BRITISH COLUMBIA

PROSPECTORS ASSISTANCE PROGRAM

MINISTRY OF ENERGY AND MINES

GEOLOGICAL SURVEY BRANCH

PROGRAM YEAR:	1995/1996
REPORT #:	PAP 95-48
NAME:	GUY ROYER

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BRITISH COLUMBIA
PROSPECTORS ASSISTANCE PROGRAM
PROSPECTING REPORT FORM (continued)

B. TECHNICAL REPORT

- One technical report to be completed for each project area.
- **Refer to Program Requirements/Regulations, section 15, 16 and 17.**
- If work was performed on claims a copy of the applicable assessment report may be submitted in lieu of the supporting data (*see* section 16) required with this TECHNICAL REPORT.

Name GUY A.ROYER Reference Number ______

LOCATION/COMMODITIES

Project Area (as listed in Part A) YAHK RIVER AREA MINFILE No. if applicable ______

Location of Project Area NTS 82G/04W Lat 49°00'-49°06'N Long 115°52'W.-115°55'

Description of Location and Access Region lies ca.60 air kms.southwest of Cranbrook and 30 air kms. east of Creston. Hwy#3 is ca.12 kms.west of claims which are attainable by Yahk Meadows Rd.;to reach VULCAN ONE also takes Cold Creek Rd. Xanadu L.C.P.is on Road,Utopia 3.5 km. South on U.S. border

Main Commodities Searched For Lead,Zinc,Copper,Silver and Gold (Very little work done on the specific claims according to assessment files).

Known Mineral Occurrences in Project Area Tourmalinite-an N.B.indicator mineral for the Sullivan ore-body occurs on the south flank of Mt.Mahon,Old Midway gold mine lies ca 11 kms,no. of area.

WORK PERFORMED

1. Conventional Prospecting (area) Done along vicinity of author's ground where unstaked.
2. Geological Mapping (hectares/scale) 1000 hectares@ 1:2500(Only 7% outcrop on claims.)
3. Geochemical (type and no. of samples) 78 soil geochem-32 El.ICP.;12 rocks-9 El.ICP+4 Au
4. Geophysical (type and line km) Both VLF-EM and Magnetics,100 line kms.done
5. Physical Work (type and amount) (none)
6,. Drilling (no,. holes, size, depth in m, total m) (none)
7. Other (specify) Extensive Draughting of Maps and Report Writing.

SIGNIFICANT RESULTS

Commodities Zinc and Copper,tr.of Gold Claim Name XANADU and VULCAN

Location (show on map) Lat 49°03'N&49°06'N. Long 115°54'&55'W. Elevation 1372 m.&1524 m.

Best assay/sample type For Soil(Xanadu)-148 ppm Zn and 134 ppm Cu.from the same sample. For Rock (VULCAN)-138 ppm Zn and 64 ppm Cu with 10 ppb Au from same sample.

Description of mineralization, host rocks, anomalies Best soil assay comes from rusty sediments. Very little visible sulphide mineralisation and no tourmalinite noted. Usually very fine grnd. pyrite noted (up to 10%)where both sediments and gabbros very rusty.In limey Argillites on east side of Vulcan (Where best rock assay comes),are narrow stringers of pyrite composing up to 10% of Rock. On east-central UTOPIA where rusty gabbros host rare rusty quartz veins hosting up to 2% disseminated pyrite,very minor Magnetic and VLF-EM anomalies coincide as they do on southeast part of VULCAN WHERE second best rock assay is found.

Supporting data must be submitted with this TECHNICAL REPORT

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1995 BRITISH COLUMBIA PROSPECTOR'S ASSISTANCE PROGRAM FINAL REPORT

GUY ROYER

FMC 123355, Dec 15/1995

INTRODUCTION to 1995 "BCPAP" REPORT

In late summer of 1995,I conducted a modest but comprehensive exploration program in the south Purcell Mountains in the southeastern corner of British Columbia in the Ft.Steele Mining Division. The area chosen for exploration lies specifically in the YAHK RIVER area on N.T.S. Map82C/04W in the Creston Region,adjacent to the United States border. All of the exploration was carried out on 3 separate claims adjacent to each other but not contiguous,with a bit of reconnaissance prospecting done on roads near these properties.I hold a total of 40 claim units encompassed by: 1. UTOPIA-12 Units, 2. XANADU-18 Units and 3. VULCAN-10 Units. All of these properties were mapped/prospected in great detail,surveyed geophysically by 2 methods,with a modest geochemical survey done over certain zones. All of these properties had chained and flagged grids established on them prior to the commencement of this exploration. The equipment utilized was a Silva compass and a hipchain calibrated in metres,with the newly blazed claim lines doubling as baselines. The 3 baselines trend east-west with perpindicular north-south survey lines nominally 100 metres apart covering almost the entirety of the claims.The total amount of surveyed grid amounts to ca.100 kms. with about 38 of them on the XANADU, 34 kms.on the UTOPIA and ca.28 on the VULCAN. The chief reason that such a large amount of work could be completed by one person in 2 months is due to the relative gentleness of the topography and the fact that much of it has been very recently logged off. Relatively little time was expended in prospecting as outcrop varies from rare to non-existent over much of the area with the little rock observed often quite monotonous.

This corner of B.C. is the site of the gigantic Sullivan Mine in the town of Kimberley which has produced over a third of the mineral wealth of the province-its main commodities being lead,zinc and silver;it lies about 70 kms.north-northeast of and is on approximate strike with the area of interest. Much closer are the past producing lead-zinc mine-"St.Eugene" and the smaller gold Midway mine,which are ca.15 kms.northward. The rocks in this region are of Proterozoic age with the sediments belonging to the Aldridge,a sub-division of the Purcell System with intruding"Moyie"gabbro sills. In the past dozen years,some major exploration companies including Cominco,Minnova,Chevron,etc. have conducted major programs in vicinity of author's ground,with the former currently having mineral title to most of the claims. They hypothesize that a Sullivan-type-Sedimentary Exhalative("Sedex") deposit might be located in this region. Most of the exploration seems to have been concentrated in the immediate vicinity of Mt.Mahon,though much has been done northward to Moyie River and southward to Montana. I believe for reasons discussed in this report that such a deposit may lie on my claims. According to the assessment files in Cranbrook,very little or even no work has been specifically done over them.

LOCATION AND ACCESS to the RELEVANT MINING CLAIMS

All of my properties are located on N.T.S.Map 82G/04 W-"YAHK RIVER"and lie in the Yahk Range of the Purcell Mountains 60 air kms.south of the city of Cranbrook,640 air kms.east of the city of Vancouver and are adjacent to the state of Montana;highway #3 lies only a dozen kms.west. The exact geographical co-ordinates for the Legal Corner posts of the Claims are:UTOPIA-Latitude 49°North,Longtitude 115°54'West;XANADU-Lat. 49°02'N. and Long.115°55'W.;VULCAN-Lat.49°06'N.and Long.115°55'W.The south boundary of the UTOPIA coincides with the Canada/U.S.A.border which allows its exact location to be pinpointed.

All 3 properties are easily accessible by full-size 4 wheel drive vehicle for most of the year. They are all attainable by Yahk Meadows Road(Hawkins Creek Rd.)which commences easterly from Highway#3 just north of bridge across Moyie River in the village of Yahk;it is a wide all-weather gravel road open year round. One follows this road for about 12 kms.before one reaches an important junction;in order to access the VULCAN,one takes the north branch-"Cold Creek Rd." and follows this rough but gravelled road for ca.6 kms.before turning eastward on to a very rough,steep,but gravelled trail and following it for about 2 kms.before attaining west border of VULCAN.

- In order to access the other 2 claims,one follows Yahk Meadows Rd. (passing by a ranch)for ca.5 kms.before attaining southwestern corner of XANADU;a rough but vehicle accessible trail heads off this "main"road,ca.150 metres east of this point permitting easy access to the entirety of the claim. The eastern edge of XANADU is traversed by the gravel "Freeman Creek"Road which cuts off northward of the Yahk main road ca.3 kms.east of the aforementioned turn-off. The UTOPIA CLAIM is attainable by turning south on a steep rough trail ca.1.5 kms.west of junction of Freeman Creek Rd.and the Yahk Meadows. This trail permits an easy route to the northern third of the claim as it traverses its entirety. Another old logging road crosses the southern part of the UTOPIA,but it is currently in such rough shape further downhill that it is not vehicle passable.

TOPOGRAPHY and VEGETATION

This region of the Purcell Mountains has very gentle topography by Cordilleran standards with total vertical relief in the relevant area,barely attaining 1000 metres. The hills(they cannot be termed"mountains")have low rounded summits, and steep ravines seem to be lacking even in the higher elevations(the highest on my claims being 1740 m. on the U.S.A.border);albeit no major streams cross the area. The average topographic rise even in steeper areas never exceeds 35°from the horizontal-cliffs are totally missing. Old logging roads attain even the highest hills in this region with a minimum of switchbacking. Most of the VULCAN and much of UTOPIA HAVE BEEN RECENTLY LOGGED OFF,so there is very little vegetation here to impede one's progress;even where replanted the trees are so small one can step over them. However in some of the older logged areas, as on much of the VULCAN the regrowth is very dense and tangles and piles of old logs can make travel quite difficult;thick brush was sometimes encountered along creekbanks. Black spruce,Western Cedar,Birch,Aspen and Alder are the most common tree species.On the Montana border,gigantic tree stumps exceeding one metre in diameter attest to the size the trees here can attain.

GEOLOGICAL SUMMARY OF SOUTHERN PURCELL MOUNTAINS

Most of southeastern British Colubia is underlain by the Purcell system,which is divided here into 5 main units:Aldridge,Creston,Kitchener,Siyeh and Gateway;this system is of mid-Proterozoic Helikian age. The Purcell rocks,which consist mainly of fine grained clastics and carbonates,were laid down in the "Beltian Trough",a simple elongated geosyncline in which up to 45000 ft.of dominantly shallow water sediments accumulated. The Aldridge Fm.totals 15000 ft.in thickness of which only 400 belong to the Lower Aldridge;the latter is notable for its rusty appearance in outcrop due to abundant iron sulphides,silicates and carbonates. It also features fine grained laminated quartzite and dark argillite with graded bedding,scour&fill structures,etc,indicating deposition in deep water. The Middle Aldridge,which is 9000 ft,thick is more ordered with less turbulence indicated and contains less disseminated sulphide. The Aldridge is divided in southeast B.C. into 3 main structural blocks by the northeast trending Cranbrook and Moyie faults. Each of these blocks forms a broad,northeast plunging anticline and it is in the anticlinal axis of the most northerly structural block that the Sullivan Mine is situated. The sediments in the Aldridge have been metamorphosed to the Upper Greenschist facies and are intruded by conformable gabbro sills-the "Moyie"rocks.

The Mt.Mahon area is situated in the southernmost structural block-the"MOYie" and is underlain by Middle Aldridge Sediments and Moyie gabbro;these Moyie sills vary in composition from diorite to gabbro and from fine to coarse grained. The sediments are constituted of medium bedded quartzose greywacke intercalated withthin bedded siltstone, argillite and rare conglomerate occurring northeast of Mt.Mahon. As the Mt.Mahon sediments rarely reveal graded bedding,ripple marks,etc.,they are probably representative of a thick turbiditic sequence. All the sediments in the Stone Creek area just northward, belong to the Middle Aldridge;they are mainly siltstone with minor argillite and the Moyie River fault transects it in a west-southwest to east-northeast orientation. The boundary between the Lower and Middle Aldridge intersects the Sullivan orebody and this division extends with a shallow dip across the Mt.Mahon area;the summit of it is the top of a northeast plunging anticline which dips 15°-25°. On the south flank of Mt.Mahon are tourmaline rich argillite and a little tourmalinite-a massive,very hard,black,cherty appearing rock composed of very fine grained tourmaline needles. Tourmaline is an important indicator mineral at the Sullivan Mine;thus its prescence here on Mt.Mahon combined with its Lower/Middle Aldridge stratigraphy has caused area to be a very significant mineral exploration target.

The Sullivan Mine is a gigantic 160 million ton lead-zinc-silver deposit grading 10% combined lead and zinc with ca.68 grams/Tonne silver;it is underlain by tourmalinisation and overlain by an albite-chlorite alteration halo. The ore minerals show excellent stratification and conformability with the enclosing sediments. It comprises high temperature replacements of thin bedded argillite of the Aldridge formation with the orebody lying on the east side of the Purcell Anticlinorium. The source of the ores has traditionally been advocated as epigenetic,with their genesis from the source magma of the Moyie Intrusions or alternatively the sources for the ores may lie elsewhere and these intrusions may have supplied the energy to ultimately engender this deposit. The hydrothermal theories vie with a syngenetic one which roughly states that the ores were deposited in the rocks as sediments and that they were reconstituted by regional metamorphism. Recently this latter theory has gained adherents,partially because the iron-bearing minerals tend to be associated with primary sedimentary features. The lead,silver(and tin) tend to be most abundant towards the centre of the orebody,whilst towards the periphery zinc and antimony predominate. The St.Eugene Mine which produced from 1899-1929 lies just north(15 kms.)from Mt.Mahon;from about 1 million tonnes of ore were extracted 14% lead,5%zinc and 6 ozs./T. silver from a steeply dipping massive sulphide vein. The past producing Midway Gold mine lies a few kms.south of the St.Eugene;gold occurred here in a northerly striking quartz vein which cross-cuts Middle Aldridge rock.

SUMMARY of PREVIOUS MINERAL EXPLORATION in REGION

In the early eighties to the present much mineral exploration has been carried out in the Mt.Mahon area ;though according to the assessment files very little was done in previous decades. Around 1907 R.Daly traversed this area during his monumental "Mapping of the Cordillera at 49th paralell",though none of his observations directly concern the area in question. According to the files,the first recorded work done here was in 1966 by KennCo Explorations in the Stone Creek watershed. They conducted a soil geochemical survey,taking ca,200 samples;but the results were apparently negative and no further work is recorded by them. From 1978-1981 St.Eugene Mines did work near the summit of Mt.Mahon including staking,mapping and diamond drilling;in 1980-81 Falconbridge was also active in this region. Just north of here in 1981, on ground owned by B. Downing,ground VLF-EM and Magnetic surveys were performed on a 4.5 km.cut grid,but no anomalies were recorded for either survey. During this period,the "LARCH"group (now encompassed by the "CANAM"group)which lies just west of the XANADU, was staked by St.Eugene Mines,centred on Latitude 49°04'N.and Long.115°58'W. In early eighties they drilled 6 BQ holes with assays done for gold,silver,copper,lead and zinc but nothing encouraging was encountered.. They drilled to test EM-16 conductors and to acquire basic geological information as outcrop here is minimal. Thin pyrite seams were postulated to be the cause of the conductors;1 hole was entirely in gabbro,2 in Aldridge sediments with 3 in both lithologies. In 1980,a total of 237 soil samples were taken on a total of 20 kms.of grid-lead and zinc were found to be just barely anomalous locally. Immediately north of LARCH group lied the COLD group from which 142 samples were collected,whilst west on the RYAN group,St.Eugene Mines took 82 soils from 32 kms.of established grid;apparently geophysics and prospecting was done over it,though there is no specific mention made in the files. In any case nothing anomalous was indicated by these latter geochemical surveys.

By 1983 Chevron Minerals had acquired "St.Eugene"s Mt.Mahon ground and in 1983-84 they did gravity surveys over it,which were quite inconclusive,albeit 2 gravity anomalies were said to be revealed. They also carried out major geochemical,geological and an EM-37 survey on land just 2 kms.west and northwest of the VULCAN on 13 kms.of cut grid;they collected a total of 1092 soil samples,but they analyzed only for lead,zinc, and copper. The geological mapping was conducted at a scale of 1;5000 along grid lines, even though outcrops are quite rare here;the EM-37 survey found "little of Interest". It was apparently the discovery of tourmaline in sediments near Mt.Mahon that piqued the interest of CHEVRON. In 1983 they also worked their TNT group which lies just west of Mt.Mahon;only mapping/prospecting was recorded even though less than 10% of area features exposed bedrock. The lithologies in this area are mainly sandstone with a little siltstone and argillite. In 1984 they drilled a vertical BQ hole of 473 metres @summit of Mt.Mahon to test the extent and charachter of the tourmaline. Only traces of this mineral were noted though 1-3% pyrrhotite was in bottom 2/3 of hole,but only traces of lead and zinc were noted. CHEVRON mapped at least 4 stratiform tourmalinite zones on their Mahon property which indicates stratigraphic proximity to the Lower/Middle Aldridge contact-on which interval the Sullivan Mine lies. These zones seem to lack lateral continuity,but a paucity of outcrop renders this idea speculative. CHEVRON hypothesized that the thick overburden in this region might mask any metal anomalies in the soil(which could also explain the author's poor results). In 1987 they drilled a 1611 metre sub-vertical hole,near their 473 m.1984 one. Only the first hundred metres of this hole lies in Middle Aldridge,with the remainder in lower Aldridge sediments;short sections of gabbro and granophyre were also intersected. In 1991/92 CHEVRON drilled 6 NQ holes for a total depth of 1320 metres collared in the hangingwall of tourmalinite exposed on the south and southwest flank of Mt.Mahon. On this core a total of 37 whole rock analyses and 46 geochemical assyas were done;these drill holes intersected Middle Aldridge turbidites but apparently nothing economic was revealed.

Just north of Mt.Mahon area lie the headwaters of Stone and Sundown Creeks upon which exploration of a moderate intensity has occurred since the early eighties. KOKANEE Explorations was active here on their LEO claims during this time;they collected a total of 490 soil samples which were found to be anomalous in copper,zinc,lead and barium. No further work by them is recorded however. In 1987 MINNOVA staked 301 units in the Stone Creek area and conducted a major exploration program including geochemistry,geology and geophysics on a block of ground extending from Moyie River(near the Midway Mine)south to CHEVRON'S MAHON claims. They completed geological mapping at a scale of 1:10000,collected 226 lithogeochemical samples&cut 15 kms.of grid upon which they performed a CSMAT survey-"Contolled Audio-Magneto-Tellurics". This survey was done to evaluate the property for zones of low resistivity, which could indicate the prescence of conductive sulphide mineralisation, and also to reveal any structure transecting the Lower/Middle Aldridge contact and to ascertain its depth. MINNOVA in 1988 did an abortive 15 kms.of Gravity surveying which was essentially a waste of time due to ruggedness of terrain. From 1989-91 they conducted modest drilling programs in order to test the stratigraphy of the area and also several geophysical anomalies;these holes mainly intersected gabbro and sediments derived from turbidite sequences. In 1990 they also did lithogeochemistry and mapping.

The SUN claims lie northeast of the STONE group,with the Midway Mine immediately adjacent;in 1992 they were held by G.M.Rodgers. In the mid eighties,a bit of hand trenching was done on them in stratabound lead-zinc mineralisation. In 1992 along cut grid lines,11.2 kms.of VLF-EM and 3 kms.of Magnetics were completed;as is typical the VLF-EM recorded a couple of conductive zones but no Magnetic anomalies were revealed. In the same year,190 soil samples were picked up;of the analyzed elements only zinc was found to be anomalous.

COMINCO acquired the CANAM group through staking from 1989-1991; by the end of the latter year,they held 355 units grouped into 42 claims-they hold much ground immediately adjacent to mine. They envisage that Lower Aldridge rocks occur on the west side of their block,with the central and east regions underlain by Middle Aldridge. In 1990 they drilled 2 BQ holes on the former LARCH group of ST.EUGENE MINES for a total of 190 metres, encountering gabbro and Aldridge sediments. From 1990 to 1993 they have completed several UTEM surveys-"University of Toronto style ElectroMagnetics";in 1992 they did 20 kms.of line and in 1993 32 line kms.of UTEM on their CANAM group;mainly on geochemical anomalies(none of them specifically mentioned). The latter survey was done on a soil geochemical anomaly just west of South Hawkins creek where there is very little exposed bedrock. In 1991 COMINCO drilled 3 holes for a total of 869 metres ca. 1-3 kms. west of author's UTOPIA claim centred on Latitude 49°01'N and Long.115°57'W. Two of them were drilled to test a lead-zinc anomaly(soil) on the east slope of a hillside; both intersected Middle Aldridge Sediments consisting of alternating quartzites and argillites varying in bedding thickness and a part of a turbidite sequence,with some gabbro intersected in the first hole. One hole cut minor sphalerite and less galena with the rare fractures and quartz veins hosting minor zinc,lead and pyrite;it reached a depth of 344 metres and was drilled westward at a dip of -47°. The second hole was put down at a similar orientation attaining a depth of 206 metres with only very minor disseminated sphalerite noted. The third hole drilled was 2 kms.east of the previous attaining a depth of 319 metres;it was drilled due west@Dip of-68°. Middle Aldridge Sediments were cut including quartzites,limey greywackes,a no.of widely scatterred pyrrhotite laminations with the hole ending in gabbro. No major conclusions have been deduced as yet from all this exploration as the programs are on-going.

DETAILED GEOLOGY OF AUTHOR'S CLAIMS in the YAHK RIVER AREA

Despite the quite large area encompassed by the three claims of the author, there is very little exposed bedrock on them. Perhaps only 5% of the XANADU features outcrop-it being confined to the claim's northwest portion and a strip along the Freeman Creek roadcut. Barely 10% of UTOPIA HAS OUTCROP,WHilst perhaps 7% of the VULCAN does;indeed with the exception of the latter claim,exposed bedrock is not more prevalent on the topographically higher regions. Judging by the steeper hillsides and roadcuts,the overburden layer seems very thick;undoubtedly this has hindered conventional prospecting in the past and may even impede the usefulness of soil geochemistry. As one would expect creek ravines and roadcuts tend to expose bedrock,although the latter tends to run along the strike of a formation for long distances. Only a few differing lithologies were noted and though the claims lack contiguity,the similarity of their rocks permits them to be discussed together.

Probably the most volumetrically abundant lithology on my ground is the Moyie gabbro which tends to form larger and more topographically prominent outcrops than the sediments;(not strange as it is generally more resistant to erosion). This mafic igneous rock varies considerably both in colour index and grain size. The crystals range from barely 1 mm.to locally(on northwest corner of Xanadu) 3 cms.;the latter featuring long horneblende sheafs-though a more typical size range is 3-7 mms. The colour index varies from 40-70 with plagioclase generally the only felsic mineral and amphiboles(chiefly hornblende?) the only mafic minerals notable in hand specimen. Judging by the rocks low magnetic response,magnetite must be fairly rare. This lithology is invariably massive,dark green and usually appears quite fresh,though locally it can be very rusty. Even the rustiest gabbro reveals only traces of finely disseminated iron sulphide,with rare,rusty,grey quartz veins noted on the central UTOPIA;a couple of the veinlets also contain epidote and carbonate. The veins vary in width from 0.3-20 cms.with none observed longer than a couple metres. A couple samples from this lithology were collected, but the assays revealed nothing of interest. One distinctive variation of the gabbro was noted on the east-central UTOPIA -here is medium grained quartz (ca.20%) in the matrix. This rock could be termed "Tonalitic";it has a significantly lower Colour Index-ca. 30;it is massive,medium grained,quite fresh and is mainly light grey to rarely light green. It was not found elsewhere on any of the staked ground.

The second major lithological division is Aldridge sediment,which on the basis of hand specimen viewing has been split by myself into 3 separate categories even though they are probably all mutually gradational. The "typical sandstone" has a great colour variation,ranging from buff to light grey,light green,pink to brownish and is often externally rusty. It ranges from well-bedded to zones where bedding planes and thus attitudes are indiscernable;but where noted vary from 10-50 cms. ,thus quite thick.

Grain size ranges very fine to sometimes medium;it is impossible to differentiate the type of mineral constituents in the former varieties though quartz seems to be a predominant component. Muscovite (sericite?)is locally common with small amounts of biotite, ,chlorite and probably feldspar,although most of the rocks mapped are probably arenites. One lithological variation is a type so fine grained,it could be termed a siltstone-these are mainly ochre to brownish and although mapped as a distinct unit,may have an identical composition to the Sandstones. A third type is more distinctive and was noted mainly on the VULCAN CLAIM-this is a dark grey,very fine grained, argillaceous rock which seems to contain appreciable quantities of carbonate. These "limey" rocks often fizz only slightly however,so they may contain much dolomite and (judging by their colour) siderite. This lithology may be economically significant, as on the east edge of the VULCAN they host locally abundant stringers of iron sulphide. Wherever discernable the attitude of the beds features strikes of 020° to 055° with dips generally fairly shallow @20-40°.

GEOCHEMICAL DISCUSSION OF SOIL AND ROCK SAMPLES

A total of 78 soil samples and a dozen rock samples were collected from the three claims;these were all sent to CHEMEX LABS. in North Vancouver,B.C.for geochemical analysis and assaying.(All results are included in this report).Only the"B" horizon material was collected from the soils during the course of the survey,done mainly along grid lines ;each sample weighed about 250 grams and were placed in brown paper bags. Each one had the 32 element I.C.P-A.E.S.procedure done on it-the results for all economic metals yielded in parts per million. A total of 25 samples were taken from the UTOPIA,41 from the XANADU and a dozen from the VULCAN. Although no geochemistry was done for gold per se,several"pathfinder" elements such as arsenic and tungsten were. As is easily deduceable from the geochemical results,no major anomalies were observed. None of the gold pathfinders were even remotely abnormal-all yielded less than 10 ppm. The main elements of interest in this area-lead,zinc,copper and silver,all virtually occur in essentially background amounts with the exception of a few zinc and copper results-and even these occurred in amounts of less than 150 ppm. The highest copper value on the UTOPIA originated from the north edge of the claim;whilst on the XANADU it came from the northwest corner;zinc is slightly more abundant on the latter with 3 analyses yielding over 100 ppm Zn,all originating from the northwest corner of the claim. The only zinc assay exceeding 100 ppm on the UTOPIA is only 100 metres from the site of the highest Cu value. According to some,zinc soil geochemical anomalies [illegible] are often of little significance. Nothing anomalous was indicated by the soils collected from the VULCAN claim,though only a few were taken from here. Quite high amounts of barium were recorded over much of the properties-up to 360 ppm,but this is not too economically significant as it is a relatively common but dispersed element in nature.

Visible sulphide mineralisation was very rare on the claims and usually it occurs as tiny specks of iron sulphide. Amounts of up to 2% pyrite were found in portions of the gabbro and their rare allied quartz veins on the UTOPIA;these were sampled and found to be totally barren in any economic metals,which is not surprising as the exploration targets in this region are in the sediments. In fact 3/4 of all rocks that I assayed were from the sediments-these were chosen mainly for the amount of visible sulphide present,and the fact that so few were taken,is a function of the apparent barrenness of the rocks. Limey argillite from 2 separate locations on the east edge of the VULCAN featured iron sulphide stringers several mms.wide and constituting up to 15% of the rock,they were both sampled . Significantly they yielded the highest gold assay-just 10 ppb,the best copper-64 ppm and zinc-138 ppm of any of the rock samples,though of course with the possible exception of the latter,these results are just barely anomalous.A subanomalous zinc value of 98 ppm was derived from the northwest corner of the VULCAN-again from limey argillite and 102 ppm from the northwest corner of the XANADU. However of a total of a dozen rock samples,8 show slightly higher amounts of zinc than the background of this area(which is ca.45 ppm Zn). The best lead result obtained-24 ppm was derived from the southern part of the UTOPIA-very low but still higher than background(12 ppm).

Although none of the geochemical results are spectacular,nevertheless a few trends seem evident. Most of the highest geochemical values obtained are adjacent to areas,e,g.east of VULCAN,THAT are currently(as of late 1995) open for staking;areas which contain limey argillite are certainly worthy of future investigation. The geochemical survey was completed before the geophysics,which is why no soil geochem.was ever done over the central UTOPIA WHERE a modest magnetic high co-incides with rusty,sheared gabbros. Due mainly to budgetary constraints,no geochem.was performed on the south UTOPIA or VULCAN OR in rusty gossanous zones adjacent to road cuts;all of these areas have a high priority of investigation in the near future. A Lanthanum anomaly of 120ppm is situated in the north-west corner of the Xanadu with a high Zinc & Copper anomaly found in the Soils here.

PRINCIPLES and METHODOLOGY of VLF-EM GEOPHYSICAL SURVEYING

The VLF-EM (Very Low Frequency ElectroMagnetics)method of geophysical surveying was first successfully developped in the 1960's;it utilizes electromagnetic fields transmitted from radio stations in the 15 KiloHertz to 25 KHz. range. They have generally been established for and are operated by the United States Navy for tracking submarines; a worldwide network of these stations has been established with four of them located in the U.S.A.-Anapolis,Md.:21.4 KHz.,Honolulu,Hawaii:23.4 KHz.,Cutler, Maine:24 KHz.and Seattle,Wash.:24.8 KHz.Though the waves propogated by these stations have very long wavelengths with resultant low frequencies by radio broadcast standards,they are nevertheless very high by the standards of geophysical equipment. The stations have a range of several thousand kilometres and are able to penetrate into bedrock with the instrument utilized,being able to detect variations generated by these waves. The VLF-EM unit is simply a sensitive receiver attuned to the frequency band of these transmitting stations with a method of measuring the vertical field components. These "Very Low Frequency" stations generate a vertical antenna current which propogates a concentric horizontal magnetic field around them. When these magnetic fields interact with conductive bodies in the ground,secondary fields will radiaate from these "conductors"-the VLF-EM unit measures the vertical component of these secondary fields.The magnetic field lines from the station are at right angles to the direction of the station-thus the strike of the geology should approximately point to the transmitter station.

AnEM-16 Unit manafactured by Geonics Ltd. of Mississauga,Ontario was the model utilised for the 1994 summer survey on the SQUOZ claim group. Its size is 53X28 X22 centimetres with a weight of 1.8 kilograms;the field method for surveying with this instrument is quite facile.The VLF-EM unit has two inputs with two receiving coils built into the instrument;one coil has a normally vertical axis whilst the second is horizontal. The signal from the coil with the vertical axis is first minimized by tilting the instrument-the tilt angle is calibrated in a percentage. The remaining signal in this coil is balanced out by a measured percentage of a signal from the other coil after the unit has been shifted by 90 degrees;this latter coil is normally paralell to the primary field. In the field the initial step in obtaining a reading is to face the station whilst holding the instrument horizontally;one then slowly moves the unit right to left in order to obtain the lowest "null". In the case of an EM-16 sound is utilized for this purpose-it becomes quieter. When the lowest possible sound,i.e.null,is obtained,one then raises the unit at a right angle-90 degrees to a vertical orientation. One then slowly tilts the instrument up and down vertically whilst simultaneously turning the Quadrature knob back and forth in order to obtain the best null. When this is accomplished,one reads the tilt angle(In-Phase Component) which is measured in degrees through the eyepiece,whilst the Quadrature (Out-of-Phase Component) is obtained from the graduated dial on the rotary knob on the unit. To re-iterate, this instrument measures the "DipAngle" and "Quadrature" components of the vertical magnetic field as a percentage of the horizontal primary field. The best results are usually obtained if the survey lines are perpindicular to the transmitting station.

The instrument is calibrated in such a way,that when one is approaching a conductor,the dip angles are positive,whilst they are negative when departing from it;this is one reason why magnetic values are not contoured. In order to render the interpretation of the data easier,a technique known as "Fraser Filtering" is often undertaken on the "Raw" data before one contours. The separation of surface conductors from the more significant deeper ones is aided by observing negative Quadrature readings, as surface conductors usually give positive values. Faults or shear zones are usually positive;when much sulphide is present a negative Quadrature is often obtained. Theoretically for a good conductor,the Quadrature and Dip Angle values should be widely diverging,but this is often not the case in the field. It has been observed that the horizontal distance between the maximum positive and negative readings is approximately the same as the actual depth from ground surface to the effective area of the conductive body. The major economic application of the VLF-EM method is to locate sulphides either massive or disseminated,although it is unable to detect them directly. Instead it is helpful for detecting structures such as faults,shear zones or formational contaCTS which may be the sites of economic mineralisation. Relative to its simplicity and low cost,the method is quite informative,though it does posess two inherent weaknesses. One is the shallow depth of penetration-maximum of 100 metres,and the possibility of spurious readings caused by the proximity of water and wet clays.

DISCUSSION OF GROUND MAGNETICS

The magnetic method of geophysical prospecting relies on the inherent magnetic variations of lithologies. These variations depend on as one would expect on the total amount of magnetic minerals located in the rock;only very few commononly occurring minerals are substantially magnetic. Of these magnetite is the most abundant and widespread; pyrrhotite,chromite and pentlandite are also relatively common but proportionally rarer. Thus,generally speaking a magnetometer measures the amount of magnetite occurring in a rock;this is obviously a function of its composition. Igneous rocks particularly ultramafic types contain the largest amounts of this mineral and yield the highest values; conversely siliceous and carbonaceous sediments typically contain very little ,so have the lowest readings. Thus a magnetometer is not only a valuable tool for finding ferrous deposits and other economically valuable minerals associated with them,but can also be utilised as a method of geological mapping.

The model used for this survey was a "MP-2" a portable proton precession magnetometer manafactured by Scintrex Ltd.The specifications of this instrument include a resolution of 1 gamma(1 nano-Tesla) over a full operating range of 20000 to 100000 nT in 25 steps; It has agradient tolerance of 5000 nT/metre. There are two components to the instrument. The sensor is an omni-directional,shielded,noise cancelling,dual coil unit featuring a chamber filled with a proton rich fluid such as kerosene-its total weight is 1500 grams. The sensor can be either carried in a backpack or mounted on a staff-the latter procedure allows for a more accurate survey as the operator generally has a trace of metal on his body. It is vital to the accuracy of the survey that no big metal objects be carried by the operator as this will upset the ambient magnetic field. The console,which is connected to the sensor by a long cord,weighs with batteries 2 kgs.; an accurate reading can be obtained in a few seconds. Enclosed within the sensor are 2 wire wound coils-when a current is passed through these coils for a brief period of time a magnetic field is created which aligns the spinning protons. When the polarizing current is abruptly terminated,protons commence to precess around the magnetic field of earth and eventually re-align with it. This precession induces a tiny exponentially decaying AC signal in the sensor coils-the frequency is proportional to the flux of the ambient magnetic field. This frequency is measured by the signal processing electronics of the unit,converted to a gamma value and presented on the digital display.

The magnetic method involves the very accurate measurement of the total resultant magnetic field created by Earth's field acting on lithological formations posessing differing magnetic properties and configurations. Excluding geometric factors there are 3 components which uniquely determine the magnetic field at any location: 1. Strength of Earth's magnetic field. 2. Magnetic susceptibility of ambient rocks. 3.The remanent magnetism of the rocks. The latter is a function of both the rock's composition and its previous history whilst its susceptibility is mainly a measure of magnetite content.

Temporal variations in the Magnetic field are an inherent problem in magnetic surveying;significant alterations may occur within hours,minutes or even seconds though longer term changes may be neglected for a survey. In order to correct for this diurnal shift,which may attain 1000 nano-Teslas per day,corrections of the values obtained by the unit are necessary. Of the two major methods utilized for this,the more accurate, quicker,yet more costly one,consists of placing an identical unit to the type being used for the survey,at a permanent base station,where continuous readings throughout the day will be tabulated whilst the magnetic survey is being conducted. Thus a complete record of any shifts will be obtained,which will permit relatively accurate data manipulation. A second method is to periodically ,during the course of the day,take repeated measurements at several convenient traverse points,which broadly allows the variations to be discerned. This latter method was chosen by myself for this program,which can lengthen the field time spent in surveying considerably. However for the claims surveyed in the Yahk River area,enough trails crossed the survey lines,that very little time was expended in this procedure;furthermore,the diurnal variations recorded were very low.

DISCUSSION OF VLF-EM SURVEY RESULTS on the AUTHOR'S PROPERTIES

A VLF-EM survey was performed over the entirety of the VULCAN,UTOPIA and the western 80% of the XANADU in late summer;Seattle Washington,24.8 KiloHertz was the station of choice for all three claims. Relatively low values and quite minor variations were often noted in both the In-Phase and Out-of-Phase component of the VLF-EM,particularly the latter. On the UTOPIA,one moderate conductor lies near the extreme north west corner;though there is good separation between the Dip Angles and Quadratures,the values of the latter are just barely negative implying a shallow conductor,(whilst the more interesting deep ones are suggested by high negative readings). The sediments and the gabbro are in close proximity here,so perhaps the prescence of faulting is being recorded,although this zone also coincides with a very minor soil geochemical anomaly. A conductor of a similar magnitude is situated near the northeast sector of the claim on Line 8E.;these 2 areas also correlate with high Fraser Filtered Dip Angle contours. On most of the UTOPIA though,the two main VLF-EM components are similar,with generally the variations between adjacent stations and lines very low,with both the Dip Angles and Quadratures often near zero. A second moderate sized conductor runs along the east-central sector of this claim to Line 10 E.-this coincides with a low magnetic anomaly. A minor conductor is indicated along the southern portion of the UTOPIA from Line 5E. to Line 10 E. along 900 North-this is also corrobotated by the Fraser Filtered Dip Angle contours which attain their highest magnitude here on the claim,as they trend from Line 3 E.to 10 E. However judging by the concordance of dip Angles and Quadratures, these high values could be mainly a product of faulting. There is a relatively high, but irregular contoured area on the entire north part of claim betwixt 2400 and 2800 North.

Somewhat better separations between the Dip Angles and Quadratures is indicated on the XANADU relative to the UTOPIA,BUT GENERALLY THE FORMER IS negative,with the latter positive,whilst theoretically at least,one should have the reverse situation for good conductors. In fact the Out-of-Phase component tends toward zero,with the In-Phase almost invariably negative. All Of this seems to indicate quite shallow conductors and also there is a frequent concordance betwixt these 2 components,even when a good separation exists,which suggests that the deviations could be caused by faulting. The Fraser Filtered Dip Angle contours indicate a modest sized conductor trending eastward across the XANADU between 500 and 800 North,but these are very discontinuous and irregular. An intriguing zone of high Dip Angle contours is adjacent to near the north edge of the Claim betwixt lines 16 E.and 18 E.;not only were the highest values from the XANADU obtained here,but this sector roughly corresponds to a high Magnetic anomaly. The profiles of the two major VLF-EM components are quite widely spa-spaced here also. Neither was any geochemistry done here.

Several shallow conductors were spotted on the VULCAN,BUT as on the previous 2 claims,even when a good separation exists betwixt the Quadratures and Dip Angles,only rarely are the former negative,which according to theory would suggest shallow conductors. According to the data from the profiles and filtered contours,the best conductors seem to lie on the southwest,a region totally devoid of outcrop and a place where the Magnetic response is very average. But even in this zone,the Out-of-Phase readings approach zero and the contoured areas with the high values are quite small. Perhaps the most significant area in an economic sense,is located towards the northeast ,where although the Fraser Filtered Dip Angle Contours are insignificant,moderately good sepadration exists betwixt the profiles of the 2 VLF-EM components. Although no Magnetic anomalies were noted here,this zone features much limey argillite hosting abundant iron sulphide stringers.

DISCUSSION OF MAGNETIC SURVEY RESULTS on the PROPERTIES

The Magnetic background in this area is in the range of 57100 nano-Teslas-quite low,but not unusual as sediments predominate in this region and their magnetic response is generally less than that for igneous rocks which often contain more magnetic minerals. Very little variation in the Magnetic readings was recorded over the bulk of the claims,with the values hovering in the range of 57100 nano-Teslas for literally hundreds of metres along the survey lines. So low was the magnitude of the variations,that the contour intervals chosen were only 50 to 100 nano-Teslas(Gammas);for many surveys an interval of 500 or even 2000 is sometimes chosen. In fact the highest single reading obtained was a mere 58350 nT,which came from the southeastern corner of the VULCAN.However the "diurnal shift" of Magnetic values (previously discussed) was often of such little magnitude that corrections did not always have to be made.

Of all 3 claims,the XANADU SHOWED the least magnetic variation-the highest value was only 57291 nT,(albeit the eastern edge of this property was unsurveyed). This was obtained from the north-central part of the claim where outcrop is totally absent; even in the region of abundant gabbro outcrop,the Magnetic response is very flat. On the UTOPIA claim,the highest magnetic values originate from almost its exact centre, where there are large,often rusty gabbro outcrops;the eastward continuation of this lithology is reflected by the slightly higher Magnetic readings. In the vast majority of this claim though,as on the XANADU,THE values hover in the 57100 nanoTesla range. The VULCAN reveals 2 distinct areas of relatively high Magnetic response-one being in the north-central area where outcrop is totally lacking,with values often exceeding 57300 nano-Teslas. The second,more significant area lies in the southeast corner of the claim where (perhaps not coincidentally) exposed bedrock is relatively abundant. The values here sometimes exceed 58000 nT;the zone with the elevated readings being roughly oval and ca.300 metres north-south and 150 metres east-west. This may be economically significant as iron sulphide stringers in the rusty limey sediments are relatively common here(though they appear to be pyrite as opposed to pyrrhotite). Alternatively this zone may be underlain by a mafic intrusive.

There are perhaps several reasons why this area in general has such a low Magnetic response;one being that this is partially due to a very thick overburden cover or there may simply be a paucity of magnetite in the bedrock. Even though the Aldridge sediments are quite Iron-rich,they are not particularly abundant in magnetite or pyrrhotite. In any case a high magnetic response does not necessarily correlate with economic mineralisation unless one is seeking an iron mine. Areas that have higher magnetic values here relatively (even the highest is actually quite low) may be underlain by areas of gabbro with a slightly higher magnetite content or else pyrrhotite-bearing metasediments. Despite the relatively negative results obtained, this survey was still somewhat useful.

RECOMMENDATIONS FOR FUTURE EXPLORATIONSIN YAHK RIVER AREA

The area encompassed by my three claims which total 40 units, seems quite unprepossessing at first glance-the scarce outcrops display very little economic mineralisation despite their rustiness and neither was any tourmalinite (the rock of exploration interest in this area)noted. The modest geochemical program failed to reveal much of anything that was significantly anomalous;neither did the Magnetic survey detect any major responses and most of the Indicated VLF-EM conductors seem to be fairly shallow. Despite all these apparently negative results however,at least one more field season of modest exploration does seem warranted. here. Although much ground immediately adjacent to mine has recently come open,e.g. CANAM #16&#18,much of it has recently undergone relatively intense exploration with fairly unimpressive results;thus it seems more logical to explore the currently open ground eastwards(with exception of CANAM#15 which connects the XANADU and VULCAN). One notable area where this summer's exploration results were not so negative is on the eastern edge of the VULCAN. To re-iterate,here on 2 separate locations-one in the northeast, the second in the southeast corner,relatively abundant sulphide stringers are hosted by dark grey limey argillite. Only a couple rock samples from this area were assayed here and no soils;similar lithologies were also noted eastward of the claim boundary.Thus it would seem logical to acquire soon,a block of ground,ca.15 claim units,immediately east of the VULCAN and to perform identical surveys on the newly staked areas, to those done this year. On the VULCAN CLAIM ITSELF,SEVERAL dozen soil samples ought to be collected,including several rocks, mainly from the east side;several of these latter should also be analyzed for gold. Perhaps a tighter magnetic gride.g.25X25 metres,could be placed over the south east corner of the VULCAN,IN ORDER TO PINPOINT THE source of the Magnetic anomalies and to discern whether or not they follow a trend.

A second area of economic potential,albeit of less magnitude lies at centre of UTOPIA claim,where rusty gabbro hosting rusty quartz veins with carbonate and epidote,coincide with a minor Magnetic high (and a very minor VLF-EM conductor). Although lithogeochemical results were quite negative,only a couple were taken with no soil geochemistry done in this area. It is envisaged that 2-3 dozen soils could be tataken here along the apparent east-west trend of the gabbro. Towards the east side of it are some "tonalitic"- Quartz-rich rocks,which implies that a zone of silicification occurs here,which could be worthy of future investigation. The open ground east here of the UTOPIA could be staked with exploration done over it and some soil geochemistry carried out over the south UTOPIA, with more on its northern sector.No more work is contemplated for the south XANADU,but adjacent to its north edge, were modest geochemical and Magnetic anomalies which could be examined further. To re-iterate,any more work contemplated for this region would involve zones eastward of the VULCAN and UTOPIA with a little more work planned for the 3 properties explored by me this year.

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A9529458

Comments: ATTN: GUY ROYER

CERTIFICATE A9529458

(JFU) - ROYER, GUY

Project: B HORIZON MATERIAL
P.O. # :

Samples submitted to our lab in Vancouver, BC.
This report was printed on 5-OCT-95.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
205	12	Geochem ring to approx 150 mesh
226	12	0-3 Kg crush and split
3202	12	Rock - save entire reject
298	12	ICP - AQ Digestion charge

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
983	4	Au ppb: Fuse 30 g sample	FA-AAS	5	10000
2118	12	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	200
2120	12	As ppm: 32 element, soil & rock	ICP-AES	2	10000
2123	12	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
2128	12	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
2131	12	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
2136	12	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
2140	12	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
2141	12	Sb ppm: 32 element, soil & rock	ICP-AES	2	10000
2149	12	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000

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Project : B HORIZON MATERIAL
Comments: ATTN: GUY ROYER

Page Number : 1
Total Pages : 1
Certificate Date: 05-OCT-95
Invoice No. : I9529458
P.O. Number :
Account : JFU

CERTIFICATE OF ANALYSIS A9529458

SAMPLE	PREP CODE		Au ppb FA+AA	Ag ppm	As ppm	Bi ppm	Cu ppm	Hg ppm	Mo ppm	Pb ppm	Sb ppm	Zn ppm
EMM-1	205	226	10	< 0.2	4	< 2	64	< 1	2	8	< 2	138
EMM-2	205	226	< 5	< 0.2	< 2	< 2	52	< 1	1	8	< 2	80
EW-1	205	226	-----	< 0.2	6	< 2	39	< 1	< 1	4	< 2	72
EX-1	205	226	< 5	< 0.2	6	< 2	30	2	5	8	< 2	92
MM-1	205	226	-----	< 0.2	8	< 2	20	< 1	< 1	6	< 2	82
NM-1	205	226	-----	< 0.2	8	< 2	23	< 1	2	12	< 2	98
NX-1	205	226	-----	< 0.2	8	< 2	28	1	< 1	6	< 2	102
WM-1	205	226	-----	< 0.2	< 2	< 2	3	< 1	1	< 2	< 2	< 2
WM-2	205	226	< 5	< 0.2	< 2	< 2	9	< 1	< 1	< 2	< 2	8
WS-1	205	226	-----	< 0.2	2	< 2	4	< 1	< 1	12	< 2	14
WS-2	205	226	-----	< 0.2	< 2	< 2	1	< 1	< 1	24	< 2	8
XM-1	205	226	-----	< 0.2	2	< 2	37	< 1	< 1	4	< 2	88

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CERTIFICATION: ____________________

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CERTIFICATE A9529457

(JFU) - ROYER, GUY

Project: B HORIZON MATERIAL
P.O. # :

Samples submitted to our lab in Vancouver, BC.
This report was printed on 5-OCT-95.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
201	78	Dry, sieve to -80 mesh
229	78	ICP - AQ Digestion charge

* NOTE 1:

The 32 element ICP package is suitable for trace metals in soil and rock samples. Elements for which the nitric-aqua regia digestion is possibly incomplete are: Al, Ba, Be, Ca, Cr, Ga, K, La, Mg, Na, Sr, Ti, Tl, W.

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
2118	78	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	200
2119	78	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
2120	78	As ppm: 32 element, soil & rock	ICP-AES	2	10000
2121	78	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
2122	78	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
2123	78	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
2124	78	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
2125	78	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
2126	78	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
2127	78	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
2128	78	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
2150	78	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
2130	78	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
2131	78	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
2132	78	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
2151	78	La ppm: 32 element, soil & rock	ICP-AES	10	10000
2134	78	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
2135	78	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
2136	78	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
2137	78	Na %: 32 element, soil & rock	ICP-AES	0.01	5.00
2138	78	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
2139	78	P ppm: 32 element, soil & rock	ICP-AES	10	10000
2140	78	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
2141	78	Sb ppm: 32 element, soil & rock	ICP-AES	2	10000
2142	78	Sc ppm: 32 elements, soil & rock	ICP-AES	1	10000
2143	78	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
2144	78	Ti %: 32 element, soil & rock	ICP-AES	0.01	5.00
2145	78	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
2146	78	U ppm: 32 element, soil & rock	ICP-AES	10	10000
2147	78	V ppm: 32 element, soil & rock	ICP-AES	1	10000
2148	78	W ppm: 32 element, soil & rock	ICP-AES	10	10000
2149	78	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000

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Project : B HORIZON MATERIAL
Comments: ATTN: GUY ROYER

Certificate Date: 04-OCT-95
Invoice No. : I9529457
P.O. Number :
Account : JFU

CERTIFICATE OF ANALYSIS A9529457

SAMPLE	PREP CODE		Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm
W0E/700N	201	229	< 0.2	1.83	< 2	70	< 0.5	< 2	0.47	< 0.5	14	13	57	3.07	< 10	< 1	0.26	10	0.53	300	< 1
W0E/1025N	201	229	< 0.2	2.26	< 2	120	< 0.5	< 2	0.19	< 0.5	9	14	52	2.62	< 10	< 1	0.14	< 10	0.40	330	1
W0E/2100N	201	229	< 0.2	2.55	6	110	0.5	< 2	0.24	< 0.5	8	32	33	2.97	< 10	< 1	0.64	20	1.22	355	< 1
W1E/950N	201	229	< 0.2	1.40	2	70	< 0.5	< 2	0.25	< 0.5	8	12	37	2.11	< 10	< 1	0.18	10	0.45	155	< 1
W1E/2150E	201	229	< 0.2	1.59	< 2	80	< 0.5	< 2	0.24	< 0.5	9	15	35	1.99	< 10	< 1	0.22	10	0.52	205	< 1
W2E/975N	201	229	< 0.2	4.16	4	150	0.5	< 2	0.17	< 0.5	13	13	62	2.51	< 10	< 1	0.11	10	0.27	190	< 1
W2E/2175N	201	229	< 0.2	1.33	< 2	60	< 0.5	< 2	0.24	< 0.5	6	12	21	1.54	< 10	< 1	0.11	< 10	0.37	140	< 1
W3E/1100N	201	229	< 0.2	4.76	6	260	0.5	< 2	0.13	< 0.5	14	17	76	3.59	10	< 1	0.19	10	0.36	195	< 1
W3E/2200N	201	229	< 0.2	1.83	2	80	< 0.5	< 2	0.20	< 0.5	8	22	30	2.37	< 10	< 1	0.52	20	0.72	215	< 1
W3E/3300N	201	229	< 0.2	1.27	2	60	< 0.5	< 2	0.30	< 0.5	6	19	34	1.78	< 10	< 1	0.31	10	0.60	190	< 1
W4E/950N	201	229	< 0.2	1.43	2	70	< 0.5	< 2	0.11	< 0.5	10	7	21	1.48	< 10	< 1	0.08	< 10	0.24	350	< 1
W4E/2350N	201	229	< 0.2	1.90	4	90	< 0.5	< 2	0.26	< 0.5	8	22	32	2.40	< 10	< 1	0.50	10	0.80	215	< 1
W4E/2950N	201	229	< 0.2	2.53	2	230	< 0.5	< 2	0.18	< 0.5	11	39	63	3.07	< 10	< 1	0.95	10	1.24	355	< 1
W5E/1100N	201	229	< 0.2	2.94	2	120	0.5	< 2	0.14	< 0.5	14	13	46	2.16	< 10	1	0.09	< 10	0.28	200	< 1
W5E/2400N	201	229	< 0.2	2.50	4	130	0.5	< 2	0.10	< 0.5	10	24	36	3.51	< 10	< 1	1.08	20	1.05	380	< 1
W5E/2875N	201	229	< 0.2	2.26	2	140	< 0.5	< 2	0.44	< 0.5	13	37	109	3.21	< 10	< 1	0.70	10	1.03	360	1
W6E/1050N	201	229	< 0.2	2.10	2	90	< 0.5	< 2	0.23	< 0.5	10	11	41	2.18	< 10	< 1	0.15	10	0.39	170	< 1
W6E/2300N	201	229	< 0.2	2.71	6	180	< 0.5	< 2	0.27	< 0.5	11	24	55	2.88	< 10	< 1	0.46	10	0.92	285	< 1
W6E/2750N	201	229	< 0.2	2.09	6	140	< 0.5	< 2	0.30	< 0.5	10	27	48	2.72	< 10	< 1	0.58	10	0.93	295	< 1
W7E/1025N	201	229	< 0.2	3.72	2	100	0.5	< 2	0.13	< 0.5	10	11	41	2.25	< 10	< 1	0.08	10	0.19	95	< 1
W7E/2350N	201	229	< 0.2	1.91	6	100	< 0.5	< 2	0.20	< 0.5	9	22	46	2.55	< 10	< 1	0.41	20	0.68	235	< 1
W8E/900N	201	229	< 0.2	2.73	< 2	120	0.5	< 2	0.18	< 0.5	9	13	34	2.37	< 10	< 1	0.15	10	0.36	160	< 1
W8E/2400N	201	229	< 0.2	2.11	4	120	< 0.5	< 2	0.20	< 0.5	10	22	39	2.37	< 10	< 1	0.46	10	0.80	345	< 1
W9E/875N	201	229	< 0.2	1.61	< 2	40	< 0.5	< 2	0.62	< 0.5	11	8	49	2.63	< 10	< 1	0.17	< 10	0.55	270	< 1
W10E/925N	201	229	< 0.2	1.83	4	80	< 0.5	< 2	0.26	< 0.5	9	16	51	2.84	< 10	< 1	0.42	20	0.68	240	< 1
X0E/0N	201	229	< 0.2	1.23	2	90	< 0.5	< 2	0.19	< 0.5	8	18	28	1.97	< 10	< 1	0.49	10	0.56	235	< 1
X1E/1575N	201	229	< 0.2	1.64	4	140	0.5	< 2	0.16	< 0.5	8	18	30	2.41	< 10	< 1	0.46	20	0.61	330	1
X2E/25N	201	229	< 0.2	0.89	2	60	< 0.5	< 2	0.17	< 0.5	7	13	21	1.59	< 10	< 1	0.27	10	0.39	215	< 1
X2E/1525N	201	229	< 0.2	3.04	< 2	200	0.5	< 2	0.19	< 0.5	11	22	40	2.96	< 10	< 1	0.69	20	0.82	450	< 1
X3E/200N	201	229	< 0.2	1.77	2	150	< 0.5	< 2	0.16	< 0.5	8	13	27	1.76	< 10	1	0.22	10	0.38	190	< 1
X3E/1475N	201	229	0.2	5.14	< 2	220	1.0	< 2	0.43	< 0.5	17	35	134	4.47	10	< 1	1.10	120	1.10	630	< 1
X4E/1325N	201	229	< 0.2	1.70	2	110	< 0.5	< 2	0.24	< 0.5	9	17	20	2.10	< 10	< 1	0.48	20	0.59	205	< 1
X5E/1275N	201	229	< 0.2	2.70	4	160	0.5	< 2	0.29	< 0.5	10	23	25	2.50	< 10	< 1	0.62	20	0.92	340	< 1
X6E/325N	201	229	< 0.2	2.05	< 2	130	< 0.5	< 2	0.33	< 0.5	10	18	37	2.25	< 10	< 1	0.46	20	0.72	260	< 1
X6E/1250N	201	229	< 0.2	1.72	4	140	< 0.5	< 2	0.21	< 0.5	8	17	20	1.93	< 10	1	0.42	10	0.61	195	< 1
X7E/300N	201	229	< 0.2	1.60	< 2	360	< 0.5	< 2	0.25	< 0.5	7	10	18	1.39	< 10	< 1	0.19	< 10	0.36	375	< 1
X7E/1225N	201	229	< 0.2	3.00	< 2	290	0.5	< 2	0.26	< 0.5	10	18	41	2.33	< 10	< 1	0.38	20	0.56	390	1
X8E/275N	201	229	< 0.2	1.80	4	90	< 0.5	< 2	0.28	< 0.5	8	18	29	1.98	< 10	< 1	0.48	20	0.75	205	< 1
X8E/1175N	201	229	< 0.2	2.08	< 2	180	< 0.5	< 2	0.22	< 0.5	7	13	21	1.79	< 10	< 1	0.35	10	0.44	250	< 1
X9E/250N	201	229	< 0.2	2.56	2	220	< 0.5	< 2	0.24	< 0.5	8	11	31	1.68	< 10	< 1	0.20	10	0.31	125	< 1

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PROSPECTORS PROGRAM
MEMPR

CERTIFICATION: ____________

Chemex Labs Ltd.
Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221 FAX: 604-984-0218

To: ROYER, GUY
BOX 211
ST. LOUIS, SK
S0J 2C0

Project : B HORIZON MATERIAL
Comments: ATTN: GUY ROYER

Certificate Date: 04-OCT-95
Invoice No. : I9529457
P.O. Number :
Account : JFU

CERTIFICATE OF ANALYSIS A9529457

SAMPLE	PREP CODE		Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
W0E/700N	201	229	0.05	10	100	10	< 2	6	11	0.15	< 10	< 10	93	< 10	46
W0E/1025N	201	229	0.02	10	670	10	< 2	3	9	0.11	< 10	< 10	62	< 10	56
W0E/2100N	201	229	0.02	12	290	14	< 2	4	15	0.15	< 10	< 10	54	< 10	78
W1E/950N	201	229	0.02	8	120	4	< 2	3	6	0.12	< 10	< 10	54	< 10	34
W1E/2150E	201	229	0.03	9	230	6	< 2	3	9	0.10	< 10	< 10	46	< 10	36
W2E/975N	201	229	0.03	15	1050	12	< 2	3	15	0.14	< 10	< 10	49	< 10	50
W2E/2175N	201	229	0.03	6	130	6	< 2	2	8	0.10	< 10	< 10	37	< 10	24
W3E/1100N	201	229	0.04	19	1040	14	< 2	3	16	0.16	< 10	< 10	63	< 10	62
W3E/2200N	201	229	0.01	10	130	8	< 2	4	10	0.14	< 10	< 10	44	< 10	50
W3E/3300N	201	229	0.03	9	150	6	< 2	3	9	0.12	< 10	< 10	48	< 10	34
W4E/950N	201	229	0.01	7	200	8	< 2	1	9	0.06	< 10	< 10	32	< 10	24
W4E/2350N	201	229	0.02	11	210	8	< 2	4	10	0.14	< 10	< 10	50	< 10	50
W4E/2950N	201	229	0.01	20	290	8	< 2	6	14	0.18	< 10	< 10	57	< 10	100
W5E/1100N	201	229	0.02	14	1060	10	< 2	2	14	0.11	< 10	< 10	45	< 10	54
W5E/2400N	201	229	< 0.01	11	340	8	< 2	3	13	0.17	< 10	< 10	35	< 10	92
W5E/2875N	201	229	0.04	24	340	6	< 2	8	14	0.16	< 10	< 10	83	< 10	70
W6E/1050N	201	229	0.04	12	170	10	< 2	3	9	0.11	< 10	< 10	54	< 10	40
W6E/2300N	201	229	0.03	17	780	14	< 2	4	19	0.13	< 10	< 10	52	< 10	78
W6E/2750N	201	229	0.03	14	310	6	< 2	5	14	0.16	< 10	< 10	58	< 10	64
W7E/1025N	201	229	0.04	13	620	8	< 2	3	11	0.12	< 10	< 10	46	< 10	44
W7E/2350N	201	229	0.01	13	200	8	< 2	4	12	0.13	< 10	< 10	53	< 10	52
W8E/900N	201	229	0.03	15	170	10	< 2	2	14	0.13	< 10	< 10	50	< 10	38
W8E/2400N	201	229	0.02	13	230	8	< 2	3	12	0.15	< 10	< 10	44	< 10	66
W9E/875N	201	229	0.08	9	180	4	< 2	6	8	0.17	< 10	< 10	91	< 10	40
W10E/925N	201	229	0.03	11	190	8	< 2	6	10	0.15	< 10	< 10	59	< 10	56
X0E/0N	201	229	0.02	10	240	12	< 2	2	12	0.10	< 10	< 10	32	< 10	48
X1E/1575N	201	229	0.01	12	330	14	< 2	3	16	0.13	< 10	< 10	43	< 10	70
X2E/25N	201	229	0.02	8	230	12	< 2	2	8	0.08	< 10	< 10	28	< 10	42
X2E/1525N	201	229	0.01	16	660	24	< 2	4	28	0.15	< 10	< 10	46	< 10	102
X3E/200N	201	229	0.02	12	520	12	< 2	2	15	0.09	< 10	< 10	28	< 10	48
X3E/1475N	201	229	0.02	40	840	28	< 2	12	45	0.19	< 10	< 10	68	< 10	148
X4E/1325N	201	229	0.02	12	320	12	< 2	3	18	0.11	< 10	< 10	38	< 10	54
X5E/1275N	201	229	0.02	19	410	18	< 2	3	37	0.14	< 10	< 10	37	< 10	86
X6E/325N	201	229	0.03	16	250	10	< 2	4	19	0.13	< 10	< 10	42	< 10	62
X6E/1250N	201	229	0.01	13	270	10	< 2	2	19	0.11	< 10	< 10	33	< 10	58
X7E/300N	201	229	0.02	14	1550	10	< 2	1	31	0.08	< 10	< 10	22	< 10	66
X7E/1225N	201	229	0.03	21	1240	14	< 2	3	31	0.13	< 10	< 10	36	< 10	102
X8E/275N	201	229	0.03	14	440	10	< 2	3	21	0.11	< 10	< 10	36	< 10	56
X8E/1175N	201	229	0.05	14	410	8	< 2	2	23	0.11	< 10	< 10	29	< 10	74
X9E/250N	201	229	0.04	17	380	8	< 2	2	25	0.11	< 10	< 10	26	< 10	46

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CERTIFICATION:

Chemex Labs Ltd.
Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221 FAX: 604-984-0218

To: ROYER, GUY **

BOX 211
ST. LOUIS, SK
S0J 2C0

Project : B HORIZON MATERIAL
Comments: ATTN: GUY ROYER

Certificate Date: 04-OCT-95
Invoice No. : I9529457
P.O. Number :
Account : JFU

CERTIFICATE OF ANALYSIS A9529457

SAMPLE	PREP CODE	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm
X9E/1100N	201 229	< 0.2	2.34	6	120	< 0.5	< 2	0.30	< 0.5	9	25	34	2.30	< 10	< 1	0.46	20	0.93	235	< 1
X10E/1125N	201 229	< 0.2	1.40	< 2	90	< 0.5	< 2	0.32	< 0.5	8	17	22	1.82	< 10	1	0.45	20	0.57	330	< 1
X11E/250N	201 229	< 0.2	2.50	4	240	0.5	< 2	0.21	< 0.5	9	17	28	2.06	< 10	< 1	0.27	10	0.56	325	< 1
X11E/1100N	201 229	< 0.2	2.78	< 2	270	0.5	< 2	0.33	< 0.5	10	14	33	1.96	< 10	< 1	0.26	10	0.46	195	< 1
X12E/275N	201 229	0.2	2.85	2	240	0.5	< 2	0.29	< 0.5	9	13	36	1.77	< 10	< 1	0.19	10	0.41	305	< 1
X12E/1050N	201 229	< 0.2	1.25	4	50	< 0.5	< 2	0.47	< 0.5	9	16	36	2.14	< 10	< 1	0.34	10	0.62	235	1
X13E/1000N	201 229	< 0.2	2.60	2	230	< 0.5	< 2	0.33	< 0.5	9	17	27	1.99	< 10	< 1	0.30	10	0.59	275	< 1
X14E/1000N	201 229	< 0.2	2.23	2	170	< 0.5	< 2	0.33	< 0.5	9	19	33	1.97	< 10	< 1	0.36	10	0.62	310	< 1
X15E/925N	201 229	< 0.2	2.49	2	220	< 0.5	< 2	0.25	< 0.5	9	15	37	2.02	< 10	< 1	0.35	10	0.49	185	< 1
X16E/275N	201 229	< 0.2	1.79	< 2	130	< 0.5	< 2	0.29	< 0.5	9	16	25	1.89	< 10	< 1	0.37	10	0.57	175	< 1
X16E/875N	201 229	< 0.2	1.66	< 2	160	< 0.5	< 2	0.22	< 0.5	7	14	19	1.47	< 10	< 1	0.26	10	0.42	170	1
X17E/225N	201 229	< 0.2	1.61	< 2	110	< 0.5	< 2	0.18	< 0.5	7	10	17	1.36	< 10	< 1	0.20	10	0.42	115	1
X17E/775N	201 229	< 0.2	2.07	2	230	< 0.5	< 2	0.29	< 0.5	8	12	27	1.86	< 10	< 1	0.29	10	0.45	165	< 1
X18E/725N	201 229	< 0.2	1.47	< 2	80	< 0.5	< 2	0.28	< 0.5	11	13	25	2.05	< 10	< 1	0.49	10	0.58	300	< 1
X19E/700N	201 229	< 0.2	2.07	2	160	< 0.5	< 2	0.29	< 0.5	8	13	28	1.96	< 10	< 1	0.32	10	0.48	370	< 1
X20E/250N	201 229	< 0.2	1.48	2	130	< 0.5	< 2	0.24	< 0.5	7	11	18	1.66	< 10	< 1	0.30	10	0.43	245	< 1
X20E/650N	201 229	< 0.2	2.95	2	230	0.5	< 2	0.28	< 0.5	9	15	40	2.02	< 10	< 1	0.26	10	0.52	225	< 1
X21E/600N	201 229	< 0.2	2.64	< 2	350	< 0.5	< 2	0.31	< 0.5	9	11	29	2.05	< 10	< 1	0.24	10	0.44	260	< 1
X22E/575N	201 229	< 0.2	1.75	< 2	140	< 0.5	< 2	0.30	< 0.5	8	10	25	1.75	< 10	< 1	0.27	10	0.44	185	< 1
X23E/575N	201 229	< 0.2	2.37	4	270	< 0.5	< 2	0.25	< 0.5	7	10	29	1.79	< 10	< 1	0.19	10	0.36	185	< 1
NMM-50E	201 229	< 0.2	2.08	< 2	120	< 0.5	< 2	0.32	< 0.5	11	18	31	2.25	< 10	< 1	0.37	10	0.77	300	< 1
NMM-150E	201 229	< 0.2	2.09	4	150	< 0.5	< 2	0.35	< 0.5	12	19	43	3.12	< 10	< 1	0.52	30	0.85	270	1
NMM-250E	201 229	< 0.2	1.08	< 2	60	< 0.5	< 2	0.29	< 0.5	7	10	17	1.48	< 10	< 1	0.21	10	0.48	145	< 1
NMM-350E	201 229	< 0.2	1.54	2	90	< 0.5	< 2	0.35	< 0.5	9	11	27	2.17	< 10	< 1	0.25	10	0.57	190	< 1
NMM-450E	201 229	< 0.2	1.60	< 2	70	< 0.5	< 2	0.40	< 0.5	8	14	24	2.16	< 10	< 1	0.37	10	0.71	190	< 1
NMM-700E	201 229	0.2	3.84	< 2	250	0.5	< 2	0.23	< 0.5	13	15	68	2.52	< 10	< 1	0.26	10	0.47	420	< 1
NMM-1900N	201 229	< 0.2	1.36	6	80	< 0.5	< 2	0.35	< 0.5	9	12	27	1.95	< 10	< 1	0.30	10	0.53	200	< 1
CM-000E	201 229	< 0.2	1.96	4	110	< 0.5	< 2	0.39	< 0.5	10	18	43	3.01	< 10	< 1	0.48	20	0.83	325	< 1
CM-100E	201 229	< 0.2	1.12	2	60	< 0.5	< 2	0.18	< 0.5	6	11	21	1.62	< 10	< 1	0.26	10	0.50	140	< 1
CM-200E	201 229	< 0.2	0.92	< 2	50	< 0.5	< 2	0.23	< 0.5	7	9	25	1.59	< 10	< 1	0.21	10	0.39	140	< 1
CM-300E	201 229	0.2	2.26	4	150	< 0.5	< 2	0.30	< 0.5	9	13	33	2.20	< 10	< 1	0.18	10	0.47	230	< 1
CM-400E	201 229	< 0.2	1.49	4	80	< 0.5	< 2	0.34	< 0.5	11	14	45	2.47	< 10	< 1	0.44	20	0.63	300	< 1
X25E-50N	201 229	< 0.2	1.25	< 2	80	< 0.5	< 2	0.22	< 0.5	7	13	35	1.93	< 10	< 1	0.31	10	0.51	210	< 1
X26E-200N	201 229	< 0.2	1.19	2	60	< 0.5	< 2	0.21	< 0.5	9	13	25	2.05	< 10	< 1	0.44	20	0.56	265	< 1
X27E-400N	201 229	< 0.2	1.81	< 2	80	< 0.5	< 2	0.27	< 0.5	10	21	37	2.48	< 10	< 1	0.58	20	0.74	280	< 1
X28E-600N	201 229	< 0.2	1.18	2	60	< 0.5	< 2	0.25	< 0.5	9	20	27	1.93	< 10	< 1	0.41	20	0.52	205	< 1
X29E-800N	201 229	< 0.2	1.46	< 2	70	< 0.5	< 2	0.30	< 0.5	9	20	31	2.10	< 10	< 1	0.49	20	0.64	230	< 1
X30E-1000N	201 229	< 0.2	1.63	2	80	< 0.5	< 2	0.18	< 0.5	8	15	23	2.17	< 10	< 1	0.48	20	0.52	235	< 1

CERTIFICATION:

Chemex Labs Ltd.
Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
PHONE: 604-984-0221 FAX: 604-984-0218

To: ROYER, GUY

BOX 211
ST. LOUIS, SK
S0J 2C0

Project : B HORIZON MATERIAL
Comments: ATTN: GUY ROYER

Certificate Date: 04-OCT-95
Invoice No. : 19529457
P.O. Number :
Account : JFU

CERTIFICATE OF ANALYSIS A9529457

SAMPLE	PREP CODE		Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
X9E/1100N	201	229	0.02	21	250	16	< 2	3	23	0.13	< 10	< 10	37	< 10	98
X10E/1125N	201	229	0.01	11	250	10	< 2	3	19	0.09	< 10	< 10	32	< 10	54
X11E/250N	201	229	0.01	15	760	12	< 2	3	29	0.11	< 10	< 10	35	< 10	78
X11E/1100N	201	229	0.03	19	530	10	< 2	3	42	0.12	< 10	< 10	33	< 10	72
X12E/275N	201	229	0.03	20	1620	8	< 2	2	34	0.12	< 10	< 10	29	< 10	70
X12E/1050N	201	229	0.04	12	200	12	< 2	4	14	0.09	< 10	< 10	52	< 10	38
X13E/1000N	201	229	0.04	16	690	10	< 2	2	28	0.12	< 10	< 10	31	< 10	74
X14E/1000N	201	229	0.03	17	680	12	< 2	3	25	0.11	< 10	< 10	33	< 10	70
X15E/925N	201	229	0.04	20	570	12	< 2	3	23	0.11	< 10	< 10	33	< 10	74
X16E/275N	201	229	0.02	14	330	8	< 2	3	19	0.12	< 10	< 10	36	< 10	50
X16E/875N	201	229	0.02	12	470	6	< 2	2	14	0.08	< 10	< 10	24	< 10	52
X17E/225N	201	229	0.02	12	420	6	< 2	1	17	0.08	< 10	< 10	23	< 10	42
X17E/775N	201	229	0.03	14	500	8	< 2	3	23	0.10	< 10	< 10	34	< 10	64
X18E/725N	201	229	0.02	10	270	10	< 2	3	14	0.13	< 10	< 10	48	< 10	46
X19E/700N	201	229	0.03	13	440	10	< 2	3	23	0.11	< 10	< 10	37	< 10	68
X20E/250N	201	229	0.02	11	390	6	< 2	2	18	0.09	< 10	< 10	32	< 10	46
X20E/650N	201	229	0.04	17	1230	12	< 2	3	32	0.13	< 10	< 10	35	< 10	84
X21E/600N	201	229	0.03	14	1220	8	< 2	3	26	0.11	< 10	< 10	37	< 10	74
X22E/575N	201	229	0.03	11	380	6	< 2	3	21	0.10	< 10	< 10	37	< 10	46
X23E/575N	201	229	0.02	13	1140	8	< 2	2	22	0.09	< 10	< 10	33	< 10	58
NMM-50E	201	229	0.02	16	860	14	< 2	3	19	0.11	< 10	< 10	42	< 10	74
NMM-150E	201	229	0.04	16	340	14	< 2	4	16	0.13	< 10	< 10	54	< 10	66
NMM-250E	201	229	0.03	9	180	6	< 2	2	11	0.08	< 10	< 10	32	< 10	28
NMM-350E	201	229	0.03	12	290	8	< 2	3	17	0.10	< 10	< 10	42	< 10	44
NMM-450E	201	229	0.04	11	160	8	< 2	3	13	0.11	< 10	< 10	47	< 10	42
NMM-700E	201	229	0.04	23	810	14	< 2	4	25	0.13	< 10	< 10	43	< 10	84
NMM-1900N	201	229	0.03	10	290	8	< 2	3	11	0.09	< 10	< 10	46	< 10	38
CM-000E	201	229	0.02	13	370	14	< 2	4	21	0.11	< 10	< 10	51	< 10	60
CM-100E	201	229	0.01	7	160	8	< 2	2	8	0.08	< 10	< 10	31	< 10	34
CM-200E	201	229	0.02	7	310	6	< 2	2	8	0.06	< 10	< 10	34	< 10	30
CM-300E	201	229	0.02	15	420	12	< 2	2	20	0.11	< 10	< 10	39	< 10	62
CM-400E	201	229	0.03	12	330	10	< 2	4	11	0.10	< 10	< 10	52	< 10	46
X25E-50N	201	229	0.01	10	250	14	< 2	2	13	0.09	< 10	< 10	38	< 10	42
X26E-200N	201	229	0.01	9	210	12	< 2	3	13	0.09	< 10	< 10	39	< 10	40
X27E-400N	201	229	0.01	14	300	12	< 2	4	16	0.11	< 10	< 10	51	< 10	54
X28E-600N	201	229	0.02	12	170	10	< 2	3	11	0.09	< 10	< 10	42	< 10	38
X29E-800N	201	229	0.02	12	280	8	< 2	3	13	0.11	< 10	< 10	41	< 10	48
X30E-1000N	201	229	0.01	12	180	12	< 2	3	14	0.10	< 10	< 10	32	< 10	44

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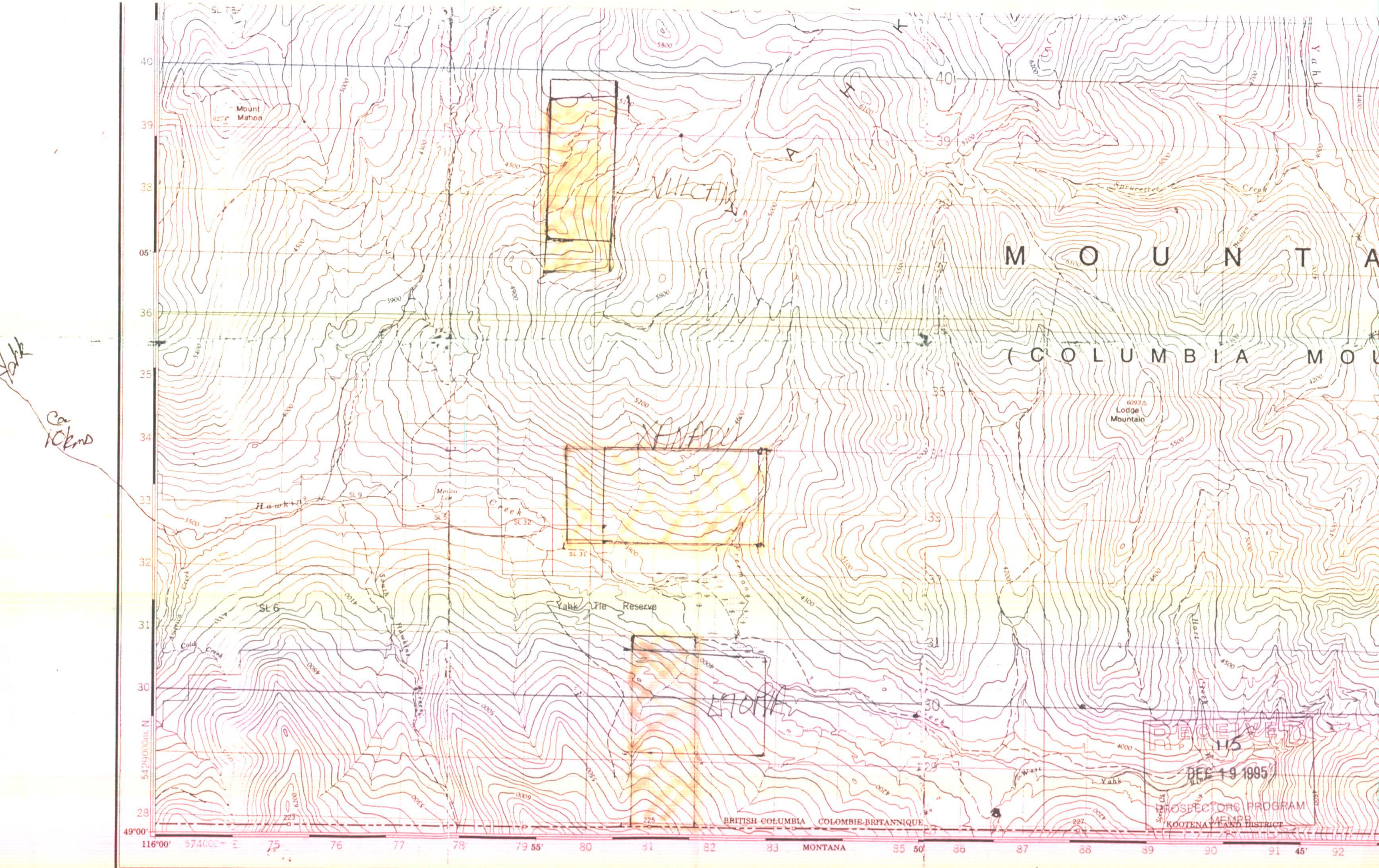
CERTIFICATION:

VULCAN GEOPHYSICS - VLF-EM (Very Low Frequency ElectroMagnetics) Profiles of Dip Angle & Quadrature

GEOLOGICAL & GEOCHEMICAL MAP of VULCAN CLAIM

VULCAN CLAIM - MAGNETOMETER SURVEY - MAGNETIC CONTOURS in 100 nano-Teslas (Gammas)

3



Produced by the SURVEYS AND MAPPING BRANCH, DEPARTMENT OF ENERGY, MINES AND RESOURCES. Updated from aerial photographs taken in 1979. Culture check 1980. Published in 1983.

Copies may be obtained from the Canada Map Office, Department of Energy, Mines and Resources, Ottawa, or your nearest map dealer.

Roads:	Routes:		
hard surface	revêtement dur	dual highway / double chaussée	more than 2 lanes / plus de 2 voies
hard surface	revêtement dur	2 lanes / 2 voies	less than 2 lanes / moins de 2 voies
loose or stabilized surface, all weather	gravier, aggloméré, toute saison	2 lanes or more / 2 voies ou plus	less than 2 lanes / moins de 2 voies
loose surface, dry weather	de gravier, temps sec		
unclassified road or street	route non classée ou rue		
cart track	de terre		
trail, cut line or portage	sentier, percée ou portage		

FOR COMPLETE REFERENCE SEE REVERSE SIDE

POUR UNE LISTE COMPLÈTE DES SIGNES, VOIR AU VERSO

1cm: 500m

(4)

YAHK RIVER

CANADA UNITED STATES OF A

CANADA ÉTATS-UNIS D'AMÉ

Scale 1:50 000 Échelle

Miles 1 0 1

Metres 1000 0 1000 2000

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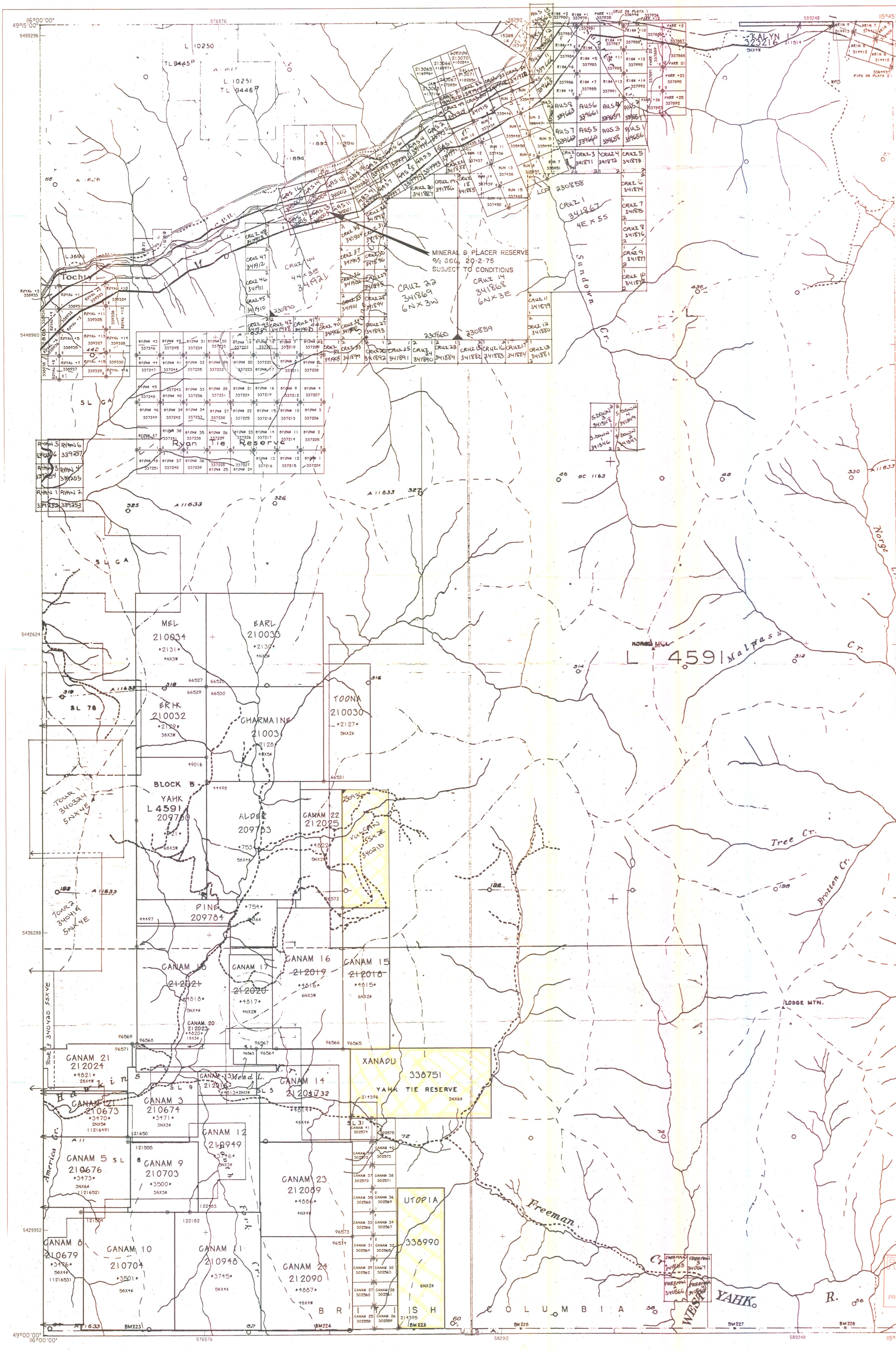
PROSPECTORS PROGRAM
COMMERCIAL TRAFFIC OVER 4550 kgs (10 000 lbs) PROHIBITED
GRANDE CACHE
WILLMORE WILDERNESS PARK
EDSON
HINTON
JASPER
JASPER NATIONAL PARK
MOUNT ROBSON PARK
VALEMOUNT
DRAYTON VALLEY
ROCKY MOUNTAIN HOUSE
RED DEER
INNISFAIL
SUNDRE
OLDS
DIDSBURY
CARSTAIRS
CROSSFIELD
AIRDRIE
COCHRANE
BANFF
CANMORE
LAKE LOUISE
EXSHAW
BRAGG CREEK
ROCKY MOUNTAINS
MONASHEE MOUNTAINS
SELKIRK MOUNTAINS
PURCELL MOUNTAINS
WELLS GRAY PARK
CLEARWATER
KAMLOOPS
CACHE CREEK
LOGAN LAKE
MERRITT
SALMON ARM
SICAMOUS
REVELSTOKE
GOLDEN
RADIUM HOTSPRINGS
INVERMERE
KIMBERLEY
CRANBROOK
FERNIE
SPARWOOD
ELKFORD
ENDERBY
ARMSTRONG
VERNON
COLDSTREAM
KELOWNA
PEACHLAND
SUMMERLAND
PENTICTON
OLIVER
OSOYOOS
PRINCETON
HOPE
CHILLIWACK
GREENWOOD
GRAND FORKS
ROSSLAND
TRAIL
CASTLEGAR
NELSON
NAKUSP
WASHINGTON
IDAHO
MONTANA
OMAK
SPOKANE
COEUR D'ALENE
BONNERS FERRY
SANDPOINT
PACIFIC STANDARD TIME
MOUNTAIN STANDARD TIME
KOOCANUSA
121°
120°
119°
118°
117°
115°
10
11
12
13

M82G-4W FORT STEELE



PROVINCE OF BRITISH COLUMBIA

MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES

MINERAL TITLES REFERENC[E]

MAP 082G04W

U.T.M. ZONE 11

LAST MAP UPDATE: 1995 SEP 12

New map rec'd Nov 15/95

ORIGINAL PRODUCED AT 1:31680

METRES

500 0 500 1000 1500 2000

ADMINISTRATIVE AREAS

MINING DIVISIONS: FORT STEELE

LAND DISTRICTS:

ALIENATIONS

NO STAKING AREAS

NO STAKING RESERVES

PARKS

ECOLOGICAL RESERVES

RECREATION AREAS

INDIAN RESERVES

CONDITIONAL AREAS

SUBJECT TO CONDITIONS RESERVES

SECTION 19 RECREATION AREAS

1 POST CLAIM AREAS

AREAS SUBJECT TO URANIUM / THORIUM REGULATIONS

MINERAL TENURE

MINERAL CLAIM	
MINERAL LEASE	
INDUSTRIAL MINERAL CLAIM	
CLAIM NAME	EXAMPLE
TITLE NUMBER	345679
OLD TITLE NUMBER	*3456*
TAG NUMBER	100000
LEGAL POST	
WITNESS POST	
FORFEITED TENURE	
VERIFIED	VER
SURVEYED	SUR
REVERTED C.G. MINERAL CLAIM	REV CG OR RCG
CROWN GRANTED	C G
OPEN FOR STAKING	O.F.S.

1 UNIT | 2 POST CLAIM | OLD 2 POST CLAIM

25 ha | 25 ha | 20.90 ha

500 m | 500 m | 457.2 m

THIS MAP IS PREPARED ONLY AS A GUIDE TO THE LOCATION OF MINERAL TENURE AS AS SHOWN ON THE LOCATOR'S SKETCHES. FOR CURRENT OR MORE SPECIFIC INFORMATION, APPLICATION SHOULD BE MADE TO THE MINING DIVISION CONCERNED.

082F08E	082G05W	082G05E
082F01E	082G04W	082G04E
U.S.A.	U.S.A.	U.S.A.

INDEX TO ADJOINING MAPS

RECEIVED DEC 19 1995 PROSPECTORS PROGRAM MEMPR

(5) 082G04W


VULCAN
VULCAN CREEK
VLF EM (Very Low Frequency Electro Magnetics) SURVEY
FRASER FILTERED DIP ANGLE CONTOURS
RECEIVED
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PROSPECTORS PROGRAM
MEMPR
LEGEND
Relevant CLAIM POSTS
Vehicle Accessible Trails
SCALE
1: 2500
1 Centimetre : 25 METRES
0 25m 50 75 100 125m
VULCAN CLAIM
VLF-EM Fraser Filtered
DIP ANGLE
CONTOURS
"Very Low Frequency"
Electro Magnetics
6

XANADU CLAIM : MAGNETOMETER SURVEY - MAGNETIC CONTOURS of Values in Nano-Teslas (Gammas)


XANADU CLAIM - VLF-EM SURVEY - "Very Low Frequency Electro Magnetics" - FRASER FILTERED DIP ANGLE CONTOURS.
FRASER FILTERED DIP ANGLE CONTOURS - Intervals Contoured @ ±10°.
Only Positive Values are Plotted - Nos. Represent Degrees Departure from HORIZONTAL.
Vehicle Accessible Trails
Station Utilized: SEATTLE Washington 24.8KHz.
Relevant CLAIM POSTS
"XANADU" CREEK
LEGEND
SCALE: 1:2500 1 CENTIMETRE: 25 METRES
0 25 50m 75 100m 150m 200 250 300 400m
Hawkins Creek Rd.
18Km. To Hwy #3
XANADU #338751
CANAM 15 #212018
CANAM 41 302374
CANAM 42 302375
XANADU
CANAM 14 #212017
L.C.P.
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GEOLOGICAL & GEOCHEMICAL MAP
of XANADU CLAIM.
LEGEND
D- MAFIC DIORITE/GABBRO
Ss- Sandstone
r= Very Rusty Rock
Approximate Boundary of OUTCROPS
Observed Lithological Contacts
Approx. Orientation- i.e. Strike & Dip of Sediments
Soil Sample Location (e.g. X19E/700N)
Cu=COPPER Zn=Zinc
La-Lanthanum
Values of Geochemical Results only Plotted if they Attain 100ppm (economic Metals only)
ROCK SAMPLE LOCATION e.g. EX-1 (Values Only Plotted if they attain 50ppm "economic Metals.
Relevant CLAIM POSTS
Vehicle Accessible Roads
CREEKS
SCALE
1:2500; 1 Centimetre = 25 METRES
0 25 50 75 100m 150m 200m
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MEMPR
XANADU #338151
CANAM #14 #212017
XANADU #338151
CANAM #1 #302574
CANAM 42 #302575
XANADU #338151
XANADU Creek
FREEMAN Creek
EX-1
9

XANADU GEOPHYSICS - VLF-EM "Very Low Frequency ElectroMagnetics" SURVEY. PROFILES of DIP ANGLES (In Phase) & QUADRATURES (Out-of-Phase) Components.

LITOPIA CLAIM - VLF-EM (Very Low Frequency ElectroMagnetics) FRASER FILTERED DIP ANGLE CONTOURS

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PROSPECTORS PROGRAM
MEMPR


LITOPIA CLAIM - MAGNETOMETER SURVEY - MAGNETIC CONTOURS in Nano-Teslas
2kms to Hawkins Creek Rd.
LITOPIA #338890
N
W
CANAM #36 #302567
CANAM #34 #302561
CANAM #32 #302564
CANAM #30 #302563
LITOPIA #338891
CANAM #28 #302562
CANAM #26
CANAM #24
GEORGE #1 JUDITH
LEGEND
Magnetic contours - Interval in 100 Gammas (nano-Teslas)
Relevant CLAIM POSTS
Vehicle Access Trails
LITOPIA CREEK
SCALE 1:2500
1 Centimetre = 25 METRES
0 25m 50 75 100 125m
L.C.P.
UNITED STATES of AMERICA
LITOPIA #338890
RECEIVED
DEC 19 1995
PROSPEC
13
LITOPIA CLAIM - MAGNETOMETER SURVEY - MAGNETIC CONTOURS in Nano-Teslas (Gammas)