NI43-101 Technical Report on the

New Sunro Property

Vancouver Island, British Columbia

NTS 092C 08E

BCGS 092C 050

Latitude 48^0 26' 49" Longitude 124^0 01' 40"

UTM NAD83 Zone 10N 424000E 5366500N

For

New Sunro Copper Ltd.

55 Colorado Drive

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Summary

The New Sunro Property ("Property") is an advanced underground copper-silver-gold exploration property located on Southern Vancouver Island, British Columbia, Canada. The Property consists of 14 cell mineral claims covering 1,328 hectares held 100% by Mr. Bjorn Olsen beneficially for New Sunro Copper Ltd. ("New Sunro" or "the Company"). The geology underlying the Property consists of Paleocene to Eocene Metchosin basaltic volcanic rocks and high level gabbroic to dioritic intrusive rocks locally overlain by post-mineralization Eocene to Oligocene Carmanah sedimentary rocks. The Property hosts Eocene age metallic mineralization consisting of clustered, copper-gold-silver bearing, steeply dipping sulphide gash veins and lenticular masses, classified as Tholeiitic Intrusion Hosted Ni-Cu (BCGS Mineral Deposit Profile M02) assigned to the past producer BC MINFILE 092C073 – Sunro. Recently developed USGS Mineral Deposits Models have created a broad classification of magmatic sulfide-rich nickel-copper deposits including the sub-class: Basalt-related dike-sill hosted Ni-Cu Deposits, which includes the giant class mineral deposit Noril'sk-Talnakh, and also describes the form and mode of occurrence of the copper-silver-gold bearing zones on the Property.

Only two of up to twenty mineralized zones or anomalies located at the past producer Sunro MINFILE occurrence have been partially mined from underground workings developed via a 2.4 km. long 5100 Level adit driven from near the mouth of the Jordan River canyon to relatively shallow depths of up to 400 metres from surface, including a 200 metre vertical winze and a 1,200 TPD underground mill, all located on the New Sunro Property. From 1962 to 1978, 1,329,034 tonnes were mined and processed by the Cowichan Copper Company Ltd. ("Cowichan Copper"), yielding 13,754 t. copper, 2,263 kg. silver and 203 kg. gold, grading 1.03% copper, 1.70 g/t silver and 0.153 g/t gold. Historical and non-NI43-101 compliant mineral resource estimates, which do not account for extraction after date of the estimate, and cannot be relied upon or used for economic analyses, were last reported as:

- 1,030,465 tonnes @ 1.47% copper proven and 423,782 tonnes @ 1.33% copper probable (Northern Miner – December 27, 1973)

The area of previous underground mining by Cowichan Copper has been identified as a source of acid rock drainage and elevated copper levels in water at the mouth of the Jordan River downstream from the closed portal of the 5100 Level adit. New Sunro does not hold any environmental liability for the historic mine workings, nor for the area downstream from them. The Company has not undertaken any mechanized work to date on the Property, has not

completed and submitted a Notice of Work Application, and does not hold an exploration permit with the Southwest Region Mines Inspectors Office at the BC Ministry of Energy and Mines ("MEM"). To date, New Sunro has commenced both underground investigation and rehabilitation work, and underground and surface environmental and rock geochemical sampling and analyses through written authorization from MEM. New Sunro has also completed airborne magnetic and radiometric surveys and a satellite digital elevation survey over the entire Property. Juan de Fuca Trail Provincial Park and the over-lying no staking reserve are located approximately 500 metres southwest of the Property. BC Hydro owns and operates a 170 MW hydroelectric power generating facility immediately south of the Property at the mouth of the Jordan River, with a penstock crossing the Property. The area of the New Sunro Property is covered by actively or previously logged private land and crown land traversed by a network of logging roads joining paved Highway 14 south of the Property roughly midway between Sooke (25 km to the East) and Port Renfrew (35 km to the West).

The New Sunro Property is worthy of further exploration, building on past successful mining knowledge, current mineral deposit research, new exploration technology, and excellent local infrastructure. The potential exists on Property to establish economically viable mineral resources of copper, gold, silver, and possibly other metals that could be permitted, mined and processed. An initial $2.25 million program is designed to evaluate both known mineralized zones and new geophysical targets on the Property from surface and underground, while establishing environmental and socio-economic programs necessary for long term success.

Introduction

The Technical Report on the New Sunro Property ("Report") has been prepared for New Sunro Copper Ltd. by the author, at the request of Mr. Bjorn Olsen, President of New Sunro. The Report is to be used to provide technical guidance to the Company, to help market the Property, and to document assessment work for mineral tenure maintenance. Data used to complete the Report came from public sources, primarily BC government websites, airborne geophysics completed for the Company (see Appendix 1) and the author's own experience on the Property (see References). The author visited the Property in 2000 and in 2014.

In 2000, the author visited and sampled selected surface exposures of mineralization in the area of the Property (Houle, J., 2000 - BC Property File ID 15989, 15096). Four outcrop grab samples of sulphide mineralization exposed over thicknesses of 0.25 to 0.5 metres yielded values of 0.17 to 2.4% copper, 0.06 to 8.4 g/t silver and 0.02 to 1.3 g/t gold; and one float grab sample from the 5100 Level adit dump yielded >10% copper, 19.4 g/t silver and 0.70 g/t gold. Some samples also yielded elevated values of cobalt, nickel, palladium, vanadium and zinc.

In 2014, the author visited and sampled selected underground exposures of mineralization on the Property (Houle, J., 2014 – Sunro Physical Work Report). Five grab samples of sulphide mineralization exposed in the underground ribs yielded values of 3.6 to 16.2% copper, 7.3 to 20 g/t silver and 0.05 to 4.0 g/t gold; and two grab samples from broken muck in underground draw points yielded 1.9 to 6.3% copper, 3.4 to 8.4 g/t silver and 0.24 to 0.33 g/t gold. Some samples also yielded elevated values of bismuth, cobalt, nickel, vanadium and zinc.

Reliance on Other Experts

Technical information in this report was derived from government publications, published reports, and Company data. Original source data has been used where available. Reasonable care and diligence has been taken by the author to verify all historical information. The author has seen no reason to doubt the validity and accuracy of this source data and historical information, most of which was generated and signed by qualified, professional persons at the times the work was done, prior to the implementation of NI43-101. The author is not a Qualified Person in some of the more technical aspects of geophysics, environmental science, mine engineering and metallurgy, any of which may be of potential significance at the New Sunro Property. The author has relied in part on the expertise of professional persons who worked in these fields in the past on the Property. No reasons have been seen by the author to doubt the validity of the technical information documented by these persons.

Property Description and Location

The New Sunro Property is centred approximately 50 kilometres due west of the city of Victoria, B.C. on southern Vancouver Island at latitude 48^0 27’ N. and longitude 124^0 02’ W, as shown in Figure 1a. The Property covers approximately 1328 hectares, as shown in several of the accompanying figures, but best shown in Figures 2a and 3a. It is comprised of 14 cell mineral claims held 100% by Mr. Bjorn Olsen beneficially for New Sunro Copper Ltd. as shown in Table 1. The cell mineral claims are located on NTS map sheet 092C 08E or BCGS map sheet 092C050 in the Victoria Mining Division.

Table 1 – New Sunro Property Mineral Tenures as of July 21, 2015

Tenure #	Claim Name	Owner	Type	Sub Type	Issue Date	Good To Date	Status	Area (ha)
564267	SUNRO 1	260429 (100%)	Mineral	Claim	2007/aug/08	2019/jan/24	GOOD	21.4234
663263		260429 (100%)	Mineral	Claim	2009/nov/01	2019/jan/24	GOOD	107.1172
841971		260429 (100%)	Mineral	Claim	2010/dec/30	2018/mar/28	GOOD	128.5405
842946		260429 (100%)	Mineral	Claim	2011/jan/13	2018/mar/28	GOOD	21.4199
953676		260429 (100%)	Mineral	Claim	2012/mar/01	2018/mar/28	GOOD	42.8538
1016009		260429 (100%)	Mineral	Claim	2013/jan/16	2018/mar/28	GOOD	107.117
1016282		260429 (100%)	Mineral	Claim	2013/jan/24	2018/mar/28	GOOD	42.8538
1017854		260429 (100%)	Mineral	Claim	2013/mar/17	2018/mar/28	GOOD	214.2342
1021332	SUNRO EAST	260429 (100%)	Mineral	Claim	2013/aug/01	2018/mar/28	GOOD	214.2654
1021619		260429 (100%)	Mineral	Claim	2013/aug/12	2018/mar/28	GOOD	192.757
1021801		260429 (100%)	Mineral	Claim	2013/aug/21	2018/mar/28	GOOD	42.8365
1022022		260429 (100%)	Mineral	Claim	2013/sep/03	2018/mar/28	GOOD	42.8399
1022028		260429 (100%)	Mineral	Claim	2013/sep/03	2018/mar/28	GOOD	21.42
1022415	SUNRO SOUTH	260429 (100%)	Mineral	Claim	2013/sep/17	2018/mar/28	GOOD	128.5769
Totals	**14 Mineral Claims**							1328.2555

Surface rights in the area of the New Sunro Property consist primarily of crown land, with two surface crown grants (Renfrew District Lots 922 and 026) covering part of the eastern half of the Property held by Western Forest Products, a large forestry company. There is also a large investigative license for wind power on Renfrew District Lots 257, 260, 267, 293 and others on crown land covering parts of northern half of the Property held by Aeolis Wind Power Corporation. Another smaller investigative license for water power on Renfrew District Lot 54 also on crown land held by Bear River Contracting Ltd. straddles the western edge of the Property. BC Hydro also holds various rights of way for power generating infrastructure in the area of the Property. The areas of surface rights and licenses that in part overlap the mineral claims of the Property appear in Figure, 3B and are listed in Table 2. Also appearing as irregular polygons over the centre of the Property in Figures 3a and 3b are historic crown granted mineral claims, for which undersurface rights have reverted to the crown.

Table 2 – Surface Rights Tenures and Owners as of July 21, 2015

Tenure Type	Legal Description	SID No.	Owner/Leasee	Land District	Area
License	DL 54, Renfrew District	925750	Bear River Contracting	Renfrew	31.75
License	DL 257, Renfrew District	939210	Aeolis Wind Power	Renfrew	4078.47
License	DL 260, Renfrew District	939500	Aeolis Wind Power	Renfrew	included
License	DL 267, Renfrew District	940200	Aeolis Wind Power	Renfrew	included
License	DL 293, Renfrew District	942860	Aeolis Wind Power	Renfrew	included
Crown Grant	DL 922, Renfrew District	16024350	Western Forest Products	Renfrew	288.5
Crown Grant	DL 922, Renfrew District	16952360	Western Forest Products	Renfrew	4.8

Legal access to the mineral claims of the Property by the title holder and its agents is provided through the BC Mineral Tenure Act and by providing Section 19 Notices to the overlapping surface rights tenure holders at least eight days prior to access.

Maintenance of the mineral tenures of the Property by the title holder is also provided through the BC Mineral Tenure Act, by completing and filing statements of costs for assessment work completed on the contiguous mineral titles within the previous 12 month period but prior to the good to dates of those titles, and by submitted appropriate reports to support and document the assessment work. All mineral title selection, assessment work filing and assessment report submitting is done online through the BC Mineral Titles Online system.

No permits are required by the mineral title holder and its agents for non-mechanized exploration activities on the mineral tenures, such as geochemical, geophysical and geological surveys. Mechanized exploration activities including drilling, access trail construction or modification, and bulk sampling require the title holder or its agent to apply for and obtain a valid mineral exploration and reclamation permit issued by the BC Inspector of Mines in advance of undertaking those activities. Permits are acquired through the online Front Counter BC Natural Resource Application system, and typically require 90 days to process and issue. Reclamation securities are required to post by the applicant in advance of programs which may impact the environment. Permits are normally issued for 5 years, and require annual notices of exploration activity to be completed and submitted by the title holder or its agent to the Inspector of Mines in order to maintain the permit in good standing.

Similar to many other places in British Columbia, Canada and world-wide, the ability to perform work on an exploration property like New Sunro may be affected by other factors and risks. These can include opposition by local individuals, First Nations, and/or Non-Government Organizations; intervention by local, regional, provincial or federal governments; or weather, earthquakes, and other natural disasters.

Accessibility, Climate, Local Resources, Infrastructure and Physiography

The New Sunro Property is situated on Southern Vancouver Island along the southwest slope of Jordan Ridge where it is bisected by the Jordan River with elevations ranging from 75 metres in the south to 650 metres in the north. Topography consists of a rugged, southwest sloping plateau incised by steep sided canyons containing southwest draining creeks. Most of the Property is covered by second growth mixed forest including active and inactive logging areas. The climate is warm and dry in the summer and cool and very wet in the winter, with little or no snow accumulations but generally heavy rain and winds in the winter. This allows for a year round field season for most surface and any underground work. Forest fire hazard due to severely dry conditions typically in July or August, may cause field work to be suspended.

Access to the New Sunro Property from the provincial capital city Victoria is via paved Highway 14 west for 25 kilometres through the residential community of Sooke, continuing west for another 25 kilometres to the beginning of Forby East Main logging road, which provides access along the east side of the Jordan River to most of the historic mine workings on the east side of the Property. Five kilometres west along Highway 14, the beginning of Jordan River Main logging road provides access along the west side of the Jordan River, and the west side of the Property. The various logging roads covering the New Sunro Property are in differing states of repair, and are blocked by several locked gates where access is controlled by logging companies. Highway 14 proceeds west for a further 30 kilometres to the community of Port Renfrew, where lodging and basic supplies are available year-round. Victoria has a marine port, an international airport (in nearby Sidney), several large hospitals, and is both the provincial and regional government centre. Travel time from the Property to Victoria is 1 hour, to Sooke is 30 minutes and to Port Renfrew is 45 minutes. See Figure 1b and 2b for infrastructure details for the Property.

BC Hydro's 170 MW hydroelectric power generating facility immediately south of the Property at the mouth of the Jordan River is currently the largest power source on Vancouver Island, and should have sufficient capacity to supply a moderate sized mining and processing operation. There are also two active investigative permits for water and wind energy projects located in the area of the Property, shown in Figure 3b. The Jordan River has adequate water supply for a processing plant, and the Property has several possible sites for waste and tailings disposal.

History

The following history is summarized primarily from publicly available government sources including BC Ministry of Energy and Mines and Geological Survey Branch Annual Reports, BC Assessment Reports, BC MINFILE Reports, BC Property File Data, and Geological Survey of

Canada reports and data, listed in the Reference Section. Imperial units have been used to maintain consistency with source data prior to 1980, and metric units used thereafter.

From 1908 to 1912, C.H. Clapp completed geological mapping on Southern Vancouver Island for the Geological Survey of Canada, documented in Map 17A and Memoir 13. He identified and named the key geological units in the area of the Property, including the Metchosin Volcanics, Sooke Gabbro Group, and the Carmanah Formation, shown in Map 17A (Clapp, 1911). In Memoir 13 he described the character and distribution of the Sooke Type of copper mineralization developed on the East Sooke peninsula, located 15 miles east of the Property (Clapp, 1912). In 1913, H. C. Cooke, V. Dolmage and A. McLeod completed detailed geological mapping in the Sooke Area for the Geological Survey of Canada, including characterization of the copper mineralization, described in GSC Summary Report 1913 (Cooke, 1914).

In 1916, after studying Geological Survey of Canada maps and reports, G. Winkler staked and prospected a property on the Jordan River showing extensive chalcopyrite mineralization in shear zones, with plans to option and diamond drill his property (BC Annual Report 1916, and BC Property File ID 15071). In 1917, Mr. Winkler optioned his Sunloch Group of 28 claims to Sunloch Mines Limited. Six mineralized shear zones were exposed in four adits and extensive surface stripped outcrops, yielding assays of 1 to 3% copper, with minor gold and silver with widths of up to 20 metres (BC Annual Report 1917). In 1918, Sunloch Mines Ltd. continued development on the Sunloch and adjacent Vulcan Groups of mineral claims. Development and underground diamond drilling continued mainly from the east side of the Jordan River canyon on two zones, outlining 35,000 to 50,000 tons of possible ore between 2.5 and 4 percent copper in the River Zone and 80,000 to 120,000 tons of possible ore between 3.5 to 5 percent copper on the Cave Zone. On the west side of the river, open cuts on the Archibald Zone showed low grade ore (BC Annual Report 1918, and BC Property File ID 15076 and ID 15077).

In 1919, the Consolidated Mining, Smelting, and Power Company of Canada (predecessor company of Teck Resources Ltd.) purchased controlling interest of Sunloch Mines Limited, and thereby the Sunloch and Vulcan Groups. Development on the Sunloch Group was concentrated on the River Zone, where drifting establishing lateral continuity of mineralization for more than 700 feet to vertical depths up to 500 feet from surface, with values of 1 to 7 percent copper. On the west side of the river, a new adit driven to test the possible strike continuation of the River Zone intersected two zones 11 feet and 18 feet in width carrying up to 1.5 percent copper. Also in 1919, G. Winkler staked the Gabbro Group of mineral claims, adjacent to the

Sunloch and Vulcan Groups (BC Annual Report 1919). Also in 1919, the Geological Survey of Canada completed a comprehensive study of the geological setting and copper mineralization in the Sunloch Copper District, BC in GSC Summary Report 1919, Part B (Dolmage, 1920).

In 1920, the Sunloch Group was expanded to 30 claims totaling 1,300 acres, drilling traced the River Zone to vertical depths of 150 feet below the mine workings, and drifting continued west of the Jordan River to test the possible extension of the River Zone. All work on the Sunloch Group was suspended in October due to economic conditions. On the Gabbro Group, extensive open-cuts and stripping were completed on several zones, including the Archibald, Winkler and Turnbull Zone, plus two short adits: one on the Winkler Zone and one on the Yellow Jacket claim (BC Annual Report 1920, and BC Property File ID 15106). In 1921, continued work on the Gabbro Group discovered the pyrrhotite-bearing Stewart Zone, exposed in four open-cuts with widths of 12 to 30 feet and an assay of 2.3 percent copper and 0.58 percent nickel. Several other open cuts exposed nickel mineralization on the Winkler Zone and copper mineralization on various other zones including the Winkler and Turnbull Zones (BC Annual Report 1921, and BC Property File ID 15078, ID 15104 and ID 15110). Also in 1921, a geological map of the Jordan River area was published, showing topography, interpreted geology, projections of underground workings, surface infrastructure and mineral claims with names (Erich, E.E. and Blanchard, R., 1921, BC Property File ID 15088 – reproduced as Figure 4 with New Sunro Property perimeter superimposed).

In 1922, continued work on the Gabbro Group by Gabbro Copper Mines Limited (N.P.L.) established four deposits of copper-gold-silver mineralization occurring in nearly parallel north-westerly trending lines: the Stewart, Pat, Turnbull, and Caulfield Zones, in addition to the possible westward extension of the Cave Zone from the claims of the Sunloch Group. Samples taken from open cuts on the possible Cave Zone extension yielded 1.8 to 5.2 percent copper in exposures 9 to 10 feet in width. Two samples taken from twelve open cuts on the Stewart Zone yielded 0.5 to 2.7 percent copper and 0.05 to 0.3 percent nickel. A selected sample taken from a higher grade portion of an 20 foot wide exposure in an open-cut on the Turnbull Zone yielded 8.8 percent copper. A select sample from the Caulfield Zone yielded 2.8 percent copper in an open cut exposing the zone over a width of 12 feet (BC Annual Report 1922).

In 1923, Gabbro Copper Mines Limited continued work on their Gabbro Group, mainly on the Caulfield Zone with six open-cuts exposing copper sulphide mineralization over a length of 500 feet, and widths of 17 to 20 feet. Six samples from the open-cuts yielded 1 to 6.2 percent copper (BC Annual Report 1923). In 1924, work continued on the Gabbro Group of mineral claims (BC Annual Report 1924). In 1925, assessment work was completed on the northeast part of the Sunloch Group, and on the Gabbro Group (BC Annual Report 1925). In 1926, a detailed examination of the Gabbro Group was completed for Porcupine Goldfields D. & F. Co. Ltd., and 22 samples were taken from the Caulfield, Cave and Turnbull Zones (Starr, C.C. and Frith, O.D., BC Property File ID 15097, ID 15100, ID 15101 and ID 15112). In 1928, the Gabbro Group was optioned by Gabbro Copper Mines to the Pacific Tidewater Company, a subsidiary of the British Metal Corporation Canada (predecessor company of AMC PLC), for development. In 1929, A Radiore geophysical survey was completed on the Gabbro Group, and follow-up diamond drilling yielded only low grade mineralization (BC Annual Report 1929). No records of work are available for the period 1930 to 1948.

In 1949, Hedley Mascot Gold Mines Ltd. optioned both the 30 claims of the Sunloch Group and the 23 claims of the adjacent Gabbro Group from their respective owners, and also staked an additional ten claims and 1 claim fraction to the west of and adjoining the Gabbro Group. Diamond drilling completed in 1949 totaled 9,354 feet in 28 holes. Work completed to the end of 1949 had outlined eleven northwesterly trending copper-bearing shear zones known, from northeast to southwest, as River, Centre (Archibald), Gordon, Cave, Turnbull, Stewart, Robertson, Winkler, Tiger, Hornet and Caulfield. The zones are in two northwesterly trending belts of Metchosin Basalt each approximately 3,000 feet wide, variably replaced by hornblende and mineralized with chalcopyrite, pyrrhotite and pyrite, separated by a northwesterly trending body of gabbro about 2,000 feet wide (BC Annual Report 1949, and BC Property File ID 13618).

In 1950, Hedley Mascot Gold Mines Ltd. continued diamond drilling on the Sunloch and Gabbro Properties, completing an additional four holes including some over 1,000 feet in depth. Work completed to the end of 1950 included numerous open-cuts and strippings, about 3,800 feet of adits, and 14,000 feet of diamond drilling. Twelve mineralized zones were described in detail by government geologists, and mapped in three different geological settings: four in the Metchosin Basalt close to the northeastern contact of the centre band of the Sooke Gabbro (River, Centre (Archibald), Cave and Turnbull), five in the in the basalt close to the southwest contact of the gabbro (Winkler, Tiger, Yellow Cliff, Robertson and Caulfield), and three within the gabbro (Bend, Stewart and Hornet). The most promising results were obtained from the River, Cave, Centre, Bend, and Yellow Cliff Zones. Work completed to date had outlined about 600,000 tons of milling grade copper-gold mineralization in the River Zone, and possibly considerable tonnage of lower grade mineralization in the Centre and Cave Zones. Limited biogeochemical studies were completed by government geologists analyzing for copper and zinc in balsam and hemlock twigs (BC Annual Report 1950). In November, 1950, J.W. Young of Hedley Mascot Gold Mines Ltd. presented a technical paper "The Geology of the Sunloch Copper Mine, Vancouver Island" at the Annual Western Meeting of the Canadian Institute of Mining in Vancouver.

In 1951, a mineralographic study of the Sunloch Copper Ore was completed by R.B. Toombs as part of a 4th year Geology Course in the Department of Geology at the University of British Columbia. Conclusions are that magnetite and ilmenite pre-date sulphide minerals, which include pyrite, pyrrhotite and chalcopyrite formed sequentially. Pyrite contains minor amounts of arsenopyrite, pyrrhotite may contain nickel in solid solution, and chalcopyrite contains minor amounts of cubanite (BC Property File ID 59782). No other records of work are available for the period 1951 to 1954.

In 1955, Noranda Exploration Company, Ltd. completed surface exploration work on the Gabbro Group, including soil geochemistry, electromagnetic and magnetometer surveys, and 2,000 feet of diamond drilling (BC Annual Report 1955, Menzies, M.M., BC ARIS File 118). Also in 1955, a legal survey of the mineral claims on Jordan River, showing surveyed drill holes, was completed (Green, F.C. and Menzies, M.M., BC Property File ID 15084, 15105, ID 15107 and ID 15109).

In 1956, the Sunloch and Gabbro Groups were consolidated under the name of Sunro Mines Limited, who started constructing an access road to a new adit portal site 100 feet above the Jordan River and 1 mile from its mouth (BC Annual Report 1956). In 1957, the new 5100 Level Adit was driven 4,379 feet northeast towards the downward extensions of the mineralized shear zone, and new surface buildings were constructed (BC Annual Report 1957).

In 1958, the Sunro Mine 5100 Level Adit was driven an additional 3,456 to a total length of 7,805 feet, and penetrated the River Zone at about 7,500 feet, consisting of chalcopyrite with minor pyrrhotite and pyrite. A drift was driven northwest from the 5100 Level Adit along strike with the zone for 400 feet, an underground diamond drilling program was commenced, and the 5100 Level was structurally mapped (BC Annual Report 1958, BC Property File ID 15103). Also in 1958, Rio Canadian Exploration Ltd. optioned two group of claims from the Ancon Copper Property, consisting of the Conrad A-D and Bob A-B Groups of mineral claims located four miles northeast of Jordan River, and the Ann, Don Jo A-D Groups of mineral claims located four miles northwest of Jordan River, and completed geological, geochemical and geophysical work and trenching, which failed to yield encouraging results (Gatenby, L.B., 1958, BC ARIS Files 208A and 211A).

In 1959, the Sunro Mine 5100 Level was geologically mapped, started in a gabbro body containing a 35 feet thick quartz porphyry body with faulted contacts, then cut basalt, then another gabbro body, and then basalt again. The Cave Zone was cut at 6,900 feet and the River Zone at 7,400, with the Central Zone in between (BC Annual Report 1959, Property File ID 15103).

In 1960, Cowichan Copper Co. Ltd. obtained an operating lease from Sunro Mines Ltd. and The Consolidated Mining and Smelting Company of Canada, Ltd. to remove ore from the Cave, Central and River Zones, and began to reopen the underground workings (BC Annual Report 1960, BC Property File ID 13620, ID 15099). In 1961, Cowichan Copper Co. Ltd. completed substantial development and mine construction both on surface and underground at the Sunro Mine, including 840 feet of drifting and crosscutting , 925 feet of raising, and excavation and partial installation of the underground mill (BC Annual Report 1961).

In 1962, construction at the Sunro Mine was completed and production began in May at a milling rate of 600 tons per day increasing to 1,000 tons per day by the end of December. The major focus of development work and ore removal was the River Zone, with 2,485 feet of drifting, 2,774 feet of raising, 93 feet of shaft raising, 23,697 feet of diamond drilling in 157 holes, 192,667 tons of ore mined, and 144,009 tons of ore milled to produce 10.148 tons of copper concentrate. Copper concentrate was loaded into 5 ton containers in the mill, trammed in flat rail cars to the portal, and trucked to the loading-dock at Hatch Point, from where it was shipped to Japan. Mill tailings were pumped in a 6 inch plastic pipe-line to the portal, and then pumped 5,000 feet for disposal at tidewater. The River Zone strikes west of north, dips 75 degrees west, has widths up to 100 feet and a strike length of 1,100 feet, and follows three principal sets of fractures (BC Annual Report 1962, BC Property File ID 15080, and ID 15111).

In 1963, development at the Sunro Mine included sinking of the No.1 shaft to 486 feet below the 5100 Level, and raising of the shaft 50 feet above the level, 2,703 feet of raising, 3,394 feet of drifting, 13,954 feet of diamond drilling in 116 holes, and 79,134 feet of long-hole drilling. The River Zone was again the major focus of development and ore removal, with 340,142 tons of ore mined and 270,142 tons of ore milled to produce 15,782 tons of copper concentrate. In July, H. Hill and L. Starck & Associates Ltd. completed an economic report on the Sunro Mine for Cowichan Copper Co. Ltd., outlining proposed development and mining of the River A, B and C Zones based on proven and indicated ore reserves of 1,695,000 tonnes grading 1.57% copper after allowing for 5% dilution grading 0.1% copper (Hill, H. and Starck, L., 1963, BC Property File ID 72591). On December 5, caving of the crown pillar of River Zone B Stope near the 5,430 elevation caused water from the Jordan River to flow into and through the mine and mill, stopping production (BC Annual Report 1963). Cowichan Copper produced a set of cross sections through the River Zone of Sunro Mine, showing the relationship of stope blocks to the mineralized zones (BC Property File ID 13621 and ID 13622). Also in 1963, Macsan Explorations Limited completed detailed geological mapping on their EXT Group of mineral claims adjacent to and partly surrounding the Sunro Mine Property to the east, north and west. Macsan found widespread but marginal to sub-marginal pyrrhotite-magnetite-chalcopyrite mineralization in hornblende and pegmatitic alteration zones associated with extensive shearing and brecciation, generally at shear intersections (Malcolm, D.C., BC ARIS File 544).

In early January 1964, the Sunro Mine 5100 Level Adit caved at a fracture zone 1,700 feet from the portal and blocked the adit, causing the flood water from the Jordan River flowing into the collapsed River Zone B Stope to back up through the fracture zone about 330 feet to surface resulting in a major washout which damaged the access road to the portal and some of the surface infrastructure of the mine. Mine rehabilitation work continued throughout 1964 (BC Annual Report 1964). Cowichan Copper produced a longitudinal section of the River Zone of the Sunro Mine with and without ore reserves as of January 1964 totaling 1,054,412 tons grading 1.74 percent copper in all categories (BC Property File ID 12758, ID 13623). In October, H. Hill and L. Starck & Associates Ltd. completed an updated economic report on the Sunro Mine for Cowichan Copper Co. Ltd., describing the River, Cave, Centre and New Zones, with total broken, proven and indicated ore reserves of 1,555,674 tonnes grading 1.65% copper with no allowance for dilution (Hill, H. and Starck, L., 1964, BC Property File ID 72627). Also in 1964, Newconex Canadian Exploration Ltd. completed geological, geophysical and geochemical surveys on the large Ren Group of mineral claims held by Macsan Explorations Ltd., located northwest of the Sunro Mine Property. Several isolated and generally low grade copper occurrences containing pyrite-pyrrhotite-chalcopyrite were located, and further work was not recommended (Culbert, R.R., 1964, BC ARIS File 549).

The Sunro Mine 5100 Level was reopened in August 1965 by completing six separate by-passes totaling 1,100 feet to avoid caved areas, and the underground mill and surface infrastructure were refurbished. Underground development on the River Zone included 72 feet of drifting, 551 feet of raising, and 2,773 feet of diamond drilling. No mining was done but 2,968 tons of ore was milled to produce 96 tons of concentrate, which was not shipped (BC Annual Report 1965). In 1965, Macsan Explorations Limited produced a regional geological map of the Jordan River – Sooke Area (Macsan, 1965, BC Property File ID 15079).

In 1966, the Sunro Mine development and ore removal focused on the River Zone, including 1,587 feet of drifting and crosscutting, 1,592 feet of raising, 6,947 feet of underground diamond drilling (BC Annual Report 1966). In 1967, 5,187 feet of drifting, and 2,066 feet of raising were completed at the Sunro Mine (BC Annual Report 1967). In 1968, operatorship of the Sunro Mine changed from Cowichan Copper Co. Ltd. to Cerna Copper Mines Limited. Underground development consisted of 1,903 feet of drifting and crosscutting, 1,492 feet of raising and 377 feet of diamond drilling, and production from the Sunro Mine ceased and the mine closed on November 1, 1968 (BC Annual Report 1968).

In 1969, Dison Development Ltd. obtained an operating lease from Sunro Mines Ltd., and commenced plant maintenance and shaft dewatering (BC Geology Exploration and Mining 1969). In early April 1969, a sketch map with notes was produced based on the Sunro Mine 5130 Level plans showing proposed development on the 5200 Level required to access the River A, Cave, New, Hanna and other zones (author unknown, BC Property File ID 72621). Also in April 1969, diagrammatic sections showing proposed trackless mining system for the Cowichan Mine – Jordan River (formerly Sunro) Mine was completed for Cerna Copper Mines Ltd (Pringle, D.W. & Associates, April 1969, BC Property File 72623). Also in April 1969, Bacon & Crowhurst Ltd. completed an economic report and follow-up letter on the Cowichan Mine – Jordan River for Largo Mines Ltd. (N.P.L.), outlining proposed development and mining of the Cave A and B Zones based on drill indicated, probable and possible ore reserves of 1,365,900 tonnes grading 1.02% copper after allowing for 25% dilution grading 0.2% copper (Crowhurst, J.J., Phendler, R.W. and Delane, G.D., 1969, BC Property File ID 72619 and ID 72620). Page 29 of the report shows a sketch plan of up to 12 (Ore) Zones plus one Anomaly on the Cowichan Mine – Jordan River Property, reproduced as Figure 5 with the locations of some of the New Sunro Property claim perimeters shown.

In 1970, Dison Development Ltd. and Pechiney Development Limited continued rehabilitation and development work at the Cowichan Mine – Jordan River (formerly Sunro) Mine, including 1,550 feet drifting and cross-cutting, 108 feet raising and 1,648 feet diamond drilling (BC Geology Exploration and Mining, 1970). Also in 1970, Quintana Minerals Corporation completed geological mapping and soil geochemistry on their large 112 claim Mead Group located one to six miles northwest of the Cowichan Mine – Jordan River Property. Quintana found pyrite-pyrrhotite-chalcopyrite mineralization in disseminated form usually near gabbro and feldspathic stringers in areas of most intense shearing, but mineralized zones up to a few hundred feet in length and 15 feet in width generally containing less than 2% total sulphides (Gordon, T.M. and Malone, A.S., 1970, BC ARIS File 2229). Also in 1970, Western Mines Limited completed geological mapping, and an I.P. geophysical survey on their Roed Property covering the Jan Claim Group, located immediately northeast of the Cowichan Mine – Jordan River Property. Western Mines located a 2,000 feet long by 700 feet wide East-West trending I.P. anomaly crossing the BC Hydro Penstock Tunnel (Lloyd, J., 1970, BC ARIS File 2928).

In 1971, Dison Development Ltd. and Jordan River Mines Ltd. continued rehabilitation and development work at the Sunro Mine, including 2,399 feet drifting and crosscutting, 226 feet raising, 3,612 tons slashing, and 6,015 feet diamond drilling (BC Geology Exploration and Mining, 1971). Also in 1971, a composite surface and underground geology map and section along the 5130 Main Adit were completed, showing diamond drilling, development, stopes and interpreted mineralization including the River, Cave, Centre, New, Hanna, Stewart, Bend and Turnbull Zones (Meusy, G. , 1971, BC Property File ID 15102, ID 15085).

In 1972, Pechinay Development Ltd. and Jordan River Mines Ltd. resumed ore extraction, milled 126,000 tons, shipped 1,849 tons of concentrate, and continued development at the Sunro Mine. This included 6,367 feet drifting and crosscutting, 789 feet raising, 36,919 tons slashing, 20,693 feet in 150 holes diamond drilling, underground geological mapping, and surface magnetometer and soil geochemistry surveys (BC Geology Mining and Exploration, 1972).

In 1973, Pechinay Development Ltd. and Jordan River Mines Ltd. continued ore extraction, milled 273,628 tons, shipped 9,137 tons of concentrate, and continued development at the Sunro Mine. This included 2,927 drifting and crosscutting, 886 feet raising, 682 feet ramping, 19,051 feet in 108 holes diamond drilling, underground geological mapping, and surveying of surface and underground workings (BC Geology Mining and Exploration, 1973). Also in 1973, the Jordon River Syndicate optioned the Loss and Wolf claim groups, located immediately northwest of and adjacent to the Sunro Mine Property, to Kismet Mining Corporation Ltd., and completed geophysical and geochemical surveys which yielded 14 anomalous areas on the Loss Group and 2 on the Wolf Group (White, G.E. and Parent, D., 1973, BC ARIS File 4104). This was followed by additional geophysical and geochemical surveys by the Jordan River Syndicate on the western portion of the Loss Group of claims, located 6 miles west of the Sunro Mine Property, which yielded 4 anomalous areas, including one near a pyrite-chalcopyrite vein occurrence from which sampling yielded 0.17% copper over 10 feet (White, G.E., and Cruz, E.D., 1973, BC ARIS File 4751).

In 1974, Dison International Ltd. and Jordan River Mines Ltd. continued ore extraction, milled 241,504 tons, and shipped 8,146 tons of concentrate at the Sunro Mine, until production ceased and the mine closed December 3, 1974. During the year, development work included 2,576 feet drifting and crosscutting, 374 feet raising, and 6,829 diamond drilling before being curtailed in August, 1974 (BC Geology Exploration and Mining 1974). In 1975, the Sunro Mine shipped 213 tons of concentrate from stockpiles (BC Geology Exploration and Mining 1975).

In 1977, inspection of the Sunro Mine discovered two major caves had occurred in the 5100 Level adit at the locations of the first two of six bypasses driven in 1965, at approximately 1,700 and 2,500 feet from the portal. The B.C. Ministry of Mines instructed Cominco Ltd. (now Teck) to construct a plug on the 5100 Level to prevent any future danger of flooding through the level. Cominco Ltd. created a choke-blasted rock plug approximately 6,600' from the portal, and various timber barricades were installed at eight surface entries to the mine and at several others within it (Richardson, A.J., 1977, BC Property File ID 15086). Also in 1977, Chatham Resources Ltd. completed a soil geochemistry survey over the central part of their Wolf mineral claims, located 3 to 4 miles northwest of the Sunro Mine Property, and located a narrow, north-south trending copper in soil anomaly about 1,000 feet in length open to the north (White, G.E., 1977, BC ARIS File 6272). Also in 1977, Serem Ltd. completed a pulse EM geophysical survey on their Juan mineral claims, located 1 to 3 miles northwest of the Sunro Mine Property, but no anomalies were found (White, G.E., 1977, BC ARIS Report 6517). Also in 1977, geological mapping of the Juan mineral claims held by Serem Ltd., M. Cloutier and P. Tegert was completed, but no significant mineralization was found (Ronning, P.A., 1977, BC ARIS File 6592).

In 1978 the Sunro Mine shipped 9 tons of concentrate from stockpiles (BC Geology Exploration and Mining 1978). During its intermittent operating life between 1962 and 1978, the Sunro Mine produced 1,329,034 tonnes yielding 13,754,271 kilograms of copper, 203,101 grams of gold and 2,262,651 grams of silver, averaging 1.03% copper, 0.153 grams per tonne gold and 1.70 grams per tonne silver (BC MINFILE 092C 073 Sunro).

In 1979, Westmount Resources Ltd. completed a soil geochemistry survey over their Fox mineral claims, located 3 to 4 miles northwest of the Sunro Mine Property, and located a discontinuous trend of elevated copper values across the south side of the claims (White, G.E., 1979, BC ARIS File 7814).

In 1980, Kargen Development Corporation completed a ground EM geophysics and soil geochemistry survey over the John 1 -2 mineral claims, located 6 km northwest of the Sunro Mine Property, BC. The EM survey located a 1,700 metre long, east-west trending conductor, but the soil geochemistry survey may have been compromised by inliers of post-mineralization age Carmannah Group sedimentary rocks unconformably masking possible responses from the prospective underlying units (White, G.E., 1980, BC ARIS File 8208). Later in 1980, Oliver Resources Limited completed a ground magnetic and vertical pulse EM survey over the same John 1-2 claims, which further defined the 1,700 metre long conductor, including interpreted cross faulting (Pezzot, E.T. and White, G.E, 1980, BC ARIS File 8860).

In 1984, Kargen completed soil geochemistry, ground magnetic and EM surveys over the expanded John mineral claims. The EM survey located several conductors with locally elevated copper soil values downslope, and a separate southwest trending, 1 km. long, gold soil anomaly open to the northeast (White, G.E., 1984, BC ARIS File 12612).

In 1988, sampling was conducted by the University of Victoria, the Geological Survey of Canada and Memorial University of Newfoundland of off-shore heavy mineral deposits along the south coast of Vancouver Island from Sooke to Port Renfrew, with results still pending at the time of publication (Kilby, C.E., et al, 1988, BC Geological Fieldwork 1988). In 1989, the BC Geological Survey completed stream moss mat geochemistry sampling across southern Vancouver Island (Gravel, J.L., Jackaman, W., and Matysek, P.F., BC Geological Fieldwork 1989).

In 2000, the BC Southwest Regional Geologist visited and collected rock samples from several mineralized surface exposures at the Sunro past producer BC MINFILE 092C 073. Four outcrop rock grab samples yielded values of 0.17 to 2.4 percent copper, 0.02 to 1.3 ppm gold and 0.06 to 8.4 ppm silver, with occasionally elevated values in molybdenum, nickel, cobalt, selenium, tellurium and/or palladium. A float rock grab sample from the Sunro 5100 Level adit dump yielded greater than 10% copper and elevated values in similar metals as the rock samples (Houle, J., 2000, BC Property File ID 15096, ID 15089).

In 2003, Silver Eagle Enterprises completed a small ground magnetic survey for R. Strong on Mr. Strong's DS claim group, located 6 to 8 km. northwest of the former Sunro Mine Property. The survey was very focused over the site of the DS Pit copper occurrence BC MINFILE 092C 171, but appears to show a magnetic low response over the area of the pit, which contains copper mineralization (Black, J., September 2003, BC ARIS File 27232).

Also in 2003, Discovery Consultants completed a stream sediment geochemistry survey on Emerald Fields Resource Corp. and Gary Pearson's Karen Property located 2 to 6 km northwest of Jordan River, which yielded highly elevated values of copper, gold, silver, cobalt, nickel and/or mercury in heavy mineral concentrates from creeks draining the southern side of the property (McKinley, S.D. and Gilmour, W.R., October 2003, BC ARIS File 27280).

In 2004, A. Kikauka completed geological and rock and soil geochemical surveys on his Sunloch Claim, covering the core area over the past producer Sunro MINFILE 092C 073. Known mineralized showings were relocated including the River, Cave, Bend, Winkler, Tiger, Yellow Cliff Zones, and highly elevated values of copper, nickel, cobalt and gold in both rocks and soils were obtained (Kikauka, A., August 2004, BC ARIS File 27472).

In 2007, C.J. Billingsley acquired cell mineral claim 564267 of the New Sunro Property, sold it to K.B. Funk in 2010, who in turn sold it to B.S. Olsen in May, 2014, along with thirteen of the fourteen other claims of the Property.

In 2008, R. Krause completed a small soil geochemistry survey for R. Strong on Mr. Strong's DS claim group, located 6 to 8 km. northwest of the former Sunro Mine Property, but no elevated values were obtained (Krause, R., January 2009, BC ARIS File 30545). The DS claims were subsequently acquired by or optioned to New Shoshoni Ventures Ltd.

In 2009, New Shoshoni Ventures Ltd. completed rock sampling and assaying from the 15 by 20 metre DS Pit east wall and surrounding rubble material. Five composite rock grab samples from the east wall yielded values of 0.27 to 3.6 % copper and 0.10 to 7.3 g/t gold; fifteen rubble grab samples yielded values of 0.11 to 9.7% copper and 0.01 to 4.3 g/t gold; many of the twenty sampled also yielded elevated values of silver, nickel, cobalt, iron, vanadium and sulphur (Krause, R.G., January 2010, BC ARIS File 31362).

In 2010, New Shoshoni Ventures Ltd. completed geological mapping on the DS claim group, confirming the presence of Metchosin Volcanics covering most of the claims, with a Sooke Gabbro body mapped in the southeast portion. The DS pit copper-gold occurrence occurs near the northwest trending and northeast dipping contact between intermediate and mafic volcanics, suggesting a possible volcanogenic environment, although mineralogy is similar to that found at the Sunro past producer (Krause, R.G., January 2011, BC ARIS File 31997).

In 2012, New Shoshoni Ventures Ltd. completed a diamond drilling program on the DS claim group, consisting of 241 metres in 2 holes to test an I.P. chargeability anomaly located 600 metres northeast of the DS pit, based on a 2010 geophysical survey included in the report, but no mineralization was encountered (Krause, R.G., November 2012, BC ARIS Report 33480).

In 2013, H. Burke acquired cell mineral claim 1022415 of the New Sunro Property, and transferred it to B.S. Olsen in May, 2014.

In 2014, J. Houle completed underground rock sampling for B. Olsen in the former mine workings at the past producer Sunro. Five grab samples of sulphide mineralization exposed in the underground ribs of drifts in the Cave Zone yielded values of 3.6 to 16.2% copper, 7.3 to 20 g/t silver and 0.05 to 4.0 g/t gold; and two grab samples from broken muck in underground draw points in the Cave Zone yielded 1.9 to 6.3% copper, 3.4 to 8.4 g/t silver and 0.24 to 0.33 g/t gold. Some samples also yielded elevated values of bismuth, cobalt, nickel, vanadium and zinc (Houle, J. 2014, New Sunro Copper Ltd. files).

Geological Setting and Mineralization

The geological setting of the New Sunro Property is fairly simple, with only two major rock units exposed in that portion of the Crescent Terrain, which forms the southern-most and youngest portion of Vancouver Island. Descriptions of the rock units to follow are taken from Geological Survey of Canada publications by Dolmage, V., 1919, Clapp, H.C., 1919 and Clapp, C.H., 1913. The units as shown in Figures 1c, 2c, and 4, and summarized in the following geological legend from MapPlace BCGS 2005 Geology:

Eocene to Oligocene

Carmanah Group

EOIC	undivided sedimentary rocks

Paleocene to Eocene

Metchosin Igneous Complex

PeEMHgb	High-Level Gabbros: gabbroic to dioritic intrusive rocks
PeEMSDdb	Sheeted Dykes: diabase, basaltic intrusive rocks
PeEMSgb	Sooke Gabbro: gabbroic to dioritic intrusive rocks
PeEMMvb	Metchosin Formation: basaltic volcanic rocks

The oldest rocks are basaltic volcanics of the Metchosin Formation (PeEMMvb), consisting of agglomerates, flow breccias and tuffs, varying from fine to medium-coarse grained, and locally porphyritic. The coarse-grained varieties strongly resemble the gabbroic intrusions. The volcanic flows are locally cut by diabase dykes (PeEMSDdb) of similar composition as the flows, and are too small to appear on regional or property scale maps. Metamorphism of the volcanics is slight, generally with minor amounts of chlorite and serpentine alteration, except near gabbroic intrusions where contact metamorphism has been intense, with abundant hornblende, and locally actinolite, chlorite, uralite, epidote and zoisite alteration. Shearing within the contact metamorphosed volcanics is associated with the most intense hornblende alteration accompanied by metallic minerals magnetite, pyrite, pyrrhotite and chalcopyrite, and cut by veinlets and irregular replacements of quartz, epidote, zoisite, chlorite, calcite, secondary feldspar and sulphides. Bedding seen in the tuffaceous units generally display a north-northwest strike and east-northeast dip, with folding along a west-northwest axis. The New Sunro Property is underlain 50 to 60% by rocks of the Metchosin Formation.

The intrusive High Level Gabbro (PeEMHgb) in the area of the New Sunro Property is similar to but more differentiated and altered than the Sooke Gabbro (PeEMSgb) bodies found further east in the Sooke area. In the Property area, the gabbro is black, irregularly grained and consists mainly of hornblende and feldspar, with minor augite, ilmenite, magnetite and titanite. Masses of gabbro intrude the Metchosin volcanics in steeply dipping, elongate, dyke-like bodies parallel to the west-northwest fold axis in the volcanics. Three major gabbro intrusive bodies cross the Property, each about 1 kilometre apart and each approximately 250 to 750 metres thick, with the thickest dyke crossing the centre of the Property.

The Carmanah Group (EOIC), known as the Sooke Formation in older reports and maps, consists of partly consolidated, finely bedded sediments unconformably overlying the older rocks of the Metchosin Igneous Complex. Shallow inliers of Sooke Formation occur in the southwest and southeast areas of the New Sunro Property.

Descriptions of the mineral deposits or zones on the New Sunro Property are taken from the report completed for Cerna Copper Mines Limited by Crowhurst, J.J. et al, 1969 (BC Property File ID 72619). However, the mineralized zones are best described in the BC Minister of Mines Annual Report for 1950. Mineralization, consisting mainly of chalcopyrite, pyrite and pyrrhotite, occurs in shear or shatter zones in the basalt near the contacts of a centrally located band of gabbro. Native copper, molybdenite and small amounts of nickel and cobalt (associated with the pyrrhotite) have been reported from some of the zones. Near the mineralized zones, the augite in the basalts and the gabbros has been largely altered to hornblende. The sulphides usually appear as irregular veinlets, smears, or blebs in the hornblende rich rocks of the shear zones. In addition to such veinlets and lenses, some chalcopyrite occurs as disseminated grains.

Several historical maps available for the area of the New Sunro Property show detailed locations, mapping, drilling and sampling results from the various mineralized zones on the Property relative to the surveyed boundaries of the original crown granted mineral claims. The approximate perimeters of the claims of the New Sunro Property have been added in Figure 5 to a sketch taken from Page. 29 of the 1969 report completed by Crowhurst, et al. (BC Property File ID 72619) showing the general locations of eighteen zones and sub-zones plus one anomaly, occurring in two clusters mainly within the Metchosin volcanics adjacent to and on either side of the central Gabbro body, straddling the Jordan River. The surface geology map and cross section completed by G. Meusy in 1971 (BC Property File ID 15102 and 15085) show details regarding the River, Cave, New, Centre (Archibald), Hanna, Turnbull, Bend, and Stewart Zones. The surface map completed by Hedley Mascot Gold Mines Ltd. in 1949 shows details regarding the Caulfield, Tiger and Winkler Zones (BC Property File ID 13618). Past production at the Sunro Mine came initially from the five various River Zones, and during the latter part of the mine life came from the Cave Zone, with additional mineralization apparently remaining in both zones at the time of mine closure in December, 1974.

Up to twenty zones, sub-zones or anomalies containing copper, gold and silver mineralization have been discovered, and are located completely on three of the cell mineral claims near the centre of the New Sunro Property. These zones are variably described in the references listed in the History section of this report, are generally located as shown in Figure 5, and listed and summarized as follows:

Mineralized Zones:

River Zones (on northeast corner of cell claim 564267 and into claim 663263 of the Property)

- Consists of 5 sub-parallel zones spaced over 150 metres across strike
- Orientation 150^0 Strike, 75^0 SW to 90^0 Dip, 65^0 Plunge SE
- Dimension 350 m. length x 350 m. depth x 1 to 10 m. thick
- Delineated by mapping, trenching, drifting, drilling, extraction, production

Cave Zone (on northeast part of cell claim 564267 of the Property)

- Consists of 2 sub-parallel zones approximately 25 metres apart
- Orientation 140^0 Strike, 90^0 Dip, steep plunge
- Dimension 175 m. length x 150 m. depth x 1 m to 25 m. thick
- Delineated by mapping, trenching, drifting, drilling, extraction, production

Centre (Archibald) Zone (on northeast part of cell claim 564267 of the Property)

- Possible northern extension of Cave Zone
- Orientation 160^0 Strike, steep dip, steep plunge
- Dimension 200 m. length x 100 m. depth x 1 m. to 3 m. thick
- Delineated by limited drilling and drifting

New Zone (on northeast part of cell claim 564267 of the Property)

- Possible northern extension of Cave Zone
- Orientation 130^0 Strike, steep dip, steep plunge
- Dimension 100 m. length x 100 m. depth x 3 m. thick
- Delineated by limited drilling

Hanna Zone (on centre of cell claim 564267 of the Property)

- Orientation 140^0 Strike, 70^0 dip NE, plunge unknown
- Dimension 25 m. length x 300 m. depth x <1 m. thick
- Delineated by limited mapping and trenching, drilling and drifting

Turnbull Zone (on cell claim 663263 and into northwest corner of claim 564267 of the Property)

- Orientation 120^0 Strike, dip and plunge unknown
- Dimension 200 m. length x unknown depth x 2 m. to 6 m. thick
- Prospected by limited mapping, trenching and drilling

Bend Zone (on east side of cell claim 841971 of the Property)

- Orientation 065^0 Strike, dip and plunge unknown

- Dimensions 60 m. length x 12 m. depth x unknown thickness
- Prospected by limited mapping, trenching and drilling

Stewart Zone (on southwest corner of cell claim 663263 and into claim 841971 of the Property)

- Orientation 010^0 Strike, dip and plunge unknown
- Dimension 100 m. length x 50 m. depth x 5 m. to 10 m. thick
- Delineated by limited mapping, trenching and drilling

Robertson Zone (on south part of cell claim 841971 of the Property)

- Orientation 165^0 Strike, dip and plunge unknown
- Dimension length and depth unknown x 4 m. thick
- Delineated by limited mapping and trenching

Winkler Zone (on south part of cell claim 841971 of the Property)

- Orientation 010^0 Strike, dip and plunge unknown
- Dimension 150 m. length x 50 m. depth x 3 m. thick
- Delineated by limited mapping, trenching, drilling and drifting

Tiger Zone (on south part of cell claim 841971 of the Property)

- Orientation 120^0 Strike, dip and plunge unknown
- Dimension 100 m. length x 125 m. depth x 1 m. to 6 m. thick
- Delineated by limited mapping, trenching and drilling

Yellow Cliff Zone (on south part of cell claim 841971 of the Property)

- Orientation 135^0 Strike, dip and plunge unknown
- Dimension 40 m. length x unknown depth x 2.5 m. thick
- Delineated by limited mapping and trenching

<u>Caulfield Zone (on south part of cell claim 841971 of the Property)</u>

- Orientation 060^0 Strike, dip and plunge unknown
- Dimension 150 m. length x unknown depth x 1 m. to 5 m. thick
- Delineated by outcrop samples

<u>Hornet Zone (on south part of cell claim 841971 of the Property)</u>

- Orientation unknown
- Dimension unknown
- Delineated by limited mapping, trenching and drifting

<u>Anomaly (on cell claim 663263 and into southeast corner of cell claim 564267 of the Property)</u>

- Discovered by Noranda Exploration Company Ltd. in 1955, but limited data available
- Delineated by soil geochemistry and ground geophysics, possibly drilling

Deposit Types

The mineral deposits that have been historically explored, developed and mined from the area of the New Sunro Property have been allocated to past producer BC MINFILE 092C 073 – Sunro, and are generally similar to other past producers and prospects in the Sooke Area within the Crescent Terrain: BC MINFILE 092B 007 Merryth, 092B 008 – Old Copper Mine, 092B 009 – Margaret, 092B 010 – Willow Grouse, and 092B 011 – King George. These are classified under the unpublished BC Mineral Deposit Profile as M02: Tholeiitic intrusion-hosted Ni-Cu, derived from older USGS Mineral Deposit Model 7a: Synorogenic-Synvolcanic Ni-Cu (Page, N.J., 1980’s).

These profiles and models have since been updated and combined within broader magmatic Ni-Cu-PGE deposit classifications in more recent publications by the USGS, including Open File Report 2010-1179 (Schulz, K.J. et. al., 2010), and Scientific Investigations Report 2010 -5070-1 (Schulz, K.J. et al, 2010). This broad classification includes the giant class mineral deposit Noril'sk-Talnakh, assigned to the sub-class: Basalt-related dike-sill hosted Ni-Cu Deposits. The broader classification also includes one of five sub-type of sulphide ores described as: Massive to semi-massive within shears and fault zones, which also describes the form and mode of occurrence of the copper-silver-gold bearing mineral deposits on the New Sunro Property.

Metal grades and tonnage ranges for Synorogenic-Synvolcanic Ni-Cu deposits worldwide are 0.26 to 17 million tonnes averaging 0.35% to 1.6% nickel, 0.14% to 1.3% copper, 0.017% to 0.10% cobalt, 0.035 to 0.35 ppm gold, 50 to 150 ppb palladium and 15 to 50 ppb platinum (Page, N.J., 1980's). The principal sulphide minerals in magmatic sulphide-rich nickel-copper deposits consist of inter-grown pyrrhotite, pentlandite and chalcopyrite. The main economic commodities obtained from these deposits are nickel, copper, cobalt, PGE's and gold; some deposits also yield silver, sulphur selenium and tellurium. In addition, sulphide minerals may contain anomalous arsenic, bismuth, mercury, lead, antimony and zinc (Schultz, K.J. et al, 2010). At current metal prices, many of these types of deposits may have sufficient grades and dimensions to permit bulk mechanized underground mining methods, and are therefore well worth exploring for beyond the depth limits of open pit mining methods. The past production documented in the area of the New Sunro Property, and recent multi-element geochemistry and descriptions of samples taken by the author from the mine workings, display appropriate size, overall grades and trace element signatures for deposits of this type. The mineral deposits discovered and explored to date in the area of the Property contain lower nickel and PGE grades, but higher copper, silver and gold grades than expected for this deposit type.

Exploration

Over 100 years of research, exploration, development and mining of mineral deposits on the area of the New Sunro Property has identified a cluster of up to twenty mineralized zones, sub-zones or anomalies over an area of 1.5 km. by 1.5 km. The pioneering research completed by the Geological Survey of Canada from 1908 to 1913 on the geology of southern Vancouver Island and copper mineralization in the Sooke Area led to initial exploration work in the Jordan River area and discovery of copper mineralization at the Sunloch Property by G. Winkler in

1916. Mr. Winkler then successfully explored the adjacent Gabbro Property in 1919. Also in 1919, the Geological Survey of Canada completed a comprehensive study of the geological setting and copper mineralization in the Sunloch Copper District, published in 1920.

From 1916 to 1929, junior mining company Sunloch Mines and subsequently major mining company Consolidated Mining, Smelting, and Power Company of Canada (now Teck Resources) explored the Sunloch Property, while Gabbro Copper Mines Limited and subsequently Pacific Tidewater Company (subsidiary of British Metal Corporation, now AMC PCL) explored the Gabbro Property. However, neither the Sunloch nor the Gabbro Property achieved production, and the Jordan River area saw little exploration activity during the period of 1930 to 1948.

From 1949 to 1950, mining company Hedley Mascot Gold Mines Ltd. acquired both the Sunloch and Gabbro properties and completed extensive and successful exploration work, but did not bring either property into production. After a period of inactivity from 1951 to 1954, major mining company Noranda Exploration Company, Ltd. explored the Gabbro Property in 1955. In 1956 the Sunloch and Gabbro Properties were consolidated under the name of Sunro Mines Ltd., followed by extensive exploration, development and subsequent mining by Cowichan Copper Co. Ltd. and other mine operators intermittently from 1962 to 1978.

In the Jordan River area surrounding the former Sunro Mine Property, early stage exploration activity occurred in several pulses over time from 1958 to the present. Indications of primarily copper mineralization have been discovered and documented in BC Assessment Reports and in five showings in BC MINFILE, in geological settings similar to that of the New Sunro Property.

Exploration work completed in the area of the New Sunro Property was done primarily between 1916 and 1955, after which virtually all efforts were focused exclusively on development and production. Exploration work completed in the surrounding Jordan River area was done primarily between 1970 and 1984, and consisted of short, sporadic efforts on different claim groups by different owners and operators, but often using the same geoscientists with local experience. Historical geological mapping, ground geophysics, and geochemical sampling of stream sediments, soils, outcrops, trenches, drifts, and drill core was generally done either by, or under the supervision of, qualified geoscientists engaged by the operators at the time the work was done using industry standard techniques of those times.

Since the last significant exploration programs occurred on the area covered by and surrounding the New Sunro Property, prices for the principal target commodity copper, and also for gold, silver, cobalt, nickel, tellurium, palladium and platinum have all increased. The understanding of mineral deposits by economic geologists has improved substantially, and industry standard exploration and mining techniques have improved dramatically. New Sunro Copper Ltd. has completed a limited amount exploration work to date, consisting of the focused underground sampling completed by the author in 2014, and the airborne magnetic and radiometric geophysical survey and satellite digital elevation survey completed in 2015 over the New Sunro Property. The sampling data is summarized in Table 3 below, and the geophysical survey incorporating the digital elevation survey is documented in Appendix 1.

Table 3 – 2014 Rock Sample Geochemistry Locations, Descriptions and Highlights

Sample #	Location	Details
E5123174	Sunro mine working 5500 level	Select rock grab from right rib consisting of gabbro with sulphides including Cpy and Po
E5123175	Sunro mine working 5400 level	Select rock grab from left rib consisting of gabbro with sulphides including Cpy and Po
E5123176	Sunro mine workings 5300 level	Select rock grab from left rib consisting of semi-massive sulphides including Cpy, Po in gabbro
E5123177	Sunro mine workings 5210 level	Select muck pile grab from drawpoint #4 consisting of semi-massive sulphides including Cpy,Po
E5123178	Sunro mine workings 5210 level	Select muck pile grab from drawpoint #8 consisting of semi-massive sulphides including Cpy,Po
E5123179	Sunro mine working 5500 level	Select rock grab from right rib consisting of semi-massive sulphides including Cpy, Po in gabbro
E5123180	Sunro mine working 5500 level	Select rock grab from right rib consisting of gabbro with sulphides including Cpy and Po

Sample #	Descriptions
E5123174	Bronze, dark & light green, locally magnetic, medium grained, brecciated, sulphidic, 75% gabbro and 25% mafic volcanic (xenolith?) containing 50% zoned sulphides net textured to massive, consisting of 20% chalcopyrite, 15% pyrrhotite, 10% pyrite, 5% cubanite?
E5123175	Bronze, dark green, locally magnetic, medium grained, brecciated, sulphidic gabbro containing 40% zoned sulphides net textured to massive stockwork veins, consisting of 20% chalcopyrite, 15% pyrrhotite, 5% pyrite, trace bornite, trace cubanite?
E5123176	Bronze, dark green, locally magnetic, medium grained, brecciated, sulphidic gabbro containing 50% zoned sulphides net textured to massive stockwork veins, consisting of 30% chalcopyrite, 10% pyrrhotite, 5% pyrite, 3% cubanite?, 2% wispy yellow-green mineral?
E5123177	Dark green, and locally bronze and white, locally magnetic, medium grained, massive gabbro containing 5% zoned quartz-sulphide en echelon veinlets with 2% sulphides consisting of 1% chalcopyrite, 1% pyrrhotite
E5123178	Dark green, and locally bronze and white, medium grained, massive gabbro containing 15% zoned quartz-sulphide en echelon and stockwork veinlets with 10% sulphides consisting of 5% chalcopyrite, 3% pyrrhotite, 2% pyrite
E5123179	Btonze and dark green, magnetic, medium grained, brecciated, sulphidic gabbro containing 60% zoned sulphides net textured to massive, consisting of 30% chalcopyrite, 25% pyrrhotite, 5% pyrite, trace cubanite?
E5123180	Bronze and dark green, medium grained, brecciated, sulphidic gabbro containing 70% zoned sulphides semi-massive to massive, consisting of 40% chalcopyrite, 25% pyrite, 5% pyrrhotite, trace bornite

Sample #	Au (ppm)	Ag (ppm)	Bi (ppm)	Co (ppm)	Cu (%)	Ni (ppm)	Se (ppm)	V (ppm)	Zn (ppm)
E5123174	1.63	18.5	130	828	13.5	735	134	103	1700
E5123175	2.13	7.3	43	292	3.6	178	50	331	394
E5123176	3.97	20	159	961	16.2	828	148	61.9	1960
E5123177	0.33	8.4	68	340	6.28	168	74	201	681
E5123178	0.24	3.4	26	274	1.93	249	37	232	266
E5123179	0.75	19.3	85	615	10.5	355	104	151	802
E5123180	0.05	10.3	81	768	7.74	837	112	145	1250
Averages	**1.30**	**12.5**	**85**	**583**	**8.54**	**479**	**94**	**175**	**1008**

Drilling

No diamond drilling has been done at all since 1974 in the area of the New Sunro Property, and no significant diamond drilling has ever been documented anywhere else in the Jordan River area. No drill logs or other details are available for the extensive diamond drilling completed at the Sunro past producer from 1917 to 1974.

Sample Preparation, Analyses and Security

Although the author cannot certify any of the historical work, there is no reason to doubt the adequacy of sample preparation, security and analytical procedures related to sampling in the area of the New Sunro Property during its exploration history.

During the 2014 underground rock sampling program, the author used AGAT Laboratories to prepare and analyze the seven rock samples taken. The rock samples were collected by the author on April 26, 2014 and shipped to AGAT's sample preparation facility in Burnaby, B.C. via Greyhound bus parcel express on April 28, 2014. The samples were prepared as rock samples, and sample pulps were sent to AGAT's analytical facility in Mississauga, Ontario and subjected to 4-acid digestion, ICP-OES analyses for 43 trace elements plus over-limit copper, and Fire Assay with ICP-OES finish for gold, palladium and platinum. For the seven samples analyzed from the 2014 program, only the internal QA/QC procedures used by AGAT Laboratories were utilized and relied upon, which is deemed sufficient for the size and scope of the program, in the author's opinion.

Data Verification

At the time that exploration work was conducted in the New Sunro Property area, it appears that industry standard methods for that time were used for quality control and data verification. Although the author cannot verify any of the historical work, there is no reason to doubt the adequacy of quality control measures and data verification procedures related to sampling during the exploration history of the area, and the Property.

In addition to the work completed in 2014 described in the History and Exploration sections, the author visited some of the mineralized exposures on surface in the area of the New Sunro Property in 2000 as per the Introduction, Reference and Bibliography sections of this report.

The 2014 underground sampling program undertaken by the author for B. Olsen of New Sunro Copper Ltd. constitutes field verification of the locations, mineralogy and geochemistry of the copper-silver-gold mineralization in the Cave Zone of the Sunro past producer. None of the field verification by the author was of sufficient scope to verify dimensions and continuity of the Cave Zone or any other mineralized zones on or near the New Sunro Property.

Mineral Processing and Metallurgical Testing

There is no available documentation on mineral processing and/or metallurgical testing on mineralized material from the various mineralized zones located within area of the New Sunro Property. Historic underground mining and concentration was completed using crushing, grinding and flotation to produce a single copper concentrate containing primarily copper plus minor gold and silver, which was subsequently smelted off-site, and tailings were pumped to and disposed offshore on the seabed. Most of the initial production of 747,411 tonnes for 1962-1968 from the past producer Sunro Mine came from the River Zone; and most of the later production of 581,623 tonnes for 1972-1978 came from the Cave Zone. Production grades dropped over time during the mine life from 1.24% copper, 1.98 g/t silver and 0.18 g/t gold for 1962-1968, to 0.77% copper, 1.34 g/t silver and 0.11 g/t gold for 1972-1978. This may have been due in part to declining resource grades, changes in development and mining methods and resulting dilution, and/or varying processing recoveries between the River and Cave Zones.

In April 1951, a Mineralographic Study of Sunloch Copper Ore was completed by R.B. Toombs (BC Property File ID 59782) as part of a geology course at the University of British Columbia. The study used mineralized samples from drill intercepts from the Cave Zone provided by Hedley Mascot Gold Mines Ltd. The key conclusions in the report are summarized as follows:

1. Order of formation of the principal sulphides was pyrite, pyrrhotite and chalcopyrite. Chalcopyrite contains minor intergrowths of cubanite. Pyrite contains minor inclusions of arsenopyrite. Second generation pyrite is evident but less abundant than early pyrite.
2. Magnetite and ilmenite are either original constituents of the host rock or products of a metamorphism which preceded sulphide deposition.

3. The nickel in the Sunloch ore may occur in solid solution, or perhaps as tiny inclusions in pyrrhotite.
4. The exact distribution and nature of nickel, gold and silver mineralization in Sunloch ore remains to be determined, which would assist in determining possibilities of profitable recovery of these constituents of the ore.

The report completed in July 1963 by H. Hill & L. Starck & Associates Ltd. for Cowichan Copper Co. Ltd. (BC Property File ID 72591) presented detailed plans for the development and mining of the River A, B and C Zones, showing a total un-diluted broken and proven reserve estimate of 1,122,100 tons averaging 1.80% copper (not to NI43-101 standards). The report includes a note that mill head estimates allow for 5% dilution averaging 0.1% copper, which would be 1,178,200 tons averaging 1.72% copper. The report contains no references to, or recommendations made for, metallurgical testing. The recovered copper grade for the period 1962-1968 averaged 1.24%, or 39% less than the pre-production estimate of 1.72% copper.

The report completed in April 1969 by Bacon & Crowhurst Ltd. for Cerna Copper Mines Limited (BC Property File ID 72619) presented detailed plans for development and mining of the Cave A and B Zones, using a total mill-feed reserve estimate of 865,000 tons averaging 1.03% copper (not to NI43-101 standards), which included 25% dilution averaging 0.20% copper. The report also noted that little or no ore from the Cave Zone had been previously treated, that it contained considerably more pyrrhotite than the ore previously mined (River Zone), and recommended that test work on representative samples of Cave Zone ore should precede mill start-up. The results of any such test work, if completed, are not available. The recovered copper grade for the subsequent period 1972-1978 averaged 0.77%, or 34% less than the pre-production estimate of 1.03% copper.

Mineral Resource Estimates

Of the twenty mineralized zones, sub-zones or anomalies identified in the Geological Setting and Mineralization section of this report, only historical mineral resource estimates exist for portions of the River, Cave, Centre and New Zones completed periodically during the operating life of the Sunro past producer, none of which are to NI43-101 and CIM standards, nor do they account for production after the times of the estimates, and cannot be relied upon for these reasons. Nonetheless, each of these estimates are summarized below in imperial units which were the industry standard at the times the estimates were completed.

June 1963 by H. Hill & L. Starck & Associates Ltd. for Cowichan Copper Co. Ltd.

Zone	Broken Ore		Proven Ore		Indicated Ore		Total	
	Tons	% Cu	Tons	% Cu	Tons	% Cu	Tons	% Cu
River	102,500	1.89	1,019,600	1.79	59,100	1.93	1,181,200	1.81
Cave					340,900	1.23	340,900	1.23
Centre					38,300	1.37	38,300	1.37
New					54,600	1.20	54,600	1.20
Totals	102,500	1.89	1,019,600	1.79	492,900	1.32	1,615,000	1.65

October 1964 by H. Hill & L. Starck & Associates Ltd. for Cowichan Copper Co. Ltd.

Zone	Broken Ore		Proven Ore		Indicated Ore		Total	
	Tons	% Cu	Tons	% Cu	Tons	% Cu	Tons	% Cu
River	8,527	1.32	959,347	1.80	154,000	1.89	1,121,874	1.81
Cave					340,900	1.23	340,900	1.23
Centre					38,300	1.37	38,300	1.37
New					54,600	1.20	54,600	1.20
Totals	8,527	1.32	959,347	1.80	587,800	1.41	1,555,674	1.65

April 1969 by Bacon & Crowhurst Ltd. for Cerna Copper Mines Limited

Zone	Drill Indic. & Probable Ore		Possible Ore		Total	
Cave A & B	Tons	% Cu	Tons	% Cu	Tons	% Cu
Cave 5130-5220	230,471	1.39			230,471	1.39
Cave 5220-5460	462,249	1.16			462,249	1.16
Cave above 5460			200,000	1.16	200,000	1.16

Cave below 5130			200,000	1.24	200,000	1.24
Totals	692,720	1.24	400,000	1.20	1,092,720	1.23

December 1973 as reported in the Northern Mine

Zone	Measured		Indicated		Total	
	Tons	% Cu	Tons	% Cu	Tons	% Cu
Sunro	1,135,882	1.47	467,135	1.33	1,603,017	1.43

The approximate locations of the historical resource estimates above are available on copies of mine plans in BC Property File, which are shown relative to the Sunro Mine grid system, but have not been geo-referenced. Some of the Cave Zone development and stopes above 5200 elevation are currently accessible from surface via adits, raises and manways, and are being refurbished by New Sunro Copper Ltd. to permit safe temporary access. The underground sampling and diamond drill records used to establish the historic resource estimates are not available. Considerable definition and exploration work including diamond drilling and underground sampling using modern industry standards is required to establish NI43-101 compliant resource estimates for any of the mineralized zones on the New Sunro Property.

Adjacent Properties

There is a large mineral property partially surrounding and adjacent to the northeast, north and northwest boundaries of the New Sunro Mine Property, covered by cell mineral claims held by Pacific Iron Ore Corporation (“Pacific Iron”), who along with predecessor Emerald Fields Resource Corporation have been exploring in the Jordan River area since 2002. Also surrounded by Pacific Iron’s property is the DS Property held by G. Krause and H. Strong, located 5 to 8 km. west of the New Sunro Property. Refer to Figures 1a to 1d, 2a to 2d, and 3a for maps variously showing the mineral titles, infrastructure, geology and aeromagnetics at scales of 1:250,000, 1:50,000 and 1:20,000 for portions of these properties. In the History Section, summaries of work completed and five BC MINFILE occurrences located on these properties are listed chronologically.

These five MINFILE showings are hosted in a similar geological setting and contain similar mineralization as past producer BC MINFILE 092C073 - Sunro on the New Sunro Property, and are summarized below including mineral titles which cover each of them.

BC MINFILE 092C069 – Jan, EXT is located about 1 km. east of the New Sunro Property and situated on cell mineral claim 845861 held by Pacific Iron. The Jan copper-zinc showing is hosted by sheared, brecciated and altered Metchosin Formation volcanics adjacent to contacts with an intrusive body of High-Level Gabbro coeval with the Sooke Gabbro. Pyrrhotite, chalcopyrite, pyrite and traces of pentlandite and bornite occur in shear zones and quartz stringers, and pyrrhotite and magnetite occur in shear zones and along gabbro contacts. Although the Jan showing has not been assigned a BC Mineral Deposit Profile, the similarity to BC MINFILE 092C073 – Sunro suggests that it could be similarly classified as M02: Tholeiitic intrusion-hosted Ni-Cu. The following assessment reports describing work completed in the area of the Jan showing are listed in the Bibliography Section: Gatenby, L.B., 1958, BC ARIS File 208A; Malcolm, D.C., 1963, BC ARIS File 544; Lloyd, J., 1970, BC ARIS File 2928.

BC MINFILE 092C094 – Wolf, Ren, Mead, Fox is located about 3 km. west of the New Sunro Property and situated on cell mineral claim 508756 held by Pacific Iron. The Wolf copper showing is hosted by sheared, altered and brecciated Metchosin Formation volcanics and intrusions of High-Level Gabbro and Sheeted Dykes coeval with the Sooke Gabbro. Pyrite, pyrrhotite, minor chalcopyrite and traces of bornite and native copper are founded in sheared zones close to intrusions. Although the Wolf showing has not been assigned a BC Mineral Deposit Profile, the similarity to BC MINFILE 092C073 – Sunro suggests that it could be similarly classified as M02: Tholeiitic intrusion-hosted Ni-Cu. The following assessment reports describing work completed in the area of the Wolf showing are listed in the Bibliography Section: Menzies, M.M., 1955, BC ARIS File 118; Gordon, T.M. and Malone, A.S., 1970, BC ARIS File 2229; White, G.E. and Parent, D., 1973, BC ARIS File 4104; White, G.E. and Cruz, E.D., 1973, BC ARIS File 4751; White, G.E., 1977, BC ARIS File 6272; White, G.E., 1979, BC ARIS File 7814; McKinley, S.D. and Gilmour, W.R., 2003, BC ARIS File 27280.

BC MINFILE 092C137 – Ren, Mead is located about 8 km. northwest of the New Sunro Property and situated near the boundary between cell mineral claims 845873 and 846392 both held by Pacific Iron. The Ren copper showing is hosted by sheared, altered and brecciated Metchosin Formation volcanics and intrusions of High-Level Gabbro and Sheeted Dykes coeval with the Sooke Gabbro. Pyrite, pyrrhotite, minor chalcopyrite and traces of bornite and native copper are founded in sheared zones close to intrusions. Although the Ren showing has not been assigned a BC Mineral Deposit Profile, the similarity to BC MINFILE 092C073 – Sunro suggests that it could be similarly classified as M02: Tholeiitic intrusion-hosted Ni-Cu. The following assessment reports describing work completed in the area of the Ren showing are listed in the Bibliography Section: Gatenby, l.B., 1958, BC ARIS File 211A; Culbert, R.R., 1964, BC ARIS File 549; Gordon, T.M. and Malone, A.S., 1970, BC ARIS File 2229; G.E. and Parent, D., 1973, BC ARIS File 4104; White, G.E. and Cruz, E.D., 1973, BC ARIS File 4751; White, G.E., 1977, BC ARIS File 6272; White, G.E., 1977, BC ARIS File 6517; Ronning, P.A., 1977, BC ARIS File 6592; White, G.E., 1979, BC ARIS File 7814.

BC MINFILE 092C138 – John 1 is located about 6 km. northwest of the New Sunro Property near the boundary of cell mineral claim 539282 held 50% each by G. Krause and H. Strong, and cell mineral claim 846392 held by Pacific Iron. The John 1 copper-gold showing is hosted by altered Metchosin Formation volcanics and intrusions of High-Level Gabbro and Sheeted Dykes coeval with the Sooke Gabbro. Minor native copper was obtained in drilling, and low grade copper and gold values obtained in rocks. Although the John 1 showing has not been assigned a BC Mineral Deposit Profile, the rough similarity to BC MINFILE 092C073 – Sunro suggests that it could be similarly classified as M02: Tholeiitic intrusion-hosted Ni-Cu. The following assessment reports describing work completed in the area of the John 1 showing are listed in the Bibliography Section: White, G.E., 1980, BC ARIS File 8208; Pezzot, E.T. and White, G.E., 1980, BC ARIS File 8860; White, G.E., 1984, BC ARIS File 12612.

BC MINFILE 092C171 – DS Pit is located about 5 km. northwest of the New Sunro Property on cell claim 539282 held 50% each by G. Krause and H. Strong. The DS Pit copper-gold showing is hosted by brecciated Metchosin Formation volcanics and intrusions of High-Level Gabbro and Sheeted Dykes coeval with the Sooke Gabbro. Massive sulphide mineralization consisting of pyrrhotite, chalcopyrite, native copper, pyrite and bornite was found in brecciated and quartz flooded volcanic tuffs and flows. Although the DS Pit showing has not been assigned a BC Mineral Deposit Profile, the rough similarity to BC MINFILE 092C073 – Sunro suggests that it could be similarly classified as M02: Tholeiitic intrusion-hosted Ni-Cu. The following assessment reports describing work completed in the area of the DS Pit showing are listed in the Bibliography Section: Black, J., 2003, BC ARIS File 27232; Krause, R.G., 2009, BC ARIS File 30545; Krause, R.G., 2010, BC ARIS File 31362; Krause, R.G., 2011, BC ARIS File 31997; Krause, R.G., 2012, BC ARIS File 33480.

Other Relevant Data and Information

The New Sunro Property and adjacent properties represent an attractive advanced exploration project, with a partially developed past producer surrounded by several similar mineral occurrences in a geological setting similar to active and successful mining camps elsewhere. However, the social license to develop and operate a mine is not guaranteed to the mineral title holder anywhere in Canada or in British Columbia, including on Vancouver Island. It is possible that local surface tenure holders, recreation/conservation groups and/or communities will actively and successfully oppose future mine development in the Jordan River area. The treaty process between various First Nations and federal and provincial governments is still in progress on Vancouver Island with one final agreement completed (Maa-nulth), another final agreement in negotiation (K'omoks) in place, and several more at various stages. Cooperation agreements between each local First Nation and a proponent are usually required to successfully develop a mineral property today in B.C. However, it is assumed under the B.C. government' Sustainability in B.C. Mining Criteria that the New Sunro Property is available for future exploration, development and mining, and that the B.C. Ministry of Energy and Mines will act as an effective advocate and permitting authority on behalf of any proponent who follows its laws and regulations during all stages of any future work on the New Sunro Property.

Interpretations and Conclusions

The exploration, development and production conducted in the area of the New Sunro Property during the +100 year period from 1916 to 2015 has identified up to twenty mineralized zones, sub-zones or anomalies containing varying combinations of copper, silver, gold, +/- nickel, cobalt, PGE's, selenium and tellurium clustered within a 1.5 by 1.5 km. area of the Property. Many ore-grade intercepts at current metal prices were achieved in natural and trenched outcrop samples, underground adits, and diamond drill holes by numerous operators on many of the mineralized zones on Property, but primarily from the five River and two Cave Zones. The historic development, mining and recovery of primarily copper from the River and Cave Zones at the past producer Sunro using bulk underground mining and concentration was successful, in spite of lower than forecast recovered grades and two episodes of catastrophic flooding of the mine and concentrator by the Jordan River through caved underground workings. The mine infrastructure design also resulted in ongoing environmental damage and fishery habitat loss along the lower Jordan River. The area surrounding the New Sunro Property hosts five other BC MINFILE showings on adjacent properties along a 12 x 2 km. belt with a similar geological setting and style of mineralization as Sunro, but all are in early stages of exploration.

Systematic, multi-year exploration programs by junior and senior companies have been successful in the area of the New Sunro Property and surrounding area in establishing a 12 km. x 2 km. belt containing six mineral occurrences that can be assigned to the BC Mineral Profile M02: tholeiitic intrusion-hosted nickel-copper. Modern mineral deposit models published within the past five years by the USGS have created a broad classification of magmatic sulfide-rich nickel-copper deposits which includes the giant class mineral deposit Noril'sk-Talnakh, assigned to the sub-class: Basalt-related dike-sill hosted Ni-Cu Deposits. The broader classification also includes one of five sub-types of sulphide ores described as: massive to semi-massive within shears and fault zones, which also describes the form and mode of occurrence of the copper-silver-gold bearing zones in the area of New Sunro Property.

The New Sunro Property warrants modern 3-D compilation and integration of key historical and new data, and systematic multi-year exploration programs. The 2015 airborne geophysical survey and satellite digital elevation survey by New Sunro Copper Ltd. represent a good start in exploring the Property. The high grade polymetallic values achieved in rock samples taken in 2015 by the author from the underground workings in the Cave Zone suggest the possibility of more selective, multi-element mineral resource modeling, estimation and extraction, compared to copper-only focus by previous operators, particularly with current and future metal prices. It may be possible to monitor and possibly mitigate environmental damage and fish habitat loss along the lower Jordan River as part of the exploration plans and possible future development and mining plans for the New Sunro Property, if and when the Property reaches that stage.

Recommendations

The New Sunro Property should first be re-evaluated based on its regional geological setting compared to other similar settings worldwide which host past or currently producing mines, with consideration to mineral deposit types and models. Today's geological literature is much more extensive than it was at the times when the New Sunro area was being actively explored. In the author's opinion, some of the key points to consider in such a comparison would be:

- magmatic sulphide-rich nickel-copper deposits related to mafic dike-sill complexes
- massive to semi-massive sulphide deposits within shears and fault zones
- copper-rich, nickel-poor variations in these magmatic deposits, or zones within them

Using today's and projected future estimates of metal prices for copper, silver, gold, nickel, cobalt, PGE's, selenium and tellurium, reasonable exploration target models should be established for the Property. An investigation should be made of current mining and processing techniques, and capital and operating costs at operations exploiting similar deposits worldwide, focusing on both selective narrow and bulk underground operations. In the author's opinion, the following combined exploration target models could be used as a starting point:

- Steeply-dipping, lens-shaped but clustered deposits totaling 2.5 million tonnes @ 1% copper, 1 g/t silver, and 0.1 g/t gold, requiring bulk underground mining, and simple crushing, grinding and flotation for recovery of a single copper concentrate
- Steeply-dipping, irregular-shaped but clustered, deposits totaling 0.5 million tonnes @ 5% copper, 5 g/t silver, and 0.5 g/t gold, requiring selective underground mining, and simple crushing, grinding and flotation for recovery of a single copper concentrate

The extensive historical data record available for the New Sunro Property needs to be compiled into a single G.I.S.-based, 3-D model, and all rock units used by different operators need to be integrated into single, coherent geological legend. All accessible underground workings and surface entries need to surveyed, geo-referenced and integrated into the 3-D model. The 2015 airborne magnetic data needs to be appropriately inverted and integrated into the 3-D model, and the magnetic and radiometric survey products displayed onto a bare earth surface model for the entire New Sunro Property. At the end of the process, both property wide and detailed plan and section views should be available for any selected portions of the property showing any and all combinations of historic geology, geochemistry, geophysics (by type), trenching, drilling, and excavations. Using this geo-referenced 3-D database, well-conceived surface and underground exploration programs should be permitted, funded and initiated.

A phased, systematic exploration program is warranted on the property to achieve the following primary exploration objectives, in the author's opinion:

- Establish measured and indicated resources in the Cave, Centre and New Zones, and remaining portions of the River Zone, by re-mapping and re-sampling all safely available underground exposures, surface definition drilling, and detailed interpretation
- Establish inferred resources on the other eleven known zones or anomalies documented on the Property, by re-locating exposures and conducting appropriate surface ground exploration work, possibly including geology, geochemistry, geophysics and drilling

- Discover new economic mineral deposits of any type on the property through systematic, phased exploration initially based on following up geophysical targets

Also, the author recommends the following environmental and socio-economic programs be initiated to complement the exploration and environmental objectives:

- Submit 5 year area-based exploration permit application with Front Counter BC
- Establish baseline environmental database using historic and modern data
- Identify, negotiate and establish contract, employment and other co-operation agreements with local First Nations bands and nearby communities
- Negotiate and establish access road, surface and other co-operation agreements with local surface rights holder Western Forest Products, and any other valid title holders
- Negotiate and establish work progress update protocols with local recreation and conservation groups and nearby communities

The following Phase 1 combined compilation, planning, exploration, environmental and socio-economic programs and budgets are proposed for the first year at the New Sunro Property:

Table 4 – Proposed Work Program and Budget Summary

Item	Description	Units/Timing	Unit Cost	Item Cost
Re-evaluation	Mining Geol./Eng.	1 month	$10,000 / month	$ 10,000
3-D GIS Compilation	GIS Technician	2 months	$7,500 / month	$ 15,000
Magnetic inversion	Geophysicist	1 month	$10,000 / month	$ 10,000
Plan Exploration	Project Geologist	1.5 months	$10,000 / month	$ 15,000
Subtotal	**Compile & Plan**	**Months 1-2**		**$ 50,000**
Cave,New,Centre,River	U/G & Surface Work	10 months	$100,000/ month	$ 1,000,000
10 other targets	Surface Work	10 months	$50,000/month	$ 500,000
New targets	Underground Work	10 months	$50,000 /month	$ 500,000
Subtotal	**Exploration**	**Months 3-12**		**$ 2,000,000**
Environmental	Baseline Program	10 months	$5,000 / month	$ 50,000
Road Use, Surface	Agreements	10 month	$5,000 / month	$ 50,000
First Nations	Agreements	10 months	$5,000 / month	$ 50,000
Local Communities	Agreements	10 months	$5,000 / month	$ 50,000
Subtotal	**Enviro/Socioeconomic**	**Months 3-12**		**$ 200,000**
TOTALS		**12 Months**		**$ 2,250,000**

Phase 2 and subsequent programs and budgets would follow depending on the success of the Phase 1 programs, with the exploration program probably escalating annually in size and cost.

References

B.C. Ministry of Energy and Mines Website references:

Annual Reports:
http://www.empr.gov.bc.ca/Mining/Geoscience/PublicationsCatalogue/AnnualReports/Pages/default.aspx

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

Exploration and Mining:
http://www.empr.gov.bc.ca/Mining/Geoscience/PublicationsCatalogue/ExplorationinBC/Pages/default.aspx

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

MapPlace: http://www.empr.gov.bc.ca/MINING/GEOSCIENCE/MAPPLACE/Pages/default.aspx

Mineral Titles Online: http://www.empr.gov.bc.ca/Titles/MineralTitles/mto/Pages/default.aspx

MINFILE: http://www.empr.gov.bc.ca/Mining/Geoscience/MINFILE/Pages/default.aspx

Sustainability: http://www.empr.gov.bc.ca/Mining/Sustainability/Pages/default.aspx

B.C. Forests and Range Integrated Land Management Bureau Website reference:

Gator: http://a100.gov.bc.ca/pub/pls/gator/gator$queryforms.menu

Front Counter BC Website reference:

Permitting: http://www.frontcounterbc.ca/guides/mines/notice-of-work/overview/

Specific references:

B.C. Bureau of Mines, Sunloch Group Sketch of Workings, bar scale, undated but estimated at 1917, BC Property File ID 15071

B.C. Bureau of Mines, Map and Longitudinal Section of Sunloch River Tunnel (showing percent of copper) to accompany Report of W.M. Brewer, Resident Engineer, bar scale, 1918, BC Property File ID 15076

B.C. Bureau of Mines, Workings on Sunloch Mine (showing copper grades) to accompany Report of W.M. Brewer, Resident Engineer, bar scale, 1918, BC Property File ID 15077

B.C. Bureau of Mines, Mineral Claims on the Jordan River to accompany Report of W.M. Brewer, Resident Engineer, bar scale, 1920, BC Property File ID 15106

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Date and Signature Page

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

1. I am currently self employed as a consulting geologist by Jacques Houle, P.Eng. Mineral Exploration Consulting 6552 Peregrine Road, Nanaimo, British Columbia, Canada V9V 1P8

2. I graduated with a Bachelor's of Applied Science degree in Geological Engineering with specialization in Mineral Exploration from the University of Toronto in 1978.

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

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

5. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, membership in a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

6. I am responsible for the preparation of the Technical Report entitled "New Sunro Technical Report". I visited and/or worked on the mineral property in 2000 and in 2014.

7. I have had prior involvement with the properties that are the subject of the Technical Report, both as a government geologist and as a consultant.

8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

9. I am independent of the issuer applying all the tests in NI 43-101.

10. I have read National Instrument NI 43-101, Companion Policy 43-101.CP and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument, policy and form.

Dated this 21st Day of July, 2015

____

Signature of Qualified Person

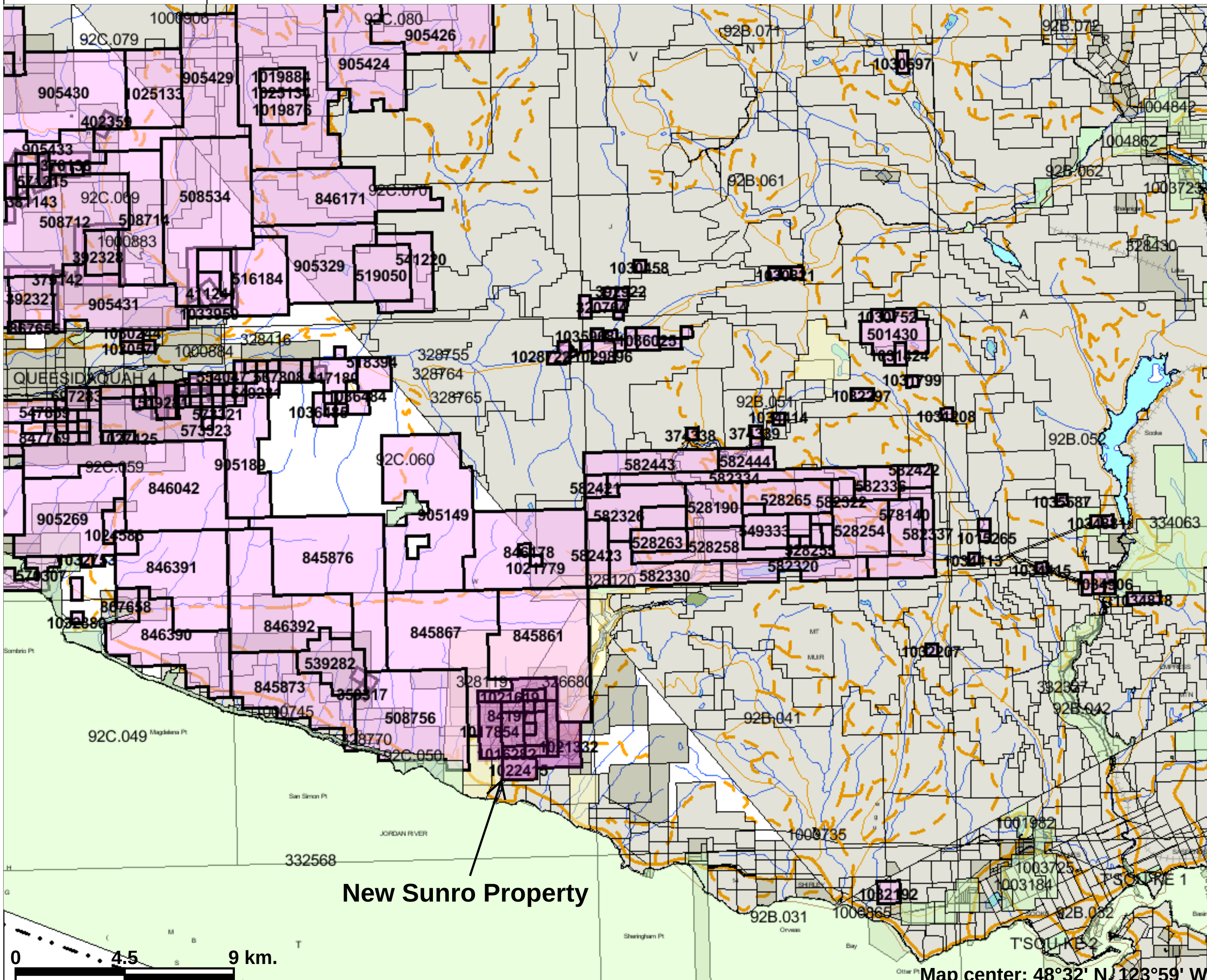
July 21, 2015

Jacques Houle, P.Eng.

Print name of Qualified Person

Seal of Qualified Person

New Sunro Property



Legend

- Indian Reserves
- National Parks
- Conservancy Areas
- Parks
- Federal Transfer Lands

Mineral Tenure (current)

- Mineral Claim
- Mineral Lease

Mineral Reserves (current)

- Placer Claim Designation
- Placer Lease Designation
- No Staking Reserve
- Conditional Reserve
- Release Required Reserve
- Surface Restriction
- Recreation Area
- Others
- First Nations Treaty Related Lands
- First Nations Treaty Lands
- Survey Parcels
- BCGS Grid

Annotation (1:250K)

Transportation - Points (1:250K)

- Airfield
- Anchorage - Seaplane
- Ferry Route
- Heliport
- Seaplane Base
- Air Field
- Airport
- Air Feature - Condition Unknown

Scale: 1:250,000

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Southern Vancouver Island Mineral Titles - Figure 1a

BC Administrative Area Layers

BC Municipalities

BC Municipality labels

Parks Layers

Provincial Parks & Protected Areas (<1M)

Mineral Inventory Layers

MINFILE status
- Producer
- Past Producer
- Developed Prospect
- Prospect
- Showing
- All Others

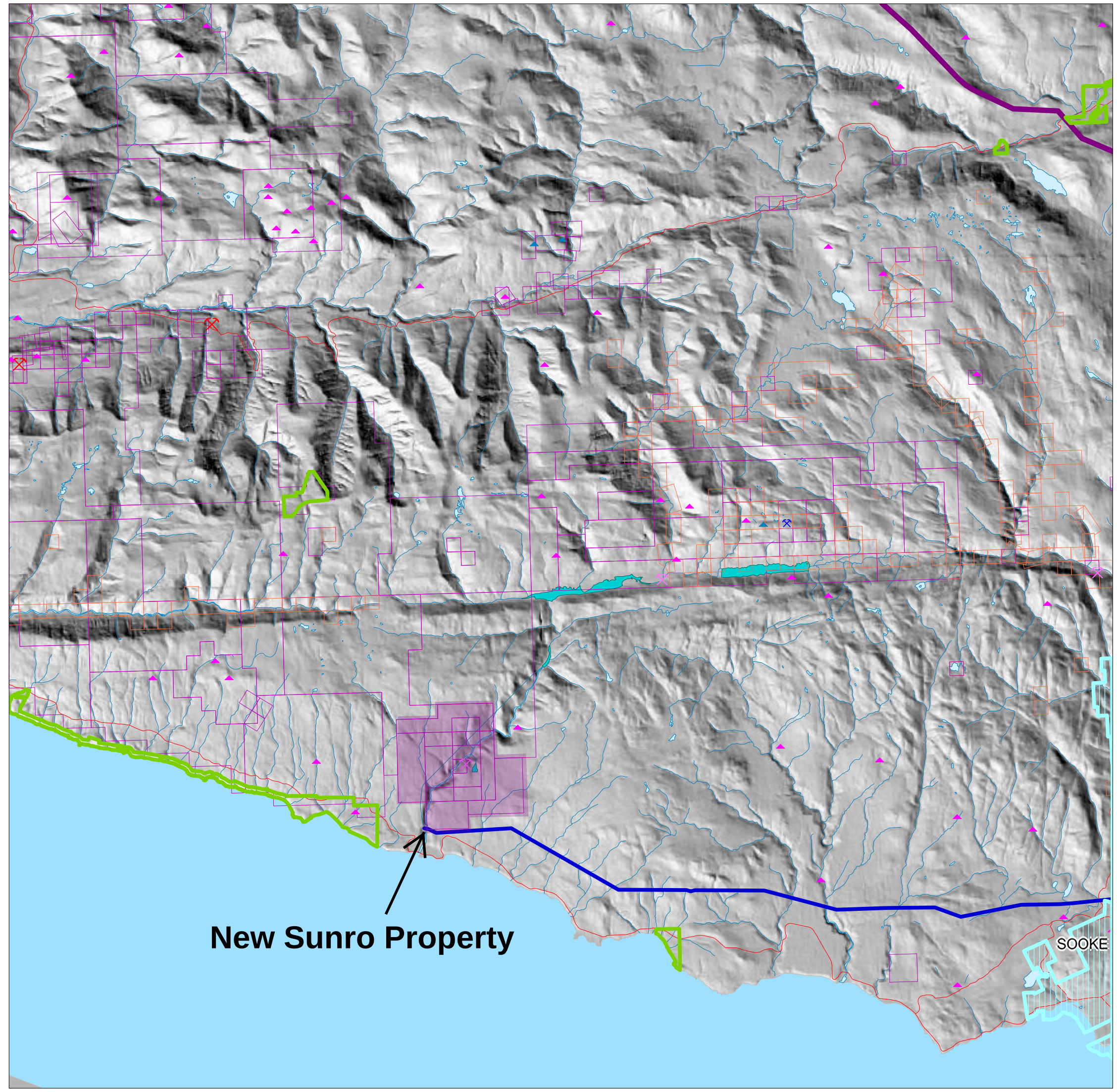
Mineral Titles Layers

MTO Mineral Titles Online Polygons
- Coal
- Placer
- Mineral
- Other

Topographic Layers

BC Power Grid 2007
- 69 KV
- 138 KV
- 150 KV
- 230 KV
- 287 KV
- 360 KV
- 500 KV

Significant Roads



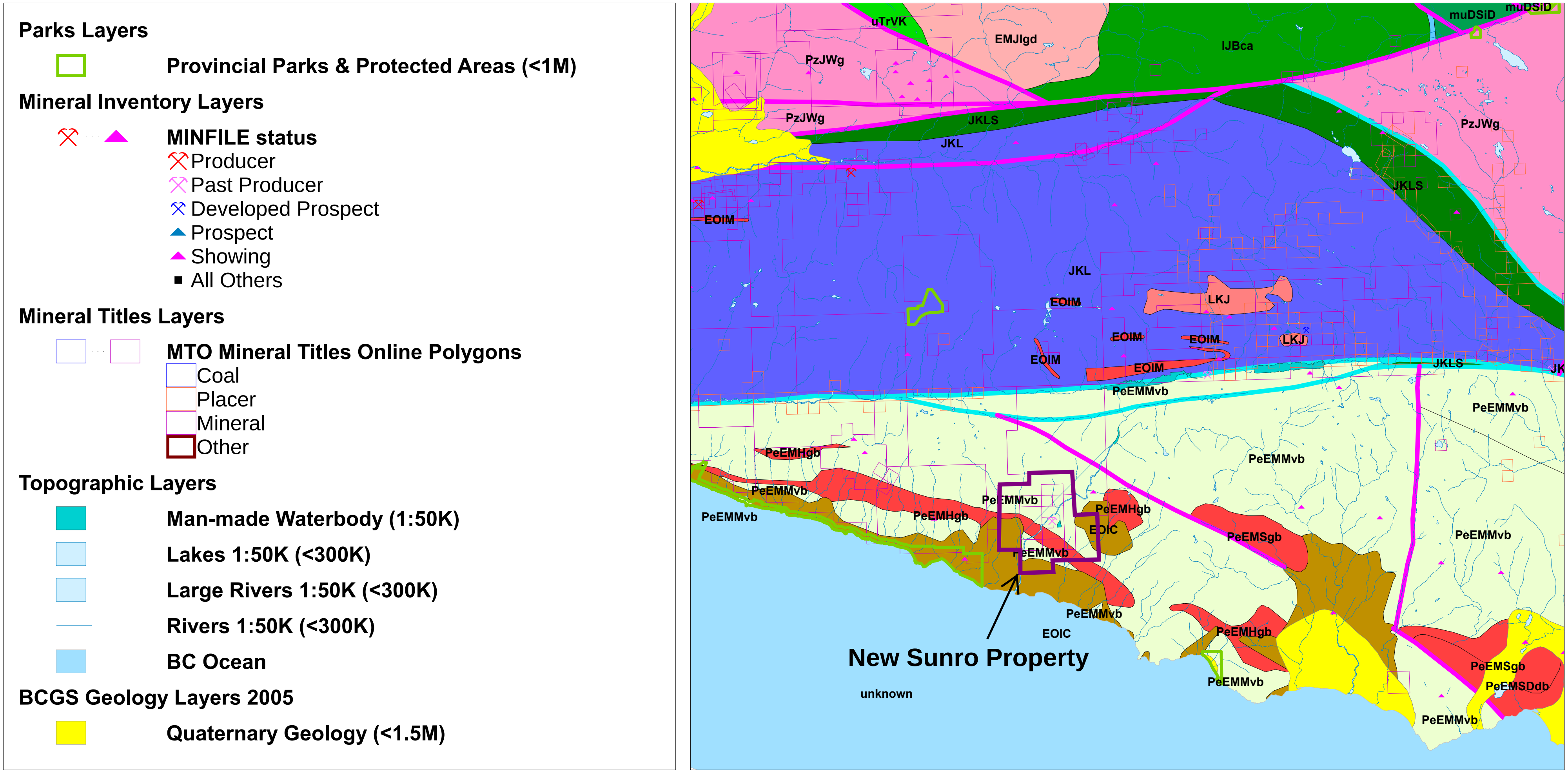
SCALE 1 : 250,000

5 0 5 10 15

KILOMETERS

N

Southern Vancouver Island Infrastructure - Figure 1b



SCALE 1 : 250,000

5 0 5 10 15

KILOMETERS

N

Southern Vancouver Island Geology - Figure 1c

Parks Layers

Provincial Parks & Protected Areas (<1M)

Mineral Inventory Layers

MINFILE status
- Producer
- Past Producer
- Developed Prospect
- Prospect
- Showing
- All Others

Mineral Titles Layers

MTO Mineral Titles Online Polygons
- Coal
- Placer
- Mineral
- Other

Topographic Layers

Man-made Waterbody (1:50K)

Lakes 1:50K (<300K)

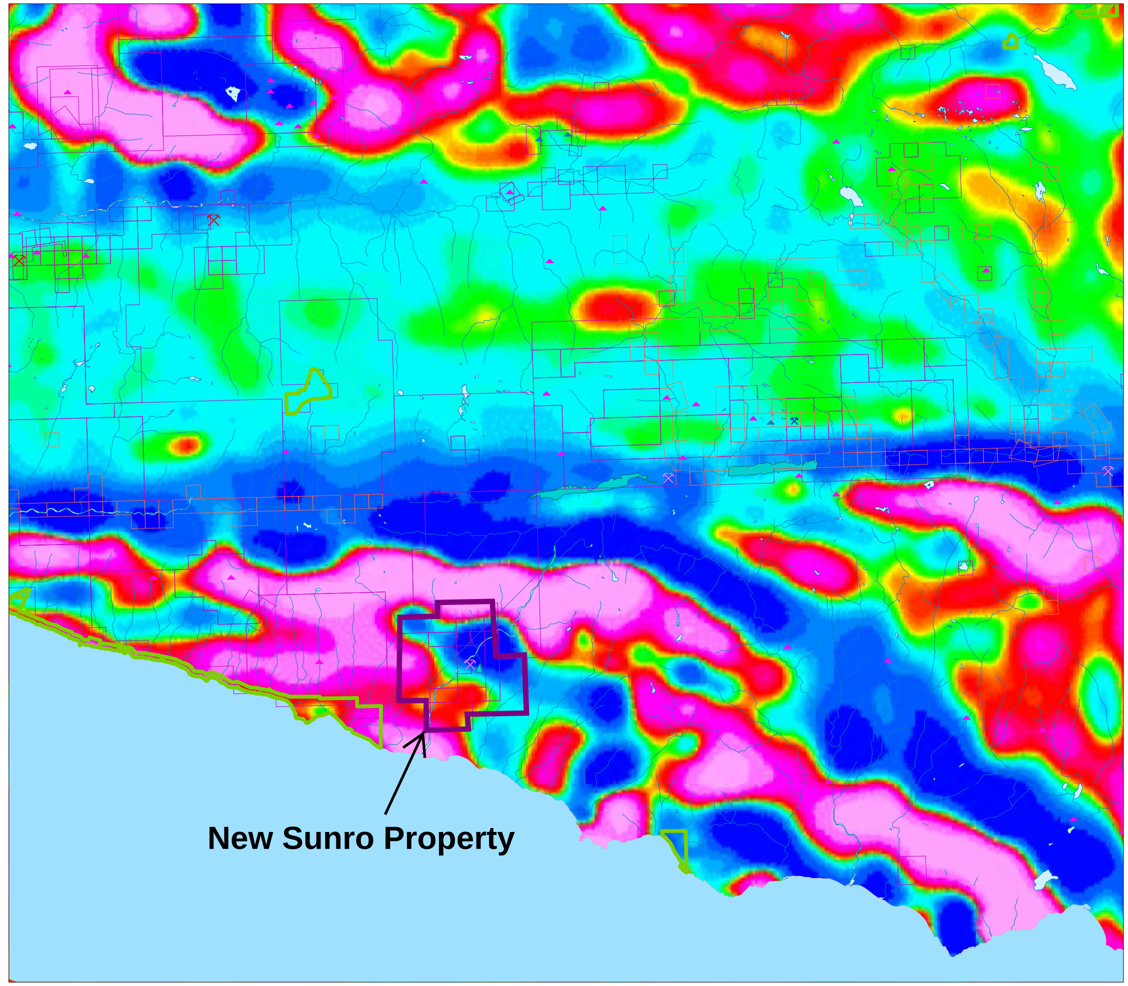
Large Rivers 1:50K (<300K)

Rivers 1:50K (<300K)

BC Ocean

Geophysical Layers

1st Vertical Derivative Magnetic Field (<500K)



SCALE 1 : 250,000

5 0 5 10 15

KILOMETERS

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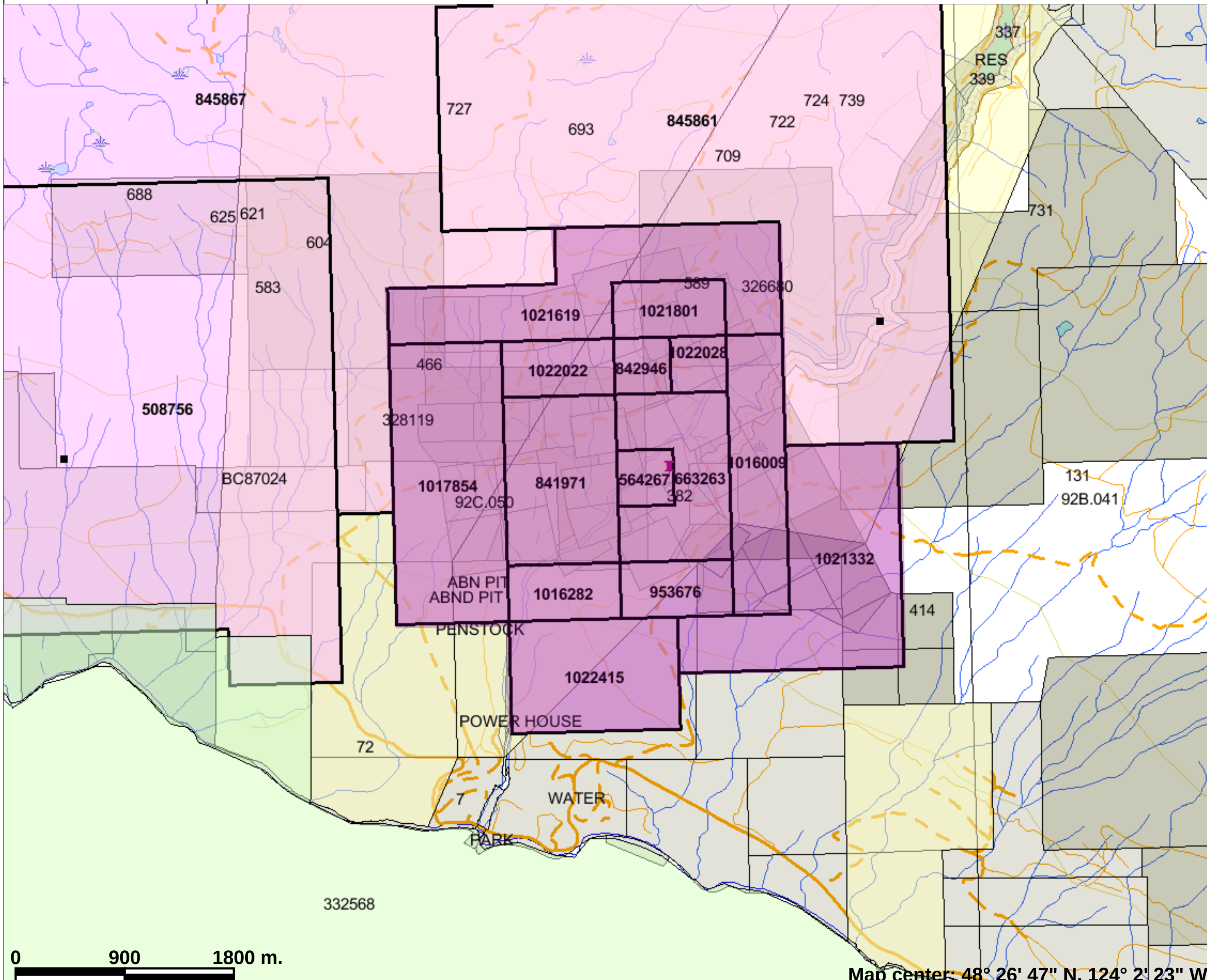
Southern Vancouver Island 1st Vertical Derivative Aeromagnetics - Figure 1d

MineralTitles OnlineBC

New Sunro Property



Legend

MINFILE Status
- Producer
- Past Producer
- Developed Prospect
- All others

- Indian Reserves
- National Parks
- Conservancy Areas
- Parks
- Federal Transfer Lands

Mineral Tenure (current)
- Mineral Claim
- Mineral Lease

Mineral Reserves (current)
- Placer Claim Designation
- Placer Lease Designation
- No Staking Reserve
- Conditional Reserve
- Release Required Reserve
- Surface Restriction
- Recreation Area
- Others
- First Nations Treaty Related Lands
- First Nations Treaty Lands
- Survey Parcels
- BCGS Grid

Contours (1:250K)
- Contour - Index
- Contour - Intermediate
- Areaof Exclusion
- Areaof Indefinite Contours

N

Scale: 1:50,000

New Sunro Property Mineral Titles - Figure 2a

Parks Layers

Provincial Parks & Protected Areas (<1M)

Mineral Inventory Layers

ARIS number label

MINFILE number label
- Developed Prospect
- Past Producer
- Producer
- Prospect
- Showing
- All Others

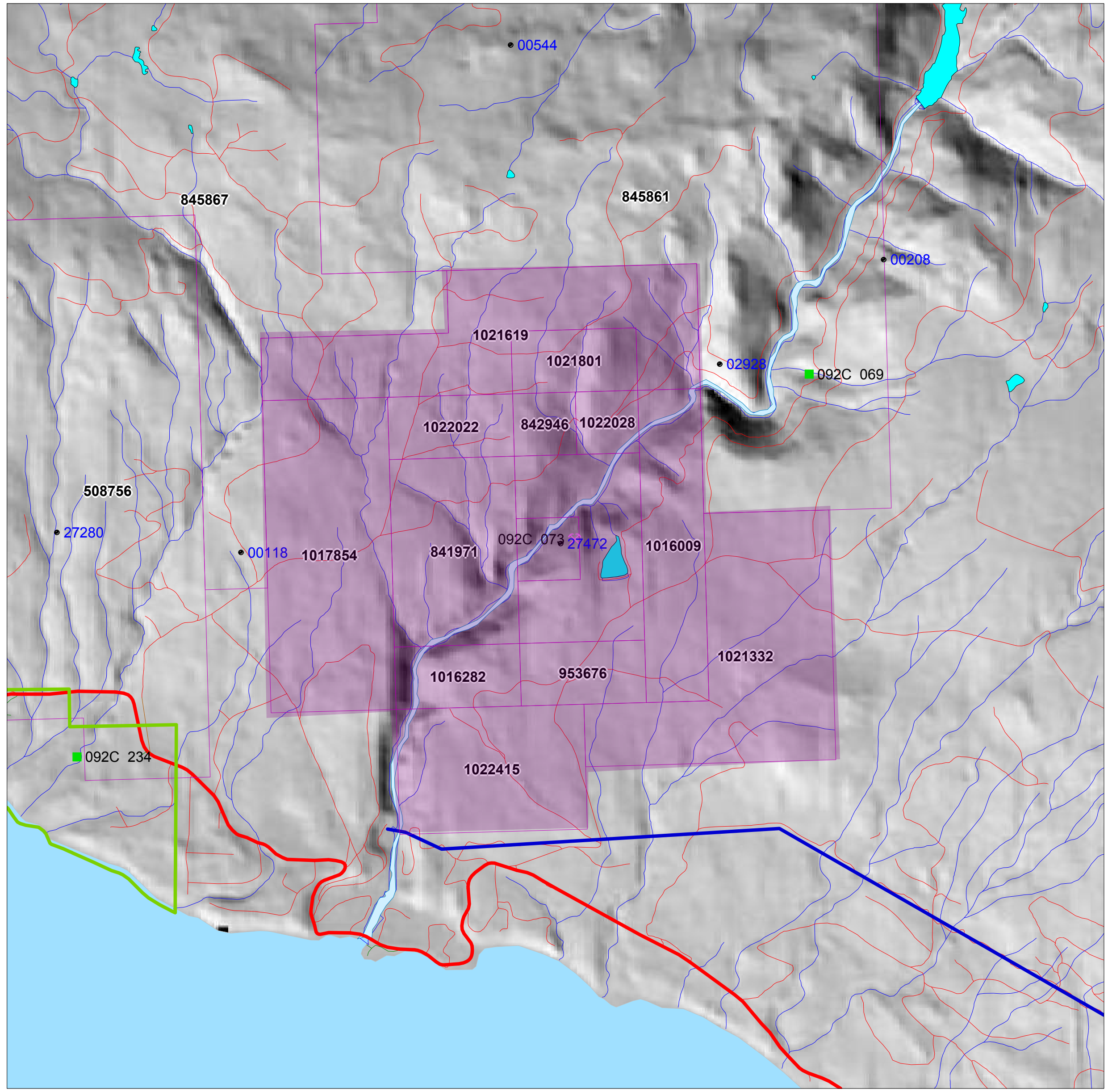
Mineral Titles Layers

MTO Mineral Titles Online Labels <200K
- Coal
- Placer
- Mineral
- Other

Topographic Layers

BC Power Grid 2007
- 69 KV
- 138 KV
- 150 KV
- 230 KV
- 287 KV
- 360 KV
- 500 KV

Digital Road Atlas (<250K)
- Freeway
- Highway
- Ramp
- Arterial
- Collector
- Local
- Lane



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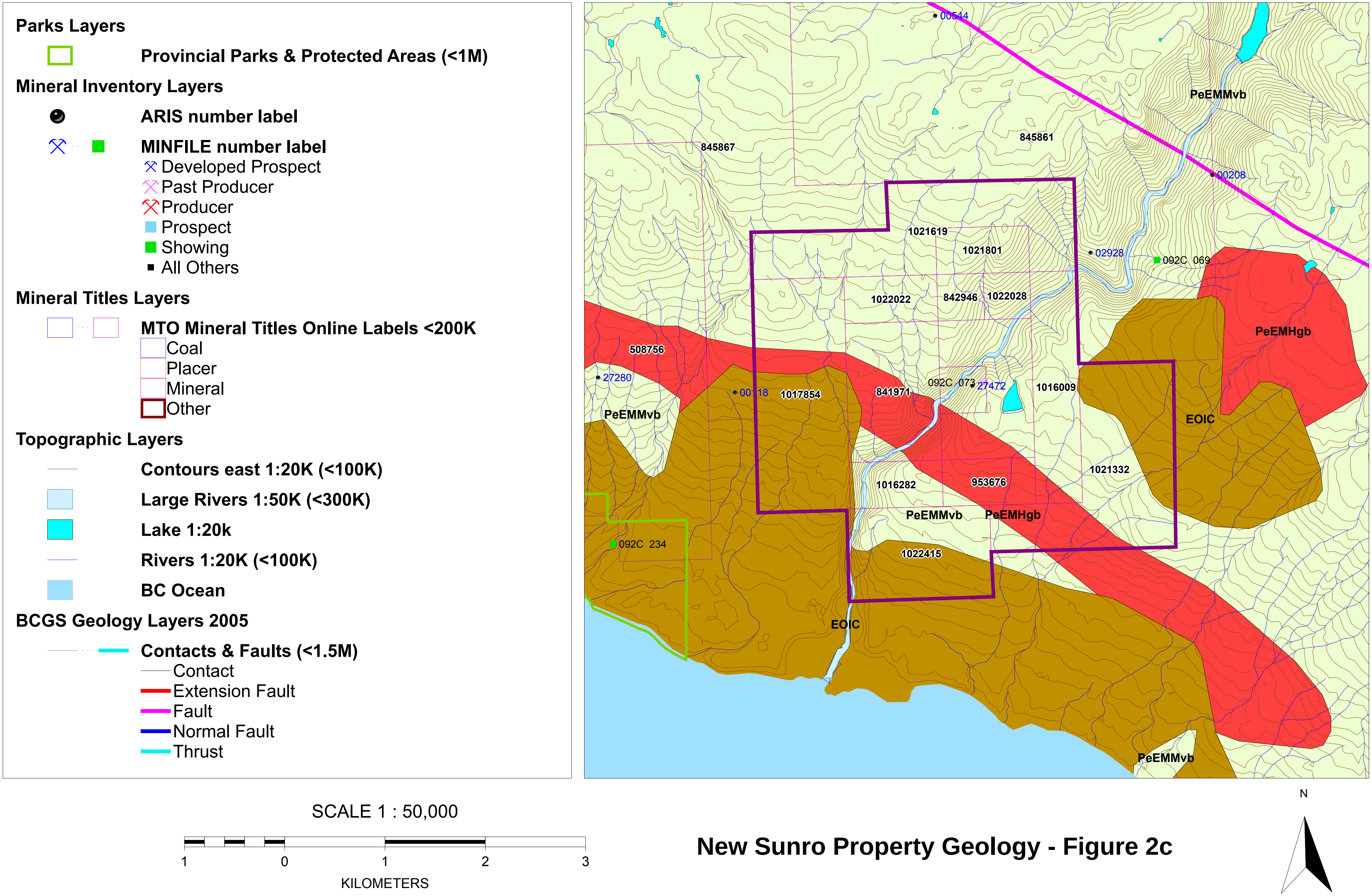
1 0 1 2 3

KILOMETERS

N

New Sunro Property Infrastructure - Figure 2b



New Sunro Property Geology - Figure 2c

Parks Layers

Provincial Parks & Protected Areas (<1M)

Mineral Inventory Layers

ARIS number label

MINFILE number label
- Developed Prospect
- Past Producer
- Producer
- Prospect
- Showing
- All Others

Mineral Titles Layers

MTO Mineral Titles Online Labels <200K
- Coal
- Placer
- Mineral
- Other

Topographic Layers

Contours east 1:20K (<100K)

Large Rivers 1:50K (<300K)

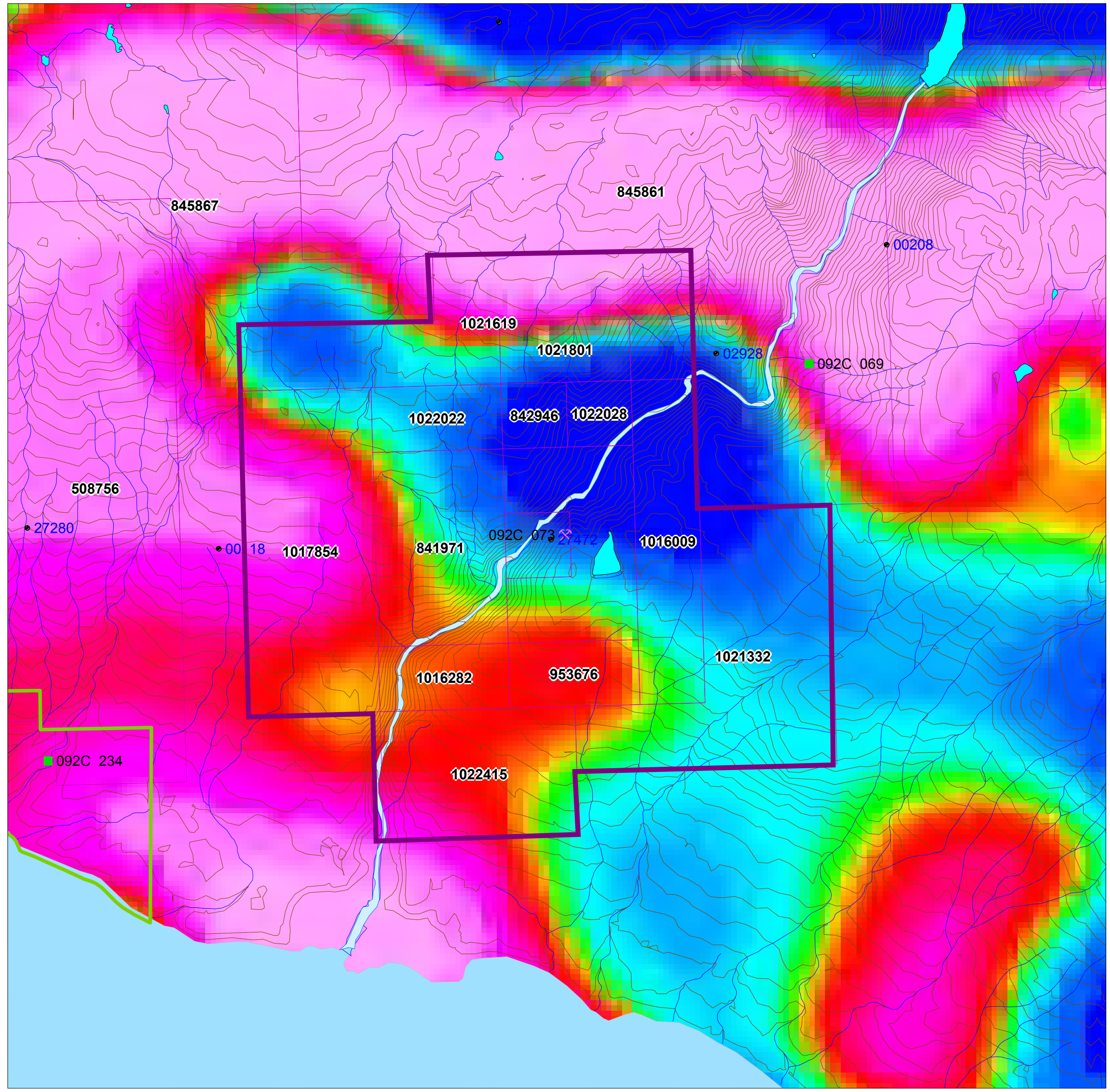
Lake 1:20k

Rivers 1:20K (<100K)

BC Ocean

Geophysical Layers

1st Vertical Derivative Magnetic Field (<500K)



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1 0 1 2 3

KILOMETERS

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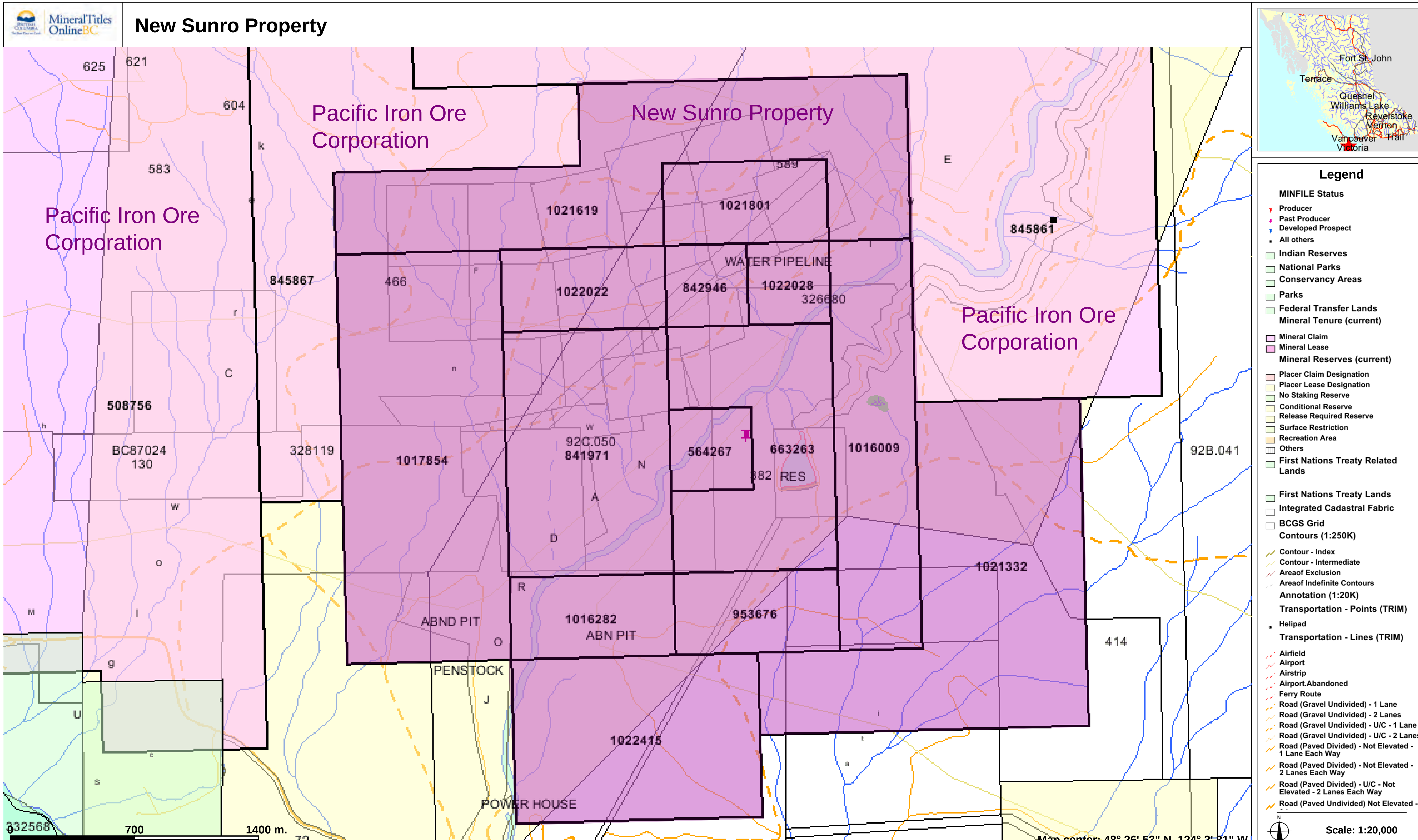
New Sunro Property 1st Vertical Derivative Aeromagnetics - Figure 2d

New Sunro Property



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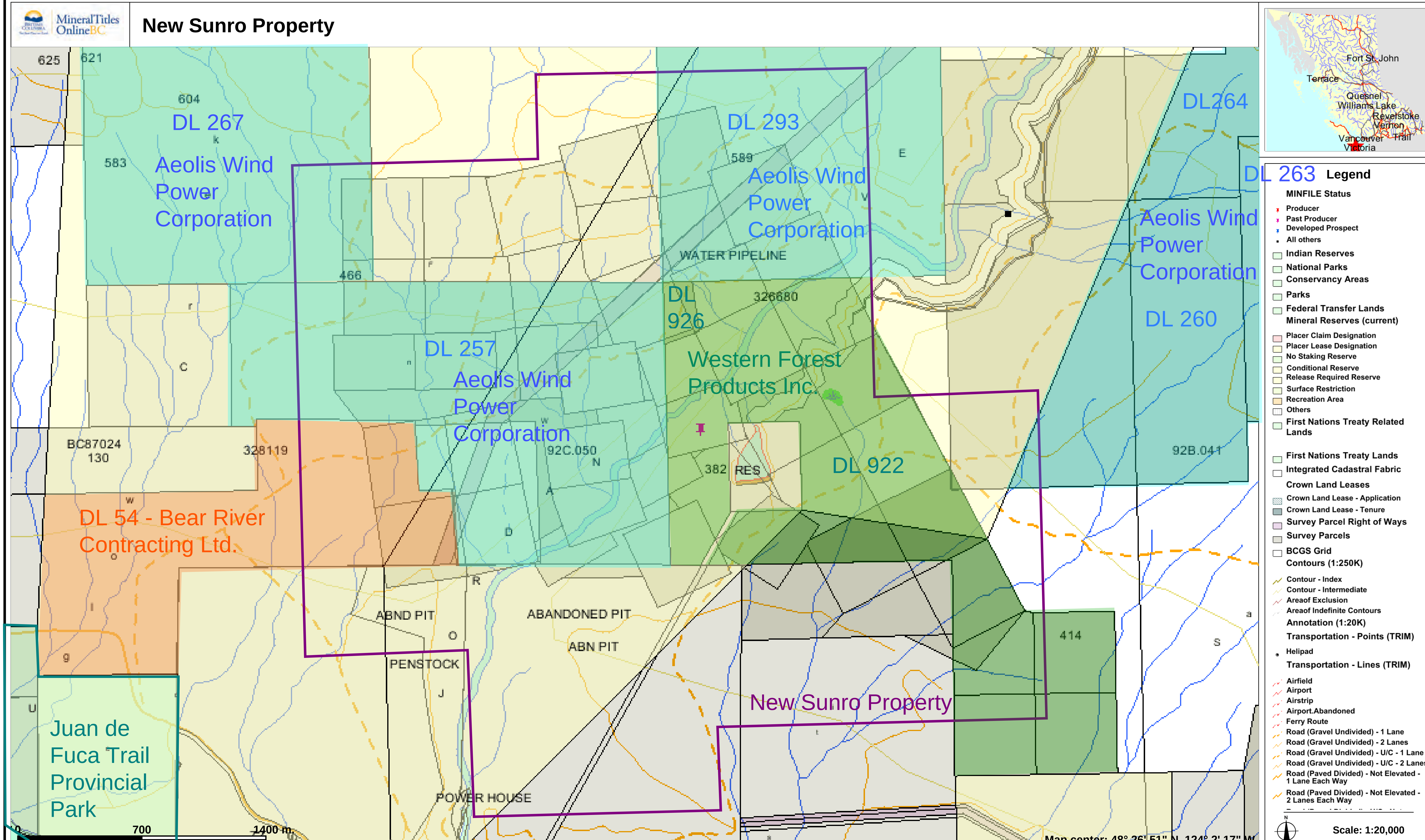
New Sunro Property Mineral Titles - Figure 3a



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New Sunro Property Surface Titles - Figure 3b


GEOLOGICAL MAP OF JORDAN RIVER AREA
VICTORIA MINING DISTRICT
B.C.
Scale : 1 inch = 1000 Feet.
By E.E.Erich & Roland Blanchard April 1st 1921
92C/8E
92C-73
New Sunro Property (approximate)
Alluvium
Sediments
Gabbro
Volcanics including diabase
Boundaries Determined
Boundaries Assumed
SECTION AA'
looking approximately N50°W
Scale 1" = 1000'
Contour Interval - 100' Datum : V.I.P.
Reservoir assumed elevation 1150 feet.
Contours sketched to show nature of topography. Contours not necessarily accurate
Elevations for Jordan River Canyon below Sunloch tunnels from claim surveys by F.C. Green Victoria, B.C. Other elevations from aneroid readings
N.B. 1. Coarse grained volcanics & fine grained gabbro very similar in appearance. In many places difficult to determine exact contacts.
2. Geology north & west of Viking 2 Claim approximate. Only reconnaissance work done on these claims.
3. The gabbro on Desolation Creek contains inclusions of volcanics. Inclusions not shown on map, because positions were not accurately determined.
4. Bedrock in Jordan River Canyon above Sunloch Camp & along Winkler Creek below Olive Fraction covered by alluvium in many places. Alluvium not shown.
5. On Hannah Creek above Olive Claim & on Desolation Creek above last volcanics shown, creek beds were snow covered at time of examination.
6. Only cherty & porphyritic basalts considered in determining strike & dip of volcanics.
KEY MAP SHOWING GEOLOGY OF SOUTHEASTERN VANCOUVER ISLAND
Scale : 1" = 4 miles
006042

Figure 4

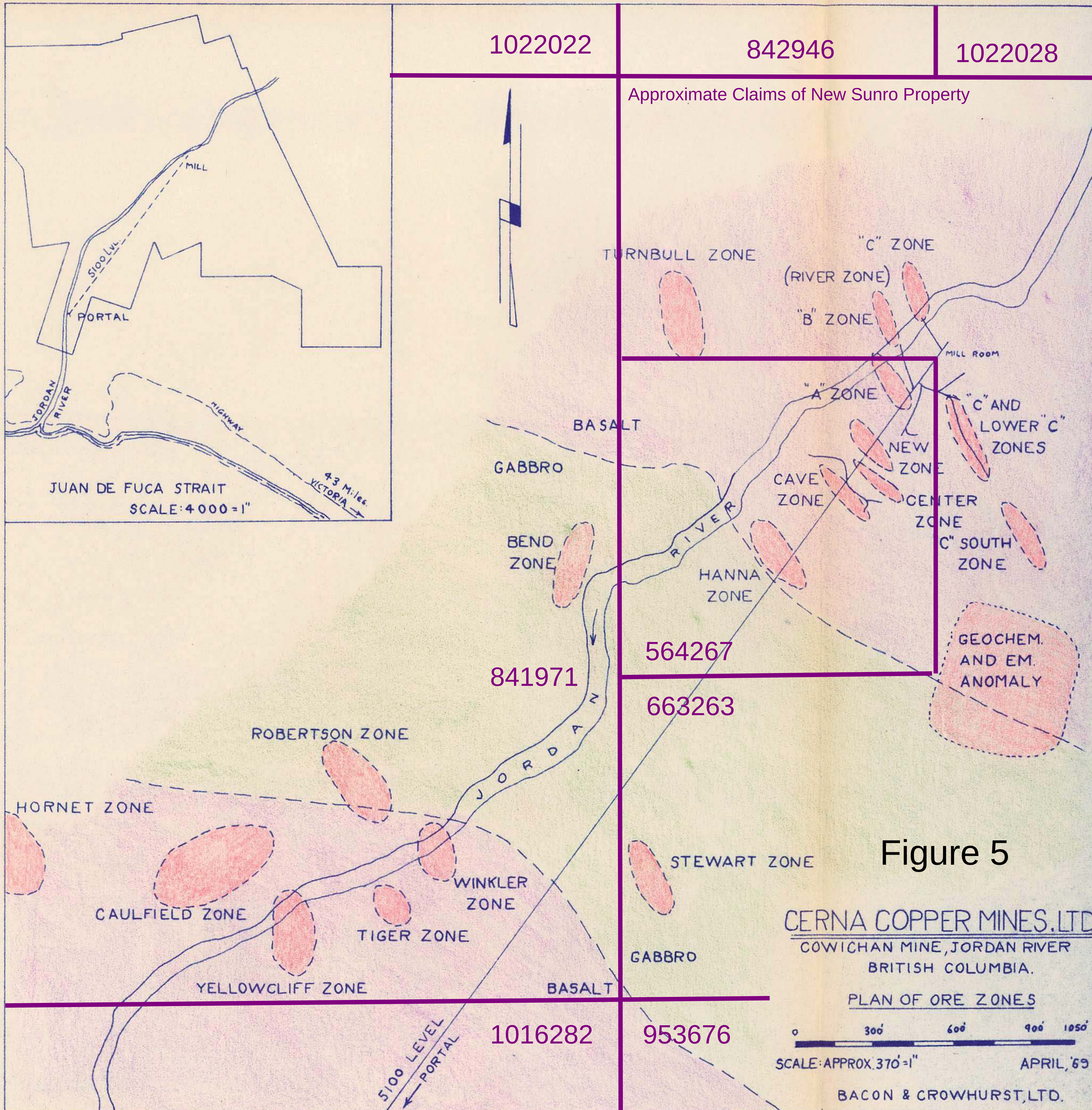

1022022
842946
1022028
Approximate Claims of New Sunro Property
MILL
5100 LVL.
PORTAL
JORDAN RIVER
HIGHWAY
43 Miles VICTORIA
JUAN DE FUCA STRAIT
SCALE: 4000 = 1"
TURNBULL ZONE
"C" ZONE
(RIVER ZONE)
"B" ZONE
MILL ROOM
"A" ZONE
"C" AND LOWER "C" ZONES
BASALT
GABBRO
NEW ZONE
CAVE ZONE
CENTER ZONE
"C" SOUTH ZONE
BEND ZONE
RIVER
HANNA ZONE
GEOCHEM. AND EM. ANOMALY
564267
841971
663263
JORDAN
ROBERTSON ZONE
HORNET ZONE
STEWART ZONE
CAULFIELD ZONE
WINKLER ZONE
TIGER ZONE
YELLOWCLIFF ZONE
GABBRO
BASALT
1016282
953676
5100 LEVEL PORTAL
CERNA COPPER MINES, LTD.
COWICHAN MINE, JORDAN RIVER
BRITISH COLUMBIA.
PLAN OF ORE ZONES
0 300' 600' 900' 1050'
SCALE: APPROX. 370' = 1"
APRIL, '69
BACON & CROWHURST, LTD.

Figure 5

Appendix 1

2015 Airborne Geophysical Report

Precision GeoSurveys

AIRBORNE GEOPHYSICAL SURVEY REPORT

New Sunro Survey Block
Prepared for New Sunro Copper Ltd.

Jenny Poon, P.Geo.
Precision GeoSurveys Inc.
www.precisiongeosurveys.com
520-355 Burrard St., Vancouver, BC
Canada V6C 2G8
604-484-9402

June 2015

Table of Contents

List of Figures

List of Tables

1.0 Introduction

This report outlines the geophysical survey operations and data processing procedures taken during the high resolution airborne magnetic and radiometric survey flown at the New Sunro survey block for New Sunro Copper Ltd. The New Sunro survey block area is 49.5 km west of Victoria, BC and covers a total of 13.2 km^2 (Figure 1). The geophysical survey was started on June 9, 2015 and completed on June 10, 2015.

Figure 1: New Sunro survey block location map.

1.1 Survey Area

The New Sunro survey block is approximately 49.5 km west of Victoria, BC (Figure 2). The block covers an irregular area of 4.2 km by 4.1 km and its survey plan includes 52 survey lines and 5 tie lines at 100 and 1000 m spacing respectively for a total of 149 line km.

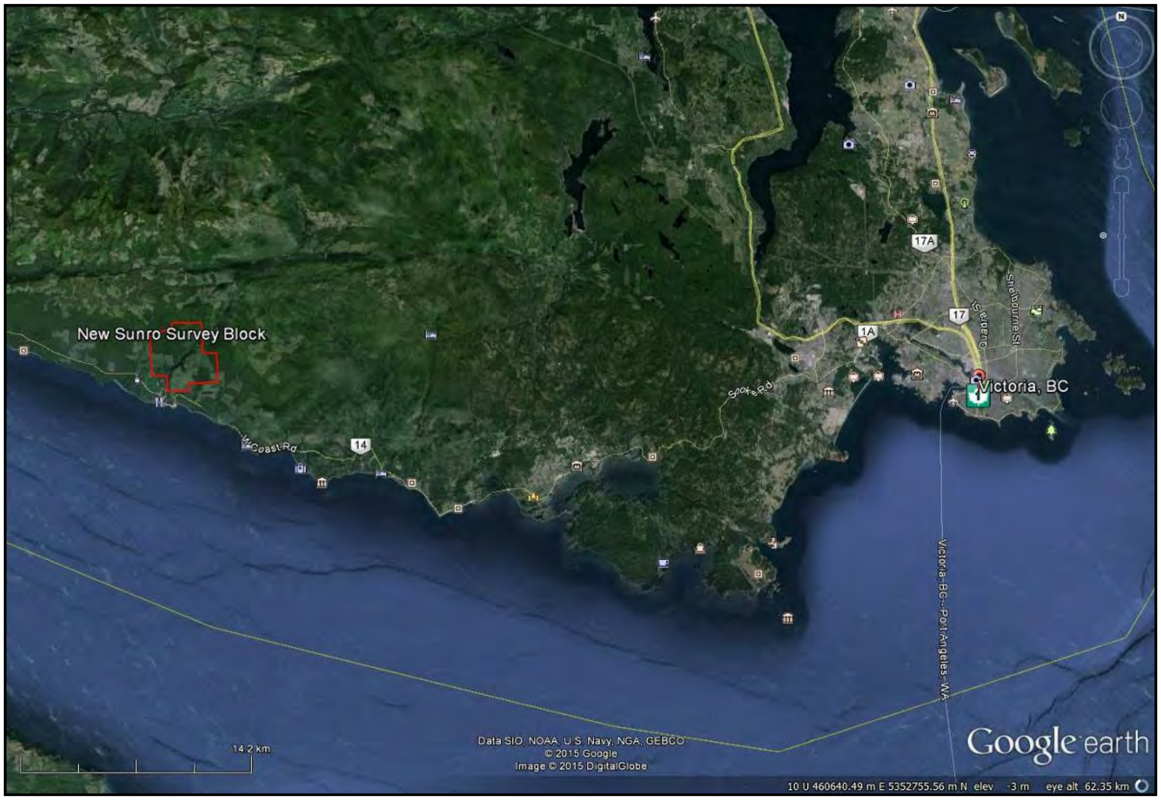


Figure 2: New Sunro survey block boundary in red; west of Victoria, BC.

The New Sunro survey block was flown at 100 meter spacing at a 045°/225° heading; the tie lines were flown at 1000 meter spacing at a heading of 135°/315° (Figures 3 and 4). Several survey lines were adjusted to avoid homes, and power lines, and to mitigate livestock harassment. An extra, 1.9 line km of data were collected on several survey and tie lines extending outside the survey block. As a result, the total line km flown for the entire survey block remains the same as planned, a total of 149 line km.

Figure 3: Plan View –New Sunro survey block boundary in red with flight lines displayed in yellow.

Figure 4: Terrain View – New Sunro survey block with flight lines displayed in yellow.

1.2 Survey Specifications

The geodetic system used for this survey is WGS 84 and the area is contained in zone 10N. A total of 149 line km was flown (Figure 5). The survey data acquisition specifications and coordinates for the survey are specified as follows (Tables 1 and 2).

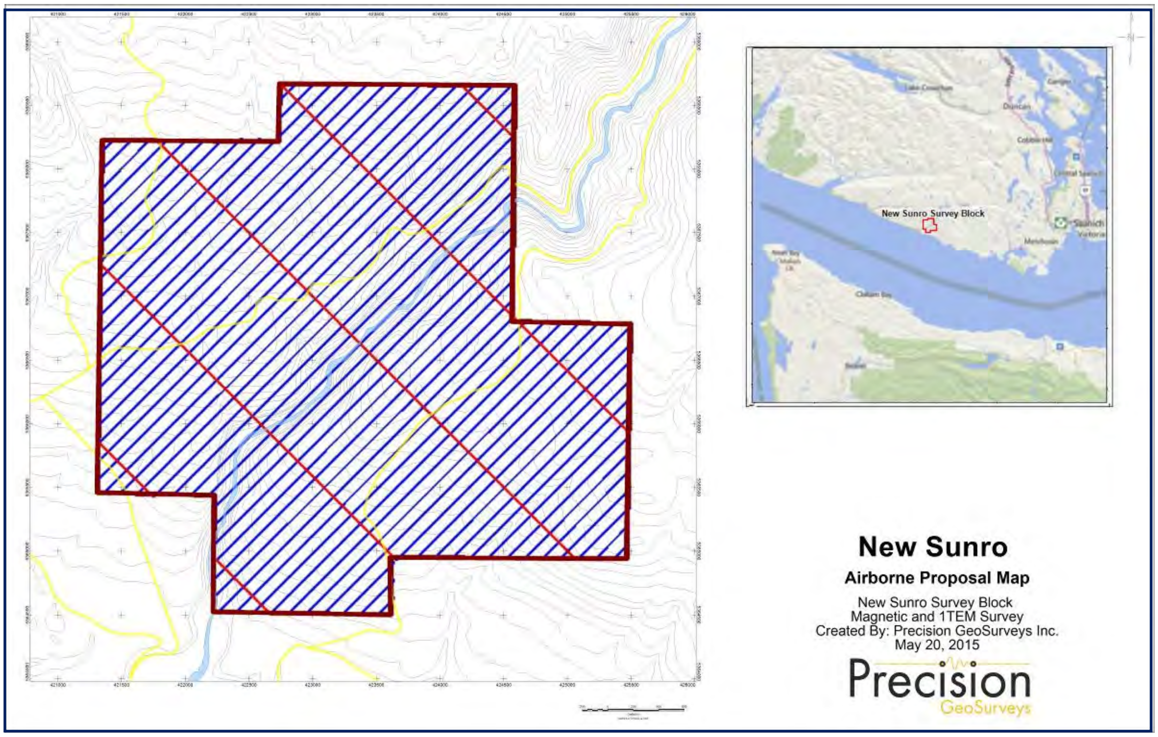


Figure 5: Survey map of New Sunro survey block area showing proposed survey and tie lines. The survey block boundary in brown, the survey lines in blue, and the tie lines in red.

Block Name	Area (km^2)	Line Type	Planned No. of Lines	Planned Line Spacing (m)	Line Orientation	Nominal Survey Height (m)	Actual Survey Height (m)	Total Planned Line km	Total Actual km Flown
New Sunro	13.2	Survey	52	100	045°/225°	40	37.8	134	134
		Tie	5	1000	135°/315°	40	37.3	15	15
		Total:	**57**					**149**	**149**

Table 1: New Sunro survey area flight line specifications.

Longitude	Latitude	Easting	Northing	N/S	E/W
124.06399384	48.46224848	421343	5368226	N	W
124.04528760	48.46233894	422726	5368217	N	W
124.04523603	48.46641489	422736	5368670	N	W
124.02033295	48.46653941	424577	5368659	N	W
124.02021476	48.44984270	424561	5366803	N	W
124.00769010	48.44976413	425487	5366782	N	W
124.00772753	48.43320095	425460	5364941	N	W
124.03281714	48.43307745	423604	5364952	N	W
124.03266716	48.42901230	423609	5364500	N	W
124.05149954	48.42907565	422216	5364526	N	W
124.05160180	48.43730669	422221	5365441	N	W
124.06397469	48.43738187	421306	5365462	N	W

Table 2: New Sunro survey block polygon coordinates using WGS 84 in zone 10N.

2.0 Geophysical Data

Geophysical data are collected in a variety of ways and are used to aid in determination of geology, mineral deposits, oil and gas deposits, geotechnical investigations, contaminated land sites and UXO detection.

For the purposes of this survey, airborne magnetic and radiometric data were collected to serve in the exploration for gold-copper deposits.

2.1 Magnetic Data

Magnetic surveying is probably the most common airborne survey type to be conducted for both mineral and hydrocarbon exploration. Aeromagnetic surveys measure and record the total intensity of the magnetic field at the magnetometer sensor, which is a combination of the desired magnetic field generated in the Earth as well as tiny variations due to the temporal effects of the constantly varying solar wind and the magnetic field of the survey aircraft. By subtracting the solar, regional, and aircraft effects, the resulting aeromagnetic map shows the spatial distribution and relative abundance of magnetic minerals (most commonly the iron oxide mineral magnetite) in the upper levels of the Earth's crust. The type of survey specifications, instrumentation, and interpretation procedures depend on the objectives of the survey. Typically magnetic surveys are performed for:

1. Geological Mapping - to aid in mapping lithology, structure and alteration.
2. Depth to Basement Mapping - for exploration in sedimentary basins or mineralization associated with the basement surface.

2.2 Radiometric Data

Radiometric surveys detect and map natural radioactive emanations, called gamma rays, from rocks and soils. All detectable gamma radiation from earth materials come from the natural decay products of three primary radioelements: uranium (U), thorium (Th), and potassium (K). The purpose of radiometric surveys is to determine either the absolute or relative amounts of U, Th, and K in surface rocks and soils which are then useful in mapping lithology, alteration, and structure.

3.0 Survey Operations

Precision GeoSurveys flew the survey out of Pitt Meadows, BC. The experience of the pilot helped to ensure that the data quality objectives were met and that the safety of the flight crew was never compromised given the potential risks involved in airborne geophysical surveying. Field processing and quality control checks were done daily.

3.1 Operations Base and Crew

The base of operation for this survey was at Precision GeoSurveys' hangar located at Pitt Meadows regional airport, 129.5 km northeast of the New Sunro survey block (Figure 6).

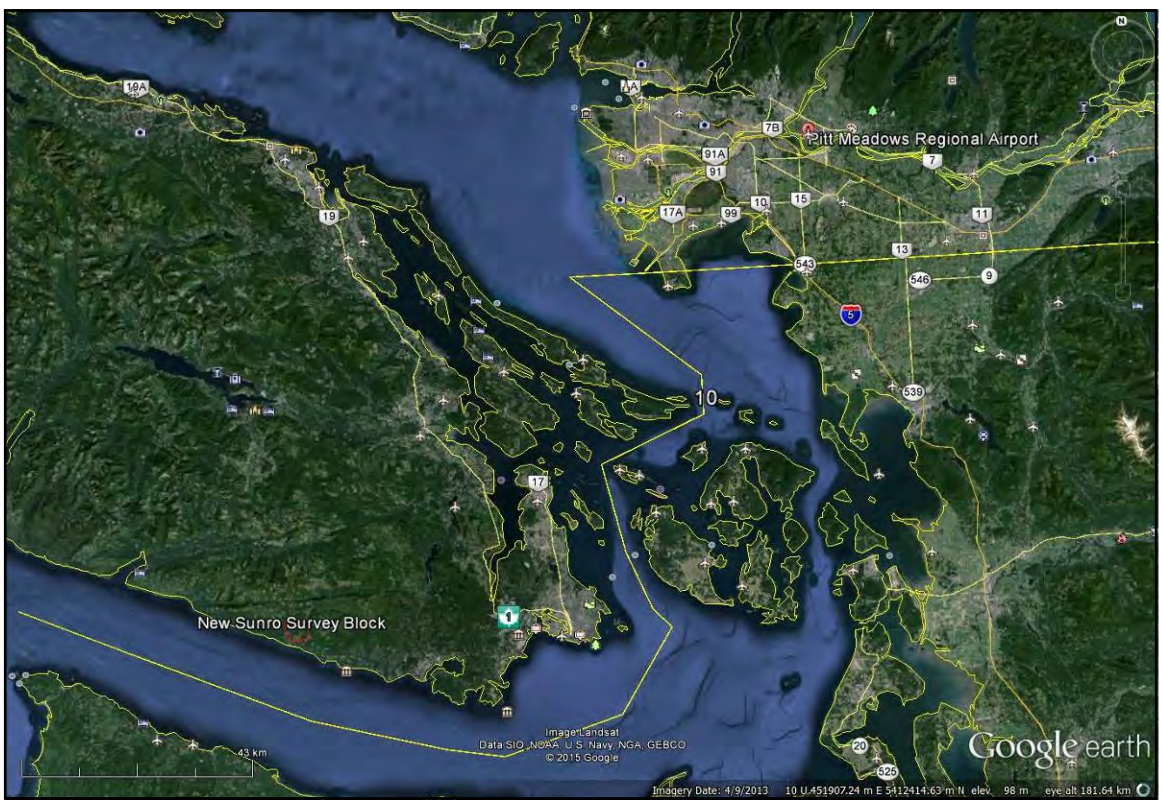


Figure 6: Map showing base of operation at Precision GeoSurveys' hangar located at Pitt Meadows regional airport northeast of the New Sunro survey block; red boundary.

The Precision geophysical crew consisted of four members:

Harmen Keyser – Pilot
Erik Keyser – Geophysical technician
Trevor Hansen – Ground support
Jenny Poon – Geophysicist and data processor

The survey was started on June 9, 2015 and completed on June 10, 2015. The survey encountered a small delay due to equipment malfunction.

3.2 Base Station Specifications

Base station magnetometers were set up before the survey to record diurnal magnetic variations during the survey flights. In this case, two GEM GSM 19T base stations were used (see Table 3), GEM 1 and GEM 4 were located in the bushes within the New Sunro survey block (Figures 7 and 8).

Station name	Easting/ Northing	Longitude/ Latitude	Datum/ Projection
GEM 1 (Serial # 8052735)	0423998E, 5366211N	124° 01' 39.79" W 48° 26' 40.02" N	WGS 84, Zone 10N
GEM 4 (Serial # 2065370)	0423999E, 5366214N	124° 01' 39.76" W 48° 26' 40.13" N	WGS 84, Zone 10N

Table 3: Base station specification.

Base station readings were reviewed at regular intervals to ensure that no data were collected during periods of high diurnal magnetic activity (greater than 5 nT per minute). The magnetic base stations were installed at a magnetically noise-free area, away from metallic items such as ferromagnetic objects, vehicles, or power lines that could affect the base station or survey data.

Figure 7: GEM 1 (left) and GEM 4 (right) magnetic base stations located within the survey block.

Figure 8: GEM 1 and GEM 4 magnetic base station locations within the survey block on google earth.

The diurnal magnetic variations recorded by the stationary base stations were removed from the magnetic data recorded in flight to ensure that the anomalies seen were real and not due to solar activity. On this survey, the magnetic data recorded by GEM 4 were used for diurnal corrections and GEM 1 was used as a backup.

3.3 Field Processing and Quality Control

On a flight-by-flight basis, the survey data were transferred from the helicopter's data acquisition system onto a USB flash drive and copied onto a field data processing laptop. The raw data files were in PEI binary data format and were converted into Geosoft GDB database format. Using Geosoft Oasis Montaj 8.3.3, the quality of the data was inspected to see if it met the contract specifications (Table 4). Navigational accuracy (left/right or up/down) for all survey and tie lines were within contract specifications (Figure 10), and no re-flights were required due to navigational error. All suspect anomalies, especially those found on a single flight line, were re-flown for confirmation. Re-flight lines were a minimum of 2000 m long, so that survey line re-flights crossed at least two tie lines, and tie line re-flights crossed at least 10 survey lines.

Specification	Parameter	Details
Line Spacing	Position	Flight line deviation from flight path by more than 10 m left/ right for 1 km or more.
Height		Nominal flight height of 40 m above ground. Flight height deviation by more than 10 m up/down with a for 1 km or more, provided line deviation from height is not due to tall trees, topography, cultural features, mitigation of livestock harassment, or other obstacles beyond the pilot's control.
GPS		Any flight lines where 3 or less GPS satellites received for distances of greater than 1 km, provided signal loss is not due to topography.
Diurnal Variations	Magnetics	Non-linear magnetic diurnal variations exceed 10nT from a linear chord of length one (1) minute.
Normalized 4th Difference		Magnetic data exceeding 0.30 nT peak to peak for distances greater than 1 km or more (provided noise is not due to geological or cultural features).

Table 4: Contract re-flight specifications.

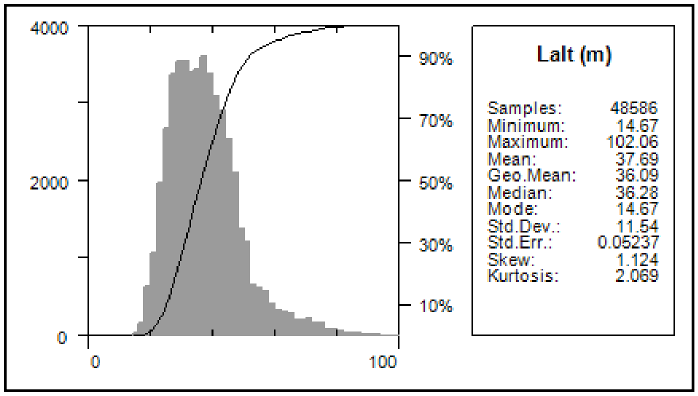


Figure 9: Histogram showing survey elevation vertically above ground.

To mitigate harassment of livestock and to avoid homes, and power lines and other cultural features (Figure 10) within the survey block area, several flight lines deviated off course from height and some flight lines were adjusted.

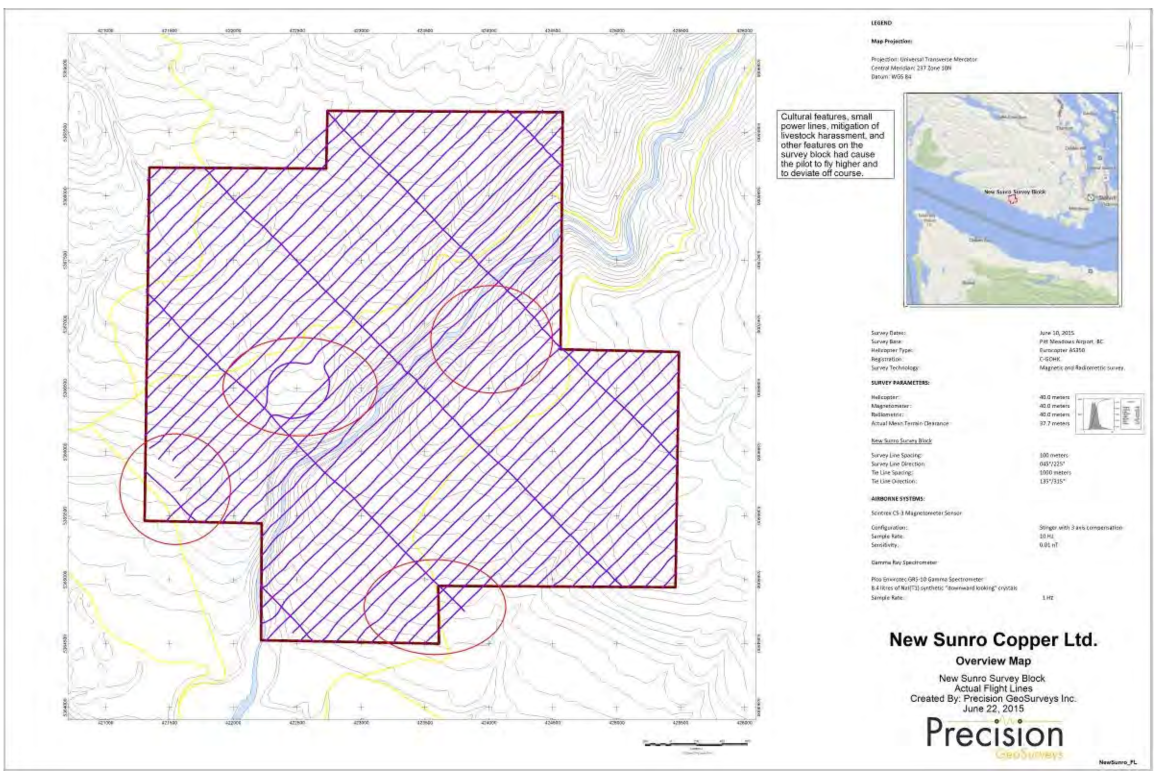


Figure 10: New Sunro survey block – Actual flight lines displayed in purple and areas that were flown over height specification or lines adjusted to avoid residences, ranches, power lines, and livestock are highlighted within the red circles.

4.0 Aircraft and Equipment

All geophysical and subsidiary equipment are carefully installed on Precision GeoSurveys aircraft. For this survey, a magnetometer, a spectrometer, a data acquisition system, laser altimeter, magnetic compensation system, a pilot guidance unit (PGU), a GPS navigation system, and magnetic base stations were required to carry out the survey and collect quality, high resolution data. The survey magnetometer was carried in an approved “stinger” configuration to enhance flight safety and improve data quality.

4.1 Aircraft

Precision GeoSurveys flew the New Sunro survey block using a Eurocopter AS350 helicopter (Figure 11), registration C-GOHK. The survey lines were flown at a nominal line spacing of one hundred (100) meters spacing and the tie lines were flown at one thousand (1000) meters spacing for both the magnetometer and spectrometer.

Figure 11: Eurocopter AS350 helicopter is equipped with mag stinger for magnetic data acquisition, and internal spectrometer crystals for radiometric data acquisition.

4.2 Equipment

4.2.1 AGIS

The Airborne Geophysical Information System, AGIS, (Figure 12), is the main computer used in data recording, data synchronizing, displaying real-time quality control data for the geophysical operator, and the generation of navigation information for the pilot and operator display system. Information such as magnetic field, total gamma count, counts of various radioelements (K, U, Th, etc.), temperature, cosmic radiation, barometric pressure, atmospheric humidity and survey altitude can all be monitored on the AGIS on-board display for immediate quality control.

Figure 12: AGIS operator display installed in the Eurocopter AS350, with screen displaying real time flight line recording and navigation parameters.

The AGIS was manufactured by Pico Envirotec and uses standardized Pico software. External sensors are connected to the system via RS-232 serial communication cables. The AGIS data format is converted into Geosoft or ASCII file formats by a conversion program called PEIView. Additional Pico software allows for post or real time magnetic compensation and survey quality control procedures.

4.2.2 Magnetometer

The airborne magnetic sensor used by Precision GeoSurveys is a Scintrex cesium vapor CS-3 magnetometer. The system was housed in a front mounted "stinger" (Figure 13). The CS-3 is a high sensitivity/low noise magnetometer with automatic hemisphere switching and a wide voltage range, the static noise rating for the unit is +/- 0.01 nT. On the AGIS monitor the operator can view the raw magnetic response, the magnetic fourth difference, compensated and uncompensated data, aircraft position, and the survey altitude for immediate QC (quality control) of the magnetic data. The magnetic data are recorded at 10 Hz. A fluxgate magnetic compensator is also used to remove noise created by the movement of the helicopter as it pitches, rolls and yaws within the Earth's geomagnetic field.

Figure 13: View of the mag stinger.

4.2.3 Spectrometer

The IRIS, or Integrated Radiometric Information System, is a fully integrated, gamma radiation detection system containing 8.4 litres of NaI (T1) synthetic downward looking crystals and 4.2 litres of NaI (T1) synthetic upward looking crystals (Figure 14) with 256 channel output at 1 Hz sampling rate. The downward-looking crystals are designed to measure gamma rays from below the aircraft and are equipped with upward-shielding high density RayShield® gamma-attenuating blankets to minimize cosmic and solar gamma noise. The upward looking crystal measures solar gamma radiation from above the survey helicopter and a 6 mm thick lead plate is used for downward-shielding. Real time data acquisition, navigation and communication tasks are integrated into a single unit that is installed in the rear cabin of the aircraft.

Figure 14: GRS-10 Thallium-activated Sodium Iodide spectrometer crystal pack. The open unit on the right shows two individual 4.2 liter detectors.

4.2.4 Base Stations

For monitoring and recording of the Earth's diurnal magnetic field variation, Precision GeoSurveys operates two GEM GSM-19T magnetometer base stations continuously throughout the airborne data acquisition operation. The base stations were positioned within the survey block, hidden within the trees and in a region with low magnetic gradient, to give accurate magnetic field readings. The base stations were located in an area away from electric transmission power lines and moving ferrous objects, such as motor vehicles that could affect the survey data integrity.

The GEM GSM-19T magnetometer with integrated GPS (Figure 15) time synchronization uses proton precession technology with a 0.5 Hz sampling rate. The GSM-19T has an accuracy of +/- 0.2 nT at 1 Hz. Base station data are recorded on the internal solid-state memory, and downloaded onto a field laptop computer using a serial cable and GEMLink 5.0 software. Profile plots of the base station readings are generated and updated at the end of each survey day.

Figure 15: GEM GSM-19T proton precession magnetometer.

4.2.5 Laser Altimeter

The pilot is provided with terrain guidance and clearance information from an Opti-Logic RS800 laser altimeter (Figure 16). This is attached at the aft end of the magnetometer boom. The RS800 sensor is a time-of-flight sensor that measures distance by a rapidly-modulated and collimated laser beam that creates a dot on the target surface. The maximum range of the laser altimeter is 700 m off of natural surfaces with an accuracy of +/- 1 meter on 1 x 1 m^2 diffuse target with 50% (+/- 20%) reflectivity. Within the sensor unit, reflected signal light is collected by the lens and focused onto a photodiode. Through serial communications and digital outputs, the ground clearance data are transmitted to an RS-232 compatible port and recorded and displayed by the AGIS and PGU at 10 Hz in meters.

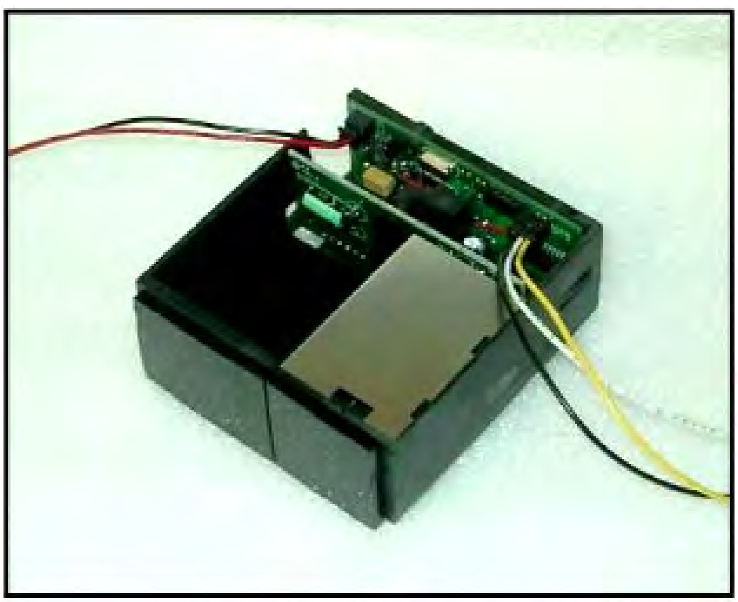


Figure 16: Opti-Logic RS800 laser altimeter.

4.2.6 Pilot Guidance Unit

The PGU (Pilot Guidance Unit) is a graphical display type unit that provides continuous steering and elevation information to the pilot (Figure 17). It is mounted remotely from the data system on top of the helicopter's instrument panel. The PGU assists the pilot in keeping the helicopter on the flight path and at the desired ground clearance.

Figure 17: Pilot Guidance Unit.

The LCD monitor measures 7 inches, with a full VGA 800 x 600 pixel display. The CPU for the PGU is housed in the PC-104 console and uses Windows XP Embedded operating system control, with input from the GPS antenna, laser altimeter, and AGIS.

4.2.7 GPS Navigation System

A Hemisphere R220 GPS receiver (Figure 18) navigation system integrated with the pilot display (PGU) and AGIS provided navigational information and control. The R220 GPS receiver features RTK (Real Time Kinematic) for fast, reliable, and long range centimeter level performance. It employs COAST technology that allows continuous operation for at least 40 minutes during temporary signal outages.

Figure 18: Hemisphere R220 GPS Receiver.

It can track GPS, SBAS (Satellite-Based Augmentation System), and L-Band (OmniSTAR HP and XP) differential corrections to provide high precision positioning.

5.0 Data Acquisition Equipment Checks and Calibration

Airborne equipment tests were conducted at the start of the survey. There are three tests conducted for the airborne magnetometer: compensation flight, lag test, and heading error test. Gamma ray spectrometer checks and calibrations are also conducted prior to the start of the survey. The three spectrometer tests were the calibration pad test, cosmic flight test, and the Breckenridge test range.

5.1 Magnetometer Checks

5.1.1 Compensation Flight Test

During aeromagnetic surveying a small but significant amount of noise is introduced to the magnetic data by the aircraft itself, as the magnetometer is within the helicopter's magnetic field. Movement of the aircraft (roll, pitch and yaw) and the permanent magnetization of certain aircraft parts (engine and other ferrous magnetic objects) contribute to this noise. To remove noise generated by the aircraft a process called magnetic compensation is implemented. The magnetic compensation process starts with a test flight at the beginning of the survey where the aircraft flies in the four orthogonal headings required for the survey (045°/225°and 135°/315°in the case of this survey) at a sufficient altitude (typically > 1,500 m AGL) where the Earth's magnetic field becomes nearly uniform at the scale of the compensation flight (Table 5). In each heading direction, three specified roll, pitch, and yaw maneuvers are performed by the pilot at constant elevation so that any magnetic variation recorded by the airborne magnetometer can be attributed to the aircraft movement. The variations recorded by these maneuvers provide the data that are required to calculate the necessary parameters for compensating the magnetic data and removing the aircraft noise.

Pre-Compensation					**Post-Compensation**				
Heading	**Roll**	**Pitch**	**Yaw**	**Total**	**Heading**	**Roll**	**Pitch**	**Yaw**	**Total**
042°	6.5959	4.4690	2.6761	13.7410	042°	0.2850	0.4338	0.3012	1.0200
133°	8.1204	5.5318	2.0161	15.6683	133°	0.2304	0.2574	0.2553	0.7431
225°	4.5556	3.6947	2.1940	10.4443	225°	0.2997	0.2670	0.3452	0.9119
312°	4.1109	2.1079	1.2940	7.5128	312°	0.3302	0.3084	0.3174	0.9560
Total	23.3828	15.8034	8.1802		**Total**	1.1453	1.2666	1.2191	
FOM = 47.3664 nT					**FOM = 3.6310 nT**				

Table 5: Figure of Merit maneuver test results for compensation flight flown on June 10, 2015 at an area north of Stave Lake, BC.

5.1.2 Lag Test

A lag test was performed to determine the relationship between the time the digital reading was recorded by the instrument magnetic sensor and the time for the position fix that the fiducial of the reading was obtained by the GPS system.

The test was flown in the four orthogonal headings over an identifiable magnetic anomaly (ie. Truck, Trailer, etc.) at survey speed and height. A lag of 7 fiducials (0.7 seconds) was determined from the lag test.

5.1.3 Heading Error Test

To determine the magnetic heading effect a cloverleaf pattern flight test was conducted. The cloverleaf test was flown in the same orthogonal headings as the survey and tie lines (045°/225°and 135°/315° at >1000 m AGL in an area with low magnetic gradient. For all four directions the survey helicopter must pass over the same mid-point all four times at the same elevation (Table 6 and Figure 19).

Line Number	**Fiducials**	**Heading**	**Mag (nT)**	**Average (nT)**
L045	607.6	NE – 045°	53892.8282	
L135	869.8	SE – 135°	53895.8562	
L225	491.5	SW - 225°	53865.0926	
L315	1006.9	NW - 315°	53856.0750	
				53877.463

Table 6: Heading error test data format flown on June 10, 2015 north of the New Sunro survey block area.

```
/Geosoft Heading Correction Table

/
/=Direction:real:i
/=Correction:real
/
/Direction Correction
 045    -15.3652
 135    -18.3932
 225    +12.3704
 315    +21.3880
```

Figure 19: Heading data results in .tbl format in Geosoft table.

5.2 Gamma-ray Spectrometer Checks and Calibrations

Pre-survey calibrations and testing of the GRS-10 airborne gamma-ray spectrometry system were carried out prior to the start of the survey. The calibration of the spectrometer system involved three tests which enabled the conversion of airborne data to ground concentration of natural radioactive elements. These tests were the calibration pad test, cosmic flight test, and the Breckenridge test range. The measurements were made in accordance with IAEA technical report series No. 323, "Airborne Gamma Ray Spectrometer Surveying", and AGSO Record 1995/60, "A Guide to the Technical Specification for Airborne Gamma-Ray Surveys".

5.2.1 Calibration Pad Test

The calibration pad test was conducted by Pico Envirotec at the GSC (Geological Survey of Canada) testing facility in Ottawa, Ontario over the approved GSC calibration pad. It is a slab of concrete containing known concentrations of the radioelements (K, Th, and U) and is ideally used to simulate a geological source of radiation. The measurements collected from the calibration pad test are used to determine the Compton scattering and Grasty Backscatter (spectral overlap between element windows) coefficients.

5.2.2 Cosmic Flight Test

While the background source of gamma radiation from the aircraft itself is essentially constant, the amount of signal detected from ground sources varies with ground clearance. As the height of the aircraft increases, the distance between the ground and the spectrometer crystals increase, and the proportion of cosmic radiation in each spectral window increases exponentially due to radiation of cosmic origin. The cosmic flight test is conducted to determine the aircraft's background attenuation coefficients for the detector crystal packs and the cosmic coefficients. The pilot is required to fly over the same location repeatedly in opposite directions starting from 1,500 m to 3,000 m at 500 m intervals for approximately 2 minutes each to collect gamma data used to determine the amount of non-terrestrial gamma signal.

5.2.3 Breckenridge Test Range

The Breckenridge test range is very similar to the cosmic flight test but is conducted at lower elevations (from ground level). The pilot is required to fly over the same location at the following elevations in meters above ground; 30, 50, 100, 150, 200, 250, and 300. As the distance of the aircraft increases away from the radioactive ground source, the source signature exponentially degrades. As a result, this test is used to determine the altitude attenuation coefficients and the radio-element sensitivity of the airborne spectrometer system.

6.0 Data Processing

After all the data were collected from a survey flight several procedures were undertaken to ensure that the data met a high standard of quality. All data were processed using Pico Envirotec software and Geosoft Oasis Montaj 8.3.3 geophysical processing software along with proprietary processing algorithms.

6.1 Magnetic Processing

The data obtained from the compensation flight test were applied to the raw magnetic data before any further processing and editing. A computer program called PEIComp was used to create a model from the compensation flight test for each survey to remove the noise induced by aircraft movement; this model was applied to each survey flight so the data could be further processed.

Over glassy water or fog, the laser altimeter is unable to record a valid reading and a zero is recorded; therefore all data points recorded at zero were replaced with a nominal height of 40 m. Filtering was then applied to the laser altimeter data to remove vegetation clutter and to show the actual ground clearance. To remove vegetation clutter a Rolling Statistic filter was applied to the laser altimeter data and a low pass filter was used to smooth out the laser altimeter profile to eliminate isolated noise. As a result, filtering the data will yield a more uniform surface in close conformance with the actual terrain. A digital terrain model channel was calculated by subtracting the filtered laser altimeter data from the filtered GPS altimeter data defined by the WGS 84 ellipsoidal height.

The processing of the magnetic data first involved the correction for diurnal variations. The base station data that were used for the correction came from GEM 4. The diurnal data were edited, plotted and merged into a Geosoft (.gdb) database on a daily basis. The airborne magnetic data were corrected for diurnal variations by subtracting the observed magnetic base station deviations. Following the diurnal correction, a lag correction was applied. A lag correction of 0.7 seconds was applied to the total magnetic field data to compensate for the combination of lag in the recording system and the magnetometer sensor flying 15.2 m ahead of the GPS antenna. Lastly, a heading correction was applied to the data.

The initial Total Magnetic Intensity (TMI) data from the survey and tie lines were used to level the entire survey dataset. Two forms of leveling were applied to the corrected data: conventional leveling and micro-leveling. There were two components to conventional leveling; the first involved statistical leveling of magnetic data to correct miss ties (intersection errors) followed by specific patterns or trends. For the second component, tie lines were brought to a common regional base value using the mean value of the cross-level error. To obtain the best possible leveled data, individual corrections were edited at selected intersections. Lastly, micro-leveling was applied to the corrected conventional leveled data. This will remove any residual noise related to flight line direction, and any low amplitude component of flight line noise, that still remained in the data after tie line leveling.

6.1.1 IGRF Removal and Calculation of the First Vertical Derivative

The International Geomagnetic Reference Field (IGRF) model is the empirical representation of the Earth's magnetic field (main core field without external sources) collected and disseminated from satellites and from observatories around the world. The IGRF is generally revised and updated every five years by a group of modelers associated with the International Association of Geomagnetism and Aeronomy (IAGA). In this case, the IGRF values were calculated from the recently updated model (IGRF – 12) year 2015 and the actual survey dates were obtained from the "Date" channel.

With the removal of the IGRF from the observed Total Magnetic Intensity (TMI) a Residual Magnetic Intensity (RMI) was generated. This created a more valid model of individual near surface anomalies and the data will not be referenced to a time which can be easily incorporated into databases of magnetic data acquired in the past or in the future.

The first vertical derivative was computed from the Total Magnetic Intensity (TMI) data. Long wavelengths and vertical rate of change were suppressed in the magnetic field. Therefore, the edges of magnetic anomalies were highlighted and spatial resolution was increased.

6.2 Radiometric Processing

Radiometric surveys map the concentration of radioelements at or near the earth's surface; typically up to 1.5 meters below surface. Thus, the first step which is vital before processing of the airborne radiometric data was to calibrate the spectrometer system. Once calibration of the system was complete, the radiometric data were processed by windowing the full spectrum to create channels for U, K, Th and total count. A 5-point Hanning filter was applied to the Cosmic window before going any further with processing the radiometric data.

Aircraft background and cosmic stripping corrections were applied to all three elements, and total count using the following formula:

$$C_{ac} = C_{lt} - (a_c + b_c * \text{Cos}_f)$$

where: C_{ac} is the background and cosmic corrected channel
C_{lt} is the live time corrected channel
a_c is the aircraft background for this channel
b_c is the cosmic stripping coefficient for this channel
Cos_f is the filtered cosmic channel

The radon backgrounds were first removed and followed by Compton stripping. Spectral overlap corrections were applied on to potassium, uranium, and thorium as part of the Compton stripping process. This was done by using the stripping ratios that have been calculated for the spectrometer by prior calibration; this breaks the corrected elemental values down into the apparent radioelement concentrations. Lastly, attenuation corrections were applied to the data which involves nominal survey altitude corrections, in this case 37.69 metres is applied to total count, potassium, uranium, and thorium data.

With all corrections applied to the radiometric data, the final step was to convert the corrected potassium, uranium, and thorium to apparent radioelement concentrations using the following formula:

$$eE = C_{cor} / s$$

where: *eE* is the element concentration K(%) and equivalent element concentration of U(ppm) & Th(ppm)
s is the experimentally determined sensitivity
C_{cor} is the fully corrected channel

Finally, the natural air exposure rate was determined by using the following formula:

$$E = [(13.08 * K + 5.43 * eU + 2.69 * eTh) / 8.69]$$

where: *E* is the absorption dose rate in µR/h
K is the concentration of potassium (%)
eU is the equivalent concentration of uranium (ppm)
eTh is the equivalent concentration of thorium (ppm)

To calculate for radiometric ratios the guidelines of the IAEA were followed. Due to statistical uncertainties in the individual radioelement measurements, some care was taken in the calculation of the ratio in order to obtain statistically significant values. Following IAEA guidelines, the method of determining ratios of the eU/eTh, eU/K and eTh/K was as follows:

1. Any data points where the potassium concentration was less than 0.25% were neglected.
2. The element with the lowest corrected count rate was determined.
3. The element concentrations of adjacent points on either side of each data point were summed until they exceeded a pre-determined threshold value. This threshold was set to be equivalent to 100 counts of the element with the lowest count rate. Additional minimum thresholds of 1.6% for potassium, 20 ppm for thorium, and 30 ppm for uranium were set up to ensure meaningful ratios.
4. The ratios were calculated using the accumulated sums.

With this method, the errors associated with the calculated ratios were minimized and comparable for all data points.

7.0 Deliverables

All digital data are presented on a compact disc (CD) and USB memory stick with the logistic report. The survey data are presented as digital databases, maps, and a report.

7.1 Digital Data

The file format will be provided in two (2) formats, the first will be a .GDB file for use in Geosoft Oasis Montaj, the second format will be a .XYZ file, this is text file. A complete file provided in each format will contain magnetic and radiometric data separately. Full description of the digital data and contents are included in the report (Appendix B).

The digital data are represented into grids. The following grids are prepared for the New Sunro survey block listed below:

- Digital terrain model (DTM)
- Total magnetic intensity (TMI)
- Residual magnetic intensity (RMI) – removal of IGRF from TMI
- Calculated vertical gradient (CVG) - first vertical derivative of TMI
- Potassium – Equivalent Concentration (%K)
- Thorium – Equivalent Concentration (eTh)
- Uranium – Equivalent Concentration (eU)
- Total Count – Equivalent Dose Rate (TCcor)
- Total Count – Exposure Rate (TCexp)
- Potassium over Thorium Ratio (%K/eTh)

- Potassium over Uranium Ratio (%K/eU)
- Uranium over Thorium Ratio (eU/eTh)
- Thorium over Potassium Ratio (eTh/%K)
- Uranium over Potassium Ratio (eU/%K)
- Ternary Map (TM)

7.2 KMZ Grids

The digital data represented into grids were exported into kmz files which can be displayed using Google Earth. The grids can be draped onto topography and rendered to give a 3D view.

7.3 Maps

Digital maps were created for the New Sunro survey block. The following map products were prepared:

Survey Overview Maps (colour images with elevation contour lines):

- Actual flight lines
- Digital terrain model

Magnetic Maps (colour images with elevation contour lines):

- Total magnetic intensity
- Total magnetic intensity with plotted flight lines
- Residual magnetic intensity
- Calculated vertical gradient of the total magnetic intensity

Radiometric Maps (colour images with elevation contour lines):

- Potassium – Equivalent Concentration in Percentage
- Thorium – Equivalent Concentration
- Uranium – Equivalent Concentration
- Total Count – Equivalent Dose Rate
- Total Count – Exposure Rate
- Potassium over Thorium Ratio
- Potassium over Uranium Ratio
- Uranium over Thorium Ratio
- Thorium over Potassium Ratio
- Uranium over Potassium Ratio
- Ternary Map

All maps were prepared in WGS 84 and UTM zone 10N.

7.4 Report

The logistics report provides information on the acquisition procedures, magnetic and radiometric processing, and presentation of the New Sunro survey block data. A pdf copy of the report is included along with the digital data and maps that are provided on the CD and USB stick.

Appendix A

Equipment Specifications

- GEM GSM-19T Proton Precession Magnetometer (Base Station)
- Hemisphere R220 GPS Receiver
- Opti-Logic RS800 Laser Altimeter
- HC-S3 Temperature and Relative Humidity Probe
- Barometric Pressure Setra Model 276
- Scintrex CS-3 Survey Magnetometer
- Bartington Mag-03 three-axis fluxgate magnetic field sensor
- Pico Envirotec GRS-10 Gamma Spectrometer
- Pico Envirotec AGIS data recorder system (for Navigation, Gamma spectrometer, VLF-EM and Magnetometer Data Acquisition)

GEM GSM-19T Proton Precession Magnetometer (Base Station) Specifications

Configuration Options	15
Cycle Time	999 sec to 0.5 sec
Environmental	-40°C to +60°C
Gradient Tolerance	7,000 nT/m
Magnetic Readings	299,593
Operating Range	10, 000 to 120,000 nT
Power	12 V @ 0.62 A
Sensitivity	0.1 nT @ 1 sec
Weight (Console/ Sensor)	3.2 Kg
Integrated GPS	Yes

Hemisphere R220 GPS Receiver Specifications

GPS Sensor	Receiver Type	L1 and L2 RTK with carrier phase	
	Channels	12 L1CA GPS 12 L1P GPS 12 L2P GPS 3 SBAS or 3 additional L1CA GPS	
	Update Rate	10 Hz standard, 20 Hz available	
	Cold Start Time	<60 s	
	Warm Start Time 1	30 s (valid ephemeris)	
	Warm Start Time 2	30 s (almanac and RTC)	
	Hot Start Time	10 s typical (valid ephemeris and RTC)	
	Reacquisition	<1 s	
	Differential Options	SBAS, Autonomous, External RTCM, RTK, OmniSTAR (HP/XP)	
Horizontal Accuracy		RMS (67%)	2DRMS (95%)
	RTK [1, 2]	10 mm + 1 ppm	20 mm+2 ppm
	OmniSTAR HP [1, 3]	0.1 m	0.2 m
	SBAS (WAAS) [1]	0.3 m	0.6 m
	Autonomous, no SA [1]	1.2 m	2.5 m
L-Band Sensor	Channel	Single channel	
	Frequency Range	1530 MHz to 1560 MHz	
	Satellite Selection	Manual or Automatic (based on location)	
	Startup and Satellite Reacquisition Time	15 seconds typical	
Communications	Serial Ports	2 full duplex RS232	
	Baud Rates	4800 – 115200	
	USB Ports	1 Communications, 1 Flash Drive data storage	
	Correction I/O Protocol	Hemisphere GPS proprietary, RTCM v2.3 (DGPS), RTCM v3 (RTK), CMR, CMR+NMEA 0183, Hemisphere GPS binary	
	Timing Output	1 PPS (HCMOS, active high, rising edge sync, 10kΩ, 10pF load)	
	Event Marker Input	HCMOS, active low, falling edge sync, 10kΩ	
Environmental	Operating Temperature	-30°C to +65°C	
	Storage Temperature	-40°C to +85°C	
	Humidity	95% non-condensing	
Power GPS Sensor	Input Voltage Range	8 to 36 VDC	
	Consumption, RTK	<4.9W (0.40A @ 12 VDC typical)	
	Consumption, OmniSTAR	<5.5W (0.46A @ 12 VDC typical)	

[1]Depends on multipath environment, number of satellites in view, satellite geometry and ionospheric activity.
[2] Depends also on baseline length.
[3] Requires a subscription from OmniSTAR.

Opti-Logic RS800 Laser Altimeter Specifications

Accuracy	+/- 1m on 1x1 m^2 diffuse target with 50% reflectivity
Resolution	0.2 m
Communication Protocol	RS232-8,N,1
Baud Rate	19200
Data Raw Counts	~200 Hz
Data Calibrated Range	~10 Hz
Calibrated Range Units	Feet, Meters, Yards
Laser	Class I (eye-safe) 905nm +/- 10nm
Power	7-9VDC conditioned required, current draw at full power (~ 1.8W)
Laser Wavelength	RS100 905 nm +/- 10 nm
Laser Divergence	Vertical axis – 3.5 mrad half- angle divergence; Horizontal axis – 1 mrad half- angle divergence; (Approximate beam footprint at 100 m is 35 cm x 5 cm)
Data Rate	~200 Hz raw counts for un-calibrated operation; ~10 Hz for calibrated operation (averaging algorithm seeks 8 good readings)
Dimensions	32 x 78 x 84 mm (lens face cross section is 32 x 78 mm)
Weight	< 227 g (8oz)
Casing	RS100/RS400/RS800 units are supplied as OEM modules consisting of an open chassis containing optics and circuit boards. Custom housings can be designed and built on request.

HC-S3 Temperature and Relative Humidity Probe Specifications

Operating Temperature	-40°C to +60°C
Temperature Output Signal Range	0 to 1.0 VDC
Temperature Resolution	0.1°C or better
Relative Humidity(RH) Measurement Range	0 to 100 % non-condensing
RH Output Signal Range	0 to 1.0 VDC
RH Accuracy At 23°C	± 1.5 % RH
RH Response Time	12 to 15 secs
RH Typical Long Term Stability	Better than 1% RH per year
Probe Length	168 mm (6.6 in.)
Probe Body Diameter	15.25 mm (0.6 in.)
Housing Material	Polycarbonate
Power Consumption	< 4 mA
Supply Voltage	3.5 to 50 VDC (typically 5 VDC)
Settling Time after power is switched on	3 secs

Barometric Pressure Setra Model 276 Specifications

Pressure Ranges	600 to 1100 hPa/mb 800 to 1100 hPa/mb 0 to 20 psia
Accuracy	±0.25% FS
Output	0.1 to 5.1 VDC 0.5 to 4.5 VDC
Excitation	12 VDC (9.0 to 14.5) 24 VDC (21.6 to 26.0) 5 VDC (4.9 to 7.1)
Size	2" dia. x 1" (5 cm x 2.5 cm)

Scintrex CS-3 Magnetometer Specifications

Operating Principal	Self-oscillation split-beam Cesium Vapor (non-radioactive Cs-133)
Operating Range	15,000 to 105,000 nT
Gradient Tolerance	40,000 nT/metre
Operating Zones	10° to 85° and 95° to 170°
Hemisphere Switching	a) Automatic b) Electronic control actuated by the control voltage levels (TTL/CMOS) c) Manual
Sensitivity	0.0006 nT √Hz rms
Noise Envelope	Typically 0.002 nT P-P, 0.1 to 1 Hz bandwidth
Heading Error	+/- 0.25 nT (inside the optical axis to the field direction angle range 15° to 75° and 105° to 165°)
Absolute Accuracy	<2.5 nT throughout range
Output	a) Continuous signal at the Larmor frequency which is proportional to the magnetic field (proportionality constant 3.49857 Hz/nT) sine wave signal amplitude modulated on the power supply voltage b) Square wave signal at the I/O connector, TTL/CMOS compatible
Information Bandwidth	Only limited by the magnetometer processor used
Sensor Head	Diameter: 63 mm (2.5") Length: 160 mm (6.3") Weight: 1.15 kg (2.6 lb)
Sensor Electronics	Diameter: 63 mm (2.5") Length: 350 mm (13.8") Weight: 1.5 kg (3.3 lb)
Cable, Sensor to Sensor Electronics	3m (9' 8"), lengths up to 5m (16' 4") available
Operating Temperature	-40°C to +50°C
Humidity	Up to 100%, splash proof
Supply Power	24 to 35 Volts DC
Supply Current	Approx. 1.5A at start up, decreasing to 0.5A at 20°C
Power Up Time	Less than 15 minutes at -30°C

Bartington Mag-03 three-axis fluxgate magnetic field sensor Specifications

Number of Axes	3
Bandwidth	0 to 3kHz at 50µT peak
Internal Noise	Basic version: >10 to 20pTrms/√Hz at 1Hz Standard version: 6 to ≤10pTrms/√Hz at 1Hz Low Noise version: <6pTrms/√Hz at 1Hz
Scaling error (DC)	<±0.5%
Orthogonality error	<0.1°
Alignment error (Z axis to reference face)	<0.1°
Linearity error	<0.0015%
Frequency response	0 to 1kHz maximally flat, ±5% maximum at 1kHz
Input voltage	±12V to ±17V
Supply current	+30mA, -10mA (+1.4mA per 100µT for each axis)
Power supply rejection ratio	5µV/V (-106dB)
Analog output	±10V (±12V supply) swings to within 0.5V of supply voltage
Output impedance	10 Ω
Operating temperature range	-40°C to +70°C
Environmental protection	IP51
Dimensions (W x H x L)	32 x 32 x 152mm
Weight	160g
Enclosure material	Reinforced epoxy
Connector	ITT Cannon DEM-9P-NMB
Mating connector	ITT Cannon DEM-9S-NMB
Mounting	2 x M5 fixing holes

Pico Envirotec GRS-10 Gamma Spectrometer Specifications

Crystal volume	8.4 litres of NaI (T1) synthetic downward looking crystals and 4.2 litres of NaI (T1) synthetic upward looking crystals
Resolution	256/512 channels
Tuning	Automatic using peak determination algorithm
Detector	Digital Peak
Calibration	Fully automated detector
Real Time	Linearization and gain stabilization
Communication	RS232
Detectors	Expandable to 10 detectors and digital peak
Count Rate	Up to 60,000 cps per detector
Count Capacity per channel	65545
Energy detection range:	36 KeV to 3 MeV
Cosmic channel	Above 3 MeV
Upward Shielding	RayShield® non-radioactive shielding on downward looking crystals
Downward Shielding	6 mm thick lead plate is used for downward-shielding
Spectra	Collected spectra of 256/512 channels, internal spectrum resolution 1024
Software	Calibration: High voltage adjustment, linearity correction coefficients calculation, and communication test support Real Time Data Collection: Automatic Gain real time control on natural isotopes, and PC based test and calibration software suite
Sensor	Each box containing two (2) gamma detection NaI(Tl) crystals – each 4.2 liters. (256 cu in.) (approx. 100 x 100 x 650 mm) Total volume of approx 8.4 litres or 512 cu in with detector electronics
Spectra Stabilization	Real time automatic corrections on radio nuclei: Th, Ur, K. No implanted sources

Pico Envirotec AGIS data recorder system Specifications

(for Navigation, Gamma spectrometer, VLF-EM and Magnetometer Data Acquisition)

Functions	Airborne Geophysical Information System (AGIS) with integrated Global Positioning System Receiver (GPS) and all necessary navigation guidance software. Inputs for geophysical sensors - portable gamma ray spectrometer GRS-10, MMS4 Magnetometer, Totem 2A EM, A/D converter, temperature probe, humidity probe, barometric pressure probe, and laser altimeter. Output for the multi-parameter PGU (Pilot Guidance Unit)
Display	Touch screen with display of 800 x 600 pixels; customized keypad and operator keyboard. Multi-screen options for real-time viewing of all data inputs, fiducial points, flight line tracking, and GPS channels by operator.
GPS Navigation	Garmin 12-channel, WAAS-enabled
Data Sampling	Sensor dependent
Data Synchronization	Synchronized to GPS position
Data File	PEI Binary data format
Storage	80 GB
Supplied Software	PEIView: Allows fast data Quality Control (QC) Data Format: Geosoft GBN and ASCII output PEIConv: For survey preparation and survey plot after data acquisition
Software	Calibration: High voltage adjustment, linearity correction coefficients calculation, and communication test support Real Time Data Collection: Automatic Gain real time control on natural isotopes and PC based test and calibration software suite
Power Requirements	24 to 32 VDC
Temperature	Operating: -10°C to +55°C; storage: -20°C to +70°C

Appendix B

Digital File Descriptions

- Magnetic database description
- Radiometric database description
- Grids
- Maps

Magnetic Database:

Abbreviations used in the GDB files listed below:

Channel	Units	Description
X_WGS84	m	UTM Easting – WGS 84 Zone 10 North
Y_WGS84	m	UTM Northing – WGS 84 Zone 10 North
Lon_deg	deg	Longitude
Lat_deg	deg	Latitude
Date	yyyy/mm/dd	Dates of the survey flight(s)
FLT		Flight Line numbers
LineNo		Line numbers
STL		Number of satellite(s)
GPSfix		GPS fix
GPStime	Hours:min:secs	GPS time (UTC)
Geos_m	m	Geoidal separation
GHead_deg	deg	Heading of the helicopter
XTE_m	m	Flight line cross distance
Galt	m	GPS height – WGS 84 Zone 10 North
Lalt	m	Laser Altimeter readings
DTM	m	Digital Terrain Model
basemag	nT	Base station diurnal data
IGRF		International Geomagnetic Reference Field 2015
Declin	Decimal deg	Calculated declination of magnetic field
Inclin	Decimal deg	Calculated inclination of magnetic field
TMI	nT	Total Magnetic Intensity
RMI	nT	Residual Magnetic Intensity

Radiometric Database:

Abbreviations used in the GDB files listed below:

Channel	Units	Description
X_WGS84	m	UTM Easting – WGS 84 Zone 10 North
Y_WGS84	m	UTM Northing – WGS 84 Zone 10 North
Lon_deg	deg	Longitude
Lat_deg	deg	Latitude
Date	yyyy/mm/dd	Dates of the survey flight(s)
FLT		Flight numbers
LineNo		Line numbers
STL		Number of satellite(s)
GPStime	Hours:min:secs	GPS time (UTC)
Geos_m	m	Geoidal separation
GPSFix		GPS fix
GHead_deg	deg	Heading of the helicopter
XTE_m	m	Flight line cross distance
Galt	m	GPS height – WGS 84 Zone 10 North
Lalt	m	Laser Altimeter readings
DTM	m	Digital Terrain Model
BaroSTP_kP	KiloPascal	Barometric Altitude (Press and Temp Corrected)
Temp_degC	Degrees C	Air Temperature
Press_kP	KiloPascal	Atmospheric Pressure
COSFILT	counts/sec	Spectrometer - Filtered Cosmic
Uru_cps	counts /sec	Upward Uranium
Kcor	%	Equivalent Concentration - Potassium
THcor	ppm	Equivalent Concentration - Thorium
Ucor	ppm	Equivalent Concentration - Uranium
TCcor	µR	Equivalent Dose Rate
TCexp	µR/hour	Exposure Rate - SUM(%k, eU, eTh) * determined factors
THKratio		Spectrometer – eTh/%K ratio
UKratio		Spectrometer – eU/%K ratio
UTHratio		Spectrometer – eU/eTh ratio

Grids: New Sunro Survey Block, WGS 84 Datum, Zone 10N

FILE NAME	DESCRIPTION
NewSunro_SurveyBlock_DTM_25m.grd	New Sunro survey block digital terrain model gridded at 25 m cell size
NewSunro_SurveyBlock_TMI_25m.grd	New Sunro survey block total magnetic intensity gridded at 25 m cell size
NewSunro_SurveyBlock_RMI_25m.grd	New Sunro survey block residual magnetic intensity gridded at 25 m cell size
NewSunro_SurveyBlock_CVG_25m.grd	New Sunro survey block calculated vertical gradient of TMI gridded at 25 m cell size
NewSunro_SurveyBlock_Kcor_25m.grd	New Sunro survey block potassium (%K) - equivalent concentration in percentage gridded at 25 m cell size
NewSunro_SurveyBlock_Thcor_25m.grd	New Sunro survey block Thorium (eTh) – equivalent concentration gridded at 25 m cell size
NewSunro_SurveyBlock_Ucor_25m.grd	New Sunro survey block Uranium (eU) – equivalent concentration gridded at 25 m cell size
NewSunro_SurveyBlock_TCcor_25m.grd	New Sunro survey block Total Count (TCcor) – equivalent dose rate gridded at 25 m cell size
NewSunro_SurveyBlock_TCexp_25m.grd	New Sunro survey block Total Count (TCexp) – exposure rate gridded at 25 m cell size
NewSunro_SurveyBlock_KThratio_25m.grd	New Sunro survey block potassium over thorium ratio (%K/eTh) gridded at 25 m cell size
NewSunro_SurveyBlock_KUratio_25m.grd	New Sunro survey block potassium over uranium ratio (%K/eU) gridded at 25 m cell size
NewSunro_SurveyBlock_UThratio_25m.grd	New Sunro survey block uranium over thorium ratio (eU/eTh) gridded at 25 m cell size
NewSunro_SurveyBlock_ThKratio_25m.grd	New Sunro survey block thorium over potassium ratio (eTh/%K) gridded at 25 m cell size
NewSunro_SurveyBlock_UKratio_25m.grd	New Sunro survey block uranium over potassium ratio (eU/%K) gridded at 25 m cell size

Maps: New Sunro survey block, WGS 84 Datum, Zone 10N (jpegs and pdfs)

FILE NAME	DESCRIPTION
NewSunro_SurveyBlock_ActualFlightLines	New Sunro survey block survey block plotted actual flown flight lines
NewSunro_SurveyBlock_DTM_25m	New Sunro survey block survey block digital terrain model gridded at 25 m cell size
NewSunro_SurveyBlock_TMI_25m	New Sunro survey block survey block total magnetic intensity gridded at 25 m cell size
NewSunro_SurveyBlock_TMI_with_FlightLines_25m	New Sunro survey block survey block total magnetic intensity with plotted actual flight lines gridded at 25 m cell size
NewSunro_SurveyBlock_RMI_25m	New Sunro survey block survey block residual magnetic intensity gridded at 25 m cell size
NewSunro_SurveyBlock_CVG_25m	New Sunro survey block survey block calculated vertical gradient of TMI gridded at 25 m cell size
NewSunro_SurveyBlock_Kcor_25m	New Sunro survey block potassium (%K) - equivalent concentration in percentage gridded at 25 m cell size
NewSunro_SurveyBlock_Thcor_25m	New Sunro survey block Thorium (eTh) – equivalent concentration gridded at 25 m cell size
NewSunro_SurveyBlock_Ucor_25m	New Sunro survey block Uranium (eU) – equivalent concentration gridded at 25 m cell size
NewSunro_SurveyBlock_TCcor_25m	New Sunro survey block Total Count (TCcor) – equivalent dose rate gridded at 25 m cell size
NewSunro_SurveyBlock_TCexp_25m	New Sunro survey block Total Count (TCexp) – exposure rate gridded at 25 m cell size
NewSunro_SurveyBlock_KThratio_25m	New Sunro survey block potassium over thorium ratio (%K/eTh) gridded at 25 m cell size
NewSunro_SurveyBlock_KUratio_25m	New Sunro survey block potassium over uranium ratio (%K/eU) gridded at 25 m cell size
NewSunro_SurveyBlock_UThratio_25m	New Sunro survey block uranium over thorium ratio (eU/eTh) gridded at 25 m cell size
NewSunro_SurveyBlock_ThKratio_25m	New Sunro survey block thorium over potassium ratio (eTh/%K) gridded at 25 m cell size
NewSunro_SurveyBlock_TernaryMap_25m	New Sunro survey block displaying ratios of all three elements (%K, eTh, eU)

Appendix C

New Sunro Survey Block Maps

Survey Overview Maps (colour image with elevation contour lines):

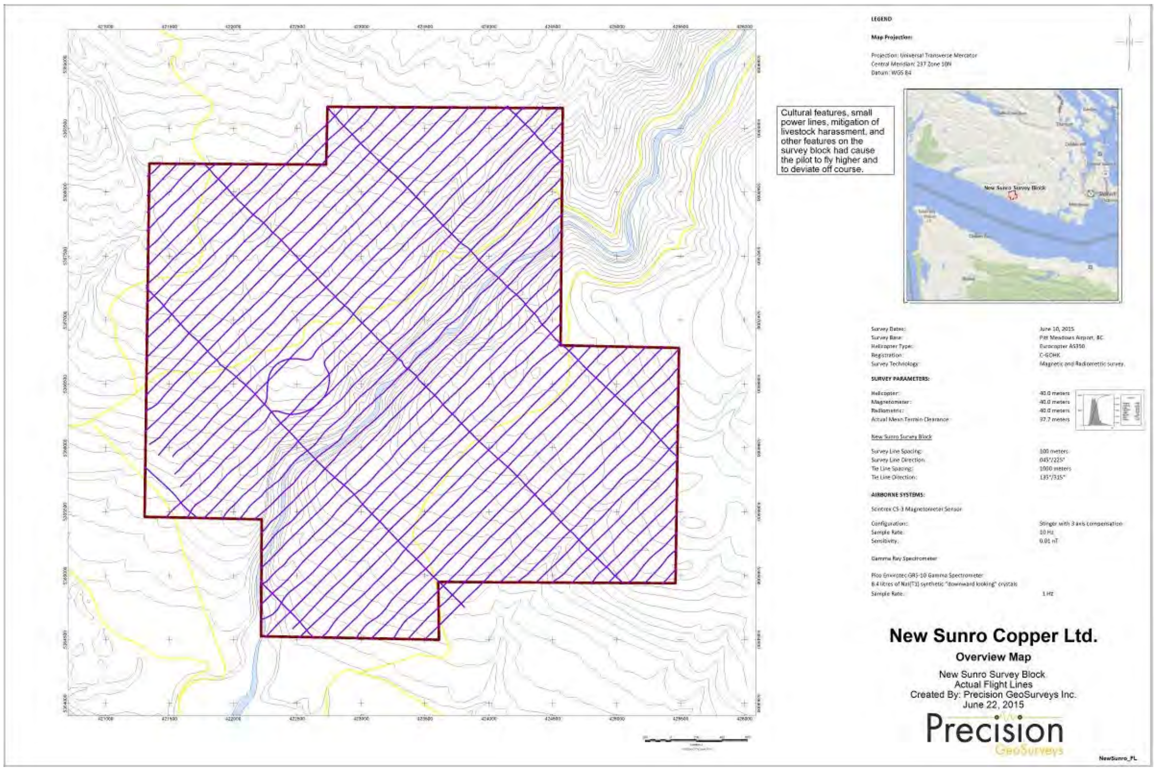
- Flight Lines (FL)
- Digital Terrain Model (DTM)

Magnetic Maps (colour image with elevation contour lines):

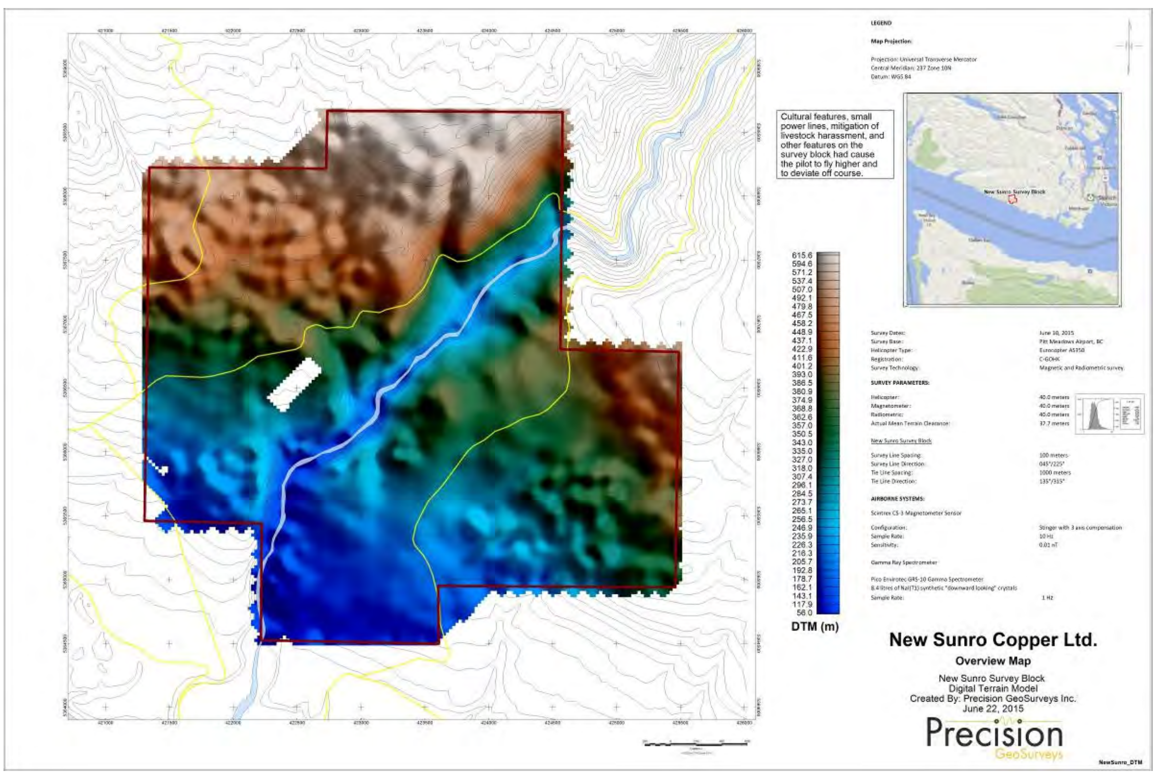
- Total Magnetic Intensity (TMI)
- Total Magnetic Intensity with flight lines (TMI_wFL)
- Residual Magnetic Intensity (RMI)
- Calculated Vertical Gradient (CVG) of TMI

Radiometric Maps (colour image with elevation contour lines):

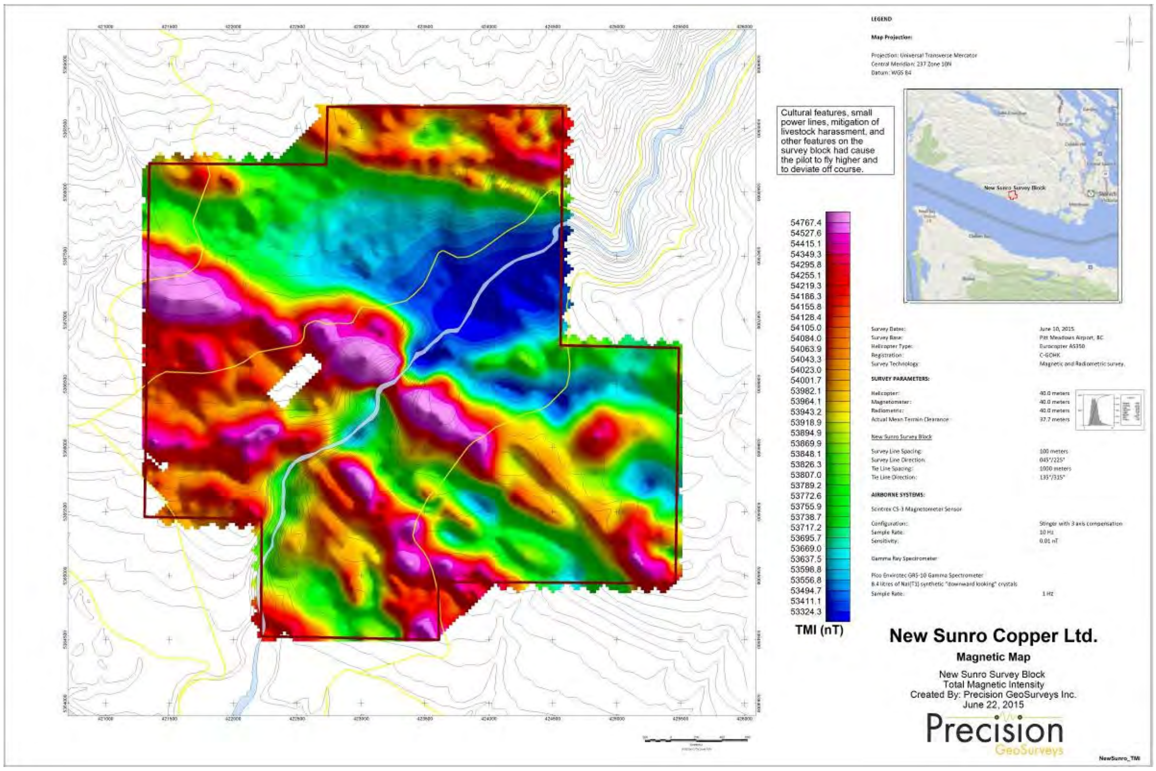
- Potassium – Equivalent Concentration (%K)
- Thorium – Equivalent Concentration (eTh)
- Uranium – Equivalent Concentration (eU)
- Total Count – Equivalent Dose Rate (TCcor)
- Total Count – Exposure Rate (TCexp)
- Potassium over Thorium Ratio (%K/eTh)
- Potassium over Uranium Ratio (%K/eU)
- Uranium over Thorium Ratio (eU/eTh)
- Thorium over Potassium Ratio (eTh/%K)
- Uranium over Potassium Ratio (eU/%K)
- Ternary Map (TM)



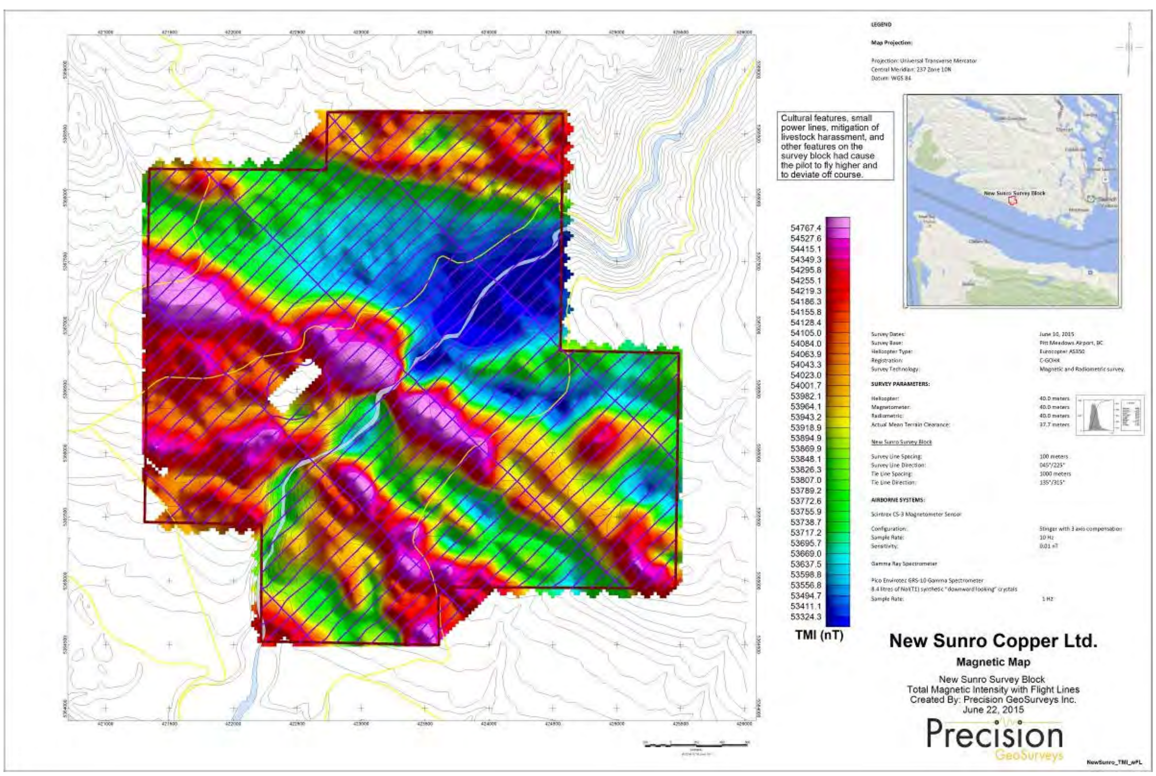
Map 1: New Sunro survey block actual flight lines.



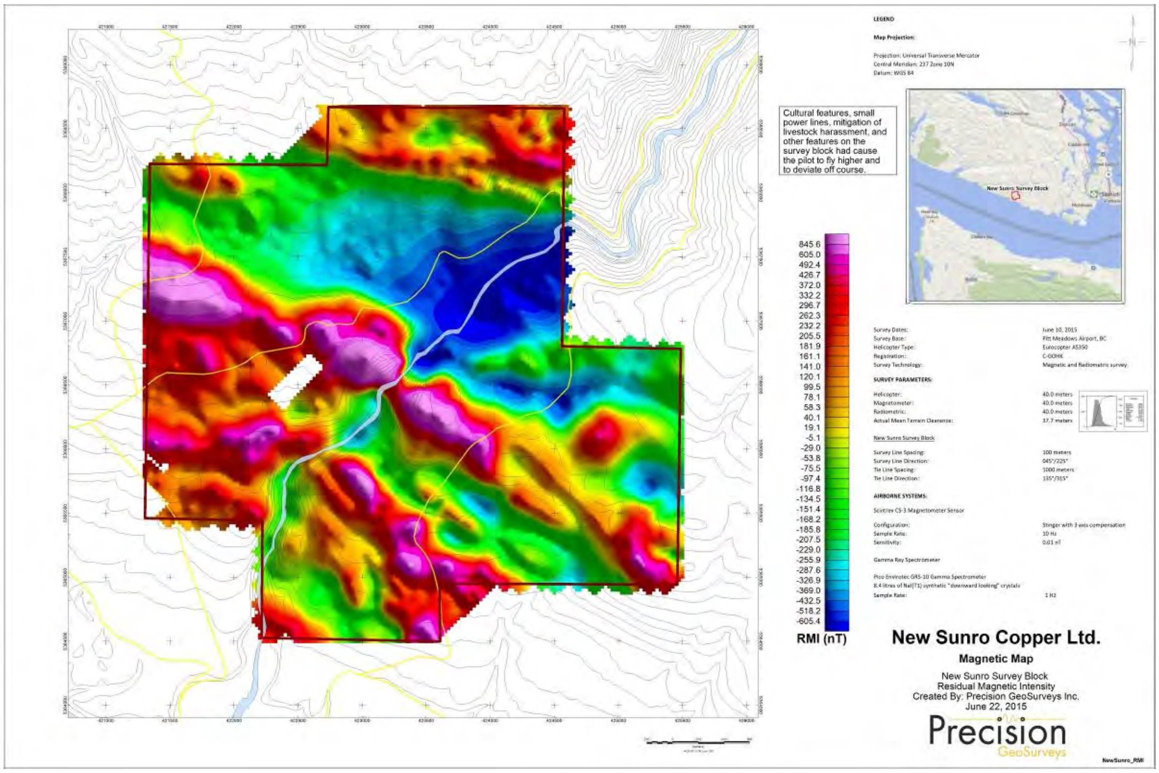
Map 2: New Sunro survey block digital terrain model.



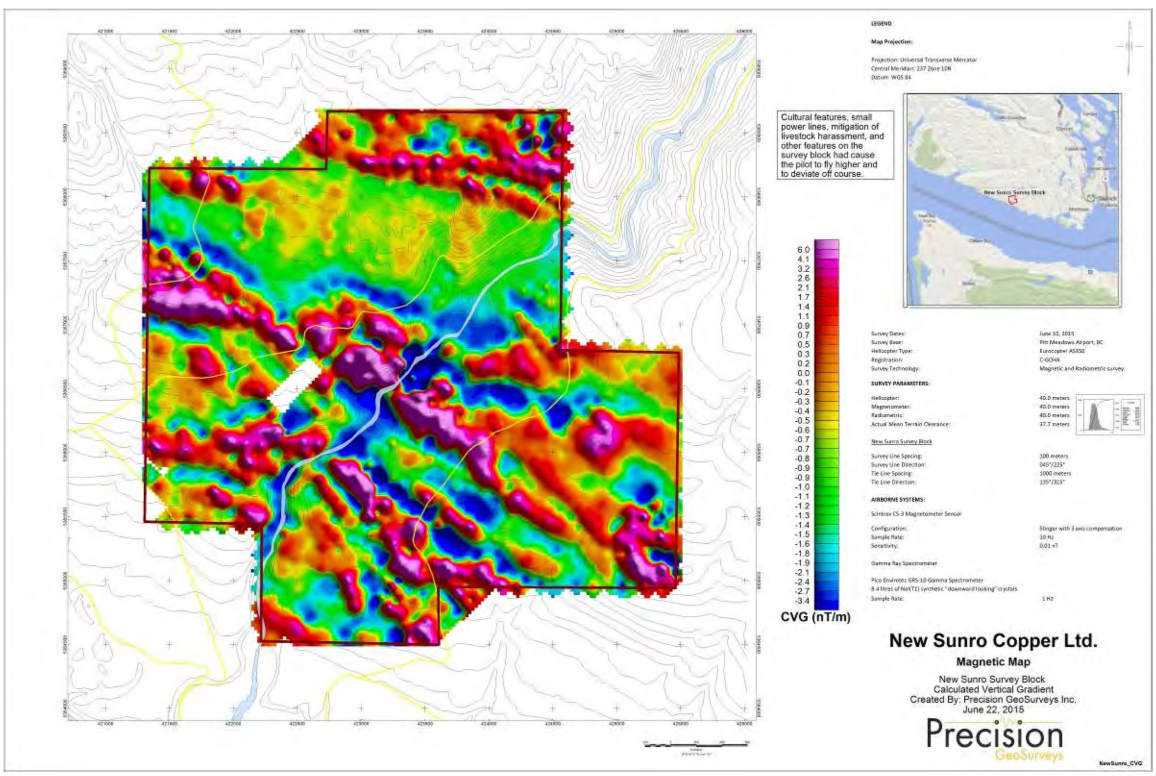
Map 3: New Sunro survey block total magnetic intensity.



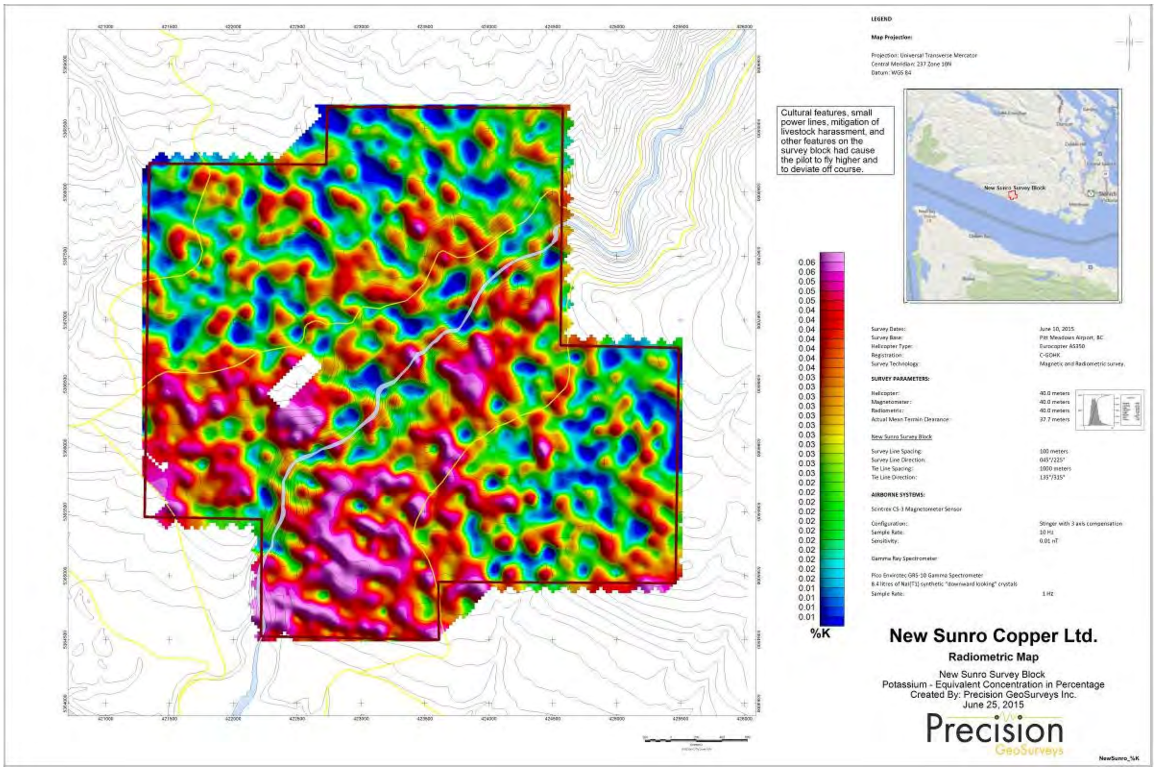
Map 4: New Sunro survey block total magnetic intensity with displayed actual flight lines.



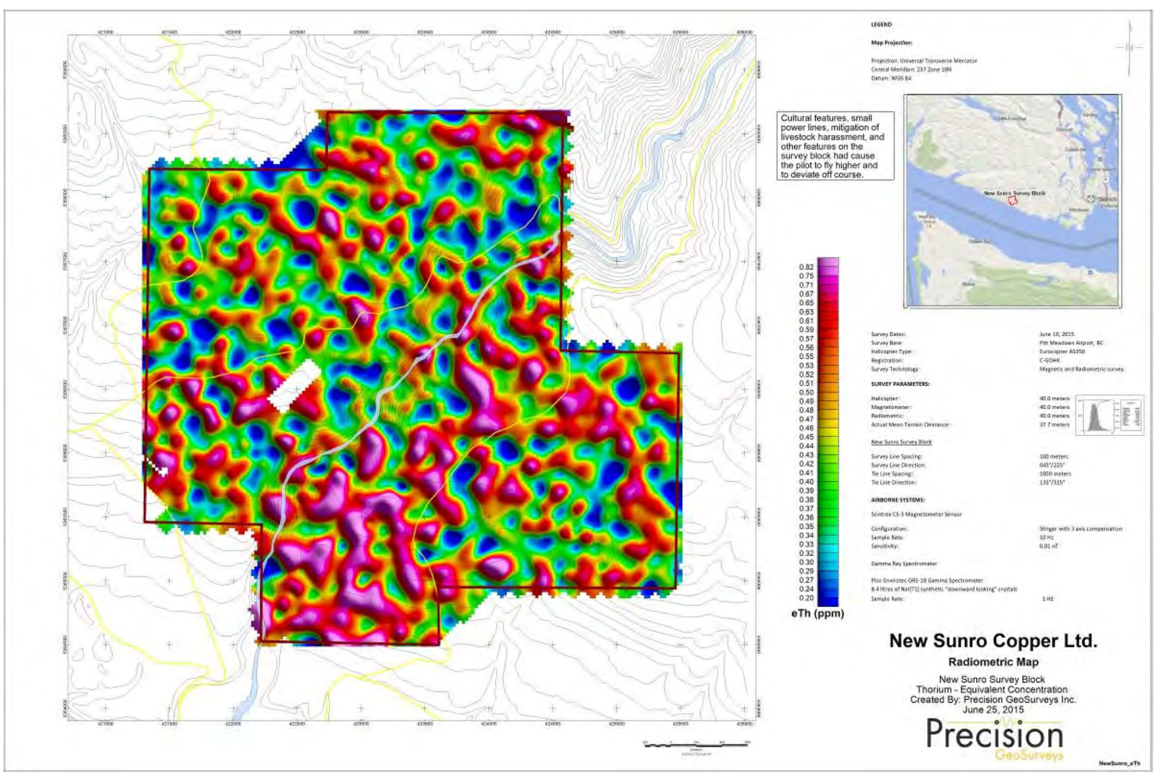
Map 5: New Sunro survey block residual magnetic intensity.



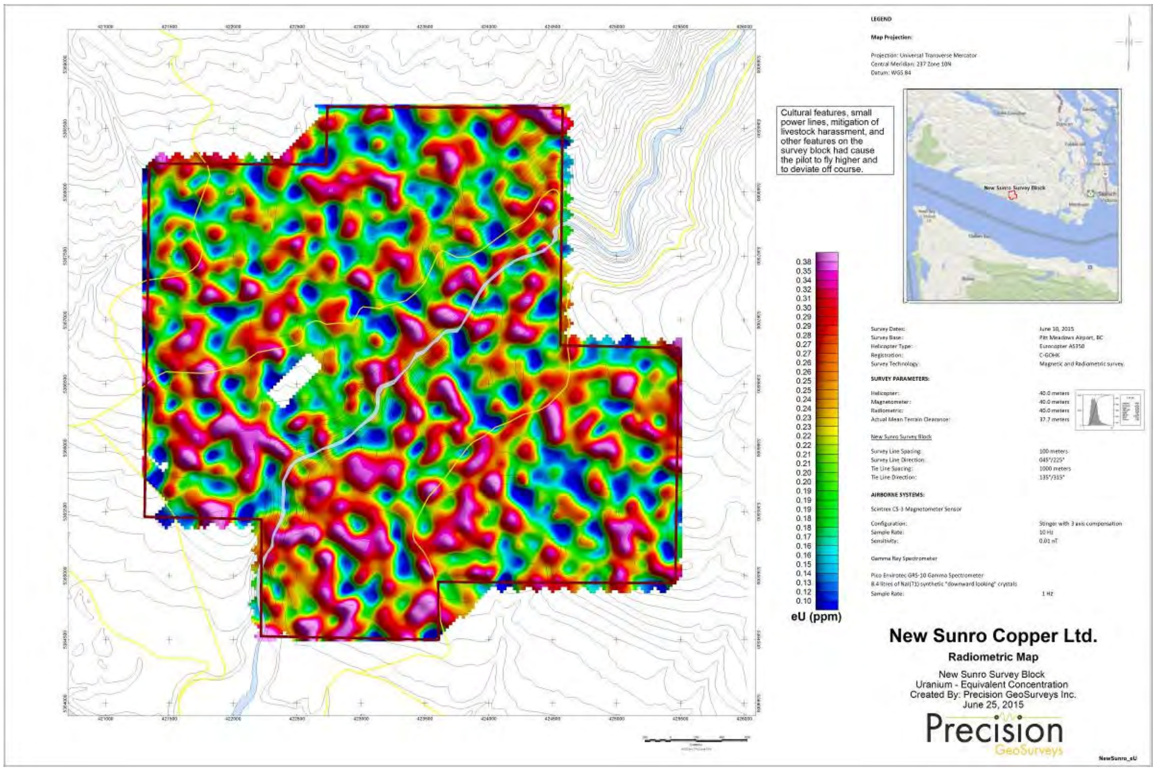
Map 6: New Sunro survey block calculated vertical gradient of the total magnetic intensity.



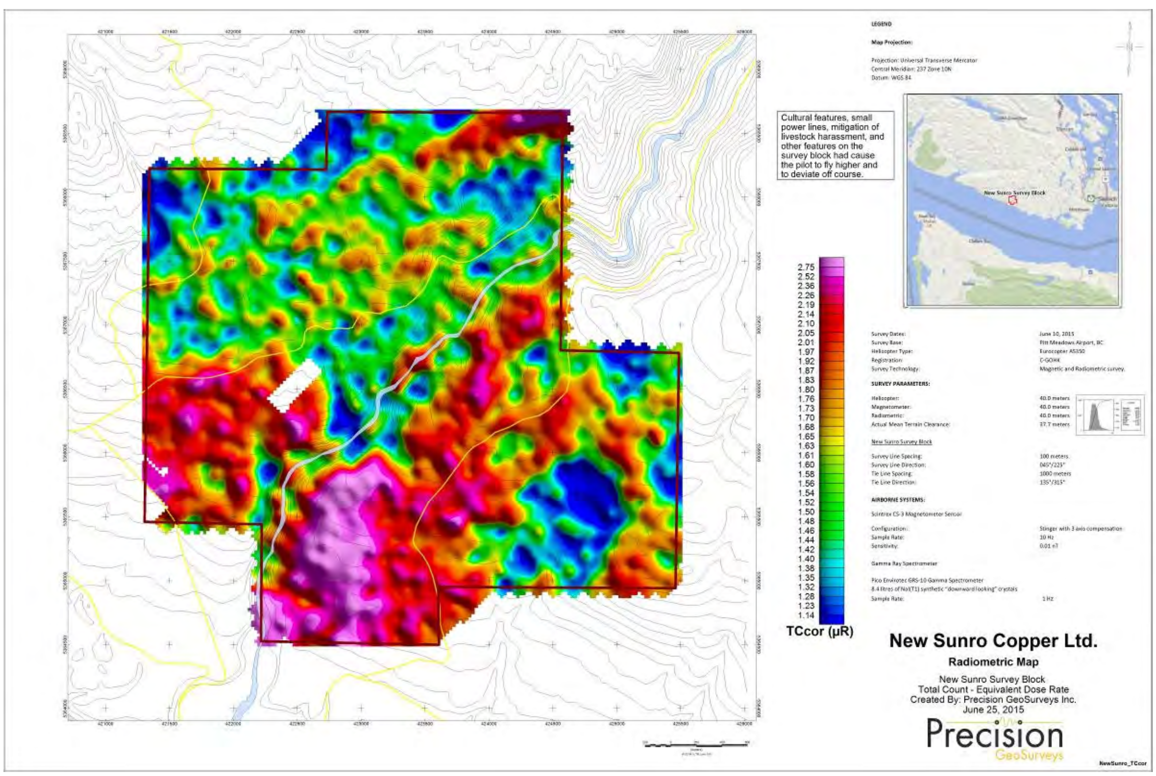
Map 7: New Sunro survey block potassium – equivalent concentration in percentage.



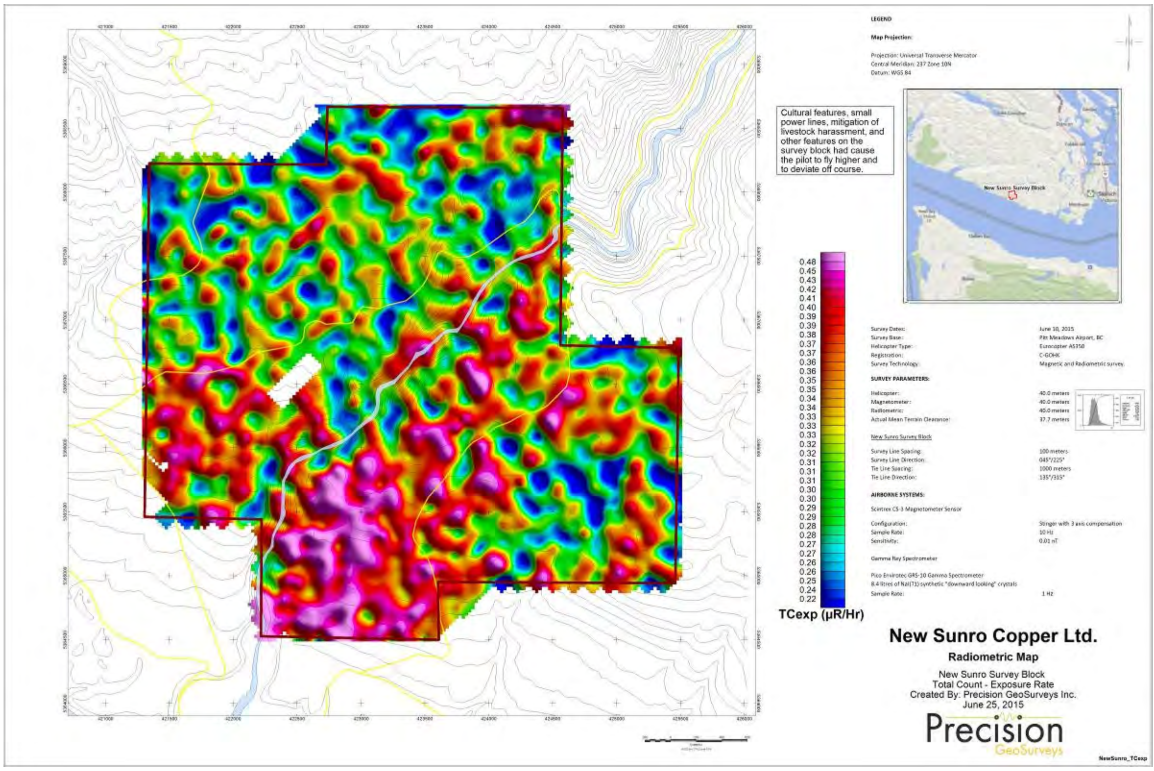
Map 8: New Sunro survey block thorium – equivalent concentration



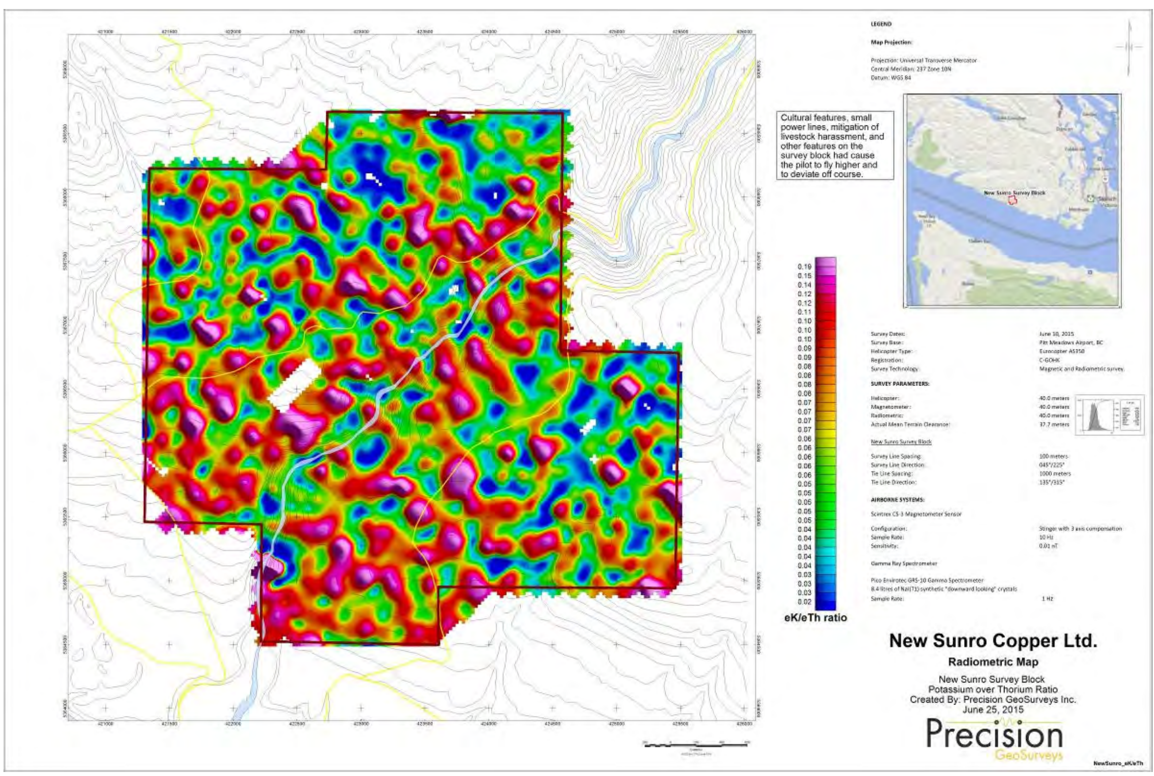
Map 9: New Sunro survey block uranium – equivalent concentration.



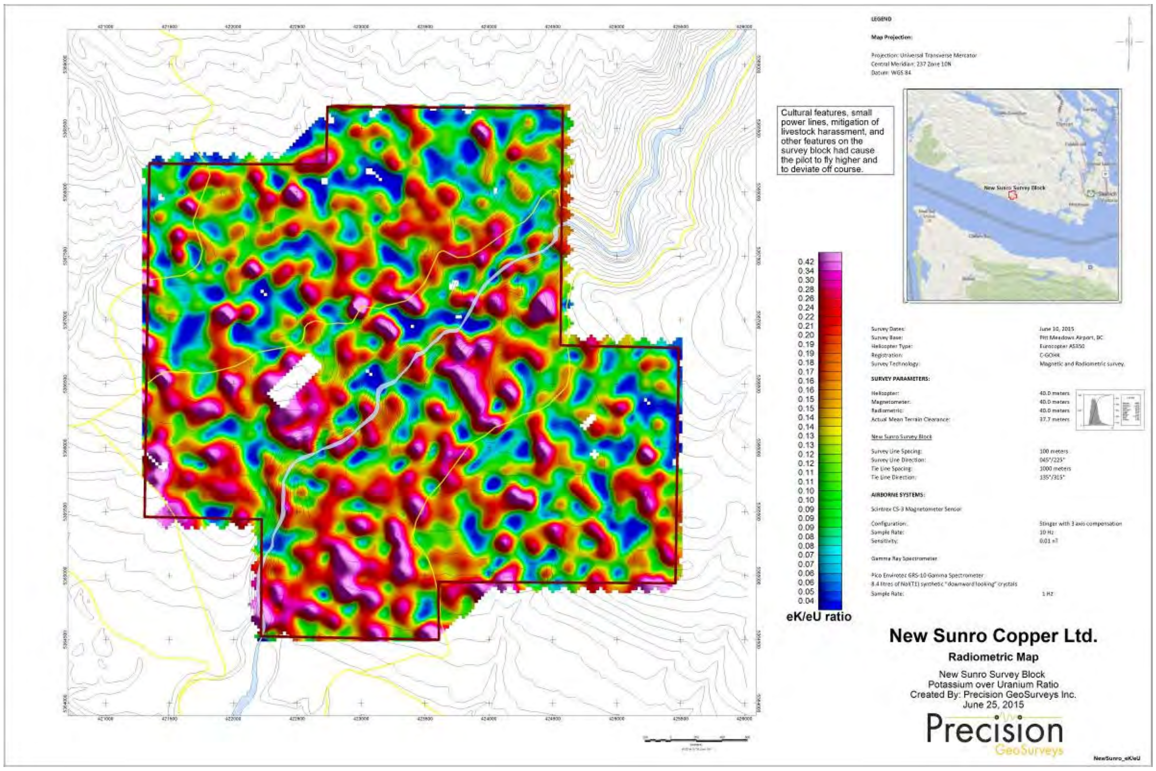
Map 10: New Sunro survey block total count – equivalent dose rate.



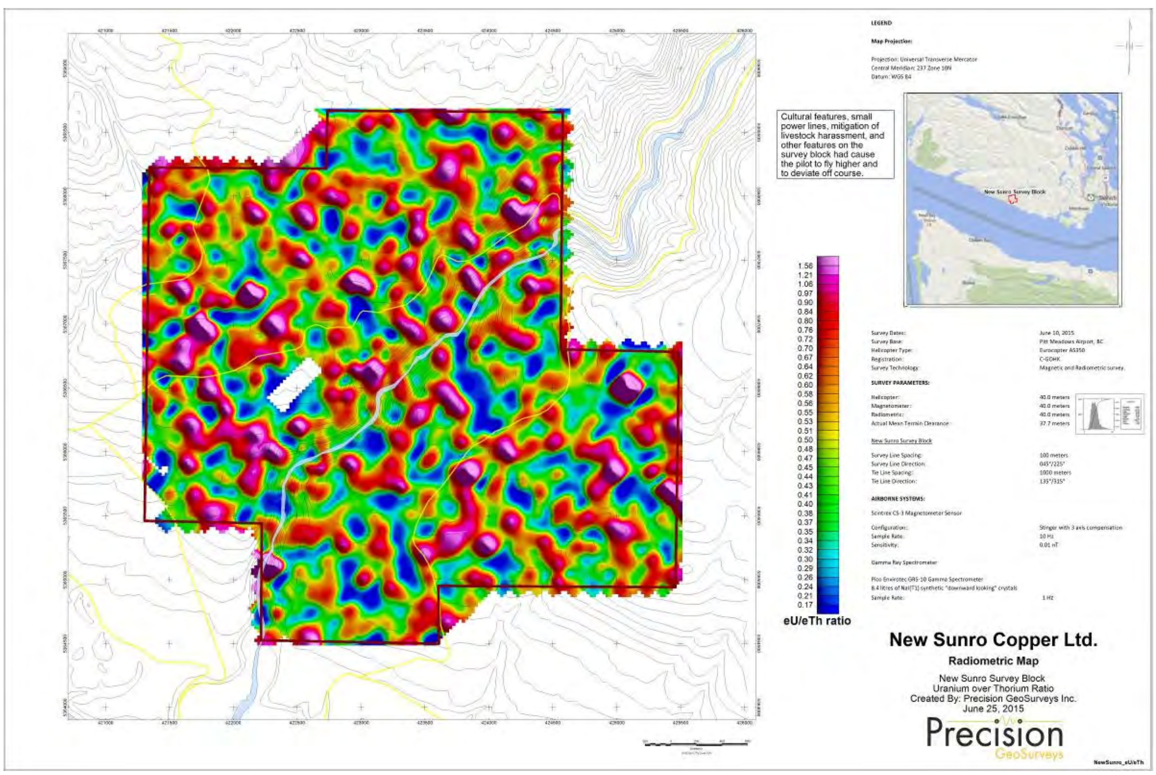
Map 11: New Sunro survey block total count – exposure rate.



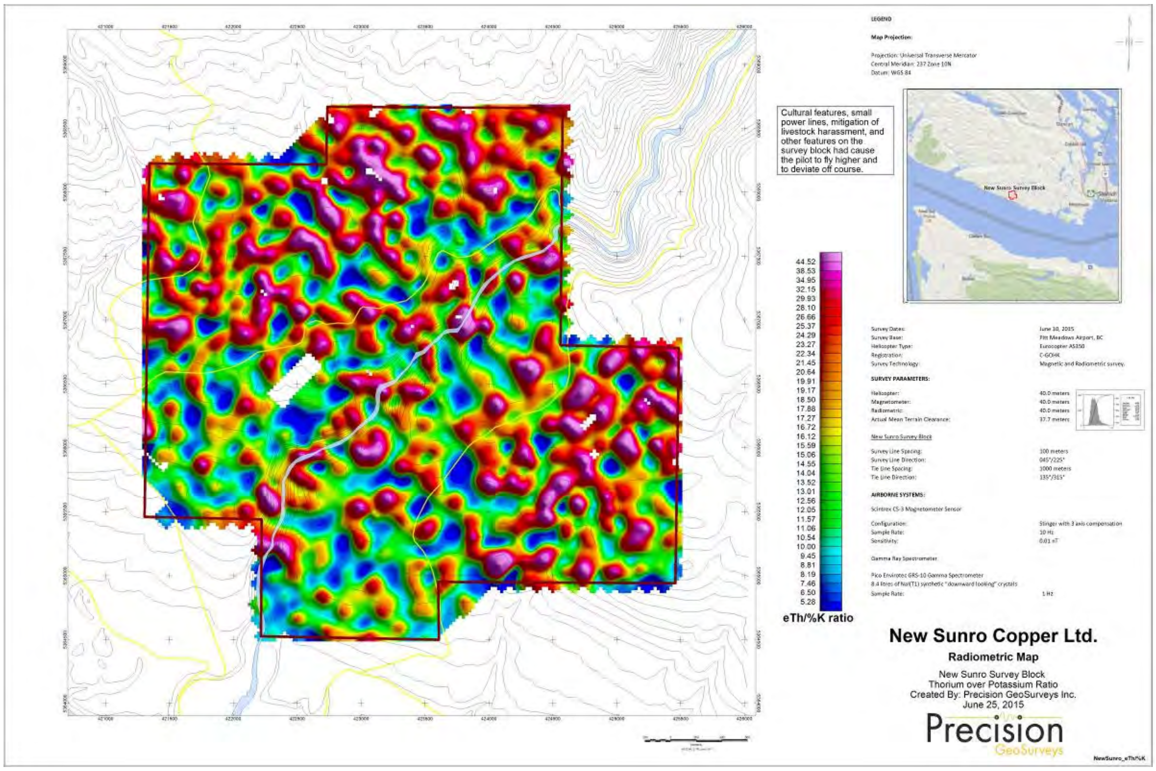
Map 12: New Sunro survey block potassium over thorium ratio.



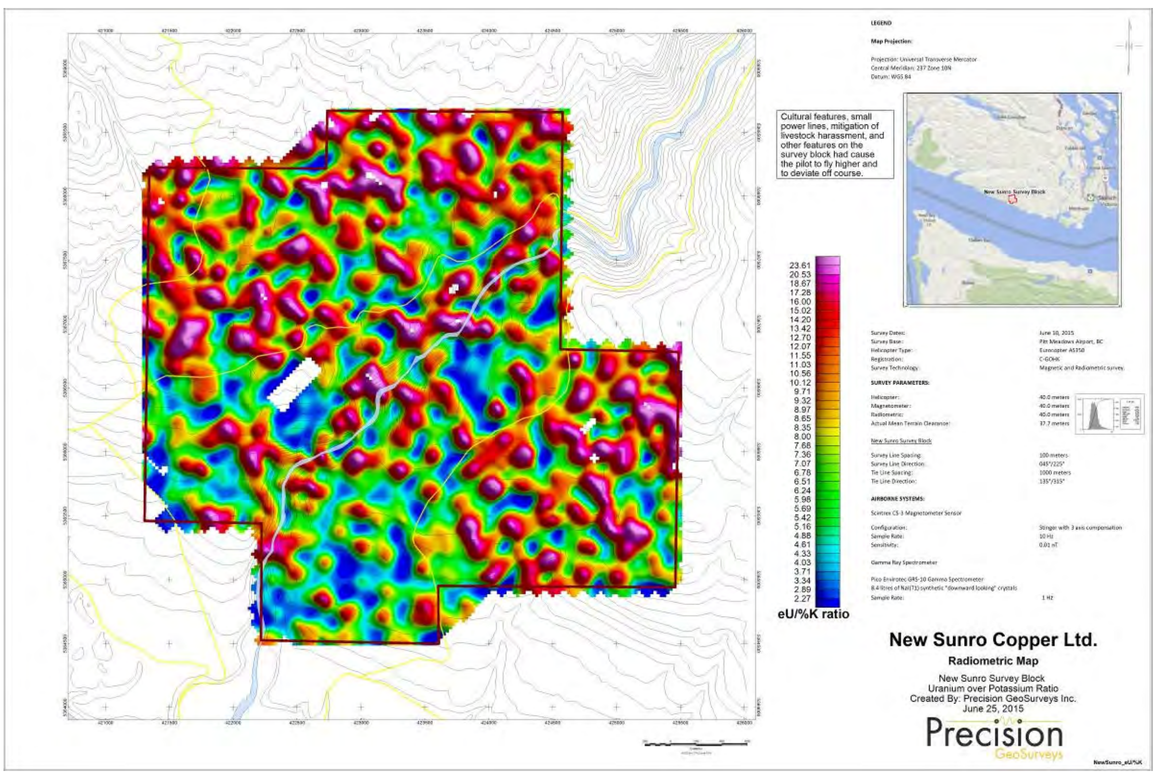
Map 13: New Sunro survey block potassium over uranium ratio.



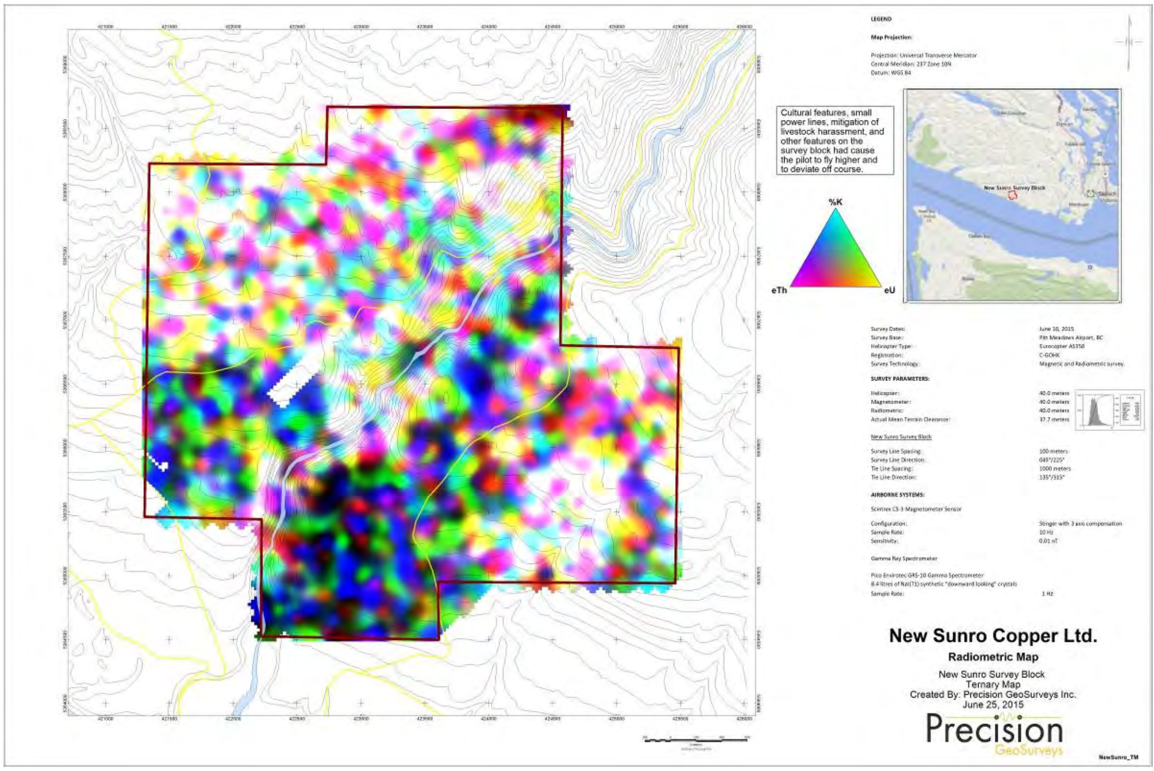
Map 14: New Sunro survey block uranium over thorium ratio.



Map 15: New Sunro survey block thorium over potassium ratio.



Map 16: New Sunro survey block uranium over potassium ratio.



Map 17: New Sunro survey block ternary map; ratio of K, Th, and U.