Bio-C-29A	22	231	10	<0.1	1540	<1	130	21	42	163
*Rep Bio-C-34A	32	191	<10	0.2	1900	<1	170	19	64	53
*Std MMISRM16	18	44	10	32.6	60	<1	230	4	15	57
*Std AMIS0109	9	62	10	1.6	870	<1	40	2	740	99
*Blk BLANK	<1	1	<10	<0.1	<10	<1	<10	<1	<5	<5
*Blk BLANK	<1	1	<10	<0.1	10	<1	10	<1	<5	<5

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Element	Cr	Cs	Cu	Dy	Er	Eu	Fe	Ga	Gd	Hg
Method	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
Det.Lim.	100	0.5	10	1	0.5	0.5	1	1	1	1
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb	ppb	ppb
Bio-D-01A	200	2.4	940	15	7.2	4.2	71	7	16	1
Bio-D-02A	<100	1.9	860	47	20.0	12.8	37	4	54	2
Bio-D-03A	<100	1.8	470	17	10.9	3.5	103	12	15	<1
Bio-D-04A	<100	1.5	230	4	2.3	1.0	108	11	4	<1
Bio-D-05A	100	1.1	190	4	1.8	1.1	88	6	4	<1
Bio-D-06A	<100	1.4	300	5	2.7	1.0	118	10	4	<1
Bio-D-07A	<100	1.6	330	3	1.5	0.8	25	2	3	<1
Bio-D-08A	100	1.4	550	20	12.6	3.7	23	1	16	<1
Bio-D-09A	100	1.5	160	6	3.1	1.5	99	12	5	<1
Bio D 10A	<100	1.1	240	8	4.1	1.8	101	13	8	<1
Bio-D-11A	<100	1.5	360	16	8.0	3.4	98	10	13	<1
Bio-D-12A	<100	0.6	710	12	6.2	2.1	84	5	9	<1
Bio-D-13A	<100	0.6	390	10	5.6	1.8	56	5	7	<1
Bio-D-14A	<100	1.3	620	9	4.8	1.6	110	11	6	<1
Bio D 15A	100	1.3	260	10	5.5	2.4	88	10	10	<1
Bio-D-16A	<100	1.6	280	8	3.7	1.7	70	6	7	<1
Bio-D-17A	<100	1.9	320	7	3.3	1.3	40	5	6	<1
Bio-D-18A	<100	1.0	350	5	3.0	1.0	80	7	4	<1
Bio-D-19A	<100	0.6	290	12	6.2	3.0	32	2	13	<1
Bio-B-01A	<100	1.1	440	11	5.5	2.2	42	3	10	<1
Bio-B-02A	<100	1.2	310	31	15.6	8.2	61	6	34	<1
Bio-B-03A	<100	1.9	480	48	25.0	12.6	33	4	63	<1
Bio-B-04A	<100	1.2	650	82	39.9	20.5	55	6	87	<1
Bio-B-05A	<100	1.0	260	13	6.5	2.4	67	13	10	<1
Bio-B-06A	<100	1.4	230	7	3.4	1.4	53	5	6	<1
Bio-B-07A	<100	1.9	390	13	6.2	3.2	72	8	12	<1
Bio-B-08A	200	1.5	460	34	17.0	8.4	91	11	35	<1
Bio-B-09A	100	1.6	620	50	24.4	13.1	84	8	53	<1
Bio-B-10A	<100	0.7	410	36	18.2	9.4	48	5	38	<1
Bio-B-11A	<100	0.9	450	31	14.7	6.4	73	9	27	<1
Bio-B-12A	200	2.5	850	56	26.6	13.5	121	14	54	<1
Bio-B-13A	100	0.7	490	11	6.0	2.5	202	9	10	<1
Bio-B-14A	<100	1.2	550	33	17.6	8.0	24	2	34	<1
Bio B 15A	<100	0.8	310	11	5.8	2.0	108	10	8	<1
Bio-B-16A	<100	<0.5	520	37	22.4	5.7	131	6	24	<1
Bio-B-17A	<100	1.2	290	9	4.7	1.9	89	7	8	<1
Bio-B-18A	100	0.9	470	27	12.1	7.9	96	5	30	<1
Bio-B-19A	<100	0.6	640	44	23.4	11.8	103	6	48	<1
Bio B 20A	100	1.1	980	64	34.5	18.2	80	3	75	<1
Bio-B-21A	100	0.9	600	20	9.9	4.5	132	11	18	<1
Bio-C-22A	100	2.1	740	68	31.2	15.8	94	10	64	<1
Bio-C-23A	100	1.3	460	35	16.2	10.9	72	7	42	<1
Bio-C-24A	<100	0.7	270	6	2.9	1.3	102	8	5	<1

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Element	Cr	Cs	Cu	Dy	Er	Eu	Fe	Ga	Gd	Hg
Method	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
Det.Lim.	100	0.5	10	1	0.5	0.5	1	1	1	1
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb	ppb	ppb
Bio-C-25A	<100	0.5	270	4	2.1	1.2	37	2	5	<1
Bio-C-26A	<100	1.2	340	9	4.7	2.5	35	2	10	<1
Bio-C-27A	<100	0.6	330	26	14.0	7.1	54	3	30	<1
Bio-C-28A	<100	0.6	570	29	14.2	7.8	49	4	32	<1
Bio-C-29A	200	1.1	340	10	5.4	2.2	130	15	9	<1
Bio-C-30A	<100	1.2	440	32	15.9	8.8	49	4	35	<1
Bio-C-31A	<100	0.9	710	52	25.6	12.9	53	6	54	<1
Bio-C-32A	<100	0.8	1340	73	36.1	16.9	45	4	70	<1
Bio-C-33A	<100	0.6	740	44	21.8	9.6	76	6	40	<1
Bio-C-34A	<100	0.9	370	14	6.4	3.2	85	7	13	<1
*Rep Bio-O-12A	<100	0.7	680	11	5.7	2.0	81	5	8	<1
*Rep Bio-B-02A	<100	1.1	300	29	15.0	8.1	52	6	33	<1
*Rep Bio-B-10A	<100	0.8	400	37	18.4	9.4	48	5	40	<1
*Rep Bio-C-29A	100	1.0	330	10	5.4	2.1	123	14	9	<1
*Rep Bio-C-34A	100	1.1	380	14	6.6	3.4	94	8	13	<1
*Std MMISRM16	<100	11.5	640	2	0.8	1.0	3	<1	4	20
*Std AMIS0189	<100	7.2	3500	27	11.8	10.2	42	10	41	<1
*Blk BLANK	<100	<0.5	10	<1	<0.5	<0.5	2	<1	<1	<1
*Blk BLANK	<100	<0.5	20	<1	<0.5	<0.5	<1	<1	<1	<1

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Element Method Det.Lim. Units	In MMI-M5 0.5 ppb	K MMI-M5 0.1 ppm	La MMI-M5 1 ppb	Li MMI-M5 5 ppb	Mg MMI-M5 1 ppm	Mn MMI-M5 10 ppb	Mo MMI-M5 5 ppb	Nb MMI-M5 0.5 ppb	Nd MMI-M5 1 ppb	Ni MMI-M5 5 ppb
Bio-D-01A	<0.5	8.8	33	<5	21	2150	8	2.5	48	126
Bio-D-02A	<0.5	6.9	119	<5	8	2210	<5	2.2	151	34
Bio-D-03A	<0.5	29.2	22	<5	4	1690	8	1.5	39	49
Bio-D-04A	<0.5	33.7	8	<5	10	5110	5	1.6	11	105
Bio-D-05A	<0.5	41.9	14	<5	32	3290	7	1.4	11	149
Bio-D-06A	<0.5	42.6	7	<5	14	6460	7	1.5	11	136
Bio-D-07A	<0.5	62.6	5	<5	23	2000	<5	<0.5	9	159
Bio-D-08A	<0.5	26.1	18	<5	92	1630	5	<0.5	32	269
Bio-D-09A	<0.5	11.3	12	<5	5	1980	7	2.5	16	64
Bio-D-10A	<0.5	25.5	14	<5	13	1620	<5	2.1	19	73
Bio-D-11A	<0.5	32.8	23	<5	31	2920	<5	2.2	35	138
Bio-D-12A	<0.5	10.6	12	<5	22	2380	<5	2.1	21	179
Bio-D-13A	<0.5	12.5	10	<5	26	3950	<5	1.0	18	119
Bio-D-14A	<0.5	23.1	12	<5	18	4030	<5	3.2	18	123
Bio-D-15A	<0.5	13.7	19	<5	16	4420	<5	1.9	28	135
Bio-D-16A	<0.5	55.3	14	<5	23	2650	<5	1.2	19	191
Bio-D-17A	<0.5	91.8	9	<5	17	3970	<5	1.1	13	174
Bio-D-18A	<0.5	19.5	7	<5	21	4850	<5	1.5	10	66
Bio-D-19A	<0.5	43.5	16	<5	59	2310	<5	<0.5	31	163
Bio-B-01A	<0.5	24.4	17	<5	36	1640	<5	<0.5	24	111
Bio-B-02A	<0.5	11.9	49	<5	37	1870	<5	1.3	92	83
Bio-B-03A	<0.5	12.2	69	<5	56	3930	<5	1.0	132	94
Bio-B-04A	<0.5	17.2	128	<5	33	2200	<5	1.4	223	135
Bio-B-05A	<0.5	25.6	12	<5	4	2350	<5	1.7	22	54
Bio-B-06A	<0.5	80.6	8	<5	17	4360	<5	0.9	14	223
Bio-B-07A	<0.5	20.5	25	<5	7	2070	<5	2.3	34	98
Bio-B-08A	<0.5	25.0	58	<5	20	1920	5	3.2	99	98
Bio-B-09A	<0.5	12.3	88	<5	34	2410	<5	2.6	153	150
Bio-B-10A	<0.5	16.1	55	<5	44	2350	<5	1.1	102	167
Bio-B-11A	<0.5	15.1	46	<5	21	6240	<5	2.2	68	195
Bio-B-12A	<0.5	10.9	115	<5	15	600	5	4.7	159	124
Bio-B-13A	<0.5	26.8	23	<5	3	7890	8	2.5	30	136
Bio-B-14A	<0.5	15.3	36	<5	59	1280	<5	<0.5	77	101
Bio-B-15A	<0.5	25.1	11	<5	6	3950	8	1.7	18	96
Bio-B-16A	<0.5	9.9	26	<5	15	4670	<5	2.2	52	174
Bio-B-17A	<0.5	10.6	14	<5	6	7630	<5	1.1	20	61
Bio-B-18A	<0.5	11.2	71	<5	34	6780	5	2.3	101	181
Bio-B-19A	<0.5	10.5	72	<5	31	7160	<5	1.6	133	152
Bio-B-20A	<0.5	3.1	95	<5	38	3490	8	1.0	204	275
Bio-B-21A	<0.5	16.3	35	<5	15	4800	<5	1.7	57	208
Bio-C-22A	<0.5	4.1	137	<5	11	480	5	4.2	196	88
Bio-C-23A	<0.5	8.2	86	<5	31	4390	5	2.2	141	102
Bio-C-24A	<0.5	30.5	9	<5	18	7070	7	1.5	13	127

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Element Method	In	K	La	Li	Mg	Mn	Mo	Nb	Nd	Ni
Det.Lim.	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
Units	ppb	ppm	ppb	ppb	ppm	ppb	ppb	ppb	ppb	ppb
Bio-C-25A	<0.5	85.6	8	<5	57	960	<5	0.6	13	108
Bio-C-26A	<0.5	100	12	<5	46	4910	<5	<0.5	25	219
Bio-C-27A	<0.5	12.0	42	<5	43	3060	<5	0.6	79	286
Bio-C-28A	<0.5	16.1	51	<5	46	2420	<5	0.8	89	180
Bio-C-29A	<0.5	28.8	17	<5	27	11700	13	2.7	25	89
Bio-C-30A	<0.5	10.3	54	<5	47	3510	<5	0.8	101	135
Bio-C-31A	<0.5	21.5	72	<5	32	1990	<5	1.0	136	303
Bio-C-32A	<0.5	29.4	98	<5	34	2540	<5	0.9	176	352
Bio-C-33A	<0.5	14.7	52	<5	32	3290	<5	0.7	99	351
Bio-C-34A	<0.5	12.7	23	<5	26	3540	5	1.2	35	202
*Rep Bio-C-12A	<0.5	9.9	12	<5	20	2510	<5	2.2	21	171
*Rep Bio-B-02A	<0.5	11.4	48	<5	36	1530	<5	1.4	90	84
*Rep Bio-B-10A	<0.5	16.2	57	<5	43	2500	<5	1.2	105	168
*Rep Bio-C-29A	<0.5	29.1	17	<5	27	10300	12	2.5	25	86
*Rep Bio-C-34A	<0.5	3.3	24	<5	27	3480	5	1.5	35	203
*Std MMISRM16	<0.5	36.8	4	<5	34	110	53	<0.5	14	252
*Std AMIS0169	<0.5	39.6	400	<5	32	3800	<5	2.9	349	405
*Blk BLANK	<0.5	<0.1	<1	<5	<1	10	<5	<0.5	<1	<5
*Blk BLANK	<0.5	0.2	<1	<5	<1	20	<5	<0.5	<1	8

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Element Method	P MMI-M5	Pb MMI-M5	Pd MMI-M5	Pr MMI-M5	Pt MMI-M5	Rb MMI-M5	Sb MMI-M5	Sc MMI-M5	Sm MMI-M5	Sr MMI-M5
Det.Lim.	0.1	10	1	1	1	5	1	5	1	1
Units	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Bio-D-01A	1.4	70	<1	10	<1	76	1	38	13	<1
Bio-D-02A	1.6	140	<1	32	<1	63	1	85	43	<1
Bio-D-03A	6.4	140	<1	7	<1	85	<1	53	11	<1
Bio-D-04A	20.3	90	<1	2	<1	52	<1	22	3	<1
Bio-D-05A	5.4	130	<1	3	<1	95	<1	18	3	<1
Bio-D-06A	12.4	100	<1	2	<1	78	<1	25	3	<1
Bio-D-07A	6.5	70	<1	2	<1	60	<1	10	3	<1
Bio-D-08A	0.5	140	<1	6	<1	90	<1	56	11	<1
Bio-D-09A	6.0	80	<1	3	<1	91	<1	31	4	<1
Bio-D-10A	8.5	120	<1	4	<1	94	<1	26	5	<1
Bio-D-11A	5.7	140	<1	7	<1	71	<1	32	10	<1
Bio-D-12A	2.0	280	<1	4	<1	59	<1	32	6	<1
Bio-D-13A	0.7	190	<1	3	<1	48	<1	23	5	<1
Bio-D-14A	7.7	200	<1	4	<1	56	<1	33	5	2
Bio-D-15A	6.1	110	<1	6	<1	77	1	42	8	<1
Bio-D-16A	2.8	140	<1	4	<1	123	<1	25	6	<1
Bio-D-17A	2.3	120	<1	3	<1	125	<1	24	4	<1
Bio-D-18A	2.5	130	<1	2	<1	56	<1	29	3	<1
Bio-D-19A	0.4	80	<1	6	<1	60	<1	19	10	<1
Bio-B-01A	1.9	80	<1	5	<1	74	<1	34	7	<1
Bio-B-02A	4.1	80	<1	18	<1	47	1	55	27	<1
Bio-B-03A	1.5	60	<1	25	<1	68	1	59	40	<1
Bio-B-04A	2.5	70	<1	44	<1	71	1	84	66	<1
Bio-B-05A	4.2	110	<1	4	<1	75	<1	46	7	<1
Bio-B-06A	11.7	100	<1	3	<1	84	<1	26	4	<1
Bio-B-07A	4.0	110	<1	7	<1	73	1	46	10	<1
Bio-B-08A	5.7	80	<1	20	<1	73	2	70	28	<1
Bio-B-09A	3.6	90	<1	30	<1	82	2	102	43	<1
Bio-B-10A	2.2	70	<1	19	<1	62	1	66	29	<1
Bio-B-11A	4.9	80	<1	14	<1	126	1	65	20	<1
Bio-B-12A	6.1	70	<1	34	<1	76	3	123	44	<1
Bio-B-13A	8.6	50	<1	7	<1	63	1	41	8	<1
Bio-B-14A	1.1	60	<1	14	<1	65	<1	51	25	<1
Bio-B-15A	9.9	120	<1	4	<1	93	<1	47	6	<1
Bio-B-16A	3.8	80	<1	10	<1	46	<1	57	16	<1
Bio-B-17A	5.6	120	<1	4	<1	124	<1	39	6	<1
Bio-B-18A	2.7	120	<1	22	<1	54	1	52	26	<1
Bio-B-19A	4.2	120	<1	26	<1	56	1	67	38	<1
Bio-B-20A	1.3	40	<1	38	<1	56	1	79	59	<1
Bio-B-21A	8.9	150	<1	12	<1	75	1	58	15	<1
Bio-C-22A	3.9	100	<1	41	<1	75	2	117	52	<1
Bio-C-23A	3.5	110	<1	29	<1	65	2	70	37	<1
Bio-C-24A	7.9	120	<1	3	<1	57	<1	48	4	<1

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Element Method Det.Lim. Units	P	Pb	Pd	Pr	Pt	Rb	Sb	Sc	Sm	Sn
	MMI-M5 0.1 ppm	MMI-M5 10 ppb	MMI-M5 1 ppb	MMI-M5 1 ppb	MMI-M5 1 ppb	MMI-M5 5 ppb	MMI-M5 1 ppb	MMI-M5 5 ppb	MMI-M5 1 ppb	MMI-M5 1 ppb
Bio-C-25A	0.9	70	<1	3	<1	49	<1	33	4	1
Bio-C-26A	0.8	90	<1	5	<1	126	<1	34	8	<1
Bio-C-27A	1.0	120	<1	15	<1	70	<1	56	23	<1
Bio-C-28A	2.0	100	<1	17	<1	46	1	64	25	<1
Bio-C-29A	8.2	130	<1	5	<1	99	1	61	7	1
Bio-C-30A	1.9	90	<1	19	<1	73	1	59	28	<1
Bio-C-31A	2.4	100	<1	26	<1	80	1	61	41	<1
Bio-C-32A	2.3	90	<1	35	<1	81	1	105	53	<1
Bio-C-33A	2.1	150	<1	20	<1	68	<1	60	30	<1
Bio-C-34A	3.9	100	<1	7	<1	115	<1	48	10	<1
*Rep Bio-O-12A	2.1	260	<1	4	<1	62	<1	31	6	<1
*Rep Bio-B-02A	4.2	70	<1	18	<1	45	1	55	26	<1
*Rep Bio-B-10A	2.3	70	<1	20	<1	53	1	66	30	<1
*Rep Bio-C-29A	7.5	130	<1	5	<1	97	1	68	7	<1
*Rep Bio-C-34A	4.4	100	<1	8	<1	117	1	50	11	<1
*Std MMISRM16	0.4	100	24	2	<1	314	<1	10	4	<1
*Std AM S0169	2.7	110	<1	93	<1	223	1	64	57	<1
*Blk BLANK	0.2	<10	<1	<1	<1	<5	<1	<5	<1	<1
*Blk BLANK	0.1	<10	<1	<1	<1	<5	<1	19	<1	<1

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Element Method Det.Lim. Units	Sr MMI-M5 10 ppb	Ta MMI-M5 1 ppb	Tb MMI-M5 1 ppb	Te MMI-M5 10 ppb	Th MM-M5 0.5 ppb	Ti MMI-M5 3 ppb	Tl MMI-M5 0.5 ppb	U MMI-M5 1 ppb	W MMI-M5 1 ppb	Y MMI-M5 5 ppb
Bio-D-01A	490	<1	3	<10	16.5	1130	0.6	6	<1	62
Bio-D-02A	530	<1	8	<10	16.5	1250	0.6	10	<1	201
Bio-D-03A	160	<1	3	<10	6.4	452	<0.5	5	<1	103
Bio-D-04A	440	<1	<1	<10	4.7	348	<0.5	2	<1	21
Bio-D-05A	640	<1	<1	<10	6.8	605	<0.5	3	<1	20
Bio-D-06A	360	<1	<1	<10	5.3	396	<0.5	4	<1	23
Bio-D-07A	1030	<1	<1	<10	3.2	135	<0.5	3	<1	14
Bio-D-08A	1720	<1	3	<10	7.8	16	<0.5	9	<1	96
Bio-D-09A	280	<1	<1	<10	5.1	847	<0.5	3	<1	28
Bio-D-10A	380	<1	1	<10	3.9	480	<0.5	3	<1	49
Bio-D-11A	770	<1	2	<10	4.7	684	<0.5	4	<1	75
Bio-D-12A	1650	<1	2	<10	10.2	370	<0.5	8	<1	54
Bio-D-13A	1450	<1	1	<10	4.0	386	<0.5	4	<1	51
Bio-D-14A	550	<1	1	<10	6.3	585	<0.5	3	<1	43
Bio-D-15A	430	<1	2	<10	6.4	960	<0.5	3	<1	56
Bio-D-16A	680	<1	1	<10	6.1	412	<0.5	3	<1	38
Bio-D-17A	470	<1	1	<10	4.4	271	<0.5	4	<1	30
Bio-D-18A	970	<1	<1	<10	3.3	398	<0.5	3	<1	28
Bio-D-19A	1380	<1	2	<10	2.2	41	<0.5	3	<1	67
Bio-B-01A	1480	<1	2	<10	5.4	170	<0.5	3	<1	57
Bio-B-02A	940	<1	5	<10	6.9	643	<0.5	4	<1	165
Bio-B-03A	1440	<1	8	<10	6.3	604	<0.5	6	<1	263
Bio-B-04A	830	<1	13	<10	8.6	714	<0.5	6	<1	423
Bio-B-05A	130	<1	2	<10	4.9	517	<0.5	4	<1	64
Bio-B-06A	380	<1	1	<10	4.5	351	<0.5	4	<1	31
Bio-B-07A	200	<1	2	<10	9.8	1030	<0.5	4	<1	62
Bio-B-08A	470	<1	6	<10	14.5	1690	<0.5	8	<1	167
Bio-B-09A	630	<1	8	<10	15.9	2050	<0.5	8	<1	237
Bio-B-10A	940	<1	6	<10	8.8	718	<0.5	6	<1	190
Bio-B-11A	750	<1	5	<10	8.8	1030	<0.5	6	<1	147
Bio-B-12A	330	<1	9	<10	24.6	3630	0.6	9	1	248
Bio-B-13A	440	<1	2	<10	7.8	1220	<0.5	5	<1	51
Bio-B-14A	1200	<1	5	<10	5.5	152	<0.5	7	<1	163
Bio-B-15A	170	<1	2	<10	8.2	554	<0.5	5	<1	48
Bio-B-16A	360	<1	5	<10	7.9	991	<0.5	4	<1	211
Bio-B-17A	310	<1	1	<10	6.2	655	<0.5	4	<1	42
Bio-B-18A	760	<1	5	<10	14.7	1400	<0.5	5	<1	124
Bio-B-19A	720	<1	7	<10	9.6	584	<0.5	5	<1	254
Bio-B-20A	1010	<1	11	<10	11.5	269	<0.5	13	<1	360
Bio-B-21A	250	<1	3	<10	12.3	982	<0.5	4	<1	97
Bio-C-22A	320	<1	11	<10	20.6	2670	0.5	10	<1	330
Bio-C-23A	710	<1	6	<10	12.6	1410	<0.5	6	<1	167
Bio-C-24A	450	<1	<1	<10	5.0	686	<0.5	2	<1	26

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Element Method Det.Lim. Units	Sr. MMI-M5 10 ppb	Ta MMI-M5 1 ppb	Tb MMI-M5 1 ppb	Te MMI-M5 10 ppb	Tf MMI-M5 0.5 ppb	Tg MMI-M5 3 ppb	Th MMI-M5 0.5 ppb	Ti MMI-M5 1 ppb	U MMI-M5 1 ppb	W MMI-M5 1 ppb	Y MMI-M5 5 ppb
Bio-C-25A	1290	<1	<1	<10	3.1	65	<0.5	3	<1	<1	21
Bio-C-26A	1660	<1	1	<10	3.9	65	<0.5	5	<1	<1	46
Bio-C-27A	1430	<1	4	<10	5.3	234	<0.5	5	<1	<1	155
Bio-C-28A	980	<1	5	<10	8.0	352	<0.5	6	<1	<1	150
Bio-C-29A	430	<1	2	<10	10.6	1730	<0.5	5	<1	<1	47
Bio-C-30A	980	<1	5	<10	6.5	371	<0.5	5	<1	<1	169
Bio-C-31A	800	<1	8	<10	8.5	554	<0.5	7	<1	<1	274
Bio C 32A	780	<1	12	<10	10.1	537	<0.5	9	<1	<1	357
Bio-C-33A	920	<1	7	<10	6.8	373	<0.5	4	<1	<1	222
Bio-C-34A	700	<1	2	<10	8.8	535	<0.5	4	<1	<1	57
*Rep Bio-O-12A	1560	<1	2	<10	10.2	406	<0.5	8	<1	<1	49
*Rep Bio-B-02A	910	<1	5	<10	6.8	882	<0.5	5	<1	<1	160
*Rep Bio B 10A	930	<1	6	<10	9.0	762	<0.5	6	<1	<1	190
*Rep Bio-C-29A	420	<1	1	<10	10.0	1630	<0.5	5	<1	<1	48
*Rep Bio-C-34A	690	<1	2	<10	9.4	657	<0.5	4	<1	<1	58
*Std MMISRM16	520	<1	<1	<10	20.1	<3	<0.5	45	<1	<1	9
*Std AMIS0169	80	<1	5	<10	71.2	395	1.3	24	1	1	112
*Blk BLANK	<10	<1	<1	<10	<0.5	4	<0.5	<1	<1	<1	<5
*Blk BLANK	<10	<1	<1	<10	<0.5	<3	<0.5	<1	<1	<1	<5

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Final 1011723# Order:

Element Method Det.Lim. Units	Yb MMI-M5 1 ppb	Zn MMI-M5 20 ppb	Zr MMI-M5 5 ppb
Bio-D-01A	5	70	69
Bio-D-02A	12	60	76
Bio-D-03A	8	160	33
Bio-D-04A	2	620	34
Bio-D-05A	1	100	34
Bio-D-06A	2	650	23
Bio-D-07A	1	140	14
Bio-D-08A	9	990	37
Bio-D-09A	2	380	45
Bio-D-10A	3	150	24
Bio-D-11A	6	1460	23
Bio-D-12A	5	580	28
Bio-D-13A	4	910	20
Bio-D-14A	3	880	30
Bio-D-15A	4	250	37
Bio-D-16A	3	160	27
Bio-D-17A	2	610	22
Bio-D-18A	2	1190	16
Bio-D-19A	4	720	7
Bio-B-01A	4	470	20
Bio-B-02A	11	150	37
Bio-B-03A	18	260	33
Bio-B-04A	26	110	37
Bio-B-05A	5	210	30
Bio-B-06A	2	2350	22
Bio-B-07A	5	240	58
Bio-B-08A	12	190	82
Bio-B-09A	17	330	91
Bio-B-10A	12	370	44
Bio-B-11A	10	880	43
Bio-B-12A	19	170	170
Bio-B-13A	5	380	45
Bio-B-14A	12	310	23
Bio-B-15A	4	410	40
Bio-B-16A	16	640	34
Bio-B-17A	4	770	34
Bio-B-18A	9	430	64
Bio-B-19A	17	1040	39
Bio-B-20A	26	30	45
Bio-B-21A	8	510	48
Bio-C-22A	20	270	108
Bio-C-23A	11	340	58
Bio-C-24A	2	1660	24

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Final : TO117234 Order:

Element	Yb	Zn	Zr
Method	MMI-M5	MMI-M5	MMI-M5
Det.Lim.	1	20	5
Units	ppb	ppb	ppb
Bio-C-25A	2	90	10
Bio-C-26A	3	1770	14
Bio-C-27A	10	200	17
Bio-C-28A	10	290	25
Bio-C-29A	4	260	61
Bio-C-30A	11	350	27
Bio-C-31A	18	220	29
Bio-C-32A	24	590	29
Bio-C-33A	14	630	20
Bio-C-34A	5	320	37
*Rep Bio-O-12A	5	670	29
*Rep Bio-B-02A	11	140	38
*Rep Bio-B-10A	13	370	44
*Rep Bio-C-29A	4	250	56
*Rep Bio-C-34A	5	350	40
*Std MMISRM16	<1	240	14
*Std AMIS0169	9	200	46
*Blk BLANK	<1	<20	<5
*Blk BLANK	<1	<20	<5

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## Certificate of Analysis

Work Order: TO117235

To: **Margie MacLeod**  
Accounts Payable  
**Xstrata Copper Canada**  
Kidd Mine Exploration  
Highway 655 North, PO Box 1140  
TIMMINS  
ON P4N 7H9

Date: Nov 03, 2011

P.O. No. : -  
Project No. : -  
No. Of Samples : 66  
Date Submitted : Oct 20, 2011  
Report Comprises : Pages 1 to 13  
(Inclusive of Cover Sheet)

**Distribution of unused material:**  
Return to client

Certified By :

Lawrence Ng  
Regional Business Manager (GEOCHEM)

**SGS Minerals Services (Toronto) is accredited by Standards Council of Canada (SCC) and conforms to the requirements of ISO/IEC 17025 for specific tests as indicated on the scope of accreditation to be found at <http://www.scc.ca/en/programs/lab/mineral.shtml>**

Report Footer: I.N.R. = Listed not received I.S. = Insufficient Sample  
n.a. = Not applicable -- = No result  
\*INF = Composition of this sample makes detection impossible by this method  
M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion  
Methods marked with an asterisk (e.g. \*NAAC6V) were subcontracted  
Methods marked with the @ symbol (e.g. @AAS21E) denote accredited tests

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Element Method Det.Lim. Units	Ag MMI-M5 1 ppb	Al MMI-M5 1 ppm	As MMI-M5 10 ppb	Au MMI-M5 0.1 ppb	Ba MMI-M5 10 ppb	Bi MMI-M5 1 ppb	Ca MMI-M5 10 ppm	Cd MMI-M5 1 ppb	Ce MMI-M5 5 ppb	Co MMI-M5 5 ppb
Bio-A-35A	50	203	<10	<0.1	780	<1	80	46	16	64
Bio-A-36A	6	89	<10	<0.1	1010	<1	300	135	26	42
Bio-A-37A	14	159	<10	<0.1	1280	<1	280	56	12	52
Bio-A-38A	42	156	20	<0.1	2960	<1	230	17	110	127
Bio-A-39A	11	>300	20	<0.1	1230	<1	400	111	1090	145
Bio-A-40A	96	74	<10	0.2	700	<1	460	21	56	26
Bio-A-41A	37	144	<10	<0.1	1210	<1	230	24	35	51
Bio-A-42A	50	141	10	0.2	2560	<1	210	14	80	27
Bio-A-43A	24	96	10	0.1	3030	<1	290	17	62	44
Bio-A-44A	59	96	<10	0.2	1740	<1	440	40	281	11
Bio-A-45A	81	159	<10	0.1	1920	<1	220	20	49	58
Bio-A-46A	30	118	10	0.2	2270	<1	250	23	217	42
Bio-A-47A	51	144	<10	0.3	880	<1	170	26	19	62
Bio-A-48A	7	129	<10	<0.1	1520	<1	180	71	90	80
Bio-A-49A	9	137	<10	0.1	1950	<1	150	28	51	528
Bio-A-50A	22	148	10	<0.1	2670	<1	160	28	94	288
Bio-A-51A	36	182	20	0.2	2660	<1	150	26	99	73
Bio-A-52A	14	212	20	<0.1	2330	<1	100	25	39	74
Bio-A-53A	22	147	20	0.2	3460	<1	200	20	117	82
Bio-A-54A	23	135	<10	0.2	2310	<1	260	65	123	33
Bio-A-55A	28	231	10	0.1	1890	<1	70	42	30	105
Bio-A-56A	35	182	<10	<0.1	1850	<1	140	42	90	64
Bio-A-57A	39	183	10	<0.1	1650	<1	130	60	63	94
Bio-A-58A	14	283	<10	<0.1	2710	<1	100	63	46	115
Bio-A-59A	10	160	<10	<0.1	2350	<1	220	131	71	53
Bio-A-60A	48	272	<10	0.1	2540	<1	60	18	163	52
Bio-A-61A	87	185	<10	<0.1	3220	<1	60	190	12	170
Bio-A-62A	21	197	10	<0.1	3550	<1	160	55	110	83
TQ-H-01A	67	89	20	0.1	3320	<1	290	29	249	85
TQ-H-02A	40	127	<10	0.1	1360	<1	320	33	21	44
TQ-H-03A	31	83	<10	0.3	1790	<1	330	18	197	19
TQ-H-04A	13	170	10	<0.1	1410	<1	160	43	28	109
TQ-H-05A	11	168	<10	<0.1	1090	<1	170	72	48	150
TQ-H-06A	71	31	<10	0.3	3780	<1	580	15	96	20
TQ-H-07A	34	77	<10	0.2	1870	<1	440	22	41	56
TQ-H-08A	22	228	10	<0.1	1260	<1	130	11	127	246
TQ-H-09A	32	34	<10	0.1	1400	<1	630	75	26	73
TQ-H-10A	65	15	<10	0.3	1330	<1	680	35	9	74
TQ-H-11A	50	94	<10	0.2	2390	<1	470	105	211	39
TQ-H-12A	12	97	<10	<0.1	2890	<1	300	59	191	23
TQ-H-13A	20	113	<10	<0.1	1870	<1	490	44	49	47
TQ-H-14A	13	99	<10	<0.1	2030	<1	230	65	149	63
TQ-H-15A	55	17	<10	0.2	2380	<1	480	47	55	25

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Element Method	Ag MMI-M5	Al MMI-M5	As MMI-M5	Au MMI-M5	Ba MMI-M5	Bi MMI-M5	Ca MMI-M5	Cd MMI-M5	Ce MMI-M5	Co MMI-M5
Det. Lim.	1	1	10	0.1	10	1	10	1	5	5
Units	ppb	ppm	ppb	ppb	ppb	ppb	ppm	ppb	ppb	ppb
TQ-H-16A	4	40	<10	0.3	6100	<1	550	169	22	85
TQ-H-17A	58	99	<10	0.3	6910	<1	480	94	242	30
TQ-H-18A	37	110	10	<0.1	3270	<1	300	61	388	38
TQ-H-19A	43	94	10	0.1	4390	<1	310	10	255	50
TQ-H-20A	24	158	30	<0.1	5350	<1	180	30	126	198
TQ-H-21A	77	117	20	<0.1	2690	<1	240	38	73	27
TQ-H-22A	25	73	20	0.2	1650	<1	330	22	158	158
TQ-H-23A	7	122	<10	<0.1	4950	<1	440	39	45	44
TQ-H-24A	13	87	<10	<0.1	2720	<1	660	67	62	39
TQ-H-25A	2	99	<10	<0.1	2430	<1	590	170	21	142
TQ-H-26A	6	105	<10	<0.1	930	<1	510	240	47	93
TQ-H-27A	17	104	<10	<0.1	1000	<1	390	38	69	33
TQ-H-28A	60	83	<10	0.2	1450	<1	520	36	70	30
TQ-H-29A	27	57	<10	0.1	2430	<1	440	22	156	49
TQ-H-30A	53	26	<10	<0.1	2800	<1	640	79	59	50
TQ-H-31A	49	68	<10	0.1	4010	<1	370	73	64	28
TQ-H-32A	46	69	<10	0.2	4920	<1	390	122	108	20
TQ-H-33A	41	82	<10	<0.1	2220	<1	330	136	41	11
RW-H-01A	22	256	10	<0.1	2000	<1	140	21	48	84
RW-H-02A	15	92	<10	0.1	3200	<1	530	47	72	68
RW-H-03A	18	121	<10	<0.1	2220	<1	500	64	161	19
RW-H-04A	8	137	<10	<0.1	1470	<1	370	65	78	90
RW-H-05A	24	110	<10	0.2	950	<1	480	75	21	17
*Rep Bio-A-44A	59	88	<10	0.2	1630	<1	410	30	319	10
*Rep Bio-A-58A	15	257	<10	<0.1	2690	<1	100	62	48	110
*Rep TQ-H-06A	22	223	10	<0.1	1290	<1	140	11	154	207
*Rep TQ-H-16A	5	40	<10	0.5	6650	<1	530	111	38	131
*Rep TQ-H-29A	29	58	<10	0.2	2390	<1	450	18	190	57
*Rep RW-H-05A	24	109	<10	0.1	990	<1	480	81	21	19
*Std MMISM16	19	40	10	25.5	70	<1	210	4	15	50
*Std AMISD169	9	61	10	0.4	740	<1	40	2	803	108
*Blk BLANK	<1	<1	<10	<0.1	<10	<1	<10	<1	<5	<5
*Blk BLANK	<1	<1	<10	<0.1	<10	<1	<10	<1	<5	<5

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Element Method Det.Lim. Units	Cr MMI-M5	Cs MMI-M5	Cu MMI-M5	Dy MMI-M5	Er MMI-M5	Eu MMI-M5	Fe MMI-M5	Ga MMI-M5	Gd MMI-M5	Hg MMI-M5
Bio-A-35A	<100	2.6	310	6	3.3	1.1	80	10	5	<1
Bio-A-36A	<100	<0.5	160	6	3.1	1.2	57	4	5	<1
Bio-A-37A	<100	<0.5	270	6	3.5	1.1	74	7	5	<1
Bio-A-38A	<100	1.9	780	12	6.4	3.6	66	4	14	<1
Bio-A-39A	<100	<0.5	1120	625	321	115	24	4	537	<1
Bio-A-40A	<100	0.7	2420	19	10.2	5.7	9	1	24	<1
Bio-A-41A	<100	0.9	290	6	3.2	1.4	75	8	6	<1
Bio-A-42A	<100	2.0	620	25	12.7	6.9	58	6	28	<1
Bio-A-43A	<100	<0.5	270	14	7.6	4.5	69	4	18	<1
Bio-A-44A	<100	0.8	1340	220	119	48.7	15	2	220	<1
Bio-A-45A	<100	0.9	260	10	4.7	2.5	74	7	10	<1
Bio-A-46A	<100	1.3	510	50	23.1	14.9	41	5	59	<1
Bio-A-47A	<100	0.8	230	5	2.6	1.1	78	6	4	<1
Bio-A-48A	<100	0.6	480	49	25.8	10.7	61	6	46	<1
Bio-A-49A	<100	1.1	580	10	5.6	2.7	123	7	10	<1
Bio-A-50A	<100	0.5	450	26	13.1	6.9	106	8	27	<1
Bio-A-51A	<100	1.4	560	32	16.5	8.1	101	8	33	<1
Bio-A-52A	100	1.1	200	8	3.6	1.8	125	10	7	<1
Bio-A-53A	<100	1.5	370	27	12.5	7.5	83	5	30	<1
Bio-A-54A	<100	<0.5	550	34	16.7	9.6	59	5	39	<1
Bio-A-55A	<100	0.9	300	12	6.6	2.2	153	9	9	<1
Bio-A-56A	<100	<0.5	340	26	12.5	5.8	95	8	24	<1
Bio-A-57A	<100	1.6	520	14	7.3	2.9	68	7	13	<1
Bio-A-58A	<100	0.6	430	13	5.9	2.2	142	10	9	<1
Bio-A-59A	<100	<0.5	320	17	8.5	4.0	74	5	17	<1
Bio-A-60A	<100	1.0	770	47	20.6	10.5	67	7	43	<1
Bio-A-61A	<100	<0.5	330	4	2.5	0.7	181	10	3	<1
Bio-A-62A	<100	<0.5	400	22	9.9	5.5	107	8	22	<1
TQ-H-01A	<100	1.2	580	32	17.1	10.1	64	4	39	<1
TQ-H-02A	<100	21.3	320	4	2.0	1.1	51	3	4	<1
TQ-H-03A	<100	1.7	990	50	24.3	16.7	17	2	63	1
TQ-H-04A	<100	3.4	300	7	3.7	1.6	172	7	6	<1
TQ-H-05A	<100	5.7	580	14	8.1	2.6	64	6	10	<1
TQ-H-06A	<100	0.6	710	52	23.2	21.3	13	<1	79	<1
TQ-H-07A	<100	3.0	270	6	2.7	1.5	34	2	6	<1
TQ-H-08A	<100	5.0	1020	46	24.4	7.7	101	6	32	<1
TQ-H-09A	<100	0.7	410	7	4.0	2.2	25	<1	9	<1
TQ-H-10A	<100	<0.5	1020	6	3.4	2.1	9	<1	8	<1
TQ-H-11A	<100	<0.5	350	21	10.5	5.8	34	1	23	<1
TQ-H-12A	<100	<0.5	370	38	16.8	12.2	36	3	47	<1
TQ-H-13A	<100	22.0	710	28	17.8	4.6	58	2	20	<1
TQ-H-14A	<100	0.6	510	48	20.5	13.7	63	2	55	<1
TQ-H-15A	<100	0.5	2030	16	7.6	6.1	20	<1	22	<1

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Element Method Det.Lim. Units	Cr MMI-M5 100 ppb	Cs MMI-M5 0.5 ppb	Cu MMI-M5 10 ppb	Dy MMI-M5 1 ppb	Er MMI-M5 0.5 ppb	Eu MMI-M5 0.5 ppb	Fe MMI-M5 1 ppm	Ga MMI-M5 1 ppb	Gd MMI-M5 1 ppb	Hg MMI-M5 1 ppb
TQ-H-16A	<100	<0.5	1770	32	23.2	7.2	11	<1	30	<1
TQ-H-17A	<100	0.6	1360	227	130	49.5	33	1	206	<1
TQ-H-18A	<100	<0.5	560	73	85.3	52.9	48	3	207	<1
TQ-H-19A	<100	0.6	400	45	20.3	14.7	45	3	56	<1
TQ-H-20A	<100	0.6	240	13	6.1	4.1	127	6	14	<1
TQ-H-21A	<100	1.5	270	9	4.3	2.6	55	5	9	<1
TQ-H-22A	<100	<0.5	190	8	3.7	2.2	38	2	8	<1
TQ-H-23A	100	12.3	790	66	47.2	10.1	58	2	43	1
TQ-H-24A	<100	9.3	410	16	9.1	3.5	22	2	15	<1
TQ-H-25A	<100	18.0	380	11	9.3	1.9	54	2	8	<1
TQ-H-26A	<100	15.6	560	19	13.3	3.2	49	2	14	1
TQ-H-27A	<100	12.2	930	44	26.8	9.3	33	4	41	<1
TQ-H-28A	<100	26.9	1560	63	35.3	13.4	14	2	65	<1
TQ-H-29A	<100	0.6	410	12	5.5	3.6	32	2	14	<1
TQ-H-30A	<100	<0.5	330	17	9.2	4.2	19	<1	19	<1
TQ-H-31A	<100	1.0	280	29	13.3	10.4	34	3	39	<1
TQ-H-32A	<100	<0.5	520	93	49.9	25.2	25	1	109	<1
TQ-H-33A	<100	0.6	250	18	9.0	4.8	31	2	20	<1
RW-H-01A	<100	4.0	480	18	9.9	3.3	76	8	12	<1
RW-H-02A	<100	6.5	270	9	4.4	2.4	26	2	9	<1
RW-H-03A	<100	3.9	630	100	64.3	19.8	30	1	78	<1
RW-H-04A	<100	4.8	1150	39	23.9	6.7	69	3	30	<1
RW-H-05A	<100	8.0	3390	20	13.3	4.2	19	2	18	<1
*Rep Bio-A-44A	<100	0.8	1010	148	74.1	41.4	12	2	179	<1
*Rep Bio-A-58A	<100	0.5	430	13	5.4	2.2	140	10	9	<1
*Rep TQ-H-08A	<100	5.3	950	50	25.9	9.0	92	6	38	<1
*Rep TQ-H-16A	<100	<0.5	3150	27	17.3	8.4	17	<1	32	<1
*Rep TQ-H-29A	<100	<0.5	390	14	6.2	4.1	34	2	16	<1
*Rep RW-H-05A	<100	7.2	3180	22	14.3	4.4	20	1	19	<1
*Std MMISRM16	<100	10.8	540	2	0.7	0.9	2	<1	4	20
*Std AMIS0169	<100	7.7	3960	29	12.5	11.6	41	11	45	<1
*Blk BLANK	<100	<0.5	<10	<1	<0.5	<0.5	<1	<1	<1	<1
*Blk BLANK	<100	<0.5	<10	<1	<0.5	<0.5	<1	<1	<1	<1

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Element Method	In	K	La	Li	Mg	Mn	Mo	Nb	Nd	Ni
Det.Lim.	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
Units	0.5 ppb	0.1 ppm	1 ppb	5 ppb	1 ppm	10 ppb	5 ppb	0.5 ppb	1 ppb	5 ppb
Bio-A-35A	<0.5	39.1	6	<5	10	7400	<5	0.7	11	172
Bio-A-36A	<0.5	73.0	5	<5	33	14400	<5	<0.5	10	185
Bio-A-37A	<0.5	16.1	5	<5	28	3210	<5	<0.5	10	86
Bio-A-38A	<0.5	72.3	29	<5	23	2970	<5	<0.5	46	272
Bio-A-39A	<0.5	3.1	543	<5	66	3470	<5	<0.5	1670	193
Bio-A-40A	<0.5	11.4	31	<5	9	10600	10	<0.5	67	115
Bio-A-41A	<0.5	26.7	10	<5	15	6440	6	2.6	16	99
Bio-A-42A	<0.5	32.0	45	<5	23	1370	<5	1.1	76	65
Bio-A-43A	<0.5	20.8	32	<5	45	2130	6	0.6	57	124
Bio-A-44A	<0.5	9.7	189	<5	83	3650	<5	<0.5	441	291
Bio-A-45A	<0.5	23.4	23	<5	26	2670	<5	1.0	31	119
Bio-A-46A	<0.5	23.6	101	<5	38	4490	<5	0.7	184	196
Bio-A-47A	<0.5	34.8	6	<5	14	3530	<5	<0.5	10	125
Bio-A-48A	<0.5	30.4	47	<5	25	21900	<5	<0.5	106	165
Bio-A-49A	<0.5	41.7	22	<5	16	34100	7	1.3	32	143
Bio-A-50A	<0.5	23.0	43	<5	24	10800	<5	1.5	77	188
Bio-A-51A	<0.5	18.9	50	<5	28	3290	<5	1.6	90	197
Bio-A-52A	<0.5	33.2	15	<5	19	8850	<5	2.0	22	151
Bio-A-53A	<0.5	22.4	55	<5	43	4120	<5	1.0	93	127
Bio-A-54A	<0.5	19.9	64	<5	59	5970	<5	<0.5	119	170
Bio-A-55A	<0.5	21.2	13	<5	17	6090	5	1.5	23	190
Bio-A-56A	<0.5	17.9	37	<5	18	4540	<5	1.2	66	189
Bio-A-57A	<0.5	29.3	19	<5	6	8890	5	1.2	33	199
Bio-A-58A	<0.5	27.8	16	<5	20	6960	5	1.4	23	298
Bio-A-59A	<0.5	15.2	22	<5	22	8850	<5	<0.5	43	162
Bio-A-60A	<0.5	22.3	61	<5	17	1380	<5	1.0	117	311
Bio-A-61A	<0.5	19.4	4	<5	15	6880	<5	1.4	7	204
Bio-A-62A	<0.5	32.0	42	<5	19	11100	6	1.6	70	276
TQ-H-01A	<0.5	29.3	61	<5	73	9930	<5	<0.5	116	483
TQ-H-02A	<0.5	38.4	7	<5	27	2760	<5	<0.5	11	202
TQ-H-03A	<0.5	26.8	83	<5	64	2930	<5	<0.5	176	519
TQ-H-04A	<0.5	33.8	11	<5	24	7880	<5	1.2	16	137
TQ-H-05A	<0.5	37.7	17	<5	24	8070	<5	<0.5	24	173
TQ-H-06A	<0.5	30.8	112	<5	45	3970	<5	<0.5	243	303
TQ-H-07A	<0.5	61.9	13	<5	48	7560	<5	<0.5	20	181
TQ-H-08A	<0.5	28.0	35	<5	41	4750	<5	0.7	72	343
TQ-H-09A	<0.5	5.6	10	<5	63	9510	<5	<0.5	23	896
TQ-H-10A	<0.5	7.5	8	5	92	8450	<5	<0.5	20	2820
TQ-H-11A	<0.5	62.8	34	<5	62	5810	<5	<0.5	63	498
TQ-H-12A	<0.5	50.3	76	<5	79	5060	<5	<0.5	140	400
TQ-H-13A	<0.5	49.2	19	<5	73	5090	<5	<0.5	36	585
TQ-H-14A	<0.5	21.4	75	<5	116	1610	<5	<0.5	152	389
TQ-H-15A	<0.5	12.2	26	5	124	880	6	<0.5	62	1360

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Element	In	K	La	Li	Mg	Mn	Mo	Nb	Nd	Ni
Method	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5	MMI-M5
Det.Lim.	0.5	0.1	1	5	1	10	5	0.5	1	5
Units	ppb	ppm	ppb	ppb	ppm	ppb	ppb	ppb	ppb	ppb
TQ-H-16A	<0.5	25.3	32	<5	165	28100	5	<0.5	68	3410
TQ-H-17A	<0.5	31.3	210	<5	129	4770	<5	<0.5	415	1770
TQ-H-18A	<0.5	81.4	295	<5	97	4480	<5	<0.5	587	1150
TQ-H-19A	<0.5	44.9	114	<5	81	2720	<5	<0.5	180	305
TQ-H-20A	<0.5	32.5	35	<5	27	8910	<5	1.4	50	250
TQ-H-21A	<0.5	81.0	20	<5	16	6670	6	<0.5	31	182
TQ-H-22A	<0.5	120	15	<5	43	8380	<5	<0.5	25	233
TQ-H-23A	<0.5	86.1	18	<5	92	7040	<5	<0.5	51	563
TQ-H-24A	<0.5	34.5	13	<5	36	9030	<5	<0.5	27	149
TQ-H-25A	<0.5	215	7	<5	60	27600	<5	<0.5	13	92
TQ-H-26A	<0.5	56.9	17	<5	31	19100	8	<0.5	29	110
TQ-H-27A	<0.5	21.8	31	<5	31	3460	8	<0.5	78	52
TQ-H-28A	<0.5	69.7	28	<5	53	4810	8	<0.5	95	243
TQ-H-29A	<0.5	114	28	<5	82	2670	<5	<0.5	42	390
TQ-H-30A	<0.5	20.1	18	12	112	9690	5	<0.5	38	361
TQ-H-31A	<0.5	70.9	67	<5	62	4920	5	<0.5	119	221
TQ-H-32A	<0.5	43.0	1.3	<5	99	5950	<5	<0.5	246	1600
TQ-H-33A	<0.5	74.7	20	<5	53	2710	<5	<0.5	47	358
RW-H-01A	<0.5	29.9	17	<5	20	2580	<5	0.6	33	83
RW-H-02A	<0.5	77.6	16	<5	32	12700	<5	<0.5	25	94
RW-H-03A	<0.5	40.6	81	<5	34	5540	<5	<0.5	151	131
RW-H-04A	<0.5	127	25	<5	36	8050	<5	<0.5	54	226
RW-H-05A	<0.5	25.1	18	<5	19	2690	<5	<0.5	33	116
*Rep Bio-A-44A	<0.5	9.8	175	<5	75	3210	<5	<0.5	420	215
*Rep Bio-A-58A	<0.5	27.6	16	<5	20	5810	5	1.2	24	300
*Rep TQ-H-08A	<0.5	29.0	45	<5	42	5000	<5	0.6	89	336
*Rep TQ-H-16A	<0.5	26.5	47	<5	166	26400	14	<0.5	97	4170
*Rep TQ-H-29A	<0.5	114	32	<5	84	2260	<5	<0.5	49	384
*Rep RW-H-05A	<0.5	30.0	14	<5	19	3520	<5	<0.5	33	115
*Std MMISRM16	<0.5	33.1	3	<5	29	80	44	<0.5	13	197
*Std AM SC '69	<0.5	43.2	438	<5	31	4300	<5	2.8	392	444
*Blk BLANK	<0.5	0.1	<1	<5	<1	<10	<5	<0.5	<1	<5
*Blk BLANK	<0.5	0.1	<1	<5	<1	<10	<5	<0.5	<1	<5

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Element Method Det.Lim. Units	P	Pb	Pd	Pr	Pt	Rb	Sb	Sc	Sm	Sr
	MMI-M5 0.1 ppm	MMI-M5 10 ppb	MMI-M5 1 ppb	MMI-M5 1 ppb	MMI-M5 1 ppb	MMI-M5 5 ppb	MMI-M5 1 ppb	MMI-M5 5 ppb	MMI-M5 1 ppb	MMI-M5 1 ppb
Bio-A-35A	7.9	140	<1	2	<1	111	<1	28	4	<1
Bio-A-36A	3.2	60	<1	2	<1	173	<1	23	3	<1
Bio-A-37A	1.3	170	<1	2	<1	31	<1	18	3	<1
Bio-A-38A	4.3	120	<1	10	<1	90	<1	27	12	<1
Bio-A-39A	0.3	310	<1	298	<1	11	<1	109	393	<1
Bio-A-40A	0.4	10	<1	13	<1	60	<1	21	18	<1
Bio-A-41A	8.6	70	<1	3	<1	86	<1	26	4	<1
Bio-A-42A	2.2	100	<1	15	<1	93	<1	38	22	<1
Bio-A-43A	2.8	90	<1	11	<1	39	<1	22	15	<1
Bio-A-44A	0.2	50	<1	78	<1	51	<1	129	145	<1
Bio-A-45A	4.1	100	<1	7	<1	82	<1	31	8	<1
Bio-A-46A	3.0	70	<1	36	<1	73	<1	52	49	<1
Bio-A-47A	7.9	90	<1	2	<1	66	<1	20	3	<1
Bio-A-48A	3.3	50	<1	20	<1	66	<1	58	32	<1
Bio-A-49A	4.8	50	<1	7	<1	79	<1	33	9	<1
Bio-A-50A	4.2	150	<1	15	<1	47	<1	41	21	<1
Bio-A-51A	4.5	110	<1	18	<1	96	<1	50	26	<1
Bio-A-52A	10.1	140	<1	5	<1	91	<1	35	6	<1
Bio-A-53A	4.8	150	<1	19	<1	111	<1	44	25	<1
Bio-A-54A	2.5	100	<1	24	<1	53	<1	49	32	<1
Bio-A-55A	11.1	160	<1	5	<1	74	<1	35	7	<1
Bio-A-56A	4.9	80	<1	13	<1	77	<1	46	19	<1
Bio-A-57A	6.0	110	<1	7	<1	132	<1	31	10	<1
Bio-A-58A	10.9	110	<1	5	<1	94	<1	42	7	<1
Bio-A-59A	4.4	90	<1	8	<1	50	<1	29	13	<1
Bio-A-60A	7.1	100	<1	23	<1	112	<1	62	34	<1
Bio-A-61A	13.2	160	<1	1	<1	29	<1	20	2	<1
Bio-A-62A	9.1	130	<1	15	<1	80	<1	39	18	<1
TQ-H-01A	3.1	220	<1	22	<1	64	3	65	31	<1
TQ-H-02A	3.5	190	<1	2	<1	96	<1	19	3	<1
TQ-H-03A	0.5	90	<1	33	<1	76	1	42	51	<1
TQ-H-04A	11.9	210	<1	3	<1	124	<1	38	4	<1
TQ-H-05A	2.7	330	<1	5	<1	122	<1	37	7	<1
TQ-H-06A	0.7	30	<1	44	<1	74	<1	26	67	<1
TQ-H-07A	0.9	120	<1	4	<1	198	<1	14	5	<1
TQ-H-08A	2.1	230	<1	14	<1	111	<1	93	23	<1
TQ-H-09A	0.1	30	<1	4	<1	19	<1	16	7	<1
TQ-H-10A	<0.1	10	<1	4	<1	17	<1	7	6	<1
TQ-H-11A	2.3	180	<1	13	<1	98	<1	42	19	<1
TQ-H-12A	2.5	70	<1	28	<1	86	<1	36	40	<1
TQ-H-13A	0.4	120	<1	7	<1	194	<1	105	12	<1
TQ-H-14A	1.4	140	<1	29	<1	59	<1	36	44	<1
TQ-H-15A	0.2	40	<1	11	<1	43	1	16	18	<1

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Element Method	P MMI-M5	Pb MMI-M5	Pd MMI-M5	Pr MMI-M5	Pt MMI-M5	Rb MMI-M5	Sb MMI-M5	Sc MMI-M5	Sm MMI-M5	Sr MMI-M5
Det.Lim.	0.1	10	1	1	1	5	1	5	1	1
Units	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
TQ-H-16A	0.2	30	<1	12	<1	45	1	31	20	<1
TQ-H-17A	0.3	180	<1	79	<1	71	<1	213	137	<1
TQ-H-18A	2.0	180	<1	113	<1	74	1	101	166	<1
TQ-H-19A	2.1	180	<1	38	<1	62	2	50	48	<1
TQ-H-20A	8.8	230	<1	11	<1	52	1	32	13	<1
TQ-H-21A	9.2	160	<1	7	<1	122	<1	25	6	<1
TQ-H-22A	5.7	220	<1	5	<1	57	<1	25	7	<1
TQ-H-23A	0.8	40	<1	8	<1	268	<1	321	23	<1
TQ-H-24A	1.1	80	<1	5	<1	188	<1	36	9	<1
TQ-H-25A	1.9	60	<1	3	<1	263	<1	56	5	<1
TQ-H-26A	2.7	80	<1	6	<1	178	<1	49	9	<1
TQ-H-27A	1.7	30	<1	13	<1	97	<1	118	26	<1
TQ-H-28A	1.9	40	<1	14	<1	118	2	57	37	<1
TQ-H-29A	1.1	160	<1	9	<1	111	<1	19	12	<1
TQ-H-30A	0.7	80	<1	7	<1	39	<1	9	12	<1
TQ-H-31A	3.3	110	<1	23	<1	117	<1	17	31	<1
TQ-H-32A	1.5	80	<1	45	<1	74	<1	42	77	<1
TQ-H-33A	8.6	50	<1	9	<1	119	<1	17	15	<1
RW-H-01A	2.6	470	<1	6	<1	135	1	42	9	<1
RW-H-02A	1.3	430	<1	5	<1	296	<1	19	8	<1
RW-H-03A	0.4	110	<1	29	<1	137	<1	133	50	<1
RW-H-04A	3.3	180	<1	10	<1	172	<1	61	19	<1
RW-H-05A	1.2	30	<1	6	<1	38	<1	42	11	<1
*Rep Bio-A-44A	0.3	40	<1	74	<1	46	<1	68	130	<1
*Rep Bio A 59A	10.9	110	<1	5	<1	93	<1	43	7	<1
*Rep TQ-H-08A	2.1	240	<1	17	<1	117	<1	96	26	<1
*Rep TQ-H-16A	0.3	20	<1	16	<1	46	2	41	25	<1
*Rep TQ-H-29A	1.1	170	<1	10	<1	105	<1	19	13	<1
*Rep RW-H-05A	1.3	30	<1	5	<1	43	<1	42	12	<1
*Std MMISRM 16	0.4	80	25	2	<1	280	<1	7	4	<1
*Std AMIS0169	2.5	120	<1	104	<1	242	<1	58	64	<1
*Blk BLANK	0.1	<10	<1	<1	<1	<5	<1	<5	<1	<1
*Blk BLANK	0.1	<10	<1	<1	<1	<5	<1	6	<1	<1

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Element Method	Sr MMI-M5	Ta MMI-M5	Tb MMI-M5	Te MMI-M5	Th MMI-M5	Ti MMI-M5	Ti MMI-M5	U MMI-M5	W MMI-M5	Y MMI-M5
Det.Lim.	10	1	1	10	0.5	3	0.5	1	1	5
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Bio-A-35A	300	<1	<1	<10	4.2	476	<0.5	3	<1	31
Bio-A-36A	1030	<1	<1	<10	2.4	67	<0.5	1	<1	35
Bio-A-37A	990	<1	<1	<10	2.1	203	<0.5	2	<1	34
Bio-A-38A	690	<1	2	<10	7.8	319	<0.5	12	<1	56
Bio-A-39A	2210	<1	93	<10	21.6	9	<0.5	10	<1	4910
Bio-A-40A	1860	<1	3	<10	5.1	3	<0.5	15	<1	130
Bio-A-41A	590	<1	<1	<10	5.1	577	<0.5	4	<1	26
Bio-A-42A	730	<1	4	<10	7.3	699	<0.5	4	<1	131
Bio-A-43A	1230	<1	2	<10	5.6	451	<0.5	4	<1	83
Bio-A-44A	2240	<1	34	<10	6.8	4	<0.5	19	<1	1460
Bio-A-45A	670	<1	2	<10	7.0	746	<0.5	4	<1	47
Bio-A-46A	900	<1	9	<10	7.7	692	<0.5	7	<1	252
Bio-A-47A	540	<1	<1	<10	3.5	230	<0.5	4	<1	23
Bio-A-48A	780	<1	8	<10	5.0	362	<0.5	5	<1	277
Bio-A-49A	650	<1	2	<10	5.6	757	<0.5	4	<1	62
Bio-A-50A	670	<1	4	<10	7.5	803	<0.5	5	<1	140
Bio-A-51A	680	<1	5	<10	10.2	884	<0.5	5	<1	178
Bio-A-52A	340	<1	1	<10	10.1	1150	<0.5	3	<1	36
Bio-A-53A	890	<1	4	<10	9.9	982	<0.5	5	<1	135
Bio-A-54A	1090	<1	6	<10	7.1	532	<0.5	5	<1	180
Bio-A-55A	500	<1	2	<10	6.6	849	<0.5	5	<1	59
Bio-A-56A	610	<1	4	<10	6.9	942	<0.5	4	<1	127
Bio-A-57A	380	<1	2	<10	9.0	742	<0.5	5	<1	66
Bio-A-58A	830	<1	2	<10	6.6	1010	<0.5	7	<1	58
Bio-A-59A	930	<1	3	<10	4.9	438	<0.5	3	<1	90
Bio-A-60A	440	<1	7	<10	11.7	1090	<0.5	9	<1	217
Bio-A-61A	460	<1	<1	<10	5.6	811	<0.5	3	<1	20
Bio-A-62A	570	<1	4	<10	7.5	1260	<0.5	6	<1	99
TQ-H-01A	1180	<1	5	<10	7.3	398	<0.5	6	<1	176
TQ-H-02A	890	<1	<1	<10	3.1	110	<0.5	3	<1	19
TQ-H-03A	1180	<1	9	<10	8.0	69	<0.5	11	<1	257
TQ-H-04A	570	<1	1	<10	5.3	430	<0.5	3	<1	32
TQ-H-05A	830	<1	2	<10	8.1	305	<0.5	5	<1	77
TQ-H-06A	2340	<1	10	<10	7.8	7	<0.5	10	<1	298
TQ-H-07A	1560	<1	<1	<10	3.7	86	<0.5	3	<1	26
TQ-H-08A	750	<1	6	<10	12.8	829	<0.5	8	<1	239
TQ-H-09A	4050	<1	1	<10	1.3	4	<0.5	49	<1	45
TQ-H-10A	4380	<1	1	<10	0.9	<3	<0.5	4	<1	45
TQ-H-11A	1930	<1	4	<10	7.8	16	<0.5	7	<1	99
TQ-H-12A	1450	<1	7	<10	6.8	184	<0.5	7	<1	187
TQ-H-13A	1920	<1	4	<10	4.4	4	<0.5	6	<1	176
TQ-H-14A	1110	<1	8	<10	6.4	101	<0.5	25	<1	241
TQ-H-15A	2790	<1	3	<10	6.8	8	<0.5	24	<1	95

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Element Method	Sr MMI-M5	Ta MMI-M5	Tb MMI-M5	Te MMI-M5	Th MMI-M5	Ti MMI-M5	Tl MMI-M5	U MMI-M5	W MMI-M5	Y MMI-M5
Det.Lim.	10	1	1	10	0.5	3	0.5	1	1	5
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
TQ-H-16A	4140	<1	5	<10	1.9	5	<0.5	66	<1	242
TQ-H-17A	3000	<1	34	<10	11.8	4	<0.5	57	<1	1480
TQ-H-18A	1360	<1	29	<10	11.1	126	<0.5	14	<1	1040
TQ-H-19A	1540	<1	8	<10	12.4	258	<0.5	9	<1	236
TQ-H-20A	780	<1	2	<10	12.7	580	<0.5	4	<1	62
TQ-H-21A	700	<1	1	<10	5.9	310	<0.5	3	<1	38
TQ-H-22A	1160	<1	1	<10	10.3	168	<0.5	5	<1	28
TQ-H-23A	1820	<1	8	<10	3.7	17	<0.5	4	<1	418
TQ-H-24A	2710	<1	2	<10	2.6	12	<0.5	7	<1	82
TQ-H-25A	2970	<1	1	<10	1.9	34	<0.5	5	<1	64
TQ-H-26A	2400	<1	3	<10	3.2	23	1.8	19	<1	114
TQ-H-27A	1220	<1	6	<10	3.5	36	0.6	13	<1	261
TQ-H-28A	1950	<1	10	<10	2.1	4	<0.5	15	<1	393
TQ-H-29A	1850	<1	2	<10	8.4	32	<0.5	7	<1	57
TQ-H-30A	3840	<1	3	<10	4.4	11	<0.5	7	<1	191
TQ-H-31A	2150	<1	5	<10	4.2	58	<0.5	9	<1	163
TQ-H-32A	2170	<1	16	<10	5.3	20	<0.5	28	<1	556
TQ-H-33A	1170	<1	3	<10	3.7	55	<0.5	5	<1	100
RW-H-01A	820	<1	3	<10	5.1	894	<0.5	4	<1	94
RW-H-02A	1810	<1	1	<10	5.8	75	<0.5	6	<1	40
RW-H-03A	1530	<1	14	<10	8.4	7	<0.5	15	<1	651
RW-H-04A	1310	<1	5	<10	6.3	41	<0.5	10	<1	228
RW-H-05A	1410	<1	3	<10	1.1	8	<0.5	12	<1	147
*Rep Bio-A-44A	1950	<1	25	<10	5.5	11	<0.5	15	<1	907
*Rep Bio-A-58A	820	<1	2	<10	8.6	949	<0.5	7	<1	80
*Rep TQ-H-08A	780	<1	7	<10	12.9	858	<0.5	8	<1	264
*Rep TQ H 16A	4050	<1	4	<10	5.8	3	<0.5	73	<1	201
*Rep TQ-H-29A	1860	<1	2	<10	9.6	50	<0.5	8	<1	63
*Rep RW-H-05A	1400	<1	3	<10	1.1	4	<0.5	13	<1	157
*Std MMISRM16	470	<1	<1	<10	19.2	13	<0.5	44	<1	8
*Std AMIS0169	80	<1	6	<10	74.3	423	1.1	27	1	126
*Blk BLANK	<10	<1	<1	<10	<0.5	<3	<0.5	<1	<1	<5
*Blk BLANK	<10	<1	<1	<10	<0.5	<3	<0.5	<1	<1	<5

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Final : TQ417235 Order:

Element Method	Yb MMI-M5	Zn MMI-M5	Zr MMI-M5
Det.Lim.	1	20	5
Units	ppb	ppb	ppb
Bio-A-35A	2	1750	19
Bio-A-36A	2	3980	6
Bio-A-37A	3	670	10
Bio-A-38A	5	280	23
Bio-A-39A	184	240	17
Bio-A-40A	8	90	12
Bio-A-41A	2	840	24
Bio-A-42A	9	240	35
Bio-A-43A	5	390	22
Bio-A-44A	74	130	21
Bio-A-45A	3	320	32
Bio-A-46A	16	230	32
Bio-A-47A	2	520	14
Bio-A-48A	17	1260	17
Bio-A-49A	4	480	27
Bio-A-50A	9	760	25
Bio A 51A	12	430	41
Bio A-52A	3	740	48
Bio-A-53A	8	670	41
Bio-A-54A	11	620	21
Bio-A-55A	5	1810	32
Bio A 56A	8	1150	33
Bio-A-57A	5	950	49
Bio-A-58A	4	1730	42
Bio-A-59A	5	3260	15
Bio-A-60A	14	250	51
Bio A-61A	2	3640	28
Bio-A-62A	6	1530	29
TQ-H-01A	13	720	30
TQ-H-02A	1	1110	9
TQ-H-03A	17	210	27
TQ H 04A	3	1600	28
TQ-H-05A	5	2530	23
TQ-H-06A	15	180	11
TQ-H-07A	2	550	19
TQ-H-08A	17	600	67
TQ-H-09A	3	240	5
TQ-H-10A	3	<20	<5
TQ-H-11A	8	1580	13
TQ-H-12A	11	2000	18
TQ-H-13A	13	750	11
TQ-H-14A	13	380	14
TQ-H-15A	6	330	9

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Final TO17235 Order:

Element Method	Yb MMI-M5	Zn MMI-M5	Zr MMI-M5
Det.Lim.	1	20	5
Units	ppb	ppb	ppb
TQ-H-16A	20	660	6
TQ-H-17A	89	510	23
TQ-H-18A	56	1150	23
TQ-H-19A	13	300	27
TQ-H-20A	4	2360	29
TQ-H-21A	3	790	24
TQ-H-22A	3	470	23
TQ-H-23A	40	380	13
TQ-H-24A	7	1330	10
TQ-H-25A	9	4740	11
TQ-H-26A	10	3170	9
TQ-H-27A	20	210	28
TQ-H-28A	24	480	15
TQ-H-29A	4	220	14
TQ-H-30A	7	1230	6
TQ-H-31A	9	1600	11
TQ-H-32A	35	2120	15
TQ-H-33A	6	3180	11
RW-H-01A	8	740	35
RW-H-02A	3	2430	14
RW-H-03A	47	420	16
RW-H-04A	17	2090	16
RW-H-05A	10	440	12
*Rep Bio-A-44A	45	90	20
*Rep Bio-A-58A	4	1730	42
*Rep TQ-H-08A	17	560	65
*Rep TQ-H-16A	15	470	10
*Rep TQ-H-29A	4	180	15
*Rep RW-H-05A	11	580	12
*Std MMISRM16	<1	180	13
*Std AMIS0169	10	220	52
*Blk BLANK	<1	<20	<5
*Blk BLANK	<1	<20	<5

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**Client:** Xstrata Copper Canada  
Exploration Department  
P.O. Box 1140  
Timmins ON P4N 7H9 Canada

Submitted By: Max Keogh  
Receiving Lab: Canada-Smithers  
Received: October 17, 2011  
Report Date: November 01, 2011  
Page: 1 of 5

## CERTIFICATE OF ANALYSIS

SMI11000622.1

### CLIENT JOB INFORMATION

Project: NV Series  
Shipment ID:  
P.O. Number  
Number of Samples: 118

### SAMPLE DISPOSAL

STOR-PLP Store After 90 days Invoice for Storage  
DISP-RJT-SOIL Immediate Disposal of Soil Reject

Acme does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

Invoice To: Xstrata Copper Canada  
Exploration Department  
P.O. Box 1140  
Timmins ON P4N 7H9  
Canada

CC: Gordon Maxwell

### SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Method Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
SS80	118	Dry at 60C sieve 100g to -80 mesh			SMI
Dry at 60C	118	Dry at 60C			SMI
1F05	118	1:1:1 Aqua Regia digestion Ultratrace ICP-MS analysis	15	Completed	VAN

### ADDITIONAL COMMENTS



This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only. All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted. \*\* asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.



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Project: NV Series  
 Report Date: November 01, 2011

Page: 2 of 5 Part 1

CERTIFICATE OF ANALYSIS

SMI11000622.1

Method	Analyte	Unit	MDL	1F15 Mo	1F15 Cu	1F15 Pb	1F15 Zn	1F15 Ag	1F15 Ni	1F15 Co	1F15 Mn	1F15 Fe	1F15 As	1F15 U	1F15 Au	1F15 Th	1F15 Sr	1F15 Cd	1F15 Sb	1F15 Bi	1F15 V	1F15 Ca	1F15 P
				ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
				0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001
BIO-D-01B	Soil			1.21	14.87	4.40	45.4	215	17.7	6.9	559	1.87	3.0	0.2	4.9	0.5	21.3	0.36	0.32	0.12	52	0.36	0.042
BIO-D-02B	Soil			0.76	16.32	4.00	47.1	222	20.9	6.0	219	2.52	5.9	0.2	2.7	0.9	17.7	0.20	0.38	0.08	64	0.26	0.124
BIO-D-03B	Soil			1.21	20.57	4.68	96.5	263	22.5	8.4	273	3.18	6.1	0.3	29.7	1.1	22.6	0.36	0.47	0.11	73	0.34	0.161
BIO-D-04B	Soil			1.07	13.12	5.08	77.5	170	15.2	9.5	1154	2.06	2.2	0.2	1.3	0.5	23.9	0.69	0.32	0.11	54	0.37	0.104
BIO-D-05B	Soil			0.88	15.29	4.10	47.9	128	19.2	5.1	340	1.93	6.6	0.2	3.8	0.9	18.2	0.18	0.51	0.08	52	0.27	0.076
BIO-D-06B	Soil			0.75	11.17	4.38	63.4	228	14.5	6.3	543	1.91	2.2	0.2	3.2	0.9	21.8	0.32	0.31	0.09	49	0.35	0.127
BIO-D-07B	Soil			0.85	11.58	4.66	63.0	48	16.7	8.6	570	1.99	2.0	0.2	1.5	0.9	20.8	0.61	0.33	0.08	49	0.32	0.104
BIO-D-08B	Soil			0.95	11.23	4.98	80.8	160	19.4	6.2	197	2.03	2.5	0.3	3.8	1.3	18.0	0.52	0.31	0.09	50	0.28	0.126
BIO-D-09B	Soil			1.17	13.56	5.22	71.4	137	15.9	5.8	246	2.65	4.3	0.2	1.7	0.7	17.4	0.38	0.45	0.10	81	0.33	0.116
BIO-D-10B	Soil			1.08	18.35	5.01	103.9	206	18.7	9.4	605	3.04	4.6	0.2	1.4	0.8	22.3	0.50	0.40	0.09	76	0.41	0.154
BIO-D-11B	Soil			1.02	11.25	5.13	50.8	169	9.6	4.9	328	1.63	1.4	0.2	0.6	0.7	23.5	0.43	0.29	0.10	54	0.34	0.048
BIO-D-12B	Soil			1.70	48.73	7.68	133.3	123	29.8	15.2	427	3.61	5.7	0.3	4.0	0.8	31.9	0.37	0.45	0.13	92	0.43	0.070
BIO-D-13B	Soil			3.99	27.58	6.44	70.9	285	14.0	9.2	401	2.77	2.6	0.2	6.9	0.6	36.3	0.42	0.33	0.10	96	0.61	0.041
BIO-D-14B	Soil			1.20	30.91	7.65	143.7	117	20.5	13.7	638	2.87	3.1	0.3	1.2	0.6	26.4	0.54	0.36	0.12	74	0.43	0.092
BIO-D-15B	Soil			0.91	17.44	4.37	92.1	238	20.6	10.0	510	2.44	3.0	0.3	1.3	0.9	23.6	0.37	0.34	0.08	65	0.36	0.145
BIO-D-16B	Soil			0.96	15.80	5.09	69.3	226	21.7	11.6	497	2.50	3.9	0.3	1.0	1.0	25.5	0.34	0.39	0.09	67	0.39	0.107
BIO-D-17B	Soil			0.87	14.46	6.70	123.2	216	21.0	11.4	1172	2.79	3.5	0.2	1.3	1.2	26.7	0.56	0.42	0.13	70	0.42	0.248
BIO-D-18B	Soil			2.17	43.56	7.34	182.1	391	25.5	13.8	672	4.02	4.0	0.3	3.4	0.9	40.7	0.96	0.56	0.13	115	0.52	0.160
BIO-D-19B	Soil			1.37	17.55	5.13	87.8	271	18.4	7.3	279	2.39	2.9	0.3	1.5	0.7	32.7	0.68	0.38	0.10	66	0.56	0.038
BIO-B-01B	Soil			0.92	43.79	4.82	68.4	69	33.9	11.8	412	3.30	4.6	0.3	2.2	0.9	27.8	0.28	0.63	0.09	88	0.48	0.107
BIO-B-02B	Soil			0.83	21.64	4.22	83.3	231	20.0	9.7	885	2.10	1.6	0.3	1.7	0.8	33.3	0.43	0.27	0.08	65	0.52	0.066
BIO-B-03B	Soil			0.76	39.89	3.73	55.2	97	27.1	10.0	399	2.76	3.4	0.3	2.3	1.1	37.0	0.18	0.50	0.07	85	0.58	0.060
BIO-B-04B	Soil			0.90	25.55	4.64	78.2	417	20.4	8.8	858	2.19	1.7	0.3	0.5	0.4	32.6	0.39	0.30	0.09	73	0.50	0.074
BIO-B-05B	Soil			0.92	15.36	5.94	92.5	298	18.5	9.9	795	2.56	2.8	0.2	0.9	0.5	23.4	0.42	0.39	0.10	71	0.43	0.148
BIO-B-06B	Soil			0.99	27.51	4.84	124.4	271	24.6	11.2	583	3.07	4.2	0.3	2.2	0.9	30.8	0.71	0.52	0.09	73	0.53	0.332
BIO-B-07B	Soil			0.46	4.86	4.96	28.2	112	5.1	2.0	160	0.82	0.6	0.2	1.1	0.7	24.6	0.28	0.15	0.09	38	0.34	0.028
BIO-B-08B	Soil			1.30	18.31	5.16	67.8	384	16.9	11.2	2176	2.09	2.2	0.2	1.8	0.5	28.2	0.54	0.28	0.08	67	0.47	0.081
BIO-B-09B	Soil			0.93	32.72	4.00	86.7	424	27.7	9.8	930	2.64	2.7	0.4	2.9	0.8	27.9	0.48	0.36	0.08	69	0.43	0.086
BIO-B-10B	Soil			0.83	37.82	4.42	69.2	190	27.9	10.6	675	2.48	3.6	0.3	2.2	0.7	31.3	0.42	0.43	0.07	73	0.50	0.071
BIO-B-11B	Soil			0.65	25.51	4.46	102.0	334	20.8	12.0	645	2.48	2.8	0.3	2.1	0.9	29.4	0.53	0.26	0.07	71	0.46	0.148

This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only.



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Project: NV Series  
 Report Date: November 01, 2011

Page: 2 of 5 Part 2

CERTIFICATE OF ANALYSIS

SMI11000622.1

Method	Analyte	Unit	MDL	1F15 La	1F15 Cr	1F15 Mg	1F15 Ba	1F15 Ti	1F15 B	1F15 Al	1F15 Na	1F15 K	1F15 W	1F15 Sc	1F15 Ti	1F15 S	1F15 Hg	1F15 Se	1F15 Te	1F15 Ga	1F15 Cs	1F15 Ge	1F15 Hf
				ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm
				0.5	0.5	0.01	0.5	0.001	1	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.1	0.02
BIO-D-01B	Soil			5.1	27.3	0.37	120.0	0.052	2	1.12	0.008	0.04	0.1	1.9	0.05	<0.02	41	0.2	0.03	4.5	0.43	<0.1	<0.02
BIO-D-02B	Soil			5.3	31.8	0.42	100.2	0.051	2	1.27	0.007	0.03	0.2	2.2	0.04	<0.02	55	0.1	0.03	4.5	0.42	<0.1	0.03
BIO-D-03B	Soil			5.4	36.9	0.48	72.3	0.060	2	1.76	0.005	0.05	0.2	2.5	0.05	<0.02	49	0.2	0.04	5.7	0.70	<0.1	0.03
BIO-D-04B	Soil			5.2	28.8	0.30	149.4	0.061	2	0.98	0.007	0.06	0.1	1.9	0.07	<0.02	23	0.1	0.02	4.8	0.43	<0.1	0.02
BIO-D-05B	Soil			5.0	31.4	0.32	114.1	0.045	2	0.89	0.006	0.03	0.1	2.0	0.06	<0.02	89	0.2	0.03	4.0	0.31	<0.1	<0.02
BIO-D-06B	Soil			5.7	29.1	0.27	106.9	0.055	2	0.89	0.007	0.05	0.1	1.9	0.05	<0.02	15	0.2	<0.02	4.2	0.37	<0.1	0.03
BIO-D-07B	Soil			5.4	31.0	0.37	120.7	0.061	2	0.97	0.007	0.06	<0.1	2.1	0.04	<0.02	26	<0.1	<0.02	4.1	0.45	<0.1	0.03
BIO-D-08B	Soil			7.3	31.5	0.39	94.4	0.054	1	1.13	0.007	0.05	<0.1	2.4	0.06	<0.02	28	<0.1	<0.02	4.7	0.55	<0.1	0.03
BIO-D-09B	Soil			4.3	31.1	0.37	85.0	0.073	2	1.26	0.007	0.03	0.1	2.3	0.05	<0.02	23	0.2	0.03	6.2	0.47	<0.1	0.04
BIO-D-10B	Soil			4.4	32.8	0.60	121.8	0.060	1	1.54	0.006	0.06	0.1	2.6	0.05	<0.02	22	0.2	0.04	6.6	0.51	<0.1	0.04
BIO-D-11B	Soil			5.2	21.1	0.22	72.1	0.073	1	0.81	0.006	0.07	<0.1	1.7	0.05	<0.02	18	0.1	<0.02	4.8	0.34	<0.1	0.03
BIO-D-12B	Soil			6.1	40.8	0.75	76.2	0.065	2	2.32	0.005	0.04	0.2	3.1	0.06	<0.02	36	0.5	0.04	8.1	0.99	<0.1	0.02
BIO-D-13B	Soil			4.1	28.2	0.48	92.1	0.082	<1	1.85	0.005	0.04	0.1	2.3	0.05	<0.02	32	0.6	0.03	8.2	0.46	<0.1	0.03
BIO-D-14B	Soil			5.8	31.0	0.47	81.0	0.074	2	1.64	0.005	0.07	0.1	2.5	0.04	<0.02	38	0.2	0.04	6.8	0.61	<0.1	0.04
BIO-D-15B	Soil			6.1	35.5	0.43	81.7	0.062	2	1.63	0.008	0.04	0.1	2.5	0.06	<0.02	26	0.1	0.02	5.4	0.73	<0.1	<0.02
BIO-D-16B	Soil			6.2	36.1	0.45	122.5	0.074	2	1.44	0.008	0.08	0.1	2.5	0.05	<0.02	25	0.2	<0.02	5.3	0.62	<0.1	0.03
BIO-D-17B	Soil			6.8	36.1	0.41	195.5	0.072	2	1.67	0.007	0.08	<0.1	2.8	0.08	<0.02	32	0.1	<0.02	6.5	0.66	<0.1	<0.02
BIO-D-18B	Soil			6.1	45.1	0.84	138.5	0.096	2	2.41	0.006	0.07	0.2	4.1	0.08	<0.02	21	0.4	0.05	9.0	1.54	<0.1	0.03
BIO-D-19B	Soil			6.1	32.8	0.42	96.4	0.069	2	1.19	0.007	0.08	<0.1	2.4	0.05	0.02	22	0.4	<0.02	5.4	0.34	<0.1	0.04
BIO-B-01B	Soil			5.1	49.3	0.76	105.9	0.091	2	2.14	0.006	0.05	<0.1	4.8	0.07	<0.02	28	0.2	0.03	6.9	0.81	<0.1	0.05
BIO-B-02B	Soil			8.0	33.9	0.56	125.4	0.088	2	1.63	0.006	0.06	<0.1	3.3	0.07	<0.02	30	<0.1	<0.02	5.9	0.91	<0.1	0.02
BIO-B-03B	Soil			7.0	42.6	0.76	93.1	0.133	3	1.84	0.010	0.06	<0.1	4.4	0.06	<0.02	40	0.1	<0.02	5.5	0.82	<0.1	0.07
BIO-B-04B	Soil			8.3	36.8	0.48	181.5	0.088	2	1.80	0.007	0.06	<0.1	3.5	0.08	<0.02	37	<0.1	<0.02	6.2	0.67	<0.1	0.03
BIO-B-05B	Soil			5.3	33.3	0.43	134.2	0.067	2	1.55	0.006	0.07	<0.1	2.7	0.06	<0.02	35	0.1	0.03	6.2	0.50	<0.1	0.03
BIO-B-06B	Soil			5.8	39.3	0.62	155.4	0.062	4	1.98	0.006	0.08	0.1	3.3	0.06	0.02	60	0.2	0.02	6.2	0.76	<0.1	0.02
BIO-B-07B	Soil			7.2	14.8	0.13	65.4	0.077	1	0.69	0.007	0.05	<0.1	1.6	0.04	<0.02	15	<0.1	<0.02	4.1	0.29	<0.1	0.02
BIO-B-08B	Soil			5.9	32.2	0.39	203.7	0.077	2	1.38	0.007	0.06	<0.1	2.6	0.07	<0.02	37	0.1	<0.02	5.9	0.41	<0.1	<0.02
BIO-B-09B	Soil			9.0	45.0	0.68	171.3	0.065	2	2.10	0.006	0.06	<0.1	4.4	0.08	<0.02	80	0.2	0.03	6.6	0.86	<0.1	0.02
BIO-B-10B	Soil			7.2	42.2	0.69	115.0	0.093	3	1.77	0.009	0.06	<0.1	3.8	0.07	<0.02	53	0.2	<0.02	5.6	0.65	<0.1	0.04
BIO-B-11B	Soil			5.6	35.7	0.46	89.8	0.071	2	2.07	0.007	0.05	<0.1	3.2	0.07	<0.02	41	0.1	<0.02	6.1	0.76	<0.1	0.03



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Project: NV Series  
 Report Date: November 01, 2011

Page: 2 of 5 Part 3

CERTIFICATE OF ANALYSIS

SMI11000622.1

Method	Analyte	Unit	MDL	1F15 Nb	1F15 Rb	1F15 Sn	1F15 Ta	1F15 Zr	1F15 Y	1F15 Ce	1F15 In	1F15 Re	1F15 Be	1F15 Li	1F15 Pd	1F15 Pt
				ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb
				0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2
BIO-D-01B	Soil			0.63	8.8	0.4	<0.05	0.7	2.13	10.6	0.03	<1	0.2	8.1	<10	<2
BIO-D-02B	Soil			0.64	4.0	0.3	<0.05	1.4	2.64	10.2	0.02	<1	0.2	9.9	<10	<2
BIO-D-03B	Soil			1.25	7.3	0.4	<0.05	1.4	2.90	10.4	0.02	<1	0.4	15.3	<10	<2
BIO-D-04B	Soil			0.67	8.9	0.5	<0.05	1.0	2.35	10.1	<0.02	<1	0.2	8.1	<10	<2
BIO-D-05B	Soil			0.51	3.5	0.3	<0.05	1.1	2.10	9.3	<0.02	1	0.1	5.8	<10	<2
BIO-D-06B	Soil			0.65	4.8	0.3	<0.05	1.2	1.92	10.9	<0.02	<1	0.1	5.0	<10	<2
BIO-D-07B	Soil			0.45	7.0	0.3	<0.05	1.2	2.39	10.3	<0.02	<1	0.1	7.9	<10	<2
BIO-D-08B	Soil			0.61	8.8	0.4	<0.05	1.6	2.95	14.2	<0.02	<1	0.2	10.4	<10	<2
BIO-D-09B	Soil			0.79	4.8	0.5	<0.05	1.6	2.40	8.4	0.02	<1	0.2	8.9	<10	<2
BIO-D-10B	Soil			0.71	6.8	0.4	<0.05	1.5	2.85	8.3	<0.02	<1	0.2	15.4	<10	<2
BIO-D-11B	Soil			0.92	11.3	0.5	<0.05	1.3	2.09	10.2	<0.02	<1	<0.1	5.0	<10	<2
BIO-D-12B	Soil			1.67	8.4	0.7	<0.05	0.9	3.74	11.8	0.03	<1	0.5	20.9	<10	<2
BIO-D-13B	Soil			1.43	6.8	0.5	<0.05	2.0	2.39	7.8	<0.02	<1	0.2	16.0	<10	<2
BIO-D-14B	Soil			1.21	8.7	0.6	<0.05	1.3	2.88	11.1	0.02	<1	0.3	15.8	<10	<2
BIO-D-15B	Soil			0.65	7.9	0.3	<0.05	1.0	2.91	11.9	<0.02	<1	0.2	12.1	<10	<2
BIO-D-16B	Soil			0.78	9.6	0.3	<0.05	1.4	2.92	12.1	0.02	<1	0.3	10.4	<10	<2
BIO-D-17B	Soil			0.98	8.6	0.5	<0.05	1.3	2.45	13.1	0.03	<1	0.3	9.3	<10	<2
BIO-D-18B	Soil			1.22	11.0	0.6	<0.05	1.5	3.56	11.6	<0.02	<1	0.3	25.1	<10	<2
BIO-D-19B	Soil			1.12	8.3	0.5	<0.05	1.4	2.50	12.0	<0.02	<1	0.2	10.2	<10	<2
BIO-B-01B	Soil			0.50	9.0	0.4	<0.05	2.1	4.04	9.7	0.02	<1	0.3	13.6	<10	2
BIO-B-02B	Soil			0.71	8.6	0.4	<0.05	1.1	5.63	15.3	<0.02	<1	0.3	12.7	<10	<2
BIO-B-03B	Soil			0.42	6.3	0.3	<0.05	3.2	6.28	13.3	0.02	<1	0.3	12.2	<10	<2
BIO-B-04B	Soil			0.56	10.4	0.4	<0.05	0.9	6.49	15.6	0.02	<1	0.4	11.0	<10	<2
BIO-B-05B	Soil			0.53	7.3	0.4	<0.05	0.9	3.01	10.3	0.02	<1	0.3	12.0	<10	<2
BIO-B-06B	Soil			0.66	8.8	0.3	<0.05	0.9	3.88	11.5	0.02	<1	0.4	17.2	<10	<2
BIO-B-07B	Soil			0.66	5.5	0.5	<0.05	0.9	2.45	13.9	<0.02	<1	<0.1	2.8	<10	<2
BIO-B-08B	Soil			0.56	7.7	0.4	<0.05	1.0	3.49	12.6	<0.02	<1	0.3	8.0	<10	<2
BIO-B-09B	Soil			0.69	10.1	0.4	<0.05	0.9	6.58	18.5	0.02	<1	0.4	13.1	<10	<2
BIO-B-10B	Soil			0.60	7.9	0.3	<0.05	1.9	5.78	14.6	0.03	<1	0.4	11.5	<10	<2
BIO-B-11B	Soil			0.69	7.9	0.4	<0.05	1.5	3.26	11.5	0.02	<1	0.5	11.7	<10	<2

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Project: NV Series  
 Report Date: November 01, 2011

Page: 3 of 5 Part 1

**CERTIFICATE OF ANALYSIS**

**SMI11000622.1**

Method	Analyte	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
Unit		ppm	ppm	ppm	ppm	ppb	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
MDL		0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.2	0.1	0.5	0.01	0.02	0.02	0.02	2	0.01	0.001
BIO-B-12B	Soil	0.52	23.90	3.47	49.2	110	19.6	6.1	255	2.05	1.7	0.3	1.9	0.4	24.8	0.20	0.24	0.07	65	0.44	0.053
BIO-B-13B	Soil	0.82	18.12	3.78	74.8	216	17.3	6.5	357	2.24	2.6	0.2	2.3	0.7	23.4	0.37	0.34	0.16	70	0.45	0.086
BIO-B-14B	Soil	1.19	69.96	6.87	128.5	540	43.1	15.3	1683	3.67	4.2	0.7	2.1	0.5	40.3	0.93	0.55	0.14	94	0.60	0.118
BIO-B-15B	Soil	1.50	28.47	6.53	110.2	161	23.7	8.8	338	3.63	5.0	0.3	1.7	1.0	19.6	0.48	0.57	0.12	90	0.37	0.275
BIO-B-16B	Soil	0.56	11.70	4.45	50.3	158	10.8	3.8	144	1.37	1.1	0.2	2.0	0.8	20.0	0.16	0.15	0.09	53	0.30	0.035
BIO-B-17B	Soil	0.86	9.76	5.75	57.8	211	9.0	4.8	431	2.49	1.7	0.2	1.0	0.7	16.5	0.45	0.28	0.11	80	0.28	0.203
BIO-B-18B	Soil	0.84	23.59	4.13	53.2	172	22.1	6.9	281	2.20	3.4	0.3	2.4	0.9	23.1	0.27	0.42	0.24	63	0.30	0.039
BIO-B-19B	Soil	0.81	26.15	5.16	87.5	205	22.0	7.0	254	2.51	4.2	0.3	1.9	1.0	22.4	0.35	0.41	0.17	67	0.33	0.089
BIO-B-20B	Soil	0.63	42.47	4.63	50.5	321	30.2	7.1	309	2.30	3.1	0.8	3.9	0.7	34.4	0.16	0.31	0.16	56	0.59	0.090
BIO-C-22B	Soil	0.44	6.61	5.12	37.6	95	7.3	2.7	114	1.00	1.1	0.2	2.1	0.7	19.0	0.19	0.16	0.12	40	0.30	0.026
BIO-C-23B	Soil	0.65	20.18	4.05	60.2	125	21.6	6.6	247	2.17	3.5	0.3	28.5	1.0	20.2	0.19	0.34	0.09	60	0.32	0.062
BIO-C-24B	Soil	0.98	13.69	4.35	63.5	53	17.7	6.7	407	2.05	3.1	0.2	1.9	1.0	17.5	0.31	0.38	0.11	57	0.28	0.090
BIO-C-25B	Soil	0.87	16.07	4.35	58.6	189	19.9	7.6	276	2.38	4.3	0.3	6.4	1.0	23.9	0.42	0.44	0.11	67	0.43	0.052
BIO-C-26B	Soil	1.13	24.34	5.44	94.7	163	24.2	12.3	567	3.04	5.4	0.3	1.6	1.0	27.1	0.52	0.45	0.11	84	0.42	0.056
BIO-C-27B	Soil	0.92	20.28	4.58	44.7	81	21.9	7.1	289	2.37	4.4	0.3	2.3	1.0	23.9	0.25	0.43	0.09	68	0.34	0.039
BIO-C-28B	Soil	0.90	17.58	4.13	67.7	117	19.3	6.6	392	2.00	2.7	0.3	2.0	0.7	20.9	0.41	0.31	0.09	53	0.31	0.042
BIO-C-29B	Soil	2.27	38.37	6.57	116.5	339	21.7	13.8	630	3.85	4.6	0.3	3.6	0.7	26.5	0.45	0.44	0.13	106	0.41	0.105
BIO-C-30B	Soil	1.11	34.24	4.06	67.8	241	27.7	9.5	494	2.67	3.9	0.3	2.1	0.6	25.3	0.23	0.51	0.11	74	0.43	0.059
BIO-C-31B	Soil	0.79	24.08	3.82	59.5	437	16.7	6.3	464	1.74	2.2	0.3	0.4	0.3	35.5	0.44	0.30	0.07	51	0.44	0.060
BIO-C-32B	Soil	0.89	31.65	3.96	67.7	213	24.8	8.1	367	2.36	3.3	0.3	2.2	0.6	29.0	0.31	0.35	0.09	64	0.42	0.054
BIO-C-33B	Soil	0.97	28.14	4.13	75.2	439	23.8	7.9	295	2.53	3.7	0.3	3.8	0.6	23.0	0.25	0.39	0.09	66	0.31	0.064
BIO-C-34B	Soil	0.75	16.76	3.51	50.0	96	17.2	6.0	363	1.77	2.4	0.2	3.0	0.7	22.3	0.27	0.37	0.07	54	0.35	0.063
TQ-H-01B	Soil	1.29	30.45	9.82	79.1	358	44.3	11.5	398	2.64	13.3	0.3	4.9	1.2	18.6	0.28	1.64	0.29	70	0.30	0.058
TQ-H-02B	Soil	1.18	19.27	9.71	112.7	304	27.4	10.3	622	2.80	11.3	0.2	3.1	0.9	20.0	0.66	1.28	0.20	74	0.34	0.100
TQ-H-03B	Soil	0.94	35.43	8.21	66.8	302	39.6	10.4	508	2.53	8.1	0.4	1.7	0.9	26.0	0.23	1.24	0.13	63	0.38	0.055
TQ-H-04B	Soil	0.84	10.20	7.06	77.2	113	10.4	6.1	269	1.73	4.1	0.2	<0.2	0.8	11.9	0.60	0.78	0.11	51	0.19	0.057
TQ-H-05B	Soil	0.88	21.09	13.45	223.7	89	25.4	14.7	624	3.03	7.2	0.3	1.0	1.3	25.3	0.59	1.02	0.18	76	0.43	0.131
TQ-H-06B	Soil	1.19	22.86	8.14	80.7	171	33.0	8.3	556	2.17	6.6	0.5	5.1	1.1	23.3	0.36	1.19	0.11	54	0.38	0.031
TQ-H-07B	Soil	1.30	11.38	8.43	79.0	98	17.5	8.2	501	2.38	5.7	0.2	1.3	0.8	16.3	0.27	1.41	0.09	70	0.27	0.028
TQ-H-08B	Soil	1.16	39.32	8.71	92.9	93	35.1	13.4	451	3.87	9.9	0.3	2.7	1.3	16.6	0.22	1.16	0.10	111	0.32	0.061

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**Project:** NV Series  
**Report Date:** November 01, 2011

**Page:** 3 of 5 Part 2

**CERTIFICATE OF ANALYSIS**

**SMI11000622.1**

Method	Analyte	Unit	MDL	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15		
				La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga	Cs	Ge	Hf
				ppm	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm		
				0.5	0.5	0.01	0.5	0.001	1	0.01	0.001	0.01	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	
BIO-B-12B	Soil			6.1	33.2	0.60	82.3	0.083	2	1.78	0.008	0.04	<0.1	3.0	0.08	<0.02	42	0.1	<0.02	6.0	0.72	<0.1	0.04
BIO-B-13B	Soil			5.7	33.1	0.44	110.8	0.086	2	1.52	0.007	0.07	<0.1	2.9	0.04	<0.02	30	0.1	0.03	6.2	0.46	<0.1	0.03
BIO-B-14B	Soil			14.5	60.3	0.70	284.0	0.054	2	3.18	0.007	0.08	<0.1	6.4	0.12	0.03	72	0.2	0.02	8.8	1.03	<0.1	<0.02
BIO-B-15B	Soil			5.1	43.5	0.55	107.8	0.064	2	2.07	0.005	0.07	<0.1	3.8	0.08	<0.02	31	0.2	0.05	7.4	0.71	<0.1	0.04
BIO-B-16B	Soil			6.3	26.1	0.29	69.1	0.073	1	1.40	0.007	0.02	<0.1	2.7	0.07	<0.02	18	<0.1	<0.02	5.9	0.67	<0.1	0.03
BIO-B-17B	Soil			4.1	29.5	0.22	87.4	0.077	<1	1.34	0.007	0.04	0.1	2.3	0.08	<0.02	25	0.1	0.03	7.7	0.55	<0.1	0.04
BIO-B-18B	Soil			6.1	32.9	0.59	89.8	0.072	3	1.40	0.007	0.05	0.1	2.5	0.06	<0.02	25	0.1	0.02	4.6	0.41	<0.1	0.03
BIO-B-19B	Soil			7.0	36.4	0.48	123.9	0.059	2	1.61	0.008	0.04	<0.1	3.0	0.07	<0.02	30	0.2	0.04	5.5	0.64	<0.1	<0.02
BIO-B-20B	Soil			10.1	41.7	0.62	164.6	0.044	2	1.89	0.007	0.04	<0.1	6.3	0.12	0.02	106	0.4	<0.02	5.2	0.70	<0.1	0.02
BIO-C-22B	Soil			6.9	17.0	0.23	61.4	0.069	1	0.97	0.006	0.03	<0.1	1.8	0.08	<0.02	11	<0.1	<0.02	4.4	0.59	<0.1	0.02
BIO-C-23B	Soil			6.7	34.3	0.57	101.1	0.067	2	1.57	0.008	0.03	<0.1	2.6	0.08	<0.02	24	0.2	<0.02	4.4	0.70	<0.1	<0.02
BIO-C-24B	Soil			6.2	30.9	0.43	93.6	0.066	2	1.28	0.006	0.05	<0.1	2.3	0.07	<0.02	18	<0.1	<0.02	4.8	0.51	<0.1	0.02
BIO-C-25B	Soil			5.7	33.4	0.53	91.5	0.068	2	1.40	0.006	0.06	<0.1	2.6	0.05	<0.02	24	0.2	<0.02	4.7	0.44	<0.1	0.02
BIO-C-26B	Soil			5.3	36.1	0.63	254.1	0.083	3	1.71	0.006	0.10	<0.1	2.9	0.07	<0.02	28	0.1	<0.02	5.4	0.66	<0.1	0.04
BIO-C-27B	Soil			6.6	35.3	0.58	121.4	0.075	2	1.37	0.007	0.04	<0.1	2.9	0.06	<0.02	20	0.1	0.03	4.6	0.51	<0.1	0.03
BIO-C-28B	Soil			6.7	32.2	0.52	108.9	0.059	2	1.27	0.006	0.04	<0.1	2.6	0.07	<0.02	18	0.1	<0.02	4.4	0.64	<0.1	<0.02
BIO-C-29B	Soil			4.3	46.6	0.81	121.0	0.098	3	2.46	0.005	0.07	0.1	4.0	0.10	<0.02	50	0.3	0.04	8.4	0.92	<0.1	0.03
BIO-C-30B	Soil			6.5	40.3	0.74	98.2	0.083	3	1.78	0.007	0.05	<0.1	3.4	0.08	<0.02	30	0.3	0.02	5.3	0.75	<0.1	<0.02
BIO-C-31B	Soil			9.2	26.7	0.36	151.6	0.059	2	1.18	0.006	0.06	<0.1	2.2	0.05	<0.02	38	0.1	<0.02	4.4	0.40	<0.1	<0.02
BIO-C-32B	Soil			7.9	37.5	0.62	113.4	0.062	2	1.67	0.006	0.05	<0.1	3.2	0.06	<0.02	27	0.2	<0.02	5.3	0.65	<0.1	<0.02
BIO-C-33B	Soil			5.5	37.8	0.58	85.1	0.057	2	1.68	0.005	0.04	<0.1	2.5	0.06	<0.02	22	0.2	<0.02	5.2	0.54	<0.1	<0.02
BIO-C-34B	Soil			4.8	27.4	0.39	100.3	0.066	2	1.12	0.006	0.04	<0.1	2.2	0.05	<0.02	21	0.1	<0.02	4.2	0.37	<0.1	0.02
TQ-H-01B	Soil			7.3	63.9	0.60	114.0	0.070	2	1.29	0.008	0.06	<0.1	3.4	0.06	<0.02	52	0.2	0.02	4.3	0.79	<0.1	0.06
TQ-H-02B	Soil			6.6	41.1	0.48	105.1	0.050	2	1.29	0.005	0.06	<0.1	2.5	0.07	<0.02	57	0.1	0.03	4.8	4.30	<0.1	<0.02
TQ-H-03B	Soil			12.2	43.8	0.64	91.1	0.059	2	1.35	0.009	0.06	<0.1	4.1	0.08	<0.02	63	0.1	<0.02	3.9	0.87	<0.1	<0.02
TQ-H-04B	Soil			6.1	26.9	0.22	63.4	0.071	2	0.65	0.005	0.06	<0.1	1.8	0.06	<0.02	10	0.1	0.02	3.6	0.65	<0.1	0.04
TQ-H-05B	Soil			6.8	38.0	0.42	139.1	0.039	2	1.90	0.003	0.06	<0.1	3.2	0.13	<0.02	32	0.1	0.02	6.3	2.75	<0.1	0.04
TQ-H-06B	Soil			13.5	38.3	0.40	110.7	0.048	3	1.25	0.006	0.07	<0.1	3.3	0.09	<0.02	65	0.2	<0.02	3.7	1.06	<0.1	0.02
TQ-H-07B	Soil			5.4	30.1	0.36	95.8	0.049	2	1.08	0.004	0.09	<0.1	2.2	0.09	<0.02	20	<0.1	0.02	4.2	1.38	<0.1	<0.02
TQ-H-08B	Soil			5.3	52.5	0.69	63.9	0.051	1	2.03	0.001	0.08	<0.1	3.9	0.08	<0.02	52	<0.1	0.03	5.9	1.86	<0.1	0.05

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Project: NV Series  
 Report Date: November 01, 2011

Page: 3 of 5 Part 3

CERTIFICATE OF ANALYSIS

SMI11000622.1

Method	Analyte	Unit	MDL	1F15 Nb	1F15 Rb	1F15 Sn	1F15 Ta	1F15 Zr	1F15 Y	1F15 Ce	1F15 In	1F15 Re	1F15 Be	1F15 Li	1F15 Pd	1F15 Pt
				ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb
				0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2
BIO-B-12B	Soil			0.48	9.8	0.4	<0.05	1.1	4.20	11.7	0.02	<1	0.2	10.9	<10	<2
BIO-B-13B	Soil			0.68	8.8	0.4	<0.05	1.3	3.28	10.9	0.02	<1	0.2	12.9	<10	<2
BIO-B-14B	Soil			0.68	11.7	0.6	<0.05	0.4	13.10	31.0	0.04	<1	0.8	14.5	<10	<2
BIO-B-15B	Soil			0.71	9.3	0.4	<0.05	2.0	3.10	9.4	0.03	<1	0.3	17.9	<10	<2
BIO-B-16B	Soil			0.65	5.3	0.4	<0.05	1.0	2.97	12.4	<0.02	<1	0.2	7.6	<10	<2
BIO-B-17B	Soil			0.67	9.2	0.6	<0.05	1.7	1.99	7.9	<0.02	<1	0.2	7.3	<10	<2
BIO-B-18B	Soil			0.65	6.9	0.5	<0.05	1.2	2.95	12.0	<0.02	<1	0.1	10.3	<10	<2
BIO-B-19B	Soil			0.55	7.8	0.4	<0.05	0.9	4.08	13.4	<0.02	<1	0.3	13.1	<10	<2
BIO-B-20B	Soil			0.50	4.7	0.4	<0.05	0.8	10.97	16.2	0.03	<1	0.4	11.7	<10	<2
BIO-C-22B	Soil			0.46	7.4	0.4	<0.05	0.7	2.33	13.4	<0.02	<1	0.1	5.7	<10	<2
BIO-C-23B	Soil			0.39	6.4	0.3	<0.05	0.6	3.63	13.2	<0.02	<1	0.2	12.1	<10	<2
BIO-C-24B	Soil			0.49	10.0	0.4	<0.05	1.0	2.69	12.1	<0.02	<1	<0.1	10.1	<10	<2
BIO-C-25B	Soil			0.61	6.2	0.4	<0.05	1.2	2.75	11.3	<0.02	<1	0.2	13.6	<10	<2
BIO-C-26B	Soil			0.68	12.2	0.3	<0.05	1.7	2.84	10.4	<0.02	<1	0.3	20.0	<10	<2
BIO-C-27B	Soil			0.52	7.5	0.3	<0.05	1.2	3.75	13.1	<0.02	<1	0.2	12.2	<10	<2
BIO-C-28B	Soil			0.44	8.1	0.3	<0.05	0.5	3.17	12.9	0.02	<1	0.3	10.4	<10	<2
BIO-C-29B	Soil			0.83	14.6	0.6	<0.05	1.3	3.25	8.4	0.02	<1	0.3	26.9	<10	<2
BIO-C-30B	Soil			0.48	9.3	0.4	<0.05	0.7	4.69	13.0	<0.02	<1	0.3	13.4	<10	<2
BIO-C-31B	Soil			0.54	9.1	0.3	<0.05	0.6	6.62	16.9	<0.02	<1	0.3	7.3	<10	<2
BIO-C-32B	Soil			0.54	11.0	0.4	<0.05	0.5	5.11	15.4	<0.02	<1	0.3	12.2	<10	<2
BIO-C-33B	Soil			0.59	5.3	0.4	<0.05	0.5	2.35	10.6	<0.02	<1	0.3	13.6	<10	<2
BIO-C-34B	Soil			0.47	5.4	0.3	<0.05	1.1	2.54	9.2	<0.02	<1	0.2	8.6	<10	<2
TQ-H-01B	Soil			0.46	6.8	0.3	<0.05	2.7	3.28	16.0	0.03	<1	0.3	8.9	<10	2
TQ-H-02B	Soil			0.67	8.9	0.4	<0.05	0.7	1.81	12.5	0.02	<1	0.2	10.3	<10	<2
TQ-H-03B	Soil			0.47	6.8	0.3	<0.05	0.8	8.27	23.1	<0.02	<1	0.4	9.8	<10	<2
TQ-H-04B	Soil			0.65	13.0	0.3	<0.05	1.6	1.70	11.5	<0.02	<1	0.1	6.1	<10	<2
TQ-H-05B	Soil			0.61	12.1	0.4	<0.05	1.8	2.02	13.1	0.03	<1	0.5	10.1	<10	<2
TQ-H-06B	Soil			0.58	9.5	0.3	<0.05	0.9	7.62	20.6	0.03	<1	0.3	9.9	<10	<2
TQ-H-07B	Soil			0.38	14.2	0.3	<0.05	0.7	1.60	10.7	<0.02	<1	0.2	6.7	<10	<2
TQ-H-08B	Soil			0.66	10.5	0.4	<0.05	2.2	2.01	10.9	0.03	<1	0.3	12.2	<10	<2

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**Project:** NV Series  
**Report Date:** November 01, 2011

**Page:** 4 of 5 Part 1

**CERTIFICATE OF ANALYSIS**

**SMI11000622.1**

Method	Analyte	Unit	MDL	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15		
				Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
				ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
				0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001
TQ-H-09B	Soil			0.90	65.88	12.86	109.5	586	47.3	13.1	709	3.11	16.3	2.8	1.9	0.6	116.1	1.58	0.91	0.13	74	1.52	0.057
TQ-H-10B	Soil			1.06	149.1	18.20	71.0	2398	233.8	19.3	987	4.20	15.8	0.8	3.4	1.4	187.1	2.16	2.68	0.35	95	2.63	0.118
TQ-H-11B	Soil			1.46	28.59	10.44	103.0	263	29.8	10.5	699	2.54	12.4	0.3	2.1	1.7	25.8	0.58	2.00	0.22	55	0.34	0.084
TQ-H-12B	Soil			1.44	54.34	10.33	141.7	284	54.5	19.3	1150	4.87	12.8	0.2	0.5	0.7	20.4	0.47	1.36	0.11	138	0.37	0.078
TQ-H-13B	Soil			0.57	13.17	4.19	66.4	104	22.1	6.3	337	1.80	3.5	0.3	1.3	1.0	25.3	0.39	0.49	0.07	41	0.30	0.057
TQ-H-14B	Soil			0.50	12.93	4.84	55.1	47	21.0	5.8	217	1.76	3.8	0.4	1.2	0.8	23.4	0.40	0.43	0.07	43	0.26	0.042
TQ-H-15B	Soil			0.82	38.21	11.18	93.8	332	43.8	11.0	448	2.68	11.6	0.8	2.7	1.0	68.3	0.51	1.62	0.13	56	0.89	0.076
TQ-H-16B	Soil			1.29	57.05	6.47	109.0	856	61.0	7.4	403	2.36	8.9	3.1	2.2	0.5	166.2	1.72	1.85	0.12	39	2.27	0.084
TQ-H-17B	Soil			0.89	32.25	7.90	86.8	345	38.2	8.7	433	2.64	9.7	0.7	4.3	1.2	27.6	0.33	1.62	0.09	54	0.31	0.034
TQ-H-18B	Soil			0.89	36.97	9.66	154.6	281	47.5	11.5	1416	2.59	6.6	0.5	1.2	1.1	24.6	1.61	1.36	0.12	53	0.25	0.118
TQ-H-19B	Soil			0.90	13.03	8.62	85.8	69	23.4	7.6	407	2.17	7.7	0.2	0.8	1.2	20.2	0.31	1.62	0.10	50	0.25	0.053
TQ-H-20B	Soil			0.70	8.11	5.55	69.0	81	13.5	5.4	246	1.48	3.9	0.2	1.1	1.0	14.1	0.32	0.75	0.07	40	0.20	0.043
TQ-H-21B	Soil			0.66	5.06	6.07	70.9	87	11.7	4.9	481	1.44	3.0	0.2	3.7	0.7	13.9	0.45	0.55	0.20	36	0.23	0.070
TQ-H-22B	Soil			0.64	8.74	6.15	49.2	45	21.3	6.7	276	1.89	6.1	0.2	8.6	1.0	16.3	0.27	0.81	0.13	45	0.24	0.053
TQ-H-23B	Soil			1.27	42.35	5.76	109.2	159	72.9	21.5	1781	5.82	15.1	0.2	3.0	0.5	32.1	0.70	0.45	0.11	133	0.66	0.111
TQ-H-24B	Soil			1.83	42.51	9.95	169.8	109	42.3	18.0	1393	4.15	11.8	0.3	2.7	1.4	34.7	0.67	1.74	0.14	115	0.61	0.104
TQ-H-25B	Soil			4.00	70.37	10.31	187.3	151	39.5	30.8	2375	5.79	9.2	0.3	2.4	0.9	55.1	1.32	1.54	0.12	198	1.03	0.164
TQ-H-26B	Soil			11.86	68.23	16.00	438.9	179	30.2	20.8	5966	3.93	6.9	0.8	1.0	1.7	83.3	5.63	1.21	0.19	101	1.11	0.374
TQ-H-27B	Soil			6.16	125.1	15.48	310.5	310	103.5	28.5	2560	5.48	28.1	0.8	1.7	1.6	31.9	1.20	20.03	0.22	137	0.53	0.259
TQ-H-28B	Soil			5.85	104.4	9.97	322.2	93	58.8	29.8	1971	6.06	8.1	0.9	0.9	1.8	41.2	1.93	1.59	0.13	218	0.76	0.379
TQ-H-29B	Soil			1.01	18.63	9.62	59.1	33	26.4	8.7	213	2.34	12.4	0.3	2.0	1.4	20.1	0.17	1.71	0.15	54	0.26	0.035
TQ-H-30B	Soil			0.88	8.97	6.44	108.6	97	17.2	5.7	264	2.02	3.2	0.2	0.7	1.1	26.0	0.39	0.91	0.10	45	0.31	0.033
TQ-H-31B	Soil			0.69	10.09	6.27	120.2	96	17.2	6.3	345	1.91	4.7	0.2	0.7	1.1	21.6	0.39	0.95	0.09	45	0.25	0.051
TQ-H-32B	Soil			0.56	20.13	4.82	102.0	161	25.9	6.8	311	2.00	3.3	0.4	1.3	1.2	20.3	0.45	0.62	0.08	44	0.26	0.039
TQ-H-33B	Soil			0.92	11.03	6.08	102.9	185	14.1	6.4	641	1.80	3.3	0.2	1.0	0.6	19.4	1.52	0.93	0.08	37	0.24	0.094
RW-H-01B	Soil			1.70	25.68	12.71	124.4	176	18.9	9.7	423	3.71	14.2	0.3	5.1	0.8	15.8	0.30	2.35	0.15	117	0.24	0.054
RW-H-02B	Soil			1.56	28.54	15.93	153.2	189	22.5	13.7	735	3.65	17.8	0.3	1.0	1.3	24.8	0.36	3.13	0.20	103	0.49	0.081
RW-H-03B	Soil			1.69	59.41	12.55	184.7	259	19.5	17.8	3046	4.08	9.3	0.4	0.7	1.0	32.2	1.77	2.38	0.15	101	0.75	0.073
RW-H-04B	Soil			2.29	61.44	10.67	165.3	184	44.8	20.5	911	3.61	14.3	0.5	1.5	1.0	35.2	0.53	1.80	0.12	79	0.55	0.145
RW-H-05B	Soil			0.96	463.9	9.01	165.4	634	20.6	20.1	2016	3.21	8.4	1.2	4.5	0.5	79.2	1.50	1.75	0.11	105	2.20	0.419

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**Project:** NV Series  
**Report Date:** November 01, 2011

**Page:** 4 of 5 Part 2

**CERTIFICATE OF ANALYSIS**

**SMI11000622.1**

Method	Analyte	Unit	MDL	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15						
				La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga	Cs	Ge	Hf				
				ppm	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm						
				0.5	0.5	0.01	0.5	0.001		1	0.01	0.001	0.01	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.1	0.02	0.1	0.02
TQ-H-09B	Soil			9.0	54.9	0.55	191.5	0.032	3	1.75	0.009	0.04	<0.1	5.1	0.07	0.06	86	1.2	<0.02	5.1	1.58	<0.1	0.04				
TQ-H-10B	Soil			26.6	96.3	0.76	288.3	0.032	8	3.73	0.010	0.06	<0.1	8.8	0.21	0.10	175	2.2	0.04	7.1	1.64	<0.1	0.14				
TQ-H-11B	Soil			7.7	40.3	0.49	144.4	0.060	2	1.11	0.012	0.12	0.1	3.7	0.10	<0.02	40	0.1	0.03	3.5	1.10	<0.1	0.03				
TQ-H-12B	Soil			3.9	90.9	0.66	133.6	0.026	2	2.02	<0.001	0.08	<0.1	5.8	0.07	<0.02	44	0.2	0.04	7.5	2.92	<0.1	0.03				
TQ-H-13B	Soil			8.1	30.2	0.45	112.3	0.055	1	0.95	0.006	0.06	<0.1	2.6	0.05	<0.02	35	<0.1	<0.02	3.4	0.45	<0.1	<0.02				
TQ-H-14B	Soil			7.2	29.5	0.41	93.5	0.052	1	0.90	0.008	0.05	<0.1	2.3	0.05	<0.02	24	0.1	<0.02	3.1	0.42	<0.1	<0.02				
TQ-H-15B	Soil			10.6	52.2	0.71	163.0	0.039	4	1.33	0.013	0.08	<0.1	4.9	0.11	0.04	146	0.7	0.02	3.8	1.11	<0.1	0.05				
TQ-H-16B	Soil			26.8	39.9	0.59	503.1	0.010	5	1.65	0.007	0.09	<0.1	6.4	0.14	0.10	223	1.0	<0.02	3.5	0.74	<0.1	0.06				
TQ-H-17B	Soil			11.5	44.9	0.57	187.7	0.041	1	1.30	0.007	0.07	<0.1	5.6	0.11	<0.02	87	0.3	0.02	3.6	0.66	<0.1	<0.02				
TQ-H-18B	Soil			21.3	40.4	0.46	246.2	0.038	2	1.48	0.005	0.12	<0.1	4.7	0.10	<0.02	42	0.2	<0.02	4.3	0.76	<0.1	<0.02				
TQ-H-19B	Soil			7.1	33.5	0.40	147.8	0.047	1	0.99	0.005	0.08	<0.1	2.4	0.07	<0.02	34	0.1	<0.02	3.4	0.60	<0.1	0.04				
TQ-H-20B	Soil			6.4	24.6	0.26	97.9	0.050	1	0.67	0.005	0.04	<0.1	1.8	0.06	<0.02	30	<0.1	<0.02	3.0	0.45	<0.1	0.03				
TQ-H-21B	Soil			5.6	25.6	0.21	147.3	0.044	2	0.63	0.005	0.06	<0.1	1.3	0.05	<0.02	27	<0.1	<0.02	2.7	0.40	<0.1	<0.02				
TQ-H-22B	Soil			6.5	36.9	0.37	96.1	0.060	3	0.90	0.005	0.09	<0.1	1.8	0.05	<0.02	35	<0.1	<0.02	3.1	0.42	<0.1	0.03				
TQ-H-23B	Soil			3.6	145.6	0.48	367.4	0.006	7	1.77	0.002	0.17	<0.1	12.5	0.06	0.04	1694	0.2	<0.02	5.8	4.13	<0.1	0.04				
TQ-H-24B	Soil			7.2	63.6	0.66	232.0	0.039	3	2.33	0.002	0.08	<0.1	5.7	0.14	<0.02	44	0.2	0.03	7.5	5.14	<0.1	0.05				
TQ-H-25B	Soil			4.2	63.0	0.97	241.6	0.115	6	2.42	<0.001	0.14	0.2	7.1	0.17	0.04	94	0.3	0.05	9.5	6.27	<0.1	0.11				
TQ-H-26B	Soil			10.5	27.9	0.56	629.0	0.029	7	2.27	0.002	0.14	0.1	6.5	1.59	0.03	88	0.3	0.05	7.2	5.14	<0.1	0.06				
TQ-H-27B	Soil			13.4	89.0	0.83	258.8	0.055	8	2.25	0.002	0.17	0.1	13.4	0.28	<0.02	66	0.7	0.10	7.8	8.72	<0.1	0.08				
TQ-H-28B	Soil			8.5	87.8	1.60	300.6	0.216	7	3.58	<0.001	0.08	0.2	14.8	0.35	<0.02	53	0.3	0.05	13.7	4.87	<0.1	0.21				
TQ-H-29B	Soil			7.7	34.8	0.41	99.8	0.062	3	0.96	0.005	0.08	<0.1	2.6	0.09	<0.02	32	<0.1	<0.02	3.2	0.48	<0.1	0.04				
TQ-H-30B	Soil			6.9	29.7	0.35	95.6	0.040	7	1.00	0.007	0.04	<0.1	2.2	0.08	<0.02	26	0.1	<0.02	3.1	0.56	<0.1	0.04				
TQ-H-31B	Soil			7.2	29.2	0.34	132.6	0.060	2	0.84	0.005	0.06	<0.1	2.1	0.06	<0.02	18	<0.1	<0.02	3.3	0.47	<0.1	0.03				
TQ-H-32B	Soil			8.7	32.6	0.37	128.1	0.060	3	0.98	0.007	0.06	<0.1	2.8	0.06	<0.02	20	0.1	<0.02	3.0	0.50	<0.1	0.03				
TQ-H-33B	Soil			5.4	24.8	0.26	187.3	0.031	2	0.66	0.005	0.07	<0.1	1.8	0.03	<0.02	24	<0.1	<0.02	2.7	0.20	<0.1	<0.02				
RW-H-01B	Soil			6.4	30.8	0.47	94.7	0.026	2	1.95	0.003	0.06	0.1	3.1	0.09	<0.02	39	<0.1	0.03	8.0	1.79	<0.1	<0.02				
RW-H-02B	Soil			6.8	31.2	0.58	167.2	0.043	3	1.91	0.004	0.10	<0.1	3.9	0.12	<0.02	47	0.1	0.04	6.9	2.65	<0.1	0.03				
RW-H-03B	Soil			11.5	26.8	0.57	295.5	0.011	3	2.20	0.003	0.16	<0.1	6.1	0.20	0.04	62	<0.1	<0.02	7.2	2.60	<0.1	0.03				
RW-H-04B	Soil			8.1	50.8	0.63	186.8	0.034	5	2.04	0.002	0.14	0.1	5.1	0.21	0.02	232	0.3	0.03	6.0	2.42	<0.1	0.03				
RW-H-05B	Soil			15.3	32.4	0.61	212.6	0.030	7	2.66	0.002	0.06	<0.1	5.7	0.17	0.22	345	1.1	<0.02	6.9	5.37	<0.1	0.17				

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**Project:** NV Series  
**Report Date:** November 01, 2011

**Page:** 4 of 5 **Part** 3

# CERTIFICATE OF ANALYSIS

SMI11000622.1

Method	Analyte	Unit	MDL	1F15 Nb	1F15 Rb	1F15 Sn	1F15 Ta	1F15 Zr	1F15 Y	1F15 Ce	1F15 In	1F15 Re	1F15 Be	1F15 Li	1F15 Pd	1F15 Pt
				ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb
				0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2
TQ-H-09B	Soil			0.79	5.5	0.4	<0.05	1.3	7.95	15.2	0.04	<1	0.5	10.4	<10	<2
TQ-H-10B	Soil			1.25	6.4	0.6	<0.05	3.9	20.53	28.7	0.08	<1	1.1	22.9	<10	4
TQ-H-11B	Soil			0.40	12.3	0.3	<0.05	1.7	3.22	17.3	0.03	<1	0.3	7.5	<10	<2
TQ-H-12B	Soil			0.20	9.6	0.4	<0.05	1.1	2.74	8.0	0.04	<1	0.4	6.8	<10	<2
TQ-H-13B	Soil			0.54	7.0	0.3	<0.05	0.8	4.15	16.0	<0.02	<1	0.2	9.3	<10	<2
TQ-H-14B	Soil			0.55	5.0	0.3	<0.05	0.7	3.39	13.5	<0.02	<1	0.2	8.3	<10	<2
TQ-H-15B	Soil			0.57	8.4	0.3	<0.05	1.6	9.32	18.2	0.03	<1	0.4	10.6	<10	3
TQ-H-16B	Soil			0.59	6.2	0.3	<0.05	3.0	32.45	17.9	0.02	2	0.4	8.0	<10	<2
TQ-H-17B	Soil			0.53	6.6	0.3	<0.05	0.9	8.54	20.4	0.03	<1	0.4	11.0	<10	<2
TQ-H-18B	Soil			0.50	10.7	0.3	<0.05	0.6	14.29	35.2	0.02	<1	0.4	9.6	<10	<2
TQ-H-19B	Soil			0.48	8.4	0.3	<0.05	1.5	2.20	14.2	0.03	<1	0.2	8.5	<10	<2
TQ-H-20B	Soil			0.47	5.2	0.3	<0.05	1.3	1.79	12.4	<0.02	<1	<0.1	6.9	<10	<2
TQ-H-21B	Soil			0.38	6.4	0.3	<0.05	0.9	1.63	10.6	0.03	<1	0.1	4.9	<10	<2
TQ-H-22B	Soil			0.40	7.7	0.3	<0.05	1.5	1.95	13.1	<0.02	<1	0.2	7.0	<10	<2
TQ-H-23B	Soil			0.32	19.9	0.3	<0.05	1.2	5.80	7.9	0.05	<1	0.3	7.8	<10	3
TQ-H-24B	Soil			1.06	16.3	0.5	<0.05	2.4	3.82	16.3	0.05	<1	0.6	10.8	<10	<2
TQ-H-25B	Soil			0.75	10.9	0.5	<0.05	3.7	5.06	10.2	0.06	<1	0.5	10.0	<10	<2
TQ-H-26B	Soil			1.11	19.4	0.5	<0.05	2.4	7.21	27.9	0.06	1	0.6	12.3	<10	<2
TQ-H-27B	Soil			0.60	13.7	0.6	<0.05	2.9	19.67	25.3	0.07	<1	0.8	19.5	<10	<2
TQ-H-28B	Soil			0.83	11.1	0.7	<0.05	10.2	12.43	22.9	0.07	<1	0.6	25.8	<10	3
TQ-H-29B	Soil			0.47	8.2	0.3	<0.05	1.9	2.62	17.3	<0.02	<1	0.3	7.0	<10	<2
TQ-H-30B	Soil			0.48	5.0	0.3	<0.05	1.5	2.46	13.4	0.02	<1	0.2	17.5	<10	<2
TQ-H-31B	Soil			0.49	8.4	0.3	<0.05	1.2	2.38	13.7	<0.02	<1	0.1	8.8	<10	<2
TQ-H-32B	Soil			0.80	7.8	0.2	<0.05	1.5	4.84	14.9	<0.02	<1	0.3	10.5	<10	<2
TQ-H-33B	Soil			0.34	5.8	0.2	<0.05	0.5	1.88	10.5	<0.02	<1	0.2	5.4	<10	<2
RW-H-01B	Soil			0.63	11.9	0.4	<0.05	0.4	1.89	12.5	0.04	<1	0.2	14.5	<10	<2
RW-H-02B	Soil			0.52	20.1	0.4	<0.05	1.8	2.37	13.5	0.04	<1	0.3	12.1	<10	<2
RW-H-03B	Soil			0.57	21.9	0.4	<0.05	1.2	7.89	24.5	0.04	<1	0.5	10.2	<10	<2
RW-H-04B	Soil			0.74	12.1	0.4	<0.05	0.8	5.72	18.4	0.04	<1	0.6	13.5	<10	<2
RW-H-05B	Soil			0.74	6.5	0.3	<0.05	4.8	21.46	23.3	0.04	<1	0.6	9.6	<10	<2



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**Project:** NV Series  
**Report Date:** November 01, 2011

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**CERTIFICATE OF ANALYSIS**

**SMI11000622.1**

Method	Analyte	1F15 Mo	1F15 Cu	1F15 Pb	1F15 Zn	1F15 Ag	1F15 Ni	1F15 Co	1F15 Mn	1F15 Fe	1F15 As	1F15 U	1F15 Au	1F15 Th	1F15 Sr	1F15 Cd	1F15 Sb	1F15 Bi	1F15 V	1F15 Ca	1F15 P
Unit	MDL	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
BIO-A-35B	Soil	1.11	41.53	6.61	195.1	535	27.7	12.1	556	3.59	4.2	0.3	2.6	0.9	21.3	0.56	0.45	0.10	89	0.33	0.174
BIO-A-36B	Soil	0.93	23.07	5.11	110.7	251	15.3	13.6	2267	1.91	1.8	0.2	<0.2	0.4	30.8	1.00	0.32	0.07	53	0.57	0.084
BIO-A-37B	Soil	1.45	33.65	6.32	82.8	328	16.1	7.3	335	2.99	3.3	0.3	0.3	0.7	29.2	0.56	0.38	0.11	87	0.55	0.068
BIO-A-38B	Soil	0.97	39.85	4.32	71.2	164	36.4	13.1	412	2.97	7.1	0.3	2.1	1.0	22.3	0.26	0.51	0.06	78	0.44	0.084
BIO-A-39B	Soil	9.81	117.4	10.11	131.5	301	59.6	14.2	409	4.55	9.5	0.6	5.1	2.3	17.6	1.12	0.86	0.13	151	0.32	0.021
BIO-A-40B	Soil	1.36	106.4	5.56	96.0	333	34.6	10.3	815	2.74	5.1	0.6	1.3	1.2	35.5	0.36	0.42	0.08	69	0.63	0.046
BIO-A-41B	Soil	1.46	42.81	6.90	161.4	312	26.6	15.0	972	3.20	7.1	0.3	1.0	1.1	28.3	0.60	0.54	0.10	81	0.49	0.244
BIO-A-42B	Soil	0.96	20.54	4.68	84.8	379	19.4	7.4	249	2.46	3.5	0.3	3.1	1.0	23.2	0.40	0.39	0.09	66	0.37	0.082
BIO-A-43B	Soil	1.05	19.56	4.10	56.7	112	22.3	6.4	265	2.24	3.8	0.3	4.3	1.1	26.9	0.27	0.37	0.06	61	0.38	0.071
BIO-A-44B	Soil	0.64	48.75	4.24	62.1	178	27.7	8.6	364	2.46	4.1	0.3	6.8	1.0	21.4	0.17	0.35	0.05	69	0.36	0.023
BIO-A-45B	Soil	0.89	17.03	4.49	95.1	464	20.2	7.8	294	2.38	3.4	0.3	0.9	0.9	25.4	0.47	0.33	0.07	66	0.38	0.080
BIO-A-46B	Soil	0.78	30.91	3.78	73.0	193	24.4	8.8	377	2.23	2.7	0.3	1.0	0.8	25.8	0.25	0.30	0.06	61	0.40	0.045
BIO-A-47B	Soil	0.96	25.20	4.86	98.0	293	28.4	9.6	412	2.85	4.6	0.3	2.0	1.0	27.8	0.52	0.54	0.08	72	0.42	0.204
BIO-A-48B	Soil	0.90	27.76	5.06	136.7	382	20.8	9.2	855	2.56	2.9	0.3	3.6	0.7	25.7	0.53	0.37	0.11	70	0.40	0.096
BIO-A-49B	Soil	0.79	27.37	4.20	98.2	136	25.5	11.2	404	2.55	3.5	0.3	2.0	1.0	24.8	0.37	0.38	0.08	70	0.43	0.085
BIO-A-50B	Soil	0.74	31.66	4.45	96.7	149	25.2	9.6	354	2.65	3.5	0.3	0.8	1.2	26.7	0.43	0.43	0.07	75	0.43	0.062
BIO-A-51B	Soil	0.88	25.65	4.30	99.9	202	24.8	8.1	263	2.64	4.3	0.3	3.7	1.4	25.1	0.46	0.42	0.08	67	0.39	0.085
BIO-A-52B	Soil	0.70	16.90	4.09	97.7	142	21.1	7.4	411	2.18	3.0	0.3	1.4	1.1	19.6	0.40	0.33	0.07	56	0.32	0.073
BIO-A-53B	Soil	0.92	24.15	5.07	61.7	122	23.6	9.1	476	2.52	4.3	0.3	1.9	1.2	24.7	0.32	0.50	0.11	71	0.34	0.089
BIO-A-54B	Soil	0.81	22.29	3.76	68.4	133	19.8	8.0	552	2.36	2.3	0.3	2.7	1.0	29.4	0.38	0.35	0.12	73	0.45	0.055
BIO-A-55B	Soil	0.94	23.53	4.19	106.2	229	22.1	8.4	316	2.90	3.2	0.3	6.3	0.4	23.0	0.40	0.41	0.11	77	0.35	0.131
BIO-A-56B	Soil	0.90	22.26	3.23	72.2	338	19.9	7.6	326	2.23	2.2	0.3	0.9	0.9	22.3	0.32	0.34	0.09	68	0.36	0.060
BIO-A-57B	Soil	0.92	41.00	4.11	78.2	137	32.9	11.9	513	2.74	5.0	0.3	1.3	1.0	22.5	0.48	0.61	0.09	74	0.38	0.101
BIO-A-58B	Soil	0.87	25.51	3.72	92.7	242	19.7	7.2	354	2.23	2.2	0.4	9.2	0.8	30.7	0.42	0.28	0.09	75	0.48	0.072
BIO-A-59B	Soil	0.98	28.78	3.67	71.1	131	22.9	8.5	496	2.50	3.0	0.3	0.9	0.7	28.6	0.44	0.47	0.10	76	0.52	0.082
BIO-A-60B	Soil	1.21	35.13	3.64	72.5	481	32.2	8.4	311	2.92	4.2	0.5	1.9	0.9	33.4	0.21	0.55	0.10	79	0.39	0.060
BIO-A-61B	Soil	1.74	24.36	5.87	87.8	656	22.1	8.2	383	2.74	5.5	0.3	0.7	0.9	25.2	0.93	0.51	0.31	79	0.36	0.154
BIO-A-62B	Soil	0.81	16.48	4.21	59.3	153	14.2	4.5	282	1.45	2.0	0.3	1.3	0.5	20.5	0.33	0.23	0.14	42	0.27	0.034



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**Report Date:** November 01, 2011

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**CERTIFICATE OF ANALYSIS**

**SMI11000622.1**

Method	Analyte	Unit	MDL	1F15 La	1F15 Cr	1F15 Mg	1F15 Ba	1F15 Ti	1F15 B	1F15 Al	1F15 Na	1F15 K	1F15 W	1F15 Sc	1F15 Ti	1F15 S	1F15 Hg	1F15 Se	1F15 Te	1F15 Ga	1F15 Cs	1F15 Ge	1F15 Hf
				ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm
				0.5	0.5	0.01	0.5	0.001	1	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.1	0.02
BIO-A-35B	Soil			4.7	45.8	0.59	79.0	0.077	7	2.06	0.005	0.06	<0.1	2.9	0.05	<0.02	25	0.2	0.03	7.2	1.44	<0.1	0.03
BIO-A-36B	Soil			4.2	27.9	0.34	137.6	0.071	5	0.99	0.006	0.07	<0.1	1.9	0.04	<0.02	23	0.1	<0.02	4.3	0.41	<0.1	0.02
BIO-A-37B	Soil			5.0	34.7	0.40	104.6	0.087	5	1.43	0.007	0.06	0.1	2.4	0.03	0.02	22	0.2	<0.02	7.1	0.50	<0.1	0.05
BIO-A-38B	Soil			4.7	41.6	0.71	93.2	0.085	2	1.76	0.006	0.07	<0.1	3.0	0.04	<0.02	37	0.2	0.03	5.0	0.62	<0.1	0.05
BIO-A-39B	Soil			15.7	68.4	1.06	151.6	0.007	1	3.45	0.001	0.04	0.1	6.7	0.13	<0.02	38	3.3	0.09	8.8	0.58	<0.1	0.09
BIO-A-40B	Soil			8.5	41.1	0.69	68.1	0.073	2	1.98	0.007	0.03	<0.1	4.8	0.05	<0.02	63	0.6	0.02	5.6	0.74	<0.1	0.05
BIO-A-41B	Soil			5.8	40.9	0.61	176.9	0.065	2	1.91	0.005	0.06	0.2	3.4	0.08	<0.02	53	0.2	0.04	6.2	0.81	<0.1	0.02
BIO-A-42B	Soil			6.6	34.2	0.45	105.4	0.068	1	1.58	0.006	0.06	<0.1	2.6	0.05	<0.02	20	0.1	0.02	5.9	0.56	<0.1	0.03
BIO-A-43B	Soil			6.9	36.4	0.60	109.7	0.068	1	1.31	0.007	0.05	<0.1	2.4	0.03	<0.02	28	<0.1	<0.02	4.7	0.28	<0.1	0.03
BIO-A-44B	Soil			7.0	39.7	0.71	73.3	0.073	<1	1.71	0.007	0.03	<0.1	3.6	0.10	<0.02	35	0.1	0.02	4.9	0.84	<0.1	0.04
BIO-A-45B	Soil			6.3	36.2	0.45	94.9	0.073	2	1.57	0.007	0.04	<0.1	2.6	0.05	<0.02	43	<0.1	<0.02	5.6	0.54	<0.1	<0.02
BIO-A-46B	Soil			8.8	34.0	0.63	80.1	0.075	2	1.61	0.006	0.05	<0.1	3.0	0.07	<0.02	23	<0.1	<0.02	4.9	0.85	<0.1	0.03
BIO-A-47B	Soil			6.6	44.0	0.60	119.4	0.064	2	1.66	0.007	0.06	<0.1	3.0	0.05	<0.02	26	0.2	<0.02	5.6	0.58	<0.1	0.03
BIO-A-48B	Soil			8.4	35.9	0.44	158.8	0.064	2	1.55	0.005	0.06	<0.1	3.2	0.06	<0.02	15	0.1	0.02	6.1	0.77	<0.1	0.02
BIO-A-49B	Soil			6.2	36.5	0.60	103.4	0.079	2	1.76	0.006	0.05	<0.1	3.0	0.05	<0.02	24	0.1	<0.02	5.7	0.69	<0.1	0.05
BIO-A-50B	Soil			7.3	37.4	0.67	114.0	0.088	2	1.76	0.007	0.05	<0.1	3.3	0.07	<0.02	24	0.1	<0.02	5.8	0.81	<0.1	0.05
BIO-A-51B	Soil			7.6	36.5	0.53	106.1	0.064	1	1.82	0.007	0.05	0.1	3.4	0.06	<0.02	38	0.1	<0.02	5.8	0.81	<0.1	0.03
BIO-A-52B	Soil			7.4	33.4	0.56	84.7	0.065	1	1.39	0.006	0.05	<0.1	2.7	0.05	<0.02	24	0.2	<0.02	4.9	0.64	<0.1	0.02
BIO-A-53B	Soil			7.2	35.6	0.64	89.4	0.073	2	1.47	0.009	0.05	<0.1	2.7	0.07	<0.02	22	0.1	<0.02	4.8	0.64	<0.1	0.02
BIO-A-54B	Soil			7.0	33.4	0.70	104.9	0.105	3	1.49	0.010	0.05	<0.1	3.1	0.06	<0.02	22	0.1	<0.02	5.2	0.64	<0.1	0.05
BIO-A-55B	Soil			5.9	36.8	0.64	82.9	0.057	2	1.80	0.010	0.04	<0.1	2.6	0.05	<0.02	35	0.2	0.02	6.4	0.68	<0.1	<0.02
BIO-A-56B	Soil			5.9	35.2	0.49	82.0	0.085	2	1.59	0.009	0.04	<0.1	2.9	0.07	<0.02	41	0.1	0.03	5.3	0.64	<0.1	0.04
BIO-A-57B	Soil			5.2	40.9	0.66	104.5	0.082	3	1.87	0.010	0.06	<0.1	3.5	0.05	<0.02	26	0.2	<0.02	4.7	0.63	<0.1	0.03
BIO-A-58B	Soil			6.2	36.0	0.51	94.9	0.105	3	1.94	0.011	0.04	<0.1	3.3	0.07	<0.02	34	0.1	0.02	6.9	0.70	<0.1	0.04
BIO-A-59B	Soil			5.7	37.9	0.63	126.6	0.086	2	1.63	0.010	0.04	<0.1	3.0	0.05	<0.02	37	0.2	<0.02	6.1	0.45	<0.1	0.03
BIO-A-60B	Soil			7.1	45.3	0.76	101.8	0.089	2	2.06	0.011	0.05	<0.1	3.6	0.07	<0.02	79	0.2	<0.02	6.0	0.95	<0.1	0.03
BIO-A-61B	Soil			6.7	38.1	0.46	172.7	0.070	2	1.61	0.010	0.05	<0.1	3.0	0.06	<0.02	32	0.5	<0.02	6.1	0.58	<0.1	0.04
BIO-A-62B	Soil			7.4	23.2	0.35	112.0	0.044	<1	1.00	0.007	0.05	<0.1	1.9	0.08	<0.02	35	0.2	0.02	4.2	0.49	<0.1	<0.02





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CERTIFICATE OF ANALYSIS

SMI11000622.1

Method	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	
Analyte	Nb	Rb	Sn	Ta	Zr	Y	Ce	In	Re	Be	Li	Pd	Pt	
Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppb	ppb	ppb	
MDL	0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2	
BIO-A-35B	Soil	0.74	10.6	0.4	<0.05	1.4	2.57	9.1	0.03	<1	0.4	13.1	<10	<2
BIO-A-36B	Soil	0.54	11.2	0.3	<0.05	0.9	2.50	8.8	<0.02	<1	0.2	7.2	<10	<2
BIO-A-37B	Soil	1.48	8.2	0.6	<0.05	1.8	2.64	9.3	0.02	<1	0.2	13.1	<10	<2
BIO-A-38B	Soil	0.53	7.2	0.2	<0.05	2.4	3.42	9.7	0.02	<1	0.2	11.2	<10	<2
BIO-A-39B	Soil	0.36	4.6	0.5	<0.05	3.3	9.95	26.3	0.05	2	0.9	28.9	<10	<2
BIO-A-40B	Soil	0.94	7.1	0.4	<0.05	2.7	8.71	14.0	0.03	2	0.8	12.7	<10	<2
BIO-A-41B	Soil	0.71	11.6	0.4	<0.05	1.1	3.91	12.0	0.03	<1	0.4	16.1	<10	<2
BIO-A-42B	Soil	0.69	8.8	0.4	<0.05	1.1	3.30	13.0	0.03	<1	0.3	13.6	<10	<2
BIO-A-43B	Soil	0.52	4.7	0.3	<0.05	1.8	3.73	13.2	<0.02	<1	0.2	9.9	<10	<2
BIO-A-44B	Soil	0.30	5.1	0.3	<0.05	1.5	5.52	11.1	<0.02	<1	0.2	13.0	<10	<2
BIO-A-45B	Soil	0.59	8.0	0.3	<0.05	1.1	3.04	12.2	<0.02	<1	0.3	11.4	<10	<2
BIO-A-46B	Soil	0.64	11.7	0.3	<0.05	1.0	5.66	16.6	<0.02	<1	0.2	12.6	<10	<2
BIO-A-47B	Soil	0.46	7.4	0.3	<0.05	1.3	3.37	13.0	0.02	<1	0.4	11.3	<10	<2
BIO-A-48B	Soil	0.66	10.3	0.5	<0.05	1.6	5.51	13.6	0.02	<1	0.5	10.0	<10	<2
BIO-A-49B	Soil	0.59	7.9	0.4	<0.05	1.7	3.87	11.8	0.02	<1	0.4	11.7	<10	<2
BIO-A-50B	Soil	0.61	8.8	0.4	<0.05	2.2	4.23	14.1	<0.02	<1	0.3	15.8	<10	<2
BIO-A-51B	Soil	0.74	10.6	0.4	<0.05	1.7	4.08	14.4	0.02	<1	0.3	16.8	<10	<2
BIO-A-52B	Soil	0.53	10.3	0.3	<0.05	1.1	3.41	14.0	<0.02	<1	0.2	12.3	<10	<2
BIO-A-53B	Soil	0.42	9.2	0.3	<0.05	1.0	3.58	14.0	0.02	<1	0.2	11.6	<10	<2
BIO-A-54B	Soil	0.51	9.7	0.4	<0.05	1.7	4.21	13.3	<0.02	2	0.2	11.9	<10	<2
BIO-A-55B	Soil	0.53	7.1	0.4	<0.05	0.6	3.18	10.7	<0.02	<1	0.2	18.0	<10	<2
BIO-A-56B	Soil	0.60	10.4	0.3	<0.05	1.6	3.65	11.2	<0.02	<1	0.2	13.7	<10	<2
BIO-A-57B	Soil	0.46	6.9	0.2	<0.05	1.6	3.92	10.7	0.02	<1	0.3	10.1	<10	<2
BIO-A-58B	Soil	0.78	10.4	0.4	<0.05	1.4	3.70	11.6	<0.02	<1	0.4	13.0	<10	<2
BIO-A-59B	Soil	0.51	6.9	0.3	<0.05	1.3	3.83	10.9	<0.02	<1	0.3	12.2	<10	<2
BIO-A-60B	Soil	0.81	10.0	0.4	<0.05	1.3	4.06	13.4	<0.02	<1	0.3	16.0	<10	<2
BIO-A-61B	Soil	0.62	6.7	0.4	<0.05	1.0	3.45	12.8	0.02	2	0.3	10.8	<10	<2
BIO-A-62B	Soil	0.47	10.4	0.3	<0.05	0.3	3.17	13.3	<0.02	<1	0.2	9.3	<10	<2



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**Project:** NV Series

**Report Date:** November 01, 2011

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# QUALITY CONTROL REPORT

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Method	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	
Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	
Unit	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	
MDL	0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001	
Pulp Duplicates																					
BIO-D-06B	Soil	0.75	11.17	4.38	63.4	228	14.5	6.3	543	1.91	2.2	0.2	3.2	0.9	21.8	0.32	0.31	0.09	49	0.35	0.127
REP BIO-D-06B	QC	0.77	11.55	4.56	67.8	234	14.8	6.5	541	1.91	2.5	0.2	1.6	0.8	21.7	0.32	0.31	0.09	48	0.33	0.126
BIO-B-04B	Soil	0.90	25.55	4.64	78.2	417	20.4	8.8	858	2.19	1.7	0.3	0.5	0.4	32.6	0.39	0.30	0.09	73	0.50	0.074
REP BIO-B-04B	QC	0.76	23.46	4.30	70.4	396	18.0	7.9	755	2.07	1.8	0.3	1.0	0.4	28.0	0.37	0.28	0.09	66	0.45	0.065
BIO-C-32B	Soil	0.89	31.65	3.96	67.7	213	24.8	8.1	367	2.36	3.3	0.3	2.2	0.6	29.0	0.31	0.35	0.09	64	0.42	0.054
REP BIO-C-32B	QC	0.84	28.91	3.65	64.3	190	22.9	7.6	342	2.22	3.2	0.3	1.2	0.6	27.4	0.27	0.33	0.08	61	0.40	0.054
TQ-H-13B	Soil	0.57	13.17	4.19	66.4	104	22.1	6.3	337	1.80	3.5	0.3	1.3	1.0	25.3	0.39	0.49	0.07	41	0.30	0.057
REP TQ-H-13B	QC	0.58	12.65	4.03	62.6	98	21.1	6.0	320	1.76	3.3	0.3	1.0	0.9	23.7	0.38	0.45	0.07	41	0.28	0.055
TQ-H-28B	Soil	5.85	104.4	9.97	322.2	93	58.8	29.8	1971	6.06	8.1	0.9	0.9	1.8	41.2	1.93	1.59	0.13	218	0.76	0.379
REP TQ-H-28B	QC	6.20	111.2	10.38	341.6	91	62.5	33.8	2160	6.56	8.6	1.0	<0.2	2.0	43.9	1.99	1.61	0.12	238	0.83	0.406
BIO-A-41B	Soil	1.46	42.81	6.90	161.4	312	26.6	15.0	972	3.20	7.1	0.3	1.0	1.1	28.3	0.60	0.54	0.10	81	0.49	0.244
REP BIO-A-41B	QC	1.43	42.31	6.86	166.7	315	25.7	14.7	949	3.20	7.1	0.3	1.0	1.1	27.2	0.61	0.57	0.11	79	0.48	0.242
Reference Materials																					
STD DS8	Standard	14.07	122.5	132.7	337.4	1946	41.7	8.1	668	2.74	27.0	3.0	126.8	7.1	71.4	2.59	6.32	7.07	46	0.79	0.088
STD DS8	Standard	14.01	113.6	128.9	313.0	1866	39.5	7.5	620	2.54	24.7	3.0	117.2	6.8	67.6	2.34	5.58	6.21	42	0.73	0.080
STD DS8	Standard	13.10	106.9	123.4	305.0	1755	37.6	7.5	608	2.45	24.4	2.7	104.0	6.7	66.0	2.34	5.39	6.54	41	0.72	0.080
STD DS8	Standard	15.03	122.8	131.4	323.6	1865	40.4	8.2	667	2.70	26.0	3.1	127.3	7.1	73.3	2.50	6.22	7.31	47	0.80	0.086
STD DS8 Expected		13.44	110	123	312	1690	38.1	7.5	615	2.46	26	2.8	107	6.89	67.7	2.38	5.7	6.67	41.1	0.7	0.08
BLK	Blank	<0.01	<0.01	<0.01	<0.1	<2	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001
BLK	Blank	<0.01	<0.01	<0.01	<0.1	<2	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001
BLK	Blank	<0.01	<0.01	<0.01	<0.1	<2	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001
BLK	Blank	<0.01	<0.01	<0.01	<0.1	<2	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001



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**Project:** NV Series

**Report Date:** November 01, 2011

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# QUALITY CONTROL REPORT

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Method	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	
Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga	Cs	Ge	Hf	
Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm	
MDL	0.5	0.5	0.01	0.5	0.001	1	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.1	0.02	
Pulp Duplicates																					
BIO-D-06B	Soil	5.7	29.1	0.27	106.9	0.055	2	0.89	0.007	0.05	0.1	1.9	0.05	<0.02	15	0.2	<0.02	4.2	0.37	<0.1	0.03
REP BIO-D-06B	QC	5.4	28.9	0.27	93.1	0.052	2	0.86	0.007	0.05	<0.1	1.9	0.06	<0.02	20	0.1	0.02	4.4	0.37	<0.1	0.03
BIO-B-04B	Soil	8.3	36.8	0.48	181.5	0.088	2	1.80	0.007	0.06	<0.1	3.5	0.08	<0.02	37	<0.1	<0.02	6.2	0.67	<0.1	0.03
REP BIO-B-04B	QC	7.4	30.7	0.44	165.3	0.074	2	1.62	0.007	0.05	<0.1	3.2	0.07	<0.02	31	<0.1	<0.02	5.8	0.59	<0.1	0.02
BIO-C-32B	Soil	7.9	37.5	0.62	113.4	0.062	2	1.67	0.006	0.05	<0.1	3.2	0.06	<0.02	27	0.2	<0.02	5.3	0.65	<0.1	<0.02
REP BIO-C-32B	QC	7.6	36.4	0.58	108.1	0.059	2	1.57	0.006	0.05	<0.1	3.0	0.06	<0.02	29	0.3	<0.02	5.0	0.64	<0.1	<0.02
TQ-H-13B	Soil	8.1	30.2	0.45	112.3	0.055	1	0.95	0.006	0.06	<0.1	2.6	0.05	<0.02	35	<0.1	<0.02	3.4	0.45	<0.1	<0.02
REP TQ-H-13B	QC	7.8	28.8	0.42	105.8	0.053	1	0.93	0.006	0.06	<0.1	2.5	0.05	<0.02	46	0.1	0.02	3.0	0.44	<0.1	<0.02
TQ-H-28B	Soil	8.5	87.8	1.60	300.6	0.216	7	3.58	<0.001	0.08	0.2	14.8	0.35	<0.02	53	0.3	0.05	13.7	4.87	<0.1	0.21
REP TQ-H-28B	QC	9.0	96.7	1.70	316.4	0.231	7	3.87	<0.001	0.09	0.2	15.8	0.33	<0.02	55	0.4	0.04	14.3	5.27	0.1	0.26
BIO-A-41B	Soil	5.8	40.9	0.61	176.9	0.065	2	1.91	0.005	0.06	0.2	3.4	0.08	<0.02	53	0.2	0.04	6.2	0.81	<0.1	0.02
REP BIO-A-41B	QC	5.8	40.0	0.59	178.4	0.060	2	1.88	0.005	0.06	0.1	3.4	0.08	<0.02	38	0.2	0.05	6.4	0.80	<0.1	0.02
Reference Materials																					
STD DS8	Standard	16.9	134.3	0.67	301.6	0.124	3	1.05	0.111	0.48	3.1	2.4	5.96	0.19	208	5.6	5.30	5.1	2.63	0.1	0.08
STD DS8	Standard	16.4	126.7	0.62	277.1	0.118	3	0.96	0.098	0.43	3.1	2.1	5.90	0.16	212	5.4	5.40	4.9	2.51	<0.1	0.09
STD DS8	Standard	16.1	118.4	0.62	278.4	0.109	2	0.97	0.105	0.42	3.0	2.5	5.49	0.17	204	5.2	5.23	4.8	2.55	0.1	0.07
STD DS8	Standard	18.2	129.1	0.68	294.6	0.126	3	1.05	0.103	0.47	3.1	2.3	5.84	0.18	194	5.3	5.45	5.1	2.67	<0.1	0.09
STD DS8 Expected		14.6	115	0.6045	279	0.113	2.6	0.93	0.0883	0.41	3	2.3	5.4	0.1679	192	5.23	5	4.7	2.48	0.13	0.08
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02



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**Report Date:** November 01, 2011

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# QUALITY CONTROL REPORT

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Method	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	
Analyte	Nb	Rb	Sn	Ta	Zr	Y	Ce	In	Re	Be	Li	Pd	Pt	
Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb	
MDL	0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2	
Pulp Duplicates														
BIO-D-06B	Soil	0.65	4.8	0.3	<0.05	1.2	1.92	10.9	<0.02	<1	0.1	5.0	<10	<2
REP BIO-D-06B	QC	0.62	4.7	0.4	<0.05	1.2	1.89	10.2	<0.02	<1	0.1	5.3	<10	<2
BIO-B-04B	Soil	0.56	10.4	0.4	<0.05	0.9	6.49	15.6	0.02	<1	0.4	11.0	<10	<2
REP BIO-B-04B	QC	0.49	8.8	0.4	<0.05	0.8	5.85	14.0	<0.02	<1	0.4	10.1	<10	<2
BIO-C-32B	Soil	0.54	11.0	0.4	<0.05	0.5	5.11	15.4	<0.02	<1	0.3	12.2	<10	<2
REP BIO-C-32B	QC	0.51	10.1	0.3	<0.05	0.5	4.91	14.5	<0.02	<1	0.3	11.9	<10	<2
TQ-H-13B	Soil	0.54	7.0	0.3	<0.05	0.8	4.15	16.0	<0.02	<1	0.2	9.3	<10	<2
REP TQ-H-13B	QC	0.51	6.9	0.2	<0.05	0.8	3.87	15.2	<0.02	<1	0.2	9.1	<10	<2
TQ-H-28B	Soil	0.83	11.1	0.7	<0.05	10.2	12.43	22.9	0.07	<1	0.6	25.8	<10	3
REP TQ-H-28B	QC	0.91	11.8	0.6	<0.05	11.0	13.50	24.9	0.06	<1	0.8	27.1	<10	<2
BIO-A-41B	Soil	0.71	11.6	0.4	<0.05	1.1	3.91	12.0	0.03	<1	0.4	16.1	<10	<2
REP BIO-A-41B	QC	0.73	11.1	0.4	<0.05	1.2	3.74	12.1	0.03	<1	0.6	15.4	<10	<2
Reference Materials														
STD DS8	Standard	1.37	41.4	7.6	<0.05	1.8	6.32	29.8	2.43	56	5.4	30.4	116	376
STD DS8	Standard	1.38	41.0	6.8	<0.05	1.9	6.28	29.4	2.38	60	5.2	27.2	108	374
STD DS8	Standard	1.47	39.5	6.8	<0.05	1.9	6.54	29.2	2.25	50	5.0	27.7	116	345
STD DS8	Standard	1.47	41.2	7.2	<0.05	1.9	6.86	31.5	2.45	54	5.7	29.8	121	360
STD DS8 Expected		1.65	39	6.7	0.003	2.3	6.1	29.8	2.19	55	5.2	26.34	110	339
BLK	Blank	<0.02	<0.1	<0.1	<0.05	<0.1	<0.01	<0.1	<0.02	<1	<0.1	<0.1	<10	<2
BLK	Blank	<0.02	<0.1	<0.1	<0.05	<0.1	<0.01	<0.1	<0.02	<1	<0.1	<0.1	<10	<2
BLK	Blank	<0.02	<0.1	<0.1	<0.05	<0.1	<0.01	<0.1	<0.02	<1	<0.1	<0.1	<10	<2
BLK	Blank	<0.02	<0.1	<0.1	<0.05	<0.1	<0.01	<0.1	<0.02	<1	<0.1	<0.1	<10	<2

**APPENDIX C - Statement of Expenditures**

**Bio Soil Sampling Statement of Expenditures**

**Field Personnel**

	<u>Days</u>	<u>Rate</u>	<u>Cost</u>	<u>Total</u>
N. Van Wychen (Geologist)	3	\$300.00	\$900.00	
R. Wiltermuth (Soil Sampler)	9	\$300.00	\$2,700.00	
T. McDonald (Soil Sampler)	7	\$300.00	\$2,100.00	
T. Quewezance (Soil Sampler)	4	\$300.00	\$1,200.00	
M. Sam (Soil Sampler)	6	\$300.00	\$1,800.00	
				\$8,700.00

**Room & Board**

	<u>Days</u>	<u>Rate</u>	<u>Cost</u>	<u>Total</u>
N. Van Wychen (Geologist)	3	\$110.00	\$330.00	
R. Wiltermuth (Soil Sampler)	9	\$110.00	\$990.00	
T. McDonald (Soil Sampler)	7	\$110.00	\$770.00	
T. Quewezance (Soil Sampler)	0	\$110.00	\$0.00	
M. Sam (Soil Sampler)	0	\$110.00	\$0.00	
				\$2,090.00

**Vehicle Rental & Gas**

	<u>Days</u>	<u>Rate</u>	<u>Cost</u>	<u>Total</u>
4*4 Pick Up Truck #1	9	\$100.00	\$900.00	
4*4 Pick Up Truck #2	7	\$100.00	\$700.00	
				\$1,600.00

**Lab Costs**

	<u># Samples</u>	<u>Rate</u>	<u>Cost</u>	<u>Total</u>
SGS Labs: MMI Samples	69	\$38.50	\$2,656.50	
Acme Labs: Ah Samples	67	\$24.35	\$1,631.45	
				\$4,287.95

**Report Preparation**

	<u>Days</u>	<u>Rate</u>	<u>Cost</u>	<u>Total</u>
S. Savidant Cormier	2	\$300.00	\$600.00	
				\$600.00

**Office Management Overhead**

	<u>Rate</u>	<u>Cost</u>	<u>Total</u>
Prince George Field Office & Timmins Head Office	15.00%	\$2,591.69	
			\$2,591.69

**Grand Total**

**\$19,869.64**

**Bio Soil Sampling Schedule**

Date	Type of Work	T. Quewezance		M. Sam		R. Wiltermuth		T. McDonald	
		Worked	Room & Board	Worked	Room & Board	Worked	Room & Board		Room & Board
21-Sep-2011	Soil Sampling	x		x		x	x		
22-Sep-2011	Soil Sampling	x				x	x	x	x
23-Sep-2011	Soil Sampling			x		x	x	x	x
24-Sep-2011	Soil Sampling					x	x	x	x
25-Sep-2011	Soil Sampling			x		x	x	x	x
26-Sep-2011	Soil Sampling			x		x	x	x	x
27-Sep-2011	Soil Sampling			x		x	x	x	x
28-Sep-2011	Soil Sampling	x		x		x	x	x	x
29-Sep-2011	Soil Sampling	x				x	x		
Totals		4	0	6	0	9	9	7	7

**Total Man Days - 26**

**Total Room & Board - 16**