CRITICAL MINERALS AMERICAS INC.

THE SBH CRITICAL MINERALS PROPERTY

Lower Buckton, Buckton South and Asphalt Zones and Vicinity
Birch Mountains, Athabasca Region, Alberta, Canada

CONDENSED SUMMARY & GUIDE

intended to be used as a guide
for the review of historic reports from the Property
all of which are publicly available
and listed in bibliography appended to this report

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1. TERMS OF REFERENCE

This Condensed Summary report is a condensed summary outlining the current exploration status of the SBH Critical Minerals Property (SBH Property) which is held 100% by Critical Minerals Americas Inc. (CMAI or The Company).

The Company's management is very familiar with prior work on the Property, and its Technical Director, S.Sabag PGeo, has participated in all prior work programs thereupon all of which were carried out under his direction as senior officer of companies which previously held the Property and who completed the work. Significant contributions were made over the years to the historic exploration campaigns by many independent professionals, notably; the Alberta Geological Survey, the Alberta Research Council (AITF) Hydrometallurgical Group, the Geological Survey of Canada, le Bureau de Recherches Géologiques et Minières (BRGM), P&E Mining Consultants Inc., Brierly Consultancy LLC, CanMet Mining (NRCan), Hatch Ltd. and APEX Geoscience Inc. who was responsible for preparation of all Mineral Resource Studies for discoveries made on the Property.

This Condensed Summary report is intended as a guide to the review of historic reports from the Property all of which are publicly available and are referenced in the bibliography appended hereto in Appendix-E. All of the foregoing were reviewed by the Company.

This Summary Report is not intended as a NI-43-101 compliant document although all information underlying it has been extracted from publicly available historic reports which so comply (accessible from https://gis.energy.gov.ab.ca/Geoview/Metallic). In addition, this Summary Report includes forward looking statements. While these statements represent the Company's best current judgment, they are subject to risks and uncertainties that could cause actual results to vary. For further details, the reader is directed to review Technical Reports from historic work on the Property available from SEDAR or contact the Company.

This Report is intended as a document to guide review of the historical prior work from the Property which represents a legacy of considerable historic work from two seven year exploration campaigns eight years apart which commenced in the early 1990's and ended in 2014. There has been no work on the Property since 2014. This Summary Report has been extracted from a more detailed Technical Report which is in progress intended to consolidate all prior work completed by others to guide CMAI's continuing exploration and development efforts to re-activate advancement of historic Mineral Resources and Mineralized Zones previously discovered thereupon, through further developments toward ultimate mining operations.

The legacy of prior historic work over the Property is documented in ten reports of approximately 100pp-300pp each (500pp-1400pp each including Appendices). The historic reports represent results from two 7 year exploration campaigns 8 years apart over what is a 22 year time span during which exploration objectives and methodologies evolved in response to discoveries made, evolving understanding of local geology and mineralization, fluctuating metals markets and world metals supply chains, and in response to availability of new technologies. To the extent that the foregoing reports are Assessment reports which were filed biannually toward property maintenance work requirements, they concern themselves mostly with reporting of work completed during the respective two-year periods in the context of then economic conditions.

The reader is, accordingly, counseled to bear the foregoing in mind during any review of the historic documents all the while cognizant that what may have been relevant in the 1990's (eg:Base Metals) and so addressed in enthusiastic reporting may not have been so in the 2000's and was accordingly omitted or only casually referenced, and may well again be equivocated today. Similarly would be the case for what might have been considered irrelevant in the 1990's (eg:REEs-Li-Sc) and only casually mentioned in reporting or not addressed at all, was not as much so in the 2000's and may well again be equivocated today as is the case for omission of some interpretations in historic reports which are today relevant for the recognition of significant potential at the Property for hosting critical minerals, strategic metals, REEs, Li and Sc. The above are addressed in more detail in Prior Work History Section of this Summary Report.

Similar observations can also be made relating to opportunities for the many environmental mitigations offered by the mining operations currently envisaged over the Property as they relate to Sulfur and CO_2 consumption, none of which were of any relevance in the 1990's, and even as recently as 2009, evidenced by the lack of engagement from the Province of Alberta and the broader oil sands community with any submissions made to them in past years. The foregoing are addressed in more detail in later Sections of this Summary Report.

All of the information presented in this report is extracted from publicly available historic reports all of which are archived in Alberta assessment records. As such, no new interpretations of the existing data are made herein with the exception of: (i) recognizing the significance of historic mineralized drill intercepts of the Shaftesbury Shale Formation as a third shale horizon with potential to yield substantive mineralized volumes and tonnages in future resource estimations all of which were omitted from prior estimates considering its potential was recognized too late in the Property's exploration history, (ii) a proposal for expanding certain Mineralized Zones which had previously been identified and reported early during the exploration history of the Property considering that portions thereof were confirmed with historic drilling which also successfully delineated Mineral Resources, and (iii) a proposal for realistic extensions to certain Mineral Resources previously delineated relying on available information from their surroundings.

In addition to the above, considering that prior exploration over the Property was carried out by publicly listed entities dating as far back as some thirty years to the early 1990's, review of the historic exploration work reports is complicated by evolving nomenclature per regulators for compliant disclosure of mineral exploration results in their public reporting of the results.

The above is particularly relevant to metallic enrichments previously discovered over the Property collectively serving to highlight large $20km^2$-$30km^2$ prospective areas for further investigation all of which were extensively sampled across exposed valley wall lithosections on three sides and demonstrated to contain aggregations of mineralization of encouraging or enticing grade, with demonstrable projected extensions to support suggestions of the presence of realistic volumes of rock whose ultimate size and economic merits have not yet been demonstrated by sufficient systematic drilling to delineate mineral resources thereupon. All of these areas were partly drilled reporting positive results as projected and were recognized as zones of mineralization targeted for subsequent systematic drilling to advance toward delineation of mineral resources thereupon, and one was so drilled in sufficient detail serving to delineation of a mineral resource which was subsequently designated a Mineral Deposit in 2014 following a positive Preliminary Economic Assessment Study. There are currently three such Mineralized Zones on the Property, two of which surround historic Mineral Resources.

Projected mineral volumes proposed to exist over the above three prospective mineralized areas, which are further expanded herein, were in their earliest exploration days individually referred to as "**Mineral Inventory**" for disclosure purposes, a designation which a decade later was omitted from Canadian compliant mining disclosure language and replaced with designation as a "**Potential Mineral Deposit**", which was a decade later again replaced with "**Mineralized Zone**". As it stands today, nomenclature for such designation has evolved yet again and current standards for mineral disclosures prescribe their designation as "**Exploration Targets**".

The ever evolving regulatory language introduces some confusion to any review of the historic exploration records from the Property spanning over some thirty years of evolving regulatory nomenclature. It furthermore compels unwelcome misrepresentations to any discussion of anomalous areas which are **targeted** for future **exploration** to assess whether they have any geometric continuity to suggest presence of any mineralized volumes hosted therein and compels representation of such areas as **Exploration Targets**, which they clearly are not as contemplated by the regulatory guidelines which attribute some measure of confirmation to such targets which they clearly have not yet achieved and a higher level of confidence which has not yet been demonstrated.

The above is particularly relevant to several locations over the Property which have been recognized as prospective based on geological and structural criteria and **targeted** for future **exploration** to evaluate

their potential, but have not yet been investigated or sampled at surface. While reference to the foregoing as exploration targets would be reasonable, it would be grossly misleading to similarly refer, per dictates of current regulations, to three **Mineralized Zones** previously discovered over the Property which represent metallic enrichments demonstrably extending over 20km^2-30km^2 prospective areas prioritized for systematic drilling, given that all have been extensively sampled on surface and across many valley wall lithosections exposed on three sides and partly drilled, and have been shown to contain aggregations of recoverable metallic mineralization of encouraging or enticing grade, with demonstrable projected extensions to support suggestions of the presence of realistic volumes of rock whose ultimate size and economic merits have not yet been fully established by sufficient systematic drilling to delineate mineral resources thereupon.

This Report has opted to retain designation of the above three mineralized areas as "**Mineralized Zones**" to maintain continuity with much of the most recent historic work from the Property, and to adhere to clarity when separately discussing other locations which have been realistically identified as prospective and targeted for future exploration, and are as such exploration targets, to assess their potential for deserving any subsequent drilling.

As it stands, a "**Mineralized Zone**" for the purposes of this report is best regarded to be an aggregation of mineralization of encouraging or enticing grade, within a realistically demonstrable volume of rock, whose ultimate size and economic merits have not yet been demonstrated by sufficient drilling and, as such, it is conceptual in nature as there has been insufficient drilling conducted over it to define a mineral resource, and it is uncertain whether further drilling will define a mineral resource over the Zone, and it is intended solely to demonstrate the potential of identifying mineralized material at such a Zone subject to future in-fill grid drilling.

2. PROPERTY

Critical Minerals Americas Inc. holds a 100% interest in a 850km^2 property, held under fourteen (14) Alberta Rock-hosted Minerals Permits located 120 km north of Fort McMurray, skirting the eastern edge of the Birch Mountains, in the Athabasca oil sands region, in northeast Alberta, Canada (Figures 1 and 2). The Property extends northeasterly from T95/R17 to T100/R12 (Permits 9322100230; 9322090163; 9322100229; 9322110170; 9322120222-227; 9308060406-408).

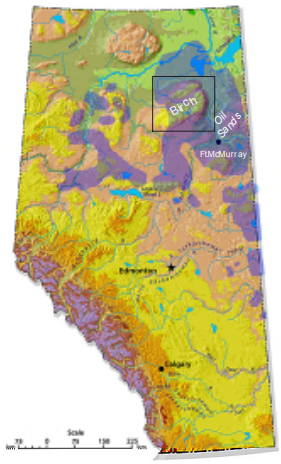


Figure 1: SBH Property location over the Birch Mountains.

The Permits grant exclusive exploration rights to metallic minerals. They are held in good standing indefinitely subject to performance of exploration work and biannual filing of related assessment expenditures of $7/ha for the first two year term, $13/ha for the next two terms, and $20/ha thereafter for all subsequent two-year terms with no expiry date. Most of the foregoing Permits (collectively 85,000ha) are in their first assessment term, with the exception of an estimated 13,568ha which are in their 7th and 8th terms.

Application may be made, once a mineral resource has been identified, for an Alberta Rock-hosted Minerals Lease over areas hosting the resource which grants rights to minerals discovered, said Lease to be maintained in good standing by annual payment of rents to Alberta.

There has been considerable oil/gas exploration activity in and, especially, around the Birch Mountains, in addition to exploration and development of many new oil sands extraction operations to advance them toward production. Rights to oil/gas over the area are held by other parties, as are rights to Brine-hosted Minerals.

The many oil sands mines in the immediate area provide useful comparative operational and cost benchmarks to planning of work at the Property. In addition, ongoing, planned and pending enhancements to related road access and local infrastructure also considerably enhance access to the Property.

3. PRIOR EXPLORATION HISTORY

Approximately $12MM has been spent by others on exploring the Alberta shales to date since their discovery, advancing through surface sampling, several drilling campaigns, through leaching and recovery R&D, several resource studies and a historic Preliminary Economic Assessment Study which classified one of the discoveries as a Deposit. The collective historic work identified recoverable polymetallic mineralization in three near-surface stacked black shale Formations with demonstrable potential to become a large Canadian domestic long term recoverable supply of critical metals, REEs, Li and Sc, and a significant contributor to a solution for the current global supply chain crisis for the foregoing.

Tintina Mines Limited was the first to explore northeast Alberta, focusing on the search for gold within a regional subsurface redox front beneath the oil sands over its then 3 million acre land position. Its regional programs of the mid 1990's led to discovery of enticing sulfide rich alluvial sediments and related base metals enrichments in creeks and rivers draining the Birch Mountains and served to prioritize the area for follow-up. Considerable surface sampling identified the Shaftesbury Formation as the principal source of the sulfides. Two large areas were delineated as prospective and tested by 1997 drilling which concluded that the Speckled Shale Formation overlying it was the source to base metals anomalies identified despite lesser sulfides.

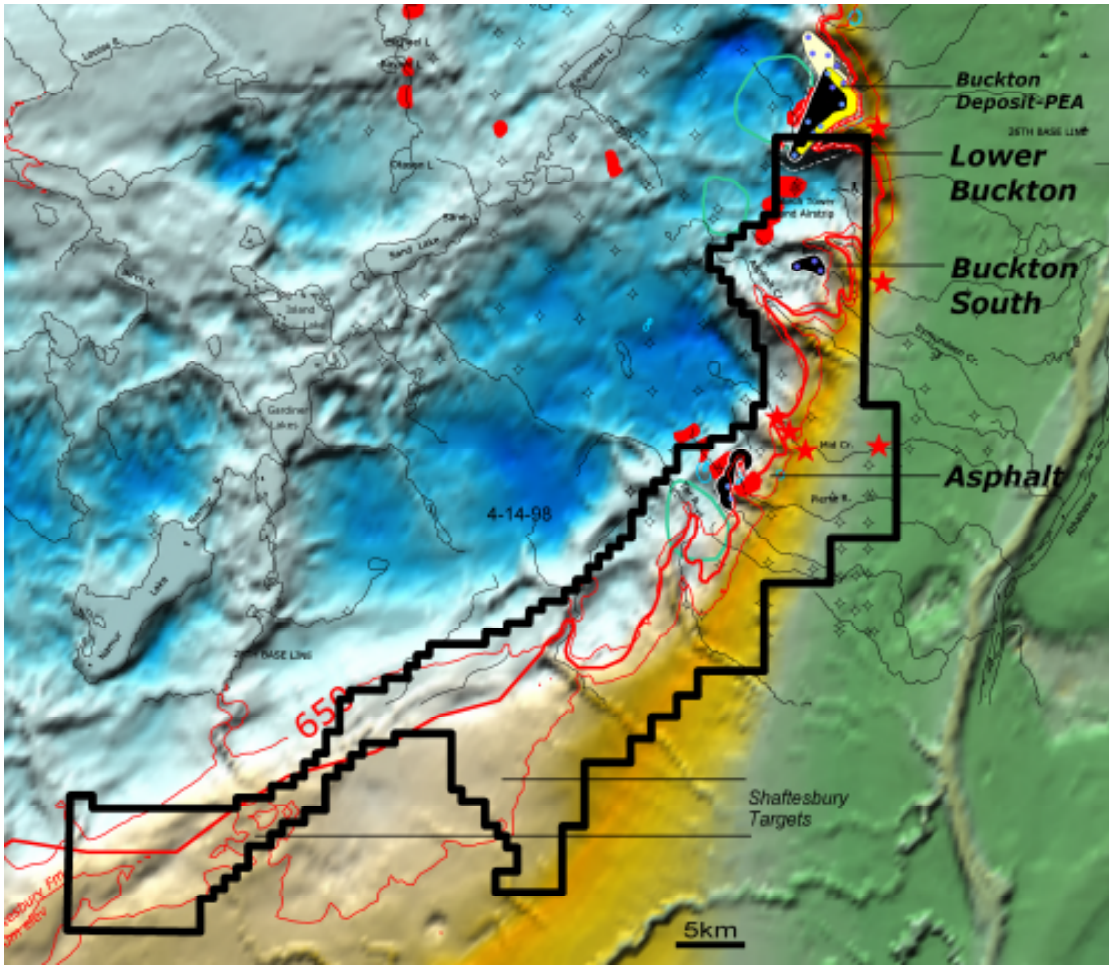


Figure 2: Topographic relief image and sketch of the SBH Property and the eastern erosional edge of the Birch Mountains. Showing locations of known Mineralized Zones

All early exploration until the early 2010's focused entirely on base metals hosted within only one of the three shales which are today recognized as the principal prospective hosts to enrichments of a variety of metals. As such, the Second White Speckled Shale Formation alone, given its higher base metals grades,

dominates all earlier reporting, and similarly for all analytical work completed which was intended to be captive to that objective. Tintina halted all work in 1998 and subsequently allowed the Property to lapse.

Exploration work resumed over the Property by DNI Metals Inc. in 2007, subsequently also resampling all prior historic drill core archives in 2009 to update analytical databases to better standards. DNI also similarly followed in Tintina's path in its earlier years focusing entirely on the Speckled Shale as the exploration target then regarded as the only Formation of merit. By the early 2010's the potential of the Labiche Shale overlying the Speckled Shale was recognized, notably as an equally good host to REEs despite lower base metals grades. All available drill core archives were re-analyzed again in 2011 to augment databases with REE analyses to enable inclusion of mineralized Labiche Shale drill intercepts into Mineral Resource Studies. Available samples were re-analyzed yet again during 2011-2013 to augment databases with analyses for Lithium. As a result of the foregoing, all historic Mineral Resource Studies, and related renderings in maps and graphs, relate entirely to the Speckled and Labiche Shales as the principal two-shale stacked package considered at the time to be prospective.

Despite similarly mineralized drill intercepts from the Shaftesbury Formation which lies beneath the Speckled Shale Formation, recoverability of the metals therefrom was confirmed too late in the exploration history of work on the Property and, as a result, quantifiable mineralized volumes therefrom were not captured into Resource estimates.

The south half of the Property has not been explored. There has been no work on the Property since 2014.

4. General Regional Geology

Alberta geology is dominated by sedimentary sequences of the Western Canada Sedimentary Basin which unconformably overlie a relatively stable Precambrian platform with localized zones of reactivation. The sedimentary pile is bounded by the Canadian Shield in the east and the thrust-fold foothills and the Rocky Mountains in the west (Figure 3). The Sedimentary Basin extends southward into the US Great Plains Basin, and many Albertan stratigraphies have US counterparts.

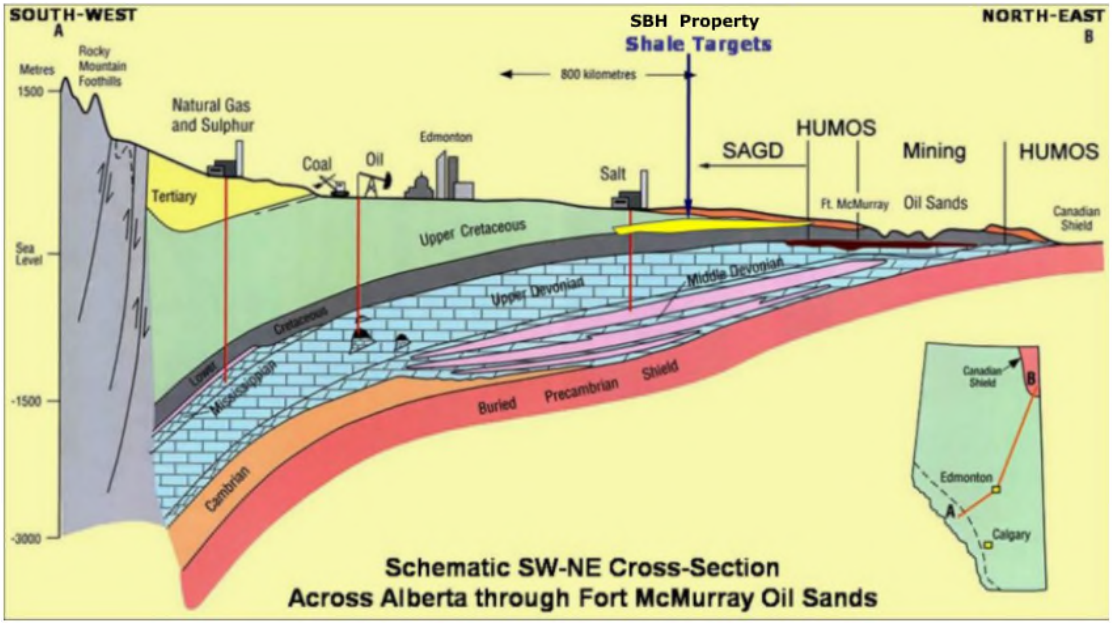


Figure 3: Generalized SW-NE cross-section across Alberta (looking northwesterly). Showing SBH Property position.

The Western Canada Sedimentary Basin consists of smaller sub-basins separated by a network of arches. One of the sub-basins is the Alberta sub-basin which dominates geology across northeast Alberta, consisting of a wedge of sediments, thickening from 200m in the east to over 6,000m in the west. Gross

stratigraphy of the sedimentary pile comprises sediments unconformably overlying the Precambrian shield which is exposed approximately 150km to the northeast of Fort McMurray, and which is buried by progressively thicker sedimentary formations southward and southwestward.

In broad terms, regional geology of northeastern Alberta is represented by a sequence of substantially flat-lying Devonian carbonates overlain by equally flat-lying predominantly clastic Cretaceous and younger sediments. The Devonian sequences unconformably overlie the Precambrian Shield which is sporadically exposed only in the northeasternmost part of the region near the Saskatchewan border, from whence southwestwards the Precambrian is buried by progressively thicker sedimentary formations of the Western Canada Sedimentary Basin.

The flat-lying sedimentary geology is confirmed by downhole geology documented from many thousands of oil-gas wells across the region which collectively provide a solid foundation for all subsurface geological interpretations (Figure 4). Regional historic work completed by Tintina relied on its subsurface modelling of the foregoing across the region, and its work over the Birch Mountains similarly relied on a more detailed modelling of all available subsurface information consolidated from nearly 600 oil-gas wells providing reliable isopachs and structural information to guide drilling and stratigraphic interpretations. The foregoing subsurface data and related models extend over most of the Property.

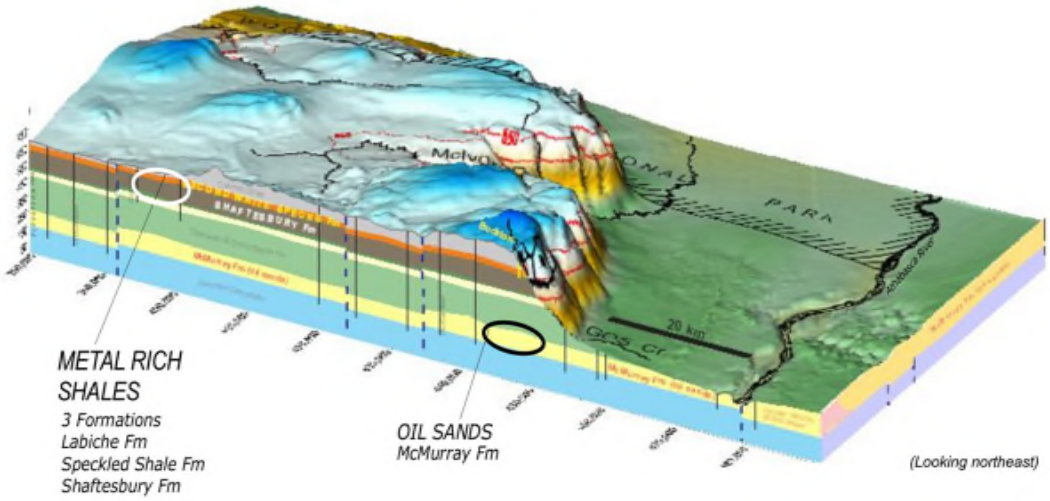


Figure 4: East-West 3-Dimensional cutaway block diagram across the Birch Mountains and the SBH Property, showing generalized stratigraphy.

A number of "hot-spots" have been recognized in the Precambrian, believed to reflect heat generation by the decay of radioactive elements at the top of the Precambrian basement beneath the Western Canada Sedimentary Basin. The Birch Mountains, and the Property, lie over one of the more significant hot-spots recognized. Kimberlitic and other similar venting have been discovered over the Birch Mountains and a northeasterly corridor crossing it, the Birch Mountains Kimberlite Corridor, located to the west of the Property's southern tip.

Whether metallic mineralization discovered over the Birch Mountains might be genetically related to the Precambrian heat generation is unknown, although a general geological working model formulated in 2008 for the area attributes a central role to local Middle Cretaceous volcanism or exhalative venting as the source to the sedimentary debris and metallic mineralization (enrichment) captured in Speckled Shale discovered in the area, and to a lesser extent also in the Shaftesbury Shale beneath it.

The syn-depositional proposal suggested by the 2008 geological working model is reinforced by work from the Alberta Geological Survey demonstrating that the Birch Mountains are unique in the foregoing regard, and that Formations such as the Speckled Shale are better mineralized over the Mountains when

compared to elsewhere in northeast Alberta, a conclusion which is consistent with a suggestion of an implied relationship with buried "hot spots" beneath the Birch Mountains. The foregoing is relevant to metals enrichments discovered over the Property which are consistent with synsedimentary submarine venting activity (fumeroles) as a principal source of metals captured into sedimentation from vent plumes and is better addressed in the Property Geology Section of this Report.

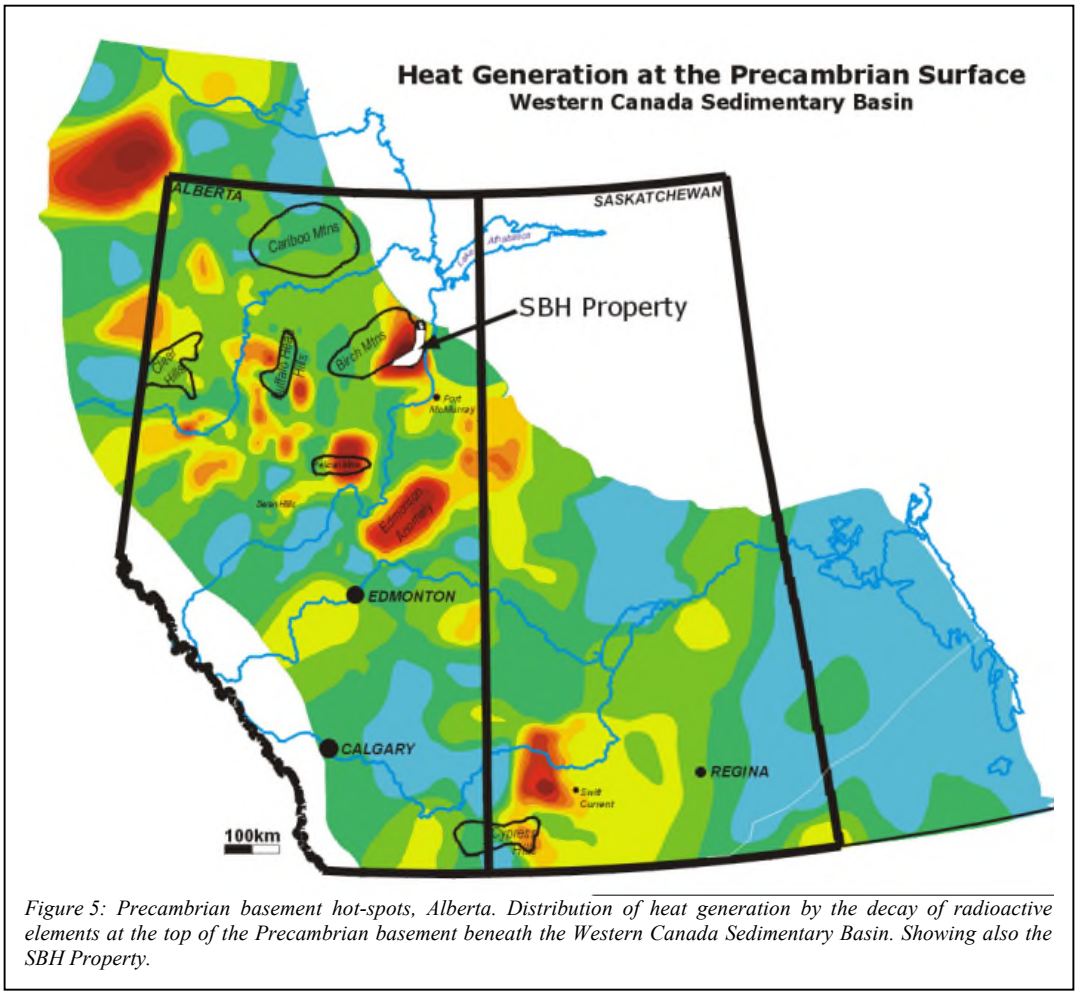


Figure 5: Precambrian basement hot-spots, Alberta. Distribution of heat generation by the decay of radioactive elements at the top of the Precambrian basement beneath the Western Canada Sedimentary Basin. Showing also the SBH Property.

The historic exploration for metals over the Birch Mountains leading up to discovery of metallic enrichments on the Property represent the only deliberate and systematic mineral exploration efforts over the region, prior to which metallic potential of the region had never been investigated.

5. PROPERTY GEOLOGY

Bedrock exposures throughout the Birch Mountains are scarce (<2%) and, given the flat-lying stratigraphy, they are restricted to valley walls of the many creeks and rivers which define incisions confined to the eastern and southeastern erosional edge of the Birch Mountains, over a 5-10km wide arcuate band defining a 70km long arcuate lobe of the Mountains.

The available exposures throughout the area enable intermittent observation and sampling across 300m-350m of Cretaceous stratigraphy, extending upward from the top of the Manville to well into the Colorado Group, straddling the Albian-Cenomanian boundary, providing exposures of five Formations upstratigraphically: the **Clearwater/Grand Rapids Formation**, the **Viking/Pelican Formation**, the **Westgate Formation**, the **Fish Scales Formation**, and the **Second White Speckled Shale Formation**. The **Labiche Shale** which overlies the Speckled Shale is often casually referred to as

Colorado Shale. Most of these Formations are eroded to the east of the Birch Mountains, and the uppersmost Formations are eroded to its south, and their exposures can be seen in cliffs and escarpments along the eastern and southern erosional edges of the Birch Mountains, and in valley walls of rivers and streams draining the Mountains.

The reader is referred to the 2014 Assessment Report from the Property (also posted on Company's website) for a detailed description of the five Formations which have been mapped and sampled in historic work over the Birch Mountains, capturing 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 well to the north of the Property.

The Second White Speckled and Labiche Formation black shales represent the principal polymetallic shales which have been targeted by all historic work, both of which host zones of recoverable Base Metals, U, REE and Specialty metals (Sc,Li,Th). Confirmation of similarly recoverable metals of similar grades (better Li-Sc) hosted also in the Shaftesbury Shale which lies beneath the Speckled Shale served to direct exploration attention to it in the most recent work over the Property, with a view to capturing mineralized volumes of economic merit from it into future Resources Studies. The Pelican sandstone Formation, lower in the stratigraphic column, has been shown to have potential as a natural sand proppant (fracsand).

The Shaftesbury and the Speckled Shale Formation are classified as bona fide black shales based on high C-organic contents and other classification criteria. Labiche Shale could also be so classified when generously considered.

The Labiche, Speckled and Shaftesbury black shale Formations dominate near surface geology over the Property and the broader Birch Mountains. Labiche is at surface under a few meters of glacial material (mostly scoured Labiche shale and mixed glacial debris), but much of it is progressively eroded away southward nearer the Asphalt Zone area where the Speckled Shale is at, or very near, the surface. There are no known surface exposures of the Shaftesbury Shale, although it has been mapped and sampled in many valley wall lithosections. All of the three foregoing Shales are exposed in valley walls and have all been sampled and mapped in great detail in prior years. These lithosections provide valuable witness to projected extensions of all historic Mineral Resources and Mineralized Zones discovered to date at the Property.

Stratigraphic lateral continuity across the Birch Mountains is excellent as it is elsewhere throughout the region, evidenced also by the exceptional continuity of the McMurray Formation hosting the oil sands over many 100's km^2 situated at and near surface in the flat topography some 500m below the top of, and surrounding, the Mountains. This reflects the virtually tabular stacked sequence of sedimentary strata, the black shales being the topmost layers which are near (or at) the surface of the Birch Mountains, and are exposed intermittently in laterally extensive terraces and lithosections in valley walls of creeks and rivers draining it. The foregoing lithosections have been invaluable to the exploration of tabular geology over the area and at the Property, and all available lithosections have previously been sampled. A generalized North-South cross section across the northern half of the Property is presented in Figure 6, showing all prior diamond drilling and oil-gas wells, extending beyond the Property's north boundary to the northern tip of the historic Buckton Deposit.

Metallic mineralization documented to date from the Birch Mountains, and the Property, is stratabound and demonstrates good lateral grade continuity over 10's of kilometers. A stricter evaluation of lateral continuity derived per block modelling to support historic Mineral Resource Studies indicates grade continuity envelopes ranging 500m-1,500m around drill intercepts (avg 1km) for the purposes of designating Resources in the Inferred category, and typically 500m +/- for Indicated. It is noteworthy that the geometry and outer limits of Mineral Resources identified to date are delimited by extent of drilling rather than by diminishing grade, suggesting that all Resources previously identified are "open" and can be expanded subject simply to additional drilling.

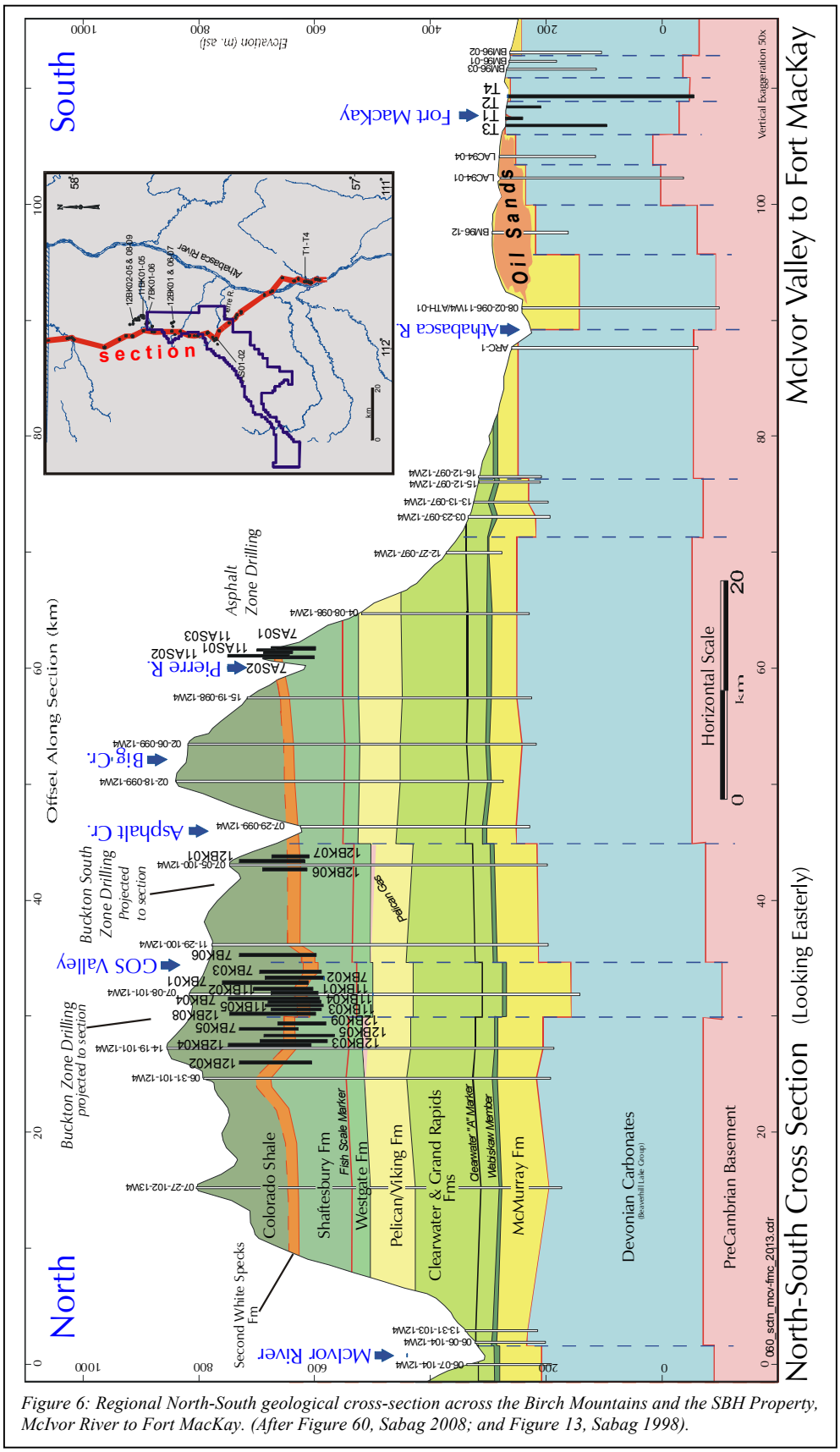


Figure 6: Regional North-South geological cross-section across the Birch Mountains and the SBH Property, McIvor River to Fort MacKay. (After Figure 60, Sabag 2008; and Figure 13, Sabag 1998).

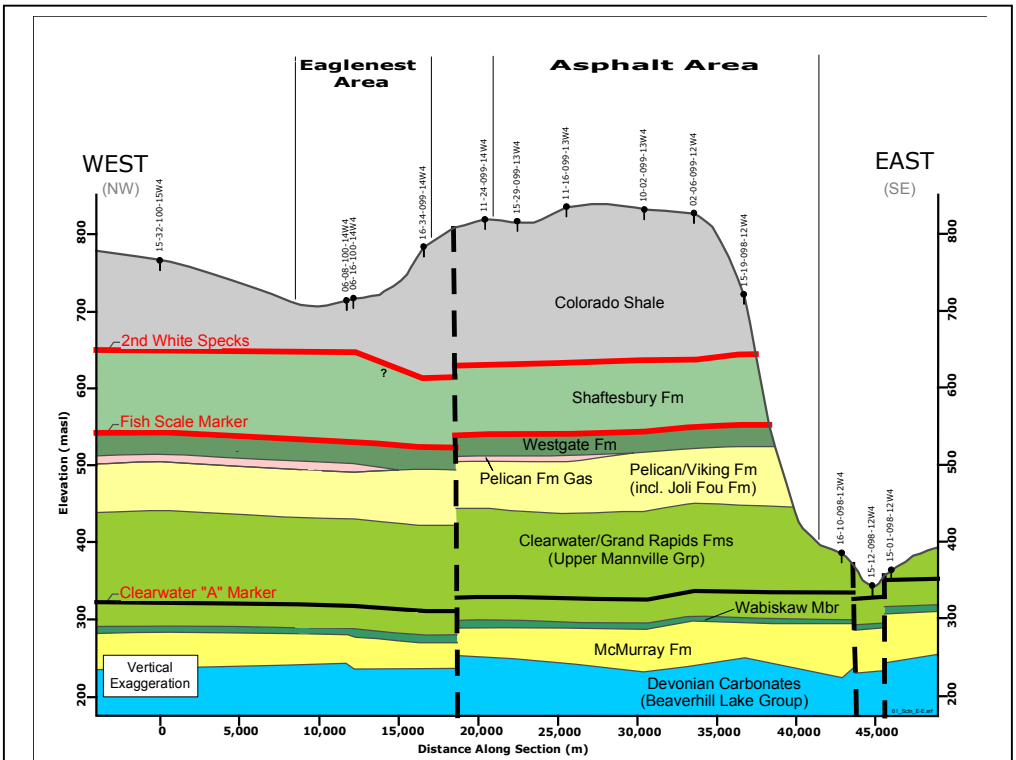


Figure 7: NW-SE Cross section, southeasterly across the Property and the Birch Mountains. After Figure 21 Sabag 2014.

A series of sketches are appended in Appendix-A which summarize stratigraphy across a 35km long cross section over the north half of the Property, extending northward from the Asphalt Zone to beyond the north boundary to the northern tip of the historic Buckton Deposit. The cross sections summarize all historic drilling as well as stratigraphic information from oil-gas wells, and also show downhole Formational weighted averages for Li, Sc, V and Co.

Formational thicknesses, as mapped in subsurface historic databases relying on oil/gas wells and drilling across the Birch Mountains, are relatively uniform in general terms north-south with some suggested thinning of the Second White Speckled Shale Formation southwards. This Formation, however, thins eastwards nearer the erosional edge of the Mountains over the Property. Whereas the Speckled Shale is typically regarded to be a 20m-40m thick unit in the region, it thins from 20m-26m at the north end of the Property, to 8m-14m over the Asphalt Zone located midway on the Property.

Considering that the Speckled Shale has reported the best overall base metals and REE grades thus far as compared to Labiche and Shaftesbury shales, its thickness has been material to estimation of all Mineral Resources over the Property, given that any tonnages captured are so captured per whittle-shell block modeling relying on base cut-off per tonne economic values. As a result of the foregoing, Resources delineated over the north parts of the Property (eg: historic Buckton Deposit area), relying on thicker Speckled shale, capture larger tonnages of the overlying lesser grade Labiche into Resources and serve to block out larger tonnages than those that can be captured into Resources further to the south.

The above is reflected in average metrics of 214MMt/km^2 for the historic Buckton Deposit compared with 150MMt/km^2 for the historic Buckton South Resource. Thinning of Labiche shale southward may also be a factor contributing to the foregoing, although recognition of Shaftesbury shale, with similar grade as Labiche (and better Li-Sc) will undoubtedly afford future Resource estimations some flexibility in capturing it into Resources in lieu of lesser grading Labiche in areas where Shaftesbury is acceptably near the

surface such as at the Asphalt Zone. A more detailed discussion of the foregoing is well beyond the scope of this Summary Report.

A number of large 20km^2-30km^2 quasi-circular stratigraphic anomalies have been identified over the Birch Mountains reflecting subsurface thickening (doming) within the Speckled and Shaftesbury shales. Although the causes of these domes are not clearly known they have proven to be significant diagnostic indicators of buried mineralization considering that all Mineralized Zones and Resources discovered to date lie on the flanks of such domes, within large areas which also are characterized by countless soil, stream and lake geochemical metals anomalies. Some of domes are also accompanied by other closed geophysical anomalies. The Asphalt and Buckton Zones at the Property lie clearly on the flanks of such anomalies within what can be considered their "aprons". Whereas the Buckton Zone area has been extensively tested leading to discovery of the historic Buckton Deposit and the historic South Buckton Mineral Resources to its south, only a small part of a similar coincident set of anomalies has been tested at the Asphalt Zone but which also confirmed buried mineralization identified as the Asphalt Mineralized Zone.

The above is consistent with the geological working model formulated in 2008 for the area proposing that: (a) the Birch Mountains, and the Property, overlie considerable exhalative venting, (b) that the Cretaceous black shale formations incorporate considerable material from nearby venting events into their sedimentary record (eg:bentonite), and (c) that culmination of the Speckled Shale Formation depositional cycle coincided with a significant increase in venting, also marking the inset of a hiatus of volcanic activity in the area.

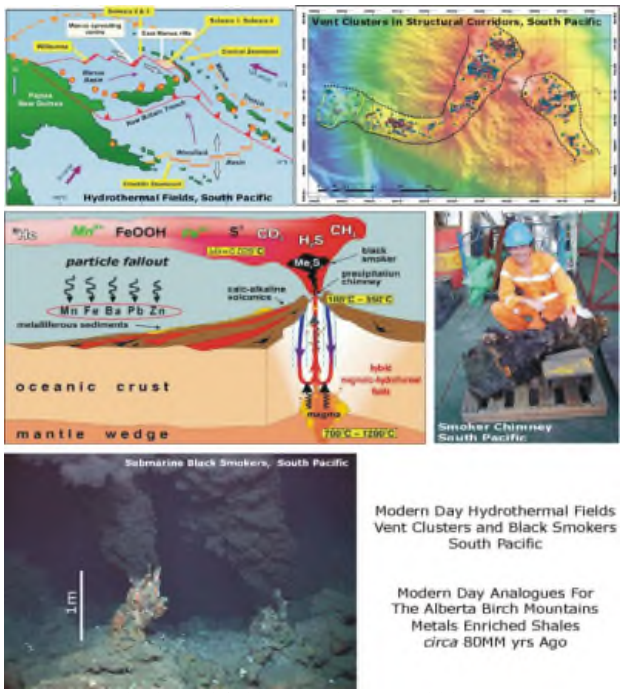


Figure 8: Hydrothermal fields, vent clusters and black smokers, South Pacific. Modern day analogues for the Alberta Birch Mountains metals enriched shales circa 80mm yrs ago.

The model also proposed that metal enrichment zones in the Birch Mountains, and the Property, are congregated around vent clusters, which are the source to considerable exhalative venting through select block-faults or their junctions serving as vent corridors similar to known modern day hydrothermal vent corridors (black smokers) in the South Pacific (Figure 8). The foregoing proposed submarine venting model is supported by recognition of a significant precambrian hot-spot beneath the Birch Mountains, by a detailed mineralogical study supported also by considerable leaching testwork on the black shales from the Property suggesting that the metals exist in easily liberated charged ionic forms adhered to clay surfaces rather than in distinct sulfide mineralogy requiring aggressive digestion.

The Property skirts the eastern erosional edge of the Birch Mountains, over an area considerably smaller than what had previously been held and explored (by Tintina and DNI) and, as such, all prior exploration records from work over the Property are extracted from extensive historic databases from exploration programs which extended over considerably larger properties held by the foregoing at the time that covered at least the east half of the Birch Mountains. The southern half of the Property has not been previously explored on surface, and the only information available from it are from remote sensing databanks from Tintina's programs and from consolidated downhole stratigraphic information from hundreds of oil/gas drilling logs across the region. The foregoing, nonetheless, serve to confirm continuity of subsurface stratigraphy from the northern parts of the Property over its south half over several 10's kilometers and also identify a number of physical features worthy of future investigation.

6. MINERALIZATION TYPE

The principal known metallic mineralization on the Property is hosted in black shales, as polymetallic Zones bounded by stratigraphic contacts. The principal metals of interest in the Zones throughout most of the exploration history of the Property have been Mo, Ni, U, V, Zn, Cu, Co, Ag, and Au, although REEs Li-Sc-Th started drawing more focus by 2010-2012 as it became apparent that they would also be leached as incidental valuable co-products recoverable from the shale, compelling subsequent work to broaden scope of its exploration and testwork. Though none of the metals is present in sufficient quantity in the shales to be considered a "pay" metal leading the value of any deposit identified, intrinsic economic value of the metal zones is, accordingly, based on recovery of the metals from the host rock on a combined basis. It is noteworthy that the resource studies for the Buckton and Buckton South Zones completed during 2012-2014 and the Buckton Preliminary Economic Assessment demonstrate that rare earth elements represent much of the economic value of the shales under recent metal pricing scheme.

Earlier historic work relying on traditional mineral identification noted that most of the metals, were initially believed to occur principally in the fine and coarser sulfides distributed throughout the shale, which can constitute as much as 20% of the shale matrix by volume, but typically range 5%-20%. Subsequent work completed suggested that much of the metals content is associated with clay mineralogy within he shale, and its mineral (MLA) study suggested that at least a portion of the metals occur in readily soluble ionic form rather than as discrete minerals. The foregoing are conclusions also shared by leaching testwork conducted bu AITF and CanMet.

Considerable leaching R&D testwork has demonstrated that the metals hosted in the Mineralized Zones hosted in the three shale Formations targeted are collectively recoverable by leaching relying on bioleaching, and that recoveries related to the three shales are slightly different for each, and that possibility exists to also similarly recover the metals of interest relying on abiotic procedures. The testwork also discovered that metals can be collectively recovered partly through the mild acidities achieved by injection of CO_2.

7. BLACK SHALE BACKGROUNDER

Black shales series worldwide represent important hosts for the concentration of immense metallic mineral resources, especially for precious metals (Au, Ag, PGE), transitional metals (Mo, Cu, Ni, Cr, V and Zn) and Uranium. They also provide extensive sources of hydrocarbons and have attracted intermittent interest over the years as a long term source of metals. Mineralogy of any given black shale Formation and metals contained therein reflect their source, and hence the shale's provenance. Black shales typically exhibit relatively uniform mineralogy and chemistry over large lateral distances, though they can vary considerably in vertical section reflecting changes in sedimentation processes, in weathering and hydrological history of the depositional basin area and those of the sources to the shale.

Given a suitable source of metals (eg:submarine vents), black shale depositional settings are capable of aggregating and hosting immense metalliferous deposits whose concentration is nearly always bacterially mitigated, although source of the metals and their carrier mineralogy straddle organic and inorganic geochemical processes.

From the explorationist's perspective, black shale metal deposits are best discovered in areas wherein (i) large land positions ranging in 100's sqkm can be assembled quickly and inexpensively, (ii) adequate access and infrastructure exists to enable efficient exploration of the land position, (iii) exploration, development and mining activities can take place without the complications of competing land use, (iv) open pitting of large areas is accommodated by the local industrial, logistical and regulatory fabric, and (v) the metal enriched zones are near enough to the surface to be available to bulk mining methods. Black shale deposits discovered in areas other than the foregoing cannot realistically be expected to hold promise for development and are, as such, only of academic interest.

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. Analogues from elsewhere in the world which have

similar geological setting to northeast Alberta, namely the juxtaposition of carbonaceous environments in brinally active domains include: the Zechstein district in the Polish Kupferscheifer, evaporites of southwest Shaba, Zaire, black shales of south China, the Nick deposit, Yukon. The Uraniferous Alum Shales, Sweden, and the polymetallic Talvivaara black shale hosted deposit, Finland, provide examples of currently active black shale exploration and development operations, the latter of which commenced production in 2008 (discussed further later in this Report).

The metalliferous black shales documented from the Birch Mountains, and the Property, are compatible with Rift-Volcanic Type black shales and have, accordingly, been so classed. The classification is supported by (i) relatively thick tabular geometry of the metalliferous black shale layers alternating with layers of ejecta material (bentonites and pyroclastic material); (ii) Ni/Cu ratios ranging 0.8 to 2.1 (typically 1.3-1.6); (iii) spatial association of metal enrichment zones with suspected venting (volcanic centers); and (iv) predominance of V-Zn-Cu mineralization over Ni-Mo-PGE.

7. Overview of Mineralized Zones and Historic Resources On The Property

Prior work from the mid-1990's defined six large anomalous areas over the greater Birch Mountains, sized 70km^2-150km^2 each, over composite surface and subsurface stratigraphic anomalies supported by coincident surface geochemical metals anomalies. Three of these areas, located nearer the eastern erosional edge of the Mountains, were confirmed by subsequent drilling to reflect buried mineralization and mineral Resources, and designated as Mineralized Zones, representing stratabound metal enrichment hosted in three flat-lying adjacent black shale Formations, namely; the Second White Speckled Shale Formation, the overlying Labiche Shale and the Shaftesbury Shale Formation beneath it.

The above Zones extend over 20km^2-30km^2 each and represent stratabound base metals and REE-Li-Sc enrichment hosted in a continuous 100m-150m thick "package" of flat-lying black shale Formations with excellent lateral continuity per drilling of 100's of oil/gas well over the area. Good lateral grade continuity has also been demonstrated by historic drilling over the 35km distance across the north part of the Property.

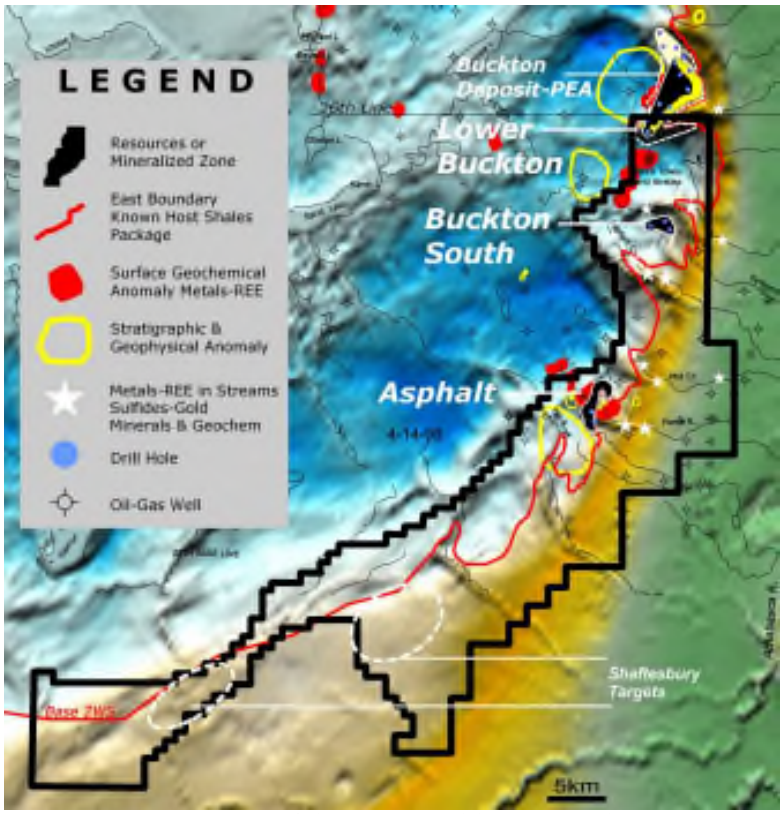


Figure 9: Overview summary of the Property and known Mineral Zones. Some new proposed Shaftesbury targets also shown.

The three Mineralized Zones are: the **Lower Buckton Zone**, the **Buckton South Zone** and the **Asphalt Zone** (Figure 9). They are open in all directions, with likely extensions which have been identified over many kilometers beyond portions drilled, and they are also confirmed in valley wall vertical lithosections all of which have been sampled.

The known metallic mineralization is best characterized as a low grade polymetallic assemblage of base metals accompanied by REEs-Li-Sc, all of which have been demonstrated to be easily recoverable collectively via large scale

bioheapleaching. Possibility for alternate abiotic recovery process has also been identified but not yet fully assessed. The three Mineralized Zones collectively represent potential host to large proposed quantities of recoverable metals in bulk mineable near-surface black shales which are the current focus of their advancement. The foregoing include an aggregate of approximately 1 billion tonnes in two historic Inferred Mineral Resources (at Lower Buckton and Buckton South).

The Speckled Shale has historically attracted most of the attention given its better base metals grades, although equally as attractive REE grades from the Labiche Shale overlying it served to incorporate Labiche volumes into the more recent estimations of mineral resources. The Shaftesbury Shale lying beneath the Speckled Shale attracted attention toward the end of the exploration history of the Property given similar REE grades as the two other Formations above it with higher Li-Sc content. The Shaftesbury Shale received attention once it was shown through testwork to be amenable to the same leaching processes for recovery of metals as the two shales above it. The Shaftesbury has not been systematically drilled, although it has been extensively sampled on surface in cliff sections, and all incidental drill footages of it collected from the end of holes intended to probe material above it have reported equivalent metals grades and, locally, better REE-Li-Sc grades. Incorporation of Shaftesbury Shale, and its economic potential, will be of keen interest to future work considering that its addition to the targeted shale package will afford future work on the Property logistical and strategic advantages not previously available before, in addition to offering potential for incorporating additional large tonnages of mineralize material into resources with REEs Li-Sc as their primary focus.

The Lower Buckton and Buckton South Zones are parts of a much larger +75km^2 area first identified in the 1990's and named the Buckton Zone which extends well beyond the Property's north boundary. It was extensively explored advancing its northern half through systematic drilling to delineation of the 26km^2 historic 4.5 billion tonne historic Buckton Deposit in 2014 (Sabag 2014), 10.7% of which straddles into the northern boundary of the Property representing an estimated 500MM tonne "orphaned" volume. Southern half of the greater Buckton Zone has been partly drill tested over Lower Buckton and Buckton South which confirmed buried mineralization, and identified a historic Inferred Mineral Resource at Buckton South.

Though early historic work regarded mineralization discovered over Lower Buckton and Buckton South to be parts of the same continuous stratabound metallic enrichment that extends throughout the greater historic Buckton Zone, proposed Mineralized Zones in the two areas likely represent two separate, though contiguous and likely genetically contemporaneous, mineralized volumes based on subsequent exploration results.

The northern half of the greater Buckton Zone, being all lands to the north of the 26th Line representing the boundary between Twps 100 and 101, were designated conservation lands by the Province of Alberta in 2021, including approximately 90% of the historic Buckton Deposit. To maintain historic continuity of place names over the Property the northern half of the greater Buckton Zone is, from time to time, herein referred to as the Upper Buckton. Approximately 10.7% of the historic Buckton Deposit currently lies on the Property and considering its alienation form the historic Buckton Deposit, it is included herein as part of the Lower Buckton Mineralized Zone which.

The aggregate historic work provides data coverage over the eastern two-thirds of the Birch Mountains, and over only the north half of the Property. There has been no fieldwork over the south half of the Property and what is known for that portion is derived entirely from subsurface stratigraphic modeling of downhole stratigraphic "pics" from oil/gas wells, on remote geophysical information, on LANDSAT imagery analysis, and on inferences per the extensive exploration work from the northern half of the Property for Formations which demonstrably extend southward under the surface of the south half of the Property.

The three known Mineralized Zones previously discovered on the Property extend over many tens of square kilometers and are situated over portions of the Property that lie over three major similar subsurface stratigraphic anomalies (doming) whose surface is characterized by extensive geochemical anomalies in soils and lakes, and similarly in streams draining these areas. All of the Zones have been partly tested with prioir drilling, and historic Resources have been identified in two. One of the Zones, the

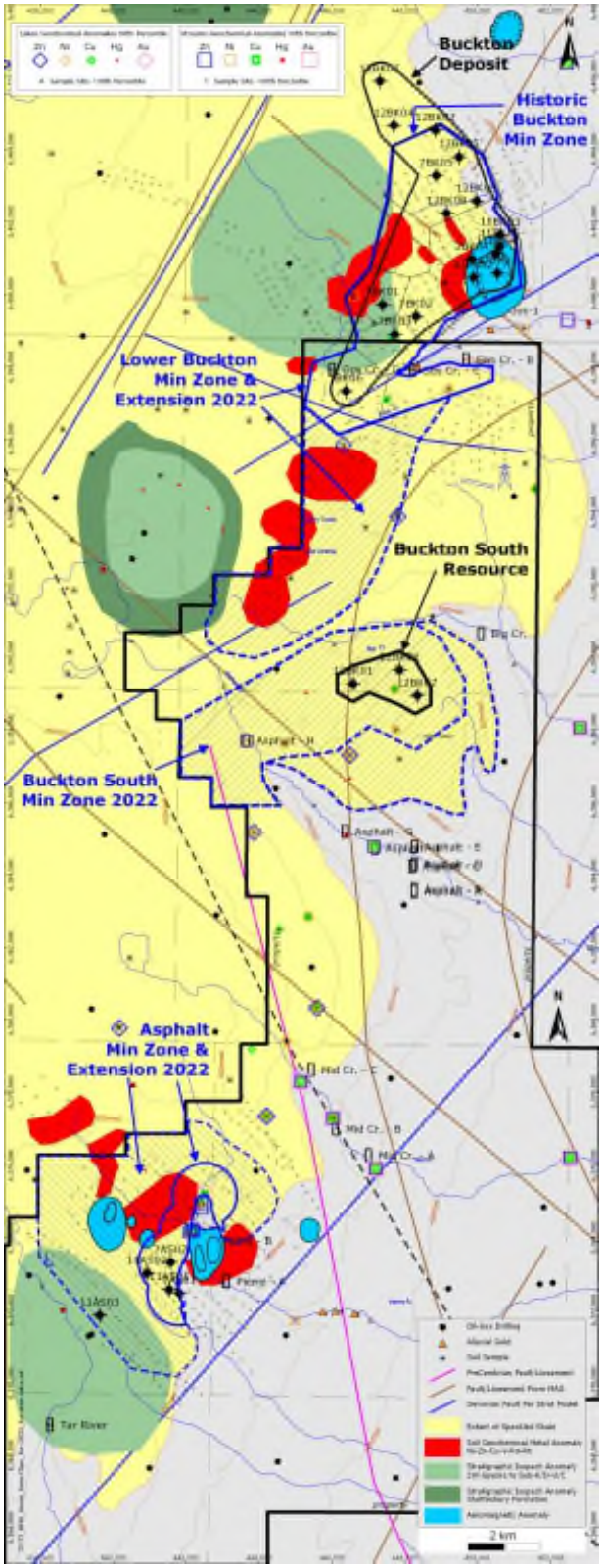


Figure 10: Summary of all historic anomalies over the north half of Property, showing also historic Resources and Mineralized Zones. The Lower Buckton, Buckton South and Asphalt Zones are shown.

Lower Buckton Zone, contains a small portion of the 4.5BB tonne historic Buckton Deposit which straddles the Property's northern boundary, and which advanced through a positive Preliminary Economic Assessment study in 2014. The Lower Buckton Zone can be ragrded as the southerly extension of the historic Buckton Deposit. The three Mineralized Zones, related geological, subsurface stratigraphic geophysical and geochemical setting is shown in Figure 2 and abstracted below.

The Buckton polymetallic Zone, straddling the north boundary of the Property, was discovered by Tintina Mines Limited and drilled in 1997 to verify suspected metallic mineralization buried beneath a composite set of anomalies identified by extensive prior surface sampling over an approximate 50km^2 area. This Zone was subsequently advanced by considerable drilling completed by DNI Metals Inc., and several resource studies, to ultimately identify the historic Buckton Deposit. The historic work depicted the Buckton Zone as a Zone of polymetallic enrichment in Mo-Ni-U-V-Zn-Cu-Co-Ag-Au plus REE-Li-Sc-Th, hosted in the Second White Speckled Shale Formation and the overlying Labiche Shale. Prior work has focused on quantifying volumes and Resources in only the foregoing two Formations. Prior work has, as such, omitted portions of the Shaftesbury Shale Formation which lies beneath the two-shale package confirmed by drilling to be mineralized with similar recoverable grades over its upper sections, reporting also better Li-Sc. Future updates of historic Resources will likely incorporate the foregoing into revised estimates of the Resources.

The Buckton Zone is situated in an area which lies above, and on the flanks of, a conspicuous subsurface 20km^2-30km^2 stratigraphic anomaly representing abnormal thickening of the Second White Speckled Shale and Labiche Shale Formations with accompanying localized circular aeromagnetic anomalies. The area is characterized by metal enrichment anomalies in overlying soils and lakes, and also in all streams draining from it. Part of this area was systematically drilled leading

to the delineation of the historic Buckton Deposit which advanced through a positive 2014 Preliminary Economic Assessment Study. A small portion of this Deposit straddles the north boundary of the Property and is named herein as the Lower Buckton Zone which also hosts the Lower Buckton Mineralized Zone representing demonstrable southerly extension of the Historic Buckton Deposit.

Further south from Lower Buckton is the Buckton South Zone which also partly on the flanks of a similar subsurface stratigraphic anomaly as that above, characterized by geochemical anomalies. Buckton South hosts the historic Buckton South Maiden Mineral Resource (Resource Study 2013, Sabag 2014), and may be a southern extension to the Buckton and Lower Buckton mineralized volumes, although its location above a separate stratigraphic disturbance may ultimately show it to be an altogether separate, though related, Zone. The historic Buckton South Mineral Resource is open for at least 6km to its north, west and the south, and portions of its extensions are exposed in lithosections in valley walls of Asphalt Cr. and Big Cr. all of which have been extensively sampled. Update of the Buckton South Resource Study is pending.

Further south from Buckton South lies the Asphalt Zone which lies on the flank of the third conspicuous stratigraphic anomaly similar to those over the two above Zones, with similarly related coincident geochemical and geophysical expression, and hosts the historic Asphalt Mineralized Zone. This Zone is located on the northeast flank of a nearly identical set of coincident anomalies as areas over the historic Buckton Deposit and is open for at least 8km to the west, north and south. The southwest flank of the foregoing anomalies has never been tested. The Zone is exposed in Pierre River and Mid Cr. valley walls.

Mineralized shale sections from all three Zones are intermittently exposed in the valley walls of rivers and creeks draining the areas providing considerable confidence in projecting of proposed extensions. In addition, the excellent stratigraphic continuity of the flat-lying shale Formations over 100km+ as confirmed by more than 600 oil/gas wells over the Birch Mountains, and consistency of metallic grades demonstrated by drilling of a 35km long section across the Property, add further levels of geological confidence rarely afforded mineral development projects (Appendix A).

There is exceptional lateral continuity of the three prospective shale strata over many tens of square kilometres over the Property as demonstrated by 100's of oil/gas wells (Appendix-C) and other exploration drilling, and similarly also remarkable consistency of overall metallic grades from prior diamond drilling. This is shown in drilling across the north half of the Property and is typical of the lateral consistency displayed by black shales worldwide. The foregoing is shown in Formational downhole weighted average grades from all drilling across a 35km long longitudinal section across the entire north half of the Property shown in Figures 33-37 for Li, Sc, Co and V. The foregoing cross section extends northward from the Asphalt Zone in the south, to the northernmost tip of the historic Buckton Deposit that extends beyond the Property's north boundary. A similar trend is also shown by comparative down-hole grades of drill intercepts from the Buckton South and Asphalt Zones (Appendix-B).

Prior work offers an exhaustive database from all surface sampling, subsurface modeling and drilling programs conducted during two seven year campaigns eight years apart, in addition to iterative resources studies leading up to a positive Preliminary Economic Assessment Study (PEA) in 2014 designating a portion of the Buckton Zone as the historic Buckton Deposit. The foregoing relied on considerable leaching testwork confirming collective recoverability of metals, all of which advanced through column leaching testwork forming the basis of the PEA. Post-PEA Scoping identified some operational and processing enhancements and its findings will form the basis of the next stage of testwork to improve metals separation parameters and to advance toward larger tests as a precursor to bulk sampling. Relying on what is known, demonstrated or confirmed by the extensive prior work on the Property, and reinforced by the PEA for the historic Buckton Deposit, it is clear that the three Zones hold similar promise to ultimately yield three deposits extending over $20km^2$-$30km^2$ each capable of supporting free-dig bulk mining operations at an annual rate of at least 72 million tonnes for 60+ years each, relying on bioheapleaching for collective recovery of Mo-Ni-U-V-Zn-Cu-Co, REEs-Li-Sc-Th.

Whereas the earlier historic work focused entirely on base metals and uranium, and mainly on the Second White Speckled Shale Formation, the most recent work (2010-2014) demonstrated that REEs and other

critical metals (Li-Th-Sc) contained in the Zones are also incidentally recoverable from the shale as co-products to recovery of base metals and Uranium, and represent well over half of the contained value (especially HREEs). In the foregoing regard, the most recent work at the Property recognized that Labiche Formation shales, previously regarded as overburden waste overlying the Speckled Shale, are sufficiently enriched in REEs and critical metals that they will add value to any mining operation, and tonnages from Labiche were accordingly included in historic Resources and evaluated in the PEA for the historic Buckton Deposit. As a result, the historic Buckton Deposit, and all historic Mineral Resources and Mineralized Zones at the Property envisage metals enrichment hosted in a continuous shale package consisiting of the Speckled shale and the overlying Labiche Formation.

The Shaftesbury Formation shale lying beneath the Second White Speckled Shale and beneath the mineralized tonnages identified to date on the Property has received little attention despite its comparable grade in REEs-Li-Sc that are similar, and locally better than, those documented from the Labiche and Speckled Shales, in prior drilling. This is especially true for mineralized tonnages identified in the Asphalt Zone and vicinity where volumes (and tonnages) from the Shaftesbury lying near the surface immediately beneath the Second White Speckled Shale, as documented in drill intercepts, can be incorporated relying on existing historic drilling information into Mineralized Zones identified to date, and subsequently upgraded into Resources subject to a Maiden Resource Study and expanded through future drilling.

The Property extends to the south well beyond the southern limits of areas previously held and explored by others, and as such extends beyond the southern limits of databases from prior work over the Birch Mountains and the Property. The only available geological information from the southern half of the Property is from provincial maps and some regional coverage, in addition to: (a) a Digital Elevation Model constructed in the 1990's by Tintina for the eastern parts of the Birch Mountains which the southern half of the Property, (b) a 1994 LANDSAT remote imagery analysis study of northeast Alberta and the Birch Mountains, completed by Demofrac Geo-System International in 1994 for by Tintina, and (c) a follow-up study completed in 1995 by J.D.Mollard and Associates focusing only on the Birch Mountains entailing detailed interpretation of air-photographs for the area integrating also findings from reconnaissance surface sampling that had by then been completed by Tintina. The current review of the foregoing for the purposes of preparation of the Technical Report in progress for the Property identified a number of anomalous features that offer realistic targets for future field investigation with similarities to areas over the north half of the Property which once explored led to discovery of buried mineralization. Of particular interest is an area over the south flank of the composite subsurface doming anomaly on whose north flank lies the Asphalt Mineralized Zone. No work has been carried out at the Property since 2014.

9. SUMMARY OF KNOWN MINERALIZED ZONES AND HISTORIC MINERAL RESOURCES

Three Mineralized Zones have previously been discovered over the Property, all of which have been partly drill tested, and historic Mineral Resources are identified over two. historic Mineralized Zones were recently reviewed and expanded relying on historic drill results, on inferences from Mineral Resources therein and on their exposures in surrounding valleys within 1km-2km. They are restated as follows:

- **Lower Buckton Mineralized Zone & Historic Inferred Resource**: An estimated 6BB-7BB t in a Mineralized Zone over 28km^2, including a 470MM-570MM t historic inferred resource over 2km^2, being the southern tip of the historic Buckton Resource.
- **Buckton South Mineralized Zone & Historic Inferred Resource**: An estimated 4BB-6BB t in a Mineralized Zone over 22km^2-33km^2, including 497MM t historic Buckton South Maiden Inferred Resource over 3.3km^2.
- **Asphalt Cr. Mineralized Zone**: An estimated 3BB-4BB t in a Mineralized Zone extending for 24km^2 over north half of the Asphalt Zone. Similar sized area over south half with known targets but not yet drilled. Resource Study in progress targeting a 700MM-900MM t Maiden Inferred Resource over a 6km^2 area which has been confirmed by four historic drill holes.

Additional details of known Mineralized Zones as updated and expanded are presented in Section 15. Procedures and underlying premises related to the above estimates are appended herein as Appendix-D.

10. BIOLEACHING BACKGROUNDER

Biohydrometallurgy progressed quickly during the early 2000's from laboratory investigations of applying biotechnology to metal recovery or pilot scale demonstrations to an industrial reality being applied on a large scale for the collective recovery of a variety of metals from sulfidic deposits (copper, gold, cobalt, nickel, zinc, manganese). This includes also recovery of metals from refractory ores (e.g Nevada) which were previously unrecoverable and lost to tailings.

Adapted to be applied in a bulk heap leaching configuration, bioleaching has paved the way to exploitation of large low grade metal deposits worldwide, including those hosted in black shales, transforming them from geological curiosities to realistically prospective targets for exploration and development. The majority of bioleaching operations comprised vat leaching of concentrates in stirred tanks in their earlier days (ie:bioreactors).

The Talvivaara mine which commenced production in October 2008, was the first large scale commercial bio-heapleaching operation designed to recover a suite metals on a combined basis. The Talvivaara mine adapted bioleaching to large scale application and applied it in conventional heap leach methods similar to cyanidation of heaps normally associated with large low grade (subgram) gold mines (e.g Nevada).

The Talvivaara deposit, located in eastern Finland, is one of the largest known nickel sulfide deposits in Europe, and provides a good analogue as an open pit mining and heap leaching operation recovering combined metals from a large black shale (schist) hosted sulfide deposit by bioheapleaching in sub-arctic conditions. Bioleaching advancements leading up to the launch of mining operations at the Talvivaara Ni-Co-Zn-Cu-Mn deposit in the early 2000's provided the basis for renewed interest in developing of the Alberta metal enriched black shales as a highly prospective long term source to metals.

The Talvivaara deposit was originally held by Outokumpu, which carried out considerable exploration in the late 1980's and early 1990's. The resource was found to be adequately large but of too low grade to be economically viable using traditional metal extraction techniques available at the time, and development of the project was accordingly deferred. Outokumpu sold its rights to the Talvivaara Mining Company in 2004 which, relying on then novel advancements in bioheapleaching, advanced the deposit through bulk testing and Feasibility assessments to production by 2008.

The above is a familiar story that is similar to that for metallic mineralizations identified in the Alberta black shales at the Property which were first discovered in the 1990's, aggressively explored serving to block out adequately large multi-metal Mineralized Zones of interest but with grades considered to be too low to be economically viable using traditional metal extraction techniques available at the time. As a result, advancement of historic Mineral Resources discovered at the Property was terminated by the 1998.

The Talvivaara mine was a significant milestone representing a breakthrough in the mining of otherwise low grade polymetallic black shales with full support from substantive European financial markets and the Finnish national mining company as a significant partner. The mine commenced production in October 2008 and while scaling up to full production suffered a catastrophic environmental accident as a result of a breach in its waste water confinement pond. All operations were halted, and after many years of litigation the company declared insolvency, and the mine was bought in 2015 by Terrafame, the Finnish state mining company, which had already held a significant ownership interest in the company. Terrafame re-commissioned the mine soon thereafter, and started production ramp-up in mid 2021 toward building a battery materials factory onsite to produce nickel sulfate for 1 million electric car batteries annually, in addition to enough cobalt sulfate for 300,000 batteries annually. According to communications from Terrafame, the carbon footprint of the Ni-Sulfate to be produced at the operations will be 60% below the industry average, and their commitment is to be "a unique and energy-efficient entity that provides customers with a transparent, traceable and truly European battery chemicals production chain".

Developments at Talvivaara continue to offer a good template for what can be achieved at the Property to advance development of metals enriched black shales discovered thereupon toward production.

11. PRIOR METALS RECOVERY TESTWORK - BRGM, AITF, CANMET

Considerable early stage research and testwork has been completed to date to assess collective recovery of metals from the metal enriched black shales on the Property. The foregoing formed the basis for prior Resource studies as well as the 2014 Preliminary Economic Assessment of one of the historic Mineralized Zones re-classifying it as the historic Buckton Deposit a small portion of which straddles into the northern part of the Property.

The earliest tests to recover metals from the black shales on the Property were preliminary investigations conducted during 1998-1999 to assess viability of recovering metals from the Second White Speckled Shale on a combined basis by traditional processes. Despite overall encouraging conclusions from the above work for recovery of single metals, the testwork failed to identify recovery methodology for the recovery of all of the metals collectively by a single process and accordingly all further work was halted.

Encouraged by advancements in bioleaching as demonstrated by Talvivaara, subsequent testwork in the 2009-2013 focused on investigating bioleaching processing methodology relying relying on Thiobascilli cultures which were adapted to the Alberta black shales. This work commenced with initial test at the Bureau de Recherches Géologiques et Minières (BRGM), Orleans, France's leading Earth Sciences public institution recognized worldwide for its expertise in Biohydrometallurgy, with direction and input from Dr.C.L.Brierley, a well recognized bio-hydrometalurgist. Subsequent work was migrated to Alberta and carried out by Alberta Innovates Technology Futures (AITF - formerly the Alberta Research Council ARC) who carried out considerable benchscale laboratory tests which were ultimately expanded by 2012 to column leaching tests by CanMet, Canada's Mining and Minerals Science Laboratories, Ottawa.

While the earlier testwork investigated amenability of only the Second White Speckled Shale, it was subsequently expanded to also test samples from the Labiche Shale, and expanded again late in the exploration history of the Property to finally also test shales from the Shaftesbury Formation. All of the foregoing shales reported similar positive results suggesting that recoverable mineral resources hosted in the Cretaceous black shales at the Property are more extensive than previously believed, and that they are not confined only to the Speckled Shale and the Labiche shale Formation above it as previously thought, but that they also extend beneath them into the Shaftesbury Shale which had previously received limited attention and was omitted from all Resources and Mineralized Zones identified.

In addition to demonstrating amenability of the above shales to collective metals recovery by bioleaching, the collective of the above testwork also reached two significant conclusions which offer opportunities requiring future investigation, namely:

(i) testwork results from different facilities concured that all of the metals-REEs are held in the shale mostly in ionic forms which are easily liberated through acidification, rather than in sulfides requiring aggressive digestion, a conclusion corroborated by prioir study of micro mineralogy. And that even a mild acidification relying on CO_2 will liberate the collective metals, offering opportunities to rely on CO_2 as a pre-treatment to additional acidification through sulfuric acid to follow; and

(ii) the testwork from CanMet noted that abiotic leaching can achieve equivalent, albeit somewhat lower, recoveries, but that leaching duration is considerably faster than biotic processing. The foregoing recommended that future testwork assess benefits of faster recoveries from abiotic processing, despite somewhat lower recoveries, in future economic assessments for mining operations.

In the above context, it is noteworthy that the stirred tank leaching tests showed that leaching of metals from the shale occurs very rapidly, reiterating what had previously been shown by all other leaching and bioleaching tests conducted at the BRGM, AITF and Actlabs. Similar rapid kinetics were also observed during 28 day long stirred tank leaching tests, and 150-200 day long column leaching tests, as the majority of the leaching observed during 28 day long stirred tank leaching tests occurred during the initial

3-4 days, whereas for the column leaching tests it occurred during the initial 10-20 days, after which only modest incremental increases were achieved in both sets of tests.

The above observations are significant and are relevant to future revisions of leach pad designs which were incorporated into the historic Buckton Preliminary Economic Assessment which provided for a 180 day long leaching time which is obviously considerably longer than what might be necessary to leach the bulk of metals from the shale. It is self evident that enhancement of leaching time will affect economics of any mining operations to extract metals from the shales at the Property, and will also enhance leach pad efficiencies to be able to process considerably higher throughput tonnages than the 72MM tpa envisaged by the historic PEA.

No further work has been carried out since to expand on the above findings to advance investigation of collective metals recovery processing toward testing of larger samples with to advance through bulk testing to advance a toward a bulk sample and a proof of concept demonstration of heaped leaching.

12. EARLY STAGE TESTWORK - CO_2 CONSUMPTION

Preliminary testwork was completed by AITF during 2020-2013 to begin assessing potential of the shale as a CO_2 "sink" to evaluate its capabilities for sequestering CO_2. The foregoing included a series of CO_2 sparging tests on samples from the Second White Speckled Shale from the Property and collected baseline laboratory scaled information on the reactive properties of fresh Shale samples when injected with CO_2 under ambient pressure given that black shales are known to have capacity for sequestering CO_2 under pressurized conditions, and given that certain "spent" black shales and similar material also have similar capacity. Kentucky black shale, known for their capacity to "fix" (absorb) CO_2, offer some insights in the foregoing regard.

Incidental solubilization of metals observed during the CO_2 sparging testwork demonstrated that metals can be liberated (extracted) from the shale under mildly acidic conditions produced by the CO_2 (carbolic acid) and that acidity itself may be the decisive factor to achieving metals extraction rather than the type of acid used in leaching (all prior leaching and bioleaching testwork had relied on sulfuric acid solutions whereas the CO_2 sparging tests did not). The foregoing discovery offers possibilities for use of CO_2 as a pretreatment to other more acidic leaching methods, with the added collateral benefit of also consuming considerable, but as yet unquantified, tonnages of CO_2.

No further work has been carried out to expand on these promising findings to enable estimation of quantities of CO_2 which might be consumed during leaching, nor to test the ability of "spent" shale collected from tails of leaching testwork to absorb (sequester) CO_2.

13. SULFUR AND H_2S CONSUMPTION

The bioleaching hydrometallurgy proposed for recovery of metals from the Alberta black shales on the Property entail processes whereby metals are dissolved from the ore by iron/sulfur consuming naturally occurring bacteria (Thiobacilii) which are chemo-litho-auto-trophs whose only source of metabolic carbon is CO_2 and who derive their energy from the chemical digestion of inorganic matter notably sulfides. All Thiobacilii metabolize Sulfur and oxidize it to sulfates or sulfuric acid. Accordingly, bioleaching requires the addition of Sulfur and CO_2 to the leaching circuitry, and as a net consumer of both provides an excellent industrial scale "sink" for both. In addition, Thiobacilli are autotrophs which produce sulfate (or H_2SO_4) directly from the oxidation of H_2S, a gas that may be produced by other bacteria or by a variety of industrial operations such as oil sands refining.

The historic 2014 Preliminary Economic Assessment Study for the Buckton Deposit (2014PEA) provides a good template and econometrics for what might be achieved from mining operations of mineralized black shales on the property such as those identified in other Mineralized Zones and historic Mineral Resources thereupon which are hosted in the same shale strata as the historic Buckton Deposit, within similar volumes of similar geometry and equivalent metals grades, and for how that might be achieved.

The 2014PEA contemplated an annual production throughput of 72MM tpa with a 64 year mine life, and calculated that the operation would require, and would consume, 40kg of Sulfuric acid per tonne of feed. Given that Sulfuric acid is made up of 32.69% Sulfur, this represents 941,472,000kg of Sulfur that would be required annually, or approximately 1MM tonnes annually. Financial models in the PEA rely on a nil cost base for the Sulfur required and treat its cost attribution in the financial models as being only the cost of its trucking transport from adjacent oil sands operations.

For comparison, the Finnish Talvivaara mine, currently in operation by Terrafame, the Finnish state mining company, offers some parallels from its bulk mining operations for recovery of metals from a black shale (black schists) using bioheapleaching. The Talvivaara mine is rated with a 24 year mine life and a 336MM t resource which will be mined at an approximate mining rate of 15MM t per annum. Projected mine life extrapolated beyond the current resources would be approximatey 100 years at current production rate to ultimately mine approximately 1.2 billion tonnes. Sulfuric acid consumption at Talvivaara is estimated to be 269,582 tonnes annually (equiv to 88,000tpa Sulfur), and 5,798,374 tonnes over life of the mine (16 kg/t - primary heap; 2 kg/t - secondary heap).

If Talvivaara's operations are re-stated as a 72MM tpa equivalent operation for a comparative discussion with estimates for the Alberta shales at Property, the above figures from Talvivaara translate into a consumption of 440,631 t of Sulfur annually, nearly half of what the historic PEA base case estimated for the historic Buckton Deposit. The historic PEA did, however, note that reduction of acid consumption is a significant goal which might be achievable with minimal additional work as suggested by results from column leaching testwork conducted at CanMet in 2012-2013 which demonstrated that through appropriate agglomeration and slightly longer leaching time, nearly 50% lower acid consumption can be achieved ultimately to a dosage of as low as 20kg of acid per tonne of feed (more within range of the 18kg/t for Talvivaara) without significantly sacrificing metals recoveries. The historic PEA also noted that this reduction would also serve to reduce operating costs by an estimated $1.04 per tonne and capital costs by $380 million.

Despite demonstrable ability of mining operations envisaged herein to consume Sulfur and CO_2, the metals recovery procedures envisaged will also require, and consume, some yet indeterminate amount of H_2S. As a point of reference, the Talvivaara bioheapleaching operation includes annual consumption of an estimated 72,000 tonnes H_2S for its 15MM tpa production, which might provide the rough metric of 345,600 tonnes that might be required for the larger 72MM tpa base case operation contemplated in the historic Buckton PEA Study. Prior work has assumed that all H_2S required for its metals leaching circuitry can be obtained from waste H_2S from adjacent oil sands.

Aggregate oil sands operations in the Athabasca region surrounding the Property annually produce considerable tonnages of waste Sulfur from their bitumen beneficiation processes. An estimated 1 tonne of Sulfur is produced per 100 bbl of oil, and Pembina Institute had estimated as far back as 2008 that approximately 2 million tonnes of Sulfur are produced annually. Current figures are considerably higher and likely range 2-4MM tonnes.

In addition, accumulated waste Sulfur from the past decades of oil sands operations have been stacked at surface near the operations, and they currently exist as three large pyramids measuring 25acresx100ft (2.84MM m^3) collectively representing nearly 20 million tonnes (10MM-15MM t in 2005).

Despite considerable well meaning media coverage, there is no Sulfur mitigation plan for the region despite multi-million dollar annual efforts by some oil sands producers to explore novel and creative solutions to either store, bury or consume their waste Sulfur. As it stands, waste Sulfur burial seems to command more of the consensus despite the many risks of its leakage into local and regional groundwater aquifers. Some of this leakage has recently started to be detected, and it is evident that time is of the essence. Although considerable multi-millions of funding is broadly advertised as having been earmarked to address the foregoing both by industry and the Alberta government, the many initiatives have thus far proven indifferent to any novel proposals and have failed to identify any definitive long term solutions.

It is clear that a single 72MM tpa mining operation at the Property to recover metals from the Alberta black shales relying on bioleaching would consume nearly half of the annual waste Sulfur production from all adjacent oil sands production operations. As it stands, the Property holds potential for three such operations from three potential deposits, which under certain processing parameters hold potential for significant expansions which offer opportunities to consume all waste Sulfur produced in the region in addition to helping consume the existing pyramids over an estimated 15-20 years.

Whereas traditionally all future work programs intended to advance the development of Mineralized Zones and historic Mineral Resources previously discovered over the Property would to do so through expanded metals recovery testwork intended to enhance recoveries while minimizing reagent consumption, the demonstrable capacity of the bioleaching recovery processes envisaged to consume considerable Sulfur, CO_2 and H_2S, offer novel compelling opportunities to regard at least some of the envisaged mining operations as waste mitigation endeavors intended to rid the Athabasca oil sands region of Sulfur waste while also mitigating its CO_2 and H_2S emissions. The principal corollary to the foregoing would be a necessity to formulate all future metals recovery testwork to focus on identifying processes to maximize consumptions of the foregoing reagents while maintaining acceptable metals recoveries.

An alternative to the above biotic metals recovery processing might be reformulation of metals recovery circuits to rely on abiotic metals recovery circuitry which relies entirely on acidification for recovery of the metals as proposed by the historic 2013 metals column leaching testwork by CanMet. This testwork formed the basis of metals recoveries assessed in the historic 2014 PEA, and its findings also offer demonstrable potential for expanding excavations well beyond the 72MM tpa base case operations envisaged by the 2014 PEA through the liberation of leach pad throughput capacity as a result of considerably faster leaching cycles than those required for biotic processes. The foregoing offers additional benefits to what can be regarded as self-sustaining waste mitigation operations which may well also generate acceptable revenues.

14. Excess Hydro and Run-Of-River Hydro Power Generation

Bioheapleaching reactions are exothermic and generate excess heat. As such they can operate in colder climates such as northern Alberta and, as is the case for Talvivaara, in northern Finland. In addition, the 2014 Preliminary Economic Assessment Study (2014PEA) for the historic Buckton Deposit also noted collateral benefits of the Sulfuric acid generation plant's capability to produce excess electricity from its operation, which the 2014PEA captured into estimated operating costs as a power credit of $0.15 per tonne of mining throughput. The 2014PEA Study assumed that the excess power would be fed back into the local electrical grid, but any benefits of related Carbon credits were not assessed nor addressed. The foregoing are topics for future expansion.

In addition, the Property's east boundary, atop the erosional edge of the Birch Mountains, provides a nearly 500m substantially vertical relief with potential to be harnessed for generating local run-of-river hydro from nearly a dozen small streams flowing outward from the Mountains all of which are devoid of fish. A preliminary evaluation carried out during mid-2011 to early-2012 to explore the viability of generating seasonal run-of-river-hydro by harnessing Asphalt Creek, GOS Creek, Pierre River and Big Creek, which collectively offer four potential waterways which might suited for the foregoing purposes, concluded that further investigation of the foregoing would be warranted and justified based on preliminary observations. The foregoing offer collateral benefits which might be harnessed and monetized, in addition to contributing to minimizing carbon footprint of any future operations at the Property.

15. Summary Discussion of Tonnages, Zones, Distribution and Recoveries

Mineralized tonnages and related grades known to exist on the Property, or those proposed, for the three Mineralized Zones are summarized in Table 1, along with a summary of the two known historic Mineral Resources on, or straddling, the Property, namely; the historic Buckton South Maiden Resource and the historic Buckton Deposit a small portion of which straddles into the northern part of the Property and is currently included only as a Mineralized Zone into the Lower Buckton Mineralized Zone.

The estimated figures shown for tonnages as proposed for the three updated and expanded Mineralized

Zones range 3BB-7BB tonnes consisting of mineralization hosted in the combined volumes of Speckled and Labiche Shales only, and 3BB-5BB for those which also include an equal thickness of Shaftesbury as Speckled Shale into the overall mineralized "package" for parts of the Asphalt and Buckton South Zones where Shaftesbury is near surface. The estimated tonnages depict a southerly trend of diminishing tonnages per square kilometer from north to south down the length of the Property ranging 227MMt/km^2 in the north to 119MMt/km^2 in the south , the higher tonnages being from the Lower Buckton Zone in the north and progressively lower southward to the Asphalt Zone. The foregoing compare with 214MMt/km^2 for the historic Buckton Resources at the north end of the Property, and 150MMt/km^2 for the historic Buckton South Mineral Resource located further south midway to the Asphalt Zone.

	Summary of All Porposed Mineralized Zones and Expansions					Comparative Resources	
	Lower Buckton	Buckton South		Asphalt		Buckton South	Buckton Dpst
	Updated & Expanded Proposed	New Proposed	New Proposed	New Proposed	Updated & Expanded Proposed	Inf Resource Resource Study	Inf Resource Resource Study
Host Shale	LB-2WS	LB-2WS	LB-2WS-BF	LB-2WS	LB-2WS-BF	LB-2WS	LB-2WS
Mineralized Zone Tonnage (t)	6,319MM - 6,813MM	2,799MM - 4,455MM	3,296MM - 4,952MM	2,820MM - 3,418MM	3,497MM - 4,239MM	497MM	4,712MM
Area (sq km)	27.7	18.6-29.6	18.6-29.6	23.7	23.7	3.3	22
Tonnes per sq km (MMt/km2)	208MM - 227MM	150MM	195MM	119MM - 144MM	148MM - 179MM	150MM	214MM
Estimated Grades (ppm)							
Mo	15-17	17-17	9-14	14-23	12-20	17	15
Ni	67-71	71-69	57-64	56-72	54-68	71	68
U	9-10	10-10	8-9	8-13	8-12	10	9
V	340-404	404-404	328-368	329-392	310-385	404	341
Zn	170-185	185-185	163-173	151-179	146-170	185	170
Cu	40-47	47-48	41-45	39-56	38-53	47	40
Co	15-15	15-15	14-15	12-15	12-14	15	15
LREE	159-163	159-166	161-164	135-165	140-170	159	163
HREE	21-22	22-23	21-22	19-24	19-25	22	21
Y	31-32	31-33	30-32	27-34	27-35	31	32
Th	11-14	10-10	10-11	8-9	9-10	10	10
Sc	10-10	14-15	15-15	12-12	13-12	14	11
Li	70-71	70-72	76-76	58-65	65-72	70	71
Mineral Resources Included (t)	500MM	-	-	-	-		
Mineral Resources Excluded (t)	-	497MM	497MM	-	-		
TTL Restated - Resource as MinZone (t)	6,319MM - 6,813MM	3,296MM - 4,952MM	4,268MM - 6,412MM	2,820MM - 3,418MM	3,497MM - 4,239MM	*MM=million; (t)=Metric Tonne; Light and Heavy REEs shown are: LREE=Ce,Pr,Nd,Sm; HREE=Tb,Dy,Ho,Er,Tm,Yb,Lu; Buckton Indicated Resource restated as Inferred to enable addition into the total.*	
Restated Area (sq km)	27.7	21.9-32.9	21.9-32.9	23.7	23.7		
Tonnes per sq km (MMt/km2)	208MM - 227MM	150MM	195MM	119MM - 144MM	148MM - 179MM		
MM=million; (t)=Metric Tonne; Light and Heavy REEs shown are: LREE=Ce,Pr,Nd,Sm; HREE=Tb,Dy,Ho,Er,Tm,Yb,Lu; Proposed Mineralized Zone for Lower Buckton includes all tonnages of any Mineral Resources thereupon deeming them to be Mineralization only; Mineralized Zone Proposed for Buckton South excludes Buckton South Maiden Resource; Buckton South Restated Mineralized Zone includes Maiden Resource after deeming it to be Mineralization only. Host Rocks Codes: LB=Labiche Shale, 2WS=Second White Speckled Shale, BF=Shaftesbury Shale (Belle Fourche)							

Table 1: Summary of all Updated, Expanded and New Proposed Mineralized Zones, SBH Property.

***The reader is CAUTIONED** that a **Mineralized Zone** is best regarded to be an aggregation of mineralization of encouraging or enticing grade, within a realistic volume of rock, whose ultimate size and economic merits have not been demonstrated by drilling, and as such, it is conceptual in nature, as there has been insufficient drilling conducted over it to define a Mineral Resource, and as such it is uncertain if further drilling will define a Mineral Resource over the Zone, and it is intended solely to demonstrate the potential of identifying mineralized material at such a Mineralized Zone subject to confirmation by future in-fill grid drilling. **The reader is also CAUTIONED** that **Mineral Resources** as understood under NI-43-101 and current mining disclosure requirements are not mineral reserves and do not have demonstrated economic viability. There is no guarantee that all or any part of a Mineral Resource will be converted into a mineral reserve. 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 drill holes. Metal recoveries reported herein represent historic preliminary mineral recovery testing results collated from the collective bench scale laboratory testwork and column tests completed by others to date and may not reflect actual process recoverability that might be achieved in a mineral production operation, all of which is the subject of future studies.*

Comparative figures are also shown in Table 1 for grades and tonnages as reported in historic Mineral Resource Studies for the Buckton South Zone which have been included into figures for the Buckton South Mineralized Zone for purposes of their collective reporting, and similarly for Mineral Resources within the historic Buckton Deposit for which Indicated Resources have been downgraded to the Inferred class to enable their reporting as aggregated estimates. The figures in the Table offer a simple test of "reasonableness" which serves to support estimates presented for the Mineralized Zones all of which are consistent with those from what are otherwise considered classified as Mineral Resources.

The trend of decreasing tonnages southward shown in Table 1 is partly "real" and is a function of the diminishing thickness of the Speckled Shale southward and the consequential diminishing of commensurate proportionate tonnages of overlying Labiche that can be captured into aggregate tonnages to satisfy base cut-off grades for the mixed pair (typically US$10-US$12 per tonne used for many of the Resource Studies from the Property). Considering that it is the Speckled Shale that carries the better base metals grades (lesser so for REE-Li-Sc), southward thinning of the Speckled Shale and hence diminishing Speckled shale tonnages serve only to carry proportionately lesser commensurate tonnages southward of the lower grading overlying Labiche tonnages, and whatever additional Labiche might exist above the joint tonnage would be treated as waste.

The above trend is also partly "an artifact" of the whittle shell block modeling during resource calculations which, though based on grades, are equally as susceptible to commodity prices to identify those mineralized blocks which meet base cut-off criteria and others which do not and are regarded as "waste". As a result, under any traditional resource calculation scheme the overall tonnage for any deposit, for any commodity, will fluctuate over time, especially considering that resource estimations necessarily rely on average metal prices looking backwards 2-3 years to predict what value a deposit might represent some 5-10 years into the future. The foregoing is especially complicated when evaluating deposits hosted in multiple host rocks which contain multiple metals which collectively represent ultimate value but which have differing, at times counter-cyclic, commodity price and market cycles. The foregoing can under certain circumstance serve to report different tonnages from Studies completed over different periods of time entirely as an artifact of counter-cyclic commodity prices.

Estimated annual metal output from the proposed Mineralized Zones and their proposed projected expansions are shown in Table 2 for a hypothetical 72MM tonne annual operation relying on recoveries per the 2014 historic Preliminary Economic Assessment Study for the historic Buckton Deposit which account for leaching and processing circuit losses. Recoveries shown for Mo-V-Th-Sc-Li, which were excluded from the PEA, are per historic Resources Studies relying on the underlying leaching testwork.

Estimated Annual Metal Production (t) - Proposed Mineralized Zones & Expansions - Hypothetical 72MM tpa Operation						
	Lower Buckton	Buckton South		Asphalt		Recovery % after Leaching and Processing Losses per 2014 PEA
	Updated & Expanded Proposed	New Proposed	New Proposed	New Proposed	Updated & Expanded Proposed	
Host Shale	LB-2WS	LB-2WS	LB-2WS-BF	LB-2WS	LB-2WS-BF	
Mineralized Zone Tonnage (t)	6,319MM - 6,813MM	2,799MM - 4,455MM	3,296MM - 4,952MM	2,820MM - 3,418MM	3,497MM - 4,239MM	
Area (sq km)	27.7	18.6-29.6	18.6-29.6	23.7	23.7	
Tonnes per sq km (MMt/km2)	208MM - 227MM	150MM	195MM	119MM - 144MM	148MM - 179MM	
Estimated Annual Metal/Oxide Production (tonnes)						
Mo	22-25	25-24	13-20	20-33	17-28	2%*
Ni	2,475-2,620	2,618-2,538	2,106-2,346	2,069-2,659	1,977-2,499	51%
U3O8	480-527	527-546	395-489	445-684	410-629	62%
V2O5	2,620-3,113	3,113-3,113	2,531-2,840	2,538-3,025	2,391-2,971	6%*
Zn	5,863-6,384	6,383-6,403	5,649-5,985	5,219-6,179	5,052-5,889	48%
Cu	666-782	782-801	673-743	653-920	627-878	23%
Co	623-630	624-623	569-596	508-608	504-590	57%
LREEO	3,631-3,739	3,630-3,796	3,679-3,760	3,094-3,763	3,196-3,878	27%
HREEO	810-832	833-891	816-854	727-901	723-956	46%
Y_2O_3	1,414-1,457	1,415-1,514	1,369-1,445	1,234-1,550	1,223-1,581	50%
ThO_2	167-222	222-162	163-164	132-138	139-152	19%*
Sc_2O_3	114-116	115-163	167-164	133-131	139-137	10%*
Li2CO3	3,733-3,782	3,730-3,839	4,101-4,094	3,129-3,507	3,509-3,848	14%*

** Mo-V-Th-Sc-Li were excluded from PEA, Recovery % are per Resources Studies relying on leaching testwork*
*** MM=million; (t)=Metric Tonne; Light and Heavy REEs shown are: LREE=Ce,Pr,Nd,Sm; HREE=Tb,Dy,Ho,Er,Tm,Yb,Lu; Proposed Mineralized Zone for Lower Buckton includes all tonnages of any Mineral Resources thereupon deeming them to be Mineralization only; Mineralized Zone Proposed for Buckton South excludes Buckton South Maiden Resource; Buckton South Restated Mineralized Zone includes Maiden Resource after deeming it to be Mineralization only. Host Rocks Codes: LB=Labiche Shale, 2WS=Second White Speckled Shale, BF=Shaftesbury Shale (Belle Fourche)*

Table 2: Estimated annual metals production and related mineralized tonnages for the Lower Buckton, Buckton South and Asphalt Mineralized Zones for a hypothetical 72MM tpa production scenario, SBH Property. Host rocks: LB=Labiche Shale, 2WS=Second White Speckled Shale, BF=Shaftesbury Shale (Belle Fourche).

***The reader is CAUTIONED** as to **Mineralized Zones** and **Mineral Resources** summarized in the above table (Table 2), as per Cautionary statements outlined in the previous page.*

Estimated aggregated metals production over mine life are shown in Table 3, showing also the aggregated total for three Zones. Of particular note are aggregated estimates for the three Zones combined showing them to collectively represent some 12BB-16BB tonnes of mineralized material representing aggregate metallic budgets ranging 712,915 t-1,034,473 t for recoverable REEO, 19,607 t-30,647 t for Sc_2O_3, and 595,180 t-866,481 t for Li_2CO_3. The foregoing figures serve to underscore potential of the Mineralized Zones thus far discovered at the Property as a long term source of critical and other metals.

Metal Budget Over Mine Life (t)							
Metal Budget Over Mine Life (t)	**Lower Buckton**	**Buckton South**		**Asphalt**		**Three Mineralized Zones Combined**	
Host Shale	LB-2WS	LB-2WS	LB-2WS-BF	LB-2WS	LB-2WS-BF	LB-2WS	LB-2WS-BF
Mineralized Zone Tonnage (MMt)	6,319-6,813	2,799-4,455	3,296-4,952	2,820-3,418	3,497-4,239	11,938 - 14,686	13,112 - 16,004
Area (sq km)	27.7	18.6-29.6	18.6-29.6	23.7	23.7	70 - 81	70 - 81
Tonnes per sq km (MMt/km2)	208MM	150MM	195MM	119MM	148MM		
Metals/Oxide Budget (t)							
Mo	1,931 - 2,366	933 - 1,547	595 - 1,376	783 - 1,567	826 - 1,649	3,647 - 5,480	3,352 - 5,391
Ni	217,216 - 247,918	98,665 - 161,989	96,408 - 161,353	81,036 - 126,229	96,022 - 147,129	396,917 - 536,136	409,646 - 556,400
U3O8	42,127 - 49,867	20,487 - 33,784	18,082 - 33,632	17,429 - 32,471	19,913 - 37,032	80,043 - 116,122	80,122 - 120,531
V2O5	230,819 - 294,568	121,018 - 19,2617	115,864 - 195,329	99,405 - 143,603	116,130 - 174,918	451,242 - 630,788	462,813 - 664,815
Zn	514,560 - 604,086	248,139 - 396,186	258,599 - 411,635	204,411 - 293,331	245,373 - 346,715	967,110 - 1,293,603	1,018,532 - 1,362,436
Cu	58,451 - 73,997	30,400 - 49,562	30,808 - 51,102	25,576 - 43,674	30,453 - 51,692	114,427 - 167,233	119,712 - 176,791
Co	54,677 - 59,614	24,219 - 38,610	26,048 - 40,992	19,897 - 28,863	24,479 - 34,736	98,793 - 127,087	105,204 - 135,342
LREEO	318,671 - 353,803	141,116 - 234,878	168,416 - 258,604	121,182 - 178,638	155,228 - 228,317	580,969 - 767,319	642,315 - 840,724
HREEO	71,089 - 78,728	32,383 - 55,131	37,355 - 58,736	28,474 - 42,772	35,116 - 56,285	131,946 - 176,631	143,560 - 193,749
Y_2O_3	124,098 - 137,869	55,008 - 93,679	62,670 - 99,384	48,332 - 73,582	59,400 - 93,081	227,438 - 305,130	246,168 - 330,334
ThO_2	14,657 - 21,007	6,298 - 13,736	7,462 - 11,280	5,170 - 6,551	6,751 - ,8949	26,125 - 41,294	28,870 - 41,236
Sc_2O_3	10,005 - 10,977	4,471 - 10,086	7,508 - 11,486	5,131 - 6,314	6,654 - 8,184	19,607 - 2,7377	24,167 - 30,647
Li2CO3	327,623 - 357,872	145,004 - 237,538	187,414 - 282,058	122,553 - 166,485	170,430 - 226,551	595,180 - 761,895	685,467 - 866,481
Mine Life Hypothetical 72MM tpa (yrs)	88 - 95	39 - 63	46 - 69	39 - 47	39 - 59		

Table 3: Estimated aggregate metals budget over mine life for the Lower Buckton, Buckton South and Asphalt Mineralized Zones, showing also aggregated totals for the three Zones combined, SBH Property. Mine life shown for a hypothetical 72MM tpa scenario. Host rocks: LB=Labiche Shale, 2WS=Second White Speckled Shale, BF=Shaftesbury Shale (Belle Fourche).

***The reader is CAUTIONED** as to **Mineralized Zones** and **Mineral Resources** summarized in the above table (Table 3), as per Cautionary statements previously outlined.*

In the above context, it is noteworthy to reiterate that the Mineralized black shale Zones at the Property were, upon their first discovery in the mid 1990's, regarded as tonnages of value based on their base metals grades alone, at a time when base metals commanded higher prices than they did subsequently as the projects advanced from one stage of exploration and resource estimation to the next. By the 2010's, base metals markets had lost considerable value but by then the REEs-Li-Sc had gained market prominence and as such represented a larger proportion of what was considered of value in the shales. Even then, an adjustment had to be made to historic Resource Studies to omit Sc given lack of clarity and transparency in its markets and its then very high value which would have unnaturally skewed Resource valuation. The foregoing is reflected in historic Resource Studies and in estimates for designating Mineralized Zones as follows:

- Tintina's initial identification of the Asphalt and Buckton Mineralized Zones in 1997-1998 focused on reporting only MoO_3, Ni, U_3O_8, V_2O_5, Zn, Cu, Co, Ag, Au;
- Review of Tintina's work by DNI in 2008 recognized the Asphalt and Buckton Mineralized based on the aggregate value of contained MoO_3, Ni, U_3O_8, V_2O_5, Zn, Cu, Co, Ag, Au;
- The 2011 historic Buckton Maiden Resource Study delineated a Mineral Resource reporting MoO3, Ni, U_3O_8, V_2O_5, Zn, Cu, CO, AG*, Au*;
- The 2013 historic Buckton South Maiden Resource Study focused on 24 metals to also include REEs: MoO_3, Ni, U_3O_8, V_2O_5, Zn, Cu, Co, 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, Li_2CO_3, with a mention of omitted Sc.

- The final historic Resource Study in 2013 providing the basis for the Preliminary Economic Assessment for the historic Buckton Deposit included 22 metals: MoO_3, Ni, U_3O_8, V_2O_5, Zn, Cu, Co, 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, but excluded Sc, Th and Li.

- The historic 2014 Preliminary Economic Assessment for the Buckton Deposit included: Ni, U_3O_8, Zn, Cu, Co, 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_2O3, Lu_2O_3, Y_2O_3, but excluded Sc, Th, Li, Mo and V.

- For purposes of presenting the proposed Mineralize Zones and their updates, this Report has relied on summaries of the following metals: Mo, Ni, U, V, Zn, Cu, Co, LREE (La, Ce, Pr, Nd, Sm), HREE (Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu), Y, Th, Sc, and Li.

A review of the timeline of all historic Resource Studies completed at the Property would serve to observe that prior studies have relied generally on a base cut-off of some US$10-US$12/tonne, estimating average gross values ranging US$16-US$30 per tonne (per US$:CDN$ x1.01-x1.1, excluding Li and also excluding an estimated US$39 per tonne of revenues which Sc would have additionally contributed considering that the foregoing would have skewed overall per tonne values for the shales).

In the above regard the 2014 Preliminary Economic Assessment of the historic Buckton Deposit (PEA) offers some, albeit somewhat outdated, context: the PEA contemplated a 64 year free-dig bulk mining operation with a 0.5:1 strip ratio, to excavate 4.5 billion tonnes at a mining rate of 72MMt annually which are processed by bio-heapleaching coupled with selective leaching and REE-Y separation, to produce Ni-Co-Zn-Cu as Sulfides, U_3O_8 as yellowcake and separated REE-Y. It estimated a US$16/t gross value, 89% of which was contributed by the REEs two-third of which value contributed by contained HREE. The study estimated a 2-3 year ramp-up to production and a 10.5 year payback of the $3.7BB capital cost. The historic PEA projected an average annual production capacity for 1 million pounds of uranium yellowcake and 5,500 tonnes of rare earth oxides, of which over 40% consist of heavy Rare Earths. The historic Buckton Deposit PEA omitted Sc and Li which would currently represent considerable additional value.

A number of subsequent scoping reviews of the 2014 PEA post-dating it offer assessments through various easily achievable enhancements, for significant improvements in economics toward lower Capex and higher revenues, and a shorter pay-back to five years.

Relying on the overall economic analysis from the 2014 PEA for the historic Buckton Deposit it is clear that whereas the mineralized Zones were historically regarded as base metals targets during most of their development history and as such they were explored and developed 1995-2010 to maximize that potential, by the time the PEA was completed REE markets had sufficiently improved to constitute higher contained value and served to re-brand the mineralized shales better as REE focused opportunities, rather than base metals, especially for HREEs. Of note are much improved Li markets since preparation of the historic Buckton Deposit PEA in 2014, and similarly also for projected future markets for Sc, both of which were omitted entirely from the foregoing PEA, and both offer significant improvements for expanded revenues which will undoubtedly be captured into any future updates of the historic PEA's findings.

Considering all of the above, this Report has opted to decline calculation of per tonne values for the currently known and projected mineralized tonnages at the Property to update prior valuations per current commodity prices. It is clear from prior work and many iterations thereof, that the mineralization discovered to date represents quantifiable value, but as it stands its true value may better lie in its ability to supply a steady stream of critical and other metals over a very long period extending over decades, from operations that can be placed into production with a shorter ramp-up than most mining operations, and operations which hold good potential to contribute significant revenues.

Considerable significance has deservedly been placed in prior reporting from the Property on the historic 2014 positive Preliminary Economic Assessment for the historic Buckton Deposit. The reader is reminded that Preliminary Economic Assessment Studies for any venture are all too often regarded as definitive assessments of the viability of any venture by many companies, the media and regulators alike. From the

operator's perspective however, a PEA is nothing but an assessment which is preliminary in nature intended to identify and formulate engineering and related methodologies required for the successful implementation of any envisaged venture within economic constraints. As such, it is a necessary form of "triage" whose true value lies in identifying pitfalls while offering insight and guidance for all that needs enhancement, and to offer a reasonable professional judgment on whether the foregoing are achievable. As such, any PEA is better regarded to be a Preliminary Engineering and Economic Assessment (a PEEA) rather than one whose objective is an economic one alone.

With the above in mind, a clear statement can be made with confidence that the historic Buckton 2014PEA, together with several post-PEA Scoping assessments, offers good guidelines and a template for what might be achievable at the Property if the known Mineralized Zones are ultimately developed, for how that might be achieved, and for how large any realistic tonnages might have to be to support a 72MMt per year operation. The three Mineralized Zones identified to date all hold potential to yield multi billion tonne aggregations of similar size as the historic Buckton Deposit, although whether the 64 year mine life estimated for Buckton is a relevant objective is a matter worth reconsidering given the 10.5 year payback estimated by the historic PEA. (or shortened to 5-10 years per scoped enhancements) As an alternative, a 20-30 year mine-life may well suffice to satisfy any cash flow modeling to accommodate the estimated 10.5 year payback, implying that a 2BB-3BB tonne deposit might be a more realistic objective which suffices for the foregoing deliberations.

Establishing an optimum deposit size, no matter how approximate, is material to guide future drilling at the Property, especially from the perspective of selecting which of the three Zones is to receive the earliest attention. This could rely on the basic guideline that a 20-30 year production scenario from the best available grade to support a 72MMta operation may well be a minimum and sufficient objective.

A final significant observation which is material to future plans is the observation from the CanMet column leaching testwork, which are consistent with earlier leaching tests by ARC (AITF), noting that collective leaching of metals from the shales tested could be achieved nearly as efficiently by abiotic processes as they can with biotic ones (bioleaching). Despite somewhat lower grades reported by the abiotic processes, gestation times were considerably shorter (days vs weeks) implying that sacrificing some grade to benefit from enhanced (quicker) leaching cycle, coupled with lesser reagent requirements, is something which compels future investigation. The testwork also suggested that the metals occur mostly as charged ionic forms attached to clay surfaces rather than in sulfide minerals requiring aggressive decomposition, an observation consistent with those from prior other leaching testwork.

Given that annual mining excavated tonnages contemplated by the historic 2014PEA are constrained only by capacity of formulated leach pads and leaching duration rather than by constraints to excavating higher volumes, should abiotic processing be applicable to collective recovery of metals from the black shales as suggested, it will have a profound affect on economics of any future mining operation to extract metals from the shales by enabling expansion of mining throughput well beyond the 72MM tpa contemplated by the 2014 PEA by utilizing what might be idle leach pad capacity liberated through the faster leaching duration. The CanMet work noted abiotic metals recoveries to be within days rather than weeks, and offers a very rough yardstick to query whether expanded tonnages might also be similarly scaled upward given the significant liberation of leaching capacity. What might the econometrics of a 360MM tpa operation be would be a significant deliberation in the foregoing regard.

16. Concluding Summary and Objectives

Based on the collective of all historic information from extensive work over the Property condensed herein, relying on the results of all prior drilling all of which successfully confirmed suspected buried mineralization targeted, on the collective of all similarly successful surface sampling of projected extensions of mineralized Zones previously discovered, on the demonstrable collective recoverability of the metals by available technology and the application of existing mining excavation methods, a clear statement can be made with confidence that the mineralized shales discovered to date offer demonstrable opportunities as a source for long term reliable domestic supplies of Base Metals-REE-Li-Sc collectively considered to be critical minerals and strategic metals.

In addition to the above, the demonstrable collateral capacity of any envisaged mining operations for mitigation of Sulfur, CO_2 and H_2S from surrounding oil sands operations offers additional unique benefits rarely available to traditional mining operations. The foregoing are the facts as they stand supported by all prior exploration work over the Property, and no information exists from prior work which disputes or equivocates the same.

The Company's objectives are to advance development of three Mineralized Zones discovered to date which occur as near surface stratabound metallic mineralizations at the Property hosted in three black shale formations which have been partly drill confirmed, namely: the 20m-40m thick Second White Speckled Shale Formation, the overlying 10m-110m thick Labiche Shale Formation, and the 100m-150m thick Shaftesbury Shale beneath it. The shales occur as flat "blankets" across the Property whose stratigraphic continuity is demonstrated by many 100's of oil/gas wells, and mineralized Zones and Mineral Resources identified therein are delimited not by diminishing grade or stratigraphic pinch-out but rather entirely by the extent of the respective drilling grids. The foregoing supports anticipations that any additional drilling adjacent to any Mineralized Zone or Mineral Resources delineated to date will serve to expand the same.

The above are typical metals enriched polymetallic black shales which are amenable to free-dig open pit bulk mining and, based on considerable prior bioleaching R&D work, are also amenable to metals recovery by bio-heap-leaching. Possibility for alternate metals recovery processing is also suggested by some column leaching testwork relying on abiotic methods.

Two of the shale Formations have formed the basis of all prior resource drilling and studies, as well as a historic Preliminary Economic Assessment Study (2014PEA) focusing on the 4.5BB t historic Buckton Deposit which is recognized by CNRcan as an advanced REE mineral resource. The foregoing PEA successfully demonstrated amenability of the resource to large scale open pit free-dig bulk mining also establishing econometrics and process engineering for metals recovery by bio-heap-leaching for a hypothetical 72MM tpa operation. Although only a small portion of this Deposit straddles into the Property, the historic PEA serves as an excellent template to guide future work over the Property and its planning.

The third known mineralized shale, the Shaftesbury Formation, though equally as well mineralized as Labiche, and with higher Li-Sc than it and the Speckled Shale, has been omitted from all prioir resource studies considering that its amenability to the same metals recovery processes was confirmed very late in the exploration history from the Property. Incorporation of volumes from the Shaftesbury can be expected to make a significant contribution to estimates of any new Mineral Resources, or updates of known historic Resources, especially over the Buckton South and Asphalt Zones where Shaftesbury is very near the surface.

17. NEXT STEPS

There has been no work on the Property since 2014, and as such the historic 2014 Assessment Report from the Property together with all of its underlying Reports dating back to the 1990's, serve as the legacy of all geoscientific information, databases, digital and otherwise, of what is known from the Property to guide, and offer a solid foundation to, the next stage of work to come. The 2014 Assessment Report is available from the Company's website, from Alberta's assessment reports records and from SEDAR, as are all related underlying reports from historic work over the Property and surrounding areas.

Preparations are underway by the Company to launch work programs to build on what is known from the Property to continue advancement of the three Mineralized Zones previously discovered toward their Preliminary Economic Assessment within 2 years. This work currently includes the following:

- Review and consolidation of the legacy of all historic exploration information from the Property, to update prior interpretations thereof into a current day Technical Report for the Property to guide work to follow (*this in-house Study is in progress*);

- Updating of the 497MM tonne historic Buckton South Inferred Maiden Mineral Resource, with a view to include equally mineralized volumes from the underlying mineralized Shaftesbury Shale

Formation which were previously omitted from the historic Buckton South Maiden Resource Study (*this work to be launched late-January*);

- Launch of a new study to formulate a Maiden Inferred Resource over portions previously drilled over the Asphalt Mineralized Zone, incorporating also mineralized volumes from the underlying mineralized Shaftesbury Shale Formation which were previously typically omitted from historic Resource Studies from the Property. Preliminary scoping of the available historic drilling and related data suggest a realistic anticipation for outlining an estimated 700MM-900MM tonnes of Mineralization over portions previously drilled (*this work to be launched late-January*);

- Planning and scoping in preparation for launch of three drill programs to: (i) expand historic Mineral Resources over the Buckton South Zone, (ii) confirm and identify new Mineral Resources over the Lower Buckton Zone Mineralized Zone, including better delineation of the southerly extension of the historic Buckton Deposit within the Lower Buckton Zone Mineralized Zone, and (iii) expand new Mineral Resources within the Asphalt Mineralized Zone per recommendations of the Asphalt Resource Study presented above;

- Planning and scoping in preparation for launch of series of expanded metals recovery testwork to treat larger samples than those tested in the past, to also explore merits of abiotic leaching methods identified late in the exploration history of the Property which hold promise as alternatives to biotic processing flowsheets for the collective recovery of metals from the shales;

- Planning and scoping in preparation for launch of a series of tests to quantify and expand on historic R&D work related to previously identified CO_2 consumption and sequestration opportunities offered by the hydrometallurgical processing flowsheets previously identified for the collective recovery of metals from the shales and their subsequent separation;

- Planning of a scoping study to better quantify Sulfur consumption capacity of the envisaged leaching processes identified by prior work for collective recovery of metals from the shales with a view to investigating optimized enhancements toward higher Sulfur consumption. The foregoing work will also endeavor to assess and quantify environmental and any economic benefits related to mitigation of waste Sulfur in the region.

Appendix A

35km Cross sections across north half of the Property
Figures 33-37 extracted from Technical Report in progress

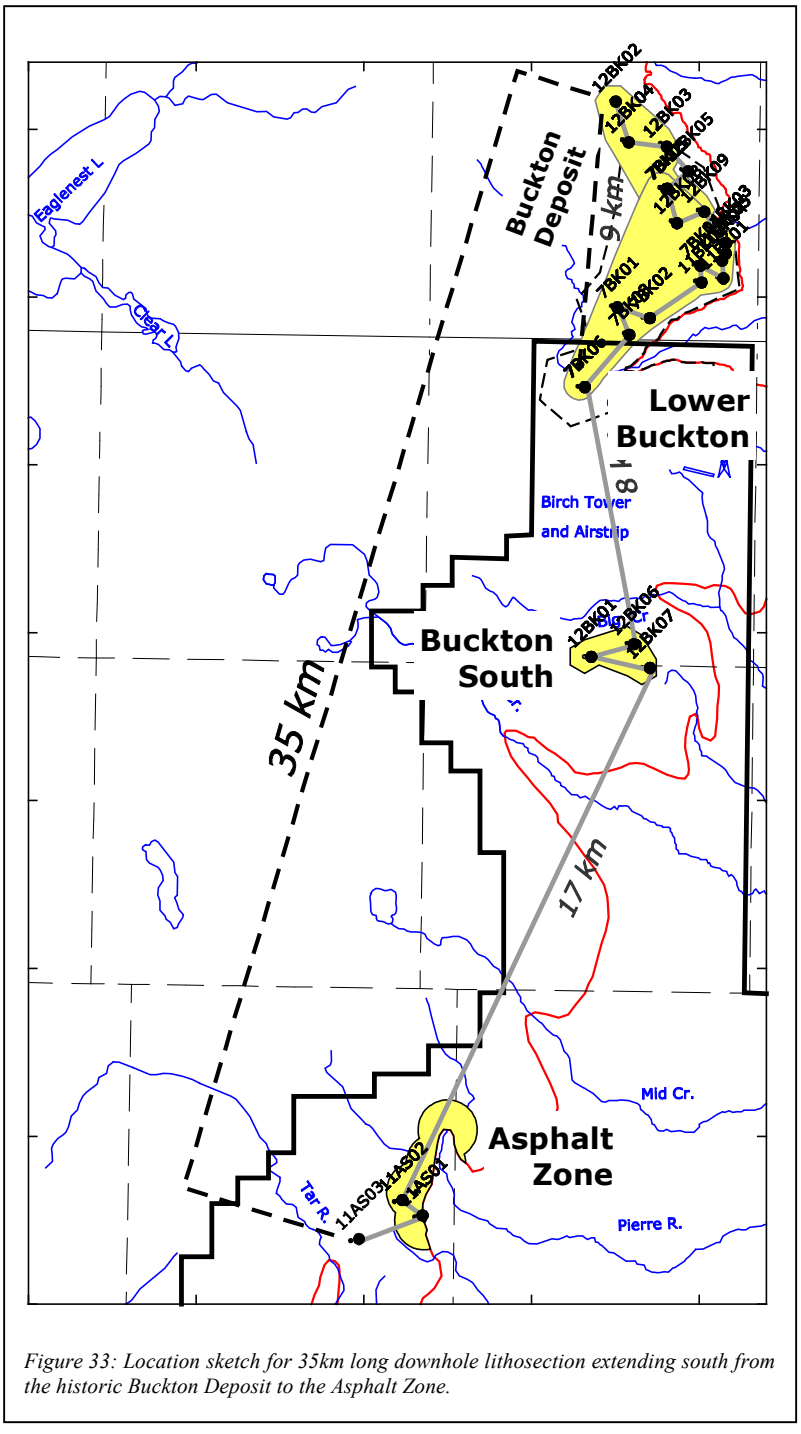


Figure 33: Location sketch for 35km long downhole lithosection extending south from the historic Buckton Deposit to the Asphalt Zone.

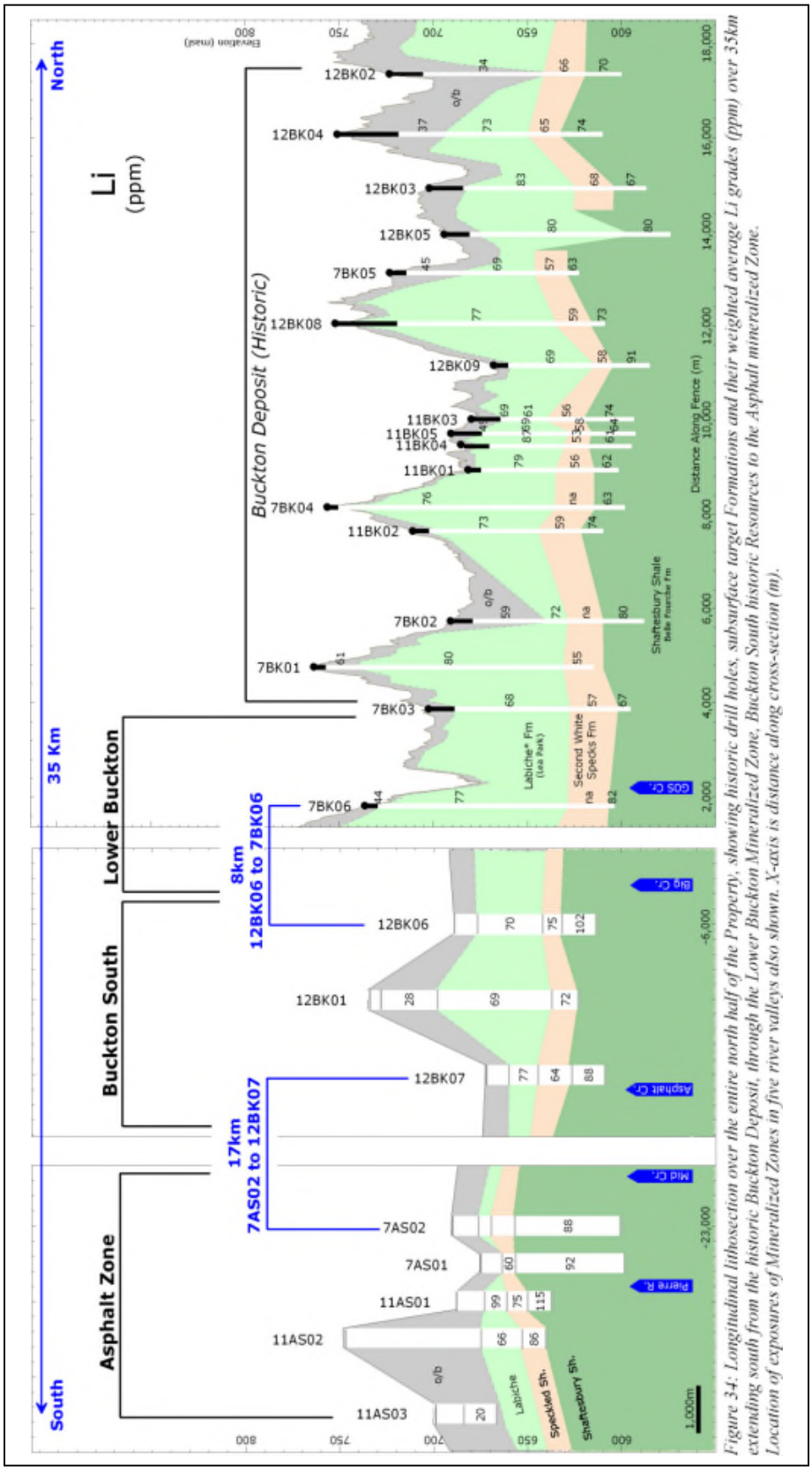
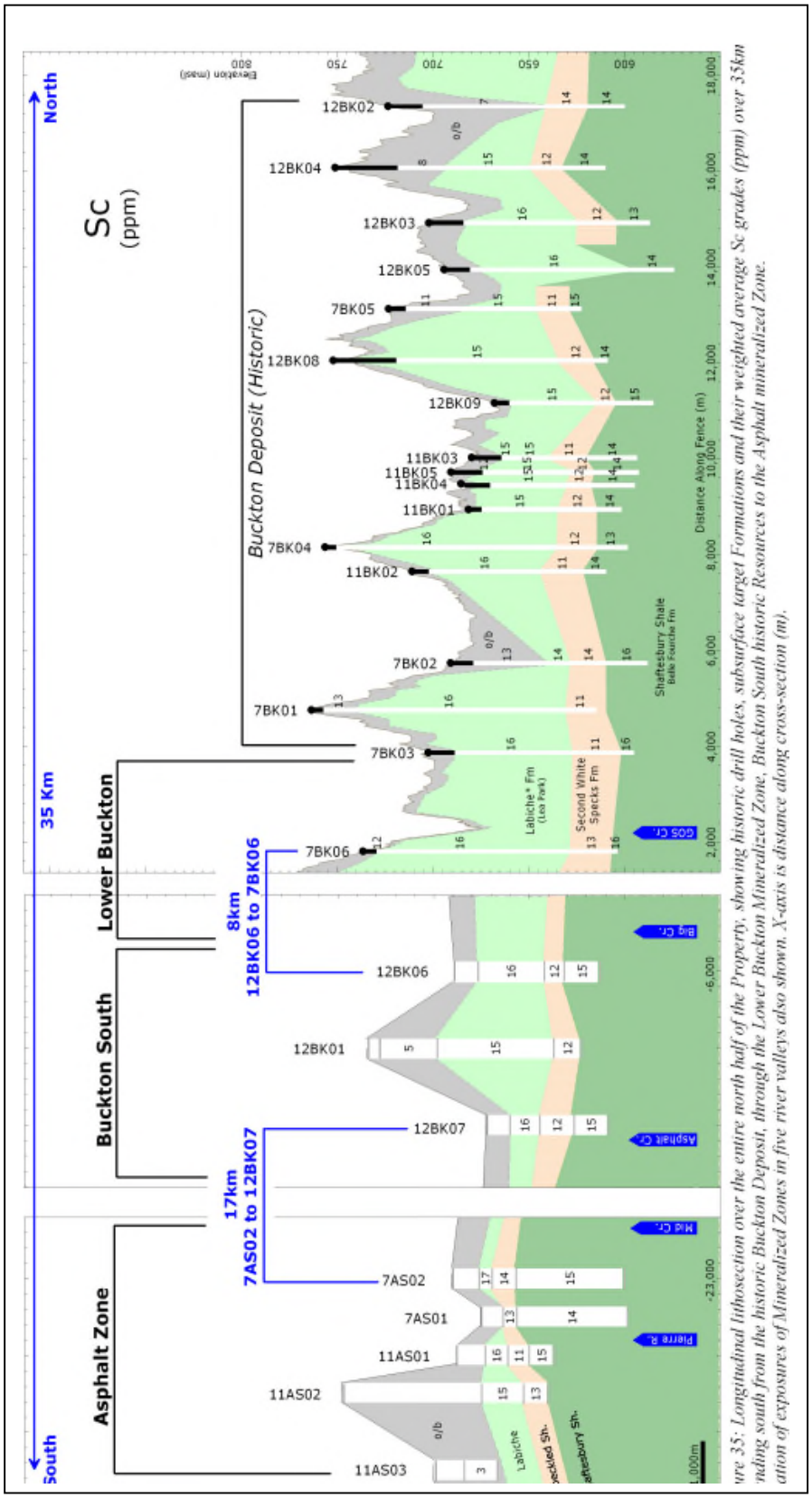
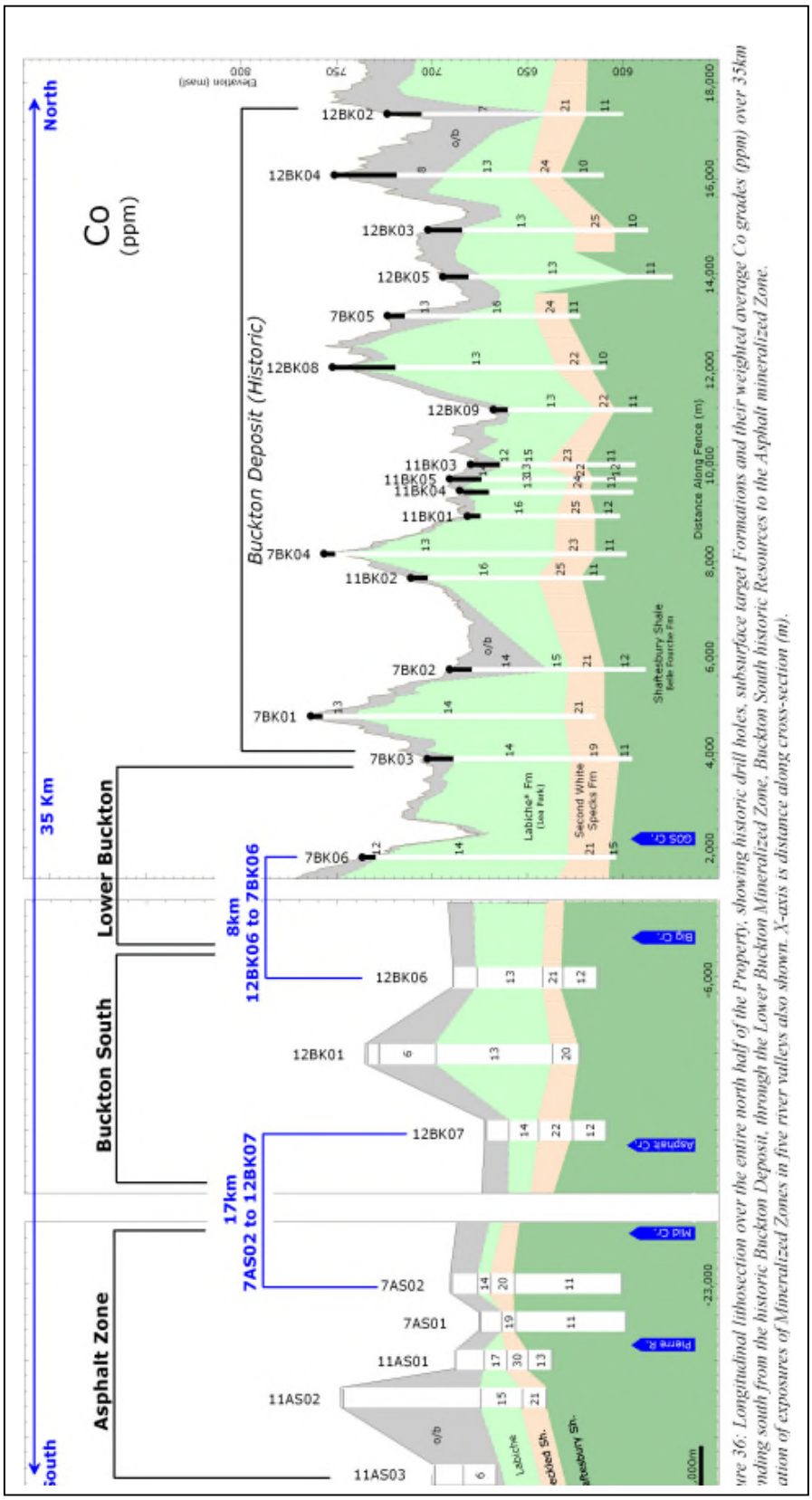


Figure 34: Longitudinal lithosection over the entire north half of the Property, showing historic drill holes, subsurface target Formations and their weighted average Li grades (ppm) over 35km extending south from the historic Buckton Deposit, through the Lower Buckton Mineralized Zone, Buckton South historic Resources to the Asphalt mineralized Zone. Location of exposures of Mineralized Zones in five river valleys also shown. X-axis is distance along cross-section (m).



ure 35: Longitudinal lithosection over the entire north half of the Property, showing historic drill holes, subsurface target Formations and their weighted average Sc grades (ppm) over 35km nding south from the historic Buckton Deposit, through the Lower Buckton Mineralized Zone, Buckton South historic Resources to the Asphalt mineralized Zone. ation of exposures of Mineralized Zones in five river valleys also shown. X-axis is distance along cross-section (m).



ure 36: Longitudinal lithosection over the entire north half of the Property, showing historic drill holes, subsurface target Formations and their weighted average Co grades (ppm) over 35km nding south from the historic Buckton Deposit, through the Lower Buckton Mineralized Zone, Buckton South historic Resources to the Asphalt mineralized Zone. ation of exposures of Mineralized Zones in five river valleys also shown. X-axis is distance along cross-section (m).

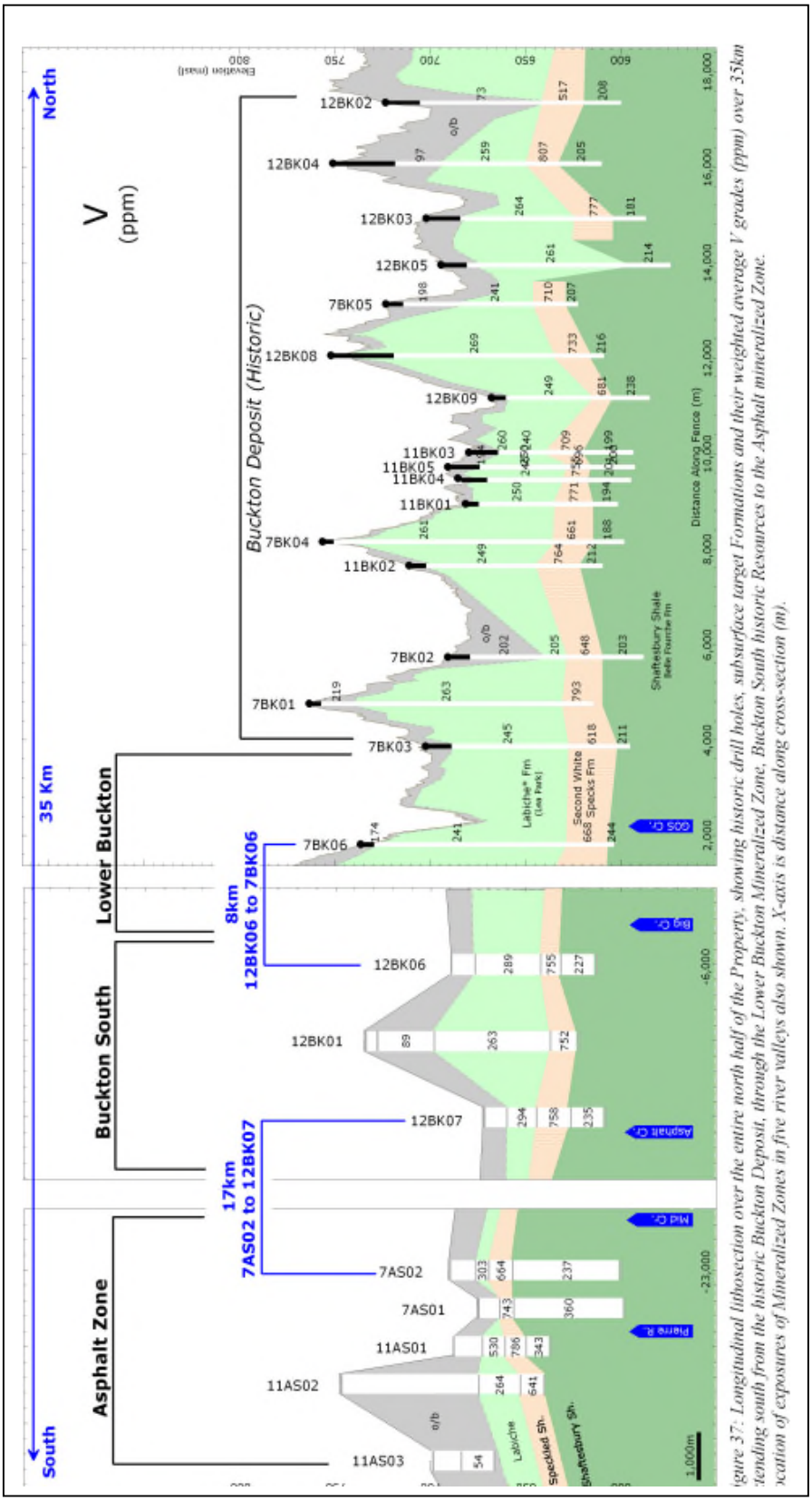


Figure 37: Longitudinal lithosection over the entire north half of the Property, showing historic drill holes, subsurface target Formations and their weighted average V grades (ppm) over 35km trending south from the historic Buckton Deposit, through the Lower Buckton Mineralized Zone, Buckton South historic Resources to the Asphalt mineralized Zone. Location of exposures of Mineralized Zones in five river valleys also shown. X-axis is distance along cross-section (m).

Appendix B

Downhole grades for Li, Sc, V and Lu over the historic Buckton South Inferred Resource
Figures 45-46 as extracted from Technical Report in progress

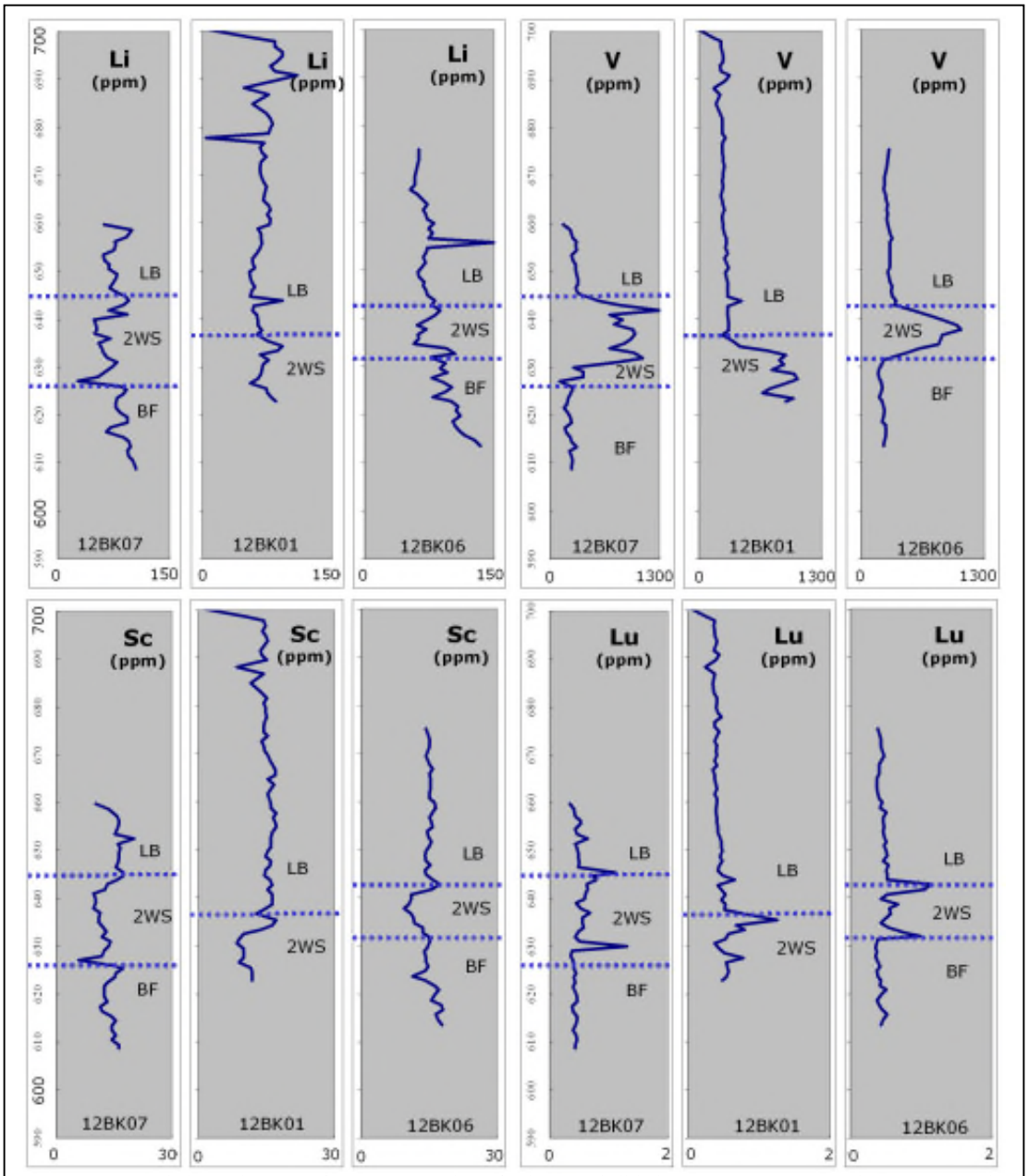


Figure 45: Downhole grades (ppm) for Li, Sc, V and Lu for historic drill holes 12BK01, 12BK06 and 12BK07 over the historic Buckton South Inferred Resource. LB=Labiche Shale, 2WS=Second White Speckled Shale, BF=Shaftesbury Shale (Belle Fourche Formation).

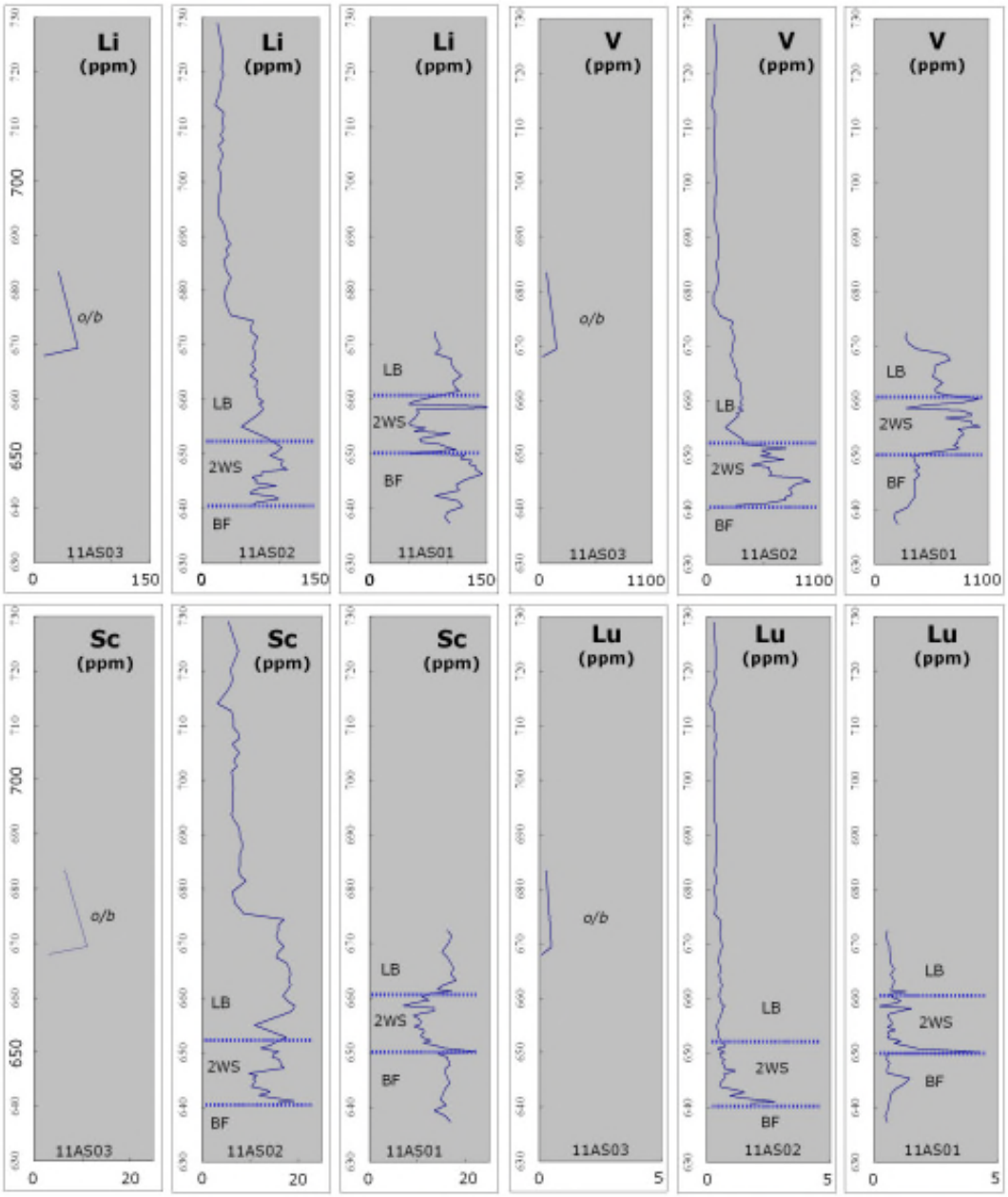


Figure 46: Downhole grades (ppm) for Li, Sc, V and Lu for historic drill holes 11AS01, 11AS02 and 11AS03 over the Asphalt Mineralized Zone. o/b=Overburden, LB=Labiche Shale, 2WS=Second White Speckled Shale, BF=Shaftesbury Shale (Belle Fourche Formation). Drill hole 11AS03 was lost in casing, downhole grades shown for comparative reference only. Drill Holes 7AS01 and 7AS02 not shown. Formational weighted averages for 7AS01-2WS: Li-60ppm, Sc-13ppm; 7AS01-BF: Li-92ppm, Sc-15ppm; 7AS02-BF: Li-88ppm, Sc-15ppm.

Appendix C

Select Isopachs from Subsurface Stratigraphic Modelling across the SBH Property
per third party oil/gas wells over the Property

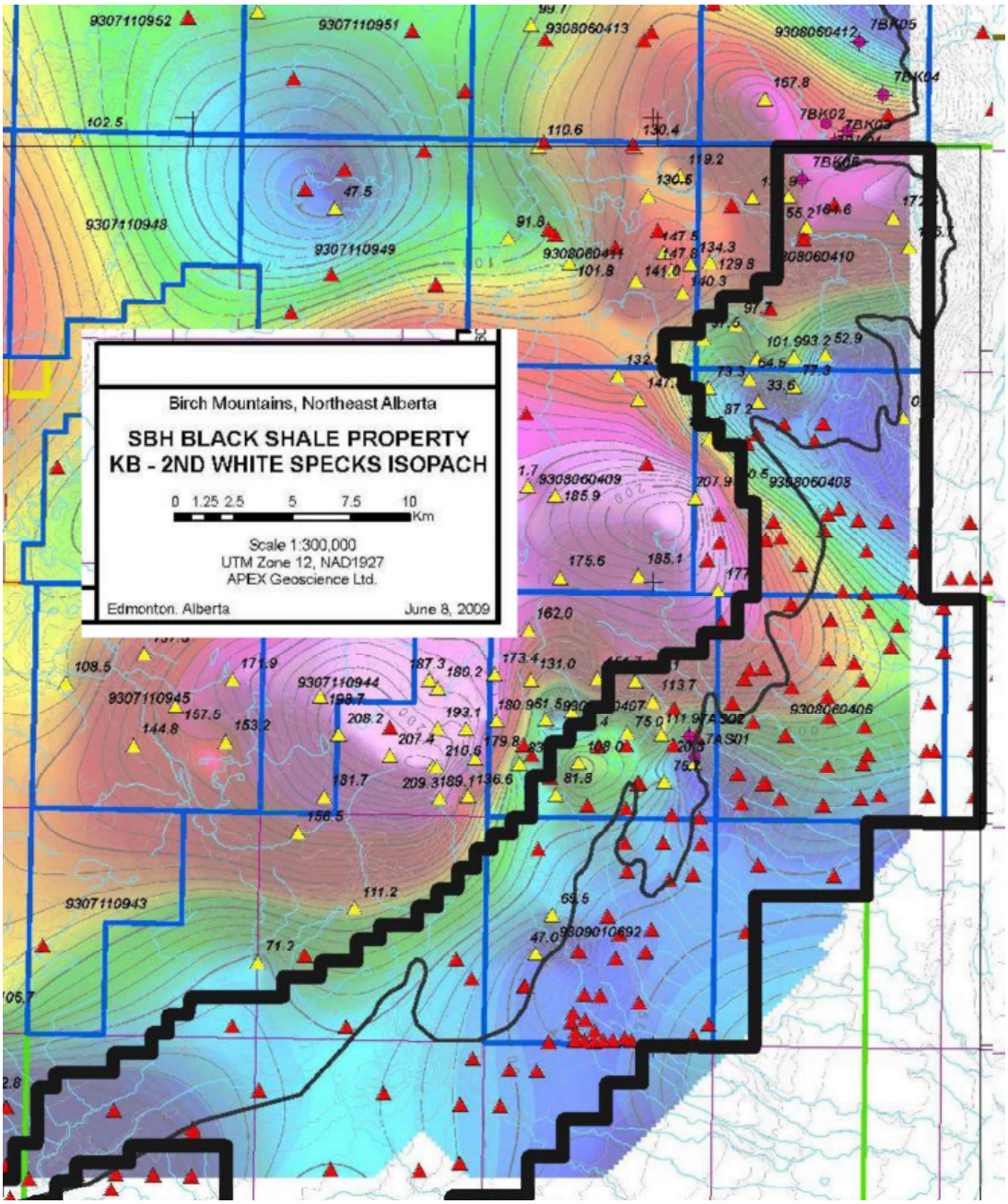


Figure A3-1: Isopach for Kb - Second White Speckled Shale at the SBH Property per subsurface stratigraphic data from oil/gas drilling

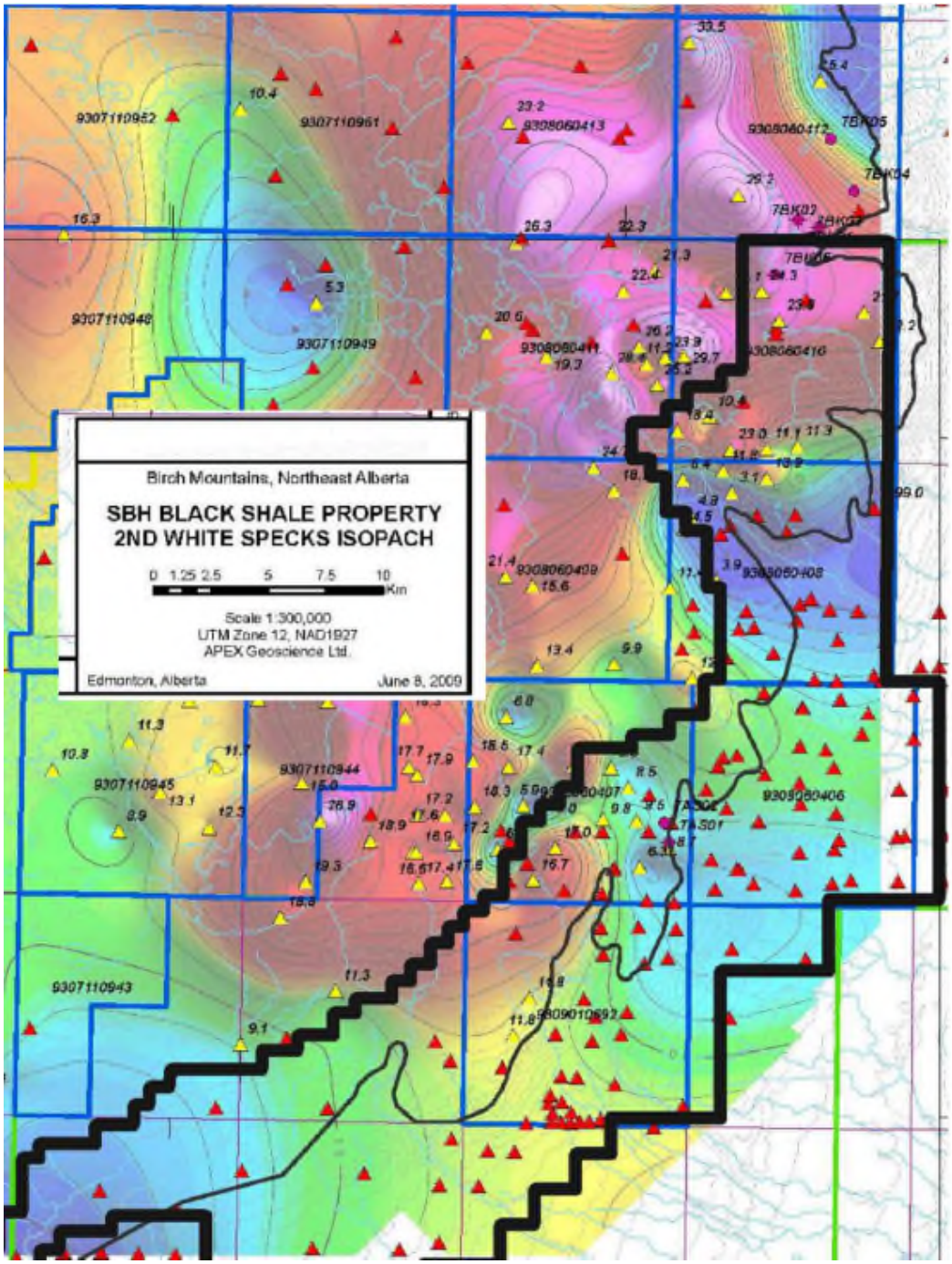


Figure A3-2: Isopach for the Second White Speckled Shale over the SBH Property per subsurface stratigraphic data from oil/gas drilling

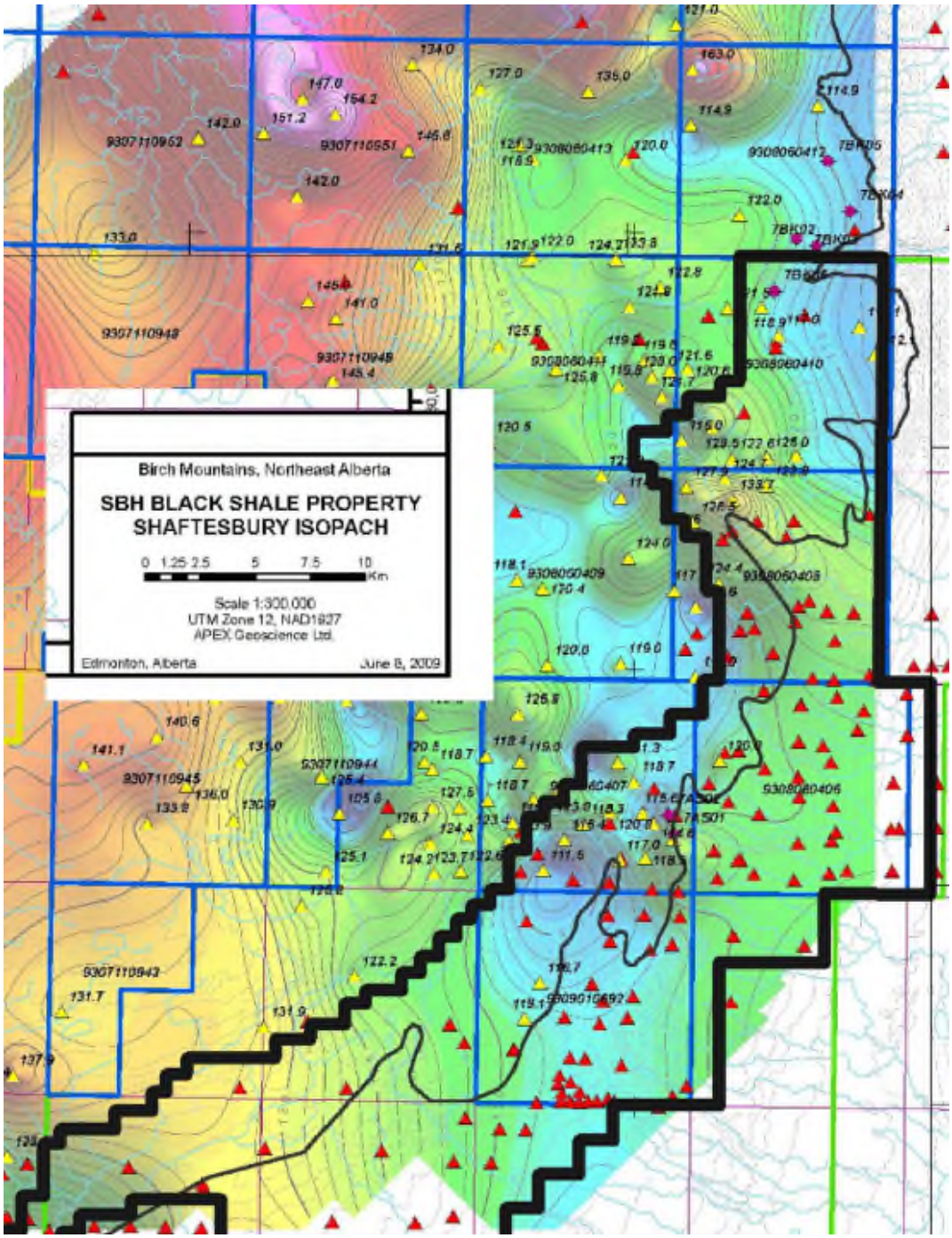


Figure A3-3: Isopach for the Shaftesbury Shale at the SBH Property per subsurface stratigraphic

APPENDIX-D

Summary of Procedures and Premises for Updates and Expansions of Mineralized Zones

For the purposes of this Appendix, the reader is CAUTIONED that the term "Mineralized Zone" as used herein, as better understood under current mining disclosure requirements and under NI-43-101 as an "Exploration Target", is best regarded to describe an aggregation of mineralization of encouraging or enticing grade, within a realistic volume of rock whose shape and geometry are reliably interpreted from available geological information, but whose ultimate size and economic merits have not been definitively demonstrated by systematic drilling, and as such, although partly drill tested and partly exposed, is nonetheless a proposed aggregation of mineralization which is conceptual in nature, as there has been insufficient drilling conducted over it to define a Mineral Resource, and as such it is uncertain whether further drilling will define a Mineral Resource over the Zone, and it is intended solely to demonstrate the potential of identifying mineralized material at such a Zone subject to confirmation by future in-fill grid drilling. The foregoing terminology is used in this Summary to maintain continuity with prior work over the Property, and to differentiate such Zones from other areas which have been identified over the Property based on reconnaissance level information and which have been selected as targets for future exploration whose geometry, shape potential extensions and possible grade has not yet been documented from field inspections, and as such are not as yet supported by the higher degree of confidence as that supporting Mineralized Zones described herein.

Lower Buckton Mineralized Zone Updated and Expanded

The historic greater Buckton polymetallic Mineralized Zone was discovered in 1995 and confirmed by 1997 drilling conducted to verify suspected metallic mineralization buried beneath a composite set of anomalies identified by extensive prior surface sampling over an approximate 50km^2 area. The Zone is at least some 8km-9km long and 2km-3km wide, and is "open" beyond portions drilled to the north, to the west and to the south, but is eroded away to the east as it sits on the erosional edge of the Birch Mountains. It is partly exposed also in valley walls of the adjacent GOS Creek, notably over the 2km long GOS-1 gossan which stretches along the north valley wall. The greater Buckton Zone is shown in Figure A4-1, together with the Lower Buckton and Buckton South Zones to its south.

At the time of its initial discovery, base metals were the only metals of interest, and were believed to be confined to only the Speckled Shale, although subsequent 2010-2012 drilling showed that metals enrichment also extends into the overlying Labiche Shale, and the Shaftesbury Formation Shale beneath it. It is noteworthy that the Shaftesbury Shale, although equally as well mineralized, lies too deep beneath the surface over the general Buckton area due to thicker Labiche at the top to offer realistic tonnages to be included into Resources and has as such been omitted from all historic Resource estimations.

The historic greater Buckton Mineralized Zone was reviewed and updated in 2008 to guide drill programs (Sabag 2008), and was envisaged to extend beneath composite set of geochemical anomalies identified by surface sampling over an approximate 3kmx8km area comprising approximately 26km^2, and representing an aggregate of approximately 1.1-1.2 billion tonnes of mineralized material hosted in only the 18m-26m thick Second White Speckled Shale (Sabag 2008, 2010). The foregoing estimates relied on an assumed 2.1 specific gravity, and tonnage estimates relied on volumetric estimates per drill intercepts which were supported also by lithosection exposures of the Zone in adjacent valley walls.

Most of historic greater Buckton Mineralized Zone was subsequently confirmed by systematic drilling to delineate a Mineral Resource, which advanced further through a Preliminary Economic Assessment Study in 2014 to designate a 21km^2 portion of it as the historic Buckton Deposit which extends beyond the northern boundaries of the Mineralized Zone (Sabag 2014), and metallic enrichment within it was shown to consist of base metals enrichment accompanied by REEs-Li-Sc hosted in the Second White Speckled Shale together with the Labiche Shale. overlying it. The two above Formations comprising the Zone together range upward to 100m+ thick, the bottom of which is occupied by the Second White Speckled Shale which is a substantially flatlying unit ranging 18m-26m in true thickness as intersected in the drilling. The foregoing thicknesses are consistent with thicknesses measured in exposures adjacent to the drilling along the north and south valley walls of Gos Cr., and also by thicknesses per the subsurface stratigraphic modeling of drilling record from 100's of oil/gas wells over the area.

The drilling also documented measured specific gravities that are higher (SG2.38) than those previously assumed (SG2.1) for estimation of projected tonnages within the Mineralized Zone. Estimated tonnages over the southernmost portions of the Mineralized Zone which were not systematically drilled were not updated to restate them per revised specific gravities as measured, or to include commensurate tonnages of mineralized Labiche overlying the Speckled Shale, or to expand projected mineralized volumes to capture estimates for projected tonnages from what are obvious extensions of the historic Deposit.

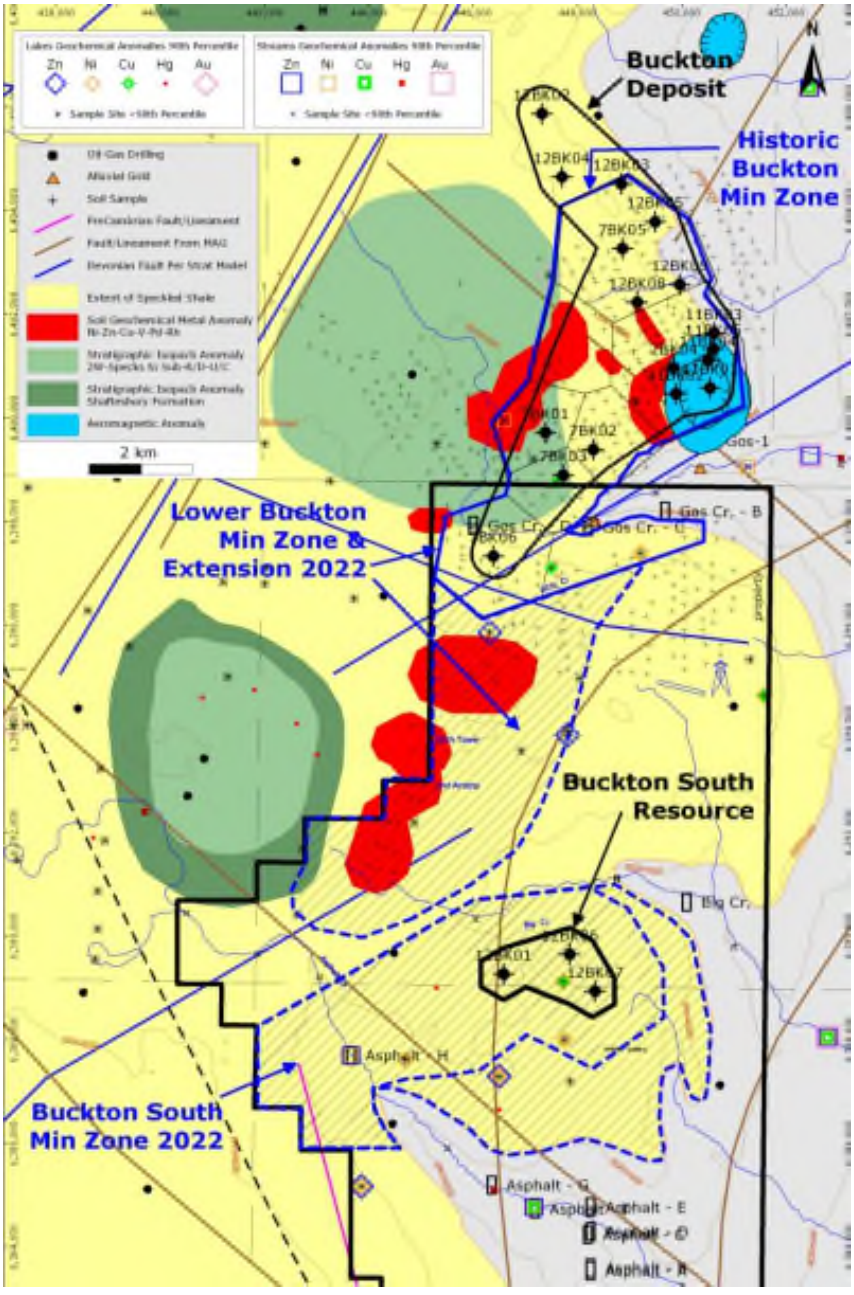


Figure A4-1: Summary of the Buckton South Proposed Mineralized Zone and historic Resources and vicinity, showing related anomalies. The Lower Buckton Mineralized Zone and historic Buckton Deposit also shown.

The southernmost part of the historic 26km^2 greater Buckton Mineralized Zone currently represents an estimated 7.7km^2 area located over the Property's north part and is included within the area currently referred to as the Lower Buckton Mineralized Zone which surrounds tonnages of the southern tip of the 21km^2 historic Buckton Deposit. The foregoing "orphan" tonnages extend over an estimated 2.2km^2 into the Property, and comprise an estimated 10.7% of the historic Deposit representing an estimated 504MM tonnes of the 4.7BB tonne Mineral Resource estimated for the historic Deposit. These tonnages are hosted within the Speckled and Labiche Shales combined (Sabag 2014).

As it stands, considering that only a single drill hole from historic drilling (7BK06) is located on the Property at Lower Buckton and that the nearest next drill hole, though only 1km away to its north, is located some 200m to the north of the Property's north boundary, the "orphan" tonnages from the historic Buckton Deposit which lie on the

Property cannot strictly be regarded as Mineral Resources and are herein downgraded and regarded to be Mineralized Zone tonnages.

Expansion of parts of the Buckton Mineralized Zone which are located on the Property beyond areas previously proposed is supported by all information available from the historic work, while also requiring an update of previous estimates for projected tonnages for the Zone to restate estimates per measured specific gravity, and to also incorporate tonnages from Labiche Shale which were omitted from prior estimates. More specifically: (i) all drilling completed over areas with conspicuous surface geochemical anomalies overlying coincident subsurface stratigraphic anomalies over the greater Buckton Zone served to confirm and validate suspected buried continuous mineralized volume of acceptable uniform grade as proposed, and none of said drilling reported barren rock, and (ii) estimated tonnages initially proposed to exist over the southernmost portions of the Buckton Mineralized Zone excluded known mineralized tonnages of Labiche Shale overlying the Speckled Shale, and (iii) that this Mineralized Zone reflects what are obvious extensions of the historic Deposit, and (iv) the boundaries of Resources delineated over the Zone are defined not by diminishing grade or stratigraphic pinch-out but are rather only reflect how far they were drilled.

The current review of all above historic information affords an update of the historic greater Buckton Mineralized Zone, previously estimated to extend over 7.7km^2 over the north part of the Property, and updates the Zone proposing that: (i) the Zone represents an estimated 1,757MM-1,894MM tonnes of mineralized material hosted within the Speckled Shale together with the overlying Labiche Shale, and (ii) that the foregoing can realistically be expanded to extend for an additional 20km^2 southward over areas not previously drilled but partly exposed over valley walls to designate the aggregate as the Lower Buckton Mineralized Zone, and (iii) that the foregoing Lower Buckton Mineralized Zone extends over 27.7km^2 over the north part of the Property with potential to host an estimated 6,319MM-6,813MM tonnes of mineralization within the two shales combined. The foregoing estimates are consistent with tonnages and related volumes as outlined in the historic Mineral Resource Study for the Buckton Deposit (Sabag 2014), and estimated tonnages include all tonnages from the historic Buckton Deposit which currently lie "orphaned" over the north part of the Property. A summary of estimates for the Updated and Expanded Lower Buckton Mineralized Zone as proposed are summarized in Table A4-1.

Weighted averaged grades shown in Table A4-1 are stated as ranges between a lower and a higher estimate, the higher estimate reflecting grades per the Updated Expanded Buckton Resource Study 2013, (Sabag 2014) which provided the foundation for the historic Preliminary Economic Assessment of the historic Buckton Deposit, and a lower estimate representing grades per the historic Buckton South Maiden Resource Study. The foregoing is considered reasonable given that the proposed southerly extension substantially represents what can be considered to be a 7km long bridge between the Buckton and Buckton South Zones.

Buckton South Proposed New Mineralized Zone

The Buckton South Zone and vicinity represent an area some 7km-8km to the south of the historic Buckton Deposit. The two foregoing areas were historically considered to be a single zone of mineralization broadly named "Buckton" wherein Buckton South occupied the southern half and considered to be its possible southern extension. The 2013 historic resource study for the Buckton South Zone reported a 497MM tonne NI-43-101 compliant initial Maiden Inferred Resource relying on drill results from 2012 summer drilling over the Zone, supported also by other prior exploration information from the area notably metal enriched stream sediments in two drainages surrounding the Buckton South Zone, namely Asphalt Cr. and Big Cr.

The historic Buckton South Maiden Inferred resource extends over approximately 3.3km^2, and is hosted in two near-surface stacked black shale horizons, namely; the Second White Speckled Shale and the overlying Labiche Shale Formation. Both shale Formations are mineralized with recoverable Mo-Ni-U-V-Zn-Co-Cu-Li-REEs-Y-Th-Sc and are partly exposed on surface in valley wall lithosections over the Asphalt Cr, and Big Cr. valleys some 1km-2km away surrounding the historic Resources. Lithosection Asphalt-H, located some 2km to the west of the historic Resources, is particularly noteworthy as it represents one of

the most complete sections across the Speckled Shale in the Birch Mountains and has enabled collection of large samples for some of the historic leaching testwork.

Lower Buckton Mineralized Zone - Proposed Update & Expansion	
Host Rock HIstoric Mineralied Zone - Second White Speckled Shale	
Buckton Mineralized Zone 26 sq km as at 2008 - Speckled Sh Only (t)	1,101MM - 1,188M
Lower Buckton portion of Buckton Mineralized Zone 7.7 sq km as at 2008 (t)	325MM - 350MM
Resatated to SG as measured (t) 2.1 to 2.38 Speckled Sh Only	368MM - 397MM
Estimated Labiche to be added (t)	1,388MM - 1,497M
Revised Mineralized Zone (t)	1,757MM - 1,894M
Proposed Expansion by 20 sq km (t)	4,562MM - 4,919M
Updated & Expanded Lower Buckton Mineralized Zone 27.7 sq km (t)	6,319MM - 6,813M
Avg Tonnes per sq km (t/km2)	*208MM - 227MM*
Host Rock to Updated & Expanded Mineral Zone - Labiche + Second White Speckled Shale	
Estimated Grades (ppm)	
Mo	15-17
Ni	67-71
U	9-10
V	340-404
Zn	170-185
Cu	40-47
Co	15-15
LREE	159-163
HREE	21-22
Y	31-32
Th	11-14
Sc	10-10
Li	70-71

MM=million; (t)=Metric Tonne; Light and Heavy REEs shown are: LREE=Ce,Pr,Nd,Sm; HREE=Tb,Dy,Ho,Er,Tm,Yb,Lu; Grades shown are Lower-Higher range per Updated Expanded Buckton Resource Study 2013 and Buckton South Maiden Resource Study 2013; 27.7km2 Updated and Expand Mineralized Zone Tonnage includes 506MM t of resources from the Buckton Deposit which straddle the Property border and are are on the Property, and also includes the 1.757MM-1,894MM tonnes from the historic Buckton Mineralized Zone extending over 7.7 sq km straddling the Property boundary; SG for Labiche assumed to be same as Speckled Shale

Table A4-1: Lower Buckton Updated and Expanded Proposed Mineralized Zone.

See Cautionary Statement at the beginning of this Appendix

Tonnages of demonstrably equally as well mineralized sections of the Shaftesbury Shale which lies beneath the Speckled Shale were not incorporated into any prior resource estimates despite their higher Li-Sc grades, considering that collective recoverability of its metallic enrichment was confirmed too late in the exploration history of the Property to enable updates of prior Resources studies.

The historic Buckton South Inferred Resource is distributed between an upper and a lower portion as follows: 369MM tonnes in the lower grade portion hosted in the 16m-62m thick Labiche Formation, and 128MM tonnes in the higher grade portion beneath it hosted in the 11m-18m thick Second White Speckled Shale Formation which is somewhat thinner at Buckton South than its typically 24m-26m thickness further to the north over the Lower Buckton Zone, and the 18m-20m typically over the historic Buckton Deposit.

Relying on confidence from the historic Buckton South Resource, the multitude of excellent exposures of mineralized sections in surrounding valley-walls (especially the Asphalt-H exposure, and others), the proximity of the Buckton South Zone to extensions of the Lower Buckton Zone to its north (by analogy the historic Buckton Deposit), and overlapping portions of its surrounding areas over subsurface stratigraphic anomalies with surface geochemical expression, the recent review of historic work from the area proposes that a Mineralized Zone be designated to exist surrounding the historic Buckton South Resource representing its extension. It is also proposed that this Mineralized Zone extends westerly to the

coincident anomalies over the western Property boundary, and to its south and north as exposed in valley walls of the Asphalt Creek and Big Creek, respectively.

Two possible scenarios proposed are: (a) a lower tonnage envelope extending over 18.6km^2 which surrounds the historic Buckton South Resources within an approximate 1km envelope to it north, south and east, and extends approximately 4km to its west over the Asphalt-H lithosection in Asphalt Creek which is by far the most complete vertical exposure across the full thickness of the mineralized Second White Speckled Shale, and (b) a larger tonnage scenario extending over 29.6km^2 which similarly surrounds the Resources but to the erosional edge of the topography bounded by Asphalt Creek and Big Creek, relying on encouragement and verification of mineralization from extensive sampling of seven valley-wall lithosections Asphalt-A through Asphalt-G all of which are regarded as exposures of the historic Buckton South Mineral Resources.

Buckton South Mineralized Zone - Proposed		
Host Shale	Labiche-Speckled Sh	Labiche-Speckled-Shaftesbury Sh
Area of Proposed Mineralized Zone (km2)	18.6 - 29.6	18.6 - 29.6
Mineralized Zone Tonnage (t)	2,799MM - 4,455MM	3,296MM - 4,952MM
Avg Tonnes per sq km (t/km2)	*150MM*	*195MM*
Estimated Grades (ppm)		
Mo	17-17	9-14
Ni	71-69	57-64
U	10-10	8-9
V	404-404	328-368
Zn	185-185	163-173
Cu	47-48	41-45
Co	15-15	14-15
LREE	159-166	161-164
HREE	22-23	21-22
Y	31-33	30-32
Th	10-10	10-11
Sc	14-15	15-15
Li	70-72	76-76
MM=million; (t)=Metric Tonne; Light and Heavy REEs shown are: LREE=Ce,Pr,Nd,Sm; HREE=Tb,Dy,Ho,Er,Tm,Yb,Lu; Lower Grades per Buckton South Maiden Resource Study 2013, Higher grades per Buckton South drill holes; Proposed Mineralized Zone excludes tonnages of the Buckton South Maiden Mineral Resource; SG for Labiche assumed to be same as Speckled Shale 2.38; SG for Shaftesbury 2.73; Host Rocks Codes: LB=Labiche Shale, 2WS=Second White Speckled Shale, BF=Shaftesbury Shale (Belle Fourche)		

Tonnage Reconciliation Summary *Treating Buckton South Resource as a Mineralized Zone		
Host Shale	Labiche-Speckled Sh	Labiche-Speckled-Shaftesbury Sh
Buckton South Resource as MinZone	497MM	497MM
Mineralized Zone Tonnage (t)	2,799MM - 4,455MM	2,799MM - 4,455MM
Contribuition From Shaftesbry	-	972MM - 1,460MM
TTL Restated - Resource as MinZone (t)	3,296MM - 4,952MM	4,268MM - 6,412MM
Restated Proposed Mineralized Zone (km2)	21.9-32.9	21.9-32.9
Avg Tonnes per sq km (t/km2)	150MM	195MM
MM=million; (t)=Metric Tonne		

Table A4-2: Summary of the Buckton South Proposed Mineralized Zone.

See Cautionary Statement at the beginning of this Appendix

The Buckton South Mineralized Zone is accordingly proposed to extend over 18.6km^2-29.6km^2 with potential to host an estimated 3,296MM-4,952MM tonnes including the 497MM tonnes of the historic Buckton South Inferred Resource (Table A4-2) hosted in the Speckled Shale Formation and the Labiche Shale overlying it. Projected weighted average grades for Mo-Ni-U-V-LREE-HREE-Li-Sc-Th-Y, are stated as a range, relying on weighted averages from historic Buckton South drill hole intercepts for the higher range scenario, and those taken directly per the historic Resource Study for those that are stated as the lower figures.

Given that the Shaftesbury Formation is also equally as well mineralized (better Li-Sc) as the Speckled and Labiche Shales, and that historic drilling reported intercepts of it that are as thick or thicker (x1.8) than the Speckled Shale, a second set of estimates is also proposed in Table A4-2 to explore the effects of

including a thickness of Shaftesbury that is equivalent to that of the Speckled Shale into future resources given that is near enough to the surface to present realistic tonnages which might be captured into future resource estimations. Considering that the Speckled Shale is somewhat thinner at Buckton South than further to the north, identification of similarly mineralized tonnages from the underlying Shaftesbury Shale offers an obvious advantage to future resource estimates. Accordingly, incorporation of Shaftesbury Shale tonnages which were previously omitted from Resource estimates will materially expand historic Resources especially considering that the Shaftesbury has reported better grades for REE-Li-Sc than Speckled and Labiche Shales in many locations.

The above would expand proposed estimates by 972M-1,460MM tonnes by capturing an equal thickness of Shaftesbury as Speckled Shale into estimates, to restate the proposed Buckton South Mineralized Zone as a 4,268MM-6,412MM tonne Zone which merits systematic drilling to delineate additional Resources to expand the historic Resources identified thereupon.

Asphalt Mineralized Zone Updated and Expanded

The Asphalt Zone represents polymetallic enrichment in Mo-Ni-U-V-Zn-Cu-Co-Ag-Au-REE-Li-Sc hosted within the Second White Speckled Shale and overlying Labiche Shale Formations. Both are substantially flat strata, the Second White Speckled Shale being approximately 11m thick as intersected in the drilling whereas the overlying Labiche is thicker with thickness that is mitigated by surface erosional features. The Zone is located on the eastern flank of a 4km diameter subsurface stratigraphic isopach (doming) anomaly representing abnormal thickening in the stratigraphic pile above the sub-Cretaceous Unconformity (to base of the Speckled Shale) associated with faulting, and with aeromagnetic anomalies coincident with surface geochemical anomalies. The Asphalt Zone, surrounding anomalies are shown in Figure A4-2.

The vicinity of the Asphalt Zone is characterized by polymetallic stream sediment geochemical anomalies dominated by Zn-Ni-Cu, especially from Pierre River and Mid Creek, associated also with alluvial gold in heavy mineral concentrates from Pierre River accompanied by cinnabar and base metal sulfides. Historic sampling from Pierre River and immediate vicinity has reported highly anomalous geochemistry and mineralogy which are supported also by equally anomalous geochemical anomalies in soils over the area dominated by Zn-Cu±Ni±V accompanied by Te enrichment overlying a pair of conspicuously circular aeromagnetic "highs".

The drilling Asphalt Zone in 1997 served to confirm, as did also subsequent 2011 drilling, that surface soil anomalies and associated stream sediment geochemical anomalies reflect buried metallic mineralization as proposed, reinforcing the predictive significance of relying on geochemical anomalies in adjacent Pierre River and Mid Creek which collectively envelope a 3kmx10km composite anomalous target. The drilling intersected a condensed stratigraphic section of Second White Speckled Shale Formation with gross similarities, but subtle contrasts, to that intersected at the broader Buckton Zone some 30km to its north.

Relying on the historic drilling results, reinforced also by results from by surface geochemical data and the lateral continuity in geology and grades exhibited by the historic drilling, in addition to many similarities with grades from the South Buckton and Buckton Zones, and configuration of mineralized strata which were ultimately designated as a historic Deposit at Buckton, a Mineralized Zone was delineated over the Asphalt Zone for mineralization at the time regarded to be hosted within only the 7.2m-11.6m thick Second White Speckled Shale Formation. The historic Asphalt Mineralized Zone was envisaged to extend over 4.5km^2 and estimated to represent an aggregate of 99MM-120MM tonnes of mineralized Speckled Shale relying on an assumed specific gravity of 2.1, whose value represented mainly by base metals which were at the time the only focus of all exploration. Given lower base metals grade of the Labiche Shale compared to that of the Speckled Shale Formation, Labiche Shale was omitted from the foregoing tonnage estimates, as it was also similarly omitted from the early estimates for the Buckton Zone.

The recent review of the historic Asphalt Mineralized Zone proposes to update previously stated tonnages for the Zone to revised them per measured specific gravity figures and by capturing Labiche Shale into estimates relying on proportionate tonnages as reported by the historic Buckton South Maiden Resource

Study which reflects a x2.89 Labiche:Speckled Shale relative ratio. The foregoing calculation revises the above tonnages to a range of 535MM-649MM tonnes distributed over its historic 4.5km^2 area.

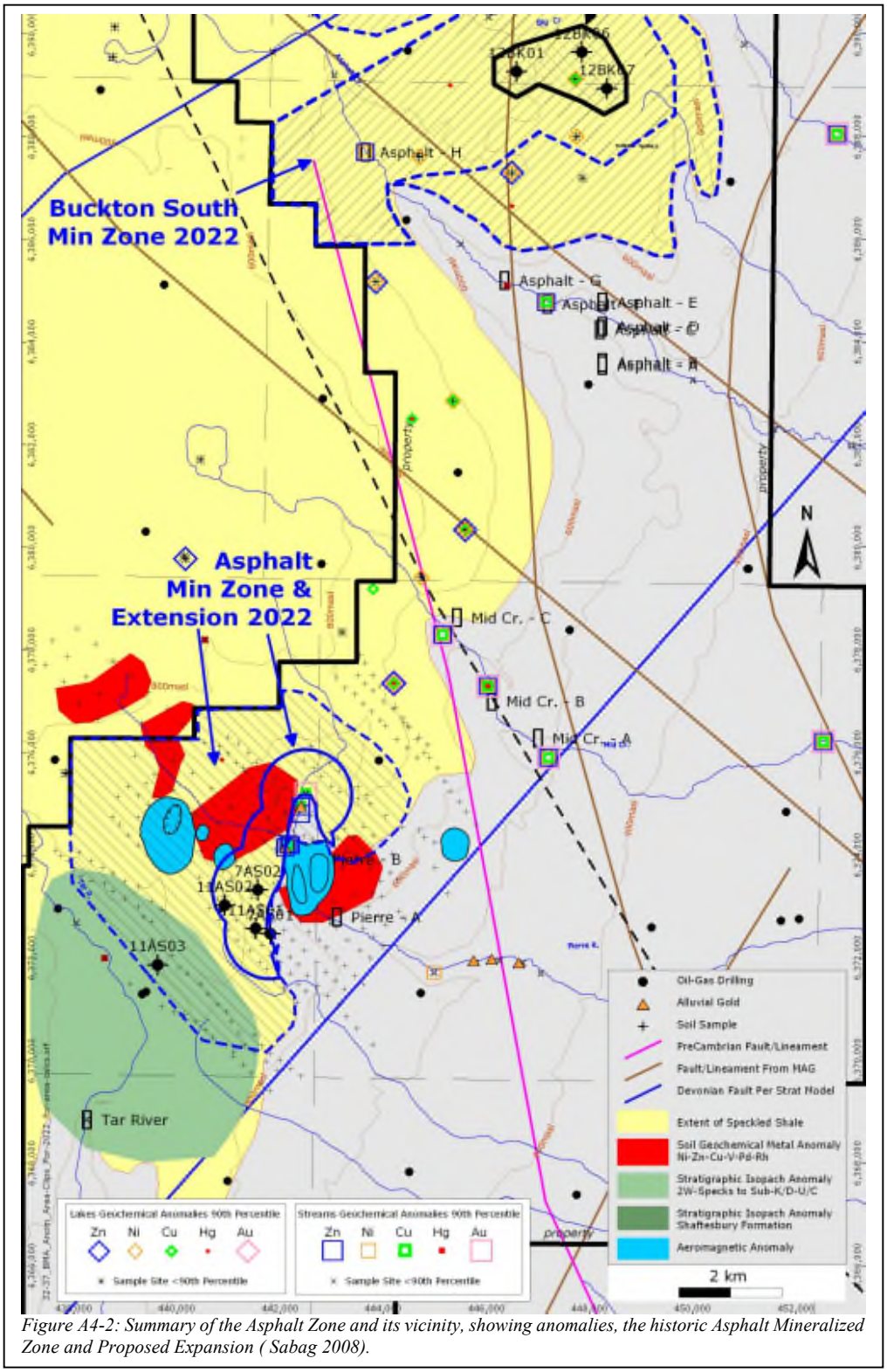


Figure A4-2: Summary of the Asphalt Zone and its vicinity, showing anomalies, the historic Asphalt Mineralized Zone and Proposed Expansion (Sabag 2008).

In addition, considering that the Shaftesbury Shale beneath the Second White Speckled Shale is also mineralized with similarly recoverable metals of similar grades as the two other units above it, and locally with better REE-Li-Sc grades, estimates for the 4.5km^2 historic Mineralized Zone are further updated to reflect incorporation of a thickness of Shaftesbury Shale equal to that of the Speckled Shale into overall tonnage estimates all of which are reported as a range between a low and high estimate relying also on its higher specific gravity of 2.38.

The historic Asphalt Mineralized Zone which extends over 4.5km^2 is accordingly so updated to represent an estimated 664MM-805MM tonnes of mineralization extending over 4.5km^2 hosted within a three shale package consisting of the Second White Speckled Shale Formation, an equal thickness of Shaftesbury Shale underlying it, and the overlying Labiche Shale.

Asphalt Mineralized Zone - Proposed Update & Expansion			
Host Shale	2WS	LB+2WS	LB+2WS+Bf
Asphalt Mineralized Zone 4.5 sq km as at 2008 (t)	99MM - 120MM	-	-
Restated to SG as measured from 2.1 to 2.38 (t)	112MM - 136MM	112MM - 136MM	-
Estimated Labiche to be added @2WSx2.89 (t)	-	324MM - 393MM	-
Revised Mineralized Zone 4.5 sq km (t)	-	535MM - 649MM	-
Estimated Shaftesbury IF Included over 4.5 sq km	-	-	129MM - 156MM
Revised Mineralized Zone 4.5 sq km incl Shaftesbury	-	-	664MM - 805MM
Expanded Revised Mineralized Zone 23.7 sq km (t)	-	2,820MM - 3,418MM	3,497MM - 4,239MM
Avg Tonnes per sq km (t/km2)	-	*119MM - 144MM*	*148MM - 179MM*
Estimated Grades (ppm)			
Mo	83	14-23	12-20
Ni	159	56-72	54-68
U	38	8-13	8-12
V	723	329-392	310-385
Zn	319	151-179	146-170
Cu	87	39-56	38-53
Co	24	12-15	12-14
LREE	317	135-165	140-170
HREE	48	19-24	19-25
Y	90	27-34	27-35
Th	12	8-9	9-10
Sc	12	12-12	13-12
Li	74	58-65	65-72

MM=million; (t)=Metric Tonne; Light and Heavy REEs shown are: LREE=Ce,Pr,Nd,Sm; HREE=Tb,Dy,Ho,Er,Tm,Yb,Lu; Higher grades shown per Asphalt drill holes, Lower grades per Buckton South drill holes; SG for Labiche assumed to be same as Speckled Shale SG 2.38; SG for Shaftesbury 2.73; Proposed Updated & Expanded Mineralized Zone includes the prior Zone estimates as at 2008; Host Rocks Codes: LB=Labiche Shale, 2WS=Second White Speckled Shale, BF=Shaftesbury Shale (Belle Fourche)

Tonnage Reconcilation Summary Proposed Asphalt Mineralized Zone Expansion			
Host Shale	2WS	LB+2WS	LB+2WS+Bf
Updated Mineralized Zone 4.5 sq km Tonnages (t)	112MM - 136MM	-	-
Proposed Expansion - 23.7 sq km Tonnages (t)	-	2,820MM - 3,418MM	3,498MM - 4,240MM

Table A4-3: Summary of the Updated and Expanded Proposed Asphalt Mineralized Zone.

See Cautionary Statement at the beginning of this Appendix

The historic Asphalt Mineralized Zone is open to the northwest over 5km-6km as reflected by soil geochemical diffusion anomalies identified by the historic work, and to the northeast for 6km toward Mid Creek and closure of its valley. Review of the historic Asphalt Mineralized Zone also proposes expansion of the historic Asphalt Mineralized Zone to the west and to the north over areas characterized by many surface geochemical anomalies in soils around aeromagnetic geophysical closed anomalies, and overlying a large stratigraphic thickening anomaly such as that at the historic Buckton Deposit, and also an expansion to the southeast and east supported by many exposure of the various shales in the headwaters of the Pierre River valley.

The above collectively support a proposal to expand the Zone from a 4.5km^2 area extent to restate it as the Asphalt Mineralized Zone which extends over an estimated 23.7km^2 and represents 2,820MM-3,418MM tonnes of mineralized material hosted in the Speckled Shale and the overlying Labiche Shale Formation (Table A4-3). A comparative alternate scenario is also presented in the Table for incorporating some Shaftesbury Shale of equal thickness as the Speckled Shale into tonnages, which

serves to re-state estimates as 3,497MM-4,239MM tonnes hosted in a three-shale package consisting of the Labiche, Speckled and Shaftesbury Shales.

Estimates of tonnages proposed and grades are shown Estimates for metals grades shown in Table A4-3. report the higher range as the weighted average of all drill holes over the Asphalt Zone, and the lower estimate similarly per the weighted average grades per all drilling at the historic Buckton South Resource located 17km to the north of the Asphalt Zone.

Appendix E

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