NTS 74 E/05, E/12, E13, 84 H/8, H/9, H/10, H/15 and H/16

NATIONAL INSTRUMENT 43-101 TECHNICAL REPORT

UPDATED AND EXPANDED MINERAL RESOURCE ESTIMATE FOR THE BUCKTON ZONE, SBH PROPERTY, NORTHEAST ALBERTA

Prepared For:

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Contents

Tables

Figures

1 Summary

The Buckton Zone is one of six mineralized polymetallic black shale zones identified on DNI Metals Inc. ("DNI") SBH Property. The Property is located in the Birch Mountains approximately 120 km north of Fort McMurray in northeastern Alberta and consists of 36 contiguous Alberta Metallic and Industrial Mineral Permits totaling 272,032 hectares. DNI holds 100% interest on all 36 Permits and has exclusive rights to explore for metallic and industrial minerals subject to biannual assessment reporting.

The mineralization is hosted in three late Albian to Santonian Upper Cretaceous shale units (from stratigraphic top to base: Labiche, Second White Speckled Shale and Shaftesbury formations) that contain recoverable molybdenum (Mo), nickel (Ni), vanadium (V), zinc (Zn), copper (Co), copper (Cu), uranium (U), rare-earth elements (La to Lu; REE), yttrium (Y), lithium (Li), thorium (Th) and scandium (Sc). The Second White Speckled Shale Formation has been DNI's principal focus because this shale unit, in particular, is uniquely mineralized in the Birch Mountains and in comparison to Cretaceous shale in other parts of the Western Canada Sedimentary Basin. The Labiche has also received recent attention as it directly overlies the Second White Speckled Shale. The shale package comprises flat-lying, near-surface mineralization that is envisaged to extend over a vast area (100's of km^2) across the Birch Mountains and may be amenable to extraction by open pit bulk mining methods, particularly at the eastern margins of the Birch Mountains where the Second White Speckled Shale and Labiche formations are intermittently exposed at surface, or where the overburden to mineralized shale strip ratios are favourable.

APEX Geoscience Ltd. ("APEX"), on behalf of DNI, has prepared four National Instrument 43-101 compliant Technical Report resource studies documenting the inferred resource potential of the Buckton Zone. The studies previously outlined a Buckton inferred mineral resource estimate for the aforementioned metals/oxide equivalents of 3.2 billion tonnes (3.5 billion short tons) extending over 14 km^2.

This Technical Report, which supersedes and replaces all previous resource estimations for the Buckton Zone, incorporates new results from a 2012 drill program and 2013 metallurgical work. The effective date of this Technical Report is September 9, 2013 and its content conforms to the standards criteria set out in National Instrument 43–101. This Technical Report is intended to:

1. expand the Buckton Zone 'inferred' resource that was reported in previous Technical Reports based on the results of DNI's 2012 drill program;

2. report for the first time, an 'indicated' resource from a portion of the Buckton Zone relying on an improved level of confidence from DNI's 2012 drilling; and

3. incorporate the results from 2012 drilling, 2013 metallurgical test work and general pit optimization parameters (as per initial work from an in progress Preliminary Economic Assessment scoping study) into the updated resource model for the Buckton Zone.

Mineral resource modeling and estimation was carried out using a 3-dimensional block model based on geostatistical applications using the commercial mine planning software MICROMINE (v12.5.4). The resource modelling and estimation parameters used in this Technical Report, including metal pricing, metal recovery values, block modelling extent and USD$/tonne cut-offs, have been updated from previous Buckton Zone Technical Reports, as follows:

- Metal prices are updated from two- to five-year average prices (to October 2012) that were used in previous studies, to the two-year trailing average prices to May 2013.

- As part of ongoing metallurgical testing, this Technical Report updates the Buckton resource using generally lower metal recoveries (particularly for Mo, Ni, Zn, Cu, Th and Li) than those used in previous studies. These recoveries are from 2013 stirred-tank bio-leaching test work that was carried out under less acidic conditions than prior test work, and is therefore believed to provide a better representation of bio-heap leaching field conditions.

- The resource modelling and estimates in this Technical Report uses a conceptual pit shell, which is based on the updated resource block model, and was guided by the preliminary findings from the scoping study in progress for the Buckton Zone. The conceptual pit shell assumes that the lower grade overlying Labiche Formation has economic value, and is therefore mined in conjunction with the higher grade underlying Second White Speckled Shale Formation. Whereas prior resource studies for the Buckton Zone relied on an arbitrary maximum overburden thickness cut-off of 75 m, this Technical Report relies on the pit shell configuration and, as such, can be expected to better represent the combination of recoverable value, operating cost and strip ratio.

- The Buckton resource announced in previous Technical Reports used a cut-off of USD$10.00 per tonne, for both the Labiche and Second White Speckled Shale formations. This Technical Report uses a base case cut-off of USD$11.00 per tonne for the stratigraphically higher Labiche Formation and USD$12.50 per tonne for the underlying Second White Speckled Formation. These revised base cut-offs were guided by the preliminary findings from the scoping study in progress for the Buckton Zone.

The Buckton resource estimate is reported in accordance with the Canadian Securities Administrators National Instrument 43-101 and has been estimated using the CIM "Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines" dated November 23rd, 2003 and CIM "Definition Standards for Mineral Resources and Mineral Reserves" dated November 27th, 2010.

Seventeen drillholes were used to guide the geological interpretation and estimation of the updated and expanded Buckton mineral resource. The drilling database combines results from DNI's 2012 drill program at Buckton, which drilled six drillholes totaling 732.5 m, together with 2011 drill results (five drillholes), and the resampling and reanalyzing of drill cores from historical 1997 drilling (six drillholes). Spacing between drillholes varies from 240 m to 2.05 km, with an average of about 1.08 km between drillholes.

The aerial extent of the Buckton indicated and inferred mineral resource areas reported herein are 1.5 km^2 and 20.4 km^2, respectively. The two resources together comprise the Buckton resource area modelled by this Technical Report. This is the first time an indicated mineral resource has been calculated for the Buckton Zone. In addition to infill drilling, the 2012 drill program expanded the Buckton Zone northwards, increasing the size of the Buckton inferred resource by nearly 1.5 times, from 14 km^2 in previous studies to 20.4 km^2.

The Buckton indicated and inferred mineral resource, together with metal prices, raw average grade, recoverable grade, metal value and recoverable kilograms of metal for each metal/oxide are presented in Table 1 (indicated resource estimate) and Table 2 (inferred resource estimate), and summarized in the text that follows.

Indicated Mineral Resource Estimate

The Buckton indicated mineral resource represents a small island-like portion (1.5 km^2) of the overall inferred mineral resource area (20.4 km^2) within the Buckton Zone. The indicated mineral resource is based on a total of six drillholes that are spaced between 240 m and 670 m from each other. These drillholes represent the most densely spaced cluster of drillholes completed over the zone and provide a reasonable drill spacing to prepare the indicated resource estimate.

The primary criterion used as a guide for the indicated resource classification comprises a minimum of four samples from three drillholes within a search distance of 600 x 600 x 4.5 m. These blocks were then visually examined and a nominal area around these and surrounding blocks was created to assign the indicated classification, which was also based on geological confidence and known continuity of mineralization.

The Buckton indicated mineral resource is presented in Table 1. It consists of the Labiche and Second White Speckled Shale formations, together representing a 40 to 136 m thick (13-23 m thick sequence of Second White Speckled Shale) continuous mineralized zone with recoverable MoO_3, Ni, U_3O_8, V_2O_5, Zn, Cu, Co and Li_2CO_3, total REO, Y_2O_3 and ThO_2 ($\pm Sc_2O_3$).

The Buckton indicated mineral resource comprises 272 million tonnes (300 million short tons) at an aggregate gross recoverable value of USD$22.04 per tonne (USD$20.00 per ton) excluding Sc_2O_3 (USD$39.50 per tonne, USD$35.83 per ton including Sc_2O_3). This resource is overlain by 28 million tonnes (31 million short tons) of overburden-waste material. Details for the respective tonnages contained within the Labiche and Second White Speckled Shale formations comprising the Buckton indicated mineral resource are shown in Table 1 and summarized as follows:

- Labiche Formation: 207 million tonnes (228 million tons) at an aggregate gross recoverable value of USD$19.39 per tonne (USD$17.59 per ton) excluding scandium (USD$37.83 per tonne, USD$34.32 per ton including Sc_2O_3); and

- Second White Speckled Shale Formation: 65 million tonnes (72 million tons) at an aggregate gross recoverable value of USD$30.42 per tonne (USD$27.59 per ton) excluding scandium (USD$44.78 per tonne, USD$40.62 per ton including Sc_2O_3).

Inferred Mineral Resource Estimate

The Buckton inferred mineral resource is represented by a concave-shaped, 20.4 km^2 conceptual pit shell, which was defined by the block modelling of 17 drillholes within the Buckton Zone. The inferred mineral resource does not include the indicted mineral resource area. The mineralization within pit shell is classified as inferred because the majority of the resource is comprised of wide-spaced drilling (average 1.1 km spacing). Despite this drill spacing, the observed stratigraphic horizons show remarkable consistency in both down hole position and thickness that provides confidence in the geological and mineralization continuity. As a result of the wide drillhole spacing's and the lateral continuity of the mineralization, a model block size of 250 m x 250 m x 3 m was chosen for the Buckton inferred mineral resource estimate.

The Buckton inferred mineral resource is presented in Table 2. It consists of the Labiche and Second White Speckled Shale formations, together representing a 32 to 136 m thick (11-26 m thick sequence of Second White Speckled Shale) continuous mineralized zone with recoverable MoO_3, Ni, U_3O_8, V_2O_5, Zn, Cu, Co and Li_2CO_3, total REO, Y_2O_3 and ThO_2 ($\pm Sc_2O_3$). The Buckton inferred mineral resource is overlain by 1.6 billion tonnes (1.7 billion short tons) of overburden-waste material.

The Buckton inferred mineral resource estimate consists of 4.4 billion tonnes (4.9 billion short tons) at an aggregate gross recoverable value of USD$22.37 per tonne (USD$20.30 per ton) excluding Sc_2O_3; (USD$38.94 per tonne, USD$35.32 per ton including Sc_2O_3). Details for the respective tonnages contained within the Labiche and Second White Speckled Shale formations comprising Buckton inferred mineral resource are shown in Table 2 and summarized below:

- Labiche Formation: 3.5 billion tonnes (3.9 million tons) at an aggregate gross recoverable value of USD$18.78 per tonne (USD$17.04 per ton) excluding scandium; (USD$36.12 per tonne, USD$32.77 per ton including Sc_2O_3); and

- Second White Speckled Shale Formation: 923 million tonnes (1.0 billion tons) at an aggregate gross recoverable value of USD$36.07 per tonne (USD$32.72 per ton) excluding scandium; (USD$49.66 per tonne, USD$45.05 per ton including Sc_2O_3).

Mineral resources that are not mineral reserves do not have demonstrated economic viability. There is no guarantee that all or any part of the mineral resource will be converted into a mineral reserve. The estimate of mineral resources may be materially affected by geology, environment, permitting, legal, title, taxation, socio-political, marketing or other relevant issues. The quality and grade of reported inferred resource in this estimation is uncertain in nature as there has been insufficient exploration to define these inferred resources as an indicated or measured mineral resource, and it is uncertain if further exploration will result in upgrading them to an indicated or measured resource category.

The portion of the Buckton resource that has been classified as ‘indicated’ demonstrates that the nature, quantity and distribution of data is such as to allow confident interpretation of the geological framework and to reasonably assume continuity of mineralization.

The term “recoverable kilogram of metal” is not meant to imply that any economic viability has been determined; it is simply the assumed recoverable grade (based on idealized preliminary metallurgical work) times the tonnage in the blocks that meet the lower cut-off criteria. In addition, while the resource estimate model results in Tables 1 and 2 are shown for all of the metals/oxides of interest, the authors’ discussions of aggregated recoverable values in this Technical Report exclude scandium because scandium supply, demand (consumption) and pricing worldwide is not well defined, and the recoverable Sc value is sufficiently high enough to unrealistically skew the recoverable value represented by the Labiche and Second White Speckled Shale formations.

The reader is cautioned that the aggregate recoverable per tonne values discussed in this Technical Report do not comply with Section 2.3(1c) of National Instrument 43-101 because the values are gross and the term may be misleading in the absence of a proven production cost. The recoverable gross values are quoted for convenience of communicating overall grade and are otherwise conceptual in nature and do not represent economic worth of the Buckton Zone, but rather reflect the aggregate gross recoverable value of the individual metals of interest contained in the shale based on exploration analyses, on initial metal recoveries reported from 2013 stirred-tank bio-heap leaching test work, on 2-year trailing metal prices, and on base cut-offs of USD$11.00 per tonne and USD$12.50 per tonne for the Labiche and Second White Speckled Shale formations, respectively.

The updated and expanded Buckton mineral resource estimations in Tables 1 and 2 show that both Labiche and Second White Speckled Shale formations meet the test as reasonable prospects for economic extraction for the purpose of establishing a mineral resource. That is, the gross recoverable per tonne value of Mo-Ni-U-V-Zn-Cu-Co-Li-REE-Y-Sc-Th (excluding Sc) exceeds the respective base cut-offs for the Labiche (USD$11.00 per tonne) and the Second White Speckled Shale (USD$12.50 per tonne).

Table 1. Indicated Buckton mineral resource estimate constrained within the whittle pit optimization assuming that the Labiche and Second White Speckled Shale formations are economic, and using a reported cut-off of USD$11.00 per tonne for Labiche and USD$12.50 per tonne for Second White Speckled Shale.

			Labiche Formation (>USD$11.00 per tonne) 206,609,000 tonnes (227,747,000 tons) [3]					Second White Speckled Shale Formation (>USD$12.50 per tonne) 65,329,000 tonnes (72,013,000 tons) [3]					Total shale package (Labiche >USD$11.00 per tonne; Second White Speckled Shale >12.50 per tonne) 271,938,000 tonnes (299,760,000 tons) [3]				
Metal	Metal/Oxide Prices ($USD/kg or $USD/lb) [1]	Recovery (%) [2]	Raw average grade (ppm)	Recoverable grade (ppm)	USD$ /tonne	USD$ /ton	Recoverable Kg of metal/oxide	Raw average grade (ppm)	Recoverable grade (ppm)	USD$ /tonne	USD$ /ton	Recoverable Kg of metal/oxide	Raw average grade (ppm)	Recoverable grade (ppm)	USD$ /tonne	USD$ /ton	Recoverable Kg of metal/oxide
MoO_3	$12.89/lb	3	3.7	0.1	$0.00	$0.00	23,000	100.4	3.0	$0.09	$0.08	197,000	27.0	0.8	$0.02	$0.02	220,000
Ni	$8.34/lb	64	47.3	30.3	$0.56	$0.50	6,255,000	142.9	91.5	$1.68	$1.53	5,976,000	70.3	45.0	$0.83	$0.75	12,231,000
U_3O_8	$60.74/lb	70	5.2	3.6	$0.49	$0.44	750,000	29.1	20.3	$2.72	$2.47	1,329,000	10.9	7.6	$1.02	$0.93	2,079,000
V_2O_5	$5.89/lb	7	452.7	31.7	$0.41	$0.37	6,547,000	1315.5	92.1	$1.20	$1.08	6,016,000	659.9	46.2	$0.60	$0.54	12,562,000
Zn	$0.94/lb	52	143.6	74.7	$0.15	$0.14	15,430,000	273.6	142.3	$0.29	$0.27	9,294,000	174.8	90.9	$0.19	$0.17	24,723,000
Cu	$3.64/lb	25	31.3	7.8	$0.06	$0.06	1,617,000	74.4	18.6	$0.15	$0.14	1,215,000	41.6	10.4	$0.08	$0.08	2,832,000
Co	$14.38/lb	72	14.3	10.3	$0.33	$0.30	2,127,000	23.4	16.9	$0.54	$0.49	1,103,000	16.5	11.9	$0.38	$0.34	3,229,000
La_2O_3	$44.58/kg	20	45.5	9.1	$0.41	$0.37	1,880,000	57.7	11.5	$0.51	$0.47	754,000	48.4	9.7	$0.43	$0.39	2,633,000
Ce_2O_3	$43.20/kg	30	82.2	24.7	$1.07	$0.97	5,097,000	89.4	26.8	$1.16	$1.05	1,752,000	84.0	25.2	$1.09	$0.99	6,849,000
Pr_2O_3	$140.41/kg	40	9.7	3.9	$0.54	$0.49	800,000	11.9	4.8	$0.67	$0.61	310,000	10.2	4.1	$0.57	$0.52	1,111,000
Nd_2O_3	$156.16/kg	43	36.8	15.8	$2.47	$2.24	3,273,000	45.8	19.7	$3.07	$2.79	1,286,000	39.0	16.8	$2.62	$2.37	4,559,000
Sm_2O_3	$68.16/kg	47	7.1	3.3	$0.23	$0.21	690,000	9.2	4.3	$0.30	$0.27	283,000	7.6	3.6	$0.24	$0.22	973,000
Eu_2O_3	$2,742.11/kg	61	1.5	0.9	$2.47	$2.24	186,000	2.0	1.2	$3.31	$3.00	79,000	1.6	1.0	$2.67	$2.42	265,000
Gd_2O_3	$105.78/kg	63	5.7	3.6	$0.38	$0.35	747,000	8.7	5.5	$0.58	$0.52	357,000	6.4	4.1	$0.43	$0.39	1,105,000
Tb_2O_3	$2,190.48/kg	65	0.9	0.6	$1.28	$1.17	121,000	1.3	0.9	$1.87	$1.69	56,000	1.0	0.7	$1.42	$1.29	177,000
Dy_2O_3	$1,240.31/kg	65	5.2	3.4	$4.22	$3.83	703,000	7.8	5.0	$6.26	$5.68	330,000	5.8	3.8	$4.71	$4.27	1,033,000
Ho_2O_3	$202.98/kg	64	1.1	0.7	$0.14	$0.13	142,000	1.6	1.0	$0.21	$0.19	67,000	1.2	0.8	$0.16	$0.14	208,000
Er_2O_3	$169.01/kg	62	3.1	1.9	$0.33	$0.30	403,000	4.3	2.7	$0.46	$0.41	176,000	3.4	2.1	$0.36	$0.33	579,000
Tm_2O_3	$97.00/kg	60	0.5	0.3	$0.03	$0.03	60,000	0.6	0.4	$0.04	$0.03	25,000	0.5	0.3	$0.03	$0.03	85,000
Yb_2O_3	$102.98/kg	58	3.2	1.9	$0.19	$0.17	383,000	4.1	2.4	$0.24	$0.22	154,000	3.4	2.0	$0.20	$0.18	537,000
Lu_2O_3	$1,273.00/kg	55	0.5	0.3	$0.37	$0.33	59,000	0.6	0.3	$0.44	$0.40	23,000	0.5	0.3	$0.38	$0.35	82,000
Y_2O_3	$107.77/kg	67	34.2	22.9	$2.47	$2.24	4,733,000	54.9	36.8	$3.96	$3.59	2,402,000	39.2	26.2	$2.83	$2.57	7,134,000
Sc_2O_3	$4,194.66/kg	24	18.3	4.4	$18.44	$16.73	908,000	14.3	3.4	$14.36	$13.03	224,000	17.3	4.2	$17.46	$15.84	1,132,000
ThO_2	$252.00/kg	12.5	12.1	1.5	$0.38	$0.35	312,000	11.6	1.4	$0.36	$0.33	95,000	12.0	1.5	$0.38	$0.34	407,000
Li_2CO_3	$2.82/lb	17	395.7	67.3	$0.42	$0.38	13,900,000	298.7	50.8	$0.32	$0.29	3,318,000	372.4	63.3	$0.39	$0.36	17,217,000
Aggregate Gross Recoverable Summary																	
Polymetallics plus rare-earth elements plus Y-Th-Li (without Sc)					$19.39	$17.59	66,238,000			$30.42	$27.59	36,597,000			$22.04	$20.00	102,830,000
All 25 metals combined (with Sc)					$37.83	$34.32	67,146,000			$44.78	$40.62	36,821,000			$39.50	$35.83	103,962,000

[1] Average metal or oxide prices for two-year trailing averages dating backwards from 31 May 2013 (three-years for Tm_2O_3). Sources: Metal-pages.com; Asianmetal.com; USGS. (See Table 32 for further pricing detail).

[2] Recovery values based on 2013 stirred-tank bio-leach experiments (CanmetMINING, pers comm, 2013).

[3] Tonne = metric tonne = 1,000 kg (2,204.6 lbs); Ton = short ton = 907.2 kg (2,000 lbs). Numbers may not add due to rounding.

Note 1: Mineral resources that are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by geology, environment, permitting, legal, title, taxation, socio-political, marketing or other relevant issues.

Note 2: The quality and grade of reported inferred resource in these estimations are uncertain in nature and there has been insufficient exploration to define these inferred resources as an indicated or measured mineral resource, and it is uncertain if further exploration will result in upgrading them to an indicated or measured resource category.

Note 3: The terms "Recoverable Grade" and "Recoverable Kg of Metal" is not meant to imply that any economic viability has been determined. Metal recoveries are summarized from a series of bench scale laboratory tests completed by DNI, which are ongoing, and may not reflect actual process recoverability that might be achieved in an ultimate mineral production operation.

Note 4: The aggregate gross recoverable value USD$ per tonne, as represented in the Summary, does not comply with Section 2.3(1)(c) of National Instrument 43-101 and may be misleading in the absense of production cost.

Table 2. Inferred Buckton mineral resource estimate constrained within the whittle pit optimization assuming that the Labiche and Second White Speckled Shale formations are economic, and using a reported cut-off of USD$11.00 per tonne for Labiche and USD$12.50 per tonne for Second White Speckled Shale.

			Labiche Formation (>USD$11.00 per tonne) 3,516,944,000 tonnes (3,876,767,000 tons) [3]					Second White Speckled Shale Formation (>USD$12.50 per tonne) 923,168,000 tonnes (1,017,619,000 tons) [3]					Total shale package (Labiche >USD$11.00 per tonne; Second White Speckled Shale >12.50 per tonne) 4,440,112,000 tonnes (4,894,386,000 tons) [3]				
Metal	Metal/Oxide Prices ($USD/kg or $USD/lb) [1]	Recovery (%) [2]	Raw average grade (ppm)	Recoverable grade (ppm)	USD$ /tonne	USD$ /ton	Recoverable Kg of metal/oxide	Raw average grade (ppm)	Recoverable grade (ppm)	USD$ /tonne	USD$ /ton	Recoverable Kg of metal/oxide	Raw average grade (ppm)	Recoverable grade (ppm)	USD$ /tonne	USD$ /ton	Recoverable Kg of metal/oxide
MoO_3	$12.89/lb	3	2.9	0.1	$0.00	$0.00	306,000	99.4	3.0	$0.08	$0.08	2,752,000	23.0	0.7	$0.02	$0.02	3,058,000
Ni	$8.34/lb	64	47.7	30.5	$0.56	$0.51	107,417,000	142.4	91.1	$1.68	$1.52	84,116,000	67.4	43.1	$0.79	$0.72	191,533,000
U_3O_8	$60.74/lb	70	5.2	3.6	$0.49	$0.44	12,757,000	31.9	22.3	$2.99	$2.72	20,632,000	10.7	7.5	$1.01	$0.91	33,389,000
V_2O_5	$5.89/lb	7	445.8	31.2	$0.41	$0.37	109,756,000	1218.3	85.3	$1.11	$1.00	78,728,000	606.4	42.5	$0.55	$0.50	188,484,000
Zn	$0.94/lb	52	140.7	73.2	$0.15	$0.14	257,290,000	280.0	145.6	$0.30	$0.27	134,393,000	169.6	88.2	$0.18	$0.17	391,683,000
Cu	$3.64/lb	25	30.8	7.7	$0.06	$0.06	27,100,000	76.0	19.0	$0.15	$0.14	17,529,000	40.2	10.1	$0.08	$0.07	44,629,000
Co	$14.38/lb	72	13.6	9.8	$0.31	$0.28	34,416,000	22.0	15.8	$0.50	$0.46	14,624,000	15.3	11.0	$0.35	$0.32	49,040,000
La_2O_3	$44.58/kg	20	44.3	8.9	$0.40	$0.36	31,167,000	65.1	13.0	$0.58	$0.53	12,024,000	48.6	9.7	$0.43	$0.39	43,190,000
Ce_2O_3	$43.20/kg	30	79.1	23.7	$1.03	$0.93	83,482,000	102.8	30.8	$1.33	$1.21	28,465,000	84.0	25.2	$1.09	$0.99	111,947,000
Pr_2O_3	$140.41/kg	40	9.6	3.8	$0.54	$0.49	13,471,000	14.1	5.6	$0.79	$0.72	5,205,000	10.5	4.2	$0.59	$0.54	18,676,000
Nd_2O_3	$156.16/kg	43	36.0	15.5	$2.42	$2.19	54,442,000	56.1	24.1	$3.77	$3.42	22,276,000	40.2	17.3	$2.70	$2.45	76,718,000
Sm_2O_3	$68.16/kg	47	6.9	3.3	$0.22	$0.20	11,442,000	11.7	5.5	$0.38	$0.34	5,081,000	7.9	3.7	$0.25	$0.23	16,523,000
Eu_2O_3	$2,742.11/kg	61	1.4	0.9	$2.40	$2.18	3,078,000	2.5	1.5	$4.19	$3.81	1,412,000	1.7	1.0	$2.77	$2.52	4,490,000
Gd_2O_3	$105.78/kg	63	5.6	3.5	$0.37	$0.34	12,379,000	10.9	6.9	$0.73	$0.66	6,361,000	6.7	4.2	$0.45	$0.41	18,740,000
Tb_2O_3	$2,190.48/kg	65	0.9	0.6	$1.26	$1.14	2,022,000	1.7	1.1	$2.37	$2.15	999,000	1.0	0.7	$1.49	$1.35	3,020,000
Dy_2O_3	$1,240.31/kg	65	5.0	3.3	$4.06	$3.69	11,524,000	9.4	6.1	$7.57	$6.87	5,637,000	5.9	3.9	$4.79	$4.35	17,160,000
Ho_2O_3	$202.98/kg	64	1.0	0.6	$0.13	$0.12	2,261,000	1.8	1.2	$0.24	$0.21	1,073,000	1.2	0.8	$0.15	$0.14	3,334,000
Er_2O_3	$169.01/kg	62	3.0	1.9	$0.31	$0.29	6,539,000	5.1	3.2	$0.53	$0.48	2,918,000	3.4	2.1	$0.36	$0.33	9,458,000
Tm_2O_3	$97.00/kg	60	0.5	0.3	$0.03	$0.02	958,000	0.7	0.4	$0.04	$0.04	411,000	0.5	0.3	$0.03	$0.03	1,369,000
Yb_2O_3	$102.98/kg	58	3.1	1.8	$0.18	$0.17	6,244,000	4.7	2.7	$0.28	$0.25	2,515,000	3.4	2.0	$0.20	$0.18	8,759,000
Lu_2O_3	$1,273.00/kg	55	0.5	0.3	$0.35	$0.31	957,000	0.7	0.4	$0.51	$0.46	371,000	0.5	0.3	$0.38	$0.35	1,328,000
Y_2O_3	$107.77/kg	67	32.0	21.5	$2.31	$2.10	75,473,000	72.6	48.7	$5.24	$4.76	44,925,000	40.5	27.1	$2.92	$2.65	120,398,000
Sc_2O_3	$4,194.66/kg	24	17.2	4.1	$17.35	$15.74	14,544,000	13.5	3.2	$13.59	$12.33	2,990,000	16.5	3.9	$16.56	$15.03	17,534,000
ThO_2	$252.00/kg	12.5	12.0	1.5	$0.38	$0.34	5,262,000	11.8	1.5	$0.37	$0.34	1,361,000	11.9	1.5	$0.38	$0.34	6,624,000
Li_2CO_3	$2.82/lb	17	394.3	67.0	$0.42	$0.38	235,720,000	302.8	51.5	$0.32	$0.29	47,518,000	375.2	63.8	$0.40	$0.36	283,238,000
Aggregate Gross Recoverable Summary																	
Polymetallics plus rare-earth elements plus Y-Th-Li (without Sc)					$18.78	$17.04	1,105,463,000			$36.07	$32.72	541,326,000			$22.37	$20.30	1,646,788,000
All 25 metals combined (with Sc)					$36.12	$32.77	1,120,007,000			$49.66	$45.05	544,316,000			$38.94	$35.32	1,664,322,000

[1] Average metal or oxide prices for two-year trailing averages dating backwards from 31 May 2013 (three-years for Tm_2O_3). Sources: Metal-pages.com; Asianmetal.com; USGS. (See Table 32 for further pricing detail).

[2] Recovery values based on 2013 stirred-tank bio-leach experiments (CanmetMINING, pers comm, 2013).

[3] Tonne = metric tonne = 1,000 kg (2,204.6 lbs); Ton = short ton = 907.2 kg (2,000 lbs). Numbers may not add due to rounding.

Note 1: Mineral resources that are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by geology, environment, permitting, legal, title, taxation, socio-political, marketing or other relevant issues.

Note 2: The quality and grade of reported inferred resource in these estimations are uncertain in nature and there has been insufficient exploration to define these inferred resources as an indicated or measured mineral resource, and it is uncertain if further exploration will result in upgrading them to an indicated or measured resource category.

Note 3: The terms "Recoverable Grade" and "Recoverable Kg of Metal" is not meant to imply that any economic viability has been determined. Metal recoveries are summarized from a series of bench scale laboratory tests completed by DNI, which are ongoing, and may not reflect actual process recoverability that might be achieved in an ultimate mineral production operation.

Note 4: The aggregate gross recoverable value USD$ per tonne, as represented in the Summary, does not comply with Section 2.3(1)(c) of National Instrument 43-101 and may be misleading in the absense of production cost.

The sensitivity analysis shows that the tonnage and distribution of the total shale package is virtually intact between USD$11.00 per tonne and USD$17.50 per tonne, and that the gross recoverable value for almost all blocks of the Labiche shale exceeds the USD$11.00 per tonne cut-off. As the cut-off is increased from USD$17.50 to USD$20.00 per tonne, the tonnage of the Labiche resource rapidly decreases for both the Indicated and the Inferred resource such that at a base cut-off of USD$20.00 per tonne, virtually none of the Labiche can be classified as a mineral resource since most of the blocks yield a gross recoverable value less than the USD$20.00 per tonne cut-off (<4% of the resource in comparison to USD$12.50 per tonne).

At higher cut-off scenarios (>USD$20.00 per tonne), the Second White Speckled Shale is the only mineralization of interest that meets the cut-off criteria. The resource model was therefore tested at higher base cut-offs of USD$25.00, USD$30.00, USD$40.00 and USD$50.00 per tonne, to test a scenario for which the Labiche is waste and would have to be removed together with the overburden to gain access to the higher grade Second White Speckled Shale mineralization. In these iterative scenarios, the Second White Speckled Shale tonnage and distribution remains intact between base cut-offs of USD$12.50 per tonne and USD$20.00 per tonne, from which point the resource gradually shrinks in size as the cut-off is increased to USD$50.00 per tonne. At USD$50.00 per tonne, only about 9% of the original Second White Speckled Shale resource (i.e., versus its tonnage at USD$12.50 per tonne) can be classified as a mineral resource since the majority of its blocks yield a gross recoverable value that is less than the cut-off.

Follow-up exploration and development at the Buckton Zone, and the SBH Property in general, is highly recommended based on results from: 1) historic and recent (2011-2013) exploration and laboratory work; 2) the lateral continuity of the Labiche, Second White Speckled Shale and Shaftesbury formations; 3) drill confirmed mineralization in shale units at three of the six mineralized zones on the Property; 4) a newly reported indicated resource and a sizeable inferred resource as documented in this Technical Report for the Buckton Zone; and 5) an open pit mining scenario initiated by side-cutting into the eastern slopes of the Birch Mountains to reduce the strip ratio and maximize access to the higher grade Second White Speckled Shale Formation.

The total recommended estimated cost to complete the next work program is CDN$13.5 million (Table 3). The recommendations include, but not are limited to, the following:

1) Finalization and public distribution of the Buckton Preliminary Economic Assessment scoping study (once the resource has been revised with 2012 drill data as per this Technical Report). The scoping study should include Datamine NPV Scheduler Pit Shell Optimization Analysis to introduce and explore side-entry pit mining scenarios presented by a shale metal package that is composed of upper lower-grade and lower high-grade stratigraphic horizons. The cost of the scoping study is estimated at approximately CDN$500,000.

2) DNI continues with its metallurgical test work and expands testing from stirred-tank bio-heap leaching to column leach tests. The tests could utilize archived core material (from DNI's 2011 and 2012 drilling), and should consider separate column tests for Labiche, Second White Speckled Shale and blended samples. The test work should also initiate process methodology(ies) for separation of the various metals of interest, including rare-earth element and specialty metals from the pregnant leach solution once they have been extracted from the shale. The estimated cost of the metallurgical work is about CDN$6 million and assumes that approximately six column leach tests will be conducted at a cost of about CDN$1 million per sample. Intentions of the foregoing are to collect the necessary information to formulate a demonstration bio-heap leaching pilot test.

3) Subject to the findings of the Preliminary Economic Assessment scoping study, complete infill drilling within the inferred resource portion of the Buckton Zone to expand and upgrade the indicated resource. At 500 x 500 m spacing, it is estimated that 110 drillholes are required. Drilled to a depth of 150 m, the anticipated cost for either helicopter supported fall drilling or winter road accessible drilling is an average all-in cost of CND$1,000 per metre for a total cost of $CDN16.5 billion. A more conservative infill program of 25 drillholes is recommended at an estimated CDN$3.7 million. This program should focus on the easternmost portion of the current inferred resource boundary where the overburden to pay ratio is likely minimized.

4) Subject to the findings of the Preliminary Economic Assessment scoping study, conduct exploratory drilling along the eastern slopes of the Birch Mountains between the Buckton South and Buckton inferred resource areas at a drill spacing (2,000 x 2,000 m spacing) that is sufficient to work towards tying together the two zones into a single mineralized zone, and possibly to prepare an inferred resource estimate that encompasses the two zones. This should include approximately 3,150 m of drilling or twenty-one 150 m deep drillholes. The expected drilling cost for either helicopter supported fall drilling or winter road accessible drilling at an average all-in cost of CND$1,000 per metre is CND$3.3 million.

Table 3. Recommended 2013-14 exploration programs for the Buckton Zone and SBH Property with estimated budget.

No.	Item	Description	Cost $CDN
1	Preliminary Economic Assessment	Introduce and explore side-entry pit mining scenarios presented by a shale metal package that is composed of upper lower-grade and lower high-grade stratigraphic horizons	$500,000
2	Metallurgy	Expanded ongoing metallurgical test work to include column leach tests and determine process methodology(ies) for separation of the various metals of interest	$6,000,000
3	Infill drilling	3,000 meters to expand the Buckton Zone indicated and inferred resource	$3,700,000
4	Exploratory drilling	10,000 meters to explore and possibly join the Buckton and Buckton South zones into an inferred resource	$3,300,000
		TOTAL ESTIMATED COST – 2013-14 EXPLORATION	**$13,500,000**

2 Introduction

The Buckton Mineralized Zone, which is the focus of this Technical Report, is one of six polymetallic Cretaceous shale zones identified on DNI Metals Inc. (“DNI”) SBH Property in northeastern Alberta. The Buckton Zone is the most advanced zone on the Property and is currently the subject of a Preliminary Economic Assessment scoping study, which is in progress. The SBH Property consists of 36 contiguous Alberta Metallic and Industrial Mineral Permits (“Permits”) totalling 272,032 hectares and is located in the Birch Mountains approximately 120 km north of Fort McMurray, Alberta, Canada (Figure 1). DNI holds 100% interest on all 36 Permits and has the exclusive right to explore for metallic and industrial minerals subject to biannual assessment reporting.

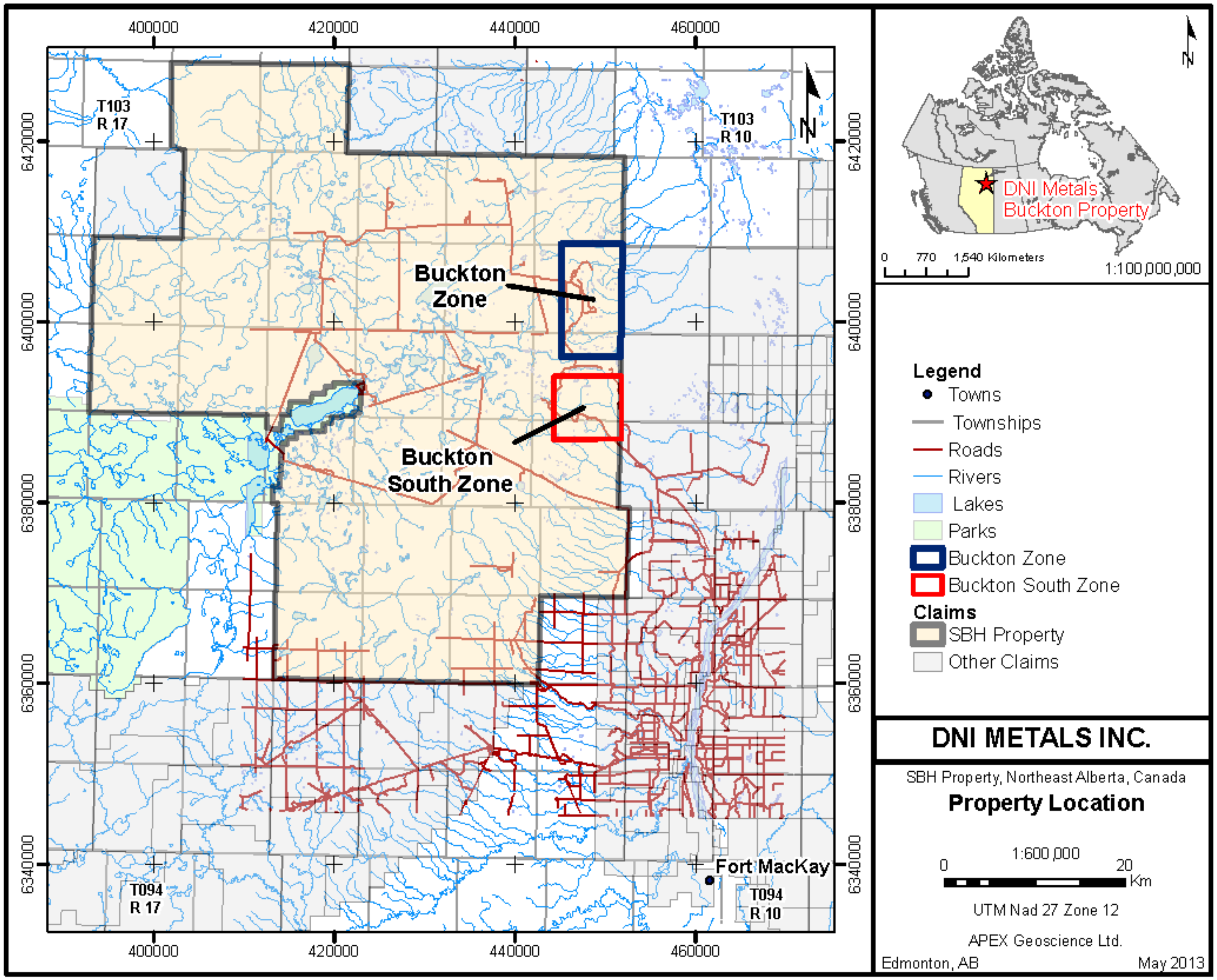
Polymetallic mineralization in the Buckton Zone is hosted in three Upper Cretaceous (late Albian to Santonian) shale units: the Labiche Formation; the Second White Speckled Shale Formation; and the Shaftesbury Formation. The Labiche and Second White Speckled Shale formations have to date been DNI’s principal focus and for the purpose of this Technical Report the polymetallic mineralization of interest consists of recoverable molybdenum (Mo), nickel (Ni), vanadium (V), zinc (Zn), copper (Co), copper (Cu), uranium (U), rare-earth elements (REE; lanthanum to lutetium), yttrium (Y), lithium (Li), thorium (Th) and scandium (Sc).

Since October 2011, APEX Geoscience Ltd. (“APEX”) has prepared five NI-43-101 compliant Technical Report resource studies on behalf of DNI related to black shale-hosted polymetallic, rare-earth element and speciality metal mineralization discovered on DNI’s SBH Property within the Buckton and Buckton South zones (Figure 1). Four of the foregoing reports relate to the Buckton Zone. The Technical Reports are available at www.sedar.com with filing dates of October 24, 2011 (Dufresne et al., 2011), January 31, 2012 (Eccles et al., 2012a), September 12, 2012 (Eccles et al., 2012b), January 11, 2013 (Eccles et al., 2013a) and March 1, 2013 (Eccles et al., 2013b).

Previous Technical Reports specific to the Buckton Zone collectively outlined an inferred resource of 3.2 billion tonnes (3.5 billion short tons) at a recoverable aggregate gross recoverable value of USD$24.16 per tonne (USD$21.91per ton) excluding scandium (USD$53.89 per tonne, USD$48.89 per ton; including Sc_2O_3) for base metals (Mo-Ni-V-Zn-Co-Cu), uranium, rare-earth elements (REE plus Y) and specialty metals (Li-Sc-Th) for Buckton Zone blocks that are beneath <75 m of overburden and extend over an area of approximately 14 km^2 (Eccles et al., 2013a).

In addition, a maiden inferred resource was also delineated for the Buckton South Zone, which is located approximately seven kilometres south of the Buckton Zone (Figure 1). The Buckton South inferred resource comprises 497 million tonnes (548 million short tons) at a recoverable aggregate gross recoverable value of USD$25.70 per tonne (USD$23.31per ton) excluding scandium (USD$55.61 per tonne, USD$50.45 per ton; including Sc_2O_3) over an area of approximately 3.3 km^2 (Eccles et al., 2013b).

Figure 1. DNI Metals Inc. SBH Property in northeastern Alberta with the approximate outline of the Buckton and Buckton South mineralized zones.



All indications, based on extensive prior exploration over the area separating the Buckton and Buckton South Zones, are that they are connected and are part of a continuous Zone of mineralization dominating the eastern edges of the Birch Mountains. The similarity between the aggregate gross recoverable tonnages of Buckton and Buckton South zones, together with our knowledge that the Labiche, Second White Speckled Shale and Shaftesbury formations are stratigraphically uniform throughout the SBH Property, suggests that a vast portion of the eastern SBH Property comprises mineralization that has a reasonable prospect for extraction in the future.

During 2012, DNI's drill program at the Buckton and Buckton South zones cored nine drillholes totaling 982.1 m, which included six drillholes at the Buckton Zone (totaling 732.5 m; Figure 2). The objective of the Buckton drill program was to improve the confidence level of the Buckton Zone through infill drilling, and to expand the overall aerial extent of the Buckton Zone northwards.

Consequently, this Technical Report, which conforms to the standards criteria set out in National Instrument 43–101 ("NI-43-101"), Companion Policy 43–101CP and Form 43–101F1 for the Canadian Securities Administration, and supersedes and replaces all previous resource estimations for the Buckton Zone, is intended to:

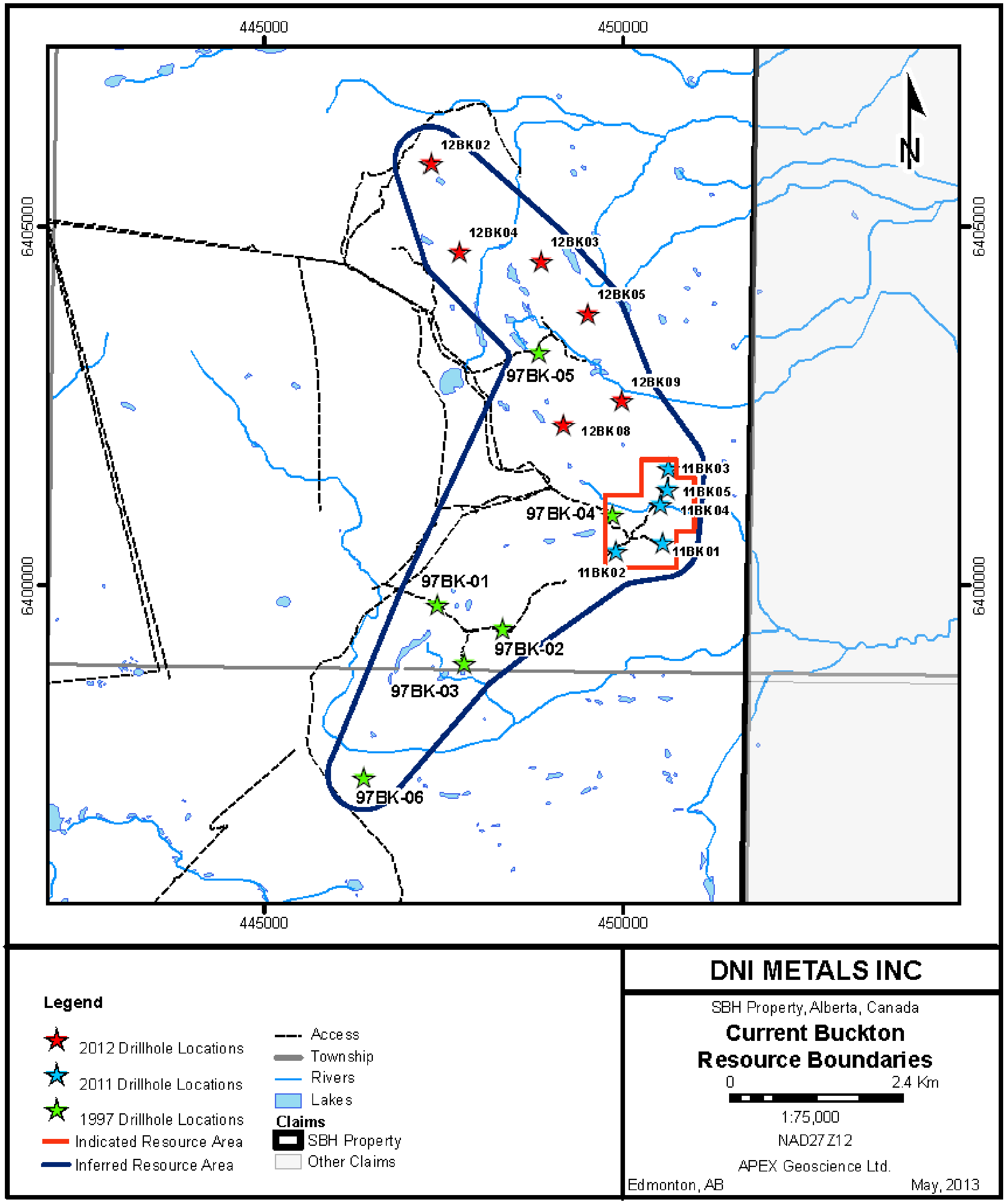
1. expand the Buckton Zone 'inferred' resource that was reported in previous Technical Reports based on the results of DNI's 2012 drill program (Figure 2);

2. report for the first time, an 'indicated' resource from a portion of the Buckton Zone relying on an improved level of confidence from DNI's 2012 drilling (Figure 2); and

3. incorporate the results from 2012 drilling, 2013 metallurgical test work and general pit optimization parameters (as per initial work from an in progress Preliminary Economic Assessment scoping study) into the updated resource model for the Buckton Zone.

The authors include R. Eccles, S. Nicholls, K. McMillan and M. Dufresne of APEX. Mr. Eccles, M.Sc. P.Geol., supervised the preparation of, and is responsible for the ultimate publication of this Technical Report. Mr. Eccles is a Qualified Person as defined by the Canadian Securities Administration (CSA) National Instrument (NI) 43-101. The Canadian Institute of Mining and Metallurgy defines a Qualified Person as "*an individual who is an engineer or geoscientist with at least five years of experience in mineral exploration, mine development or operation or mineral project assessment, or any combination of these; has experience relevant to the subject matter of the mineral project and the technical report; and is a member or licensee in good standing of a professional association*."

Figure 2. Location of 1997, 2011 and 2012 drillholes at the Buckton Zone with the outline of the indicated (red polygon) and inferred (blue polygon) resource estimate boundaries used in this Technical Report.



Mr. Eccles is a Professional Geologist with the Association of Professional Engineers and Geoscientists of Alberta (APEGA), and has worked as a geologist for more than 25 years since his graduation from University. Mr. Eccles has been involved in all aspects of mineral exploration and mineral resource estimations for metallic and industrial mineral projects and deposits in Canada. Mr. Eccles was a geologist with the Alberta Geological Survey for 21 years (1990-2011). In this capacity, he travelled and conducted geological studies in northeastern Alberta's Cretaceous clastic sedimentary rock units, including specific studies related to the Second White Speckled Shale Formation. Mr. Eccles did not visit the Property during the preparation of this Technical Report or on behalf of DNI, but did review drill cores from the 2011 and 2012 programs. Given that this is Mr. Eccles sixth Technical Report related to DNI's SBH Property, and Mr. Eccles is familiar with the Property area and geology, a Property visit was not deemed necessary during the preparation of this Technical Report.

The resource estimation statistical analysis and block modeling was completed by Mr. Nicholls, MAIG, a Qualified Person, under the direct supervision of and Mr. Eccles, P.Geol. and Mr. Dufresne, P.Geol., who are both Qualified Persons with respect to mineral estimation as defined by the Canadian Securities Administration (CSA) NI 43-101. Mr. Dufresne, P.Geol. and Mr. McMillan, P.Geol., are Qualified Persons, co-authors and managed DNI's 2011 and 2012 drilling campaigns. Mr. Dufresne of APEX has had a long involvement with the property and has visited and conducted work on the property on numerous occasions including supervising the 1997 historic drilling program at the Buckton Zone (Sabag, 1998; 2008; 2010) that was conducted by APEX on behalf of Tintina Mines Ltd. (Tintina) along with numerous field programs on behalf Tintina. Mr. Dufresne authored (together with Mr. Eccles) a Alberta Geological Survey (AGS) culminating in the publication of AGS Special Report 09 "*The Geological and Geochemical Setting of the Mid-Cretaceous Shaftesbury Formation and Other Colorado Group Sedimentary Units in Northern Alberta"* (Dufresne et al. 2001).

The resource estimate of this intermediate stage exploration project is classified as an "Indicated" and an "Inferred" Mineral Resource, and was classified in accordance with guidelines established by the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) "Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines" dated November 23rd, 2003 and CIM "Definition Standards for Mineral Resources and Mineral Reserves" dated November 27th, 2010. By definition,

> *"an 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes that are spaced closely enough for geological and grade continuity to be reasonably assumed."*

> *"an 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes."*

References in this Technical Report are made to publicly available reports that were written prior to implementation of NI 43-101, including government geological publications and Alberta Metallic and Industrial Mineral Permit Assessment Reports that are filed with Alberta Energy. These reports are cited in the 'Reference' section.

Government reports include those that depict the geology of northern Alberta (e.g., Martin and Jamen, 1963; Green et al., 1970; Bostock et a., 1987, 1991; Ross et al., 1991, 1994), and middle Cretaceous stratigraphic units (e.g., Leckie et al., 1992; Bloch et al., 1993; Dufresne et al., 2001).

Large portions of this Technical Report are based upon numerous compilations, reports and extensive field and office work conducted by Mr. Shahe Sabag, M.Sc. P. Geo., as Vice President of Tintina Mines Ltd. (Tintina), its affiliate company NSR Resources Inc. during the 1990's and more recently as the current President and CEO of DNI (formerly Dumont Nickel Inc.). These publications, which include both Government work assessment reports and Technical Reports, comprise Sabag (1996a,b,c, 1998, 1999, 2008, 2010, 2012). The vast majority of this historical work is well summarized in a Technical Report prepared by Sabag (2008).

Geochemical data presented in this Technical Report were analyzed at Activation Laboratories Ltd., also known as Activation Laboratories Ltd. (Ancaster, Ontario). The authors have reviewed the Activation Laboratories Ltd. geochemical data and found no significant issues or inconsistencies that would cause one to question the validity of the data.

In concurrence with this Technical Report, DNI has commissioned P&E Mining Consultants Inc. to construct a Preliminary Economic Assessment (PEA) of the Buckton Zone, SBH Property. P&E Mining Consultants Inc. is overseeing the PEA scoping study, which will involve contributions from CanmetMINING (metallurgical laboratory work), HATCH (metallurgical evaluation) and APEX (geological expertise and deposit knowledge). During preparation of this Technical Report, APEX has conversed with P&E Mining Consultants Inc. and it was agreed that, for consistency, select information including pit optimization parameters, base cut-off values and metal recovery values evaluated as part of the PEA should be used in this Technical Report (i.e., information pertaining to the Buckton resource). Economic analysis of the potential viability of mineral resources at the Buckton Zone are not discussed in this Technical Report, but will be published in the near future as part of the PEA report.

The authors of this Technical Report have reviewed all government, work assessment and laboratory reports. The authors of this report have also reviewed pit optimization parameters, base cut-off values and metal recovery values that were communicated to APEX by P&E Mining Consultants Inc., and found no significant issues or inconsistencies that would cause one to question the validity of the data. Government reports were prepared by a person, or persons, holding post-secondary geology or related degrees. Industry prepared work reports were reviewed, approved and archived by the Alberta Government (Alberta Energy and the Alberta Geological Survey). Preliminary Economic Assessment work, and the internal discussions and information associated with this work, is being completed in collaboration with APEX and by Qualified Persons as defined by the Canadian Securities Administration (CSA) National Instrument (NI) 43-101. Activation Laboratories Ltd., who has completed all of DNI's core analysis, is an ISO/IEC 17025 accredited analytical laboratory. CanmetMining, who completed independent metal recovery analysis, is a division of Natural Resources Canada and a world class leader in the development and deployment of green mining science and technologies with ISO accreditation (17025; 9001).

The authors have extensive knowledge of the Buckton Zone having conducted exploration on the SBH Property from the mid-1990s to present. Based on review of these documents and/or information, the authors have deemed that these reports and information, to the best of their knowledge, are valid contributions to this Technical Report, and take ownership of the ideas and values as they pertain to the current Technical Report.

3 Reliance on Other Experts

DNI acquired the current SBH Property Permits directly, by application to Alberta Energy, and holds a 100% interest therein under agreements with Alberta Energy. All prior, historic mineral activities in the area consist entirely of grass roots exploration work. There are no historic metallic mineral mines or resources known in the area. The authors are not experts with respect to environmental, legal, socio-economic, land title or political issues.

Alberta Metallic and Industrial Mineral Permits can be held by an individual person, or by any organized or corporate entity, which is duly registered to do business in the province of Alberta. In May of 2010, Dumont Nickel Inc. consolidated its shares and changed its name to DNI Metals Inc. (DNI Metals Inc. Press Release, May 10, 2010). A number of Permits were originally acquired in 2008 by Mr. Sabag, President and CEO of DNI (formerly Dumont Nickel Inc.; Dumont Nickel Inc. News Release, April 16, 2008). The Permits were subsequently transferred at no cost to DNI once land assembly was completed and DNI had secured the necessary corporate registrations.

DNI's SBH Property consists of 272,032 hectares in 36 contiguous Alberta Metallic and Industrial Mineral Permits. DNI holds 100% interest on all 36 Permits. The author has not attempted to verify the legal status of the Property, however, the Alberta Energy metallic and industrial mineral disposition of mineral rights management system (http://www.energy.gov.ab.ca/OurBusiness/1071.asp) shows that the DNI claims are active and in good standing as of September 9, 2013.

4 Property Description and Location

4.1 Property Description

DNI's SBH Property is located on the eastern slopes of the Birch Mountains of northeastern Alberta, approximately 120 km north of the city of Fort McMurray, Alberta in the Athabasca oil sands region (Figure 1). The SBH Property consists of 36 contiguous Alberta Metallic and Industrial Mineral Permits (Permits), which cover an area of 2,720.32 km^2 or 272,032 ha (Figure 3; Table 4). All Mineral Permits are held 100% by DNI. The Permits extend over a 50 x 60 km quadrant defined by Townships 97-T103 and Ranges 12-17/W4. The Buckton Zone is contained within Permits 9308060410 and 9308060412 (Figure 3; Table 4).

DNI's Property encompasses several historic Property boundaries, previously held and explored for minerals by others. Prior historic ownership, exploration and discovery is summarized by Sabag (2008). To maintain continuity with historic work, DNI has elected to retain historic location names to facilitate referencing of prior year results by referring to the historic Buckton, Asphalt and Eaglenest Property names, but as "Mineralized Zones" or "Sub-Properties" within the SBH Property (Figure 4).

4.2 Property Rights and Maintenance

The Permits grant DNI the exclusive right to explore for metallic and industrial minerals for seven consecutive two-year terms (total of fourteen years), subject to traditional biannual assessment work. Work requirements for maintenance of permits in good standing are $5.00/ha for the first term, $10.00/ha for each of the second and third terms, and $15.00/ha for each the fourth, fifth, sixth and seventh terms.

The statutes also provide for conversion of Permits to Metallic Minerals Leases once a mineral deposit has been identified. Leases are granted for a renewable term of 15 years, and require annual payments of $3.50/ha for rent to maintain them in good standing. There are no work requirements for the maintenance of leases and they confer rights to minerals.

Complete terms and conditions for mineral exploration permitting and work can be found in the Alberta Mines and Minerals Act and Regulations (Metallic and Industrial Minerals Tenure Regulation 145/2005, Metallic and Industrial Minerals Exploration Regulation 213/98). These and other acts and regulations, with respect to mineral exploration and mining, can be found in the Laws Online section of the Government of Alberta Queen's Printer website (www.qp.alberta.ca/Laws_Online.cfm).

4.3 Coexisting Oil, Gas and Oil Sands Rights

Rights to metallic and industrial minerals, to bitumen (oil sands), to coal and to oil/gas within the region are regulated under separate statutes, which collectively make it possible for several different "rights" to coexist and be held by different grantees over the same geographic location. Oil/gas leases, coal leases, oil sands leases and permits coexist in the Birch Mountains in the vicinity of, and under, DNI's Property.

Figure 3. Alberta Metallic and Industrial Mineral Permits held by DNI Metals Inc. for the SBH Property in northeastern Alberta.

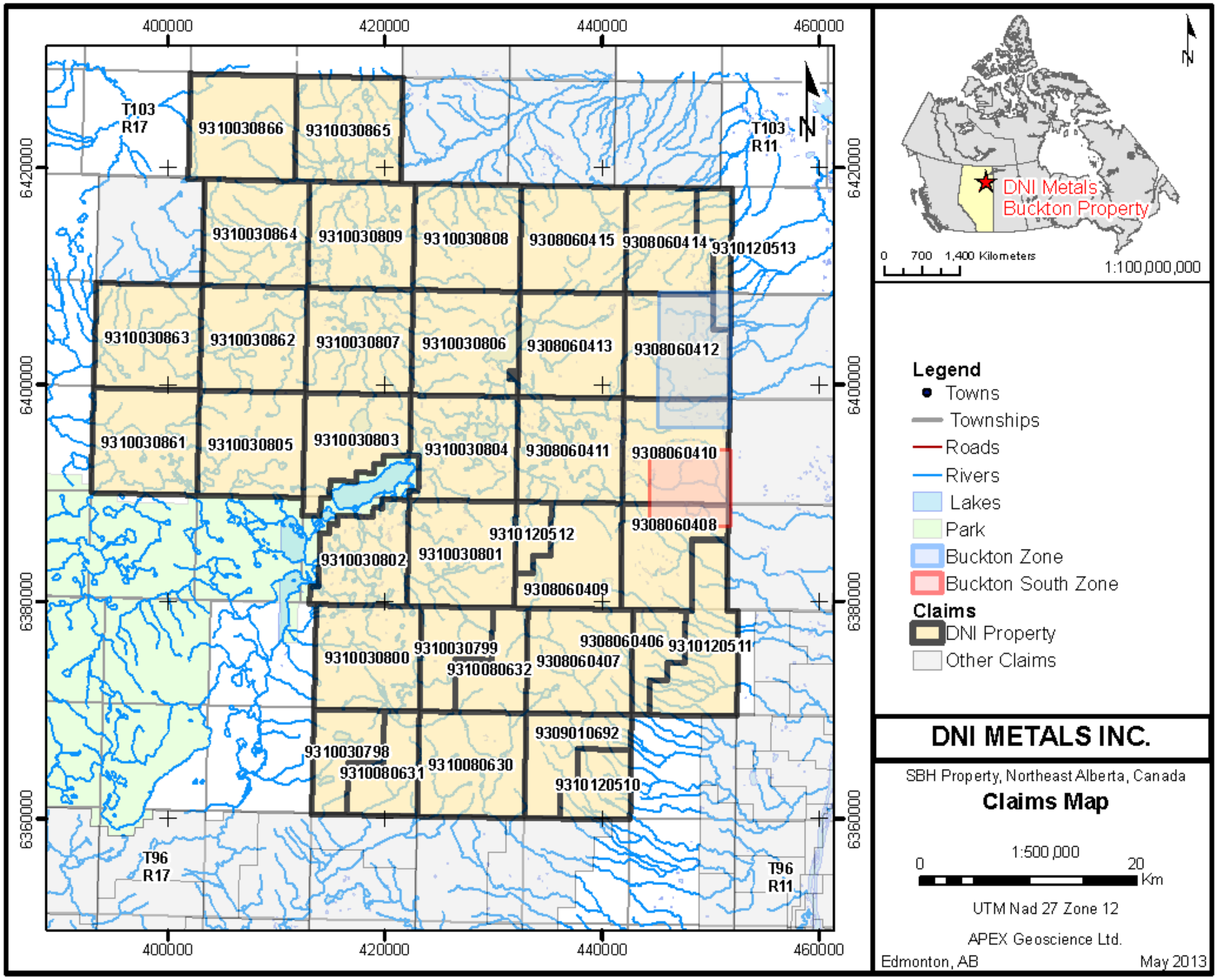
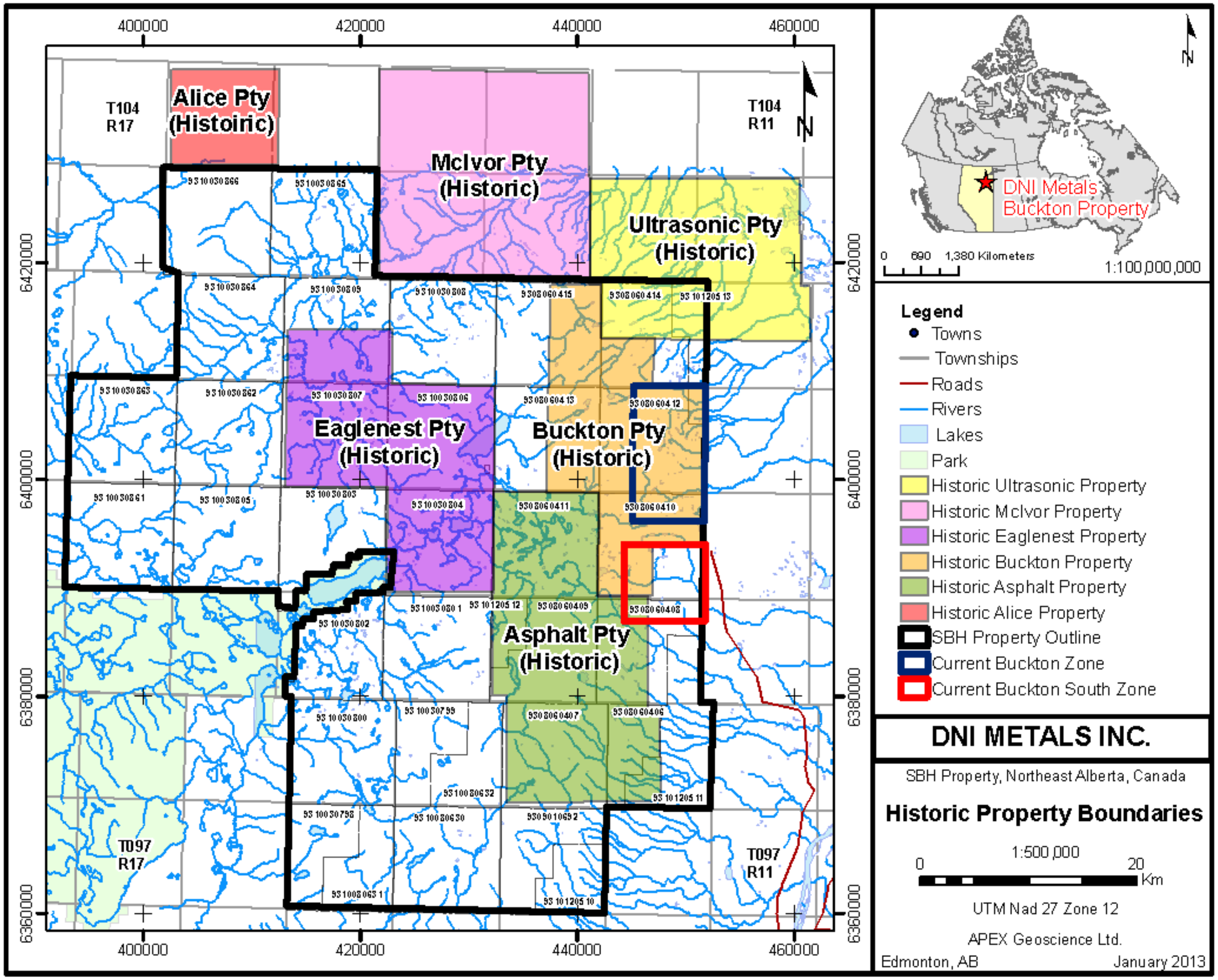


Table 4. DNI Metals Inc. Alberta Metallic and Industrial Mineral Permit descriptions.

Permit Number	Commencement Date	Owner	Area (Ha)
9310030798	01/03/2010	DNI METALS INC.	4,608.00
9310030799	01/03/2010	DNI METALS INC.	4,608.00
9310030800	01/03/2010	DNI METALS INC.	9,216.00
9310030801	01/03/2010	DNI METALS INC.	9,216.00
9310030802	01/03/2010	DNI METALS INC.	6,784.00
9310030803	01/03/2010	DNI METALS INC.	7,488.00
9310030804	01/03/2010	DNI METALS INC.	8,960.00
9310030805	01/03/2010	DNI METALS INC.	9,216.00
9310030806	01/03/2010	DNI METALS INC.	9,184.00
9310030807	01/03/2010	DNI METALS INC.	9,216.00
9310030808	01/03/2010	DNI METALS INC.	9,216.00
9310030809	01/03/2010	DNI METALS INC.	9,216.00
9310030861	29/03/2010	DNI METALS INC.	9,216.00
9310030862	29/03/2010	DNI METALS INC.	9,216.00
9310030863	29/03/2010	DNI METALS INC.	9,216.00
9310030864	29/03/2010	DNI METALS INC.	9,216.00
9310030865	29/03/2010	DNI METALS INC.	9,216.00
9310030866	29/03/2010	DNI METALS INC.	9,216.00
9310080630	18/08/2010	DNI METALS INC.	9,216.00
9310080631	18/08/2010	DNI METALS INC.	4,608.00
9310080632	18/08/2010	DNI METALS INC.	4,608.00
9310120510	09/12/2010	DNI METALS INC.	3,584.00
9310120511	09/12/2010	DNI METALS INC.	7,936.00
9310120512	09/12/2010	DNI METALS INC.	1,792.00
9310120513	09/12/2010	DNI METALS INC.	2,816.00
9308060406	30/06/2008	DNI METALS INC.	3,328.00
9308060407	30/06/2008	DNI METALS INC.	9,216.00
9308060408	30/06/2008	DNI METALS INC.	7,168.00
9308060409	30/06/2008	DNI METALS INC.	7,424.00
9308060410	30/06/2008	DNI METALS INC.	9,216.00
9308060411	30/06/2008	DNI METALS INC.	9,216.00
9308060412	30/06/2008	DNI METALS INC.	8,704.00
9308060413	30/06/2008	DNI METALS INC.	9,216.00
9308060414	30/06/2008	DNI METALS INC.	6,912.00
9308060415	30/06/2008	DNI METALS INC.	9,216.00
9309010692	29/01/2009	DNI METALS INC.	5,632.00
		TOTAL (Ha)	**272,032.00**

Figure 4. Historic Property boundaries previously held by third parties (after Figure 10 in Sabag, 2010).



Large Oil Sands projects near DNI's SBH Property include the Equinox oil sands project (Jointly owned by Teck Resources and Total), the Pierre River oil sands project (Albian Sands Energy), the Frontier oil sands project (Teck Resources) and the Horizon oil sands mine (Canadian Natural Resources), all of which are adjacent to the eastern SBH Property boundary (Figure 5). The site of the Fort Hills oil sands mine (owned by Suncor Energy, Total and Teck Resources), which is expected to begin production in 2017, is located to the east of the Property, across the Athabasca River.

Oil sands rights in the area are confined to the Wabiskaw and McMurray formations (approximately 400 m beneath DNI's shale targets). Gas leases and oil sands permits under DNI's Property relate to formations significantly deeper than the metal-bearing shale formations targeted by DNI.

4.4 Land use and Environmental Matters

The Permits grant DNI right to use of the surface for conducting mineral exploration work, subject to obtaining the necessary land use permits (Exploration Approval) from the Land Administration Division of the Alberta Ministry of Environment and Sustainable Resource Development (ESRD). Surface restrictions consist of minor activity restrictions, which are identified in the granted land use permit.

Land use in the area is regulated by the Lands Division of ESRD, which regulates issuance of land use permits for surface disturbances, with participation from a structured local consultation process. For the 2011 and 2012 drilling campaigns, DNI conducted a variety of consultation meetings with various aboriginal groups in the Fort MacKay – Fort McMurray area to acquire the necessary land use permit "MME Exploration Approval" to conduct their drilling program. DNI was successful in acquiring the required MME Permit to conduct its 2011 and 2012 drilling programs.

Currently, there are no known material restrictions on, or major obstacles to resource development for, the SBH Property and for the region. Minor sensitivities exist in the region, which affect exploration activities and land use to an extent comparable to elsewhere in Canada. These include wolf migration, moose and caribou calving seasons, and trapping rights. Wood Buffalo National Park is located 10 km to the north of the northernmost boundary of the SBH Property and approximately 33 km north of the Buckton Zone. There are no known aboriginal claims pending in the region. Surface restrictions consist of minor activity restrictions over portions of the Property as follows (also see Figure 6).

1) An area covering all but the easternmost edge of the SBH Property is subject to seasonal activity restrictions in connection with caribou calving and migration currently require an annual recess of field activities between March 1 and July 1. The Buckton Zone lies outside, but directly adjacent to the caribou zone.

2) A narrow corridor passing across the far eastern edge of the Property is designated as an Ungulate Winter Area. These areas, which occur throughout Alberta, are primarily used to determine wildlife population status and trends, and are integral for setting guidelines/levies on hunting and fishing licenses and informing the general public of ungulate population trends (Ranger and Zimmer,

2012). None of DNI's permits note any cautions regarding the ungulate area. The ungulate area extends eastward from DNI's Property and encompasses all adjacent oil sands projects and operations. These areas are not 'protected zones' and have not deterred development in the region; none of DNI's permits note any cautions regarding the ungulate area.

3) A small acreage on Permit 9307110951 is set aside as a historic site over a portage to the south of Eaglenest Lake.

4) A small area on Permits 9308060411 and 9308060413 is set aside under historic management.

Regional gas accumulations occur in the southeast and southwestern portions of the region surrounding Fort McMurray. Low pressure gas has been documented from the Viking Formation known to occur at depths of 200-300 m beneath surface in the Birch Mountains under portions of DNI's Property. The Viking Formation is lower in the stratigraphy, and is deeper than DNI's targeted shale package and is not considered a hindrance to exploration. Higher pressure gas has been documented from deeper in the stratigraphy, from the McMurray Formation (host to the Athabasca oil sands) approximately 500-600 m below the surface of the Birch Mountains, well below the metal-bearing shale formations targeted by DNI.

Timber rights for a considerable portion of the region, including the Birch Mountains Area, are held by various groups under Provincial Forest Management Agreements. Rights in the Birch Mountains Area are held mainly by Alberta Pacific Forestry Industries Inc. (Al-Pac), the Crown and trappers, necessitating compensation payable by way of timber damage assessment (TDA) in the event any clearing is made during preparation of drill pads and access. TDA rates are applicable to all land clearing, regardless of quantity and quality of growth. For the SBH Property TDA payments are approximately $1,000 per ha of clearing, which includes charges to the Crown and a small portion for trappers compensation.

5 Accessibility, Climate, Infrastructure and Physiography

5.1 Access and Infrastructure

DNI's SBH Property is directly accessible by winter roads and flight (fixed-wing and helicopter) from the city of Fort McMurray, Alberta, which is located about 120 km to the south of the Property. Fort McMurray is approximately 500 km north of Edmonton by road, and is served by regular daily commercial flights from Edmonton, Calgary, Toronto and other communities where people regularly commute to and from oil sands projects. The Canadian National Railway Company (CN Rail) is currently planning to rehabilitate historic rail shipping service to Fort McMurray.

The region is well supplied and offers all necessary support services to exploration work in the area, inclusive of expediting, fixed and rotary air support, communications, medical and equipment supplies. Radio as well as telephone communications are also excellent throughout the region. Cellular telephone coverage is good throughout the region, with reception to localities including the Birch Mountains air strip and fire tower.

Figure 5. Key oil sands projects in the Fort McMurray region in relation to the SBH Property.

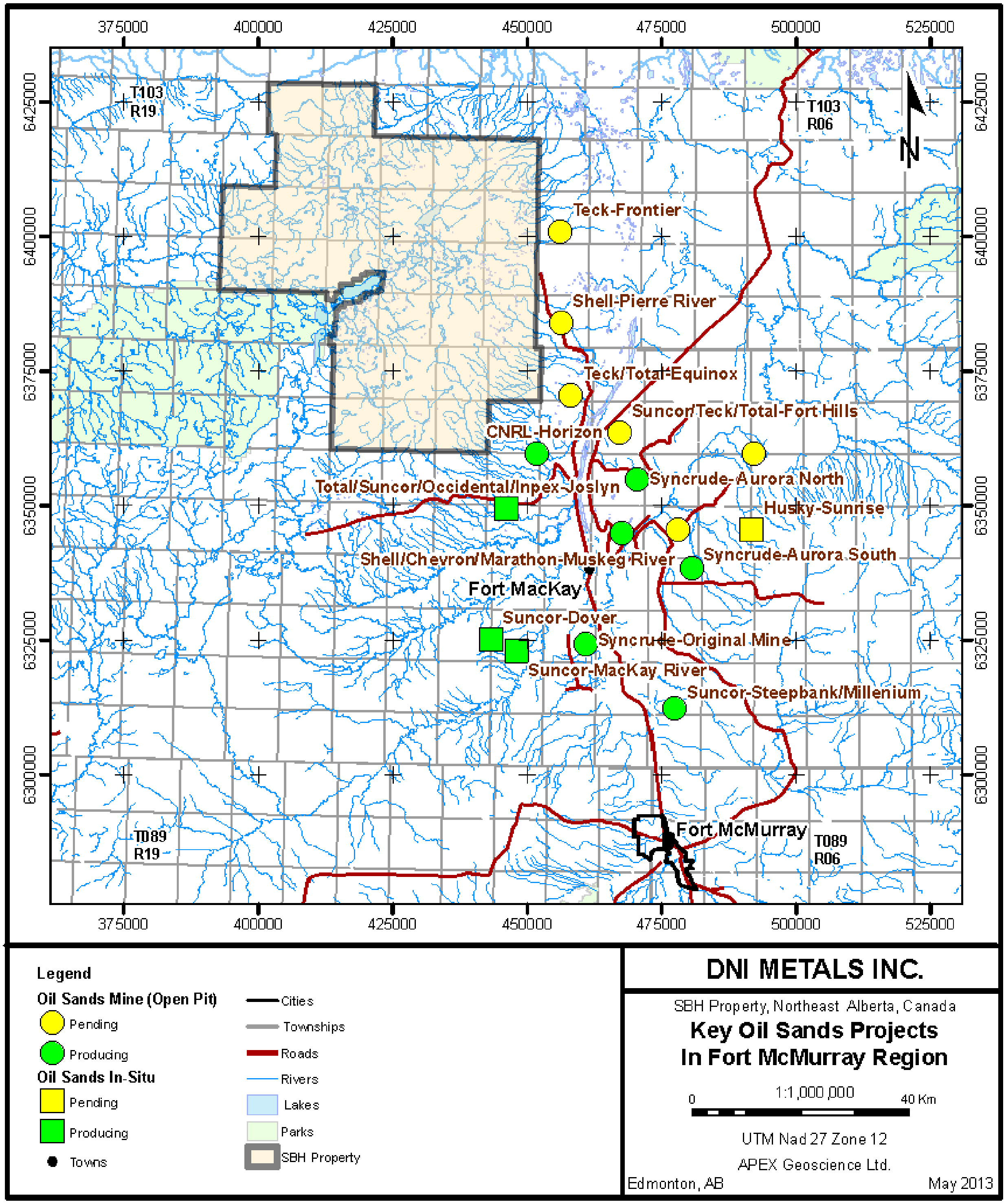
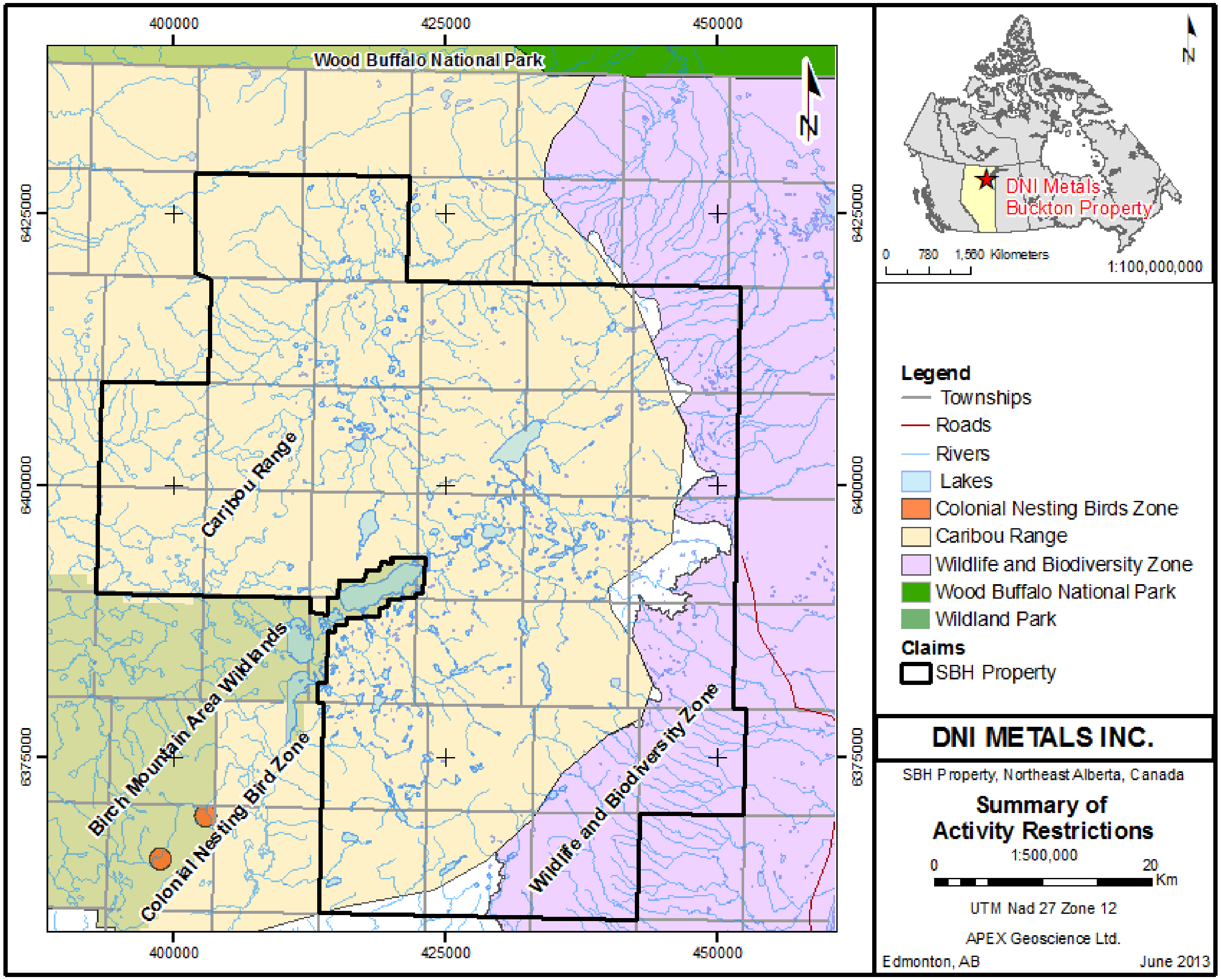


Figure 6. Summary sketch of activity restrictions in the SBH Property area.



The Athabasca and the Clearwater Rivers represent the two principle waterways in the region, with countless other streams and smaller rivers draining into them. The majority of the streams are characterized by jagged shapes consisting of many relatively straight water courses, reflecting in most part underlying faults and joint systems. The Athabasca River bisects the region and provides relatively good water access across most of the region and also a barge service over its northern portions to the north of Fort McMurray. The Athabasca River flows north into Lake Athabasca.

Access throughout the region is relatively good, facilitated by a network of highways, secondary roads and old seismic lines, which also serve as winter roads and bush roads and in some cases are also accessible in summer by all-terrain vehicles. Past exploration activities have occasionally gained access to the west shore of the Athabasca River by ice-bridge constructed from a locality near Bitumont, as a joint effort between forestry harvesting and mineral exploration. Future programs will, however, benefit from considerable road construction in progress to support several dozen pending oil sand operations, which are in various stages of development.

Access on the east and west sides of the Athabasca River are in a state of rapid development. Infrastructure is being developed to provide road and helicopter access to several pending oil sand projects skirting the Birch Mountains and subsequently, the SBH Property, which is surrounded on its east and south by four oils sands mines under development.

Significant pending developments include Shell Canada’s planned construction of a bridge across the Athabasca River to access its Pierre River Oil Sands Mine (permitting stage), adjacent to the east boundary of DNI’s Property. This will significantly enhance access to the Property, since the planned Pierre River Mine is down slope from the Buckton, Buckton South and Asphalt zones.

The principal mode of summer access to the SBH Property has been by rotary aircraft or by fixed wing aircraft landing on the half mile long Birch Mountain Airstrip, which also houses a seasonally manned fire tower and telecommunications relay station. There are other private airstrips throughout the region, the nearest being Shell Canada’s at its Pierre River Project, and Canadian Natural Resources Limited’s Horizon Oil Sands Project to the south of the Property.

Winter access is via a paved road that runs north from Fort MacKay to the Horizon Mine Site, then by winter road from the headwaters of the Tar River at the west edge of the Horizon Mine Site to a trail that runs west from the Birch Mountain Airstrip. This trail winds north and east along a plateau over-looking the Buckton Zone. Winter road access was ploughed to the drill sites in early 1997 and 2011 by the use of snow cats and a series of dozers.

Currently, exploration on the SBH Property is possible year-round, with the exception of the caribou migration period (March 1 – July 1; see Section ‘Land Use and Environmental Matters’). The Buckton Zone lies outside, but directly adjacent to the caribou zone. DNI has conducted drilling programs at the Buckton, Buckton South and Asphalt zones in both the summer (July-September, 2012) and winter (January-February, 2011). Although field exploration during the fall is possible, the fall season

(October-December) is generally not conducive to drilling or other forms of exploration because of thin snow cover, and the lack of frozen ground for access.

If the project develops to the mining stage, it is expected that the mine would operate year-round with people and supplies coming in by road (similarly to oil sands mines in the area). However, at present, the road infrastructure is not currently adequate to support a mine at the Property, nor have the necessary baseline studies or permits been acquired to do so (see Section ‘Environmental Studies, Permitting and Social or Community Impact’).

As DNI’s mineral claims are on uninhabited Crown land (with minor environmental and cultural sensitivities as noted in Section ‘Land Use and Environmental Matters’), surface access rights are not considered a potential hindrance to any possible future mining operations.

The closest electrical and gas infrastructure to the anticipated site of possible future mining at the Buckton Zone is at Canadian Natural Resources Limited’s Horizon mine, approximately 45 km to the southeast. The site of Teck Resources’ proposed Frontier oil sands mine is less than 10 km to the east of the Buckton Zone. Shell’s proposed Pierre River Mine and Teck’s proposed Equinox mine are located between the Horizon Mine and the (proposed) Frontier Mine. Regardless of when and if the proposed Frontier, Pierre River and Equinox Mines become operational, it is anticipated that if the Buckton Resource is developed to the mining stage, sufficient infrastructure may be available to reasonably extend existing electrical and gas supply lines to the potential mine site. It is also possible that diesel generators could be used to heat and power the potential mine site using fuel imported to site by trucks.

Surface water is abundant in the Birch Mountains region; the Athabasca River is the most obvious source of fresh water due to its size, output consistency and proximity to the project area (approximately 25 km from the anticipated site of mining operations). It is expected that surface and melt water running into the mine area could be cycled into the process water supply.

As with oil sands mining projects in the area, it is expected that mine personnel at any possible future mining operations on DNI’s SBH Property would live on site during their work tours and commute back to their homes by air or road for break periods.

5.2 Physiography, Vegetation and Climate

Physiography over the general region around Fort McMurray is variable and is characterized by low, often swampy, relief punctuated by a handful of features protruding above the otherwise flat terrain. The Birch Mountains are one of the most conspicuous topographic features in the region between Fort McMurray and Wood Buffalo National Park. DNI’s Property covers a large portion of the Birch Mountains.

By far the greatest topographic relief in the region are the Birch Mountains, which range between 750-820 m above sea level (m asl), rising some 500-600 m above the surrounding areas (250 m asl). A distinct sharp erosional edge occurs along the eastern and northern edges of the Birch Mountains. The Birch Mountains are characterized by several river and creek incisions in poorly consolidated strata. River valley incisions in the area are progressively deeper as they near the erosional edges of the Birch Mountains and the drainage in the area defines an approximate radial pattern outward from the Birch Mountains. The incised valleys provide access to relatively well preserved bedrock exposures of the Cretaceous Colorado Group, which are otherwise buried to the west and eroded to the south and east. Active slumping of the unconsolidated sedimentary rocks occurs along the erosional edge and the incised river/creek valleys.

The SBH Property overlies the Upper and Lower Boreal Highland Natural Subregions of the larger Boreal Forest Natural Region, as defined by Downing and Pettapiece (2006). The Lower Boreal Highland sub-region, below about 825 m asl, is characterized by mixed coniferous-deciduous forest containing poplar, spruce, birch and pine trees. The Upper Boreal Highlands (above 825 m asl) is characterized by predominantly coniferous forests (mainly pine and spruce) with minor, generally poorly developed, aspen and birch trees. In both the Upper and Lower Boreal Highlands, forest understories include shrubs and feather mosses, and both sub-regions commonly contain poorly drained wetlands consisting of small shallow lakes (generally less than one kilometre across and less than two metres deep), and bogs hosting spruce trees, shrubs and mosses. The Central Mixed Wood sub-region underlies the peripheral northeast and southeast corners of the Property, but does not constitute a significant portion of the Property and does not underlie the Buckton Zone. The Central Mixed Wood sub-region is considerably larger than the Boreal Highland regions (occupying about 25% of all of Alberta) and broadly consists of gently rolling hills with mixed coniferous-deciduous forests and common wetlands.

Climate data for Fort McMurray, which represents the closest long-term climate data weather station to the Buckton Zone, is summarized below (for the years 1971 to 2000); these and other climate data are available on the Environment Canada website (http://climate.weatheroffice.gc.ca). The Boreal Highlands (which include the Birch Mountains) are generally cooler and moister than the lowlands that surround them (Downing and Pettapiece, 2006), however the climate of Fort McMurray is considered to be similar to that of the SBH Property. Winter temperatures are cold, averaging -18.8 °C, with an average daily minimum of -24.0 °C in the coldest month (January); summers are warm, with an average daily temperature of +16.8°C and an average daily maximum of +23.2°C in the warmest month (July). Winters are generally long, with daily average minimum temperatures being below freezing from October until April and below -10 °C from November until March. Average annual precipitation is 455.5 mm, with the greatest average precipitation (81.3 mm) occurring in July and the least (15.0 mm) occurring in February. Because of their increased elevation, the Birch Mountains may be influenced by localized weather patterns, and are susceptible to occasional fog.

6 History

Sabag (2008) suggested that multiple polymetallic zones in the Upper Cretaceous shale units of the Labiche, Second White Speckled Shale and Shaftesbury formations occur over vast areas (50-100 km^2 each). The shale units occur as flat-lying near-surface layers amenable to extraction by open pit bulk mining methods. Sabag (2008) indicates that several potential polymetallic zones were identified by historic work, two of which were confirmed by historic drilling. One such polymetallic zone is the Buckton Zone, which is the focus of this Technical Report. Sabag (2008, 2010) describes the

Buckton Zone as a potential mineral deposit that represents a near-surface polymetallic enrichment zone in the Labiche and Second White Speckled Shale formations.

The Buckton Zone was discovered in 1997 when 6 vertical drillholes were drilled along an 8 km transect paralleling intermittent exposures of the Second White Speckled Shale along the adjacent valley walls of Gos Creek on the eastern flanks of the Birch Mountains in northeastern Alberta. Relying on the historic 1997 drilling results and select bedrock exposures of the Second White Speckled Shale Formation in incised valley's, DNI's reported that the Buckton Zone contains a conceptual Mo-Ni-U-V-Zn-Cu-Co-Li deposit over an area of approximately 26 km^2. Sabag (2010 and 2008) indicates that the Buckton Potential Mineral Deposit has good lateral continuity and is vertically zoned, containing generally better grading polymetallic material over its upper half, and progressively better grades northward in the upper parts of the drillholes accompanied by progressive northward thickening of the better grading sections.

6.1 Prior Ownership History and Data

A significant amount of mineral exploration was conducted in the Birch Mountains by a number of companies during the 1990's including, and most prominently, the work conducted by Tintina Mines Ltd. (Tintina), who discovered the polymetallic content of the Second White Speckled Shale Formation in 1995. DNI's SBH Property encompasses Tintina's historic Buckton, Asphalt and Eaglenest Properties, which were previously held by, and extensively explored by Tintina during the 1990's (Figure 4). A thorough review of the historic exploration is provided in Sabag (1996a,b,c, 1998, 1999, 2010 and 2012), Dufresne et al. (2011) and Eccles et al. (2012a,b).

Geological databases from historic work conducted over and surrounding the above historic Properties, together with work conducted by the Alberta Geological Survey and Geological Survey of Canada are in the possession of DNI. The Buckton, Asphalt and Eaglenest historic Properties are now referred to as 'Mineralized Zones' (e.g., Buckton Zone).

6.2 DNI Metals Inc. Work History

Exploration work performed by DNI during 2008 to 2012 consisted of a variety of programs that are summarized below.

1) Regional and property scale geological data synthesis and compilation, including synthesis of information from the Western Canada Sedimentary Basin with specific focus on northeast Alberta and the Birch Mountains area (2007- 2009). This included Tintina's 1990's work, which spans the full spectrum of exploration activities ranging from grass roots reconnaissance and systematic regional sampling (1994-1995), through in-fill sampling, anomaly identification and follow-up (1995-1997), to exploration drilling (1996-1997) and preliminary metallurgical test work, leaching and bench tests (1997-1999). Diamond indicator investigations and extensive check assaying work (1997-1999) were also completed. For a full review of historical exploration work the reader is referred to the Buckton inferred maiden resource estimate (Dufresne et al. 2011) and more complete accounts by Sabag (1998; 2008; 2010).

2) Consolidation of the historic information from geological data synthesis and compilation into databases as well as preparation of a NI-43-101 compliant Technical Report for the Property (Sabag, 2008).

3) Review, inventory and verification analysis of historic third-party (Tintina) drill core archived at the MCRF from the Property (2008-2009).

4) Expansion of the subsurface geological database, related synthesis and subsurface stratigraphic modelling (2008-2010).

5) Strategic field sampling program and related analytical work (2009 and 2012).

6) A number of leaching and mineral studies:

   - Initial cyanidation leaching test work (2009),
   - micro-scaled mineral (MLA) study (2009-2010),
   - sulphuric acid leaching test work (2010), and
   - bio-organism cultivation, culture adaptation and bio-heap leaching studies and test work (BRGM and ARC, 2009-2012 and ongoing).

7) A CO_2 sequestration study – ARC (2009-2010).

8) A 2011 drill program that cored eight HQ diameter vertical diamond drillholes (648 m total) consisting of three drillholes at the Asphalt Zone and five holes at the Buckton Zone.

9) A 2012 drill program that cored nine HQ diameter vertical diamond drillholes (1,028.6 m total) to expand and upgrade the Buckton initial resource northwards and southwards, and initiate the resource potential of another mineralized zone located south of Buckton, the Buckton South Mineralized Zone. The samples from the 2012 drill program are currently being analyzed at Activation Laboratories Ltd. in Ancaster, Ontario.

10) A 2011 resource study estimating an initial (maiden) inferred resource over a portion of the Buckton Zone for Mo-Ni-U-V-Zn-Cu-Co-Li contained in the Second White Speckled Shale over a portion of the Buckton Zone (Dufresne et al., 2011).

11) A 2012 Buckton Zone supplemental resource study estimating the REE-Y-Sc-Th mineralization contained in the Second White Speckled Shale within the Buckton Zone initial (maiden) inferred resource (Eccles et al., 2012a).

12) A 2012 Buckton Labiche resource study estimating an inferred resource for Mo-Ni-U-V-Zn-Cu-Co-Li-REE-Y-Sc-Th hosted in the Labiche Shale overlying the Buckton initial (maiden) inferred resource and its vicinity (Eccles et al., 2012b).

13) A 2013 Buckton Mineral resource estimate that updates and consolidates previous resource estimates for the Buckton Zone by combining mineralized tonnages hosted in the Second White Speckled Shale formation with those in the Labiche Formation into a single shale package consisting of a lower grading upper portion in the Labiche Formation and a higher grading lower portion in the Second White Speckled Shale, as well as aggregating polymetallics, REE and specialty metals into the resource estimate (Eccles et al., 2013a).

14) A 2013 Buckton South maiden inferred resource study, which is approximately seven kilometres south of the Buckton Zone, estimating the REE-Y-Sc-Th mineralization contained in an upper lower-grading Labiche Formation and a lower higher-grading Second White Speckled Shale at the Buckton South Zone beneath it (Eccles et al., 2013b).

15) Metallurgical studies at CanmetMINING are ongoing to evaluate amenability of blended 1-2 kg samples of Second White Speckled Shale and Labiche to stirred-tank experiments (CanmetMINING, pers comm, 2013); working towards column testing and ultimately heap leaching. The test work includes agglomeration test work to determine process methodology for separation of the various metals of interest, including REE and specialty metals, from the pregnant leach solution once they have been extracted from the shale.

16) DNI has commissioned P&E Mining Consultants Inc. of Brampton, Ontario, to complete a Preliminary Economic Feasibility (PEA) Study on the Buckton Zone, the results of which have yet to be released (P&E Mining Consultants Inc., pers comm, 2013).

Upon acquisition of the SBH Property, DNI's initial focus was on exploring and developing the base metal (Mo-Ni-V-Zn-Co-Cu) and uranium potential of the Property for zones hosted in the Second White Speckled Shale Formation. More recently, however, DNI has expanded its focus to include:

- rare-earth elements (La to Lu plus Y) and specialty metals (e.g., Li, Sc and Th) given incidental recovery of these rare metals as co-products during its leaching test work, and

- shale units contiguous to the Second White Speckled Shale Formation given that the surrounding units can contain equivalent and/or higher concentrations of elements of interest (e.g., Li and in the overlying Labiche Formation); these units have also positively returned recoverable metals during leaching test work.

7 Geological Setting and Mineralization

7.1 Introduction and General Geological Setting

Alberta is mostly underlain by sedimentary sequences of the Western Canada Sedimentary Basin (WCSB), which is bounded by the Canadian Shield to the northeast and by the Rocky Mountains to the west. The WCSB consists of a wedge of flat-lying Devonian sediments (carbonate, evaporite and clastic red beds) overlain by equally flat-lying Cretaceous and Cenozoic clastic sedimentary rocks. The sedimentary rocks are up to 7,000 m thick in southwestern Alberta thinning out to an erosional edge in northeastern Alberta. The bedrock geology and a stratigraphic column for northeastern Alberta are shown in Figures 7 and 8, respectively.

Precambrian rocks underlying the region belong to the Talston Magmatic Zone (TMZ) and the Rae Province. The TMZ is is a zone of Paleoproterozoic magmatic rocks marking the boundary between the Archean Rae Province to the east and the Proterozoic Buffalo Head Terrain to the west (Ross et al. 1991, 1994). The TMZ is characterized by a sinuous aeromagnetic fabric consistent with the geology of its exposed portions in the northeast of the region where large anastomosing mylonitic shear zones cut through large (up to 50 km diameter) granitic batholiths intruding 2.0-1.8 billion year (Ga) old ortho- and paragneiss. The TMZ can be traced north for several hundred kilometres from the Snowbird Tectonic Zone (approximately 100 km southeast of Fort McMurray) to the Great Slave Lake Shear Zone where it is displaced to the northeast and continues as the Thelon Magmatic Zone.

The near-surface geology consists of middle Cretaceous Colorado Group sedimentary rocks that comprise from stratigraphic base to top: the Westgate, Fish Scale and Belle Fourche members of the Shaftesbury Formation; the Second White Speckled Shale Formation; and the Labiche Formation. The Shaftesbury, Second White Speckled Shale and Labiche formations embody the middle to upper portions of the Colorado Group, which was deposited at a time when sea levels were high and the North American Craton was experiencing a regional down warping (Leckie et al. 1992). Subsequently, the Colorado Group is dominated by marine shale that is occasionally punctuated by coarser sediments deposited during brief high-stands. A subsurface stratigraphic compilation using existing oil and gas wireline logs shows that the Shaftesbury, Second White Speckled Shale and Labiche formations extend under the entire SBH Property and likely under all of the Birch Mountains. The Colorado Group reaches a maximum thickness of approximately 1,500 m in northwest Alberta and is generally thickest nearer the Cordillera. The erosional edge of the Colorado Group in northeast Alberta is represented by a shale dominated package of strata which reaches a maximum thickness of approximately 450–500 m in the Birch Mountains.

Black shale, which is commonly described as dark-coloured, laminated, fine-grained sedimentary rock that is relatively rich in organic matter (>0.5 wt. % organic carbon; e.g., Huyck, 1989), has occurred throughout the geological record, but the Cretaceous Period contains the most extensive record of black shale formation in both shallow-water and deep ocean localities (e.g., Arthur and Schlanger, 1979). Geological units within the Colorado Group are comprised of organic-rich black shale.

Figure 7. Generalized geology of northeast Alberta and regional cross section.

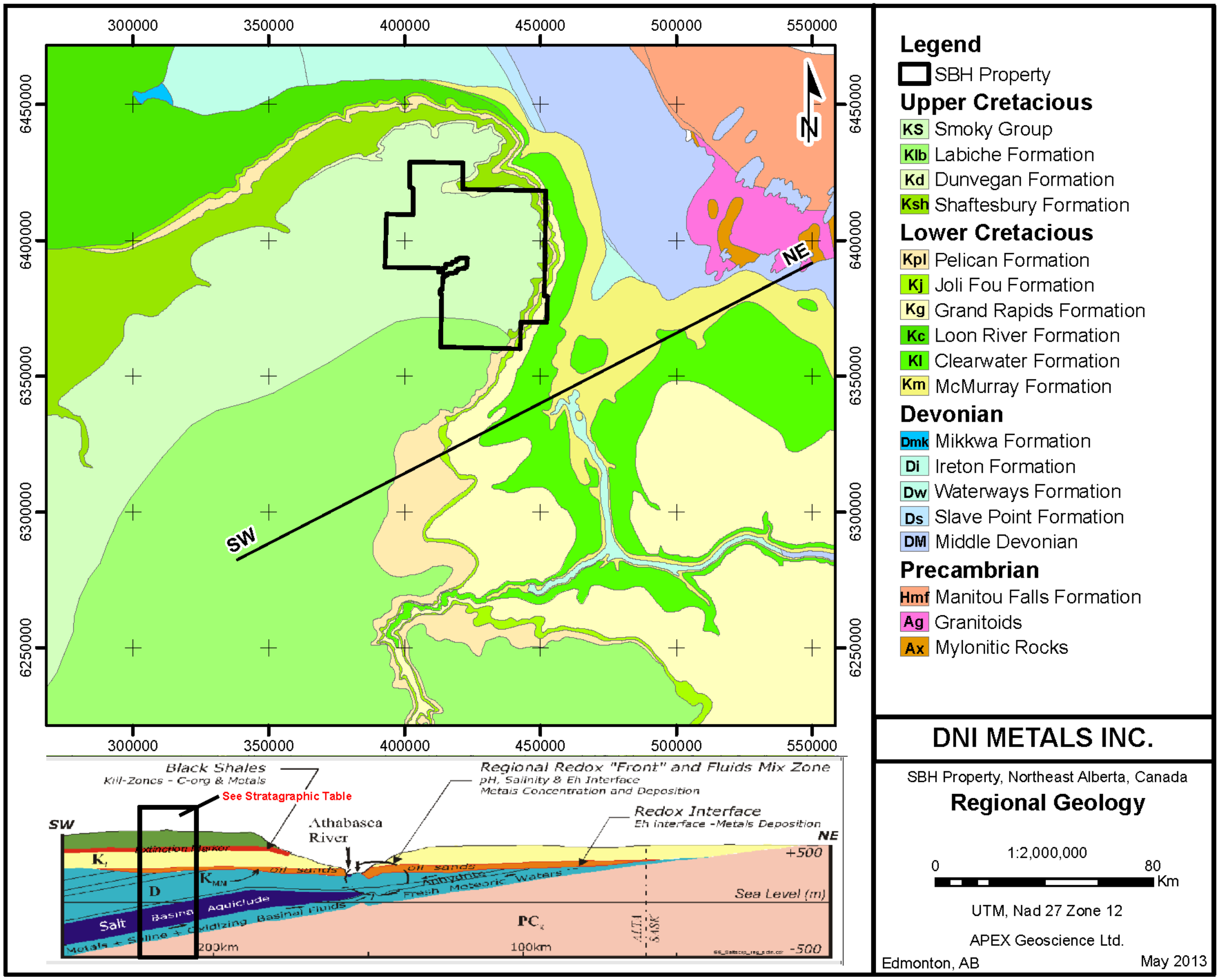
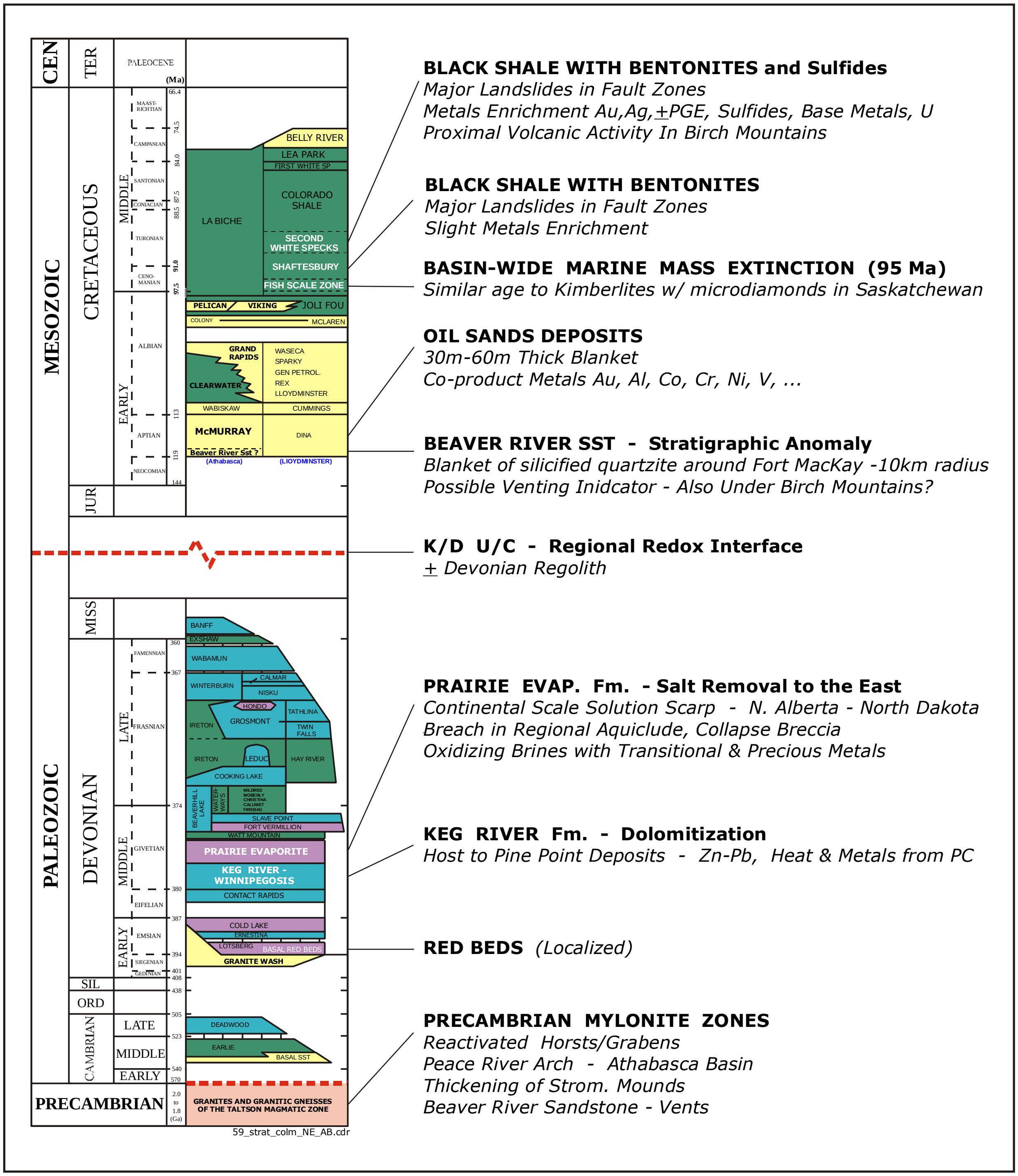


Figure 8. Stratigraphy of northeast Alberta (after, Figure 14 in Sabag, 1998).



The Colorado Group includes an unequivocal black shale formation, the Second White Speckled Shale Formation, and two distinctive basin-wide, organic-rich stratigraphic markers, the Base of Fish Scales Member and the Second White Speckled Shale Formation. The Base of Fish Scales is located in the central part of the Shaftesbury Formation and consists of a concentration of fish bones, teeth and scales, within shale (and minor sandstone) with relatively high total organic carbon values of 5-10% (Bloch et al. 1993). The Base of Fish Scales is generally less than 20 m thick, and can contain >75% fish debris. It may represent either an anoxic event at the Albian-Cenomanian boundary which prevented the normal decay of the bioclastic material or as a transgressive lag deposit. It is poorly delineated and is normally characterized as a fish scales-bearing mudstone with minor associated sandstone and conglomerate, with up to 8% organic carbon (Bloch et al. 1993).

The Belle Fourche Member of the Shaftesbury Formation overlies the Base of Fish Scales Zone, and consists of massive mudstone characterized by low amounts of total organic carbon. A distinctive foraminiferal assemblage and a lack of bioclastic material distinguish it from the underlying Base of Fish Scale Zone and the overlying Second White Speckled Shale (Bloch et al. 1993). The Belle Fourche Formation is not well exposed in the region with the exception of many slump zones throughout the Birch Mountains that contain masses of shale and mudstone.

The Second White Speckled Shale Formation is named for the common occurrence of coccoliths. Black shale, which dominates this interval, is characterized by elevated total organic Carbon content, exceeding 10% by weight. The Second White Speckled Shale comprises a ‘cherty’ (?) bioclastic sandstone layer, referred to as the siliciclastic bone bed (thus differentiating it from the Fish Scales Marker Bone bed - FSMB), ranges in thickness from a few centimeters up to 1.2 m, and is normally calcite cemented. Just above the bone bed there is usually a thin (approximately 10 cm) limestone or carbonate cemented siltstone bed overlain by a 5- 10 m interval marked by numerous thin (1-20 cm) bentonite seams. The Second White Speckled Shale is approximately 13 m to 23 m (average thickness of 21 m) within the SBH Property.

The upper Labiche Formation, overlying the Second White Speckled Shale and equivalent to parts of the Colorado Group in central Alberta, is poorly studied given lack of exposures in the area. Two small and badly slumping outcrops of massive gray Colorado or upper Labiche Formation shale previously observed well above those of the Second White Speckled Shale Formation have been assumed to represent the youngest Cretaceous strata preserved in the Birch Mountains area of northeast Alberta. Drill intercepts of the Labiche Formation at the SBH Property range from 13 m to 115 m although its exact thickness is unknown as portions of this uppermost bedrock shale have been removed by glaciation, affected by glacial tectonics or have slumped along the sloping eastern edge of the Birch Mountains.

Micropaleontological examination of Labiche Formation from drilling at the Buckton Zone suggests an unexpected 4-6 million year gap between the top of the Second White Speckled Shale Formation and the base of the Colorado Formation /upper Labiche shales, and indicates that mudstone previously logged/mapped as Labiche might be part of the Upper Cretaceous Lea Park Formation.

Structural elements in northeast Alberta include regional and localized features, many of which occur within the Precambrian basement, but some of which are extended into the overlying stratigraphic sequence. The most predominant zone of disturbance in northern Alberta is the Peace River Arch, which trends across northeastern Alberta within a wide zone passing to the north of Fort MacKay, across the southern parts of the Birch Mountains. It comprises a 140 km wide zone of structural disturbance that was active from as early as the Late Paleozoic to the Late Cretaceous. The Peace River Arch has no readily discernible geophysical expression, although it does display subtle crustal uplift at the Mohorovičić discontinuity.

Younger structures in the area are dominated by a regional series of northeast trending faults passing through the Fort MacKay including a dextral strike-slip fault documented by stratigraphic correlation of oil/gas well data (Martin and Jamin, 1963; Figure 9). Despite limited drilling penetrating the Precambrian, at least some of the northeast structures noted in the sedimentary rocks reflect Precambrian features, and that offsets along the structures also include a substantive vertical component defining a complex horst/graben framework.

Glacial history of the region is complex and not clearly understood. Principal ice direction throughout the northeastern portion of the region is southwesterly; although ice flow is believed to have splayed around (and over) the Birch Mountains such that throughout the balance of the region there is evidence of crosscutting composite directions, manifested as multiple till sheets and fluted topography.

7.2 Property Geology

The Property covers the eastern half of the Birch Mountains including its east- and south erosional edges. Bedrock exposures throughout the Birch Mountains are scarce (<2% of surface area) and, given the flat-lying stratigraphy, are restricted to incised valley walls of the many creeks and rivers along the eastern and southeastern erosional edges of the Birch Mountains (Figure 10).

Bedrock exposure in the area, nonetheless, enable intermittent observation and sampling across 300-350 m of Cretaceous Colorado Group stratigraphy, straddling the Albian-Cenomanian boundary. Selected formations that have been mapped and sampled in historic work over the Birch Mountains capture information from a large area extending north from the vicinity of Pierre River, through Asphalt Creek, across the Buckton Creek area to the McIvor River and its tributaries located immediately to the north of the Property (Figure 10).

The Westgate Member is exposed in the Greystone-B section, north of McIvor River, as massive (20 m) poorly consolidated dark gray mudstone. The mudstone is interbedded with thin (<1 cm) discontinuous fine-grained sandstone and siltstone lenses within the uppermost 5 m. The top of the member is marked only by the sudden appearance of fish scales (i.e., Base of Fish Scales Zone). Westgate mudstone is frequently iron and sulfur stained, and yellowish sulfates (possibly jarosite) can be seen near the base of the formation at the Greystone-B lithosection in abundant irregular 2-4 m long and 1-3 cm wide fractures. The Westgate Member is characterized by relatively subdued geochemical variations of V (average 115 ppm), Zn contents (average 89 ppm), Ni (average 27 ppm), and sporadic gold and platinum group elements.

Figure 9. Regional structural trends and projected edge of Prairie Evaporate Formation (after, Figure 16 in Sabag, 2010).

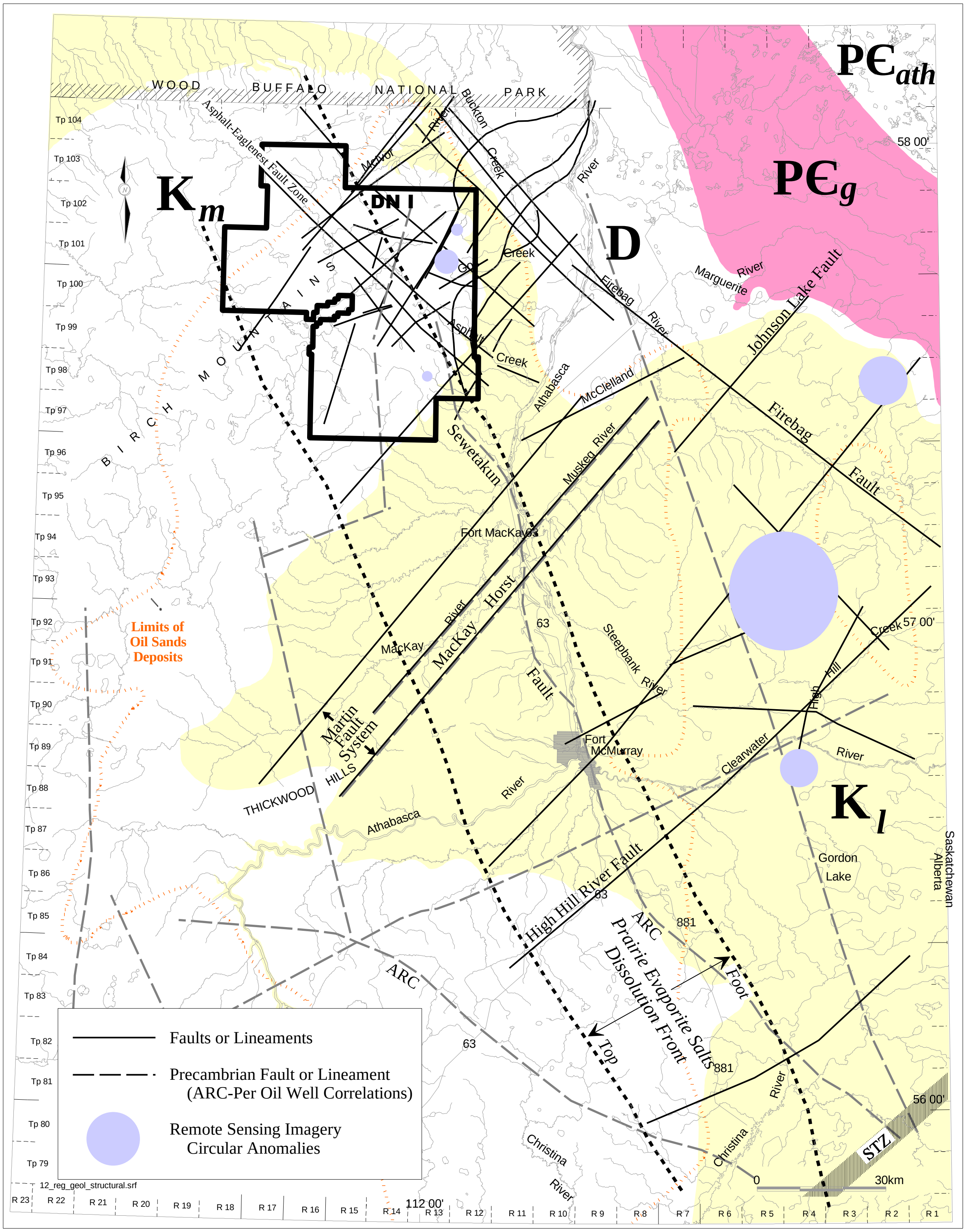
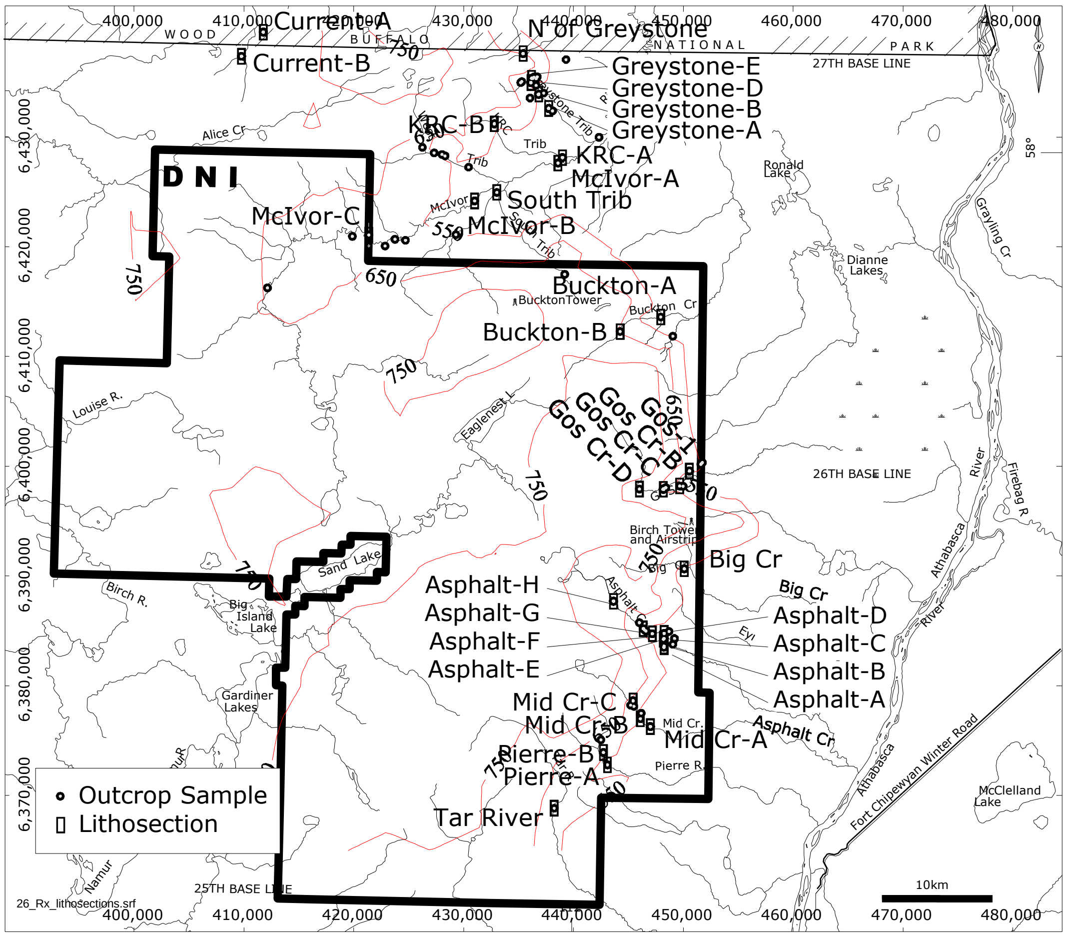


Figure 10. Property outcrops and litho-sections (after Figure 36 in Sabag, 2010).



Exposures of the Base of Fish Scales Zone Member are rare in the area and have been positively identified only at Greystone-B, although other occurrences have also been noted in badly slumped exposures along Asphalt Creek. At Asphalt-F (Figure 10), friable float slabs and blocks up to 5 cm thick, composed of a concentrated bed of fish scales (>80% by volume) contain up to 5% P; 16% Fe; by slightly elevated base metal concentrations; by elevated Pt, Pd, Mo, As and Sb; and 20 ppb and 17ppb Au. In addition, geochemically significant anomalies from the Base of Fish Scales Zone have been identified at the Greystone-C exposure including up to 10.5% organic carbon, 117 ppm Cu, 228 ppm Ni, 942 ppm V, 761 ppm Zn, and 12 ppb Au.

The Second White Speckled Shale Formation has been mapped and sampled at exposures between the 600 and 650 m asl along incised creek valleys. The Second White Speckled Shale ranges between 11 m and 26 m at the Buckton Zone (Table 5). Mineralization within the Buckton Zone has been proposed to extend over approximately 26 km^2 based on historic drilling and surface exposures, with the extensive horizontal shale package open to the south, west and north (Sabag, 2008, 2010). Samples of the Second White Speckled Shale Formation have returned by far the most anomalous concentrations of base, precious and rare metals from the Birch Mountains. Geochemical anomalies identified from the formation define relatively systematic metal enrichment zones, dominated by base metals (Mo-Ni-V-Zn-Co-Cu), uranium, rare-earth elements (REE-Y) and specialty metals (Li-Sc-Th). These metals appear to be associated vertically with the more carbonaceous sections immediately overlying the silicified bone bed, and laterally with certain faults in the Birch Mountains.

The upper Labiche Formation is poorly studied given its lack of exposures in northeast Alberta and in the Birch Mountains. On the SBH Property, the Labiche has to date been explored/studied mostly in drillholes. Two small and badly slumping outcrops of massive gray Labiche Formation mudstone observed above those of the Second White Speckled Shale Formation have been assumed to represent Labiche shale and the youngest Cretaceous strata preserved in the Birch Mountains.

Glacial events, slumping, micropaleontological examinations and issues with nomenclature all contribute to the complexity of the Labiche Formation. Because the Labiche Formation is the uppermost geological unit in the Birch Mountains and has therefore been exposed to preferential removal by glaciation, erosion and/or slumping, the exact thickness of the Labiche at the Property is unknown. Drillhole intercepts from the 1997, 2011 and 2012 drill programs show the Labiche ranges in thickness from 13-115 m in the Buckton Zone (Table 5); this variation is in part, related to the Labiche's juxtaposition with the Birch Mountains eastern slope.

Preliminary micropaleontological examinations on drillcore samples suggest that Labiche mudstone from the Buckton Zone is time-equivalent to the Upper Cretaceous Lea Park Formation (D. Leckie, personal communication, 1997; Dufresne et al., 2001). This would indicate that there is potentially a 4-6 million year stratigraphic gap between the top of the Second White Speckled Shale Formation and the base of upper Labiche Formation in the Buckton area; a hiatus that is likely related to a period of uplift.

The Labiche Formation nomenclature is being debated by the Alberta Geological Survey. Outcrop exposure of the Colorado Group in the Alberta Plains is limited to northeastern Alberta, where bedrock units above the Pelican Formation have commonly been assigned to the Labiche Formation (Wickenden, 1949; Green et al., 1970; Hamilton et al., 1998; Okulitch, 2006). However, southern and east-central Alberta subsurface strata equivalent to the lower part of the Labiche Formation are divided into the Westgate, Fish Scales and Belle Fourche members of the Shaftesbury Formation based on drillcore observations and analysis of downhole geophysical well logs (Bloch et al., 1993; Stancliffe and McIntyre, 2003; Tu et al., 2007).

These stratigraphic subdivisions were also identified using oil and gas wireline logs by Hay et al. (2012), along the Athabasca River in northeastern Alberta. Based on this observation, Hay et al. (2012) suggested that the term Labiche Formation eventually be discarded in favour of more formal Colorado Group terminology that is compatible with other parts of the province. What implications this might have on the nomenclature of the upper Labiche Formation in the SBH Property area is unknown at this time.

Lastly, overburden surficial deposit material consisting of light- to dark-grey till was encountered in all of the Buckton drillholes, ranging from 6 to 47 m in depth. Instances where there is intermixing of till and mudstone, suggest the overburden is locally derived and incorporates material from the underlying Labiche Formation bedrock.

Table 5. Thickness of the Labiche and Second White Speckled Shale formations in the SBH Property as depicted from 1997, 2011 and 2012 drill logs at the Asphalt, Buckton and Buckton South mineralized zones.

	Buckton Zone				Buckton South Zone			Asphalt Zone		
Drillhole	Top of Labiche (m)	Top of co-mingling zone: Labiche and Second White Speckled Shale (m)	Top of Second White Speckled Shale (m)	Top of Belle Fourche / Shaftesbury (m)	Top of Labiche (m)	Top of Second White Speckled Shale (m)	Top of Belle Fourche / Shaftesbury (m)	Top of Labiche (m)	Top of Second White Speckled Shale (m)	Top of Belle Fourche / Shaftesbury (m)
7BK01	24.18		132.98	149.1						
7BK02	47.34		60.78	79.15						
7BK03	13.63		75.03	101.23						
7BK04	6		120.6	141.66						
7BK05	39.12		76.8	95.19						
7BK06	7.38		107.65	130.2						
7AS01									11.27	18.49
7AS02								13.71	21.61	33.2
11AS-01								22.5	31.5	37.5
11AS-02								72.19	94	106.52
11AS-03								Drillhole abandonded in overburden		
11BK-01	7.00		46.57	66.91						
11BK-02	10.00		67.34	90.16						
11BK-03	20.70		41.15	61.00						
11BK-04	15.00	51.70	54.47	67.98						
11BK-05	17.00	61.00	61.94	74.90						
12BK-01					35.10	97.02	N/A [4]			
12BK-02	N/A [1]		81.75	104.00						
12BK-03	20.00		77.22	98.00						
12BK-04	57.77		101.70	118.80						
12BK-05	N/A [2]		N/A [3]	96.43						
12BK-06					12.50	47.00	57.50			
12BK-07					N/A [2]	27.50	45.50			
12BK-08	N/A [2]		117.15	136.25						
12BK-09	8.00		52.26	63.06						

N/A - Value not available: [1] overburden overlies Second White Speckled Shale; [2] casing extends into the Labiche; [3] Second White Speckled Shale not present; [4] hole abandoned

Thickness Summary
Asphalt Zone: Labiche ranges from 8 to 22 m; Second White Speckled Shale ranges from 6 to 13 m thick
Buckton Zone: Labiche ranges from 13 to 115 m; Second White Speckled Shale ranges from 11 to 26 m thick
Buckton South Zone: Labiche ranges from 16 to 62 m; Second White Speckled Shale ranges from 11 to 18 m thick
Note 1: at the Buckton Zone, the 2WS is 26 m thick in drillhole 7BK03
Note 2: at the Buckton South Zone, drillhole 12BK01 did not penetrate the base of 2WS

7.3 Shale Classification

Black shale is a black, organic-rich, non-bioturbated, fine-grained (silt-sized or finer) and commonly laminated sedimentary rock composed dominantly of clay, quartz, organic matter and variable amounts of sulfide minerals (mostly pyrite) that formed in anoxic and euxinic environments (Swanson, 1961; Vine and Tourtelot, 1970; Tourtelot, 1979; Huyck, 1989).

Most shale that meets the ‘black’ shale colour criteria contains elevated organic carbon; however, the amount of total organic carbon necessary to satisfy the black shale definition varies. For example, Huyck (1989), Tourtelot (1979) and Weissert (1981) define the organic carbon component of black shale as having >0.5%, 1-10% and 1-30%, respectively, and Huyck (1989) acknowledged that problems exist with setting an arbitrary lower limit for black shale organic carbon content.

The emphasis of the colour black can also be a poor discriminator since the color is essentially controlled by the relative rates of organic versus non-organic sedimentation. Therefore, it is possible to have grey shale that formed in a reduced seafloor environment where the biological productivity was low and the non-organic sedimentation rate was high (W. Goodfellow, personal communication, 2013). In addition, ‘black’ shale could contain less organic matter than ‘dark-grey’ shale such that the total organic carbon content is not that useful in constraining the redox conditions in the lower water column.

Because of the ambiguities in black shale characterization, Huyck (1989) suggested that the basic shale description include location, stratigraphic position, scale of variation, regional distribution, thickness, sedimentary facies, paleontology, depositional environment, petrography, texture, fabric, color, mineralogy, weight percent organic carbon, weight percent carbonate carbon, weight percent sulfide sulfur, degree of pyritization, and type and maturity of organic material. Because this level of information is often beyond the means at our disposal for rock description, the abstruseness of black shale definition was discussed by U.S. Working Group IGCP 254 members who formerly proposed the following definition, which is outlined in Huyck (1989),

> *“A black shale is a dark (gray or black), fine grained (silt sized or finer), laminated sedimentary rock that is generally argillaceous and contains appreciable organic carbon (>0.5 wt%).”*

The term "laminated" in the definition of black shale is important because it further delimits the minimum organic carbon content at the time of sediment deposition. Laminations in Phanerozoic shale require a lack of significant bioturbation creating conditions that are too hostile to support burrowing fauna. Such conditions, whether due to insufficient oxygen in the bottom water, excess salinity or other factors, promote preservation of organic matter (Huyck, 1989).

With respect to “metalliferous black shale”, the metal values are highly variable for different shale sequences (and within the shale package). These variations essentially reflect the concentration of reduced biogenic sulfur in the water column (euxinic versus anoxic) and the availability of metals to precipitate sulfides. In the case of reduced water columns, there is usually excess biogenic sulfur but limited contents of metals such as Fe, Zn, Cu, Ni, etc, such that the main sources of metals must therefore include some input of clastic sediments and/or episodic hydrothermal fluid discharges into the sedimentary basin.

In addition to providing a formal definition for black shale, the U.S. Working Group IGCP 254 members also revised the definition of a metalliferous black shale as follows (Huyck, 1989),

> *"A metalliferous black shale is a black shale that is enriched in any given metal by a factor of x2 (except Be, Co, Mo, U for which x1 is sufficient) relative to U.S. Geological Survey standard SDO-1."*

Based on the definitions and criteria outlined in Huyck (1989), the Second White Speckled Shale Formation meets the textural and compositional criteria of metalliferous black shale. The Second White Speckled Shale is black, laminated, fine grained, argillaceous sedimentary rock that contains appreciable organic carbon (averages 8.0 wt. %; n=506). Based on a geochemical dataset of over 500 analyses, shale horizons within the Second White Speckled Shale have 'maximum' enrichment factors of >2 times the U.S. Geological Survey standard SDO-1for the following metals: Ni (4.2 times SDO-1), Mo (2.7 times SDO-1), Co (3.9 times SDO-1), Cu (2.4 times SDO-1), Zn (12.6 times SDO-1), U (5.3 times SDO-1), V (8.8 times SDO-1), Li (6.4 times SDO-1), Th (4.1 times SDO-1), Sc (2.2 times SDO-1) and REE (6.9 to 13.6 times SDO-1).

The Labiche shale is not as easy to classify in comparison to the Second White Speckled Shale. The Labiche Formation has an average organic carbon content of 1.1 wt. % (n=544), which qualifies the Labiche as black shale; however, other criteria do not support a black shale designation. Mainly, the Labiche is a well bioturbated, light to medium grey shale unit. The colour and general non-laminated texture, in particular, suggest that the Labiche is not a black shale *sensu stricto*. In addition, the grey bioturbated Labiche shale has horizons with thin, graded siltstone beds and sedimentary structures such as ripple marks that are indicative of gradual coarsening upward cycles and shallowing storm beds that are counterintuitive to anoxic and euxinic redox conditions in the lower water column.

The Labiche contains lower concentrations of traditional metals when compared to the Second White Speckled Shale. Accordingly, the Labiche has attracted little historic exploration attention and is evaluated as part of this Technical Report because it overlies the Second White Speckled Shale and therefore must be assessed as part of any open pit mining scenario. It should be noted that some metals within Labiche shale horizons have 'maximum' enrichment factors that are >2 times the U.S. Geological Survey standard SDO-1; these include: Zn (4.5 times SDO-1), Th (3.9 times SDO-1), Li (4.1 times SDO-1), V (4.6 times SDO-1) and REE (2.1 to 2.8 times SDO-1). The extractability of these metals by bulk bio-heap leaching techniques as demonstrated by DNI's recent work has compelled DNI to broaden its work scope to also evaluate the potential of the Labiche as a host to metallic mineralization.

8 Metallifierous Black Shale Deposits

The term “black shale” is a common expression to describe dark-coloured, fine-grained sedimentary rock that is relatively rich in organic matter (between 1% and 30% organic carbon and commonly 5% or more organic carbon; e.g., Weissert, 1981). Black shale is generally regarded to have been deposited within anoxic deep water depositional environments (500-900 m depth; oxygen minimum zone), although they can be formed in a broad variety of depositional environments ranging from fresh to estuarine to marine waters with conditions ranging from anoxic to oxic (Quinby-Hunt and Wilde, 1996). Black shale deposition has occurred throughout the geological record, but the Cretaceous Period contains the most extensive record of black shale formation in both shallow-water and deep ocean localities (e.g., Arthur and Schlanger, 1979).

The origin of metals in metalliferous black shale has been debated for decades. Although many different sources for the metals and modes of their enrichment have been suggested, general consensus suggests a combination of processes and sources often act in concert: metalliferous enrichment by hydrothermal fluid and/or hydrogenous sequestration/deposition via seawater where upwelling nutrient-rich seawater associated with a hydrothermal plume deposits metals in the black shale and related phosphorite. Some other theories involve: proximity to submarine volcanism, bacterial sulfate reduction, diagenesis and/or low-grade metamorphism, recrystallization and remobilization processes, and epigenetic emplacement.

Black shale metal deposits worldwide represent important hosts for a variety of economic interests, including sources for hydrocarbons and organic compounds, graphite deposits, and as sources of base metals, precious metals, trace metals and rare-earth elements.

Metal-rich black shale is the most common type of shale-hosted metal deposits. Black shale deposits worldwide have long been known to be enriched with a variety of transition metals, especially U, Mo, Zn, Ni, Cu, Cr, V, Co, Pb, Mn, W, Sb and other elements (Vine and Tourtelot, 1970; Pašava, 1996). In some black shale, significant enrichment of noble metals (gold and platinum group elements) are known (e.g., Yermolayev, 1995). Black shale has also been associated with REE- and U-enrichment, particularly within phosphate-enriched black shale sections (e.g., Yangtze Platform, China; Jiang et al., 2007).

Major base metal deposits in black shale occur in the Proterozoic of Australia (e.g., Mt. Isa, Hilton, McArthur River), North America (e.g., White Pine in Michigan and Sullivan in British Columbia) and Africa (e.g., Zambian Copper Belt). Few black shale ores have been commercially exploited on a large scale, though many have been sporadically mined on a local scale and are associated with other deposits or mining camps often with an affinity to large metal-bearing geological systems.

Black shale metal deposits are typically polymetallic with a variable proportion of sulfidic component. Their exploitation on large scale has been hampered by: the inefficiency of conventional metallurgical processing (smelting) for recovery of valuable contained metals on a collective basis and the environmental impact and energy costs of the application of the conventional techniques. By far the biggest challenge to extraction of metals from black shale has been morphology of the metal-bearing compounds that are typically dispersed throughout the shale as very fine particles, and are often trapped in the organic and fine clay components of the shale. Milestone advances during the past decade in application of industrial scale bio-leaching to extraction of metals from polymetallic black shale on a collective basis significantly enhances prominence of this deposit type worldwide.

The uraniferous Alum Shale, Sweden, and the polymetallic Talvivaara black shale (altered to black schist) hosted deposit, Finland, provide examples of active black shale exploration and development operations. The Talvivaara deposit reached production in October 2008 The Talvivaara represents the only current active mining operation that is producing black shale hosted polymetals relying on bulk mining and bulk bio-leaching techniques.

Situated in the Early Proterozoic Kainuu schist belt, Talvivaara deposit is hosted by metamorphosed black shale (black schist) and contains 300 million metric tons (Mt) of low-grade ore averaging 0.26 percent Ni, 0.14 percent Cu, and 0.53 percent Zn. The black schist is also characterized by higher Al, Au, B, Ba, Fe, Hg, K, Li, Mo, Na, Pd, V, Zr, and rare-earth element (REE) concentrations and by lower Ca, Mg, Ag, and F values compared with its intercalated black calc-silicate horizons. Geochemical evidence for hydrothermal influx at Talvivaara includes elevated Ni, Cu, Zn, and Mn values relative to other Finnish and North American black shale. In addition, elevated S isotope delta ^{34}S values (median values of -5.2 ppm for pyrrhotite, -4.3 ppm for pyrite from the low Ni-Mn black schist, and -3 ppm for both pyrrhotite and pyrite from the Ni-rich black schist) and positive europium (Eu) anomalies are regarded as further indications of hydrothermal activity and enrichment (Loukola-Ruskeeniemi and Heino, 1996). The Ni-rich and Mn-rich horizons with black calc-silicate rock intercalations probably result in part from precipitation of upwelling hydrothermal solutions through the Talvivaara sediments. This is analogous with, for example, the recent Galapagos mounds hydrothermal field. The Talvivaara deposit is currently producing Ni-Co-Zn-Cu and hopes to also shortly commence producing uranium.

The origin of REE accumulation in the Labiche and Second White Speckled Shale is unknown. Spatial coincidences that should be considered in any paragenetic discussion of the Birch Mountains area of northeastern Alberta include the following.

1) There is strong evidence that polymetallic enrichment of the Second White Speckled Shale in the SBH Property area is associated with hydrothermal-type mineralization (e.g., Dufresne et al., 2001; Dufresne et al., 2011; Eccles et al., 2012; Sabag, 2010, 2012).

2) A depositional time gap, which is estimated to span 4 to 8 million years (Dufresne et al. 2001), exists between the Second White Speckled Shale and the Late Cretaceous Lea Park Formation and may be temporally associated with extensional tectonics and kimberlite emplacement in the Birch Mountains (i.e., foreland bulge; Eccles, 2011).

3) The Birch Mountains area encompassing the SBH Property has been intruded by ~78-72 Ma kimberlite to alkaline intrusive bodies that comprise evolved magmas enriched in light REE (LREE), carbonate and late-stage mineral assemblages for these types of rocks including apatite (Eccles, 2011).

4) Beneath the sedimentary rocks of the Western Canadian Sedimentary Basin, the SBH Property area is underlain by a narrow (150-200 km wide) of 1.99–1.93 Ga granitoid rocks known as the Taltson Magmatic Zone and include metaluminous to moderately peraluminous, and moderate to strongly peraluminous granitoid rocks (e.g., Bostock et al. 1987, 1991).

Consequently, broad-spectrum hypotheses of REE-enrichment for the Late Cretaceous black shale paragenesis in the Birch Mountains could involve metal contribution from alkaline volcanism, A-type granite, nutrient-rich seawater (hydrothermal plume), or any combination of these potential sources.

Given REE-enrichment in the Labiche and Second White Speckled Shale formations, and the ease with which they are extracted from the shale as co-products to extraction of the polymetals as demonstrated by DNI's bio-leaching test work, DNI has recently broadened the scope of its exploration focus to assess the potential of the shales as a long term source to REEs alongside their potential for hosting more traditional polymetals.

Similarities between the SBH Property and Chinese ion-adsorbed REE deposits have been suggested by some of DNI's recent work. Economic ion-adsorption REE deposits in China were recently recognized as residual deposits of REE-bearing clays. These deposits are associated with weathered REE-enriched granites in the Jiangxi Province of southern China. Rare-earth elements released during granitic weathering (i.e., feldspar breakdown) are adsorbed by clays such as halloysite and kaolinite. A primary example includes the Longnan deposit in China where REE-enriched clays range from 3 to 10 m thick, have generally low grade (0.03-0.35 wt. % total REO; Grauch and Mariano, 2008), are divided into layers based on clay mineralogy, and are exploited economically because it is relatively easy to extract REE. Under the right conditions of ion concentration, ionic strength, pH and cohesive energy density of the mineral sorbate, liberated REE could form adsorption bonds with black organic-rich shale of the Second White Speckled Shale creating a similar REE ion-adsorption environment to those deposits in southern China.

9 Exploration

Drilling was completed in the Buckton Zone by Tintina Mines, Ltd. in 1997 and by DNI in 2011 and 2012 (Figure 11). The 2012 drill program included six drillholes that were drilled into the Buckton Zone. Consequently, this Buckton updated and expanded resource estimate is based on data from the 1997, 2011 and 2012 drill cores.

Drill core from the original Tintina 1997 diamond drilling, which are being archived by the Alberta Government, Alberta Geological Survey (AGS), were resampled and reanalyzed in 2009 (Second White Speckled Shale Formation samples) and 2012 (samples of the overburden, Labiche and Belle Fourche formations) to provide robust, up-to-date data using analytical methods and standards consistent with DNI's 2011 and 2012 drilling programs. The 1997 drilling consisted of six vertical core holes that were drilled along an 8 km transect of the Buckton Zone (Figure 11). The resampling and analysis methodology is provided in the 'Sample Preparation, Analyses and Security' section. In addition to reanalyzing the 1997 cores, a 3 m long drill core sample of Labiche Formation shale was collected from archived drillhole 7BK04 (79.6 to 82.6 m depth), to create the Labiche-1 standard sample blank. The bio-leaching test work is described in the 'Mineral Processing and Metallurgical Testing' section.

Analytical results for the Labiche and Second White Speckled Shale formations from the 2011 drilling in the Buckton Zone comprise data from five HQ-diameter vertical diamond drillholes (Figure 11). All five 2011 Buckton Zone drillholes intersected the Labiche and Second White Speckled Shale formations with the latter formation having a thickness of between 13 and 26 m. The results of the 2011 diamond drilling program have been discussed in detail by Dufresne et al. (2011) and Sabag (2012) and are summarized in the 'Drilling' section.

During 2012, six HQ-sized diamond drillholes were drilled at the Buckton Zone (Figure 11), five of which intersected the Second White Speckled Shale Formation. In drillhole 12BK-05, the Second White Speckled Shale was not stratigraphically present; possibly related to a location on the far edge of the Birch Mountains where the Second White Speckled Shale may have been locally removed by slumping or structural disturbance (see '2012 Drilling Summary' and 'Local Geology' sections).

In the holes where the Second White Speckled Shale was present, the formation ranged in thickness from 11 to 22 m. Since 2011 DNI has expanded its exploration focus to include the Labiche Formation, which it had previously regarded as overburden to the Second White Speckled Shale, but which is now recognized to contain potentially economic concentrations of metals, particularly rare earth elements (Eccles et al., 2013a). The true original thickness of the Labiche Formation is not known in the area of the Birch Mountains because it has been partially eroded by glaciation and has been locally structurally deformed. Additionally, several of the 2012 holes were cased into the Labiche Formation, so the measured thickness of the Labiche in those holes is estimated. In one hole (12BK-02), the Labiche Formation was not stratigraphically present, having been removed by structural disturbance (see 'Local Geology' Section). In the 2012 Buckton drillholes, measured Labiche thicknesses of 44 to 84 m were recorded.

In total 340 samples of Labiche Formation, 93 samples of Second White Speckled Shale and 119 samples of Shaftsbury Formation (Belle Fourche Member) were analyzed from the 2012 Buckton drill core. The drilling and sample analyses from the 2012 Buckton drill program are discussed in detail in the 'Drilling' and 'Sample Preparation, Analysis and Security' sections, respectively.

10 Drilling

10.1 1997 Historical Drill Summary

A complete account of the historical 1997 drill program is available in Sabag (1998). Drill targets were selected at the Buckton and Asphalt mineralized zones based on results of soil sampling surveys over the SBH Property during 1995-1996. A total of eight vertical diamond drillholes were completed in 1997 by Tintina, totalling 915.73 m, including six drillholes at the Buckton Zone (totaling 749.64 m; Figure 11) and two drillholes (totaling 166.10 m) at the Asphalt Zone, which is located to the south of the Buckton Zone (see Figures 4 or 10). Analysis of the drill core confirmed polymetallic mineralization at both zones; during this historical work, the program focused on the polymetallic content of the Second White Speckled Shale Formation.

The drill core recovery from the 1997 drill program was excellent. The core was split and one half of the core was analyzed. The remaining half was forwarded to the AGS of the Alberta Government, where the core was archived at the AGS' Mineral Core Research Facility in Edmonton, Alberta. The archived 1997 drill core was resampled by DNI in 2009 and again in 2012 as described in the 'Sample Preparation Analysis and Security' section.

10.2 2011 Drill Summary

A complete account of the 2011 drill program is available in Dufresne et al. (2011) and Sabag (2012). A total of eight HQ-diameter vertical diamond drillholes were completed during the 2011 drill campaign, totaling 647.5 m. Of the eight holes, five holes totaling 457.5 m were collared at the Buckton Zone (Figure 11). The remaining three holes (190.0 m) were drilled in the Asphalt Zone, to the south of Buckton. All five drillholes at the Buckton Zone intersected Labiche and Second White Speckled Shale.

The drill core boxes were removed from the field by the drilling contractor (Lone Peak Drilling) and are currently stored at a secure storage facility operated by APEX in Edmonton. Drill core logging and sampling was conducted by APEX staff under the supervision of Mr. Dufresne in Edmonton. A total of 674 samples were collected from the 2011 drill cores, including 531 from the Buckton Zone. Sample intervals were generally 0.5 m in the Second White Speckled Shale Formation, and 1 m or more in all other formations. Five or six 'shoulder' samples, which were located above and below the Second White Speckled Shale contacts, were also sampled at 0.5 m intervals.

10.3 2012 Drill Summary

Nine drillholes totaling 982.1 m were completed during the 2012 drilling program, six of which were collared within the Buckton Zone (Figure 11); the remaining three holes were drilled in the Buckton South Zone, located approximately 7 km south of the Buckton Zone about halfway between the Buckton and Asphalt Zones (Eccles et al., 2013b). All drilling was done by Lone Peak Drilling of Kimberley, BC.

With the exception of 12BK-05, the complete Second White Speckled Shale sequence (or equivalent) was cored in all 2012 Buckton holes. Drillhole 12BK-05 did not contain a Second White Speckled Shale interval, though the stratigraphically equivalent horizon was cored. Drillhole 12BK-05 is located at the edge of the Birch Mountains. Thus it is probable that the Second White Speckled Shale formation was locally removed from the area surrounding drillhole 12BK-05, most likely by a structural disturbance, such as glacial tectonism and/or slumping.

Figure 11. Location of 17 drillholes from the 1997, 2011 and 2012 drill programs at the Buckton Zone.

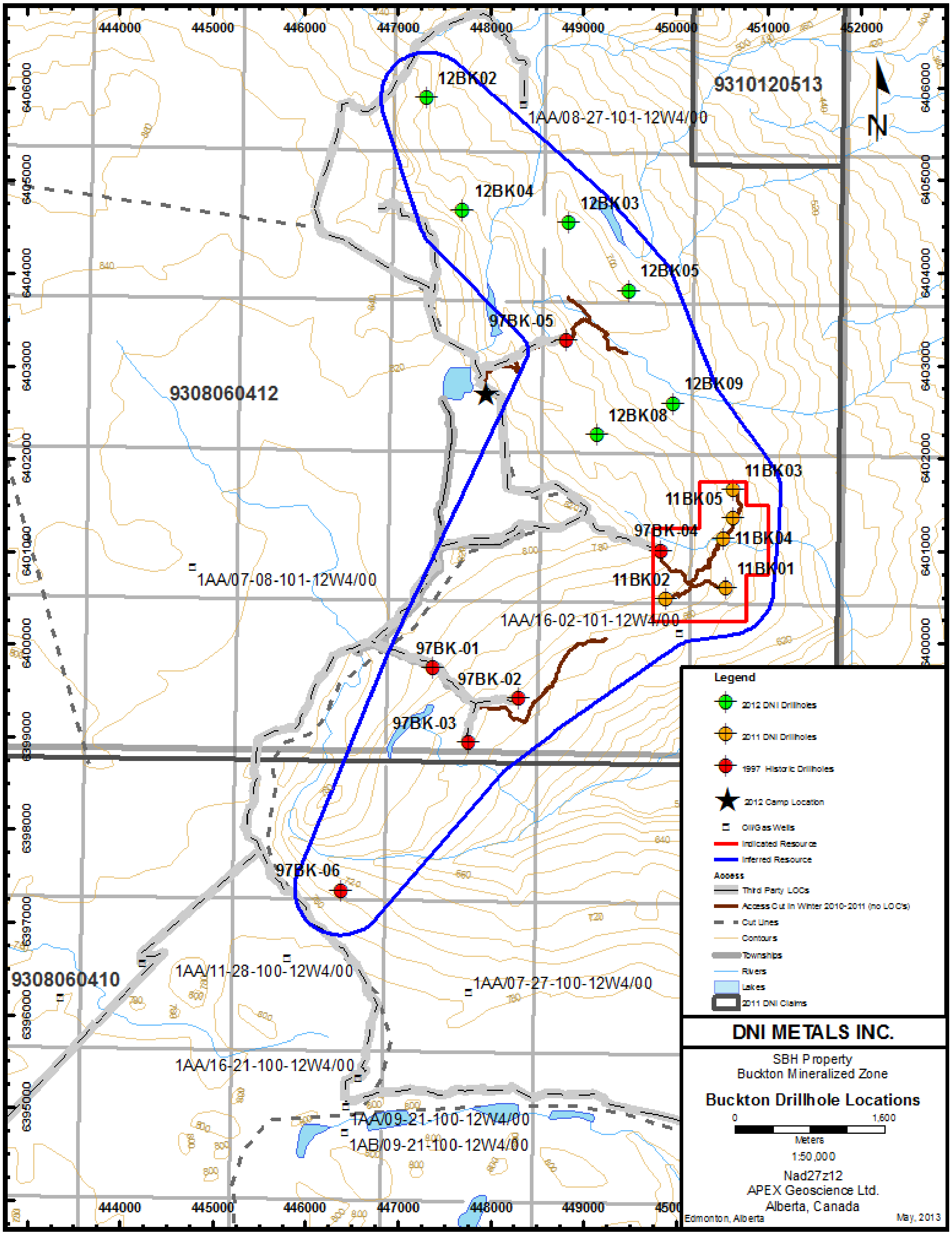


Figure XX

Drilling was done using a standard diamond drill that was moved between sites by helicopter. The upper part of each hole (consisting predominantly of overburden and glacial till) was cased and therefore not recovered, but otherwise, each hole was cored to the final end-of-hole depth in 1.5 m core tube runs. All cores were HQ-sized (63.5 mm core diameter). Cores were placed in wooden core boxes at the drill site and flown back to camp on a regular basis.

All drilling was done between August 14 and September 26. Drill crews and other project personnel were lodged in a temporary camp on the Birch Mountains for the duration of the 2012 drill program (Figure 11). Cores were stored on site at the field camp for the duration of the drilling program and shipped back to Edmonton following completion of the program.

Cores from the 2012 drilling program were flown from the drill sites into camp by Highland Helicopters of Fort McMurray. Once in camp, one or more geotechnicians cleaned, metre-marked, photographed and processed the core, then each core was logged by the project geologist on site and sample intervals were picked. The geotechnical processing included recording rock quality designation and core recovery, and measuring the preliminary geochemistry of the core by using a portable X-ray fluorescence (XRF) analyzer. The XRF analyzes semi-quantitative concentrations of a suite of elements for each sample. An Innov-X Systems X-50 XRF unit was used for the duration of the field project. The X-50 detects a standard suite of 65 elements ranging from phosphorous (atomic #15) to uranium (#92); rare earth elements are not detected by the XRF. The XRF was user-calibrated daily using commercial standards (supplied with the machine) and DNI's Labiche-1 analytical blank control standard.

XRF samples corresponded to intervals that were sampled for standard lab assays. Sampling for XRF analyzer was done by scraping material from the core (generally about 2 cm^3) and homogenizing the material by hand. It should be noted that neither the sampling procedure (for XRF samples) nor the XRF instrument itself are considered acceptable substitutes for proper lab procedures and assays, respectively. Rather, the field-based XRF is used as a tool for the rapid acquisition of a large suite of semi-quantitative geochemical data that is used by project geologists to help with logging and drilling decisions in the field. In addition to logging the core using the same intervals chosen for laboratory-based geochemical sampling, the XRF analyzer was also used to confirm geologic contacts while logging in the field.

For laboratory-based geochemical testing, one-metre samples were selected along the entire length of each core, independent of the geological units. Because formation boundaries generally did not correspond to even metre-marks, the sample immediately above each formation was generally truncated (<1 m). Subsequently, the top of each formation typically correspond to the top of a one-metre sample. The only exceptions to these rules occurred where a sample would have been less than 30 cm (in which case, two samples shorter than one-metre (but longer than 30 cm) were selected, and in the case of the metre above the top of the Second White Speckled Shale Formation, which was also sampled at a full metre, regardless of whether the sample above it had to be truncated. Sample preparation and analyses are described in the 'Sample Preparation, Analyses and Security' section.

11 Sample Preparation, Analyses and Security

11.1 Resampling 1997 Drill Core

Considerable sample material from 1990's Tintina exploration work, including the archival halves of split drill core from Tintina's 1997 drilling program, is currently stored at the AGS' Mineral Core Research Facility (MCRF) in Edmonton, Alberta. The samples collectively provide duplicate sample material for reference, verification and test work.

The archived 1997 drill cores have twice been sampled at the MCRF by DNI, once in 2009 and again in 2012. In 2009, arrangements were made with the AGS to allow DNI to collect samples from the archived drill core; all available Second White Speckled Shale material was collected. Care was taken to ensure that the resampling intervals started or ended at historic sample boundaries (to enable comparisons between analyses of the 2009 samples with weighted averages of the historic samples). In 2009, a total of 17 drill intervals were sampled of which 14 are intercepts of the Second White Speckled Shale within the Buckton Zone (Table 6).

Additionally, several samples were collected in 2009 from the Shaftesbury Formation beneath the Second White Speckled Shale. A single intercept of Labiche Formation (from hole 7BK04), overlying the Second White Speckled Shale, was collected for the purposed of creating a matrix-matched analytical blank control standard for future work, the Labiche-1 analytical blank control standard (Table 6).

The samples were sent to Activation Laboratories in Ancaster, Ontario. Complete analytical results and tables comparing the 2009 resample results to original 1997 historic drill core results are provided in an assessment report prepared by Sabag (2010). Results of DNI's verification study showed that the original 1997 core assays are considered of excellent quality and are useable in the Buckton Zone resource estimate.

In 2012, the historical (1997) Tintina cores archived at the MCRF were resampled a second time to collect samples intercepts of overburden, Labiche and Shaftesbury formations. A total of 391 samples were collected over the same drill sample intervals as the historic work (Table 7). The resampling took place from June 3-7 2012, and was completed by APEX staff under the supervision of Mr. Eccles (P.Geol.). The sample distribution focused on geological units other than the Second White Speckled Shale and included 30 till, 252 Labiche and 109 Belle Fourche (Shaftesbury) samples (Table 7).

Sample lengths were based on the historical 1997 core intervals. In some instances, the shorter historical sample lengths were combined, particularly when the historical lengths were <0.5 m. The sample lengths of the 2012 resampling varied between 0.3 and 2.9 m with the most common sample length being 1.5 m (146 samples; 38%). The 391 samples were shipped to Activation Laboratories in Ancaster, Ontario in 12 pails on June11, 2012 by APEX. The geochemical data are presented in Eccles et al. (2012b).

Table 6. List of samples from 2009 historic drill core resampling and verification program with emphasis on the Second White Speckled Shale Formation.

		Weight (g)		Location (UTM Nad27z12)		Elevation (m)		Depth (m)			
Sample	Hole	DNI	ActLabs	Easting	Northing	From	To	From	To	Length (m)	Formation
RA0101127	AS1	2,900	2,700	441800	6372500	663.7	662.2	11.3	12.8	1.5	Second White Speckled Shale
RA0101279	AS1	5,700	5,200	441800	6372500	662.2	660.5	12.8	14.5	1.7	Second White Speckled Shale
RA0101519	AS1	5,300	5,000	441800	6372500	659.8	656.5	15.2	17.3	2.1	Second White Speckled Shale
RA0101848	AS1	19,900	19,200	441800	6372500	656.5	651.5	18.5	23.5	5.0	Shaftesbury
RA0203342	AS2	17,800	17,200	441560	6373350	656.6	652.1	33.4	38.0	4.5	Shaftesbury
RA0203795	AS2	12,800	12,300	441560	6373350	652.1	647.8	38.0	42.2	4.3	Shaftesbury
RB0113298	BK1	7,600	7,100	447390	6399740	627.0	623.7	133.0	136.3	3.3	Second White Speckled Shale
RB0113628	BK1	14,500	13,900	447390	6399740	623.7	619.4	136.3	140.6	4.3	Second White Speckled Shale
RB0114060	BK1	11,900	11,200	447390	6399740	619.4	616.2	140.6	143.8	3.2	Second White Speckled Shale
RB0114378	BK1	15,700	15,000	447390	6399740	616.2	611.8	143.8	148.2	4.5	Second White Speckled Shale
RB0208056	BK2	24,700	23,600	448310	6399410	604.4	599.6	80.6	85.4	4.9	Shaftesbury
RB0307503	BK3	6,300	5,700	447770	6398930	620.0	617.8	75.0	77.2	2.1	Second White Speckled Shale
RB0307716	BK3	8,500	8,100	447770	6398930	617.8	614.7	77.2	80.3	3.2	Second White Speckled Shale
RB0308031	BK3	13,000	12,500	447770	6398930	614.7	610.0	80.3	85.0	4.7	Second White Speckled Shale
RB0308500	BK3	14,500	13,600	447770	6398930	610.0	604.9	85.0	90.1	5.1	Second White Speckled Shale
RB0309081	BK3	16,500	15,900	447770	6398930	604.2	598.0	90.8	97.0	6.2	Second White Speckled Shale
RB0309700	BK3	16,000	15,000	447770	6398930	598.0	593.8	97.0	101.2	4.2	Second White Speckled Shale
RB0310172	BK3	10,700	10,000	447770	6398930	593.3	589.3	101.7	105.7	4.0	Shaftesbury
RB0407691	BK4	10,700	8,730	449850	6401000	670.4	667.4	79.6	82.6	3.0	Shaftesbury
RB0414294	BK4	17,500	17,000	449850	6401000	607.1	602.4	142.9	147.6	4.7	Shaftesbury
RB0507680	BK5	9,300	7,800	448825	6403270	653.2	649.6	76.8	80.4	3.6	Second White Speckled Shale
RB0508161	BK5	10,400	9,900	448825	6403270	648.4	643.8	81.6	86.2	4.6	Second White Speckled Shale
RB0508618	BK5	13,800	13,300	448825	6403270	643.8	638.4	86.2	91.6	5.4	Second White Speckled Shale
RB0509160	BK5	11,000	10,400	448825	6403270	638.4	634.8	91.6	95.2	3.6	Second White Speckled Shale
RB0509519	BK5	16,600	15,800	448825	6403270	634.8	628.8	95.2	101.2	6.0	Shaftesbury
RB0407691	BK4	10,700	8,730	449850	6401000	670.4	667.4	79.6	82.6	3.0	Labiche

Historic drillhole information per Tintina Mines drilling 1997, Alberta Mineral Assessment Report MIN9802 and Sabag (1998).

Table 7. Summary of 2012 resampling of historical Tintina 1997 cores with emphasis on the Labiche and Belle Fouche Formations.

Drillhole	Till	Labiche	Belle Fouche	Total	
7BK01	9	64		**73**	
7BK02	20	9	11	**40**	
7BK03		39		**39**	
7BK04		65	7	**72**	
7BK05		13	25	**38**	
7BK06	1	58	1	**60**	
7AS01			35	**35**	
7AS02		4	30	**34**	
	30	**252**	**109**	**391**	**Total**

11.2 Reanalysis of 1997 Drill Core

A complete description of the reanalysis of the historical 1997 drill core is provided in Sabag (2010, 2012), Dufresne et al. (2011) and Eccles et al. (2012a). All samples collected during resampling of the1997 historic drill core were analyzed at Activation Laboratories as follows.

- In 2009, 14 composite samples, representing the resampling of 99 original Second White Specks Shale samples from the 1997 core, were analyzed by INA, ICP following an Aqua Regia sample digestion, ICP following a total digestion in four acids, and analysis for Carbon and Sulphur (C-S) species by Leco and IR. Specific Gravity measurements were also made on one of the duplicate set of subsamples.

- In 2011, the same 14 composite Second White Specks Shale samples as above were reanalyzed using a full-suite REE assay package (Code 8).

- In 2012, 391 samples of Labiche and Shaftesbury formations were analyzed by INAA and four acid total digestion ICP (Code 1H2), REE assay (Code 8) and specific gravity (bulk density).

11.3 Preparation of the Labiche-1 (2009) and Labiche-2 (2012) Analytical Blank Control Standard

With respect to preparation of the "Labiche-1" analytical blank control standard, a 10.7 kg sample material was shipped to Activation Laboratories Ltd. in 2009. The material was crushed, pulverized and homogenized. A number of cuts were analyzed with Activation Laboratories Ltd. package 1H2 (INAA and total digestion ICP), C and S (Code 5G), whole rock (Fusion ICP Code 4B), gravimetric H_2O (Code 8), specific gravity and paste pH. The Labiche-1 analytical blank control standard was used during the 2011 and 2012 DNI drill programs.

By 2012 the supply of Labiche-1 analytical blank control standard material had been significantly diminished from regular use, so a new quality analytical blank control standard, Labiche-2, was prepared by Activation Laboratories Ltd. from Labiche Formation core taken from the 2011 drill program. Material for the Labiche-2 standard was taken from a 30-metre interval of Labiche shale from hole 11BK04 (from the casing point to 10-metres above the Second White Speckled Shale), which was crushed and homogenized to create the standard; the final standard was packaged in 50 g aliquots (J. Fars, personal communication, 2013). Five cuts of Labiche-2 were analyzed by Activation Laboratories Ltd. using the gold + 53 element four-acid dissolution and ICP-INA analysis package (Activation Laboratories Ltd. Code 1H2), Aqua Regia dissolution with 35-element ICP analysis package (Activation Laboratories Ltd. Code 1E2), and C (total/organic/inorganic) + S (total/SO_4) concentration by combustion/perchloric acid dissolution with infrared absorbtion analysis (Activation Laboratories Ltd. Code 5G). Analysis of the Labiche-2 analytical blank control standard by Activation Laboratories Ltd. yielded similar concentrations in all elements of interest as the Labiche-1 analytical blank control standard, with the exception of the Mo and Ni concentrations determined by ICP analyses, which were 5-10% lower in the Labiche-2 analytical blank control standard than in the Labiche-1 analytical blank control standard (J. Fars, personal communication, 2013). The Labiche-2 analytical blank control standard was used during the very late stages of the 2012 DNI drill program.

11.4 Analysis of 2011 Drill Core

A total of 674 drill core samples were sent for geochemical analyses to Activation Laboratories Ltd. in Ancaster, Ontario. For the 2011 drill program, blanks, duplicates and standards were inserted into the sample stream by Activation Laboratories Ltd. to ensure quality and integrity of the analytical results. The Labiche analytical blank control standard was inserted a total of 34 times amongst the 674 drill core samples. Specifically, 30 Labiche analytical blank control standards were analyzed with the 531 drill core samples from the Buckton drillholes and 4 Labiche-1 analytical blank control standards were analyzed with the 143 drill core samples from the Asphalt drillholes. The standard practice was to insert a Labiche analytical blank control standard every 10 samples within the Second White Speckled Shale sample stream and every 50 samples in the sample stream for overburden (till), and Labiche and Belle Fourche shales. Check assays were performed by Activation Laboratories Ltd. for all the 2011 samples, such that a pulp duplicate and a reject duplicate were inserted every 10 samples by Activation Laboratories Ltd. into the sample stream.

The analyses of the 2011 drill core included measurement of specific gravity, instrumental neutron activation analysis (INAA), ICP analysis following a four-acid total sample digestion to incipient dryness and resolution in aqua regia (Activation Laboratories Ltd. code 1H2); analysis for organic carbon (C-org) and sulphur (S) species by combustion (Leco) and Infrared (IR) analyses (Activation Laboratories Ltd. code 5G), and analysis for rare earth elements by ICP and ICP/MS following a fusion with lithium metaborate/tetraborate (Activation Laboratories Ltd. code 8)

11.5 Analysis of 2012 Drill Core

11.5.1 Sample Preparation and Security

As noted in the 'Drilling: 2012 Drilling Summary' Section, cores were flown from the rig to the field camp, processed by one or more geotechnicians, and logged by the project geologist on site. Sample intervals were picked by the project geologist and cores were split and sampled by a geotechnician and/or geologist. Holes were named in a similar manner as with previous DNI drillholes at the SBH Property: (year)(mineralized zone)(sequential hole number); each name segment is two digits and the hole name contains no spaces, dashes, or other separators. In naming the 2012 drillholes no separate designation was made for holes in the Buckton South Zone, which was drilled concurrently with the Buckton Zone (i.e., all holes from 2012 were given the BK designation for Buckton). For example, the third hole drilled in 2012 was named 12BK03. Samples were similarly named as per previous programs: (Hole-name)(Top-of-sample-interval *[in cm from top]*), for example, the sample beginning at 104 m depth in hole 12BK-03 was named 12BK0310400. The Buckton South Zone is the subject of a separate technical report, the maiden Buckton South inferred resource estimate (Eccles et al., 2013b).

Sampling was done by cutting cores manually with a metal putty knife or similar instrument. Hard lithified zones were broken with a hammer and chisel. As the sampling was done in the field, the core was still relatively moist and soft, and therefore it was generally possible to sample the cores by manually cutting the cores. As the shale formations (and clay till) in the Buckton area dry-out, the core becomes more brittle and difficult to sample because the core tends to break and crumble. When core had dried out in the field to the point of being brittle, care was taken to avoid mixing of core pieces from individual sample intervals.

Samples were collected in clear polyethylene bags, which were labelled on both sides and contained a plastic sample tag; bags were sealed with regular zip tie-wraps. Analytical blank control standards "Labiche-1" and "Labiche-2" (see 'Preparation of the Labiche-1 (2009) and Labiche-2 (2012) Analytical Blank Control Standard') were inserted into the sample stream in the field. The standards were recorded in the sample log (i.e., whether Labiche-1 or Labiche-2 was used), and were otherwise bagged similarly to the rest of the 2012 drill program samples. Standards were placed in the sequence of core samples after every tenth sample. Sample numbers for standards were the similar to other samples, except that standards were given assumed depths in the sample names that corresponded to the 99 centimetre mark of the depth between the two samples where that standard occurred (i.e., the standard placed between samples 12BK0804400 and 12BK0804500 was named 12BK0804499). In the cases where samples shorter than one metre occurred, the centimetre before the next sample was used as the arbitrary depth of the standard.

A duplicate was taken of every 20th sample, but the duplicates were not inserted with the rest of the samples for lab analyses at Activation Laboratories Ltd. Rather, the duplicate samples are stored at APEX' warehouse for potential future analyses. Duplicates were taken by breaking up the original sample by hand (in the original sample bag) and selecting approximately half of the pieces, which were removed by hand from the original bag and placed in the duplicate-sample bag. Since each original sample weighs approximately 2-3 kg, more than enough material was present in each original sample and duplicate sample for lab analyses. Duplicate sampling was done in this manner because it was generally not possible to isolate a quarter-section of the core; thus, the archive half of each core is identical for regular samples and those that were duplicated (though the lab samples that were duplicated contain less material because half the material was taken out for the duplicate sample). Thirty-four duplicate samples were collected from all holes during the 2012 drill program.

Samples for laboratory analyses were placed in woven polypropylene bags ("rice bags"); a total of 88 rice bags were used for the lab samples, each bag containing between four and 19 samples, but generally about 10 samples. Two separate rice bags were used for the duplicate samples. Rice bags containing samples for lab analyses were secured with regular tie-wraps and red security tags; those used for duplicates were secured only with regular tie-wraps. All rice bags containing core material from the Buckton Zone were stored on site in the field camp for the duration of the drill program. Rice bags were flown to the project staging area when the camp was demobilized and driven to Fort McMurray by an APEX employee, where they were stored in a secure warehouse operated by the project expediter (Serv-U Expediting, Ltd.) before being shipped to Edmonton by truck. In Edmonton the samples were stored in a secure storage locker operated by APEX, then later shipped to Activation Laboratories Ltd. in Ancaster, Ontario. Activation Laboratories Ltd. did not report any evidence of samples having been tampered with or otherwise compromised.

The remaining split of each core was retained in the original core box for archival. The core boxes were stuffed with regular Kraft paper to avoid movement of loose core pieces. The archive core was stored on site for the duration of the drilling project. When the camp was demobilized, core boxes were strapped together securely with metal tape onto palates and flown (by helicopter) to the project staging area, then driven by an APEX employee to Fort McMurray. In Fort McMurray, the core was stored for several days in a secure warehouse operated by the project expediter, and driven directly to Edmonton on a flat-bed truck. The core was dropped off at a secure storage locker operated by APEX, where it currently remains.

11.5.2 Sample Analysis

The analytical procedures for the 2012 drill core samples included specific gravity measurement, instrumental neutron activation analysis (INAA), inductively coupled plasma (ICP) analysis following a four-acid total sample digestion to incipient dryness and resolution in aqua regia (Activation Laboratories Ltd. Code 1H2); analysis for organic carbon (C-org) and sulphur (S) species by combustion (Leco) and Infrared (IR) analyses (Activation Laboratories Ltd. Code 5G), and analysis for rare earth elements by ICP and ICP/MS following a fusion with lithium metaborate/tetraborate (Activation Laboratories Ltd. Code 8).

12 Data Verification, Quality Assurance and Quality Control Methodology

Data collected from reanalyses of the historic 1997 drill core, and the 2011 and 2012 drill programs have been checked for veracity. The QA/QC procedures and results of the 2009 and 2012 reanalyses of historic 1997 core, and the analytical data from the 2011 and 2012 drilling programs were reviewed independently by Mr. McMillan, P. Geo. and Mr. Eccles, P.Geol. The results of field blanks, and laboratory standards and duplicates checked as part of this Technical Report are within acceptable limits such that the data are sufficiently accurate and precise for use in the Buckton updated and expanded resource estimation.

12.1 2009 Resampling of Historic (1997) Core

The historic 1997 drill program included a minimal number of blanks, duplicates and standards in the sample stream. Therefore, as part of DNI's overall QA/QC protocol, a verification resampling program was conducted on the archived 1997 drill core in 2009. All available Second White Speckled Shale core in holes 7BK01, 7BK03 and 7BK05 were collected as 14 composite samples representing 99 original samples from 1997. The resampling relied on the original drill logs and the depth markers (wooden blocks) in the core boxes to determine sample intercepts. Activation Laboratories Ltd. inserted a series of blank samples, internal pulp duplicates, and industry standards into the sample stream. No issues were detected in results from the Activation Laboratories Ltd. QA/QC samples.

Comparison of the results from the 2009 historic core reanalysis program and the original analyses obtained in 1997 are presented in Dufresne et al. (2011). The verification analyses compare acceptably well with historic results with a few exceptions: organic carbon is lower in the 2009 data than in the original 1997 data; Br is consistently higher in the 2009 analyses than as documented in 1997; and 2009 Specific Gravity measurements are 6%-19% higher than as reported in the historic work (Sabag, 2010). Linear regression analysis shows a correlation of better than 95% for Ni, Zn, Cu, Mo, Co, U and V. Based on this verification study, the original 1997 core assays are considered to be of excellent quality (Dufresne et al., 2011).

DNI's recent work has highlighted the potential for extracting REEs and specialty metals (e.g., Li, Sc, Th) as incidental co-products to leaching of base metals from the shale. Subsequently, the Shaftesbury, Second White Speckled Shale and Labiche resampled core material collected in 2009 were analyzed in 2011 for a complete suite of REE, Y, Sc and Th by Actlab's analytical package Code 8 – REE Assay Package, which uses Fusion ICP and ICP/MS. These data were also deemed to be of excellent quality (Dufresne et al., 2011).

12.2 2011 Drill Program

DNI's internal Labiche-1analytical blank control standard, and laboratory duplicates and standards were inserted into the sample stream at Activation Laboratories Ltd. to ensure quality and integrity of the analytical results. The Labiche-1 analytical blank control standard was inserted once every 10 samples within the Second White Speckled Shale sample stream and once every 50 samples in the sample stream for glacial overburden, Labiche and Belle Fourche. Check assays were performed by

Activation Laboratories Ltd. for all 2011 drill core lithologies. A pulp duplicate and a reject duplicate were inserted every 10 samples in Activation Laboratories Ltd.' sample stream.

12.3 2012 Resampling of Historic (1997) Core

DNI analytical blank control standards, and laboratory duplicates and standards were inserted into the 2012 reanalysis of the historic 1997 drill core sample stream at Activation Laboratories Ltd. to ensure quality and integrity of the laboratory results. Forty Labiche-1 analytical blank control standards were inserted into the 1997 reanalysis sample lot at a sample sequence of approximately one analytical blank control standard every 10 samples.

In addition to the Labiche-1 analytical blank control standards, check assays were performed by Activation Laboratories Ltd. such that a pulp duplicate and a reject duplicate were inserted every 10 samples in the sample stream.

12.4 2012 Drill Program

The Labiche-1 (59 samples) and Labiche-2 (five samples) analytical blank control standards were inserted into the sample stream by APEX personnel in the field at the same time the core was sampled. Laboratory standards were also inserted into the same stream at the laboratory by Activation Laboratories Ltd.

In addition to the Labiche analytical blank control standards, check assays were performed by Activation Laboratories Ltd. such that a pulp duplicate and a reject duplicate were inserted every 10 samples in Activation Laboratories Ltd.' sample stream.

The Buckton Zone and Buckton South Zone (Eccles, 2013b), were drilled contemporaneously and the respective sample preparation and processing programs were functionally the same; therefore, QA/QC data from the 2012 Buckton (and Buckton South) drill program have been kept integrated.

12.5 Quality Assurance and Quality Control Results

The sampling and assay processes employed during the 2011 and 2012 drill programs, and the 2012 resampling of historic (1997) drill core program meet industry standards for accuracy and reliability, and are considered sufficiently accurate and precise for use in resource estimation. Analytical results from industry and in-house laboratory standards show that sample contamination is not a significant issue. All statistical QAQC calculations and comparisons presented in this section include data from the 2011 drill core analyses, 2012 resampling of historic 1997 drill core and 2012 drill core analyses.

Concentration plots for the elements of interest in the ICP (Cu, Mo, Ni, Zn and V) and INAA (Co, U, La, Eu, and Lu) analyses of the Labiche-1 analytical blank control standards from the 2011 drill program (30 samples), the 2012 historic core resampling program (40 samples) and the 2012 drill program (59 samples) are presented in Figure 12. The Labiche-1 analytical blank control standard was not run by Activation Laboratories Ltd. in the 2011 REE analyses (which relied on industry standards to ensure quality control), so the rare earth elements concentrations (for La, Eu and Lu) in the Labiche-1 sample standard presented in Figure 12 are from INAA analyses (not Fusion ICP-ICP/MS analysis). To establish an acceptable range for the results, bands for two- and three-standard-deviations from the mean value (as calculated from all samples) are included in Figure 12. The Labiche-1 analytical blank control standard generally meets the “pass-criterion” plotting almost entirely within two-standard deviations of the mean. Some scatter and outliers occur, particularly for Lu, however sample contamination is generally considered unlikely because the samples with abnormal Lu levels, for example, do not contain abnormal values of other elements.

The Labiche-2 analytical blank control standard was used during the latter stages of the 2012 drill program (i.e., when the Labiche-1 standard material ran out), however, only 5 Labiche-2 standards were analyzed. These data are not plotted due to the small population size, but are shown in Table 8. No significant anomalies in the Labiche-2 data were detected.

The results of the original sample analyses versus laboratory activated pulp and reject duplicate analyses for the metals of interest are shown as a series of scatter plots in Figure 13. The scatter plots show very good precision of the samples and pulp duplicates for all the metals of interest with the exception of copper, the outliers of which are limited to a very few analyses.

Activation Laboratories Ltd. inserted a series of industry laboratory standards into each stream of sample run. The standards utilized include: GXR-1, GXR-4, GXR-6, SDC-1, SCO-1, DNC-1, OREAS-13b and DMMAS 112 for base metals and NIST 694, DNC-1, GBW 07113, LKSD-3, TDB-1, W-2a, SY-4, CTA-AC-1, BIR-1, BIR-1a, NCS DC86312, NCS DC70014, NCS DC70009 (GBW07241), OREAS 100a, OREAS 101a, OREAS 1001b, JR-1, NCS DC86318 and USZ 42-2006 for REE. Scatter plots for the certified standard values versus their measured values are presented in Figure 14 (base metals) and Figure 15 (REE). The laboratory standard correlations provide reasonable results for most of the metals, which occur within the prescribed 90% confidence rate. Cobalt shows slightly poorer correlation, but this is attributed to the small population size of cobalt analyses and relatively low range of certified standard values for cobalt.

Table 8. Analytical data for selected elements of interest in the Labiche-2 analytical blank control standard that were analyzed during the 2012 drill program.

Element:	Cu	Mo	Ni	Zn	Co	U	V	La	Eu	Lu
Unit symbol:	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection limit:	1	1	1	1	1	0.5	2	0.5	0.2	0.05
Analytical method:	ICP	ICP	ICP	ICP	INA	INA	ICP	INA	INA	INA
12BK0813399	39	3	49	158	12	5.9	262	44.7	1.6	0.66
12BK0814299	31	2	49	157	13	5.8	269	40.8	1.6	0.59
12BK0901699	31	2	49	151	11	5.7	272	36.3	1.3	0.59
12BK0902899	27	2	46	143	11	5.1	265	37.6	1.5	0.55
12BK0904099	31	2	49	155	12	5.1	268	38.9	1.4	0.63

Figure 12. Concentration plots of analyses for DNI's Labiche-1 analytical blank control standard. Note that a single Zn analysis (sample # 500, 305 ppm) is not shown on this graph because of size constraints, but is used in statistical calculations.

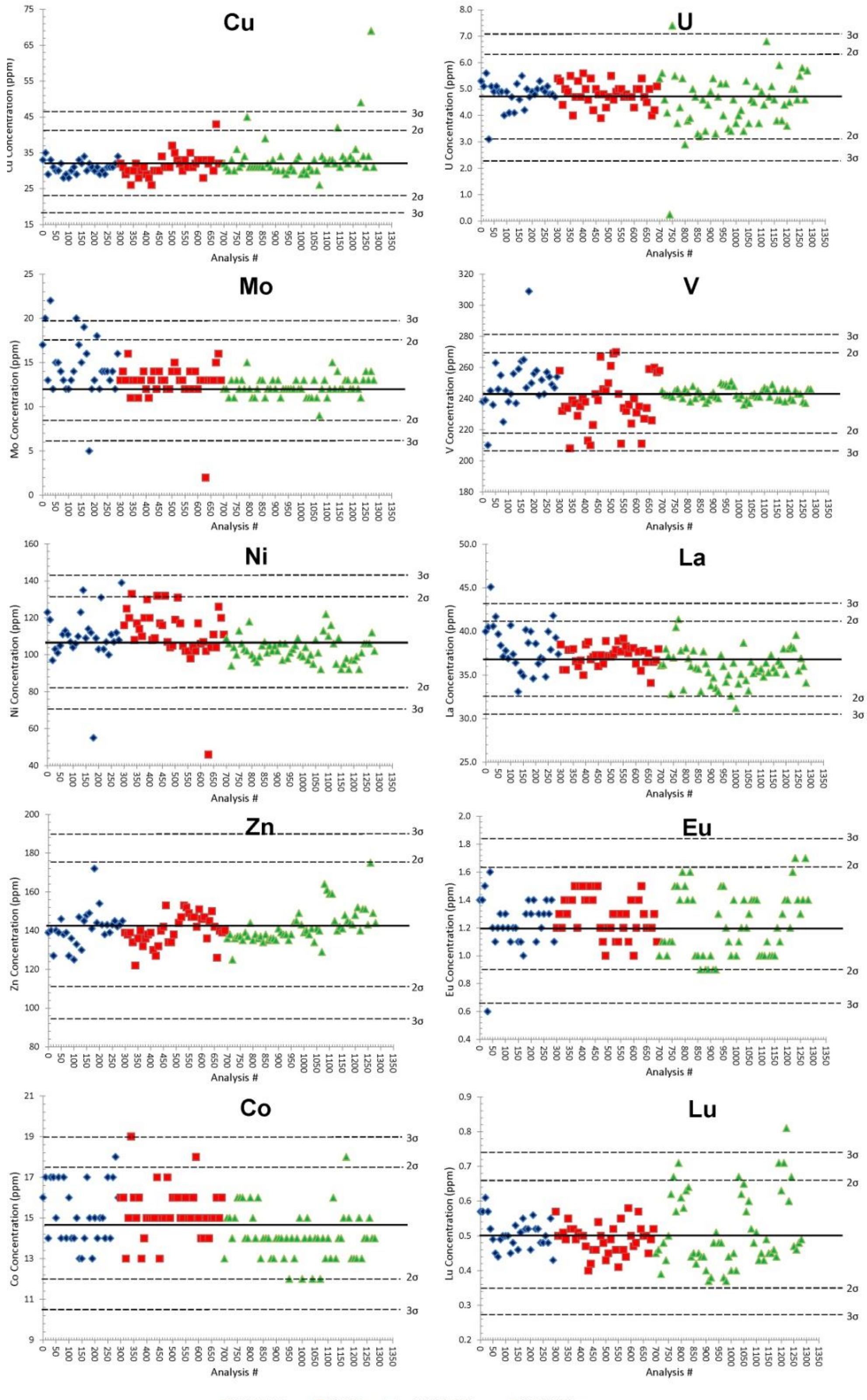


Figure 13. Comparison between DNI's original sample data and laboratory duplicate analyses for 2011 drill core sample analyses, 2012 reanalyses of historical 1997 drill core and 2012 drill core analyses.

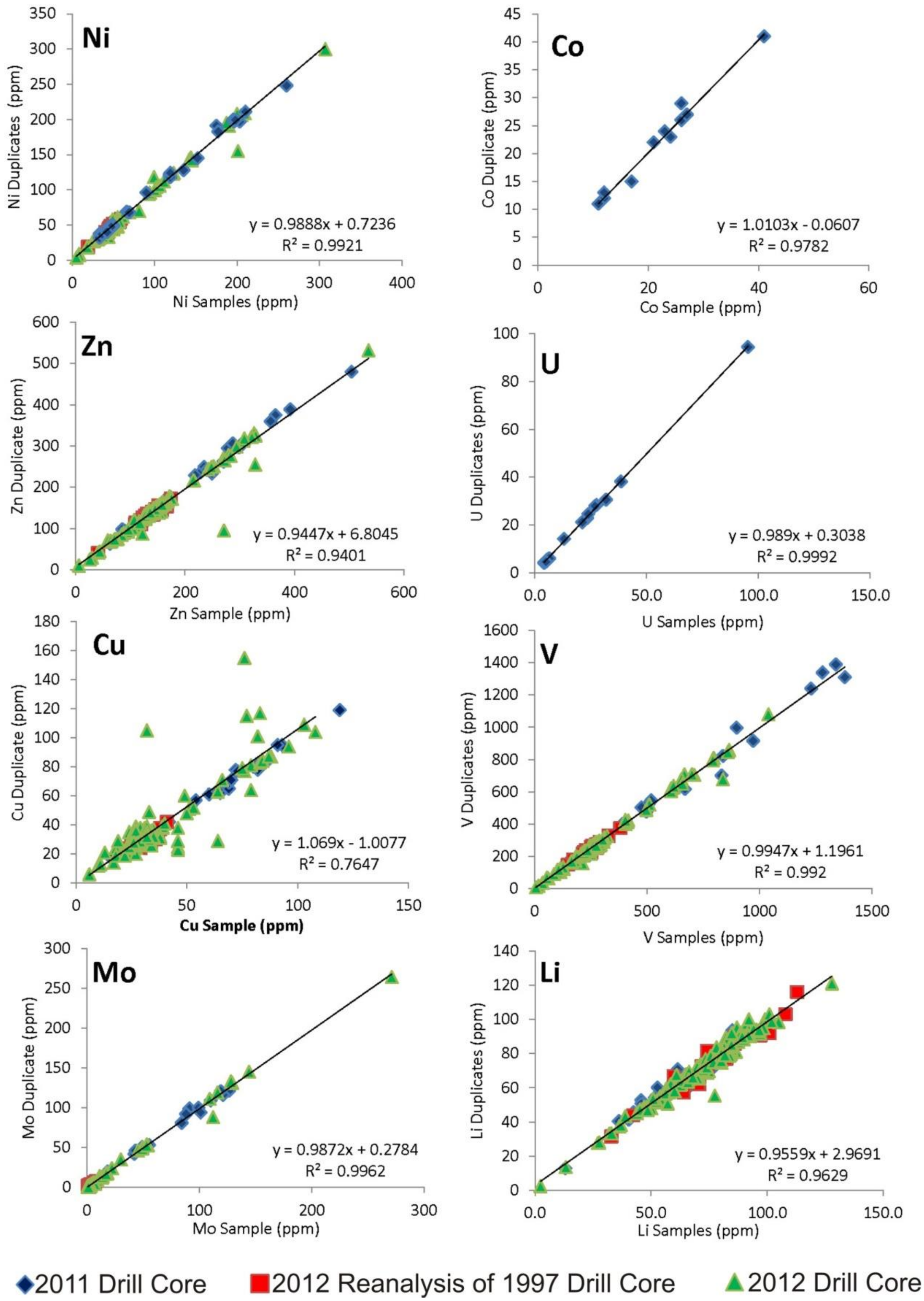


Figure 14. Comparison between certified laboratory standards and their measured values for base metals. Standards GXR-1, GXR-4, GXR-6, SDC-1, SCO-1, DNC-1, OREAS-13b and DMMAS 112 were measured by total digestion-ICP (Cu, Mo, Ni, and Zn), total digestion-MS (Li) and INAA (Co); standards NIST 694, DNC-1, GBW 07113, LKSD-3, W-2a, SY-4, CTA-AC-1, BIR-1a, OREAS 100a, OREAS 101a, OREAS 1001b and JR-1 were measured by fusion-MS (U) and fusion-ICP (V).

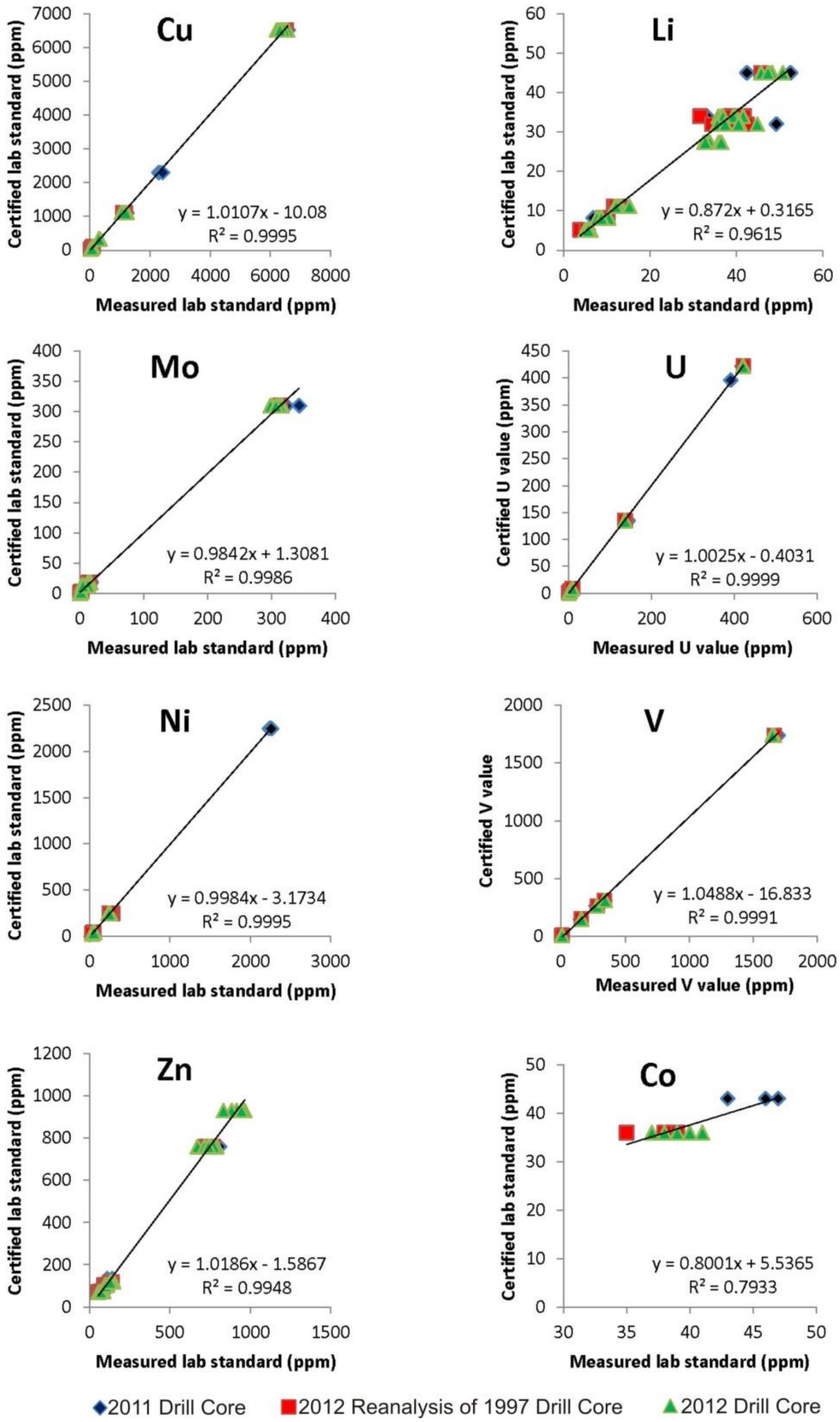
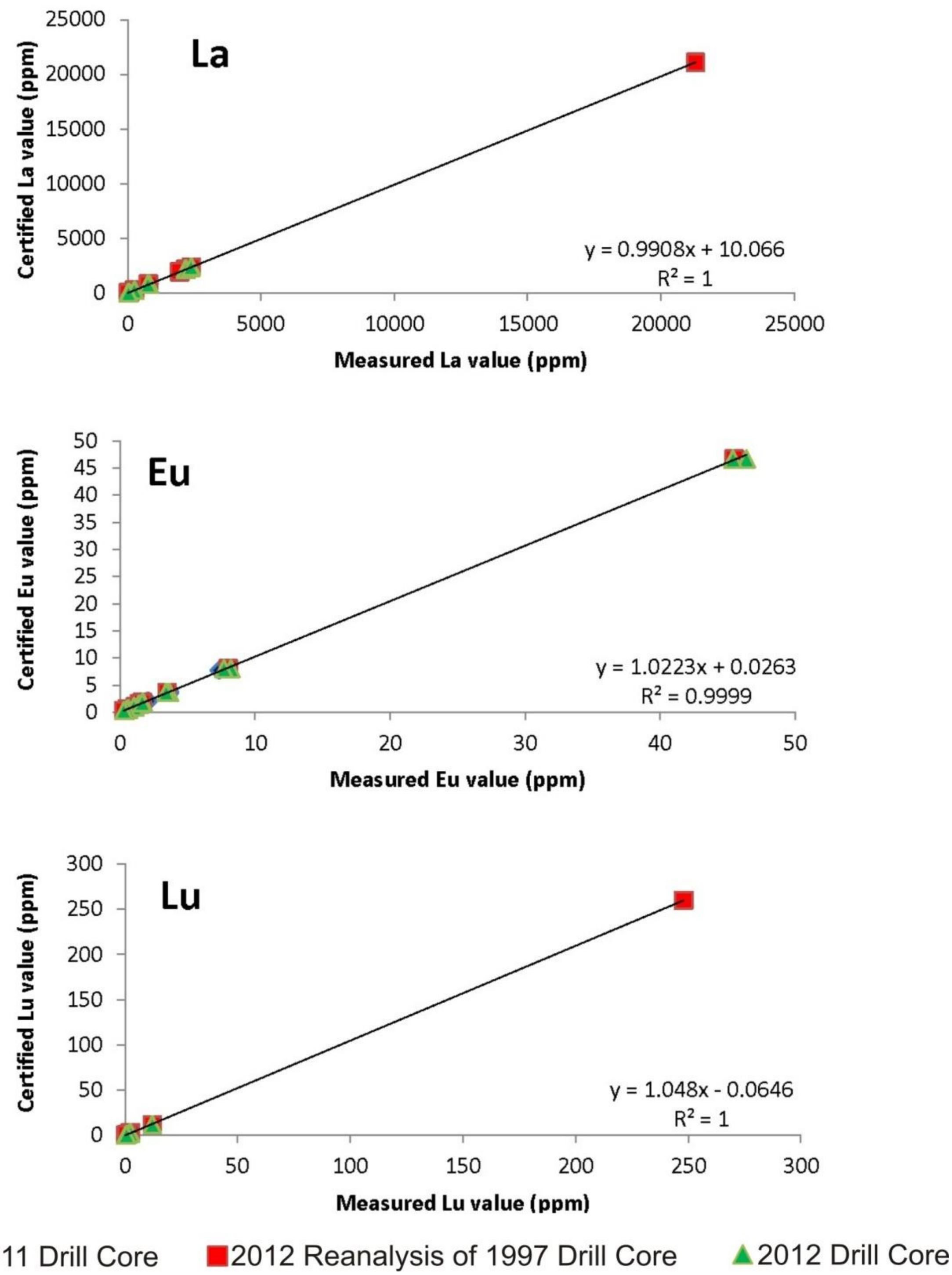


Figure 15. Comparison between certified laboratory standards (NIST 694, DNC-1, GBW 07113, LKSD-3, TDB-1, W-2a, SY-4, CTA-AC-1, BIR-1, BIR-1a, NCS DC86312, NCS DC70014, NCS DC70009 (GBW07241), OREAS 100a, OREAS 101a, OREAS 1001b, JR-1, NCS DC86318 and USZ 42-2006) and their measured values for the rare earth elements.



12.6 Data Verification, Quality Assurance and Quality Control Conclusion

Analysis of the geochemical results of the Labiche-1 and Labiche-2 analytical blank control standards, and laboratory pulp duplicates, reject duplicates and certified standards used in the 2011 and 2012 drill programs, and the 2012 resampling of historic (1997) drill core all show that the assay preparation and analytical process produced valid results.

The Labiche-1 and Labiche-2 analytical blank control standard datasets show that there was minimal contamination during the sampling process in the 2011 and 2012 drill core sampling program. The laboratory duplicate results indicate that the lab was maintaining a clean and contaminant-free work zone. The certified standard analyses indicate that Activation Laboratories Ltd. employed careful and thorough methodology throughout the assaying procedure. The sampling and assay process employed during the 2011 and 2012 drill core sampling programs, and the 2012 resampling of historic (1997) drill core, meet industry standards for accuracy and reliability, and in the opinion of the authors of this Technical Report, are sufficiently accurate and precise for use in the Buckton updated and expanded resource estimation.

13 Mineral Processing and Metallurgical Testing

13.1 2009-2012 Metallurgical Testing (BRGM and AITF)

A summary of 2009-2012 metallurgical testing can be found in Sabag (2010, 2012). Metallurgical summaries have been captured as part of resource estimate Technical Reports prepared by Dufresne et al. (2011) and Eccles et al. (2012a,b). This section summarizes the 2009-2012 metallurgical testing on the Second White Speckled Shale and Labiche formations.

13.1.1 Leaching Test Work on the Second White Speckled Shale Formation

In 2009 DNI commenced an extensive metallurgical test work program focused on acid and bio-heap leaching studies in order to assess the recoverability of metals from the Second White Speckled Shale. Samples were collected by APEX staff and DNI from outcrops of the Second White Speckled Shale during 2009 and 2010. These samples and composites of the samples were then used in a variety of leaching test programs at several different facilities. The procedures and results are well summarized by Sabag (2010) and in DNI corporate news releases between 2010 and 2011 (DNI Metals Inc. News Releases, 2010a,b; 2011a).

From 2009 to 2010, leaching test work was conducted at the Bureau de Recherches Géologiques et Minières (BRGM), France, Alberta Innovates Technology Futures (AITF and formerly the Alberta Research Council), Edmonton, Alberta, and Activation Laboratories Ltd., Ancaster, Ontario. In general, the test work indicates that the metals that are of interest in the Second White Speckled Shale can be extracted by bio-leaching or acid leaching, and that most of the metals of interested are extracted with reasonable recoveries.

The Sulfuric acid leaching tests conducted by DNI at Activation Laboratories in 2009-2010 (DNI Metals Inc., 2010a,b) successfully demonstrated that:

1) a collective group of metals can be extracted from the shale by simple leaching under conditions generally simulating bio-heap leaching;

2) high recoveries can be achieved under conditions for Ni-U-Zn-Cd-Co, and middling recoveries for Cu-Li;

3) recoveries for Mo-V are poor, but can be enhanced by varying leaching parameters;

4) rare metals contained in the shale, including Li, also report as co-products during leaching and that they represent previously unrecognized additional value to the shale; and

5) the Second White Speckled Shale is likely amenable to bio-heap leaching, provided the shale contains bio-organisms suitable for bio-heap leaching and barring any toxicity presented to bio-cultures by the geochemistry of the shale.

Sabag (2010) concluded that the bio-heap leaching tests conducted in 2009-2010 by the BRGM in France and by AITF in Edmonton, Alberta indicate that batch amenability bio-heap leaching tests demonstrated that a collective group of metals can be recovered from the shale and that non-optimized high recoveries ranging between 80%-95% can be achieved for Ni-U-Zn-Cd-Co, middling recoveries ranging from 40%-55% can be achieved for Cu-Li; and typically poor recoveries were recorded for Mo-V (ranging 2%-50% for Mo and 2%-30% for V).

In addition to collective recoverability of traditional metals from the shale, bio-heap leaching studies carried out at the AITF over the past three years have confirmed recoverability of REE from the Second White Speckled Shale as co-products that are incidentally extracted during leaching of the traditional metals (DNI Metals Inc., 2011a,b; Table 9).

Table 9.Calculated bio-heap leaching recoveries for speciality metals from sample BK456. Calculated by DNI based on analysis, weights or volumes as reported by Alberta Innovates Technology Futures (DNI Metals Inc., 2011).

%	Ce	Dy	Er	Eu	Gd	La	Nd	Pr	Sm	Tb	Y	Yb	Th*	Sc
Per solutions	77	92	88	83	88	66	66	58	91	97	90	90	100	51
Per solids	68	92	92	86	90	70	78	76	83	92	92	64	74	57

* Calculate extraction of 111% (per solution) for Th stated as 100%

13.1.2 2012 Leaching Test Work on the Labiche Formation

This section places emphasis on metallurgical work completed on the Labiche Formation. A geochemically typical sample of the Labiche shale was collected by DNI in 2009 from historic archived drill core (Sabag, 2010) and consisted of a 3 m intercept of Labiche shale in historic drillhole 7BK04 (from 79.6 to 82.6 m). The Labiche material was pre-mixed and pre-homogenized for use as an analytical control standard considering that its traditional metals content is very low compared to that of the Second White Speckled Shale. Aliquots of this sample were also tested during DNIès bio-leaching tests.

Batch amenability tests (BATs) were carried out by Alberta Innovates Technology Futures (AITF, formerly the Alberta Research Council) on 200 g aliquots. The samples were bioleached during approximately a sixty-five day period during which efforts were made to maintain a pH of 1.8, although pH varied from 1.4 to 1.8, and occasionally drifting to as low as 1.2. The samples were bioleached (in duplicate), and final residues (leaching tails) form one of the duplicates was further washed in HCl to assess metal losses through re-precipitation after they had been leached from the shale. The midpoint solution sample, the final solution and final tails (residues) were submitted to Activation Laboratories in Ancaster, Ontario for analysis.

A summary of the best metal recoveries achieved during the bio-heap leaching tests from the Labiche shale, as reported by AITF, are as follows: Mo-57%, Ni-82%, U-78%, V-10%, Zn-76%, Cu-65%, Co-80%, Li-41% (Sabag, 2012). Recoveries for specialty metals and REE, as calculated by DNI (based on the difference of metal content between head sample feed material and final tail residues per analytical results from AITF’s test work), range as follows: La-13%-20%, Ce-21%-28%, Pr-28%-34%, Nd-35%-41%, Sm-49%-53%, Eu-55%- 59%, Gd-61%-64%, Tb-60%-63%, Dy-61%-65%, Ho-58%-62%, Er-51%-55%, Tm-53%-57%, Yb-42%- 47%, Lu-53%-57%, Y-56%-59%, Sc-28%-37%, Th-32%-34%.

13.2 2013 Metallurgical Testing (CanmetMINING)

A series of metallurgical tests are in progress with CanmetMINING to evaluate amenability of blended 1-2 kg samples of Second White Speckled Shale and Labiche to stirred-tank experiments and column testing (and ultimately heap leaching). While the tests are ongoing, the following excerpts are from preliminary results (CanmetMINING, pers comm, 2013). The final CanmetMINING metallurgical results will be released in a Preliminary Economic Assessment study.

Constant pH stirred-tank experiments at 30º C were conducted to assess bio-leaching and chemical-leaching with different lixivants, which were selected based on processing techniques for the ion-absorption type rare earth ore deposits in China. Initial leaching from the blended Asphalt sample is rapid, followed by a period of slow leaching. Greater than 80% of the mid-REE was leached within two days with ammonium sulphate at pH 1.6 (CanmetMINING, pers comm, 2013). Iron and sulphur-oxidizing bacteria did not significantly increase metal leaching.

Five column experiments, designed to assess the effect of different agglomeration techniques and compare bioleaching, dilute sulphuric acid leaching and ammonium sulphate leaching at pH 2. The tests showed that agglomerating the black shale with 5-10% sulphuric acid significantly increased the initial rate of metal extraction (Cameron et al., 2013). A summary of the metal recoveries achieved during the stirred-tank experiments are as follows: Mo-3%, Ni-64%, U-70%, V-7%, Zn-52%, Cu-25%, Co-72%, Li-17%, La-20%, Ce-30%, Pr-40%, Nd-43%, Sm-47%, Eu-61%, Gd-63%, Tb-65%, Dy-65%, Ho-64%, Er-62%, Tm-60%, Yb-58%, Lu-55%, Y-67%, Sc-24%, Th-13%

(CanmetMINING, pers comm, 2013). This Technical Report relies on these interim metal recoveries.

With respect to metals, the tests showed reasonable recoveries of Ni, U and Co, and low recoveries of V and Mo. Leaching efficiencies for Mo were generally <10% and a significant proportion of the total Mo is hosted in sulphide (30%) or ligand-associated phases (19%). The REE leaching efficiency increased with increasing atomic number, which is a positive sign for mid- and heavy REE extraction.

13.3 Metal Recovery Values used in this Technical Report

Until better information is available, the CanmetMINING stirred-tank bio-leach tests are used as the overall metallurgical recovery values in this Technical Report, and in the opinion of the authors of this Technical Report, are sufficiently accurate and precise for use in the Buckton updated and expanded resource estimation. Consequently, this Technical Report uses lower recoverable metal values than those that were used in previous Technical Reports. The CanmetMINING stirred-tank bio-leach recovery values were adopted because the work was carried out under less acidic conditions than prior test work, and is believed to provide a better representation of the bio-heap leaching field conditions (CanmetMINING, pers comm, 2013).

14 Mineral Resource Estimate

14.1 Introduction

Modelling, resource estimation and statistics for this Technical Report was by performed by Mr. Nicholls, MAIG under the direct supervision of Mr. Eccles and Mr. Dufresne, P. Geol., who are both Qualified Persons as defined by National Instrument 43-101. Mineral resource modelling and estimation was carried out using a 3-dimensional block model based on geostatistical applications using commercial mine planning software MICROMINE (v12.5.5).

The project limits area is based in the Universal Transverse Mercator (UTM) coordinate system, North American Datum (NAD) 1927 and UTM Zone12. A parent block size of 250 m x 250 m x 3 m with sub-blocking down to 25 m x 25 m x 1.5 m was applied. The Buckton resource modeling utilized six historic core holes that were drilled in 1997, five DNI core holes completed in 2011 and six DNI core holes drilled in 2012. Mr. Dufresne, P.Geol, supervised all three drill campaigns along with logging and sampling of the drill core. Grade (assay) and geologic information is derived from work conducted by APEX personnel, on behalf of DNI, during the 1997, 2011 and 2012 field seasons.

The updated and expanded Buckton mineral resource estimate is reported in accordance with the Canadian Securities Administrators National Instrument 43-101 and has been estimated using the CIM “Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines” dated November 23rd, 2003 and CIM “Definition Standards for Mineral Resources and Mineral Reserves” dated November 27th, 2010. Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no guarantee that all or any part of the mineral resource will be converted into a mineral reserve.

14.2 Data

14.2.1 Data Summary and Histograms

The Buckton mineral resource estimate has been calculated utilizing the estimated recoverable grade for each of 25 metals (or oxides thereof) as follows: MoO_3, Ni, U_3O_8, V_2O_5, Zn, Cu, Co, Li_2CO_3, REO (La_2O_3 to Lu_2O_3), Y_2O_3, ThO_2 and Sc_2O_3.

Histograms and summary statistics for the Labiche and Second White Speckled Shale at the Buckton Zone are presented in Figures 16 and 17, and tabulated in Tables 10 and 11. With the exception of the $ThO_{2,}$ $Sc_2O_{3,}$ Ni, Cu, Co and Li_2CO_3 for the Second White Speckled Shale Formation all elements display a bi-modal population. In contrast the Labiche Formation elements all display single/normal populations. In order to estimate the elements exhibiting bi-modal populations for the Second White Speckled Shale Formation, it was decided to domain out the high and low grade populations so that linear estimation techniques could be applied.

Upon domain setup, it was observed that some of these populations still exhibit characteristics of multiple populations. Due to the limited number of drillholes and resulting samples present, it was deemed inappropriate to break the data up further.

14.2.2 Drillhole Database Validation

The 1997, 2011 and 2012 drillholes were surveyed using a hand held Garmin GPS unit in UTM coordinates (UTM Zone 12) and NAD 1927 datum. The elevations of the drillholes were initially obtained using the hand held Garmin GPS, however, the collar elevations have been subsequently modified for all 17 drillholes by using high resolution Light Detection and Ranging (LiDar) technology with 1 m resolution. Collar sighting pickets for the 1997, 2011 and 2012 drillholes were clearly marked with the drillhole number, the dip and termination depth, using a permanent felt marker. All 17 drillholes were vertical holes; no down hole surveying was employed. Upon completion of each hole, the casing was removed and the drill site reclaimed.

All drill logs, summaries, survey data and analytical results from the 1997, 2011 and 2012 programs are kept in a master DNI drilling database, called SBH Master Database All_Assays_combined_RH_27Feb2013.xls. Drill core logging was completed in Microsoft Excel format, with hardcopy, PDF and digital back-ups. Drill data, cross sections and 3D plots were interpreted and generated in Edmonton using, excel and MICROMINE software. The 1997, 2011 and 2012 drill core were logged and sampled by APEX personnel under the direct supervision of either Mr. Eccles or Mr. Dufresne.

At the end of the 2012 program, the excel drillhole database was copied into MICROMINE by APEX personnel. Using Micromine's drillhole database validation function, the data was checked for overlapping sample and geological intervals, and survey, collar and drillhole length data. A few minor discrepancies were found and promptly fixed within the database. All 17 drillholes were manually checked and validated for collar, survey, lithological boundaries and assay data. Collar data was compared back to values on the original drill logs. Lithology codes were compared to original drill logs and assay results were compared to laboratory certificates. The database is considered reliable for mineral resource estimation purposes.

Figure 16. Selected histograms from the un-composited assay dataset for the Labiche Formation.

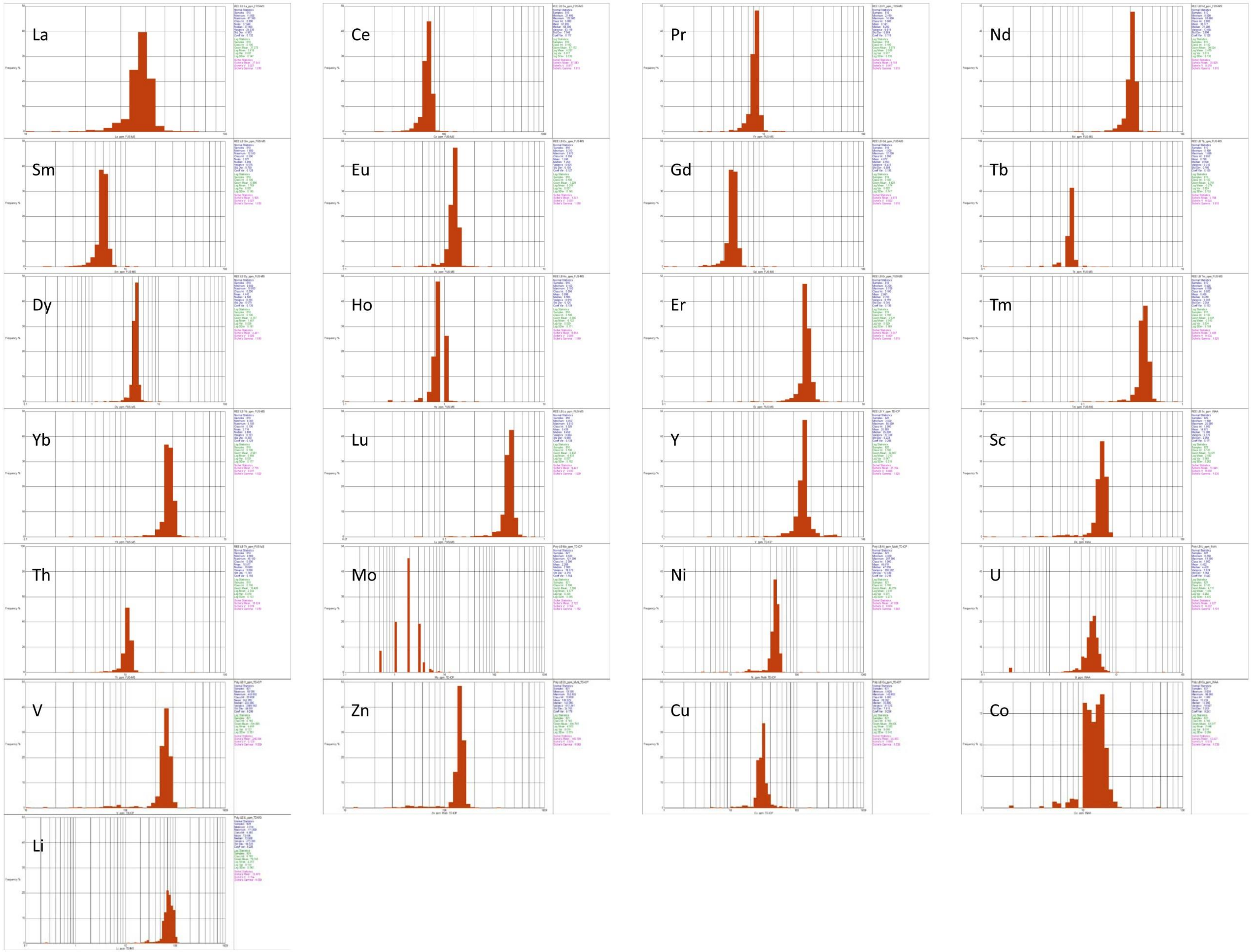
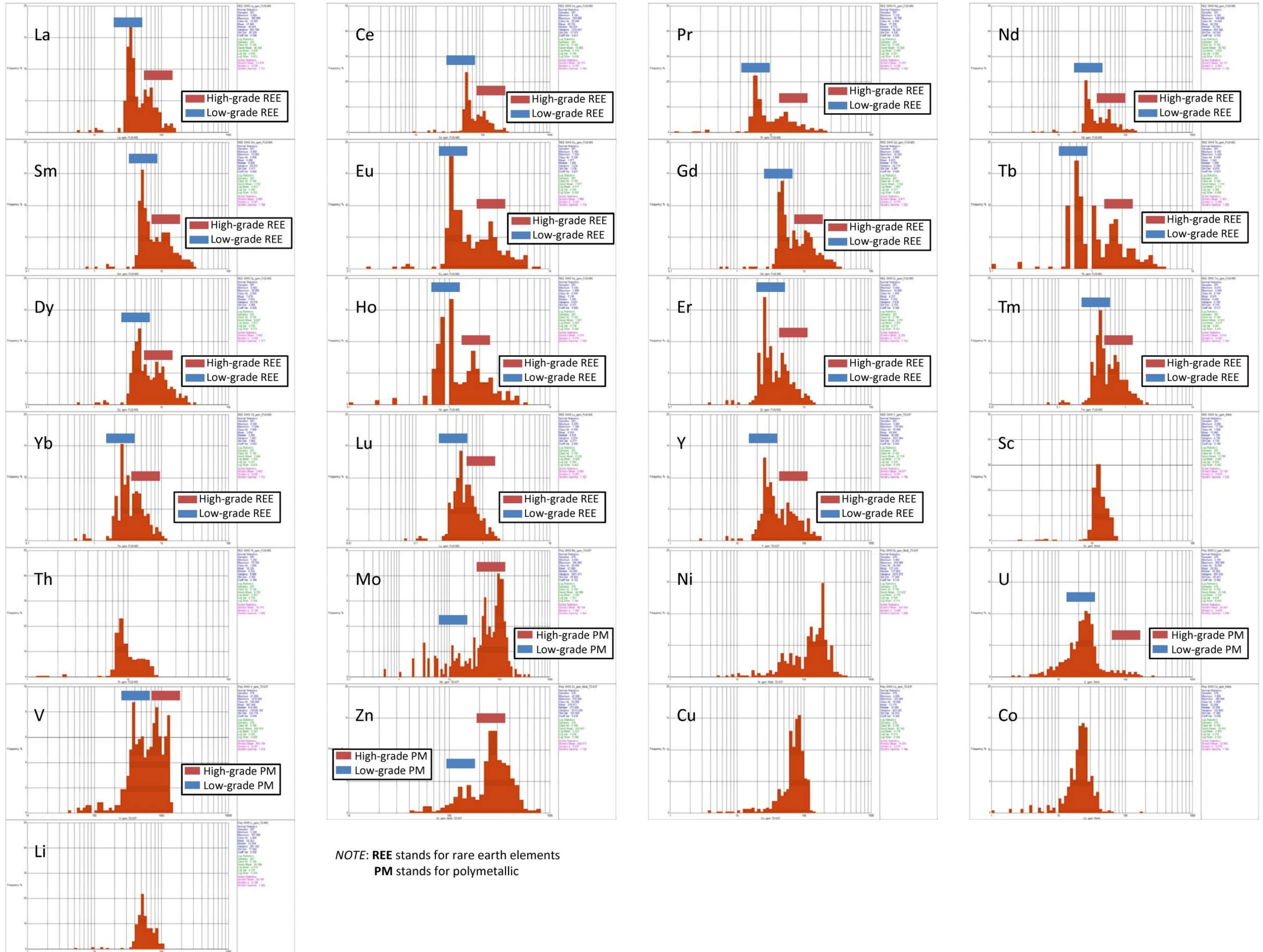


Figure 17. **Selected histograms from the un-composited assay dataset for the Second White Speckled Shale Formation.**



NOTE: **REE** stands for rare earth elements
PM stands for polymetallic

Table 10. Summary statistics for un-composited assay data for the Labiche Formation.

	La (ppm)	Ce (ppm)	Pr (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Gd (ppm)	Tb (ppm)	Dy (ppm)	Ho (ppm)	Er (ppm)	Tm (ppm)	Yb (ppm)	Lu (ppm)	Y (ppm)	Sc (ppm)	Th (ppm)
Number	810	810	810	810	810	810	810	810	810	810	810	810	810	810	822	822	810
Minimum	11	21.4	2.41	8.6	1.6	0.31	1	0.1	0.5	0.1	0.3	0.025	0.3	0.05	3	1.1	2.9
Maximum	67.3	122	14.9	58.6	12.5	2.87	12.2	1.8	10.8	2.1	5.7	0.83	5.1	0.81	60	20	48.1
Mean	37.64	67.695	8.141	30.777	5.921	1.24	4.872	0.768	4.443	0.896	2.661	0.406	2.714	0.439	25.389	14.975	10.517
Median	37.9	68.3	8.26	31.2	6	1.26	4.9	0.8	4.5	0.9	2.7	0.41	2.8	0.45	25	15.5	10.6
Std Dev	4.953	7.945	0.959	3.696	0.759	0.158	0.658	0.1	0.579	0.125	0.345	0.054	0.35	0.06	5.233	2.564	1.749
Variance	24.53	63.119	0.919	13.664	0.576	0.025	0.433	0.01	0.335	0.016	0.119	0.003	0.123	0.004	27.388	6.576	3.058
Std Error	0.006	0.01	0.001	0.005	0.001	0	0.001	0	0.001	0	0	0	0	0	0.006	0.003	0.002
Coeff Var	0.132	0.117	0.118	0.12	0.128	0.127	0.135	0.13	0.13	0.139	0.13	0.133	0.129	0.138	0.206	0.171	0.166

	Mo (ppm)	Ni (ppm)	U (ppm)	V (ppm)	Zn (ppm)	Cu (ppm)	Co (ppm)	Li (ppm)
Number	821	821	821	821	821	821	821	809
Minimum	0.5	4	0.25	10	13	5	2	0.25
Maximum	121	207	51.5	448	352	149	56	111
Mean	2.206	46.51	4.402	244.39	138.429	30.262	13.424	73.436
Median	2	47	4.4	254	143	30	13	73.6
Std Dev	4.31	10.03	1.968	48.881	24.763	7.815	3.263	16.523
Variance	18.576	100.592	3.874	2389.382	613.201	61.072	10.647	273.005
Std Error	0.005	0.012	0.002	0.06	0.03	0.01	0.004	0.02
Coeff Var	1.954	0.216	0.447	0.2	0.179	0.258	0.243	0.225

Table 11. Summary statistics for un-composited assay data for the Second White Speckled Shale Formation.

	La (ppm)	Ce (ppm)	Pr (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Gd (ppm)	Tb (ppm)	Dy (ppm)	Ho (ppm)	Er (ppm)	Tm (ppm)	Yb (ppm)	Lu (ppm)	Y (ppm)	Sc (ppm)	Th (ppm)
Number	281	281	281	281	281	281	281	281	281	281	281	281	281	281	281	281	281
Minimum	5.6	9.1	1.13	4.3	0.8	0.16	0.6	0.1	0.6	0.1	0.4	0.07	0.5	0.07	3	2	1.3
Maximum	162	243	35.7	148	33	7.55	35.2	5.4	30	5.9	14.8	2.04	11.6	1.78	176	17.7	19.1
Mean	51.84	82.135	11.32	44.224	9.086	1.977	8.833	1.342	7.678	1.518	4.237	0.611	3.854	0.593	49.94	12.06	10.326
Median	40.45	66.55	8.715	33.7	6.8	1.465	6.7	1	5.95	1.2	3.35	0.49	3.2	0.52	36	11.7	9.25
Std Dev	26.329	37.075	5.936	24.545	5.471	1.238	5.897	0.876	4.804	0.911	2.374	0.316	1.862	0.273	32.203	2.176	3.16
Variance	693.198	1374.557	35.242	602.465	29.933	1.534	34.774	0.768	23.076	0.831	5.635	0.1	3.467	0.074	1037.064	4.736	9.989
Std Error	0.094	0.132	0.021	0.087	0.019	0.004	0.021	0.003	0.017	0.003	0.008	0.001	0.007	0.001	0.115	0.008	0.011
Coeff Var	0.508	0.451	0.524	0.555	0.602	0.627	0.668	0.653	0.626	0.6	0.56	0.517	0.483	0.46	0.645	0.18	0.306

	Mo (ppm)	Ni (ppm)	U (ppm)	V (ppm)	Zn (ppm)	Cu (ppm)	Co (ppm)	Li (ppm)
Number	478	478	478	478	478	478	478	267
Minimum	0.5	5	2.1	41	42	4	1	5.2
Maximum	365	414	260	1410	810	143	180	107
Mean	67.888	137.559	29.265	667.46	279.971	71.77	22.268	58.343
Median	63	137	24	614	272	75	22	53.95
Std Dev	49.005	71.246	26.401	332.776	122.929	24.972	11.082	17.062
Variance	2401.471	5075.975	697.034	110740.182	15111.605	623.595	122.809	291.102
Std Error	0.103	0.149	0.055	0.696	0.257	0.052	0.023	0.064
Coeff Var	0.722	0.518	0.902	0.499	0.439	0.348	0.498	0.292

14.2.3 MICROMINE Database

The drilling database used is current (February 27th, 2012). The database incorporates all available diamond drilling and analytical data. All data for the mineral resource estimation was copied from excel into Micromine format. The five main MICROMINE.DAT files that were utilized in the three estimations, these include:

- SBH Property Master Collars – Collar file;
- SBH Property All Assays Master List – Assay both REE and Polymetallic analysis;
- SBH Property Master Geology – Geology file;
- Density – Specific gravity file; and
- LiDar 10m BE xyz – Surface topography.

There were a total of 17 drillholes within the export that guided the geological interpretation and estimation of the REE/polymetallic resource. Spacing between drillholes varies from 240 m to 2.05 km, with an average of about 1.08 km between drillholes. There were five drill lines that ranged in spacing from 220 m to 1.5 km.

The Buckton Zone assay file comprised 1,598 analyses of variable length from all the sampled lithologies including overburden/till (n=68), Labiche (n=821), Second White Speckled Shale (n=492) and Belle Fourche (n=217). Due to the different generations of resampling and reanalysis of the 1997 core holes it has resulted in different sample intervals being sampled for different elements. As such it has resulted in overlapping intervals when comparing the REE elements with the polymetallic elements. Thus for estimation purposes, two different assays files were used for the REE and polymetalic estimations. Tables 10 and 11 provide a statistical summary of all 25 elements from the 1997, 2011 and 2012 drill core by formation. After compositing, 1,313 Labiche and Second White Speckled Shale analyses were reduced to 723 composite samples (at 1.5 m intervals) for the REE estimation file, and 756 composite samples for the polymetallic estimation file (at 1.5 m intervals).

Data supplied and utilized in MICROMINE included collar easting, northing and elevation coordinates, lithology information, and polymetallic elements (Mo, Ni, U, V, Zn, Cu, Co), REE, Y, Li, Sc and Th assay data, and bulk density data. The collar co-ordinates were obtained by hand held GPS and the relative elevetion were assigned using the detailed 1 m spaced LiDar data. All drillholes are short (up to 147.5 m) vertical holes and as such there are no down hole surveys. Dip of the hole was set up using a clinometer after the drill was properly leveled.

The drillhole database was validated and as such all sample duplicates and repeat duplicates were removed from the estimation sample file. Other than the duplicate samples there were no errors identified.

14.2.4 Data Type Comparison

As there has only been diamond drilling conducted at the Buckton Zone a data type comparison is not required. Diamond drilling is considered a good quality drilling method and suitable for resources estimation. On another note, due to uncertainty in the original 1997 core assay quality and missing analyses for some of the REEs, the 1997 drill core was re-sampled and re-analysed in 2012 for all of the elements of interest with similar analytical procedures as those used in the 2011 drilling program. As such there are analytical uncertainties which might arise due to the time difference in analytical methods between the 1997 and the recently drilled DNI's 2011 drill core.

14.3 Quality Control

The drillhole campaign data collected during the 1997, 2011 and 2012 drilling programs were checked for veracity, then were entered into MICROMINE and validated using the MICROMINE's drillhole validation tools. The upper and lower boundaries of the Labiche and Second White Speckled Formation have been identified in core and in the downhole trace element geochemistry as illustrated in Figure 18. A series of blanks, duplicates and standards were inserted in the sample shipments at Actlabs for the 2011 and 2012 core samples; Labiche Blanks were inserted into the 2012 resampling of the 1997 drill core. The results of the lab standards, blanks and duplicates were checked to ensure results were within acceptable limits. No issues were identified.

For the 1997 drillholes, the entire Second White Speckled Shale intersections for three out of six 1997 drillholes were resampled and reanalyzed in 2009. The 2009 resampling and analysis program confirmed the validity of the original 1997 assays (Dufresne et al., 2011). All overburden and Labiche intersections from the six 1997 drillholes were resampled and reanalyzed in 2012, and were confirmed for validity in previous Buckton REE-Y-Sc-Th and polymetallic resource estimations (Eccles et al., 2012a,b).

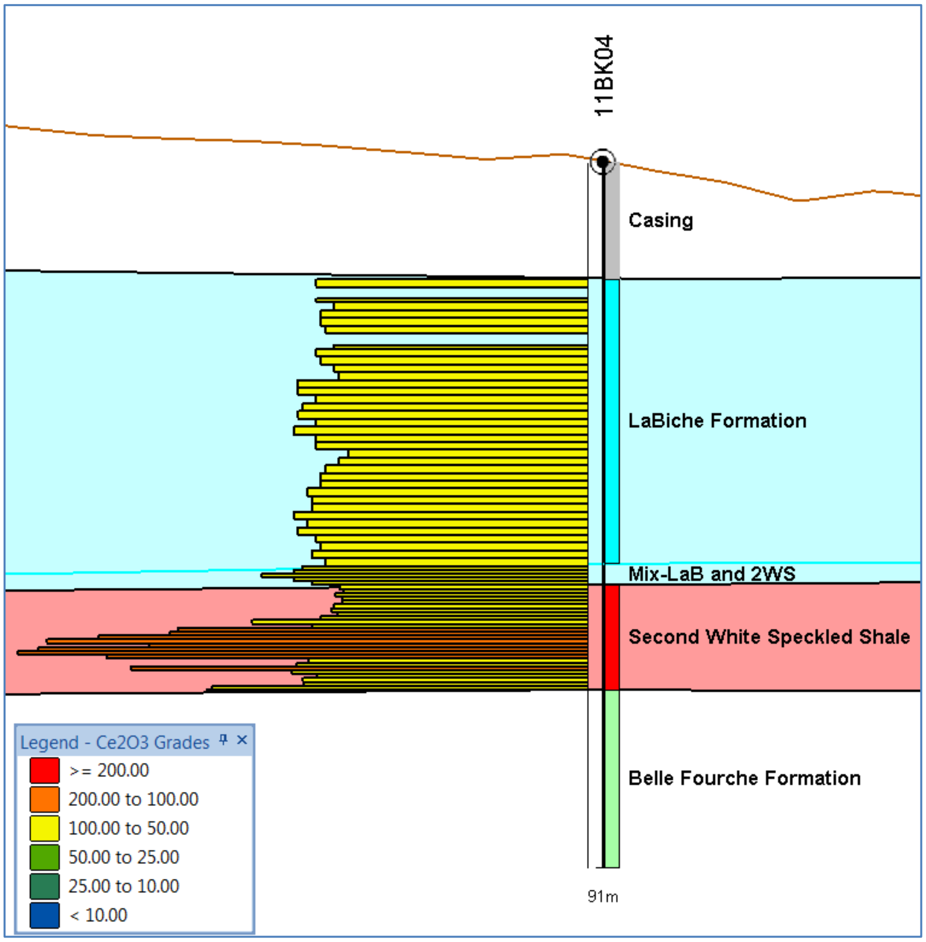
14.4 Lithological Model/Lode Interpretation

The drillhole lithology was plotted and displayed next to the drillhole (e.g., Figure 18). From the top of the drillhole to the base, this includes: overburden, Labiche Formation, Second White Speckled Shale Formation and the Belle Fourche Member (uppermost member of the Shaftesbury Formation). Due to the homogeneous nature of the Labiche Formation geochemical data and the bimodal chemical character of the majority of the elements within the Second White Speckled Shale Formation (Figures 16 and 17), four separate wireframe were constructed:

1. Labiche polymetallic-REE-Y-Sc-Th domain;
2. Second White Speckled Shale single population polymetallic-REE-Y-Sc-Th domain;
3. Second White Speckled Shale REE-Y-Sc-Th high-grade domain; and
4. Second White Speckled Shale REE-Y-Sc-Th low-grade domain.

That is, it was necessary to split the high and low grade populations for all elements exhibiting a bi-modal population. A high and low grade wireframe was constructed for each bi-modal element within the Second White Speckled Shale. The four domains used in this resource estimation are described in more detail in the following text.

Figure 18. Drillhole 11BK01 cross-section showing the stratigraphy and down-hole chemical profiles for molybdenum and cerium. Molybdenum is less significant in the Labiche Formation in comparison to the Second White Speckled Shale Formation.



14.4.1 Labiche Formation

In contrast to the Second White Speckled Shale, metals/oxides within the Labiche Formation exhibit a single geochemical population for both the polymetallics and the REE-Y-Sc-Th. Consequently, a single wireframe/domain was created for the Labiche. The lower boundary of the Labiche formation wireframe utilized the top of the previously interpreted Second White Speckled Shale Formation wireframe. The upper contact was defined by down hole geology comprising the overburden-Labiche contact, which is sometimes equivalent to the casing/Labiche contact.

The Labiche mineralized wireframes were extended outwards 500 m away from the nearest drillhole to define the extremities of the wireframes and subsequent block model. The LiDar topography was used to trim the Labiche wireframe where it came to surface.

14.4.2 Second White Speckled Shale Formation

After review of the statistics for the elements (excluding ThO_2, Sc_2O_3, Ni, Cu, Co and Li_2CO_3) within the Second White Speckled Shale Formation, it was noted that they exhibited bi-modal populations. As such a separate domain/wireframe of the high and low grade populations for each element was created and used to constrain the Second White Speckled Shale for resource estimation purposes. More specifically, the bimodal population can be broken into a high sub-domain and a low sub-domain (Figure 17). Each of these sub-domains was limited to the larger Second White Speckled Shale wireframe that was used for the estimation of single population elements (ThO_2, Sc_2O_3, Ni, Cu, Co and Li_2CO_3).

The Second White Speckled Shale domain wireframe that was used for the estimation of the single population elements (ThO_2, Sc_2O_3, Ni, Cu, Co and Li_2CO_3) was extended outward 500 m away from the nearest drillhole to define the extremities of the wireframe and subsequent block model. Trimming the model to 500 m in the north east was not necessary as the Second White Speckled Shale outcrops at surface along the eastern edge of the Birch Mountains. The LiDar topography was used to trim the Second White Speckled Shale wireframe in these areas.

14.5 Assay Summary Statistics

Twenty-one of the 25 elements (REE, Y, Sc, Th, Mo, V, U and Li) were converted to oxide (or carbonate) equivalents as per Table 12. Correlations between the various metal/oxide grades were calculated for the Labiche and Second White Speckled Shale mineralization (Tables 13-14). These correlation tables were composed using the composited sample data.

Examination of the Labiche Formation REE, Y, Sc and Th data show quite a varied spectrum of correlations (Table 13) where 82% of the oxides show strong correlation (>0.6), followed by 6% of the oxides displaying a moderate correlation (0.4 - 0.6) to each other. Sc_2O_3 and Y_2O_3 stand out as having a poor to moderate correlation with the other oxides. The Labiche Formation polymetallics show good (>0.6) correlations between MoO_3, Ni and U_3O_8, and poor to moderate correlations with respect to each other for the others (Table 14). The exception to this is Ni where it also shows a good correlation between V_2O_5 and Zn.

Correlations between REE-Y-Sc-Th grades were calculated for the Second White Speckled Shale mineralization. There is a very strong correlation between all oxides except for Sc_2O_3 which displays only a moderate to strong correlation which ranges from 0.58 to 0.66 (Table 15). The correlations of the various polymetallic metal grades within the Second White Speckled Shale domain show a strong correlation between MoO_3, Ni, U_3O_8, V_2O_5 and Zn and a moderate correlation between Cu and Co, and poor correlation with Li (Table 16).

Table 12. Oxide conversion factors used in this Technical Report.

Name	Symbol	Conversion factor	Oxide	Subgroup	Group
Lanthanum	La	1.1728	La_2O_3	Light REO (LREO)	Total REO (TREO)
Cerium	Ce	1.1713	Ce_2O_3		
Praseodymium	Pr	1.1703	Pr_2O_3		
Neodymium	Nd	1.1664	Nd_2O_3		
Samarium	Sm	1.1596	Sm_2O_3	Intermediate REO (IREO)	
Europium	Eu	1.1579	Eu_2O_3		
Gadolinium	Gd	1.1526	Gd_2O_3		
Terbium	Tb	1.151	Tb_2O_3	Heavy REO (HREO)	
Dysprosium	Dy	1.1477	Dy_2O_3		
Holmium	Ho	1.1455	Ho_2O_3		
Erbium	Er	1.1435	Er_2O_3		
Thulium	Tm	1.1421	Tm_2O_3		
Ytterbium	Yb	1.1387	Yb_2O_3		
Lutetium	Lu	1.1371	Lu_2O_3		
Yttrium	Y	1.2699	Y_2O_3	Transition metal / actinide	
Scandium	Sc	1.5338	Sc_2O_3		
Thorium	Th	1.1379	ThO_2		
Molybdenum	Mo	1.5003	MoO_3	Polymetallic	
Uranium	U	1.1793	U_3O_8		
Vanadium	V	1.7851	V_2O_5		
Lithium	Li	5.3228	Li_2CO_3		

Table 13. Correlation between rare earth elements, yttrium, scandium and thorium assay values within the Labiche Formation.

	La2O3	Ce2O3	Pr2O3	Nd2O3	Sm2O3	Eu2O3	Gd2O3	Tb2O3	Dy2O3	Ho2O3	Er2O3	Tm2O3	Yb2O3	Lu2O3	Y2O3	Sc2O3	ThO2
La2O3	1																
Ce2O3	0.9	1															
Pr2O3	0.9	0.9	1														
Nd2O	0.9	0.9	0.9	1													
Sm2O	0.9	0.9	0.9	0.9	1												
Eu2O3	0.8	0.8	0.9	0.9	0.9	1											
Gd2O	0.8	0.8	0.8	0.8	0.9	0.8	1										
Tb2O3	0.8	0.8	0.8	0.8	0.8	0.8	0.9	1									
Dy2O3	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	1								
Ho2O	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.9	0.9	1							
Er2O3	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.9	0.9	0.9	1						
Tm2O	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	1					
Yb2O3	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9	1				
Lu2O3	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	1			
Y2O3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1		
Sc2O3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.4	1	
ThO2	0.7	0.7	0.8	0.7	0.6	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.4	0.4	0.0	0.0	1

Table 14. Correlation between polymetallic assay values within the Labiche Formation.

	MoO3	Ni	U3O8	V2O5	Zn	Cu	Co	Li2CO3
MoO3	1							
Ni	0.61	1						
U3O8	0.82	0.63	1					
V2O5	0.46	0.74	0.49	1				
Zn	0.35	0.76	0.43	0.84	1			
Cu	0.24	0.52	0.27	0.38	0.52	1		
Co	0.23	0.49	0.22	0.21	0.28	0.2	1	
Li2CO3	-0.01	0.34	0.11	0.44	0.4	0.2	0	1

Table 15. Correlation between rare earth elements, yttrium, scandium and thorium assay values within the Second White Speckled Shale Formation.

	La2O3	Ce2O3	Pr2O3	Nd2O3	Sm2O3	Eu2O3	Gd2O3	Tb2O3	Dy2O3	Ho2O3	Er2O3	Tm2O3	Yb2O3	Lu2O3	Y2O3	Sc2O3	ThO2
La2O3	1																
Ce2O3	0.9	1															
Pr2O3	0.9	0.9	1														
Nd2O	0.9	0.9	1	1													
Sm2O	0.9	0.9	1	1	1												
Eu2O3	0.9	0.9	0.9	0.9	0.9	1											
Gd2O	0.9	0.9	0.9	0.9	0.9	0.9	1										
Tb2O3	0.9	0.9	0.9	0.9	0.9	1	1	1									
Dy2O3	0.9	0.9	0.9	0.9	0.9	0.9	1	1	1								
Ho2O	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1	1							
Er2O3	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1	1	1						
Tm2O	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1	1	1					
Yb2O3	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1	1				
Lu2O3	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1			
Y2O3	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1		
Sc2O3	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.5	1	
ThO2	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.7	0.7	0.6	0.7	1

Table 16. Correlation between polymetallic assay values within the Second White Speckled Shale Formation.

	MoO3	Ni	U3O8	V2O5	Zn	Cu	Co	Li2CO3
MoO3	1							
Ni	0.88	1						
U3O8	0.68	0.59	1					
V2O5	0.62	0.8	0.23	1				
Zn	0.72	0.9	0.58	0.83	1			
Cu	0.45	0.72	0.22	0.82	0.81	1		
Co	0.47	0.73	0.46	0.48	0.74	0.64	1	
Li2CO3	-0.2	-0.08	-0.17	-0.06	-0.28	-0.08	0	1

14.6 Drillhole Flagging and Compositing

Drillhole samples situated within the Labiche and Second White Speckled Shale mineralized wireframes were selected and flagged with the wireframe name/code. The flagged samples were checked visually next to the drillhole to check that the automatic flagging process worked correctly. All samples were correctly flagged and there was no need to manually flag or remove any samples.

A review of the sample lengths was conducted on the REE and polymetallic samples independently. The results varied slightly due to the different sampling intervals collected, but one composited length was selected that could be used for both sample files.

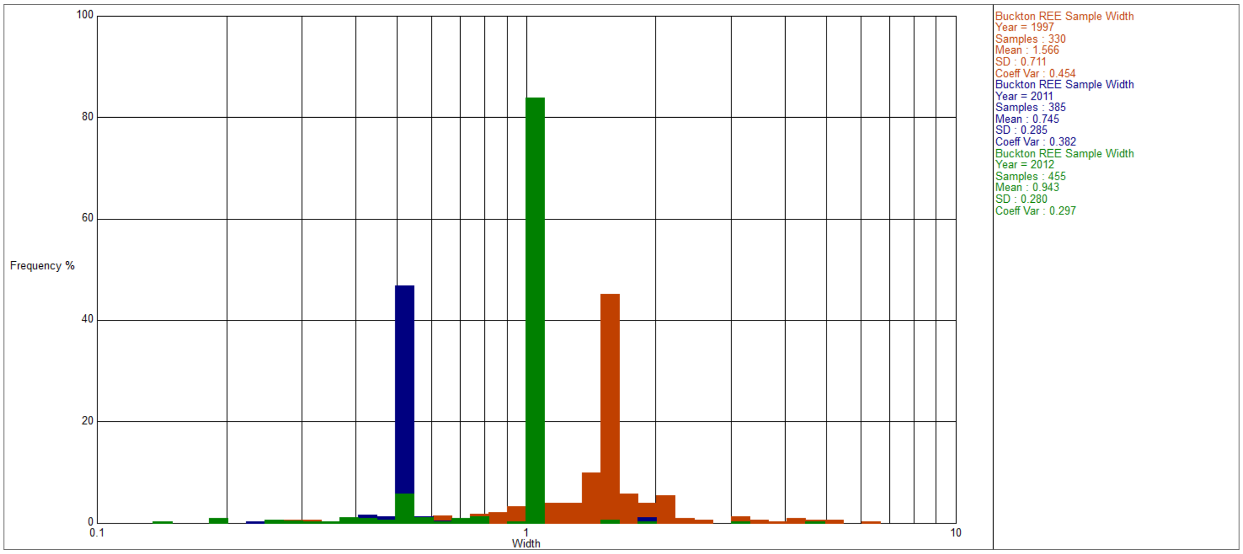
14.6.1 Rare-Earth Elements Sample File

The REE sample file results showed a variable sample length from 0.14 m to 6.19 m in length (Table 17; Figure 19). The 2011 drillhole samples were collected for the most part at a standard sample length of 0.5 m or 1.0 m. The 2012 drillhole samples were collected for the most part at a standard 1.0 m. The 1997 drillhole sample lengths provide most of the variability in sample lengths, but presented a dominate sample interval of 1.5 m. Looking at all of the sample widths, there are three dominant sample length populations, 0.5 m, 1.0 m and 1.5 m. There are an additional 11.4% of the sample lengths greater than 1.5 m in size. As 88.6% of the sample data is less than 1.5 m in length, it was decided that 1.5 m should be used for a composite sample length.

Table 17. Sample length statistics for the rare-earth elements un-composited sample file.

	REE elements
	Width
Number	1170
Minimum	0.14
Maximum	6.19
Mean	1.054
Median	1
Std Dev	0.556
Variance	0.309
Std Error	0
Coeff Var	0.528

Figure 19. Histogram of sample length for the rare-earth element assay file (un-composited) broken down by drilling campaign year.



Length weighted composites were calculated for all of the oxides/elements of interest. The compositing process starts from the first point of intersection between the drillhole and the overburden horizon, and is stopped upon the end of the mineralized SWS wireframe.

Upon completion of the 1.5 m compositing process, both the 1.5 m composites and the 1.5 m composites with the orphans (sub 1.5 m composites) was examined to determine any noticeable bias applied to the grades during the compositing process (Tables 18 and 19). There was little to no change in the grade for the Labiche formation sample, whereas some of the elements within the Second White Speckled Shale exhibited slight changes (<8%) in grade. The biggest observed change in grade was Y where the raw assay grade changed from 49.94 ppm to 54.41 ppm when composited.

This is believed to be a result of the original sampling intervals for the Second White Speckled Shale was mostly 0.5 m or 1.0 m in size. It compositing up to 1.5 m it has applied slight changes in overall average grades. It was considered appropriate for use based on the number of samples within the dataset and the need to have a standardised sample interval for both the Labiche and Second White Speckled Shale. The sub 1.5 m composites were removed from the final composite file that was used in the REE estimation process. The composited samples were used for all sample statistics, capping, estimation input file and validation comparisons.

Table 18. Composited sample summary statistics for rare-earth elements, yttrium, scandium and thorium in the Labiche domain.

	La (ppm)	Ce (ppm)	Pr (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Gd (ppm)	Tb (ppm)	Dy (ppm)	Ho (ppm)	Nd (ppm)	Tm (ppm)	Nd (ppm)	Lu (ppm)	Y (ppm)	Sc (ppm)	Th (ppm)
Number	567	567	567	567	567	567	567	567	567	567	567	567	567	567	572	572	567
Min.	4.79	8.54	1.037	3.97	0.78	0.149	0.62	0.1	0.59	0.11	0.34	0.052	0.35	0.057	6.3	1.23	1.28
Max.	55.97	105.67	12.76	46.17	9.63	2.023	9.75	1.41	7.66	1.44	4.09	0.59	3.92	0.603	60	19.7	34.23
Mean	37.94	67.99	8.19	31.03	5.99	1.25	4.91	0.77	4.46	0.90	2.67	0.41	2.72	0.44	25.72	15.34	10.56
Median	38.07	68.59	8.30	31.33	6.03	1.26	4.93	0.80	4.50	0.90	2.70	0.41	2.77	0.45	25.30	15.58	10.66
Std Dev	4.46	7.35	0.86	3.32	0.67	0.14	0.58	0.09	0.51	0.11	0.31	0.05	0.30	0.05	4.14	1.83	1.45
Variance	19.92	53.95	0.75	11.00	0.45	0.02	0.34	0.01	0.26	0.01	0.09	0.00	0.09	0.00	17.10	3.36	2.09
Std Error	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Coeff Var	0.12	0.11	0.11	0.11	0.11	0.11	0.12	0.11	0.12	0.12	0.11	0.12	0.11	0.12	0.16	0.12	0.14

Table 19. Composited sample summary statistics for the polymetallics in the Labiche domain.

	Mo (ppm)	Ni (ppm)	U (ppm)	V (ppm)	Zn (ppm)	Cu (ppm)	Co (ppm)	Li (ppm)
Number	570	570	570	570	570	570	570	565
Min.	0.5	4	0.25	14	27	6.3	2	10.15
Max.	47.89	108.3	22.49	541.1	208.5	68	29	108.67
Mean	2.376	47.95	4.534	252.052	142.004	30.894	13.675	74.683
Median	2	48	4.4	254	142.9	30	13.5	73.7
Std Dev	3.776	7.486	1.678	37.176	16.222	5.594	2.543	14.319
Variance	14.255	56.039	2.816	1382.027	263.145	31.287	6.466	205.042
Std Error	0.007	0.013	0.003	0.065	0.028	0.01	0.004	0.025
Coeff Var	1.589	0.156	0.37	0.147	0.114	0.181	0.186	0.192

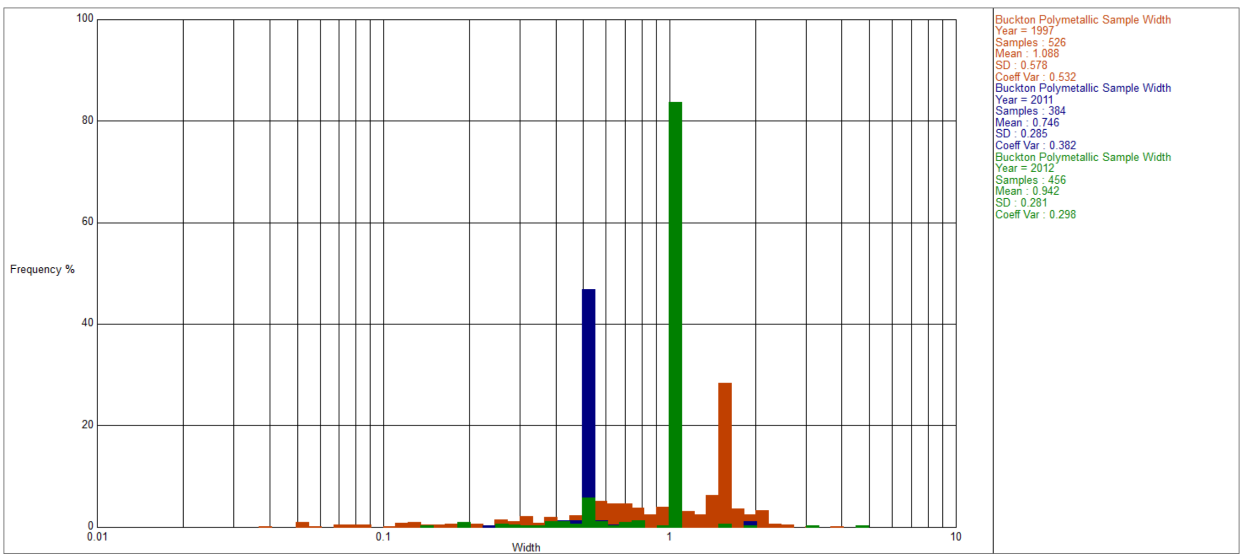
14.6.2 Polymetallic Sample File

The polymetallic sample file results showed a variable sample length from 0.04 m to 4.5 m in length, and three dominant sample length populations, 0.5 m, 1.0 m and 1.5 m. (Table 20; Figure 20). The 2011 drillhole samples were collected for the most part at a standard sample length of 0.5 m or 1.0 m. The 2012 drillhole samples were collected for the most part at a standard 1.0 m. The 1997 drillhole sample lengths provide most of the variability in sample lengths, but have a dominate sample interval of 1.5 m. There are an additional 8.9% of the sample lengths greater than 1.5 m in size. As 91.1% of the sample data is less than 1.5 m in length, it was decided that 1.5 m should be used for a composite sample length.

Table 20. Sample length statistics for the for the polymetallic un-composited sample file.

	Polymetallic elements
	Width
Number	1366
Minimum	0.04
Maximum	4.5
Mean	0.943
Median	1
Std Dev	0.444
Variance	0.197
Std Error	0
Coeff Var	0.47

Figure 20. Histogram of sample length for the polymetallic assay file (un-composited) broken down by drilling campaign year.



Length weighted composites were calculated for all of the oxides/elements of interest. The compositing process starts from the first point of intersection between the drillhole and the overburden horizon, and is stopped upon the end of the mineralized SWS wireframe.

Upon completion of the 1.5 m compositing process, both the 1.5 m composites and the 1.5 m composites with the orphans (sub 1.5 m composites) was examined to determine any noticeable bias applied to the grades during the compositing process (Tables 21 and 22). There was little to no change in the grade for the Labiche formation sample with the exception of Mo where there was an increase in grade from 2.206 ppm to 2.376ppm. Some of the elements exhibited slight changes (up to 6% change) in grade within the Second White Speckled Shale. The largest observed changes were in U and V where the raw assay grade was 29.265 ppm and 667.46 ppm respectively, and when composited it produced a grade of 27.639 ppm for U and 707.842 ppm for V. This is believed to be a result of the original sampling intervals for the Second White Speckled Shale was mostly 0.5 m or 1.0 m in size. It compositing up to 1.5 m it has applied slight changes in overall average grades. It was considered appropriate for use based on the number of samples within the dataset and the need to have a standardised sample interval for both the Labiche and Second White Speckled Shale. The sub 1.5m composites were removed from the final composite file that was used in the polymetallic estimation process. The composited samples were used for all sample statistics, capping, estimation input file and validation comparisons.

Table 21. Composited sample summary statistics for rare-earth elements, yttrium, scandium and thorium within the Second White Speckled Shale domain.

	La (ppm)	Ce (ppm)	Pr (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Gd (ppm)	Tb (ppm)	Dy (ppm)	Ho (ppm)	Nd (ppm)	Tm (ppm)	Nd (ppm)	Lu (ppm)	Y (ppm)	Sc (ppm)	Th (ppm)
Number	151	151	151	151	151	151	151	151	151	151	151	151	151	151	151	151	151
Min.	19.47	33.6	4.15	15.73	2.9	0.583	2.5	0.37	2.23	0.47	1.37	0.21	1.4	0.217	13.7	6.83	4.27
Max.	108.17	156.83	24.15	98.7	21.55	5.22	22.6	3.45	19.53	3.9	10.3	1.413	8.43	1.233	166.7	16.7	17.58
Mean	54.49	85.58	11.95	47.16	9.72	2.11	9.40	1.43	8.11	1.59	4.45	0.64	4.06	0.63	54.41	12.04	10.44
Median	49.03	77.85	10.68	41.41	8.70	1.92	8.37	1.29	7.49	1.50	4.19	0.61	3.90	0.61	50.05	11.80	9.75
Std Dev	20.36	28.68	4.62	19.23	4.27	0.98	4.58	0.68	3.71	0.70	1.85	0.25	1.46	0.21	28.03	1.68	2.53
Variance	414.68	822.36	21.39	369.62	18.25	0.96	20.95	0.46	13.76	0.49	3.41	0.06	2.13	0.04	785.87	2.81	6.39
Std Error	0.14	0.19	0.03	0.13	0.03	0.01	0.03	0.01	0.03	0.01	0.01	0.00	0.01	0.00	0.19	0.01	0.02
Coeff Var	0.37	0.34	0.39	0.41	0.44	0.46	0.49	0.48	0.46	0.44	0.42	0.39	0.36	0.34	0.52	0.14	0.24

Table 22. Composited sample summary statistics for polymetallics within the Second White Speckled Shale domain.

	Mo (ppm)	Ni (ppm)	U (ppm)	V (ppm)	Zn (ppm)	Cu (ppm)	Co (ppm)	Li (ppm)
Number	186	186	186	186	186	186	186	118
Minimum	2.45	40.5	7.99	149.3	102.3	35.1	11.5	9.27
Maximum	202.6	259	99.4	1293.3	503.4	117.1	38.3	96.21
Mean	68.501	143.539	27.639	707.842	287.213	75.561	22.527	59.218
Median	63	147.7	23.77	718.7	288.8	76	22.3	56.7
Std Dev	41.768	57.126	16.028	294.257	94.454	18.612	5.347	15.685
Variance	1744.58	3263.412	256.889	86587.457	8921.497	346.403	28.594	246.029
Std Error	0.225	0.307	0.086	1.582	0.508	0.1	0.029	0.133
Coeff Var	0.61	0.398	0.58	0.416	0.329	0.246	0.237	0.265

14.7 Top Cut Capping

The composited REE and polymetallic sample files for the Labiche and Second White Speckled Shale Formation was used for the top cut/capping analysis. All REE-Y-Sc-Th and polymetallic elements within the Labiche and Second White Speckled Shale were examined individually to determine suitable capping to apply to the respective grade populations. Where bi-modal populations were observed then each population was examined on its own merit. A combination of histograms, probability plots and inflection points were used to determine the extreme values to be cut. During the estimation the extreme values were capped to the values provided in Tables 23 and 24.

Table 23. Capping levels applied to the Labiche domain composites (in parts per million).

Element	Labiche Formation			
	Distribution	Capping Level	No. Of Samples Capped	Percentile
La2O3	Single/Normal	55	7	99.5
Ce2O3	Single/Normal	105	2	99.8
Pr2O3	Single/Normal	13	3	99
Nd2O3	Single/Normal	44	6	99
Sm2O3	Single/Normal	9.5	3	98.9
Eu2O3	Single/Normal	1.75	8	97.5
Gd2O3	Single/Normal	7.5	5	99.3
Tb2O3	Single/Normal	1.2	5	99
Dy2O3	Single/Normal	6	10	98.5
Ho2O3	Single/Normal	1.3	7	98
Er2O3	Single/Normal	3.8	7	99.3
Tm2O3	Single/Normal	0.55	11	98.5
Yb2O3	Single/Normal	3.9	4	99.5
Lu2O3	Single/Normal	0.65	2	99.7
Y2O3	Single/Normal	52	6	99
Sc203	Single/Normal	No Capping Required		
ThO2	Single/Normal	16	2	99.5
MoO3	Single/Normal	7.1	17	98.5
Ni	Single/Normal	60	6	99
U3O8	Single/Normal	8.5	7	99
V2O5	Single/Normal	575	5	99.3
Zn	Single/Normal	180	4	99.3
Cu	Single/Normal	47	9	98.5
Co	Single/Normal	22	2	99.7
Li2CO3	Single/Normal	No Capping Required		

Table 24. Capping levels applied to the Second White Speckled Shale domain composites (in parts per million).

Element	SWS (Low Population)				SWS (High Population)		
	Distribution	Capping Level	No. Of Samples Capped	Percentile	Capping Level	No. Of Samples Capped	Percentile
La2O3	Bi-model	80	2	98.5	108.5	4	94
Ce2O3	Bi-model	No Capping Required			No Capping Required		
Pr2O3	Bi-model	No Capping Required			No Capping Required		
Nd2O3	Bi-model	No Capping Required			No Capping Required		
Sm2O3	Bi-model	No Capping Required			No Capping Required		
Eu2O3	Bi-model	No Capping Required			4.85	6	93
Gd2O3	Bi-model	No Capping Required			24	3	97
Tb2O3	Bi-model	No Capping Required			3.6	2	97
Dy2O3	Bi-model	No Capping Required			21	2	98.5
Ho2O3	Bi-model	No Capping Required			3.8	2	99
Er2O3	Bi-model	No Capping Required			10	2	98.5
Tm2O3	Bi-model	No Capping Required			No Capping Required		
Yb2O3	Bi-model	No Capping Required			8.5	1	99
Lu2O3	Bi-model	No Capping Required			1.3	1	98
Y2O3	Bi-model	52	4	97	180	1	99
Sc203	Single/Normal	No Capping Required					
ThO2	Single/Normal	19	1	99			
MoO3	Bi-model	No Capping Required			260	1	99
Ni	Single/Normal	No Capping Required					
U3O8	Bi-model	No Capping Required			No Capping Required		
V2O5	Bi-model	No Capping Required			No Capping Required		
Zn	Bi-model	190	1	97	485	3	98.5
Cu	Single/Normal	No Capping Required					
Co	Single/Normal	36	4	99			
Li2CO3	Single/Normal	No Capping Required					

14.8 Grade Continuity

The drilling to date is quite wide-spaced with the average drillhole spacing being around one km. The variography utilized the composited REE-Y-Sc-Th and polymetallic sample data within the mineralized Labiche, and Second White Speckled Shale domains to produce spherical semi variogram's.

Difficulties were encountered with the variograms for all of the elements within both formations due to the limited number of drillholes, large spacing and irregular frequency of drilling. Despite the wide-drill spacing used for the resource estimate in this Technical Report, it is, however, obvious that the lithological boundaries and down hole geochemical patterns for most elements contained within the Labiche and Second White Speckled Shale are similar and fairly predictable between drillholes attesting to tremendous lateral geochemical continuity of the shale package. For many of the oxides/elements there is a lateral continuity that stretches hundreds of metres to kilometres with little change. This reinforces previous conclusions that there is an inherent stratigraphic control to the mineralization.

As single populations are present for all elements of interest in the Labiche, all composites were used to determine the continuity and orientation of mineralization. Table 25 shows the ranges in lateral continuity identified from the variography for the Labiche domain. Most oxides/metals of interest exhibit a grade continuity of between 0.9 and 1.5 km, whereas MoO_3, Zn and Li_2CO_3 show horizontal grade continuity of 1.64 km, 2.1 km and 2.46 km, respectively. Also Eu_3O_3, Ni and Cu show quite close grade continuity of 0.62 km, 0.53 km and 0.65 km, respectively. The average range of the primary axis for all elements within the Labiche domain is around 1.2 km.

Table 25. Semi-variogram parameters for the composited Labiche domain.

Grade Element	Labiche											
	Nugget (%)	Primary Axis	C1 (gamma)	Range 1 (m)	C2 (gamma)	Range 2 (m)	Secondary Axis	Range 1 (m)	Range 2 (m)	Third Axis	Range 1 (m)	Range 2 (m)
La2O3	16%	35	21	1000	15	3000	125	1000	3000	-90	6	40
Ce2O3	3%	35	42	987	80	2640	125	987	2640	-90	2	17
Pr2O3	6%	35	0.64	1355	1.01	2750	125	1355	2750	-90	4	15
Nd2O3	0%	35	9	1033	15.5	2922	125	1033	2922	-90	3	15
Sm2O3	0%	35	0.41	1090	0.58	3450	125	1090	3450	-90	3	18
Eu2O3	0%	35	0.017	619	0.023	2960	125	619	2960	-90	3	16
Gd2O3	0%	36	0.27	1103	0.36	3030	126	1103	3030	-90	3	17
Tb2O3	5%	36	0.0057	1000	0.0085	2680	126	1000	2680	-90	3	16
Dy2O3	4%	35	0.18	950	0.3	3000	125	950	3000	-90	3	19
Ho2O3	11%	34	0.0078	1000	0.0136	3020	124	1000	3020	-90	4	26
Er2O3	1%	35	0.008	1100	0.11	3500	125	1100	3500	-90	3	25
Tm2O3	3%	34	0.0015	1500	0.0028	3270	124	1500	2070	-90	4	28
Yb2O3	0%	35	0.079	1100	0.118	3480	125	1100	2700	-90	3	21
Lu2O3	0%	35	0.0023	1100	0.118	3480	124	1100	2600	-90	4	26
Y2O3	18%	64	9	1152	9.4	3900	154	1152	2100	-90	3	83
Sc203	2%	1	1.1	1500	3.2	2003	91	1501	2003	-90	6	300
ThO2	4%	36	1	1500	1.5	3150	125	1500	2100	-90	3	14
MoO3	5%	130	1.1	1640	0.7	3200	229	1640	3200	-90	3	120
Ni	3%	0	14	532	20	2020	90	532	2020	-90	6	180
U3O8	43%	172	0.26	1200	0.27	1600	262	1000	1350	-90	3	51
V2O5	7%	172	970	1350	3130	1350	262	1335	1350	-90	4	100
Zn	1%	165	67	2100	176	1300	255	2100	1300	-90	5	250
Cu	17%	178	11	650	8.7	1040	268	635	972	-90	4	75
Co	8%	29	2.2	991	3.5	1880	119	991	1880	-90	6	90
Li2CO3	0%	172	1660	2460	5430	980	262	2460	980	-90	3	17

Table 26 shows the ranges in lateral continuity identified from the variography for the Second White Speckled Shale REE-Y-Sc-Th/polymetallic domain, which initially examined each of the high and low grade REE/polymetallic populations separately, but due to the lack of samples it was decided to look at both populations as a whole. The majority of elements show a lateral range between 0.2 to 1.0 km, with ThO_2, U_3O_8, Cu and Li_2O_3 exhibit a larger lateral continuity with the ranges of 2.2 km, 1.5 km, 1.2 km and 1.4 km respectively. The overall average range of the primary axis for all elements within the Second White Speckled Shale domain is around 0.5 km.

Table 26. Semi-variogram parameters for the composited Second White Speckled Shale domain.

Grade Element	Second White Speckled Shale											
	Nugget (%)	Primary Axis	C1 (gamma)	Range 1 (m)	C2 (gamma)	Range 2 (m)	Secondary Axis	Range 1 (m)	Range 2 (m)	Third Axis	Range 1 (m)	Range 2 (m)
La2O3	5%	24	367	300	114.4	1850	114	1980	2510	-90	4	5
Ce2O3	2%	11	854	425	243	1425	101	425	1425	-90	4	4
Pr2O3	10%	21	13	302	13	1430	111	302	1430	-90	4	4
Nd2O3	0%	12	333	409	165	3800	102	409	3800	-90	4	4
Sm2O3	0%	21	12	551	12.5	1390	111	551	1390	-90	4	4
Eu2O3	21%	23	0.25	400	0.69	1650	113	400	1650	-90	5	5
Gd2O3	11%	12	14	575	10	3000	102	575	3000	-90	4	4
Tb2O3	17%	11	0.31	585	0.19	4450	101	585	4450	-90	4	5
Dy2O3	11%	19	9	500	6.4	1900	109	500	1900	-90	4	4
Ho2O3	13%	19	0.3	344	0.22	1690	109	344	1690	-90	4	4
Er2O3	2%	19	2.7	436	1.4	2390	109	436	2390	-90	4	4
Tm2O3	25%	13	0.035	419	0.025	2240	103	419	2240	-90	5	4
Yb2O3	11%	24	1.12	390	1.28	1370	114	390	1370	-90	5	4
Lu2O3	12%	17	0.034	550	0.015	1190	107	550	1190	-90	4.5	4
Y2O3	0%	21	477	790	731	2040	111	790	2040	-90	4	4
Sc203	11%	146	1.67	990	1.59	2200	236	990	1330	-90	4	6
ThO2	0%	139	3.4	2200	4.8	2200	229	2200	2200	-90	4.5	4.5
MoO3	0%	31	2680	350	1150	1300	121	350	1300	-90	10	10
Ni	0%	29	2580	200	657	1625	119	200	1625	-90	7.5	7.5
U3O8	0%	30	200	1500	152	2500	120	840900	2270	-90	4	20
V2O5	0%	142	92000	900	182000	1590	232	900	1590	-90	7	7
Zn	0%	29	6170	600	2590	2500	119	600	1700	-90	7	4
Cu	0%	144	230	1200	115	2840	234	1200	2840	-90	6	5
Co	0%	13	18	380	10	1500	103	380	1500	-90	3	4
Li2CO3	0%	43	3650	1400	3300	2200	133	1400	2200	-90	5	5

14.9 Search Ellipsoids

One search ellipsoid was used for all of the REE-Y-Sc-Th/polymetallic elements within the Labiche and Second White Speckled Shale formations. Due to the tremendous horizontal continuity the search ellipsoid direction was oriented at 090° with a 0° dip and a 0.2° plunge to the west. The size of the search ellipsoid was tailored to each element being estimated. The search ellipsoid distance was based off the results of the variography (Tables 25 and 26) obtained for each element within the Labiche and Second White Speckled Shale domains (the search ellipsoid size for each run is discussed in Section 14.12, Grade Estimation and in Table 30).

14.10 Bulk Density (Specific Gravity)

A total of 1,429 bulk density measurements were collected from drill core within the Buckton Mineralized Zone resource area. The samples were tagged with the formation name and separated into the different formations for use in the estimation process. The density values used in the combined Buckton resource are shown in Table 27.

The density used for the overburden was 2.673 t/m^3. This value is calculated as the average density from 65 samples collected from the overburden horizon. All of these samples were collected from reanalysis of the 1997 drill core. The 2011 and 2012 drilling program at the Buckton area yielded little if any cored till. Most of the drillholes went from casing into the top of the Labiche Formation shale and siltstone.

Table 27. Bulk density values by formation.

Formation	No. of samples	Average density
Overburden/overlying till	65	2.673
Labiche	800	2.774
Second White Speckled Shale	282	2.527

It should be noted that the there was one density sample located within the Second White Speckled formation that had a density value of 23.32 t/m^3 which was believed to be a typographic error. This was changed to 2.332 t/m^3. Other than this one error the density database is very well defined displaying a very small variance. Based on this, the application of a nominal density to assign to each formation is believed to be suitable for use for this resource calculation.

The densities used for this calculation which is based on all the drilling including the recently completed 2012 drill core has changed slightly compared to the previous resource estimation (Consolidated and Updated Inferred Resource Estimate for the Buckton Zone; Eccles et al., 2012a). The previous density measurements broken down to formation include 2.64 t/m^3 (n = 41 samples) for the overburden/overlying till, 2.683 t/m^3 (n = 277) for the Labiche formation and finally 2.449 t/m^3 (n = 192) for the Second White Speckled Formation. There are only very slight changes observed between the two datasets, which also show the uniform nature of the stratigraphic horizons that the mineralization is hosted within.

14.11 Block Model Extents and Block Size

As a result of the wide drillhole spacing's and the lateral continuity of the mineralization a model block size of 250 m x 250 m x 3 m was chosen for the Buckton mineral resource estimate. The block model extents were extended far enough past the mineralized wireframe to encompass the entire domain.

Table 28 presents the coordinate ranges and block size dimensions used to build the 3D block models from the mineralization wireframes. Sub-blocking was used to more effectively honour the volumes and shapes created during the geological interpretation of the mineralized wireframe or lode. A comparison of wireframe volume versus block model volume was performed for each of the estimations to ensure there was no overstating of tonnages (Table 29). Each block was coded with the domain name to enable the different populations (bi-modal for Second White Speckled Shale) to be estimated separately.

Table 28. Block model extents and cell dimensions for the Buckton block model.

Deposit	Block model dimensions	Easting	Northing	RL
Buckton	Maximum	451375	6406625	840
	Minimum	445625	6396625	594
	Parent Cell Size	250	250	3
	Sub Blocking Cell Size	25	25	1.5

Table 29. Block model versus wireframe volume comparison.

Formation	Wireframe Volume	Block Volume	% Difference
Overburden	608,984,252	609,114,375	0.02%
Labiche	1,343,509,363	1,342,681,875	-0.06%
Second White Specks	395,110,008	395,735,625	0.16%
Total	2,347,603,624	2,347,531,875	0.00%

14.12 Grade Estimation

The Buckton resource estimation was calculated using ordinary kriging (OK) for each element/oxide broken down by domain. No trends were applied to the OK grade estimation. The kriging parameters were based on the variography conducted on the individual grade elements within the relevant domain. Estimation was only calculated on parent blocks. All sub blocks within the parent block were assigned the parent block grade. A block discretization of 5 x 5 x 2 m was applied to all blocks during kriging.

There were four passes of estimation conducted for each oxide/element. The size of the elliptical search ellipsoid was based on the suggested ranges obtained from variography. The initial search ellipsoid range for all of elements within the Labiche domain was based off half of the average range of continuity observed in the primary axis of the variography (600 m). It was decided as the average range of continuity observed in the primary axis of the variography for the Second White Speckled Shale was 500 m; it was decided to also run with 600 m being the first pass range. The average range of the third direction for both the Labiche and the Second White Speckled Shale domains were 3.75 and 4.75 m respectively, so an initial range of 4.5 m was chosen. The estimation criteria for each pass are provided in Table 30.

The exception to this was lithium, where as a result of poor validation results from the initial run of 600 m it was re-run at the maximum observed range observed in the variogram (3.6 km). This difference in the change in search ellipsoid sizes was due to the fact that the resampling of the 07BK drillholes failed to analyse for lithium. As such there were fewer lithium composites at larger separation distances to trigger the estimation run criteria. This is deemed appropriate in light of the tremendous lateral continuation of the Second White Speckled Shale formation.

Table 30. Search ellipsoid criteria for the Labiche and Second White Speckled Shale grade estimations.

Estimation	Run number	Minimum No. of samples	Minimum No. of holes	Factor x radius (600 x 600 x 4.5 m)	% Blocks estimated
Labiche domain	1	4	3	1	0.4
	2	4	2	2	40
	3	2	1	3	59
	4	1	1	5	0.1
Second White Speckled Shale	1	4	3	1	2.9
	2	8	2	2	21
	3	2	1	3	59
	4	1	1	5	17

14.13 Expected Recovery and Metal Prices

Until better metallurgical information is available, the 2013 CanmetMINING stirred-tank bio-leach test work was used as the overall metallurgical recovery values because this test work was carried out under less acidic conditions, and therefore, represents the closest current simulation to bio-leaching field conditions. To the best of the author's knowledge, these recovery values are sufficiently accurate and precise for use in the Buckton updated and expanded resource estimation.

Recoveries used in previous Technical Reports, which included recovery values from the BRGM and AITF test work, were generally considered optimistic because they were obtained using more aggressive leaching conditions than those used in low cost heap leaching operations. Extraction results from the Batch Amenability Tests (BAT) performed at AITF were somewhat less aggressive but were also not regarded as suitable for a heap leach design.

Metal recoveries achieved during the CanmetMINING stirred-tank experiments are as follows: Mo-3%, Ni-64%, U-70%, V-7%, Zn-52%, Cu-25%, Co-72%, Li-17%, La-20%, Ce-30%, Pr-40%, Nd-43%, Sm-47%, Eu-61%, Gd-63%, Tb-65%, Dy-65%, Ho-64%, Er-62%, Tm-60%, Yb-58%, Lu-55%, Y-67%, Sc-24%, Th-13% (CanmetMINING, pers comm, 2013; Table 31).

Table 31. Recovery values used in the updated and expanded Buckton mineral resource estimate based on 2013 CanmetMINING stirred-tank bio-leach test work.

Metal / oxide	Metal recovery (%)
MoO_3	3
Ni	64
U_3O_8	70
V_2O_5	7
Zn	52
Cu	25
Co	72
Li_2CO_3	17
La_2O_3	20
Ce_2O_3	30
Pr_2O_3	40
Nd_2O_3	43
Sm_2O_3	47
Eu_2O_3	61
Gd_2O_3	63
Tb_2O_3	65
Dy_2O_3	65
Ho_2O_3	64
Er_2O_3	62
Tm_2O_3	60
Yb_2O_3	58
Lu_2O_3	55
Y_2O_3	67
Sc_2O_3	24
ThO_2	12.5

The Labiche and Second White Speckled Shale are low grade “polymetallic” shale horizons that have economic merit only if all metals of interest, or a group thereof, are extracted on a collective basis. That is, no individual metal has sufficient concentration to represent adequate value to support a stand-alone mono-metallic mining operation at the Buckton Zone.

In addition, the Labiche Formation has significantly lower metal grades than the Second White Speckled Shale Formation although some elements such as Sc and Li are of equivalent or higher grade than that in the Second White Speckled Shale (e.g., Sabag, 2008, 2010, 2012, Eccles et al., 2012a, b).

The Buckton Zone will therefore require several metals to drive the economics of the deposit in future. Subsequently, converting all of the metals into metal equivalents to look at the individual metal grade and value of the deposit does not provide a reasonable picture for the resource estimate. As a result, each block and sub-block in the block model was assigned arbitrary values what are calculated from a cumulative USD$ value based upon the estimated metal grade for each metal for that block, the expected potential recovery for each metal along with the USD$ two to five year average price for that metal multiplied by the recoverable grade for each metal.

With the exception of thulium and thorium, all metals and metal oxides used in this Technical Report are defined by a two-year trailing average prices (May 31, 2011 to May 31, 2013) that were compiled from www.metal-pages.com, www.asianmetals.com, www.northernminer.com and www.cameco.com (Table 32). Thulium metal price is represented by the three year average that was used in the Geomega Resources Montviel Core Zone REE, Quebec (Desharnais and Duplessis, 2011). Thorium metal price is for two-years and was taken from the United States Geological Survey Mineral Commodity Summaries (http://minerals.usgs.gov; the Th pricing has remain constant at USD$252.00 for the last three years).

The marketing of REE is commonly priced in the oxide form and analytical data are usually expressed in weight percentage of a particular element (Sinton, 2006). Rare-earth elements are not exchange-traded in the same way that precious (for instance, gold and silver) or non-ferrous metals (such as nickel, tin, copper, and aluminum) are. Instead they are sold on the private market, which makes their prices difficult to monitor and track. However, prices are published periodically on websites such as www.metal-pages.com and www.asianmetal.com.

The REE are not usually sold in their pure form, but instead are distributed in mixtures of varying purity, e.g., "Neodymium metal ≥ 99.5%". As such, pricing can vary based on the quantity and quality required by the end user's application.

The Freight on Board (FOB) China REE price was used in this Technical Report where possible. Metal prices varied between sources, and in conflicting instances, the lower pricing was used in the REE resource calculation.

Table 32. Metal prices used in the updated and expanded Buckton mineral resource estimate.

Metal / oxide	Metal Pricing		
	Value (USD$/lb) [1]	Trailing time span	Source
MoO_3	$12.89	May 31, 2011 to May 30, 2013	metal-pages.com
Ni	$8.34	May 31, 2011 to May 28, 2013	northernminer.com
U_3O_8	$60.74	May 31, 2011 to May 30, 2013	cameco.com [2]
V_2O_5	$5.89	May 31, 2011 to May 30, 2013	metal-pages.com
Zn	$0.94	May 31, 2011 to May 28, 2013	northernminer.com
Cu	$3.64	May 31, 2011 to May 28, 2013	northernminer.com
Co	$14.38	May 31, 2011 to May 30, 2013	metal-pages.com
Li_2CO_3	$2.82	May 31, 2011 to May 31, 2013	asianmetals.com
La_2O_3	$44.58	May 31, 2011 to May 30, 2013	metal-pages.com
Ce_2O_3	$43.20	May 31, 2011 to May 30, 2013	metal-pages.com
Pr_2O_3	$140.41	May 31, 2011 to May 30, 2013	metal-pages.com
Nd_2O_3	$156.16	May 31, 2011 to May 30, 2013	metal-pages.com
Sm_2O_3	$68.16	May 31, 2011 to May 30, 2013	metal-pages.com
Eu_2O_3	$2,742.11	May 31, 2011 to May 30, 2013	metal-pages.com
Gd_2O_3	$105.78	May 31, 2011 to May 30, 2013	metal-pages.com
Tb_2O_3	$2,190.48	May 31, 2011 to May 30, 2013	metal-pages.com
Dy_2O_3	$1,240.31	May 31, 2011 to May 30, 2013	metal-pages.com
Ho_2O_3	$202.98	May 31, 2011 to May 31, 2013	asianmetals.com
Er_2O_3	$169.01	May 31, 2011 to May 31, 2013	asianmetals.com
Tm_2O_3	$97.00	August-2008 to August 2011	From Geomega 43-101 [3]
Yb_2O_3	$102.98	May 31, 2011 to May 31, 2013	asianmetals.com
Lu_2O_3	$1,273.00	May 31, 2011 to May 31, 2013	asianmetals.com
Y_2O_3	$107.77	May 31, 2011 to May 30, 2013	metal-pages.com
Sc_2O_3	$4,194.66	May 31, 2011 to May 30, 2013	asianmetals.com
ThO_2	$252.00	2011-2012	USGS Commodity Summaries [4]

[1] Conversion from Chinese Yaun Renminbi to United States Dollar is 1 Rmb : 0.15895 $USD (w w w .metal-pages.com)
[1] Conversion from Indian Rupee to United States Dollar is 1 INR : 0.01851 $USD (w w w .metal-pages.com).
[2] U_3O_8 long-term industry average prices listed by Cameco from the month-end prices published by Ux Consulting and Trade Tech.
[3] Tm_2O_3 - 3 year average used in the Geomega Resources Montviel Core Zone REE, Quebec (SGS Canada Inc., 2011).
[4] ThO_2 - USGS Mineral Commodity Summaries; http://minerals.usgs.gov/minerals/pubs/commodity/thorium/mcs-2013-thori.pdf.
[5] Metal recovery based on CanmetMINING bio-leach tests, and solution entrainment and dow nstream recovery factors from HATCH.

14.14 Model Validation

14.14.1 Visual Validation

The blocks were visually validated on cross sections comparing block grades versus the sample grades for all sections and drillholes (Figures 21 to 23). In addition, the block and sample data were compared by grade element, easting and northing. These comparisons are presented in Figures 24 to 25, and Table 33.

Figure 21. Drillhole 7BK01 Cross-section showing Ce_2O_3 block grade (ppm) versus Ce_2O_3 sample grade.

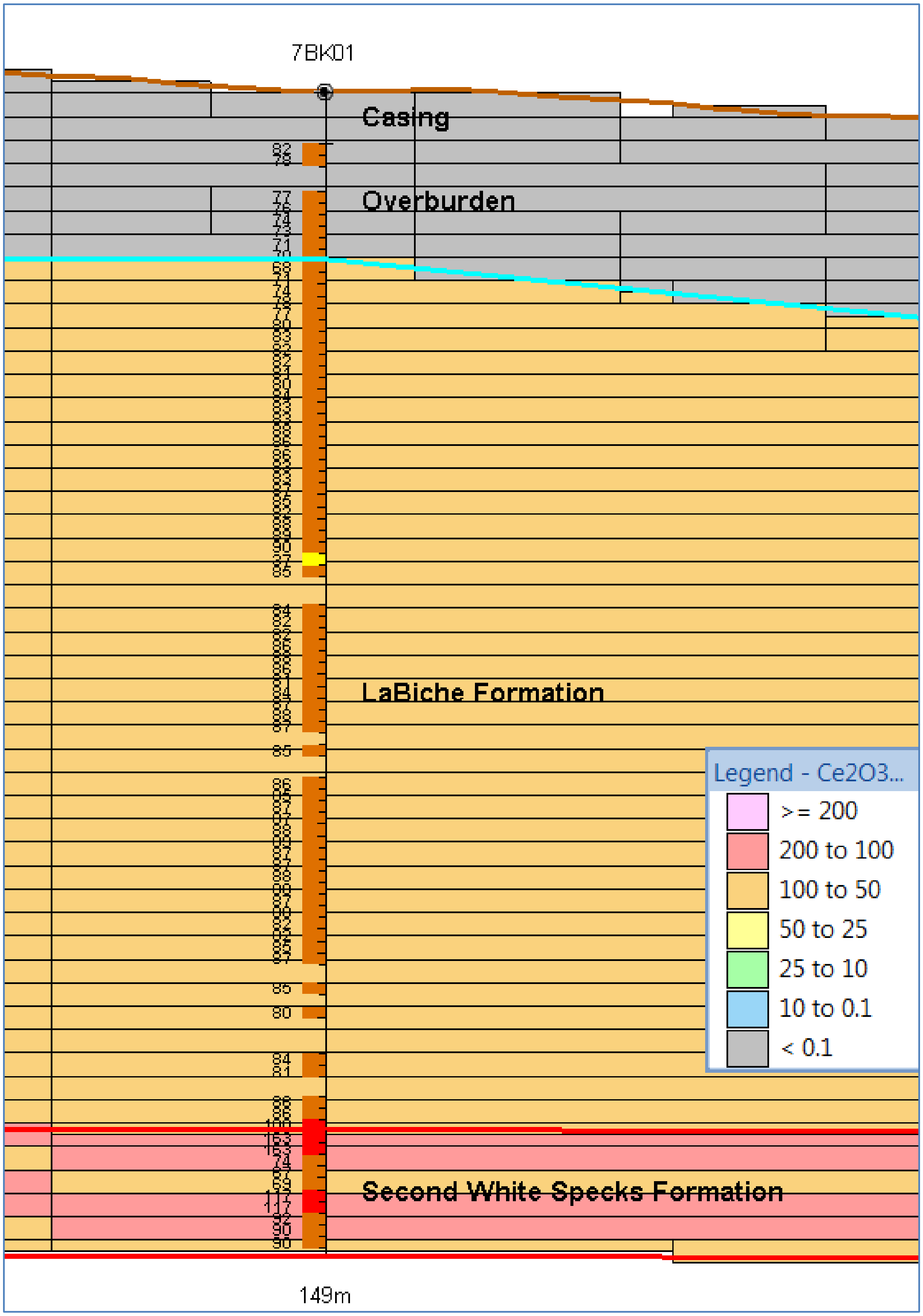


Figure 22 Drillhole 11BK02 Cross-section showing MoO_3 block grade (ppm) versus MoO_3 sample grade.

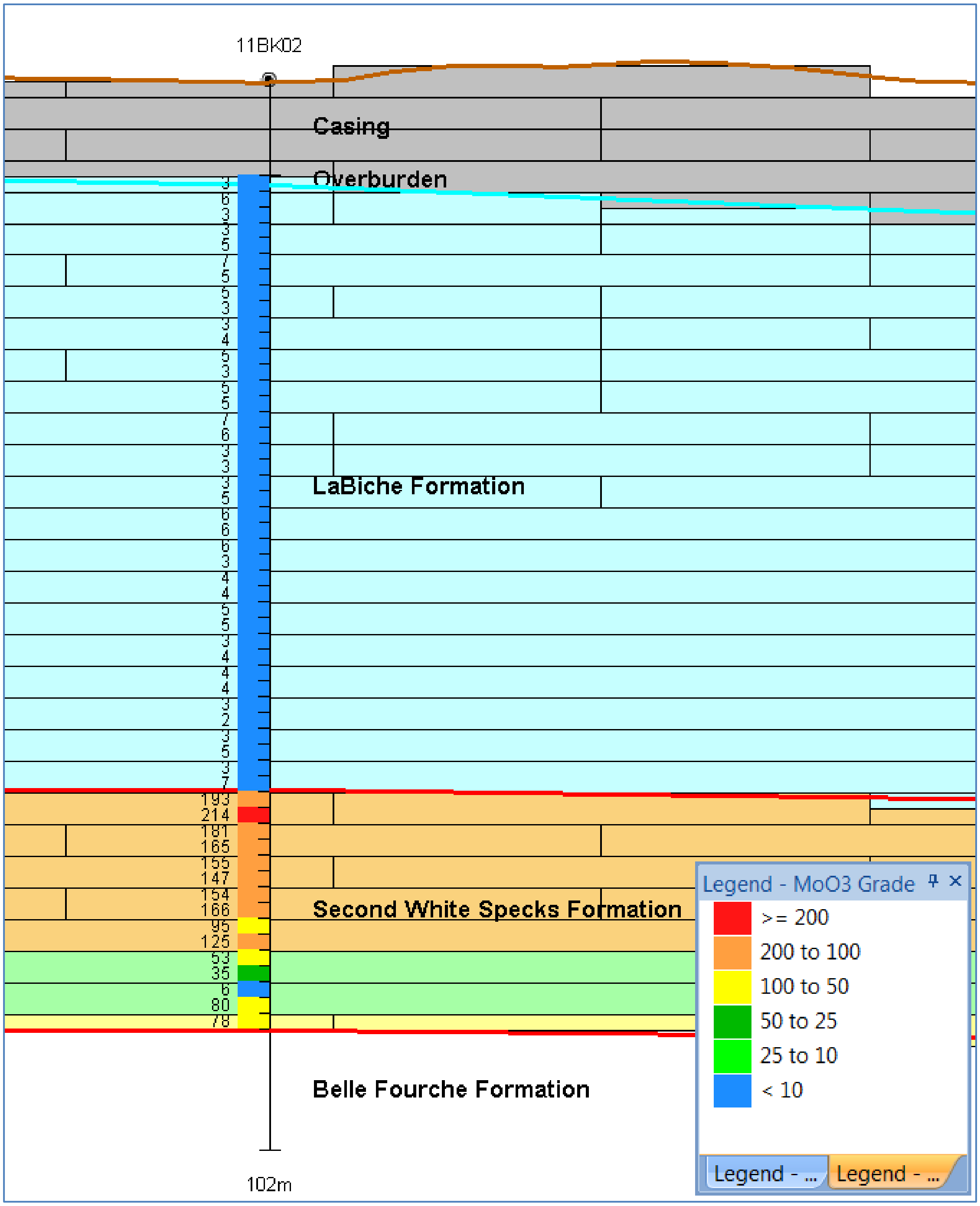
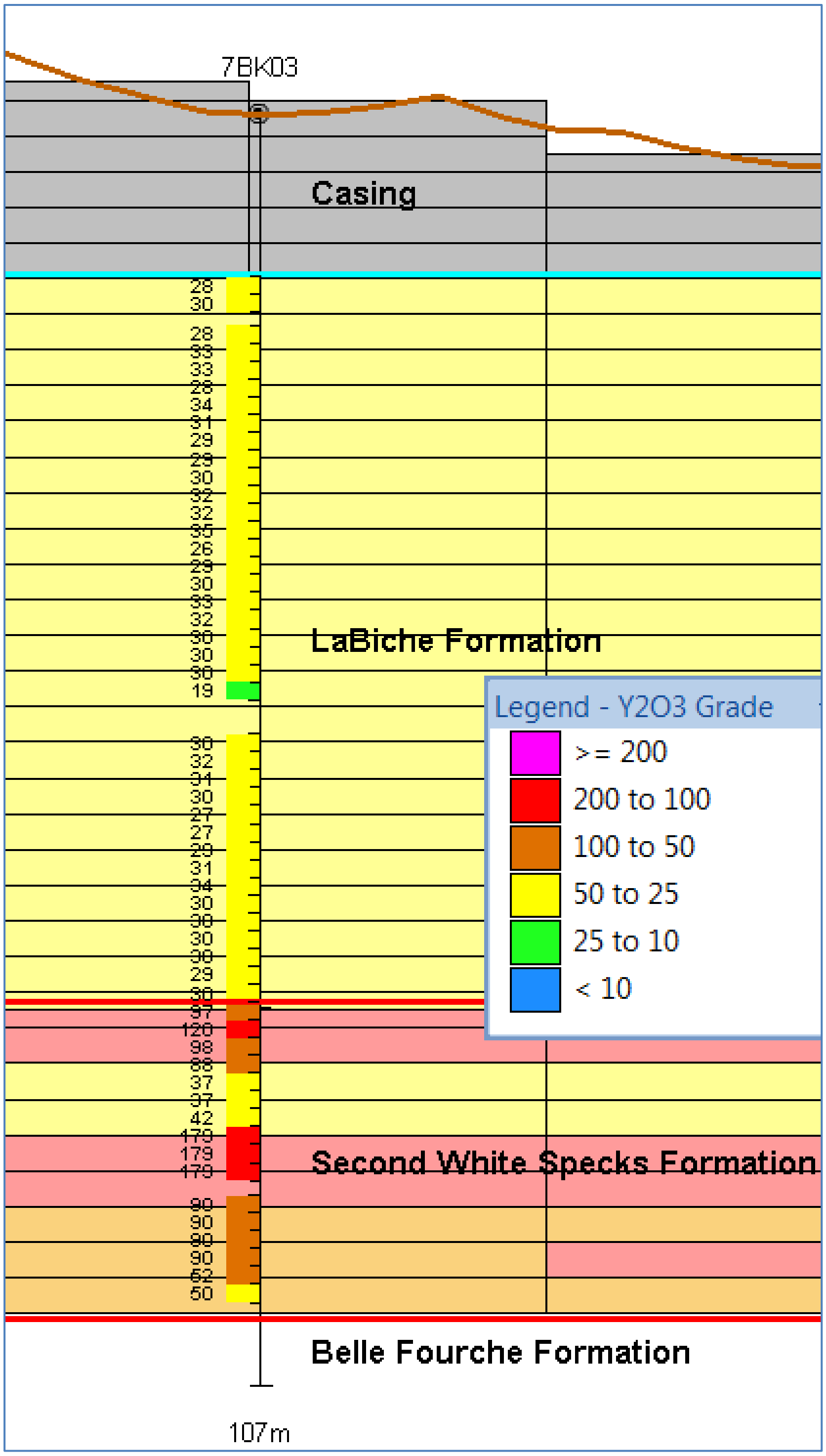


Figure 23 Drillhole 7BK03 Cross-section showing Y_2O_3 block grade (ppm) versus Y_2O_3 sample grade.



14.14.2 Statistical Validation

Figure 24 and 25 and Table 33 show the average grade of the composited capped sample data versus the calculated block model grade data. It can be concluded that the average/mean grade of the OK block model data is very close to or generally slightly lower than the sample data. The model data tends to have a reduced dispersion of the block grades resulting from the grade estimation process. The OK block modeling and estimation process tends to lower both the high end grades and the low end grades compared to the sample data. This is expected with the overall smoothing of the estimation process.

Figure 24. Average grade element comparison between the input sample data and the OK block model data for the Labiche domain estimation.

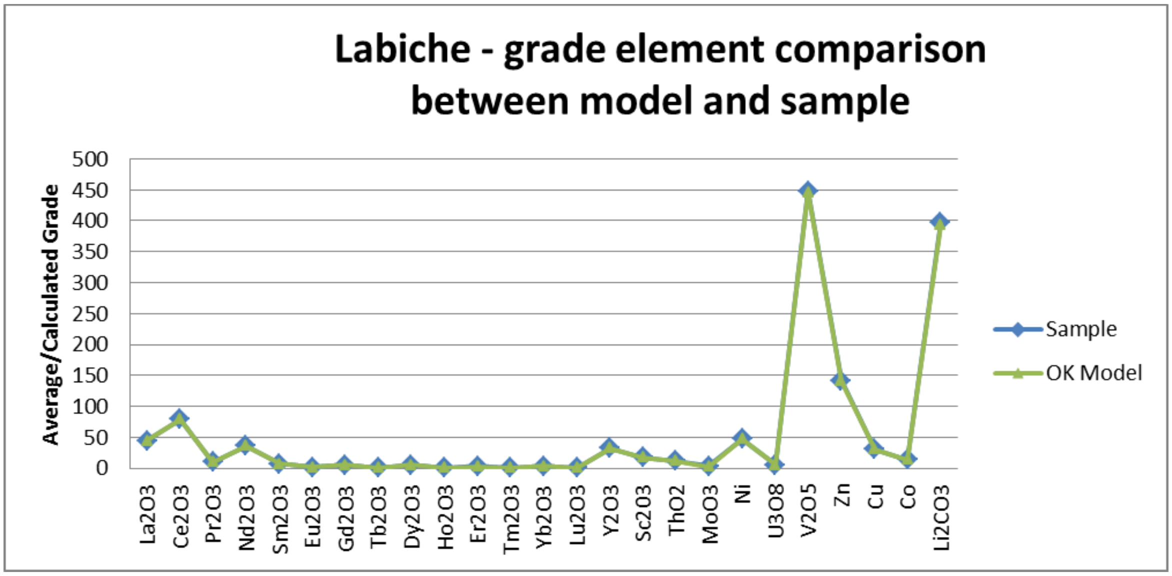


Figure 25. Average grade element comparison between the input sample data and the OK block model data for the Second White Speckled Shale domain estimation.

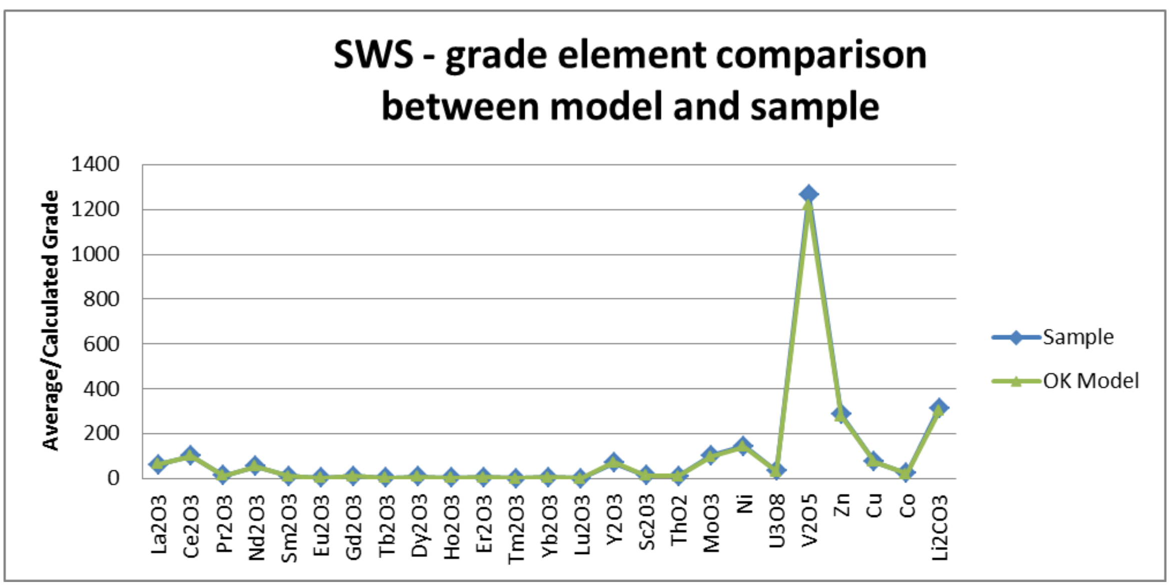


Table 33. Calculated grade of model versus capped and composited average sample grades for the Labiche and Second White Speckled Shale domain estimation.

	Labiche			SWS	
Element	**Sample**	**OK**	**Element**	**Sample**	**OK**
La2O3	44.443	44.37	La2O3	63.223	64.60
Ce2O3	79.608	79.30	Ce2O3	100.244	101.88
Pr2O3	9.578	9.58	Pr2O3	13.982	13.94
Nd2O3	36.124	36.05	Nd2O3	55.002	55.39
Sm2O3	6.937	6.93	Sm2O3	11.273	11.54
Eu2O3	1.441	1.44	Eu2O3	2.428	2.47
Gd2O3	5.642	5.60	Gd2O3	10.806	10.78
Tb2O3	0.887	0.89	Tb2O3	1.647	1.64
Dy2O3	5.095	5.05	Dy2O3	9.3	9.28
Ho2O3	1.023	1.01	Ho2O3	1.814	1.80
Er2O3	3.043	3.01	Er2O3	5.068	5.04
Tm2O3	0.464	0.46	Tm2O3	0.733	0.73
Yb2O3	3.097	3.07	Yb2O3	4.612	4.65
Lu2O3	0.502	0.50	Lu2O3	0.712	0.72
Y2O3	32.568	32.15	Y2O3	68.796	71.38
Sc203	17.536	17.29	Sc203	13.768	13.55
ThO2	12.012	11.98	ThO2	11.911	11.78
MoO3	3.066	2.95	MoO3	102.535	99.13
Ni	47.618	47.70	Ni	143.539	142.23
U3O8	5.204	5.18	U3O8	32.594	31.67
V2O5	448.3	446.21	V2O5	1263.569	1221.79
Zn	141.826	140.85	Zn	286.874	279.20
Cu	30.719	30.85	Cu	75.561	75.79
Co	13.661	13.63	Co	22.505	22.09
Li2CO3	397.525	394.34	Li2CO3	315.207	302.6

14.14.3 Easting Comparison

The sample and block model averages were calculated on 500 m composite sections across the easting (Appendix 2). Due to the flat nature of the deposit this is parallel to the strike of the mineralization. The purpose is to compare the input sample file with the resulting block model data to make sure no gross over or under estimation occurs. The easting composites generally compare quite well. There is some local over and under estimation observed, but this is to be expected with the estimation process and the wide spaced nature of the drilling. Overall the block average grades follow the general trend of the input sample data. Graphs of the individual grade element comparisons are provided in Appendix 2.

14.14.4 Northing Comparison

The input sample and block model averages were calculated on 500 m composite sections down the northing (Appendix 3). Due to the flat nature of the deposit this is parallel to the strike of the mineralization. The purpose is to compare the input sample file with the resulting block model data to make sure there is no gross over or under estimation occurring. The northing composites generally compare quite well. There is some local over and under estimation observed but this is to be expected with the estimation process and the wide spaced nature of the drilling. Overall the block averages follow the general trend of the input sample data. Graphs of the individual grade element comparisons are provided in Appendix 3.

14.14.5 Elevation Comparison

The input sample and block model averages were calculated on 10 m composite sections down the elevation (Appendix 4). Due to the flat nature of the deposit this is equivalent to the down dip or true thickness of mineralization. The purpose is to compare the input sample file with the resulting block model data to make sure there is no gross over or under estimation occurring. The elevation composites generally compare quite well. There is some local over and under estimation observed but this is to be expected with the estimation process and the wide spaced nature of the drilling. Overall the block averages follow the general trend of the input sample data. Graphs of the individual grade element comparisons are provided in Appendix 4.

14.15 Resource Classification

The Buckton mineral resource has been classified in accordance with guidelines established by the CIM "Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines" dated November 23rd, 2003 and CIM "Definition Standards for Mineral Resources and Mineral Reserves" dated November 14th, 2004.

A 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes that are spaced closely enough to confirm both geological and grade continuity.

An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes that are spaced closely enough for geological and grade continuity to be reasonably assumed.

An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes.

The Buckton mineral resource estimate has been classified as indicated and inferred according to the CIM definition standards. The classification of the Buckton mineral resource was based on geological confidence, data quality and grade continuity (Table 34). The primary criterion that was used as a guide for the classification of Indicated resources was the estimation criteria used in run number one. These parameters comprise of a minimum of four samples from three drillholes within a search distance of 600 x 600 x 4.5 m. These blocks were then visually examined and a nominal area around these and surrounding blocks was created to assign the indicated classification, which was also based on geological confidence and known continuity of mineralization. The area of the resource that has been classified as indicated has the closest spaced cluster of drillholes present in the resource area, which comprise a total of 6 drillholes which are spaced between 240 and 670 m from each other.

The classification of the inferred resources was based on runs 2 to 4 which comprised the remainder of the resource. Due to the wide spaced nature of the current drilling the majority of the mineralization was classified as inferred. Although the majority of the resource is comprised of wide spaced drilling (average 1.0 km spacing) the observed stratigraphic horizons show remarkable consistency in both down hole position and thickness which provides confidence in the geological and mineralization continuity.

Table 34. Classification criteria for guiding resource classification.

Criteria	Indicated	Inferred
Nominal search distance	600 x 600 x 4.5 m	1200 x 1200 x 9 m
Minimum no. of samples per drillhole	4	4
Minimum no. of drillholes	3	2
Run no.	1	>1

In addition, mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no guarantee that all or any part of the inferred mineral resource will be converted into a mineral reserve. The collective work from the Buckton Zone and the SBH Property indicate that while none of the metals of interest present in the Buckton Zone occurs in sufficiently high enough concentration to be of economic merit by itself, the metals of interest (polymetallics, rare-earth elements and specialty metals) collectively represent sufficient recoverable gross in-situ value on a combined basis to place the Labiche and Second White Speckled Shale formations within reach of economic viability provided the metals are efficiently recovered on a combined basis. In addition, overburden thickness, the extracted amount of recoverable metal(s) and the price for each metal (or oxide) will play a critical role in the potential economics of the deposit and the final resource estimate.

14.16 Evaluation of Reasonable Prospects for Economic Extraction

In order to demonstrate that the mineralization estimated in the revised Buckton block model has reasonable prospects of economic extraction, this Technical Report relies on base case cut-offs and a conceptual pit shell configuration that was guided by preliminary findings from the scoping study in progress for the Buckton Zone (P&E Mining Consultants Inc., pers comm, 2013), and as such, the resource modelling and estimate can be expected to better represent the combination of recoverable value, operating cost and strip ratio.

The Buckton resource announced in previous Technical Reports used a cut-off of USD$10.00 per tonne, for both the Labiche and Second White Speckled Shale formations. This Technical Report uses a base case cut-off of USD$11.00 per tonne for the stratigraphically higher Labiche Formation and USD$12.50 per tonne for the underlying Second White Speckled Formation.

These values were then used to report the overall resource within the optimised pit shell. In construction of the conceptual pit shell, it was assumed that any Labiche or Second White Speckled formation blocks meeting the two different cut offs would be treated as ore and as such show economic potential to be mined in future. The parameters used in the conceptual pit optimization studies are shown in Table 35.

Overall, the authors of this Technical Report consider that these assumptions are considered fair for the purpose of determining prospects for economic extraction of the Buckton deposit. This Technical Report does not demonstrate that the Buckton mineralization is economic, because the resource estimations are not at the level of a Preliminary Economic Assessment (“PEA”) and does not conform to the studies required for a PEA.

The value of each block in the block model was determined by calculating the estimated grades for each element of interest by the expected recovery for each respective element. Then using the recovered grade of each block from the stirred-tank bio-leach work (Table 31; CanmetMINING, pers comm, 2013), the expected quantity of each element (in kg or lbs) was multiplied by the running two year average price (Table 32) to provide a value of each element of interest, for each block. These values of each element were then tallied to get a total value of each block for all 25 elements.

Table 35. Parameters used for the pit optimization studies (P&E Mining Consultants Inc., pers comm, 2013).

	Unit	Overburden	Labiche Formation	Second White Speckled Shale Formation
NSR pricing			As per section 14.13	As per section 14.13
Overall recovery			As per Section 14.13	As per Section 14.13
Overall dilution			No dilution applied.	No dilution applied.
Waste mining cost	$/t	$0.80	$0.80	$0.80
Ore mining cost	$/t		$0.80	$0.80
Processing & G&A cost	$/t		$11.00	$12.50
Report COG's NSR	$/t		$11.00	$12.50
Pit slopes – waste		30 degrees	30 degrees	30 degrees
Pit slopes – ore		30 degrees	30 degrees	30 degrees

14.17 Mineral Resource Reporting

The Buckton mineral resource estimate is reported in accordance with the Canadian Securities Administrators National Instrument 43-101 and has been estimated using the CIM "Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines" dated November 23rd, 2003 and CIM "Definition Standards for Mineral Resources and Mineral Reserves" dated November 27th, 2010.

The Buckton mineral resource estimation has been constrained and reported within the preliminary guidelines of an in progress scoping study for the Buckton Zone, including the conceptual pit shell, and base cut-offs of $11.00 per tonne and $12.50 per tonne for the Labiche Formation and Second White Speckled Formation, respectively. There are no Measured Mineral Resource estimates. Both Imperial and Metric System units are provided. The classification categories of Inferred, Indicated and Measured are those defined in the CIM Standard definitions (CIM, 2010).

The Buckton indicated and inferred mineral resource, together with metal prices, raw average grade, recoverable grade, metal value and recoverable kilograms of metal for each metal/oxide are presented in Table 36 (indicated resource estimate) and Table 37 (inferred resource estimate), and summarized in the text that follows.

The aerial extent of the Buckton indicated and inferred mineral resource areas reported herein are 1.5 km^2 and 20.4 km^2, respectively. The two resources together comprise the Buckton resource area modelled by this Technical Report. This is the first time an indicated mineral resource has been calculated for the Buckton Zone. In addition to infill drilling, the 2012 drill program expanded the Buckton Zone northwards, increasing the size of the Buckton inferred resource by nearly 1.5 times, from 14 km^2 in previous studies to 20.4 km^2.

Indicated Mineral Resource Estimate

The Buckton indicated mineral resource is presented in Table 36. It consists of the Labiche and Second White Speckled Shale formations, together representing a 40 to 136 m thick (13-23 m thick sequence of Second White Speckled Shale) continuous mineralized zone with recoverable MoO_3, Ni, U_3O_8, V_2O_5, Zn, Cu, Co and Li_2CO_3, total REO, Y_2O_3 and ThO_2 ($\pm Sc_2O_3$).

The Buckton indicated mineral resource comprises 272 million tonnes (300 million short tons) at an aggregate gross recoverable value of USD$22.04 per tonne (USD$20.00 per ton) excluding Sc_2O_3 (USD$39.50 per tonne, USD$35.83 per ton including Sc_2O_3). This resource is overlain by 28 million tonnes (31 million short tons) of overburden-waste material. Details for the respective tonnages contained within the Labiche and Second White Speckled Shale formations comprising the Buckton indicated mineral resource are shown in Table 36 and summarized as follows:

- Labiche Formation: 207 million tonnes (228 million tons) at an aggregate gross recoverable value of USD$19.39 per tonne (USD$17.59 per ton) excluding scandium (USD$37.83 per tonne, USD$34.32 per ton including Sc_2O_3); and

- Second White Speckled Shale Formation: 65 million tonnes (72 million tons) at an aggregate gross recoverable value of USD$30.42 per tonne (USD$27.59 per ton) excluding scandium (USD$44.78 per tonne, USD$40.62 per ton including Sc_2O_3).

Inferred Mineral Resource Estimate

The Buckton inferred mineral resource is presented in Table 37. It consists of the Labiche and Second White Speckled Shale formations, together representing a 32 to 136 m thick (11-26 m thick sequence of Second White Speckled Shale) continuous mineralized zone with recoverable MoO_3, Ni, U_3O_8, V_2O_5, Zn, Cu, Co and Li_2CO_3, total REO, Y_2O_3 and ThO_2 ($\pm Sc_2O_3$). The Buckton inferred mineral resource is overlain by 1.6 billion tonnes (1.7 billion short tons) of overburden-waste material.

The Buckton inferred mineral resource estimate consists of 4.4 billion tonnes (4.9 billion short tons) at an aggregate gross recoverable value of USD$22.37 per tonne (USD$20.30 per ton) excluding Sc_2O_3; (USD$38.94 per tonne, USD$35.32 per ton including Sc_2O_3). Details for the respective tonnages contained within the Labiche and

Second White Speckled Shale formations comprising Buckton inferred mineral resource are shown in Table 37 and summarized below:

- Labiche Formation: 3.5 billion tonnes (3.9 million tons) at an aggregate gross recoverable value of USD$18.78 per tonne (USD$17.04 per ton) excluding scandium; (USD$36.12 per tonne, USD$32.77 per ton including Sc_2O_3); and

- Second White Speckled Shale Formation: 923 million tonnes (1.0 billion tons) at an aggregate gross recoverable value of USD$36.07 per tonne (USD$32.72 per ton) excluding scandium; (USD$49.66 per tonne, USD$45.05 per ton including Sc_2O_3).

Mineral resources that are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by geology, environment, permitting, legal, title, taxation, socio-political, marketing or other relevant issues. The quality and grade of reported inferred resource in this estimation is uncertain in nature as there has been insufficient exploration to define these inferred resources as an indicated or measured mineral resource, and it is uncertain if further exploration will result in upgrading them to an indicated or measured resource category. The portion of the Buckton resource that has been classified as 'indicated' demonstrates that the nature, quantity and distribution of data is such as to allow confident interpretation of the geological framework and to reasonably assume continuity of mineralization.

The term "recoverable kilogram of metal" is not meant to imply that any economic viability has been determined; it is simply the assumed recoverable grade (based upon idealized preliminary metallurgical work) times the tonnage in the blocks that meet the lower cut-off criteria. In addition, while the resource estimate model results in Tables 36 and 37 are shown for all of the metals/oxides of interest, the authors' discussions of aggregated recoverable values in this Technical Report exclude scandium because scandium supply, demand (consumption) and pricing worldwide is not well defined, and the recoverable Sc value is sufficiently high enough to unrealistically skew the recoverable value represented by the Labiche and Second White Speckled Shale formations.

The reader is cautioned that the aggregate recoverable per tonne values discussed in this Technical Report do not comply with Section 2.3(1c) of National Instrument 43-101 because the values are gross and the term may be misleading in the absence of a proven production cost. The recoverable gross values are quoted for convenience of communicating overall grade and are otherwise conceptual in nature and do not represent economic worth of the Buckton Zone, but rather reflect the aggregate gross recoverable value of the individual metals of interest contained in the shale based on exploration analyses, recommended recovery values, 2-year trailing metal prices, and base cut-offs of USD$11.00 per tonne and USD$12.50 per tonne for the Labiche and the Second White Speckled Shale formations, respectively.

Table 36. Indicated Buckton mineral resource estimate constrained within the whittle pit optimization assuming that the Labiche and Second White Speckled Shale formations are economic, and using a reported cut-off of USD$11.00 per tonne for Labiche and USD$12.50 per tonne for Second White Speckled Shale.

			Labiche Formation (>USD$11.00 per tonne) 206,609,000 tonnes (227,747,000 tons) [3]					Second White Speckled Shale Formation (>USD$12.50 per tonne) 65,329,000 tonnes (72,013,000 tons) [3]					Total shale package (Labiche >USD$11.00 per tonne; Second White Speckled Shale >12.50 per tonne) 271,938,000 tonnes (299,760,000 tons) [3]				
Metal	Metal/Oxide Prices ($USD/kg or $USD/lb) [1]	Recovery (%) [2]	Raw average grade (ppm)	Recoverable grade (ppm)	USD$ /tonne	USD$ /ton	Recoverable Kg of metal/oxide	Raw average grade (ppm)	Recoverable grade (ppm)	USD$ /tonne	USD$ /ton	Recoverable Kg of metal/oxide	Raw average grade (ppm)	Recoverable grade (ppm)	USD$ /tonne	USD$ /ton	Recoverable Kg of metal/oxide
MoO_3	$12.89/lb	3	3.7	0.1	$0.00	$0.00	23,000	100.4	3.0	$0.09	$0.08	197,000	27.0	0.8	$0.02	$0.02	220,000
Ni	$8.34/lb	64	47.3	30.3	$0.56	$0.50	6,255,000	142.9	91.5	$1.68	$1.53	5,976,000	70.3	45.0	$0.83	$0.75	12,231,000
U_3O_8	$60.74/lb	70	5.2	3.6	$0.49	$0.44	750,000	29.1	20.3	$2.72	$2.47	1,329,000	10.9	7.6	$1.02	$0.93	2,079,000
V_2O_5	$5.89/lb	7	452.7	31.7	$0.41	$0.37	6,547,000	1315.5	92.1	$1.20	$1.08	6,016,000	659.9	46.2	$0.60	$0.54	12,562,000
Zn	$0.94/lb	52	143.6	74.7	$0.15	$0.14	15,430,000	273.6	142.3	$0.29	$0.27	9,294,000	174.8	90.9	$0.19	$0.17	24,723,000
Cu	$3.64/lb	25	31.3	7.8	$0.06	$0.06	1,617,000	74.4	18.6	$0.15	$0.14	1,215,000	41.6	10.4	$0.08	$0.08	2,832,000
Co	$14.38/lb	72	14.3	10.3	$0.33	$0.30	2,127,000	23.4	16.9	$0.54	$0.49	1,103,000	16.5	11.9	$0.38	$0.34	3,229,000
La_2O_3	$44.58/kg	20	45.5	9.1	$0.41	$0.37	1,880,000	57.7	11.5	$0.51	$0.47	754,000	48.4	9.7	$0.43	$0.39	2,633,000
Ce_2O_3	$43.20/kg	30	82.2	24.7	$1.07	$0.97	5,097,000	89.4	26.8	$1.16	$1.05	1,752,000	84.0	25.2	$1.09	$0.99	6,849,000
Pr_2O_3	$140.41/kg	40	9.7	3.9	$0.54	$0.49	800,000	11.9	4.8	$0.67	$0.61	310,000	10.2	4.1	$0.57	$0.52	1,111,000
Nd_2O_3	$156.16/kg	43	36.8	15.8	$2.47	$2.24	3,273,000	45.8	19.7	$3.07	$2.79	1,286,000	39.0	16.8	$2.62	$2.37	4,559,000
Sm_2O_3	$68.16/kg	47	7.1	3.3	$0.23	$0.21	690,000	9.2	4.3	$0.30	$0.27	283,000	7.6	3.6	$0.24	$0.22	973,000
Eu_2O_3	$2,742.11/kg	61	1.5	0.9	$2.47	$2.24	186,000	2.0	1.2	$3.31	$3.00	79,000	1.6	1.0	$2.67	$2.42	265,000
Gd_2O_3	$105.78/kg	63	5.7	3.6	$0.38	$0.35	747,000	8.7	5.5	$0.58	$0.52	357,000	6.4	4.1	$0.43	$0.39	1,105,000
Tb_2O_3	$2,190.48/kg	65	0.9	0.6	$1.28	$1.17	121,000	1.3	0.9	$1.87	$1.69	56,000	1.0	0.7	$1.42	$1.29	177,000
Dy_2O_3	$1,240.31/kg	65	5.2	3.4	$4.22	$3.83	703,000	7.8	5.0	$6.26	$5.68	330,000	5.8	3.8	$4.71	$4.27	1,033,000
Ho_2O_3	$202.98/kg	64	1.1	0.7	$0.14	$0.13	142,000	1.6	1.0	$0.21	$0.19	67,000	1.2	0.8	$0.16	$0.14	208,000
Er_2O_3	$169.01/kg	62	3.1	1.9	$0.33	$0.30	403,000	4.3	2.7	$0.46	$0.41	176,000	3.4	2.1	$0.36	$0.33	579,000
Tm_2O_3	$97.00/kg	60	0.5	0.3	$0.03	$0.03	60,000	0.6	0.4	$0.04	$0.03	25,000	0.5	0.3	$0.03	$0.03	85,000
Yb_2O_3	$102.98/kg	58	3.2	1.9	$0.19	$0.17	383,000	4.1	2.4	$0.24	$0.22	154,000	3.4	2.0	$0.20	$0.18	537,000
Lu_2O_3	$1,273.00/kg	55	0.5	0.3	$0.37	$0.33	59,000	0.6	0.3	$0.44	$0.40	23,000	0.5	0.3	$0.38	$0.35	82,000
Y_2O_3	$107.77/kg	67	34.2	22.9	$2.47	$2.24	4,733,000	54.9	36.8	$3.96	$3.59	2,402,000	39.2	26.2	$2.83	$2.57	7,134,000
Sc_2O_3	$4,194.66/kg	24	18.3	4.4	$18.44	$16.73	908,000	14.3	3.4	$14.36	$13.03	224,000	17.3	4.2	$17.46	$15.84	1,132,000
ThO_2	$252.00/kg	12.5	12.1	1.5	$0.38	$0.35	312,000	11.6	1.4	$0.36	$0.33	95,000	12.0	1.5	$0.38	$0.34	407,000
Li_2CO_3	$2.82/lb	17	395.7	67.3	$0.42	$0.38	13,900,000	298.7	50.8	$0.32	$0.29	3,318,000	372.4	63.3	$0.39	$0.36	17,217,000
Aggregate Gross Recoverable Summary																	
Polymetallics plus rare-earth elements plus Y-Th-Li (without Sc)					$19.39	$17.59	66,238,000			$30.42	$27.59	36,597,000			$22.04	$20.00	102,830,000
All 25 metals combined (with Sc)					$37.83	$34.32	67,146,000			$44.78	$40.62	36,821,000			$39.50	$35.83	103,962,000

[1] Average metal or oxide prices for two-year trailing averages dating backwards from 31 May 2013 (three-years for Tm_2O_3). Sources: Metal-pages.com; Asianmetal.com; USGS. (See Table 32 for further pricing detail).
[2] Recovery values based on 2013 stirred-tank bio-leach experiments (CanmetMINING, pers comm, 2013).
[3] Tonne = metric tonne = 1,000 kg (2,204.6 lbs); Ton = short ton = 907.2 kg (2,000 lbs). Numbers may not add due to rounding.

Note 1: Mineral resources that are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by geology, environment, permitting, legal, title, taxation, socio-political, marketing or other relevant issues.

Note 2: The quality and grade of reported inferred resource in these estimations are uncertain in nature and there has been insufficient exploration to define these inferred resources as an indicated or measured mineral resource, and it is uncertain if further exploration will result in upgrading them to an indicated or measured resource category.

Note 3: The terms "Recoverable Grade" and "Recoverable Kg of Metal" is not meant to imply that any economic viability has been determined. Metal recoveries are summarized from a series of bench scale laboratory tests completed by DNI, which are ongoing, and may not reflect actual process recoverability that might be achieved in an ultimate mineral production operation.

Note 4: The aggregate gross recoverable value USD$ per tonne, as represented in the Summary, does not comply with Section 2.3(1)(c) of National Instrument 43-101 and may be misleading in the absense of production cost.

Table 37. Inferred Buckton mineral resource estimate constrained within the whittle pit optimization assuming that the Labiche and Second White Speckled Shale formations are economic, and using a reported cut-off of USD$11.00 per tonne for Labiche and USD$12.50 per tonne for Second White Speckled Shale.

			Labiche Formation (>USD$11.00 per tonne) 3,516,944,000 tonnes (3,876,767,000 tons) [3]					Second White Speckled Shale Formation (>USD$12.50 per tonne) 923,168,000 tonnes (1,017,619,000 tons) [3]					Total shale package (Labiche >USD$11.00 per tonne; Second White Speckled Shale >12.50 per tonne) 4,440,112,000 tonnes (4,894,386,000 tons) [3]				
Metal	Metal/Oxide Prices ($USD/kg or $USD/lb) [1]	Recovery (%) [2]	Raw average grade (ppm)	Recoverable grade (ppm)	USD$ /tonne	USD$ /ton	Recoverable Kg of metal/oxide	Raw average grade (ppm)	Recoverable grade (ppm)	USD$ /tonne	USD$ /ton	Recoverable Kg of metal/oxide	Raw average grade (ppm)	Recoverable grade (ppm)	USD$ /tonne	USD$ /ton	Recoverable Kg of metal/oxide
MoO_3	$12.89/lb	3	2.9	0.1	$0.00	$0.00	306,000	99.4	3.0	$0.08	$0.08	2,752,000	23.0	0.7	$0.02	$0.02	3,058,000
Ni	$8.34/lb	64	47.7	30.5	$0.56	$0.51	107,417,000	142.4	91.1	$1.68	$1.52	84,116,000	67.4	43.1	$0.79	$0.72	191,533,000
U_3O_8	$60.74/lb	70	5.2	3.6	$0.49	$0.44	12,757,000	31.9	22.3	$2.99	$2.72	20,632,000	10.7	7.5	$1.01	$0.91	33,389,000
V_2O_5	$5.89/lb	7	445.8	31.2	$0.41	$0.37	109,756,000	1218.3	85.3	$1.11	$1.00	78,728,000	606.4	42.5	$0.55	$0.50	188,484,000
Zn	$0.94/lb	52	140.7	73.2	$0.15	$0.14	257,290,000	280.0	145.6	$0.30	$0.27	134,393,000	169.6	88.2	$0.18	$0.17	391,683,000
Cu	$3.64/lb	25	30.8	7.7	$0.06	$0.06	27,100,000	76.0	19.0	$0.15	$0.14	17,529,000	40.2	10.1	$0.08	$0.07	44,629,000
Co	$14.38/lb	72	13.6	9.8	$0.31	$0.28	34,416,000	22.0	15.8	$0.50	$0.46	14,624,000	15.3	11.0	$0.35	$0.32	49,040,000
La_2O_3	$44.58/kg	20	44.3	8.9	$0.40	$0.36	31,167,000	65.1	13.0	$0.58	$0.53	12,024,000	48.6	9.7	$0.43	$0.39	43,190,000
Ce_2O_3	$43.20/kg	30	79.1	23.7	$1.03	$0.93	83,482,000	102.8	30.8	$1.33	$1.21	28,465,000	84.0	25.2	$1.09	$0.99	111,947,000
Pr_2O_3	$140.41/kg	40	9.6	3.8	$0.54	$0.49	13,471,000	14.1	5.6	$0.79	$0.72	5,205,000	10.5	4.2	$0.59	$0.54	18,676,000
Nd_2O_3	$156.16/kg	43	36.0	15.5	$2.42	$2.19	54,442,000	56.1	24.1	$3.77	$3.42	22,276,000	40.2	17.3	$2.70	$2.45	76,718,000
Sm_2O_3	$68.16/kg	47	6.9	3.3	$0.22	$0.20	11,442,000	11.7	5.5	$0.38	$0.34	5,081,000	7.9	3.7	$0.25	$0.23	16,523,000
Eu_2O_3	$2,742.11/kg	61	1.4	0.9	$2.40	$2.18	3,078,000	2.5	1.5	$4.19	$3.81	1,412,000	1.7	1.0	$2.77	$2.52	4,490,000
Gd_2O_3	$105.78/kg	63	5.6	3.5	$0.37	$0.34	12,379,000	10.9	6.9	$0.73	$0.66	6,361,000	6.7	4.2	$0.45	$0.41	18,740,000
Tb_2O_3	$2,190.48/kg	65	0.9	0.6	$1.26	$1.14	2,022,000	1.7	1.1	$2.37	$2.15	999,000	1.0	0.7	$1.49	$1.35	3,020,000
Dy_2O_3	$1,240.31/kg	65	5.0	3.3	$4.06	$3.69	11,524,000	9.4	6.1	$7.57	$6.87	5,637,000	5.9	3.9	$4.79	$4.35	17,160,000
Ho_2O_3	$202.98/kg	64	1.0	0.6	$0.13	$0.12	2,261,000	1.8	1.2	$0.24	$0.21	1,073,000	1.2	0.8	$0.15	$0.14	3,334,000
Er_2O_3	$169.01/kg	62	3.0	1.9	$0.31	$0.29	6,539,000	5.1	3.2	$0.53	$0.48	2,918,000	3.4	2.1	$0.36	$0.33	9,458,000
Tm_2O_3	$97.00/kg	60	0.5	0.3	$0.03	$0.02	958,000	0.7	0.4	$0.04	$0.04	411,000	0.5	0.3	$0.03	$0.03	1,369,000
Yb_2O_3	$102.98/kg	58	3.1	1.8	$0.18	$0.17	6,244,000	4.7	2.7	$0.28	$0.25	2,515,000	3.4	2.0	$0.20	$0.18	8,759,000
Lu_2O_3	$1,273.00/kg	55	0.5	0.3	$0.35	$0.31	957,000	0.7	0.4	$0.51	$0.46	371,000	0.5	0.3	$0.38	$0.35	1,328,000
Y_2O_3	$107.77/kg	67	32.0	21.5	$2.31	$2.10	75,473,000	72.6	48.7	$5.24	$4.76	44,925,000	40.5	27.1	$2.92	$2.65	120,398,000
Sc_2O_3	$4,194.66/kg	24	17.2	4.1	$17.35	$15.74	14,544,000	13.5	3.2	$13.59	$12.33	2,990,000	16.5	3.9	$16.56	$15.03	17,534,000
ThO_2	$252.00/kg	12.5	12.0	1.5	$0.38	$0.34	5,262,000	11.8	1.5	$0.37	$0.34	1,361,000	11.9	1.5	$0.38	$0.34	6,624,000
Li_2CO_3	$2.82/lb	17	394.3	67.0	$0.42	$0.38	235,720,000	302.8	51.5	$0.32	$0.29	47,518,000	375.2	63.8	$0.40	$0.36	283,238,000
Aggregate Gross Recoverable Summary																	
Polymetallics plus rare-earth elements plus Y-Th-Li (without Sc)					$18.78	$17.04	1,105,463,000			$36.07	$32.72	541,326,000			$22.37	$20.30	1,646,788,000
All 25 metals combined (with Sc)					$36.12	$32.77	1,120,007,000			$49.66	$45.05	544,316,000			$38.94	$35.32	1,664,322,000

[1] Average metal or oxide prices for two-year trailing averages dating backwards from 31 May 2013 (three-years for Tm_2O_3). Sources: Metal-pages.com; Asianmetal.com; USGS. (See Table 32 for further pricing detail).
[2] Recovery values based on 2013 stirred-tank bio-leach experiments (CanmetMINING, pers comm, 2013).
[3] Tonne = metric tonne = 1,000 kg (2,204.6 lbs); Ton = short ton = 907.2 kg (2,000 lbs). Numbers may not add due to rounding.

Note 1: Mineral resources that are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by geology, environment, permitting, legal, title, taxation, socio-political, marketing or other relevant issues.

Note 2: The quality and grade of reported inferred resource in these estimations are uncertain in nature and there has been insufficient exploration to define these inferred resources as an indicated or measured mineral resource, and it is uncertain if further exploration will result in upgrading them to an indicated or measured resource category.

Note 3: The terms "Recoverable Grade" and "Recoverable Kg of Metal" is not meant to imply that any economic viability has been determined. Metal recoveries are summarized from a series of bench scale laboratory tests completed by DNI, which are ongoing, and may not reflect actual process recoverability that might be achieved in an ultimate mineral production operation.

Note 4: The aggregate gross recoverable value USD$ per tonne, as represented in the Summary, does not comply with Section 2.3(1)(c) of National Instrument 43-101 and may be misleading in the absense of production cost.

14.18 Sensitivity Analysis

The Buckton updated and expanded mineral resource concludes that by using the combined metal content of MoO_3, Ni, U_3O_8, V_2O_5, Zn, Cu, Co, Li_2CO_3, REO (La_2O_3 to Lu_2O_3), Y_2O_3 and ThO_2 (excluding Sc_2O_3), the average per tonne recoverable value of the indicated and inferred resource well exceeds the base cut-off of USD$11.00 per tonne for the Labiche and USD$12.50 per tonne for the Second White Speckled formation.

The resource is represented by the collective value of contained recoverable Mo-Ni-U-V-Zn-Co-Cu-Li-REE-Y-Th (±Sc) and relies on the 2 year running averaged prices and the metallurgical work completed by CanmetMINING on behalf of DNI during the past year. Each metal was modeled individually in MICROMINE to determine the continuity and orientation of mineralization. Parent model block size of 250 m x 250 m x 3 m was chosen for the resource estimate, with sub-blocking down to 25 m x 25 m x 1.5 m. The block model was extended far enough past the mineralized wireframe to encompass the entire mineralized shale domain. The recoverable grades for the metals were translated into a USD$ value for each block and sub-block relying on the two-year trailing average metal/oxide price to May 2013.

The metal values were aggregated to test the collective value against a block value base case cut-off of USD$11.00 per tonne (Labiche) and USD$12.50 per tonne (SWS). These cut-off values are considered to be a reasonable benchmark because it incorporates the work completed by CanmetMINING on the expected metallurgical recoveries and the work completed by P&E Mining Consultants Inc. on the expected mining methodology costing.

To validate this cut-off value, the resource model was iterated and tested at progressively higher cut-offs by way of a sensitivity analysis to determine the commensurate tonnages that can be classified as mineral resources against any given base cut-off. All of the different reiterations queried the resource at the different cut-offs constrained within the optimised pit shell provided by P&E Mining Consultants Inc. The model was, accordingly, tested at base cut-offs of USD$12.50, USD$15.00, USD$17.50, USD$20.00, USD$25.00, USD$30.00, USD$40.00 and USD$50.00 per tonne. The results are shown in Table 38 and described as follows:

- At USD$12.50 per tonne base cut-off. The Labiche shale hosts 206.1 million tonnes with gross recoverable per tonne value exceeding the cut-off for Indicated and 3.5 billion tonnes with gross recoverable per tonne value exceeding the cut-off for Inferred. Beneath the Labiche tonnage, the Second White Speckled Shale yields an additional 65.3 million tonnes of gross recoverable per tonne value exceeding the cut-off for Indicated and 923.2 million tonnes of gross recoverable per tonne value exceeding the cut-off for Inferred. The total tonnage of 271 million tonnes for Indicated and 4.4 billion tonnes for Inferred represents the Buckton mineral resource estimate presented in this Technical Report.

- At USD$15.00 per tonne base cut-off. The Labiche shale hosts 204.9 million tonnes with gross recoverable per tonne value exceeding the cut-off for Indicated and 3.5 billion tonnes with gross recoverable per tonne value exceeding the cut-off for Inferred. Beneath the Labiche tonnage, the Second White Speckled Shale yields an additional 65.3 million tonnes of gross recoverable per tonne value exceeding the cut-off for Indicated and 923.2 million tonnes of gross recoverable per tonne value exceeding the cut-off for Inferred. The total tonnage of 270 million tonnes for Indicated and 4.4 billion tonnes for Inferred represents the Buckton mineral resource estimate presented in this Technical Report.

- At USD$17.50 per tonne base cut-off. The Labiche shale hosts 197.2 million tonnes with gross recoverable per tonne value exceeding the cut-off for Indicated and 3.1 billion tonnes with gross recoverable per tonne value exceeding the cut-off for Inferred. Beneath the Labiche tonnage, the Second White Speckled Shale yields an additional 65.0 million tonnes of gross recoverable per tonne value exceeding the cut-off for Indicated and 923.2 million tonnes of gross recoverable per tonne value exceeding the cut-off for Inferred. The total tonnage of 262 million tonnes for Indicated and 4.0 billion tonnes for Inferred represents the Buckton mineral resource estimate presented in this Technical Report.

- At USD$20.00 per tonne base cut-off. The Labiche shale hosts 8.0 million tonnes with gross recoverable per tonne value exceeding the cut-off for Indicated and 51.6 million tonnes with gross recoverable per tonne value exceeding the cut-off for Inferred. Beneath the Labiche tonnage, the Second White Speckled Shale yields an additional 59.2 million tonnes of gross recoverable per tonne value exceeding the cut-off for Indicated and 917.2 million tonnes of gross recoverable per tonne value exceeding the cut-off for Inferred. The total tonnage of 67 million tonnes for Indicated and 969 million tonnes for Inferred represents the Buckton mineral resource estimate presented in this Technical Report.

- At USD$25.00 per tonne base cut-off. There are no blocks of Labiche shale with gross recoverable per tonne value exceeding the cut-off for Indicated or Inferred. Beneath the Labiche, the Second White Speckled Shale yields 38.3 million tonnes of gross recoverable per tonne value exceeding the cut-off for Indicated and 745.3 million tonnes of gross recoverable per tonne value exceeding the cut-off for Inferred.

- At USD$30.00 per tonne base cut-off. There are no blocks of Labiche shale with gross recoverable per tonne value exceeding the cut-off for Indicated or Inferred. Beneath the Labiche, the Second White Speckled Shale yields 25.5 million tonnes of gross recoverable per tonne value exceeding the cut-off for Indicated and 506.1 million tonnes of gross recoverable per tonne value exceeding the cut-off for Inferred.

- At USD$40.00 per tonne base cut-off. There are no blocks of Labiche shale with gross recoverable per tonne value exceeding the cut-off for Indicated or Inferred. Beneath the Labiche, the Second White Speckled Shale yields 10.1 million tonnes of gross recoverable per tonne value exceeding the cut-off for Indicated and 373.0 million tonnes of gross recoverable per tonne value exceeding the cut-off for Inferred.

- At USD$50.00 per tonne base cut-off. There are no blocks of Labiche shale with gross recoverable per tonne value exceeding the cut-off for Indicated or Inferred. Beneath the Labiche, the Second White Speckled Shale yields 1.4 million tonnes of gross recoverable per tonne value exceeding the cut-off for Indicated and 83.1 million tonnes of gross recoverable per tonne value exceeding the cut-off for Inferred.

Table 38. Gross recoverable per tonne value exceeding incrementally higher cut-offs for indicated and inferred Buckton mineral resource estimates (from USD$12.50 to USD$50.00 per tonne). Note that cut-off values of USD$11.00 per tonne for the Labiche Formation and USD$12.50 per tonne for the Second White Speckled Shale Formation were used to report the Buckton mineral resource estimate in this Technical Report (see Tables 36 and 37).

A) Buckton indicated mineral resource estimate

USD$ Cut-off	Labiche (tonnes)	Second White Speckled Shale (tonnes)
>$12.5/tonne	206,115,000	65,329,000
>$15/tonne	204,882,000	65,329,000
>$17.5/tonne	197,174,000	65,031,000
>$20/tonne	8,010,000	59,177,000
>$25/tonne	0	38,341,000
>$30/tonne	0	25,529,000
>$40/tonne	0	10,054,000
>$50/tonne	0	1,367,000

B) Buckton inferred mineral resource estimate

USD$ Cut-off	Labiche (tonnes)	Second White Speckled Shale (tonnes)
>$12.5/tonne	3,509,564,000	923,168,000
>$15/tonne	3,451,711,000	923,168,000
>$17.5/tonne	3,118,932,000	923,168,000
>$20/tonne	51,599,000	917,188,000
>$25/tonne	0	745,344,000
>$30/tonne	0	506,066,000
>$40/tonne	0	372,977,000
>$50/tonne	0	83,052,000

The sensitivity analysis shows that the tonnage and distribution of the total shale package is virtually intact between USD$11.00 per tonne and USD$17.50 per tonne, and that the gross recoverable value for almost all blocks of the Labiche shale exceeds the USD$11.00 per tonne cut-off. As the cut-off is increased from USD$17.50 to USD$20.00 per tonne, the tonnage of the Labiche resource rapidly decreases for both the Indicated and the Inferred resource such that at a base cut-off of USD$20.00 per tonne, virtually none of the Labiche can be classified as a mineral resource since most of the blocks yield a gross recoverable value less than the USD$20.00 per tonne cut-off (<4% of the resource in comparison to USD$12.50 per tonne; Table 38). As the Labiche resource decreases, progressively larger portions of Labiche would be regarded as cover waste material to be removed for the purposes of any mining operations to extract the underlying resource in the Second White Speckled Shale Formation.

The Second White Speckled Shale tonnage and distribution remains intact between base cut-offs of USD$12.50 per tonne and USD$20.00 per tonne, from which point the resource gradually shrinks in size as the cut-off is increased to USD$50.00 per tonne (Table 38). At higher cut-off scenarios (>USD$20.00 per tonne), the Second White Speckled Shale is the only mineralization of interest that meets the cut-off criteria. At USD$50.00 per tonne, only about 9% of the original Second White Speckled Shale resource (i.e., versus its tonnage at USD$12.50 per tonne) can be classified as a mineral resource since the majority of its blocks yield a gross recoverable value that is less than the cut-off.

The Labiche and Second White Speckled Shale (i.e., total shale package) exhibit distinct sensitivity analysis profiles. On the bivariate plot of incrementally higher base cut-off versus gross recoverable per tonne value that exceeds the cut-off, the Labiche has an abrupt drop in the amount of resource volume that can exceed base cut-off occurring between USD$17.50 and USD$20.00 (Figure 24). In contrast, the Second White Speckled Shale sensitivity analysis has gradually declining resource tonnages with increasing base cut-off value between USD$20.00 and USD$50.00.

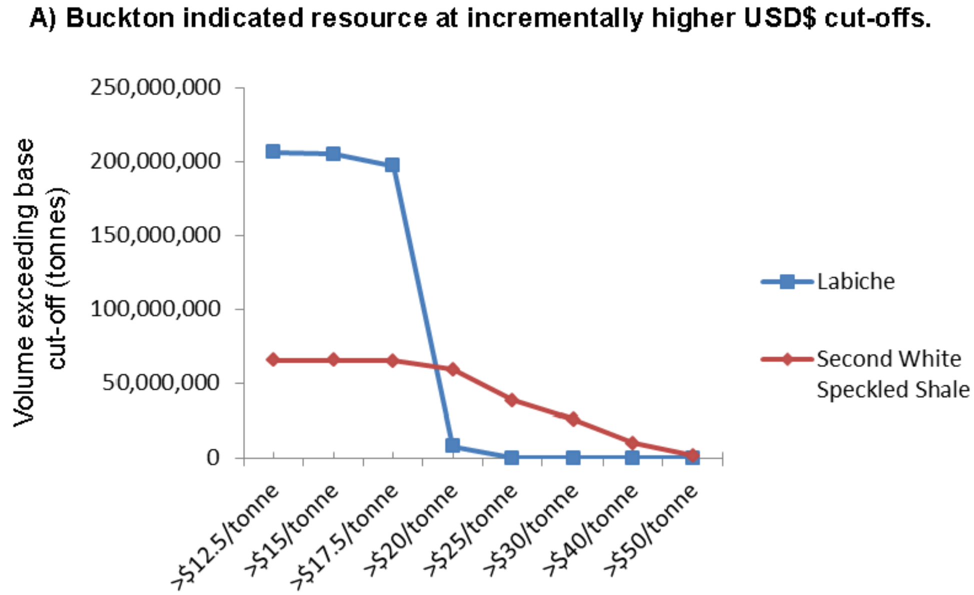
15 Adjacent Properties

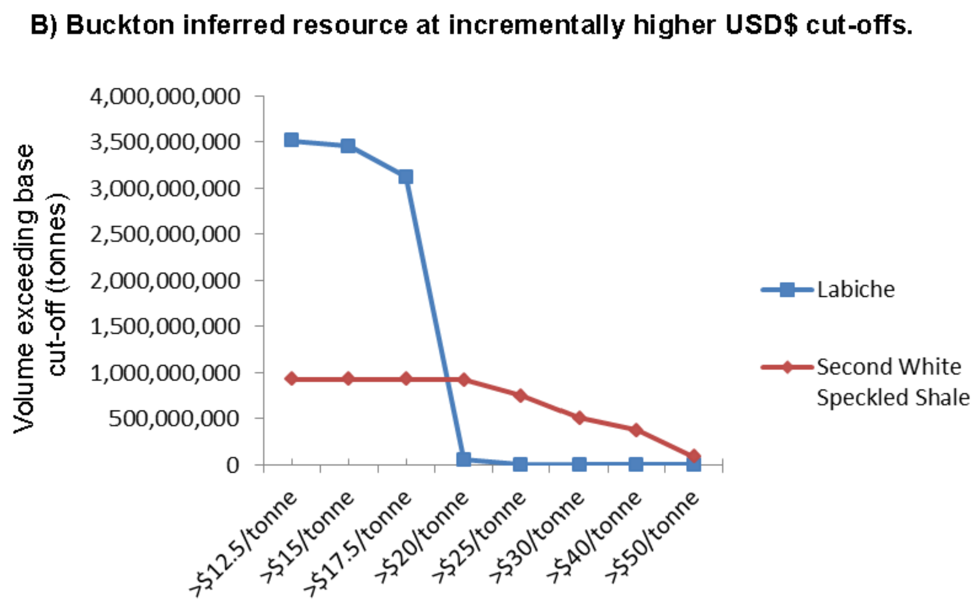
The northern boundary of DNI's SBH Property is adjacent to mineral permits held by Athabasca Minerals Inc. of Edmonton, Alberta. Athabasca is currently engaged in exploration for industrial minerals such as silica sand, limestone, salt, and aggregate (sand and gravel).

To the immediate east of the SBH Property are mineral permits operated by Hammerstone Corporation. Hammerstone is actively exploring for industrial minerals on its northern Alberta properties, in particular aggregate (sand and gravel) and limestone resources.

To the southwest and northeast, and adjacent to the DNI SBH Property, an individual (Terry Sozanski) has staked ground. Because their reporting period is not due until December 2013 and no news releases are known to the author, it is not clear what commodity is being pursued by this individual at this time.

Figure 26. Sensitivity analysis profiles of incrementally higher base cut-off versus gross recoverable per tonne value that exceeds the cut-off. A) Indicated resource by formation. B) Inferred resource by formation.





16 Other Relevant Data and Information

16.1 Previous Mineral Resource Estimate Prepared for DNI's Buckton Zone

Since October 2011, APEX Geoscience Ltd. ("APEX") has prepared five NI-43-101 compliant Technical Report resource studies on behalf of DNI related to black shale-hosted polymetallic, rare-earth element and speciality metal mineralization contained on DNI's SBH Property within the Buckton and Buckton South zones. The Technical Reports conform to the standards criteria set out in National Instrument 43–101 ("NI-43-101"), Companion Policy 43–101CP and Form 43–101F1 for the Canadian Securities Administration. The Technical Reports are available at www.sedar.com with filing dates of October 24, 2011 (Dufresne et al., 2011), January 31, 2012 (Eccles et al., 2012a), September 12, 2012 (Eccles et al., 2012b), January 11, 2013 (Eccles et al., 2013a) and March 1, 2013 (Eccles et al., 2013b).

The Technical Reports collectively outline an inferred total shale resource of 3.2 billion tonnes (3.5 billion short tons) at a recoverable aggregate gross recoverable value of USD$24.16 per tonne (USD$21.91per ton) excluding scandium (USD$53.89 per tonne, USD$48.89 per ton; including Sc_2O_3) for base metals (Mo-Ni-V-Zn-Co-Cu), uranium, rare-earth elements (REE plus Y) and specialty metals (Li-Sc-Th) for Buckton Zone blocks that are beneath <75 m of overburden and span an area of approximately 14 km^2 (Eccles et al., 2013a).

An additional maiden inferred resource for the Buckton South Zone, which is located approximately seven kilometres south of the Buckton Zone (Figure 1), outlined 497 million tonnes (548 million short tons) at a recoverable aggregate gross recoverable value of USD$25.70 per tonne (USD$23.31per ton) excluding scandium (USD$55.61 per tonne, USD$50.45 per ton; including Sc_2O_3) over an area of approximately 3.3 km^2 (Eccles et al., 2013b). The similarity between the aggregate gross recoverable value of Buckton and Buckton South, together with our knowledge that the Labiche, Second White Speckled Shale and Shaftesbury formations are stratigraphically uniform throughout the SBH Property, suggests that a vast portion of the eastern SBH Property comprises mineralization that has a reasonable prospect for extraction in the future.

16.2 Scandium

Of the 25 elements/oxides included in the Consolidated and Updated Buckton mineral resource estimate, scandium has been segregated during discussions of the aggregated recoverable gross values of the metals in the resource because scandium supply, demand (consumption) and pricing worldwide is not well defined, and the gross value of recoverable scandium from the resource is sufficiently high enough to unrealistically skew the recoverable value represented by the Labiche and Second White Speckled Shale formations.

16.3 Rare-earth Element Processing

Any REE's produced from the Labiche and/or Second White Speckled Shale formation would be a "free and clear" co-product from mining through to solution stage considering that the REEs are leached from shale incidentally as a co-product to leaching of the polymetals. Once leached into solution, the REEs would nonetheless have to be separated and refined into final saleable products. Although recoverable grades and an estimated value per tonne is provided in this Technical Report, there is much less confidence in long term REE pricing, the long term REE viability of supply, what effects new production will have on REE pricing, the actual cost of separating individual REE's from pregnant leaching solution, and getting the extracted metals into a useable or saleable form. These concerns are shared by all other REE projects.

Avalon Rare Metals Inc. (“Avalon”) recently released a prefeasibility study conducted by SNC-Lavalin Inc. The study estimates a capital cost (Capex) of USD$302 million for construction of a rare-earth element separation plant in the United

States with an annual capacity to produce 10,000 tonnes of REO product and an operating cost (Opex) of USD$5,634 per tonne of final REO product (Avalon Rare Metals Inc., 2012). Amortized over a hypothetical 1 billion tonne mineral deposit, the Capex and Opex translates into USD$0.30 per tonne of ore and USD$5.63 per kg of rare-earth oxide final product, respectively. As a revised general guideline, SNC-Lavalin's estimated Capex and Opex together represent an aggregate nominal cost of approximately USD$1.65 per tonne.

17 Interpretation and Conclusions

This Technical Report reports the first indicated mineral resource estimate and an expanded inferred mineral resource estimate for DNI Metal Inc.'s Buckton Zone, which is located within DNI's 100% owned SBH Property in the Birch Mountains area of northeastern Alberta. The Buckton mineral resource estimate evaluates polymetallic mineralization hosted in two stratigraphically adjacent Upper Cretaceous (late Albian to Santonian) shale units known as the Labiche and Second White Speckled Shale formations. These polymetallic shale units occur in flat-lying near-surface stratigraphy that may be amenable to extraction by open pit bulk mining methods where overburden strip ratios are sufficiently low to allow economic extraction.

The updated and expanded Buckton mineral resource model and estimate presented in this Technical Report was prepared by Mr. Eccles, P.Geol. Mr. Nicholls, MAIG, Mr. McMillan, P.Geo., and Mr. Dufresne, P.Geol. The resource is classified in accordance with guidelines established by the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) "Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines" dated November 23rd, 2003 and CIM "Definition Standards for Mineral Resources and Mineral Reserves" dated November 27th, 2010.

The resource estimate has been calculated utilizing:

- estimated recoverable grades from stirred-tank bio-leach tests (CanmetMINING, pers comm, 2013);
- two-year average trailing prices to May 2013;
- base cut-off values of USD$11.00 per tonne and USD$12.50 per tonne for the Labiche and Second White Speckled Shale formations, respectively, and a conceptual pit shell that was based on the updated resource block model and guided by the preliminary findings from the scoping study in progress for the Buckton Zone (P&E Mining Consultants Inc., pers comm, 2013);
- the assumption that both the Labiche and Second White Speckled Shale are economic,

for each of the following 25 metals or oxides: MoO_3, Ni, U_3O_8, V_2O_5, Zn, Cu, Co, Li_2CO_3, La_2O_3, Ce_2O_3, Pr_2O_3, Nd_2O_3, Sm_2O_3, Eu_2O_3, Gd_2O_3, Tb_2O_3, Dy_2O_3, Ho_2O_3, Er_2O_3, Tm_2O_3, Yb_2O_3, Lu_2O_3, Y_2O_3, ThO_2 and Sc_2O_3.

Seventeen drillholes were used to guide the geological interpretation and estimation of the updated and expanded Buckton mineral resource. The drillholes incorporate the results from the 2012 drill program at Buckton, which drilled six drillholes totaling 732.5 m, together with 2011 drill results (five drillholes), and the resampling and reanalyzing of drill cores from historical 1997 drilling (six drillholes). Spacing between drillholes varies from 240 m to 2.05 km, with an average of about 1.08 km between drillholes.

Mineral resource modeling and estimation was carried out using a 3-dimensional block model based on geostatistical applications using the commercial mine planning software MICROMINE (v12.5.4). The classification of the Buckton mineral resource was based on geological confidence, data quality and grade continuity.

The Buckton indicated mineral resource represents a small island-like portion (1.5 km^2) of the overall inferred mineral resource area (20.4 km^2) within the Buckton Zone. The indicated mineral resource is based on a total of six drillholes that are spaced between 240 m and 670 m from each other. These drillholes represent the most densely spaced cluster of drillholes completed over the zone and provide a reasonable drill spacing to prepare the indicated resource estimate.

The primary criterion used as a guide for the indicated resource classification comprises a minimum of four samples from three drillholes within a search distance of 600 x 600 x 4.5 m. These blocks were then visually examined and a nominal area around these and surrounding blocks was created to assign the indicated classification, which was also based on geological confidence and known continuity of mineralization.

The Buckton indicated mineral resource is presented in Table 36. It consists of the Labiche and Second White Speckled Shale formations, together representing a 40 to 136 m thick (13-23 m thick sequence of Second White Speckled Shale) continuous mineralized zone with recoverable MoO_3, Ni, U_3O_8, V_2O_5, Zn, Cu, Co and Li_2CO_3, total REO, Y_2O_3 and ThO_2 ($\pm Sc_2O_3$).

The Buckton indicated mineral resource comprises 272 million tonnes (300 million short tons) at an aggregate gross recoverable value of USD$22.04 per tonne (USD$20.00 per ton) excluding Sc_2O_3 (USD$39.50 per tonne, USD$35.83 per ton including Sc_2O_3). This resource is overlain by 28 million tonnes (31 million short tons) of overburden-waste material. Details for the respective tonnages contained within the Labiche and Second White Speckled Shale formations comprising the Buckton indicated mineral resource are shown in Table 36 and summarized as follows:

- Labiche Formation: 207 million tonnes (228 million tons) at an aggregate gross recoverable value of USD$19.39 per tonne (USD$17.59 per ton) excluding scandium (USD$37.83 per tonne, USD$34.32 per ton including Sc_2O_3); and

- Second White Speckled Shale Formation: 65 million tonnes (72 million tons) at an aggregate gross recoverable value of USD$30.42 per tonne (USD$27.59 per ton) excluding scandium (USD$44.78 per tonne, USD$40.62 per ton including Sc_2O_3).

The Buckton inferred mineral resource is represented by a concave-shaped, 20.4 km^2 conceptual pit shell, which was defined by the block modelling of 17 drillholes within the Buckton Zone. The inferred mineral resource does not include the indicted mineral resource area. The mineralization within pit shell is classified as inferred because the majority of the resource is comprised of wide-spaced drilling (average 1.1 km spacing). Despite this drill spacing, the observed stratigraphic horizons show remarkable consistency in both down hole position and thickness that provides confidence in the geological and mineralization continuity. As a result of the wide drillhole spacing's and the lateral continuity of the mineralization, a model block size of 250 m x 250 m x 3 m was chosen for the Buckton inferred mineral resource estimate.

The Buckton inferred mineral resource is presented in Table 37. It consists of the Labiche and Second White Speckled Shale formations, together representing a 32 to 136 m thick (11-26 m thick sequence of Second White Speckled Shale) continuous mineralized zone with recoverable MoO_3, Ni, U_3O_8, V_2O_5, Zn, Cu, Co and Li_2CO_3, total REO, Y_2O_3 and ThO_2 (±Sc_2O_3). The Buckton inferred mineral resource is overlain by 1.6 billion tonnes (1.7 billion short tons) of overburden-waste material.

The Buckton inferred mineral resource estimate consists of 4.4 billion tonnes (4.9 billion short tons) at an aggregate gross recoverable value of USD$22.37 per tonne (USD$20.30 per ton) excluding Sc_2O_3; (USD$38.94 per tonne, USD$35.32 per ton including Sc_2O_3). Details for the respective tonnages contained within the Labiche and Second White Speckled Shale formations comprising Buckton inferred mineral resource are shown in Table 37 and summarized below:

- Labiche Formation: 3.5 billion tonnes (3.9 million tons) at an aggregate gross recoverable value of USD$18.78 per tonne (USD$17.04 per ton) excluding scandium; (USD$36.12 per tonne, USD$32.77 per ton including Sc_2O_3); and

- Second White Speckled Shale Formation: 923 million tonnes (1.0 billion tons) at an aggregate gross recoverable value of USD$36.07 per tonne (USD$32.72 per ton) excluding scandium; (USD$49.66 per tonne, USD$45.05 per ton including Sc_2O_3).

Mineral resources that are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by geology, environment, permitting, legal, title, taxation, socio-political, marketing or other relevant issues. The quality and grade of reported inferred resource in this estimation is uncertain in nature as there has been insufficient exploration to define these inferred resources as an indicated or measured mineral resource, and it is uncertain if further exploration will result in upgrading them to an indicated or measured resource category. The portion of the Buckton resource that has been classified as 'indicated' demonstrates that the nature, quantity and distribution of data is such as to allow confident interpretation of the geological framework and to reasonably assume continuity of mineralization.

The term "recoverable kilogram of metal" is not meant to imply that any economic viability has been determined; it is simply the assumed recoverable grade (based on idealized preliminary metallurgical work) times the tonnage in the blocks that meet the lower cut-off criteria. In addition, while the resource estimate model results in Tables 36 and 37 are shown for all of the metals/oxides of interest, the authors' discussions of aggregated recoverable values in this Technical Report exclude scandium because scandium supply, demand (consumption) and pricing worldwide is not well defined, and the recoverable Sc value is sufficiently high enough to unrealistically skew the recoverable value represented by the Labiche and Second White Speckled Shale formations.

The collective work from the Buckton Zone and the SBH Property indicate that none of the metals present in the Buckton Zone occurs in sufficiently high enough concentration to be of economic merit by itself. However, the metals of interest (polymetallics, rare-earth elements and specialty metals) collectively represent sufficient recoverable gross in-situ value on a combined basis to place the Labiche and Second White Speckled Shale formations within reach of economic viability provided the metals are efficiently recovered on a combined basis. The reader is cautioned, therefore, that the aggregate recoverable per tonne values discussed in this Technical Report does not comply with Section 2.3(1c) of National Instrument 43-101 because the values are gross and the term may be misleading in the absence of a proven production cost. The recoverable gross values are quoted for convenience of communicating overall grade and are otherwise conceptual in nature and do not represent economic worth of the Buckton Zone, but rather reflect the aggregate gross recoverable value of the individual metals of interest contained in the shale based on exploration analyses, recommended recovery values, 2-year trailing metal prices, and base cut-offs of USD$11.00 per tonne and USD$12.50 per tonne for the Labiche and Second White Speckled Shale formations, respectively.

The sensitivity analysis shows that the tonnage and distribution of the total shale package is virtually intact between USD$11.00 per tonne and USD$17.50 per tonne, and that the gross recoverable value for almost all blocks of the Labiche shale exceeds the USD$11.00 per tonne cut-off. As the cut-off is increased from USD$17.50 to USD$20.00 per tonne, the tonnage of the Labiche resource rapidly decreases for both the Indicated and the Inferred resource such that at a base cut-off of USD$20.00 per tonne, virtually none of the Labiche can be classified as a mineral resource since most of the blocks yield a gross recoverable value less than the USD$20.00 per tonne cut-off (<4% of the resource in comparison to USD$12.50 per tonne).

At higher cut-off scenarios (>USD$20.00 per tonne), the Second White Speckled Shale is the only mineralization of interest that meets the cut-off criteria. The resource model was therefore tested at higher base cut-offs of USD$25.00, USD$30.00, USD$40.00 and USD$50.00 per tonne, to test a scenario for which the Labiche is waste and would have to be removed together with the overburden to gain access to the higher grade Second White Speckled Shale mineralization. In these iterative scenarios, the Second White Speckled Shale tonnage and distribution remains intact between base cut-offs of USD$12.50 per tonne and USD$20.00 per tonne, from which point the resource gradually shrinks in size as the cut-off is increased to USD$50.00 per tonne. At USD$50.00 per tonne, only about 9% of the original Second White Speckled Shale resource (i.e., versus its tonnage at USD$12.50 per tonne) can be classified as a mineral resource since the majority of its blocks yield a gross recoverable value that is less than the cut-off.

The updated and expanded Buckton mineral resource estimations in Table 36 (indicated resource estimate) and Table 37 (inferred resource estimate) show that both Labiche and Second White Speckled Shale formations meet the test of reasonable prospects for economic extraction for the purpose of establishing a mineral resource. That is, the gross recoverable tonnage value of Mo-Ni-U-V-Zn-Cu-Co-Li-REE-Y-Sc-Th (excluding Sc) exceeds the respective base cut-offs for the Labiche (USD$11.00 per tonne) and the Second White Speckled Shale (USD$12.50 per tonne).

18 Recommendations

Follow-up exploration and development at the Buckton Zone, and the SBH Property in general, is highly recommended based on results from: 1) historic and recent (2011-2013) exploration and laboratory work; 2) the lateral continuity of the Labiche, Second White Speckled Shale and Shaftesbury formations; 3) drill confirmed mineralization in shale units at three of the six mineralized zones on the Property; 4) a newly reported indicated resource and a sizeable inferred resource as documented in this Technical Report for the Buckton Zone; and 5) an open pit mining scenario initiated by side-cutting into the eastern slopes of the Birch Mountains to reduce the strip ratio and maximize access to the higher grade Second White Speckled Shale Formation.

The total recommended estimated cost to complete the next work program is CDN$13.5 million (Table 3). The recommendations include, but not are limited to, the following:

1) Finalization and public distribution of the Buckton Preliminary Economic Assessment scoping study (once the resource has been revised with 2012 drill data as per this Technical Report). The scoping study should include Datamine NPV Scheduler Pit Shell Optimization Analysis to introduce and explore side-entry pit mining scenarios presented by a shale metal package that is composed of upper lower-grade and lower high-grade stratigraphic horizons. The cost of the scoping study is estimated at approximately CDN$500,000.

2) DNI continues with its metallurgical test work and expands testing from stirred-tank bio-heap leaching to column leach tests. The tests could utilize archived core material (from DNI's 2011 and 2012 drilling), and should consider separate column tests for Labiche, Second White Speckled Shale and blended samples. The test work should also initiate process methodology(ies) for separation of the various metals of interest, including rare-earth element and specialty metals from the pregnant leach solution once they have been extracted from the shale. The estimated cost of the metallurgical work is about CDN$6 million and assumes that approximately six column leach tests will be conducted at a cost of about CDN$1 million per sample. Intentions of the foregoing are to collect the necessary information to formulate a demonstration bio-heap leaching pilot test.

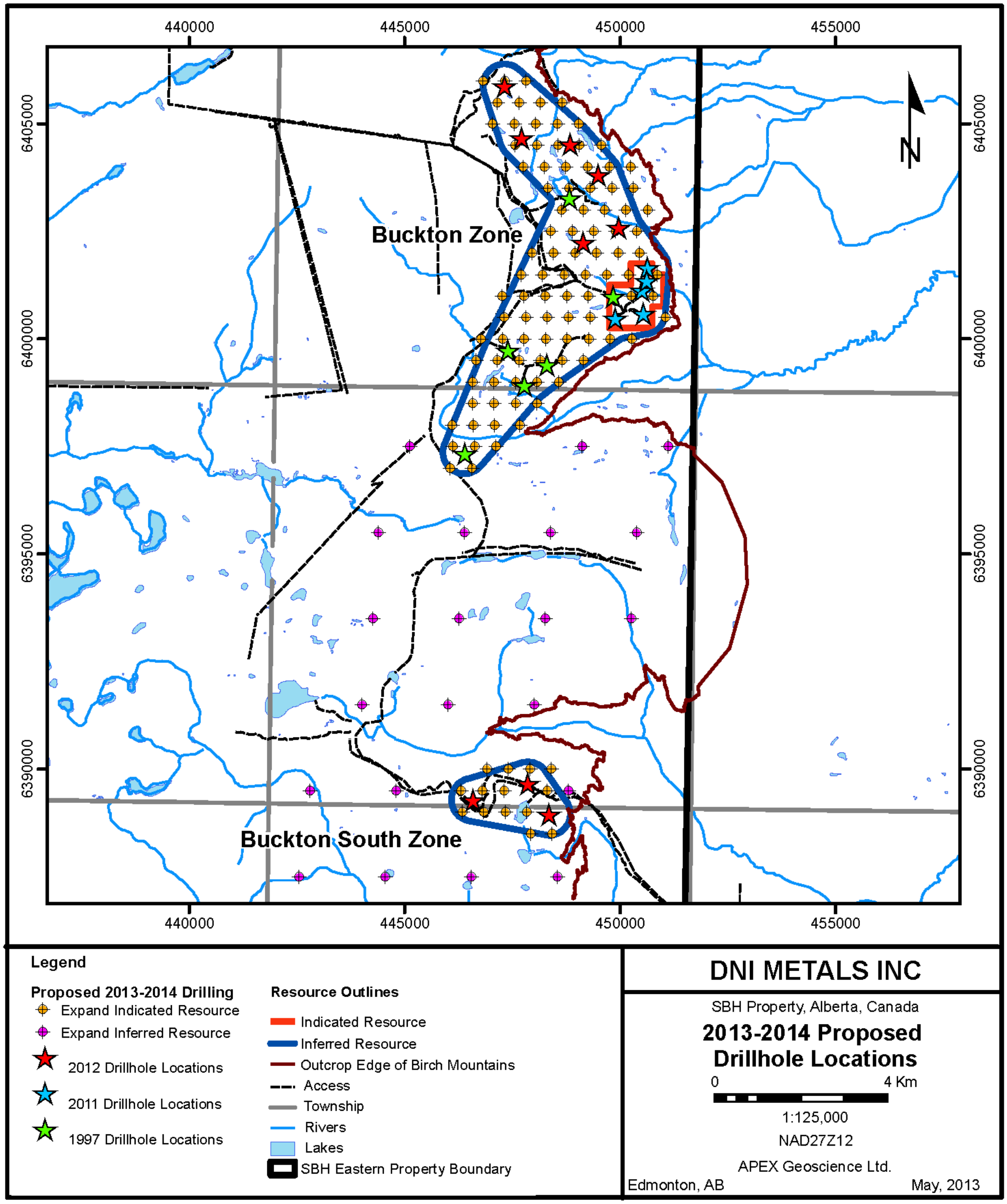
3) Subject to the findings of the Preliminary Economic Assessment scoping study, complete infill drilling within the inferred resource portion of the Buckton Zone to expand and upgrade the indicated resource. At 500 x 500 m spacing, it is estimated that 110 drillholes are required. Drilled to a depth of 150 m, the anticipated cost for either helicopter supported fall drilling or winter road accessible drilling is an average all-in cost of CND$1,000 per metre for a total cost of $CDN16.5 billion. A more conservative infill program of 25 drillholes is recommended at an estimated CDN$3.7 million. This program should focus on the easternmost portion of the current inferred resource boundary where the overburden to pay ratio is likely minimized.

4) Subject to the findings of the Preliminary Economic Assessment scoping study, conduct exploratory drilling along the eastern slopes of the Birch Mountains between the Buckton South and Buckton inferred resource areas at a drill spacing (2,000 x 2,000 m spacing) that is sufficient to work towards tying together the two zones into a single mineralized zone, and possibly to prepare an inferred resource estimate that encompasses the two zones. This should include approximately 3,150 m of drilling or twenty-one 150 m deep drillholes. The expected drilling cost for either helicopter supported fall drilling or winter road accessible drilling at an average all-in cost of CND$1,000 per metre is CND$3.3 million.

Table 39. Recommended 2013-14 exploration programs for the Buckton Zone and SBH Property with estimated budget.

No.	Item	Description	Cost $CDN
1	Preliminary Economic Assessment	Introduce and explore side-entry pit mining scenarios presented by a shale metal package that is composed of upper lower-grade and lower high-grade stratigraphic horizons	$500,000
2	Metallurgy	Expanded ongoing metallurgical test work to include column leach tests and determine process methodology(ies) for separation of the various metals of interest	$6,000,000
3	Infill drilling	3,000 meters to expand the Buckton Zone indicated and inferred resource	$3,700,000
4	Exploratory drilling	10,000 meters to explore and possibly join the Buckton and Buckton South zones into an inferred resource	$3,300,000
		TOTAL ESTIMATED COST – 2013-14 EXPLORATION	**$13,500,000**

Figure 27. Recommended drill program. Indicated – 110 drillholes based on 500 x 500 m drill spacing; inferred – 21 drillholes based on 2,000 x 2,000 m drill spacing.



References

Arthur, M.A. and Schlanger, S.O. 1979: Cretaceous "oceanic anoxic events" as causal factors in development of reef-reservoired giant oil fields. Bulletin American Association of Petroleum Geologists, v. 63, p. 870--885.

Avalon Rare Metals Inc. 2012: Avalon Announces Results of Prefeasibility Study for a Separation Plant in the Southern United States, Land Option Agreements and Feasibility Study Budget Update; Avalon Rare Metals Inc. News Release April 12, 2012. Available online at: http://www.thepressreleasewire.com/client/avalon_rare_metals/release.jsp?actionFor=1597408.

Bloch, J. Shroder-Adams C. Leckie D.A. McIntyre D.J. Craig J. and Stanland M. 1993: Revised stratigraphy of the lower Colorado Group (Albian to Turonian), Western Canada, Bulletin of Canadian Petroleum Geology, v.41, p. 325-348.

Bostock, H.H., van Breeman, O. and Loveridge, W.D. 1987: Proterozoic geochronology in the Taltson Magmatic Zone, NWT; *in* Radiogenic age and isotopic studies: report 1, Geological Survey of Canada, Paper 87-2, p. 73–80.

Bostock, H.H., van Breeman, O. and Loveridge, W.D. 1991: Further geochronology of plutonic rocks in northern TMZ, District of Mackenzie, Northwest Territories; *in* Radiogenic age and isotopic studies: report 4, Geological Survey of Canada, Paper 90-2, p. 67–78.

Cameron, R., Langley, S. and Thibault, Y. 2013: Leaching of black shale from Alberta – Interim Report. 33 p.

Desharnais, G. and Duplessis, C. 2011: Montviel Core Zone REE Mineral Resource Estimate Technical Report, Quebec. Prepared by SGS Canada Inc. on behalf of Geomega Resources Inc.

DNI Metals Inc. 2010a: Dumont Announces Positive Initial Metals Leaching Results From its Alberta Polymetallic Black Shale Projects. Dumont Nickel Inc. News Release March 4, 2010. Available online at: http://www.dnimetals.com/news/20100304.htm [June 2012].

DNI Metals Inc. 2010b: Dumont Announces Positive Bio-heap leaching Metals Recovery Results From its Polymetallic Black Shale Projects, Athabasca Region, Alberta. Dumont Nickel Inc. News Release April 28, 2010. <http://www.dnimetals.com/news/20100428.htm> [June 2012].

DNI Metals Inc. 2010c: Dumont Nickel name change, 1:8 rollback. Dumont Nickel Inc. News Release, May 10, 2010. <http://www.dnimetals.com/news/20100510.htm> [June 2012].

DNI Metals Inc. 2011a: DNI Reports Additional Bio-heap leaching Results, Including Specialty Metals and Rare-earth Elements From its Black Shale Projects, Alberta. DNI Metals Inc. News Release September 8, 2011. Available online at: http://www.dnimetals.com/news/20110908.htm [June 2012].

DNI Metals Inc. 2011b: DNI reports new rare earth elements results from its Buckton inferred resource and overburden cover rocks from its black shale projects, Alberta, DNI Metals Inc. News Release December 2, 2011. Available online at: http://www.dnimetals.com/ [June 2012].

DNI Metals Inc. 2012: DNI announces positive leaching results from cover rocks overlying its Buckton Inferred Resource, Alberta; DNI Metals Inc. News Release March 1, 2012. Available online at: http://www.dnimetals.com/news/20120908.htm. [August 2012].

Downing, D.J. and Pettapiece, W.W. (Compilers) 2006: Natural Regions and Subregions of Alberta. Government of Alberta Pub. No. T/852.

Dufresne, M.B., Eccles, D.R. and Leckie, D.A. 2001: The geological and geochemical setting of the mid-Cretaceous Shaftesbury Formation and other Colorado Group sedimentary units in northern Alberta. Alberta Energy and Utilities Board, Alberta Geological Survey, Special Report 09, 654 p.

Dufresne, M.B., Eccles, D.R. and Nicholls, S. 2011: Technical report, maiden resource estimate, Buckton Zone, SBH Property, northeast Alberta. National Instrument 43-101 Technical Report prepared for DNI Metals Inc., 150 p.

Dumont Nickel Inc., 2008: Dumont Stakes Large Land Position Targeting Metal and Uranium Enriched Black Shales, Alberta and Saskatchewan, Canada. Dumont Nickel Inc. News Release April 16, 2008. Available online at: http://www.dnimetals.com/news/20080416.htm, June 2012.

Eccles, D.R. 2011: Northern Alberta kimberlite province: the first 20 years; Energy Resources Conservation Board, ERCB/AGS Bulletin 65, 116 p.

Eccles, D.R., Dufresne, M.B. and Nicholls, S. 2012a: NI-43-101: Technical Report, Supplementary REE-Y-Sc-Th Inferred Resource Estimate to Accompany the Maiden Resource Mo-Ni-V-Zn-Cu-Co-Li Estimate, Buckton Zone, SBH Property, Northeast Alberta, 132 p.

Eccles, D.R., Nicholls, S. and Dufresne, M.B. 2012b: NI-43-101: Technical Report, inferred resource estimate of the Labiche Formation and its potential to add to the overall metal content of the Buckton Zone, SBH Property, Northeast Alberta, 153 p.

Eccles, D.R., Nicholls, S. and Dufresne, M.B. 2013a: National Instrument 43-101 Technical Report, Consolidated and updated inferred resource estimate for the Buckton Zone, SBH Property, northeast Alberta, 135 p.

Eccles, D.R., Nicholls, S. and Dufresne, M.B. 2013b: Maiden inferred resource estimate for the Buckton South Zone, SBH Property, northeast Alberta, 115 p.

Green, R. Mellon, G.B. and Carrigy, M.A. 1970: Bedrock Geology of Northern Alberta (1:500,000 map), Research Council of Alberta, Alberta Geological Survey Map 024.

Grauch, R. and Mariano, A. 2008: Ion-adsorption type lathanide deposits. Abstract. Annual SME conference, Salt Lake City.

Hamilton, W.N., Langenberg, W., Price, M.C. and Chao, D.K. 1998: Geological map of Alberta; Alberta Energy and Utilities Board, EUB/AGS Map 236, scale 1:1 000 000.

Hay, D.C., Banks, C.J. and Prior, G.J. 2012: Measured outcrop sections T79-R17W4-01 (Stony Rapids) and T81-R17W4-01 (Pelican Cliffs) of the Pelican, Westgate, Fish Scales and Belle Fourche formations near Stony Rapids, Athabasca River, northeastern Alberta (NTS 83P/15 and NTS 84A/02); Energy Resources Conservation Board, ERCB/AGS Open File 2012-02, 20 p.

Huyck, H.L.O. 1989: When is a Metalliferous Black Shale Not a Black Shale? *In*: Richard I. Grauch and Holly L.O. Huyck (eds), Metalliferous black shales and related ore deposits-Proceedings. United States Working Group meeting. International Geological Correlation Program Project 254, U.S. Geological Survey Circular 1058.

Jiang, S-Y., Zhao, H-X., Chen, U-Q., Yang, T. Yang, J-H. and Ling, H-F. 2007: Trace and rare-earth element geochemistry of phosphate nodules from the lower Cambrian black shale sequence in the Mufu Mountain of Nanjing, Jiangsu province, China. Chemical Geology, v. 244, p. 584-604.

Leckie, D.A. Singh C. Bloch J. Wilson M. and Wall J. 1992: An anoxic event at the Albian-Cenomanian boundary: the Fish Scale Marker Bed, northern Alberta, Canada. Paleogeography, Paleoclimatology, Paleoecology, v. 92, p.139-166.

Loukola-Ruskeeniemi, K. and Heino, T. 1996: Geochemistry and genesis of the black shale-hosted Ni-Cu-Zn deposit at Talvivaara, Finland. Economic Geology, v. 91, p. 80-110.

Martin, R. and Jamin, F.G.S. 1963: Paleogeomorphology of the buried Devonian landscape in northeastern Alberta. K.A. Clark Volume, Research Council of Alberta Information Series 45.

Okulitch, A.V. 2006: Phanerozoic bedrock geology, Lake Athabasca, Alberta - Saskatchewan; Geological Survey of Canada, Open File 5280 (National Earth Science Series, Geological Atlas, Map NO-12-G), scale 1:1 000 000.

Pašava, J. 1996: A group of papers devoted to the metallogeny of black shales – Preface. Economic Geology, v. 91, p. 1-4.

Quinby-Hunt, M.S. and Wilde, P. 1996: Chemical Depositional Environments of Calcic Marine Black Shales, Economic Geology, v.91, p.4-13.

Ranger, M. and Zimmer, K. 2012: Delegated aerial ungulate surveys, 2011/2012 survey season. Data Report, D-2012-00?, produced by the Alberta Conservation Association, Sherwood Park, Alberta, Canada. 41 p. Available on-line 22 August, 2013 at: http://www.ab-conservation.com/go/default/assets/File/Programs/Wildlife/AUS/Aerial%20Ungulate%20Survey%202011-2012%20Final%20Report_Draft_ACAMay17.pdf.

Ross, G.M. Parrish R.R. Villineuve M.E. and Bowring S.A. 1991: Geophysics and Geochronology of the crystalline basement of the Alberta Basin, western Canada, Canadian Journal of Earth Sciences, v. 28, p. 512-522.

Ross, G.M., Broome, J. and Miles, W. 1994: Potential fields and basement structure – Western Canada Sedimentary Basin; *In:* Geological History of the Western Canada Sedimentary Basin, G.D. Mossop and I. Shetsen (comp.), Canadian Society of Petroleum Geologists and Alberta Research Council, Calgary, Alberta.

Sabag S.F. 1996a: Buckton Property, Northeast Alberta, Summary report for exploration programs 1993-1995 and work in progress 1996, Tintina Mines Limited, Alberta Energy Mineral Assessment Report MIN199600011.

Sabag S.F. 1996b: Asphalt Property, Northeast Alberta, Summary report for exploration programs 1993-1995 and work in progress 1996, Tintina Mines Limited, Alberta Energy Mineral Assessment Report MIN199600013.

Sabag S.F. 1996c: Eaglenest Property, Northeast Alberta, Summary report for exploration programs 1993-1995 and work in progress 1996, Tintina Mines Limited, Alberta Energy Mineral Assessment Report MIN199600012.

Sabag S.F. 1998: Report on Exploration Programs 1996-1997, Asphalt and Buckton Properties, Tintina Mines Limited, Alberta Energy Mineral Assessment Report MIN9802.

Sabag S.F. 1999: Diamond exploration of the Asphalt and Buckton Properties in the Birch Mountains Area, Tintina Mines Limited, Alberta Energy Mineral Assessment Report MIN9928.

Sabag S.F. 2008: Technical Report on the Polymetallic Black Shale SBH Property, Birch Mountains, Athabasca Region, Alberta, Canada. NI-43-101 Technical prepared for Dumont Nickel Inc. by S.F. Sabag, October 28, 2008.

Sabag S.F. 2010: Assessment Report on Exploration Programs 2007-2010, SBH Property, DNI Metals Inc., August 15, 2010. DNI Metals Inc., Alberta Energy Mineral Assessment Report MIN20100017.

Sabag S.F. 2012: Assessment Report on exploration programs 2010-2012 SBH Property Birch Mountains, Athabasca Region, Alberta, Canada, Alberta Energy Mineral Assessment Report MIN20120007, 257 p.

Sinton, C.W. 2006. Study of the Rare Earth Resources and Markets for the Mt. Weld Complex. Wellesley, MA: BCC Research, 34 p.

Stancliffe, R.P.W. and McIntyre, D.J. 2003: Stratigraphy and palynology of the Cretaceous Colorado Group and Lea Park Formation at Cold Lake, Alberta; Canada; Bulletin of Canadian Petroleum Geology, v. 51, no. 2, p. 91–98.

Swanson, V.E. 1961: Geology and geochemistry of uranium in marine black shales---a review: U.S. Geological Survey Professional Paper 356-C, p. 67-112.

Tourtelot, E.B. 1979: Black shale – its deposition and diagenesis. Clay and Clay Minerals, v. 27, p. 313-321.

Tu, Q., Schröder-Adams C.J. and Craig, J. 2007: A new lithostratigraphic framework for the Cretaceous Colorado Group in the Cold Lake heavy oil area, east-central Alberta, Canada; Natural Resources Research, v. 16, no. 1, p. 17–30.

Vine, J.D. and Tourtelot, E.B. 1970: Geochemistry of black shale deposits – a summary report. Economic Geology, v. 65, p. 253-272.

Weissert, H. 1981: The environment of deposition of black shales in the early Cretaceous: An ongoing controversy. *In:* J.E. Warme, R.G. Douglas and E.L. Winterer (Eds), The Deep Sea Drilling Project: A Decade of Progress. Society of Paleontologists and Mineralogists. Mineral, Special Publication, v. 32, p. 547-560.

Wickenden, R.T.D. 1949: Some Cretaceous sections along Athabasca River from the mouth of Calling River to below Grand Rapids, Alberta; Geological Survey of Canada, Paper 49-15, 31 p.

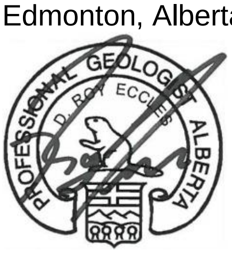
Yermolayev, N.P. 1995: Platinum-group metals in terrigenous-carbonaceous-shales. Geochemistry International, v. 32, p. 122-132.

19 Certificates of Authors

I, D. Roy Eccles, P.Geol., do here by certify that:

1. I am currently Senior Consulting Geologist and Operations Manager with APEX Geoscience Ltd., Suite 200, 9797 – 45th Avenue, Edmonton, Alberta T6E 5V8
2. I graduated with a B.Sc. in Geology from the University of Manitoba in Winnipeg, Manitoba in 1986 and with a M.Sc. in Geology from the University of Alberta in Edmonton, Alberta in 2004.
3. I am and have been registered as a Professional Geologist with the Association of Professional Engineers, Geologists and Geophysicists of Alberta since 2003.
4. I have worked as a geologist for more than 25 years since my graduation from university and have been involved in all aspects of mineral exploration and mineral resource estimations for metallic and industrial mineral projects and deposits in North America.
5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.
6. I supervised and am responsible for APEX Geoscience Ltd. contributions to this Technical Report. I supervised and am responsible for the preparation of *"National Instrument 43-101 Technical Report: Updated and Expanded Mineral Resource Estimate for the Buckton Zone, SBH Property, Northeast Alberta"*. The Technical Report is effectively dated September 9, 2013. I have had prior involvement with the Property, but have not recently visited the Property. I have reviewed 1997, 2011 and 2012 drill core from the SBH Property. I senior- or co-authored five preceding Technical Reports on this Property available at www.sedar.com (date of filings: October 24, 2011, January 31, 2012, September 12, 2012, January 11, 2013 and March 1, 2013).
7. To the best of my knowledge, information and belief, the Technical Report contains all relevant scientific or technical information that is required to be disclosed, to make the Technical Report not misleading.
8. I am independent of the issuer applying all of the tests in section 1.4 of NI 43-101.
9. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
10. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files or their websites.

Effective September 9, 2013
Edmonton, Alberta, Canada



D. Roy Eccles, M.Sc., P.Geol.

I, Steven J. Nicholls, MAIG., do here by certify that:

1. I am currently employed as a Resource Geologist with:
   APEX Geoscience Australia Pty Ltd.
   39B Kensington St
   East Perth WA Australia 6004
2. I graduated with a Bachelor of Applied Science (BASc.) in Geology, received from the University of Ballarat, Victoria, Australia in 1997.
3. My professional affiliation is member of the Australian Institute of Geoscientists, Australia (AIG).
4. I have worked as a geologist for more than 13 years since my graduation from university.
5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.
6. I was involved in APEX Geoscience Ltd. contribution to this report. More specifically, under the direct supervision of Roy Eccles, M.Sc., P.Geol., I prepared Section 14 of *"National Instrument 43-101 Technical Report: Updated and Expanded Mineral Resource Estimate for the Buckton Zone, SBH Property, Northeast Alberta"*, effectively dated September 9, 2013 (the "Technical Report"). I have not had prior involvement with the Property nor have I visited the Property. I co-authored five preceding Technical Reports on this Property available at www.sedar.com (date of filings: October 24, 2011, January 31, 2012, September 12, 2012, January 11, 2013 and March 1, 2013).
7. To the best of my knowledge, information and belief, the Technical Report contains all relevant scientific or technical information that is required to be disclosed, to make the Technical Report not misleading.
8. I am independent of the issuer applying all of the tests in section 1.4 of NI 43-101.
9. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
10. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files or their websites.

Effective September 9, 2013
Edmonton, Alberta, Canada

Steven J. Nicholls, BASc., MAIG.

I, Kyle McMillan, M.Sc., P.Geo., do hereby certify that:

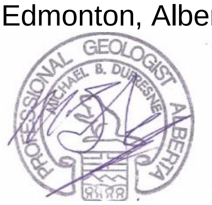
1. I am a geologist employed by:
   APEX Geoscience Ltd.
   Suite 200, 9797 – 45th Avenue
   Edmonton, Alberta T6E 5V8
2. I graduated from the University of Manitoba in Winnipeg, Manitoba with a B.Sc. (Hons.) in Geology in 2003 and a M.Sc. in Geology in 2006.
3. I am a Professional Geologist and have been registered as such with the Association of Professional Engineers and Geoscientists of Alberta since 2012 and was previously registered as a member in training since 2009.
4. I have worked as a geologist for more than five years since my graduation from university and I have worked on the project that is the subject of this technical report since 2009.
5. I have read the definition of “Qualified Person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, that for the purposes of NI 43-101, I fulfill the requirements of a “Qualified Person”.
6. I assisted in the preparation of APEX Geoscience Ltd. contribution to this Technical Report. More specifically, under the direct supervision of Roy Eccles, M.Sc., P.Geol., I contributed to Sections 9-12 of *“National Instrument 43-101 Technical Report: Updated and Expanded Mineral Resource Estimate for the Buckton Zone, SBH Property, Northeast Alberta”*, effectively dated September 9, 2013. I visited the Property January 23rd and January 24th, 2011. I logged the 2011 and 2012 drill core and supervised the 2012 drill program during the periods August 3-17 and September 24 – October 5.
7. To the best of my knowledge, information and belief, the Technical Report contains all relevant scientific or technical information that is required to be disclosed, to make the Technical Report not misleading.
8. I am independent of the issuer applying all of the tests in section 1.4 of NI 43-101.
9. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
10. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files or their websites.

Effective September 9, 2013
Calgary, Alberta, Canada

I, Michael B. Dufresne, M.Sc., P.Geol., do hereby certify that:

1. I am President of: APEX Geoscience Ltd.
   Suite 200, 9797 – 45th Avenue
   Edmonton, Alberta T6E 5V8
   Phone: 780-439-5380
2. I graduated with a B.Sc. in Geology from the University of North Carolina at Wilmington in 1983 and with a M.Sc. in Economic Geology from the University of Alberta in 1987.
3. I am and have been registered as a Professional Geologist with the Association of Professional Engineers, Geologists and Geophysicists of Alberta since 1989.
4. I have worked as a geologist for more than 25 years since my graduation from university.
5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.
6. I was involved in APEX Geoscience Ltd. contributions of *"National Instrument 43-101 Technical Report: Updated and Expanded Mineral Resource Estimate for the Buckton Zone, SBH Property, Northeast Alberta"*, effectively dated September 9, 2013 (the "Technical Report"). I visited the Property January 23rd and January 24th, 2011. I senior- or co-authored five preceding Technical Reports on this Property available at www.sedar.com (date of filings: October 24, 2011, January 31, 2012, September 12, 2012, January 11, 2013 and March 1, 2013).
7. I am not aware of any scientific or technical information with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
8. I am independent of the issuer applying all of the tests in section 1.4 of NI 43-101.
9. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
10. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files or their websites.

Effective September 9, 2013
Edmonton, Alberta, Canada



Michael B. Dufresne, M.Sc., P.Geol.

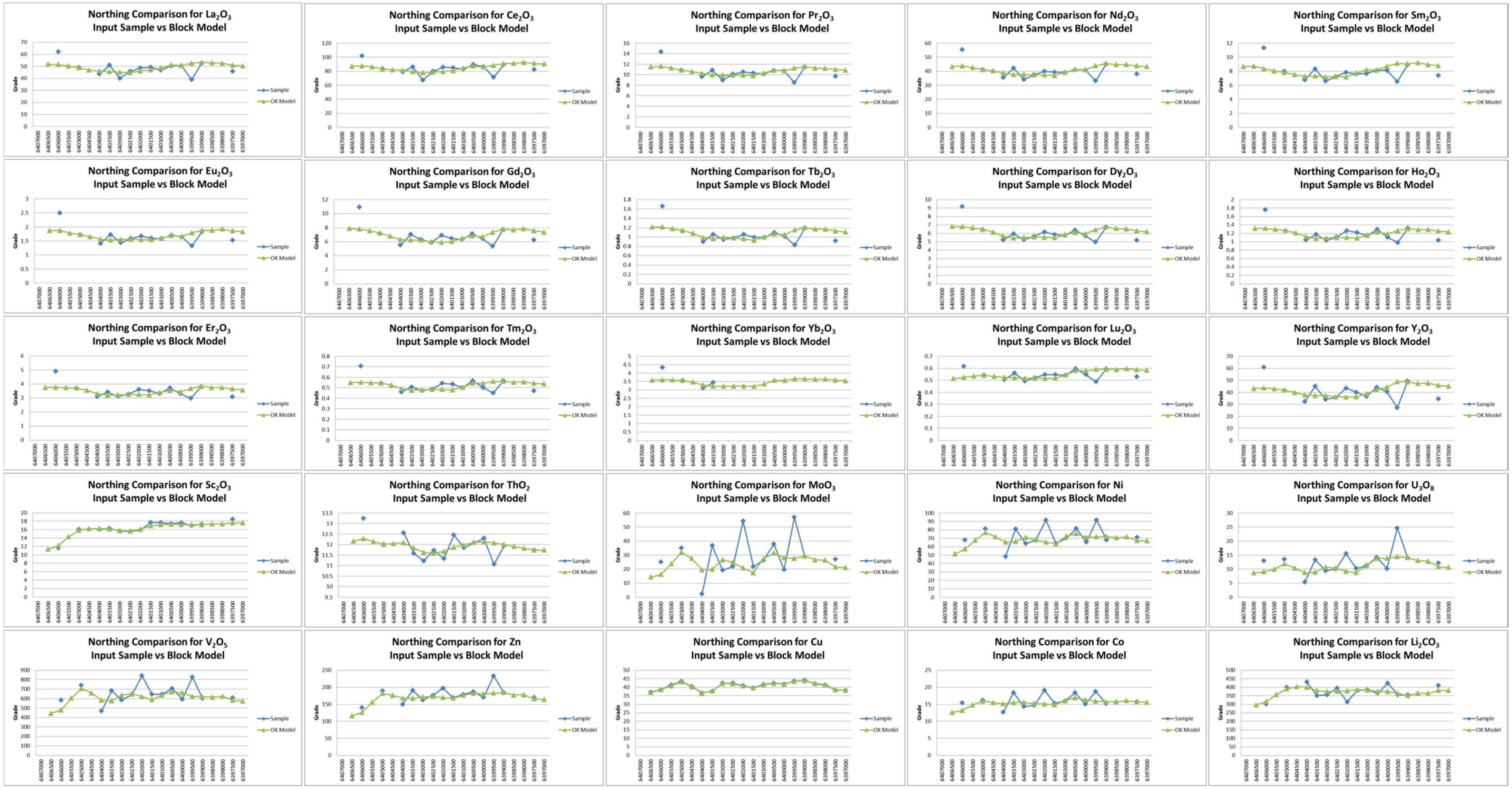
Appendix 1: Results of the 1997 Drill Core Resampling, and 2011 and 2012 Drill Programs

The following information and data can be found in the Technical Reports of Dufresne et al. (2011), Eccles et al. (2012a), Eccles et al. (2012b), Eccles et al. (2013a) and Eccles et al. (2013b), and/or is available through APEX Geoscience Ltd. and DNI Metals Inc.

- procedures for 1997 drill core resampling
- 1997 drill core resampling laboratory certificates
- 2011 and 2012 drill program drill logs
- Procedures for 2011 and 2012 drill campaign sampling
- 2011 and 2012 drill core laboratory certificates

Appendix 2. Easting swath plots, Buckton mineral resource estimate.

Appendix 3. Northing swath plots, Buckton mineral resource estimate.



Appendix 4. Elevation swath plots, Buckton mineral resource estimate.