LOG NO: 12-05	RD.
ACTION:	
FILE NO:	

NELPLAT

EXPLORATION PROJECT

STEL CLAIM GROUPS

NELSON MINING DIVISION

LAT: 49° 35'N LONG: 117° 20'W
NTS 82F/11

by
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GEOLOGICAL BRANCH
ASSESSMENT REPORT

20,586

November 29, 1990

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1.0 SUMMARY

Geological field mapping on the Nelplat Claim Group has shown a more complex and extensive Rossland Group assemblage than inferred by government mapping by Little in 1960. These formations indicate the greatest potential for economic base and precious metal mineralization and are concentrated in the southern portion of the Claim Group.

Similar style skarn assemblages to those documented at the Queen Victoria Mine were confirmed on the Monarch Claim with individual assays returning in excess of 4% Cu, 5.88 oz/ton Ag and 700 ppm Zn. Two additional zones of metasomatic alteration with garnet-epidote assemblages were identified indicating the potential for additional skarn bodies on the property. Gold assays were consistently low.

From the discussion of results section of this report evidence supporting a porphyritic system at depth in the upper portion of Garrity Creek is presented. Evidence includes anomalous molybdenum enrichment, an extensive zone of silica alteration and a somewhat zoned pyrite and copper signature. A mapped multiphased intrusive character to the Nelson Complex supports this potential. When assessing mineralization and alteration on the property the dominant geological features to be considered are the spatial relationships between the Nelson Complex intrusives, units of a pseudodioritic body in the southern portion of Garrity Creek, and the overlaying members of the Rosssland Group. Structural components to these areas are poorly understood due to alteration

and limited outcrop exposure. A week fault has been mapped in the Garrity Creek drainage.

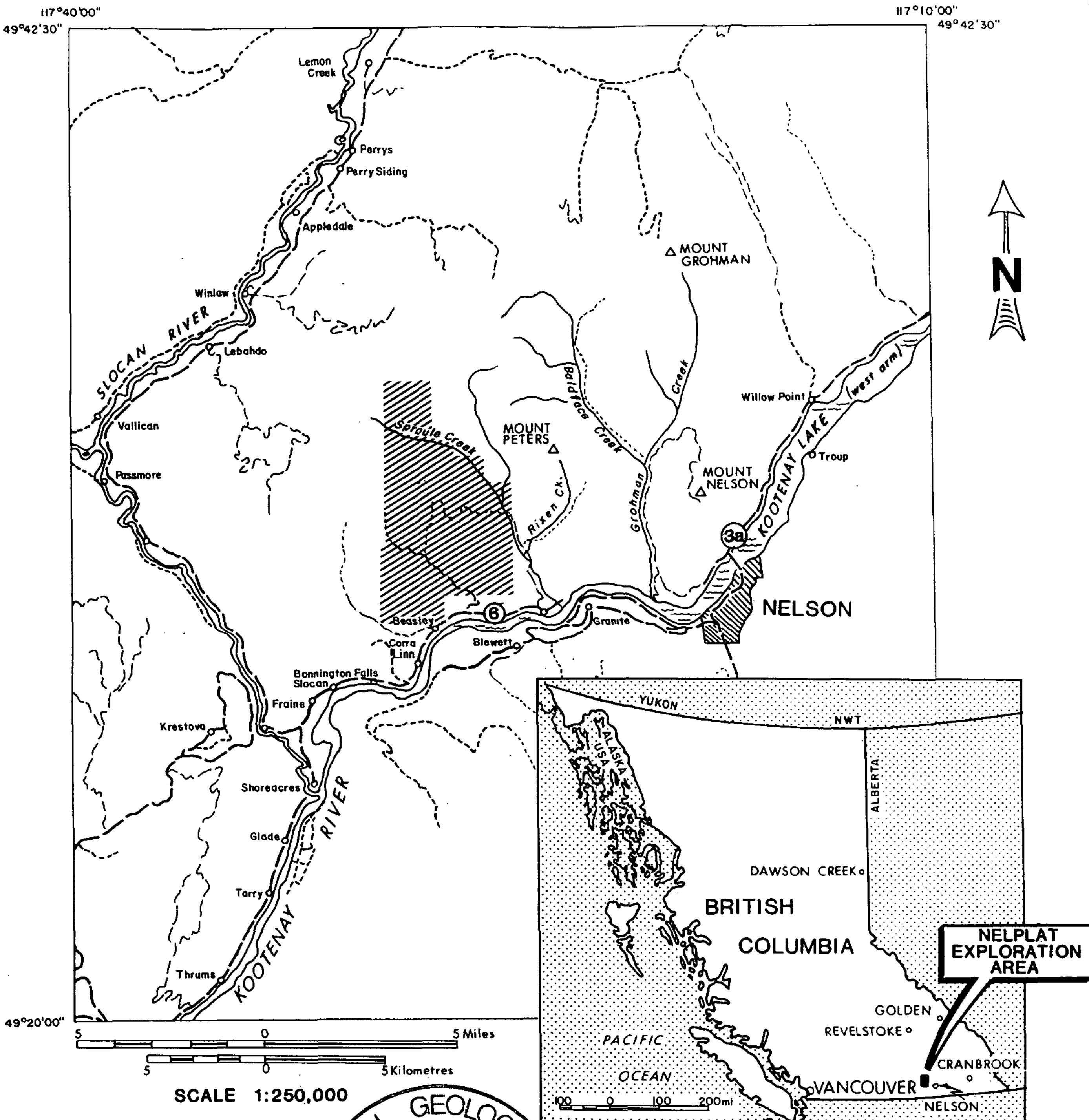
Stream sediment sampling has indicated the potential for additional gold mineralization in Nelson Intrusive rocks, northern portion of the property. Prospecting and mapping failed to explain these anomalous results.

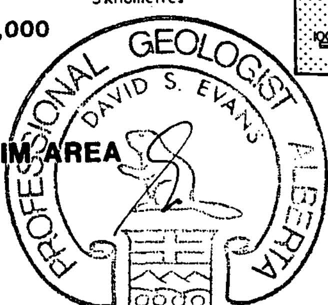
2.0 INTRODUCTION

2.1 Location and Access

The Nelplat Claim Groups (Table 1) are located in the Nelson Mining Division in Southeastern British Columbia (Figure 1) approximately 10 km WNW of the town of Nelson.

The property is accessible from Highway #6 from a forestry access gravel road approximately 12 km west of the town of Nelson travelling north into the Smallwood Creek drainage area. Several gravel logging roads extending from this forestry road provide further access to the property.





STEL CLAIM AREA

Towns
Rivers
Creeks
Two lanes hardsurface
All weather less than two lanes
Dry weather loose surface
Track, trail or cut line

394225 ALBERTA LTD.

NELPLAT CLAIM AREA

FIGURE 1

PROPERTY INDEX MAP & LOCATION REFERENCE

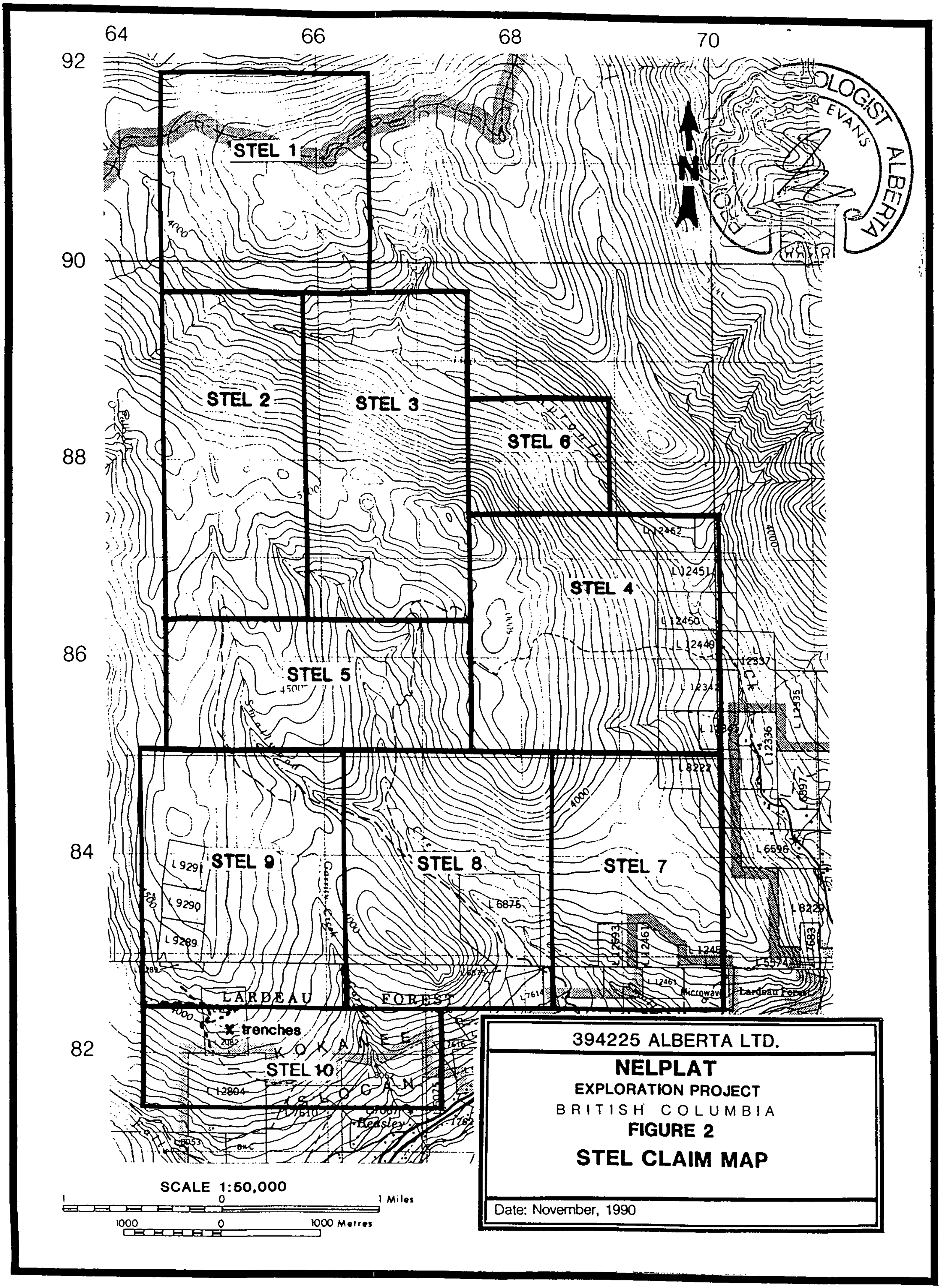
Date: November 1990 DRAWN BY J.W.Campbell

TABLE 1

Schedule of Claims
Nelskarn Project
(figures 2 & 3)

Claim Name	Units	Title Number	Record Date
STEL 5	18	5924	Aug /89
STEL 7	20	5931	Sept/89
STEL 8	20	5932	Sept/89
STEL 9	20	5933	Sept/89
STEL 10	12	6563	July/90
Monarch	1	6119	March/90

Claims within the contiguous Nelplat Claim Group not held include Reverted Crown Grants L2081, L9289, L9290, L9291, Queen Victoria Fraction L7616, L7614, and Claims 5881, 4929, 4930 and the Gold Hill Claims 5073, 5074, 5075, 5076.



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NELPLAT

EXPLORATION PROJECT

BRITISH COLUMBIA

FIGURE 2

STEL CLAIM MAP

Date: November, 1990

2.2 Physiography & Climate

The Nelplat Claim Group covers a contiguous area extending over the northern and central drainage areas of Garrity, Smallwood and Sproule Creeks. The area has been logged from the early 1900's extending through to the present with numerous clear cut and second growth areas. Vegetation consists of ceder, pine, spruce, low shrubs and patches of cottonwood and elder in the lower areas. The topography is moderate to rugged with some 3300 feet elevation change over the properties extent. Overburden cover is varied in thickness comprised from locally derived Nelson Complex float rocks on mountain slopes with discontinuous outwash gravels and sands in valley bottoms. Outcrop exposure is generally limited to less than 5-10%.

The climate of the West Kooteney region is characterized by warm summers, a cool damp fall and spring and relatively mild winters with heavy snowfall at higher elevations.

3.0 GEOLOGY

3.1 General

In the summer of 1990, the area covered by the Nelplat Claims were geologically mapped at a scale of 1:10000 using aerial photograph and topographic methods of reconnaissance mapping (Figure 3). Minor helicopter support was used to access the extreme northern portion of the property.

A systematic mapping, prospecting, rock and stream sediment sampling program was employed during a two phase program to allow for follow up work based on initial results. For personnel involved refer to Appendix V.

3.2 Regional Geology

The Nelplat Claim Group is located in the Nelson Map area (NTS 82FW1/2) and has been mapped by Little (1964) and remapped to the south (NTS 82F/06) by Hoy and Andrews (1988).

The Nelson Map area incorporates a varied range of rocks representing systems from the Windermere (late Precambrian) to the Cretaceous. All units are intruded by plutonic rocks, mainly acidic, of two distinct ages, the dominant body being the Cretaceous Nelson and Valhalla plutonic rocks. Evidence suggests a metasomatic origin, although locally derived magmatic injections appears to exist. The younger plutonic rocks are of more alkaline in composition, Tertiary in age, and mainly of magmatic origin [Coryell type] (Little, 1964).

One further subdivision or "hybrid" as described by

Mulligan (1952, pp. 10-13) and referred to as the Bonningtion Complex by Little (1964, Memoir 308) is worthy of note as it directly effects the geology of the Nelplat Claim Group. Mulligan has referred to this complex as a pseudodiorite with "the exact relationship between these rocks being a matter of conjecture. The pseudodiorite is a hybrid rock, derived by either assimilation or metasomatic reconstitution of (chiefly) altered volcanic rocks." He makes further mention of petrographic data suggesting a "metasomatic sequence from syenite through pseudodiorite and pyroxene-hornblende rock to unreconstituted volcanic rocks, with pyroxene-hornblende rock representing an ultimate 'basic front'." He ends his description with a note of the possibility that this complex is related to younger alkaline batholiths of the district.

The regional stratigraphy consists of laterally and vertically pinching narrow lenses of Middle Jurassic Elise Formation which can broadly be divided into an upper and lower member. The lower member is comprised of massive flow breccias and flows with associated sub-volcanic intrusions and overlain by the upper Elise - dominated by basic to intermediate volcanic and volcanoclastic rocks (Hoy and Andrews, 1988). These are underlain by metasedimentary rocks of the Archibald Formation or correlative Ymir Group; and, overlain by generally coarser clastic rocks of the Hall Formation (Mulligan, 1952; little, 1960, 1982).

Regional structure is dominated by northerly trending tight folds and associated shears. The Hall Creek Syncline is the most prominent fold in the area; a west dipping, south-plunging overturned fold, and incorporates a zone of intensely sheared Hall Formation at its core, locally being referred to as the Silver King Shear (Hoy and Andrews, 1988). A localized feature known as the "Forty-Nine Creek Fault" is a roughly north-south trending normal fault system that is an important structure in association to the localized geology of the Nelplat Claims.

Regional metamorphism of the area is in the order of lower to middle greenschist facies with associated chlorite, epidote and minor amphibole (actinolite) alterations. Contact metamorphism is varied and usually localized to the volcanics and/or associated sediments in contact with the Nelson and later magmatic intrusives. Skarn type alteration (metasomatic) may be compared with Tillicum Mountain G.1 quartz skarn, and the Queen Victoria and Monarch garnet, epidote skarn mineral occurrences.

3.3 Local Geology (Figure 3)

Map 1090 (A), by H. W. Little shows the geology of the area (Nelson W1/2) at a scale of 4 miles to 1 inch. This map indicates that the northern three quarters of the property is underlain by granite and granodiorite of the Nelson batholith of the Cretaceous period. In the remaining southern section Little shows a mixture of sediments of the Ymir Group locally overlain by Elise Volcanics, Lower Jurassic, and a hybrid unit of Pseudodiorite.

Upon detailed mapping of the property at a scale of 1:10000 these observations were broadly confirmed with a segment of the Ymir sediments being reclassified as Elise Volcanics under the subdivisions outlined in Hoy & Andrews 1988 mapping to the south of the Nelplat Claims.

This southern segment of the Claim Group was broadly subdivided into a repetitive west to east sequence of A/ bedded Elise sediments and tuffaceous sediments with thin (≤10 m) discontinuous lenses of augitic basic flows, locally showing brecciated pillow salvages, B/ massive basic volcanic flows of the lower Elise, including a subdivition of pseudodiorite and associated pyroxenite, C/ mixed pyroclastic, thin flows, and banded tuffs of the Elise, D/ massive basic volcanic flows, E/ mixed pyroclastics, flows and sediments of the Elise and Ymir Groups (Figure 3).

3.3.1 **Stratigraphy**

Ymir Group:

The Ymir group is a sequence of fine-grained clastic arkosic and carbonate rocks of unknown thickness in this region. Mapping by Hoy & Andrews, 1988, to the south suggest a thickness of at least 1500 m. The base of the Ymir has been cut off by Nelson Intrusives and is not exposed in this area, a thickness of less than 1500 m is proposed.

The Ymir section, for purposes of simplicity, was subdivided into two sections. The lower section consists of arkosic, reworked, locally bedded (average 4 cm), sediments overlain by a 50 m bed of pure massive limestone observed in the southeast segment of the property. This unit appears to be discontinuous or at least sporadic in lateral and vertical extent.

The Ymir group on the Nelplat Claim group becomes an important unit in relationship to two known copper, gold skarn mineral occurances (Figure 3). Although the direct relationship of this unit was not uncovered by field mapping the nature of their occurances leaves a suspected presence of this unit at depth in those areas (Monarch Claim and Queen Victoria Mine).

Elise Formation

This unit can broadly be divided into a lower and upper section under the classifications outlined by Hoy & Andrews, 1988. The basal section (Je1) is a massive augitic flow or a subvolcanic intrusive unit. It consists of a undifferentiated mass of altered plagzeoclase comprising the fine grained matrix with 15% to 40% of 0.3 - 1 cm augite crystals well preserved as a mass of fibrous amphiboles and/or biotite. This unit displays few distinguishing features with one exception being faint relict pillow selvages mildly brecciated in the areas of NTS 82.8N/67.2E and NTS 83.3N/66.1E (Figure 3). Due to the massive nature of this unit a local intrusive component could be argued, but for reasons of simplicity it has been mapped as massive augite porphyry flows of unit Je_1.

The Upper Elise Formation (Units Je_3 through Je_{10}) is a sequence of mafic to intermediate flows, banded tuffs and lapilli tuffs, and minor epiclastic deposits. A detailed description of these units is outlined by Hoy & Andrews. Generally, these units on the Nelplat Claim Group are poorly defined and broadly placed within these classifications. Unit Je_3; a medium grained augite-porphyry flow, is the one exception. Unit Je_{10} a tuffaceous conglomerate as described by Hoy and Andrews, was used as a "catch all" unit for basal epiclastic, arkosic sediments that are perceived to belong to the Elise and not the Ymir Group, although little difference was noted in hand and field observations.

Intrusives

Three phases of the Nelson Complex were mapped, units Jn, Jn_2, and Jn_3. Unit Jn dominates the map area (Figure 3) and is of a granitic composition. Unit Jn_2 is described as the "Kokanee Phase" containing 4 to 20%, 2-5 cm subrounded plagioclase masses (phenocrysts) and is of localized extent in the area of NTS 82.5N/67.9E. Jn_3 is a plagioclase porphyritic unit containing $\geq$ 40% 1-3 mm subhedral, locally saussuritized, plagioclase phemocrysts in a light grey fine grained plagioclase ground mass. Units Jn_2 and Jn_3 appear as "dyke like" units cutting all rock types. One area of a more massive occurrence of Jn_3 in the south-east corner of the property may be more porphyritic in nature.

These units indicate an evolving multi phased intrusive character to the Nelson complex which spatially appears to be responsible for skarn style alteration at the Monarch Claim, Reverted Crown Grant Claims L2081, L9289, L9290, L9291 and the skarn style alteration noted in the area of NTS 85.6N/67.4E.

There is an additional unit described as a pseudodiorite which occurs in the southern portion of Garrity Creek with an interior core of a magnetite-rich massive pyroxenite. No contact relationships were observed and a similarity with unit Je_1 may exist. An intrusive component and/or hydrothermally altered nature can only be inferred from Mulligan's work noted in section 3.2 of this report.

3.3.2 Origin

In light of Frebold (1959 and earlier) work with fossil assemblages in the Rossland formations and the heterogeneous assemblage of Elise Volcanics noted by Little (1964), a volcanic "island arc" (eugeosynclinal) environment during the time of deposition is suggested. In the Nelplat Claim area, the absence of shales & argillites, and the presence of reworked, fine grained arkosic sediments and bedded tuffaceous sediments suggest a near shore or shallow marine environment.

3.3.3 Structural Geology

Bed orientation is generally flat lying to 15° dipping to the north making accurate strike measurements difficult in the field. The northerly dip is thought to represent a plunging fold axis to the north at 10-15° with a gently folded sequence from west to east (cross sections A-A' & B-B'). Localized variations in strike and dip are complicated by uplift caused by variable levels of the intruding Nelson Complex. For example, the bed orientations near the Nelson-Elise contact to the West of the Monarch Claim show an increased dip of 50-60% to the east. This is interpreted to be a reflection of this contact.

Shearing is best displayed in the Nelson Intrusives in the northern section of the property reflecting the competency of this unit. Strikes range from 340° to 040° dipping vertically to 80° east and west. A projection of these shear directions show a rough correlation with the Smallwood Creek geographic break which projects on strike with the Silver King shear mapped by Hoy and Andrews (1988) to the south of the Claim Group. A direct relationship may not occur between these features and is mentioned as a point of interest here.

A normal strike slip fault structure was mapped corresponding to the Garrity Creek basin (Figure 3). This is a moderate to weak structure striking NNE/SSW at 350°, dipping east at 50-70° (Cross Section A-A', Figure 3). This structure may correspond to the Forty-Nine Creek fault mapped by Hoy and Andrews to the south.

3.3.4 **Mineralization**

Seven areas of interest have been identified and will be treated individually below. One hundred and fifty-one rock samples from both outcrop and old workings were collected (Figures 3, 3A, 3B). All samples were assayed for Au, Ag, Cu, Zn and As. Samples in the southern section of the property, totaling one hundred and thirteen, were also assayed for Mo & Pb as pathfinder elements to assist in identifying potential porphyry style mineralization.

Metal enrichment is primarily concentrated within the volcanics on the property existing as roof pendants underlain by Nelson Intrusives which have been important in providing a metasomatic environment, preferentially skarnifying units of the Ymir and Upper Elise groups.

(1) <u>Queen Victoria Mine: 250 m south of Nelplat Claim Group</u>
<u>NTS 82.1N/67.4E Figure 3</u>

Production between 1908 and 1961 yielded over 49,000 tons grading 1.48% Cu, 0.61 oz/ton Ag and 0.005 oz/ton Au. Samples NPQ-1 and NPQ-2 collected from an old ore dump returned 14, 2 ppb Au; 39, 19.5 ppm Ag; 5200, 20000 ppm Cu and 67,79 ppm Zn respectively. J.T. Fyles, in a 1961 Mines And Petroleum Resources Report, outlines the "copper mineralization in an easterly dipping lens of skarn in a series of beds whose trace runs diagonally westward and upward (north) across the face of the hill. The skarn consists of mixtures of a reddish brown granular rock rich in garnet, a greenish rock rich in epidote and diopside, and a dark green medium-grained amphibolite. Calcite is common in some of the skarn, and in one place a small lens of limestone is exposed." Fyles describes mineralization as being irregular consisting of disseminated grains and irregular clusters of chalcopyrite, pyrite, and minor bornite within the skarn. Exact deposit dimensions are unknown but a maximum thickness of 100' and an exposed strike length of approximately 400' is known. It is generally accepted that additional tonnage of low grade ore is present.

2. Monarch Occurrence: NTS 82.1N/65E Figures 3, 3A

Skarn style alteration and mineralization similar to that described at the Queen Victoria. Surface expression has been exposed by numerous trenches and five adits of which two are still accessible and one open excavation including a flooded shaft of > 3 m depth. Strong skarn alteration covers an irregular area of 140 m X 300 m striking at 065° with an elevation change of approximately 200' from the NE to SW corners. The dip and vertical dimensions are unknown. Mineralization is sporadic, confined to the skarnified area, and consists of disseminated to massive chalcopyrite, malachite, azurite, pyrite, pyrrhotite, associated silver and gold and localized magnetite. Sporadic, irregular milky white quartz veins up to 30 CM are rare, containing sulphide, silver and trace gold. A 40 m "Y shaped" exposure of Nelson Intrusive cross cuts the skarn with the major Nelson contact some 400 m to the WNW. This intrusive body appears to have been responsible for the skarn style alteration. In 1918, a 170 ton sample from the area assayed 3% cu, 5.88 oz/ton Ag and 0.1 oz/ton Au. From grab and chip samples the best assays are as follows.

Sampple No.	Au(ppb)	Ag(ppm)	Cu(ppm)	Zn(ppm)
NPM-1	6	38.0	35000	700
NPM-2	2	10.2	10000	157
NPM-3	6	47.0	35000	390
NPM-4	14	52.0	42000	121
NP-87	6	2.4	1400	79
NP-90	6	6.8	5200	180
NP-91	8	8.1	9500	2900
NP-119	4	3.0	1910	199

The only structural component noted in the area is a N-S striking, vertical dipping shear noted in the Nelson outcrops cutting the skarn body. Bedding ranges from 070-140°/18-30° S and may be locally disturbed by intruding Nelson Intrusives.

3. Garrity Creek Alteration Zone: Intersection of Garrity Creek and logging road Figure 3

A zone of strong quartz and iron carbonate alteration localized along a 200 m strike length following a 340° striking, 50°-80° east dipping weak fault structure. The exact width of alteration is unknown. An old flooded adit and a 4 X 3 m glory hole indicate alteration can be up to 100% silica over at least 5 meters width. At the old adit location, the hanging wall contact showed a one meter zone of 40-50% massive to disseminated pyrite and pyrrhotite replacement of the host Je_1 unit with an average sulfide component of 5-8% disseminated pyrite & pyrrhotite within the silicified zone. Geology changes 200 m downstream to a pseudodiorite with a pyroxenite core containing 10-15% disseminated magnetite.

Anomalous assays are as follows:

Sample No.	Au(ppb)	pb(ppm)	Mo(ppm)
NP-24			89
NP-73	30		
NP-75			98
NP-79			52 (slightly below anomalous)
NP-84		52	500

In addition, steam sediment samples SP-7, taken above the road, creek intersection, and HM-8 taken at this intersection both showed anomalous values in gold of 102 & 688 ppb respectively. HM-8 indicated the gold to be in the -40 to +80 mesh fraction with only background values in the -80 mesh assay.

4. Skarnified Zone, Old Boston, Boddie and Iron King Reverted Crown Grants approximately 100 m north of Monarch showing Figure 3

Area of weak skarn alteration within a band of Upper Elise sediments approximately 160 m in width, over 800 m strike along a north south trend paralleling the Nelson Intrusive contact. Mineralization consists of trace to 3% (< 1% average) chalcopyrite, pyrite, minor pyrrhotite and magnetite. Numerous old trenches are reported in the area with an assessment report prepared in 1982 for Albury Resources showing consistently low Au and Ag values with the highest copper value being 0.071%. This report indicates an erratic magnetic high with the skarn mineralization confirming a magnetic association. It should be noted that this area is "not" included in the Nelplat Claim Group.

5. <u>North Central Skarnified Zone, Gold Hill Claim Block; NTS 84.5N/67.5 E Figure</u>

A skarnified zone with associated alteration assemblages exposed along a 350 m east-west road cut. Alteration is localized within a band of mixed Upper Elise volcanics and sediments with a thin limestone band of possible Ymir Group origin. Bedding orientation is difficult to ascertain, a general 00°N/80°W altitude is suggested. The Nelson contact extends to within 150 m of this area. In one location, strong magnetite quartz and iron carbonate alteration was noted over a 5 m previously blasted outcrop form which samples NP-102 and NP103 assayed anomalous gold values of 66 and 62 ppb, respectively, and an anomalous Mo essay of 62 ppm in sample NP-102. Base and precious metals mineralization is generally non-existent, with trace disseminated pyrite, pyrrhotite and magnetite. Strongest garnet epidote alteration was noted in angular float from road construction with the road cut being an oxidized - rusted coloration with suspected iron carbonate presence. A block of four "Gold Hill" Claims cover this area and are "not" included in the Nelplat Claim Group.

6. <u>Unexplained Stream Sediment Anomalies, HM-1 & HM-11; top end of the N-W tributary of Smallwood Creek and northern tributary of Sproule Creek Figure 6</u>

The samples are located within an area of massive Nelson Complex intrusives. Dykes of unit Jn_3 occur in both areas with mafic dyke swarms of unit KT_2 mapped in the area of sample site HM-11. Mineralization is restricted to << 1% pyrite in and near the contacts of these dykes with rock samples assaying trace gold.

HM-1 and HM-2 were assayed as heavey mineral concentrates hence the sample was split into a concentrated weight, tails weight, and total weight. Assays were then carryed out on the -40 to +80 mesh and -80 mesh fractions (Appendix III). Assay results are as follows:

	Au (ppb) - concentrated weight fraction	
	HM-1	HM-11
-80 +40 Mesh	3341	308
-80 Mesh	2289	2725

7. <u>Hob-Knob Claim Area; South-east corner of Claim Group (Figure 3, 3B)</u>

An area of extensive old trenchings and workings within a band of Upper Elise volconics and sediments and overlaying suspected older sediments of the Ymir Group. A lobe of a late stage porphyritic subdivision of the Nelson Complex, unit Jn_3, outcrops some 250 m south and may underlie this mineralized area. Alteration is weak with a strong biotite component to the sediments. Mineralization can be extensive within the volcanics with a 30 m outcrop along the road containing 3-5% disseminated to blebby chalcopyrite & pyrite with malachite and azurite staining.

Two vertically dipping, 030° striking, 12-40 cm 50% shear quartz veins were previously excavated at the east end of the above mineralized area containing 2-5% blebby py, trace cpy, < 1% disseminated Pb and trace sphalerite. The Elise Group sediment host is weakly silicified over 4-10 cm with 1-2% disseminated Py. Anomalous values in Au, Ag, Zn and Pb were obtained from this area (Figure 6). An old shaft, 2-3 m depth, located 190 m NE along strike of the quartz veins mentioned above exposed a 1-15 m gaussenous zone containing locally silicified and brecciated host Elise Group sediments and quartz vein material. Mineralization of 2-5% disseminated Py and 1-2% massive sphalerite (samples NP-159, 160, 161) is noted in the gossanous area and returned anomalous assays in Au, Ag, Cu, and Zn (Figure 6). Anomalous grab samples from area are as follows: (Figure 3B)

	Au(ppb)	Ag(ppm)	Cu(ppm)	Zn(ppm)	Pb(ppm)	Mo(ppm)
NP-8	66	0.4	40	31	11	14
NP-9	38	5.2	7200	160	1	18
NP-107	5700	12.6	230	1810	34000	17
NP-108	52	5.4	3200	103	143	11
NP-109	2	0.28	185	54	30	6
NP-159	32	0.12	63	63	1	7
NP-160	6	13.2	1470	15500	18	5
NP-161	2	1.33	340	28000	2	5
NP-164	22	1.47	930	50	1	64
NP-166	48	2.2	960	85	4	3
NP-168	16	9.2	2100	220	6	4

The Hob-Knob Claims cover the majority of this mineralized occurrence and are not part of the Nelplat Claim Group.

4.0 GEOCHEMISTRY

4.1 Stream Sediment Survey (Figure 5, Appendix II)

Fourteen bulk heavy mineral (HM-00) and eight silt (SP-00) samples were collected (Figure 5). Sampling was concentrated in creeks and rivers draining the Nelplat Claim area to locate areas of potential mineralization. All bulk samples, -40 +80 and -80 mesh size, were analyzed for total Au and Ag, concentrate and tails Au and Ag (Appendix II). Silt samples were analysed for Au, Ag, Cu, Zn, Mo and W.

4.2 Rock Geochemistry (Figure 6, Appendix II)

One Hundred and Fifty-one rock grab samples were collected in conjunction with property geological mapping and prospecting. Generally, where areas of mineralization and/or alteration are noted samples were "high graded" in order to determine the presence of precious metals. Exceptions to this formate exist in the Monarch Claim skarn area where both high grade and background samples were collected (Figure 3A). All samples were analyzed for Au, Ag, Cu, Zn with selected samples assayed for As, Pb, Zn and W.

Anomalous values are defined as arithmetic mean plus one standard deviation and are reported as statistically significant, but not necessarily geologically significant. Individual samples of abnormally high assays were removed from the calculations to yield a more representative anomalous threshold and are listed where applicable below.

Element	Threshold (x + 1s)	Assay(s) removed from population
Au	25(ppb)	NP-107 (5700 ppb)
Ag	8.7(ppm)	
Cu	1116(ppm)	NPM-1, 2, 3, 4($\geq$ 10,000) NPQ-1, 2 (5200, 20,000) NP-90, 91 (5200, 9500)
Zn	385(ppm)	NP-160, 161 (15500, 28,000)
Pb	19.7(ppm)	NP-107 (34,000)
Mo	58.37(ppm)	NP-84, 87 (500, 990)

5.0 DISCUSSION OF RESULTS

The intent of this seasons field work was to confirm the existence of indicated precious and base metals on the Monorch Claim and to assess the remainder of the property for similar and/or new styles of mineralization keeping in mind the proximity of the Queen Victoria Mine; 250 m south of the Claim group.

Sporadic copper mineralization was confirmed over an extensive skarnified area within the Monarch Claim with consistently low gold values. These results were disappointing, but work by Ray and Webster given at the GAC, MAC 1990 Annual Meeting in Vancouver may help to explain them. The report suggests that gold mineralization has a distal relationship concentrating in structural sites and areas surrounding the endoskarn within a more pyroxenitic exoskarn envelope. The endoskarn was mapped and recognized as a zone of strong garnet-epidote style alteration, but a surrounding envelope of pyroxene rich rocks were not observed. This suggests one of two possible scenarios, either it does not exist or it is present and covered by overburden. Lawrence D. Meinert, in a 1988 gold perspective in Economic Geology Monogram 6 mentions that:

> "explorationists should note that the more proximal gold-poor, garnet rich part of a skarn deposit is likely to be more resistant to erosion and thus more likely to crop out and be sampled then the more distal gold and pyroxene rich skarn."

An early 1930's Claim Map of the area shows eight claims staked to the east of the original Monarch Claim suggesting interest in the more distal portion of the skarn body, unfortunately overburden greatly limits surface exploration in this area.

A correlation with skarn style alteration appears to exist between the Rossland Group sediments and volcanics and the Nelson Intrusives, the intrusives providing the metosomatic fluids and heat driven system required for this deposit type. Within the property two additional skarn alteration zones were mapped in conjunction with the Nelson contact and reported in section 3.3.4, Areas 4 and 5. The old Queen Victoria Mine and a zone of weak skarnification between Garrity Creek and the Monarch Claim, observed in rubble produced by road construction, do not have the Nelson Intrusives in close association to their location. To explain this the following is suggested; 1) The Nelson contact is present in the subsurface geology in close proximity or 2) a later phase of intrusives, most likely associated with the Nelson Complex, is present in the area. The first case should not be discounted but the second possibility has some geological support. Units Jn_2 and Jn_3 noted on the property show a multi-phased intrusive character to the Nelson intrusives, in addition the location of a pseudodioritic and pyroxenitic body in the lower section of Garrity Creek is strategically positioned between these two unexplained skarn areas. Information gained from twelve diamond drill holes on the Queen Victoria deposit in 1962 revealed this pseudodioritic body to underlie the known skarn body, but the relationship is unknown. These observations can only be accounted as geologically interesting at this point since direct contact relationships were not noted in field work or reported in previous work. Gold assays were consistently low throughout these areas.

The Garrity Creek silicified zone returned background gold and base metal associations with one exception, molybdenum. Molybdenum was determined on selective samples to examine the potential for subsurface intrusive bodies. The results are abnormally anomalous for the Nelson area. The Garrity Creek zone contained four statistically anomalous samples, one assaying 0.05% Mo. Twelve of fourteen anomalous molybdenum assays on the property occur within a 1.4 km radius of this silicified zone. From a paper by W. J. McMillan given at the GAC, MAC 1990 Annual meeting in Vancouver on Porphyry Deposits of the Canadian Cordillera;

hypogene mineralization and metal patterns associated with porphyry deposits often show "a weakly mineralized or <u>barren</u>, often <u>silicified</u> core zone rimed by first a zone of bornite as the dominant sulphide (with <u>molybdenite</u>), then a zone in which chalcopyrite dominates (with molybdenite), then a pyritic shell, and finally a peripheral zone with base metal and perhaps precious metal <u>skarns</u> and veins."

The Garrity Creek zone can only be described as a weak 340° striking, 50-80° E dipping fault cutting an area of extensive milky white silica alteration of > 5 m width and at least 200 m strike length, containing 2-7% disseminated pyrite and associated molybdenite mineralization grading laterally into volcanics often containing ≤ 1% disseminated pyrite and, locally, chalcopyrite and further grading to an area of skarn mineralization in the south-east (Queen Victoria Mine) and south-west (Monarch Showing). The importance of this style of mineralization becomes evident in light of recent work by Pacific Sentinel on their Great Western Star property some three kilometres SSE of the Nelplat Claims in which assays up to 0.118 oz/ton Au over 62 ft were reported in a potentially porphyritic system within and to the south of the same pseudodioritic body mapped in Garrity Creek. A description of this pseudodiorite by Mulligan 1952 is included in section 3.2 of this report.

The Hob-Knob Claim area displayed the best precious and base metal associations on the property with one assay running 5700 ppb gold from a 30cm shear quartz vein. Additional base metal (copper, zinc) mineralization is found in association with the volcanics and sediments of the area. Alteration is not of the skarn style and can not be categorized by field observations. A porphyritic (Jn_3) unit of the Nelson Complex outcrops 250 m south and may indicate a potential porphyritic system of mineralization although this is hypothetical at this pint. Extensive past work is evident.

Stream sediment sampling results can not be fully interpreted at this time. It is noted that anomalous gold values were recovered from samples taken in Garrity Creek next to the silicified mineralized zone.

6.0 CONCLUSIONS

1. The area has a past history of base copper skarn mineralization with recoverable silver and gold.

2. Additional sharn bodies have been identified on the property supporting the potential for additional deposits of this style and magnitude.

3. Alteration and mineralization within the Garrity Creek and Hob-Knob areas indicated the potential for porphyry style mineralization.

4. Stream sampling indicates the presence of gold within the Nelson Complex to the north of the known Rossland Group rock types with a suspected vein style origin.

5. Geological mapping indicates a more extensive and complicated volcanic and sedimentary package of probable Jurassic age than indicated by previous mapping.

6. Examination of several past gold producers and knowledge of other current exploration work, all situated within similar geology to the Nelplat Claim group, indicate a good environment for similar deposits.

7.0 RECOMMENDATIONS

The initial geological and geochemical work has confirmed the presence of base metal skarns on the property and has identified additional areas of potential economic importance. Limited outcrop exposure limits future work to areas of extensive overburden coverage.

It is therefore recommended that:

1. A grid is located in the areas of Garrity Creek and the Monarch Claim initially for the purpose of detailed soil sampling.

2. Additional geochemical evaluation for K-spar enrichment, Na depletion, and bismuth mineralization as literature indicates their association with precious metal skarns.

3. Induced Polarization and magnetic surveys would be of use to identify and locate drill targets at the appropriate time.

8.0 LIST OF REFERENCES

1. Hoy, T. and Andrew, 1987: Preliminary Geology and Geochemistry of the Elise Formation, Rossland Group, Between Nelson and Ymir, Southeastern British Columbia (82F/06). Preliminary Map.

2. Little, H. W., 1960: Nelson Map Area, West Half British Columbia (82F, W1/2), Geological Survey of Canada Memoir 308, 205p.

3. Little, H. W., OF 1195, 1960: Geological Notes, Nelson West Half (82F, W1/2) Map Area.

4. Selected references form the Reports of The Minister Of Mines on the Queen Victoria and Monarch, 1908, 1909, 1918, 1922, 1928, 1955, 1956, 1961, 1962.

5. Old (Circa 1930) Claim map supplied by Jack Denny of Nelson BC, originally from BC Dept. of Mines, Nelson Mining Division.

6. Geological report prepared for Mr. Harry Yen, Mega Mineral Ltd., 1966, by Harold A. Quinn, on a 98 mineral Claim block near Winlow in the Slocan and Nelson Mining Divisions, BC.

7. Mineral Resources Branch Assessment Report 10,583; Geology and

Geophysical Report on The Iron King Group, Nelson Mining Division, NTS 82F/11W; by Roy Kregosky, 1982.

8. GAC/MAC Vancouver'90 Short Course, May 1990: Ore Deposits, Tectonics and Metallogeny in The Canadian Cordillera; Sections by G. E. Ray and I. C. L. Webster: An overview of Skarn Deposits, and W. J. McMillan: Porphyry Deposits in the Canadian Cordillera.

9. Economic Geology Monograph 6, The Geology of Gold Deposits: The Perspective in 1988, Section by Lawrence D. Meinert: Gold Skarn Deposits - Geology and Exploration Criteria, pp. 537.

APPENDIX I

PERSONAL CERTIFICATES OF QUALIFICATIONS

CERTIFICATE OF QUALIFICATIONS

I, **John S. Scott**, currently residing at 105, 709 3rd Avenue, N. W., Calgary, Alberta, T2N 0J5, Canada, HERBY CERTIFY THAT:

1. I am a mining exploration geologist and have practised my profession since 1983.

2. I am a graduate of McMaster University with a B.Sc. (1983) in Geology.

3. I have worked on the Nelplat Claims area in 1990. The report is based on work carried out under my supervision and personally collected data and observations in addition to information supplied to me by David S. Evans.

November 29, 1990

John S. Scott, B.Sc. Geol

CERTIFICATE OF QUALIFICATIONS

I, **DAVID S. EVANS**, currently residing at Site 7, Box 62, SS 1, Calgary, Alberta, T2M 4N3, Canada, HERBY CERTIFY THAT:

1. I am a mining exploration geologist and have practised my profession since 1966.

2. I am a graduate of the University of British Columbia with a B.Sc. (1966) in Chemistry and Geology, and a graduate of the Royal School of Mines, University of London (UK) with a Ph.D. (1971) in Applied Geochemistry.

3. I am a registered Professional Geologist with the Association of Professional Engineers, Geologists and Geophysists of Alberta, a member of the Society of Exploration Geochemists, and a Fellow of the Geological Associaiton of Canada (1973).

4. I have visited the Nelplat Claims area, on numerous occasions in 1990. This report is based on work carried out under my supervision with personal observations.

November 29, 1990

PROFESSIONAL GEOLOGIST
DAVID S. EVANS
ALBERTA

D. S. Evans, Ph.D., P. Geol.

APPENDIX II

ANALYTICAL DATA

TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Geostrategic Consultants Ltd.

Dave Evans

cc: John Scott

Date: November 1, 1990

Job No: 90-164

Project: **Nelplat**

P.O. No:

71 Rock

6 Silt

14 Bulk Silt

Signed: ymH

14-2235 30th Avenue N.E., Calgary, Alberta,T2E 7C7
Phone (403) 250-9460 Fax (403) 291-7064

TERRAMIN RESEARCH LABS Ltd.

Job#: 90-164

Project: Nelplat

Sample Number	Au ppb	Ag ppm	Cu ppm	Zn ppm	Pb ppm	Mo ppm	W ppm
NP 1	6	0.05	7	41			
2	4	0.02	7	6	1	12	
3	8	0.40	170	37	2	6	
4	10	0.17	62	58	1	5	
5	24	5.80	1320	45	4	8	
6	6	0.07	35	50	1	5	
7	6	0.44	121	38	8	6	
8	66	0.40	40	31	11	14	
9	38	5.20	7200	160	1	18	
10	6	0.06	12	29	1	7	
11	14	0.17	168	86	4	7	
12	10	0.29	520	55	2	7	
13	2	0.37	380	185	1	16	
14	4	0.11	29	31	2	17	
15	6	0.03	7	8	1	12	
16	8	0.02	7	27	2	11	
17	6	0.39	25	70	4	6	
18	6	0.05	19	16	1	11	
19	4	0.13	32	140	15	20	
20	6	0.58	210	35	11	11	
21	6	0.02	8	30	7	14	
22	8	0.01	4	3	11	38	3
23	8	0.11	36	14	5	16	
24	8	0.15	15	9	14	89	7
25	2	0.46	670	80	3	4	
26	2	0.18	121	40	3	6	
27	2	0.19	103	16	1	13	
28	2	0.06	10	25	16	155	9
29	10	0.21	49	108	20	185	13
30	10	0.06	26	76	5	11	
31	38	0.28	6	96	5	8	
32	8	0.17	88	22	2	12	
33	2	0.08	14	60	2	22	6
34	14	0.02	7	4	3	20	
35	10	0.22	71	45	6	14	
36	2	0.03	19	31			
37	4	3.50	13	119			
38	24	2.40	270	195	3	83	11
39	148	0.62	135	83	2	20	
40	6	0.13	43	71	2	11	

TERRAMIN RESEARCH LABS Ltd.

Job#: 90-164

Project: Nelplat

Sample Number	Au ppb	Ag ppm	Cu ppm	Zn ppm	Pb ppm	Mo ppm	W ppm
NP 41	14	0.04	12	60			
42	2	0.38	80	21			
43	4	0.03	7	5			
44	2	0.15	20	16			
45	2	0.02	3	3			
46	34	0.15	42	70			
47	8	0.04	14	61			
48	4	0.02	17	57	2	6	
49	6	0.02	11	61	2	3	
50	6	0.52	116	29	2	6	
51	14	0.30	200	15	1	5	
52	2	0.11	31	175	1	4	
53	2	0.05	21	119	1	5	
54	6	0.02	7	28	1	5	
55	4	0.16	45	40	2	25	4
56	4	0.05	15	53	1	7	
57	8	0.14	59	21	2	96	1
58	2	0.09	23	32	1	12	
59	20	0.31	76	46	1	16	
60	6	0.01	5	39	1	9	
61	4	0.08	70	23	6	7	
62	2	0.02	4	24			
63	4	0.04	4	71			
64	2	0.13	2	142			
65	2	0.11	14	24			
66	2	0.07	36	78	3	9	
67	6	0.33	102	60	3	11	
68	4	0.19	41	40	4	7	
69	6	0.13	35	41	3	11	
70	2	0.20	63	24	2	13	
NPM 1	6	38.0	35000	700			
2	2	10.2	10000	157			
3	6	47.0	35000	390			
4	14	52.0	42000	121			
NPQ 1	4	3.90	5200	67			
2	10	19.5	20000	79			
SP 1	8	0.20	34	128			
2	8	0.05	13	68	1	1	2
4	4	0.11	31	260			
5	10	0.15	30	84			
6	6	0.08	19	89	7	1	< 1
7	106	1.53	18	73	12	5	2
8	22	0.30	15	107			

TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Geostrategic Consultants Ltd.

Dave Evans

cc: John Scott

Date: November 1, 1990

Job No: 90-213

Project: **Nelplat**

P.O. No:

32 Rock

Signed: ymH

14-2235 30th Avenue N.E., Calgary, Alberta,T2E 7C7
Phone (403) 250-9460 Fax (403) 291-7064

TERRAMIN RESEARCH LABS Ltd.

Job#: 90-213

Project: Nelplat

	Sample Number	Au ppb	Ag ppm	Cu ppm	Zn ppm	As ppm	Pb ppm	Mo ppm	W ppm
NP-	73	30	0.20	65	40	1	1	7	
	74	12	0.09	15	7	1	1	15	
	75	2	0.12	10	1	1	1	98	4
	76	2	0.15	28	33	1	1	39	9
	77	2	0.10	25	47	1	2	37	4
	78	4	0.09	16	61	3	1	11	
	79	8	0.37	16	11	6	12	52	9
	80	2	0.17	11	29	8	5	32	4
	81	2	0.03	13	30	7	1	11	
	82	2	0.93	930	62	2	3	10	
	83	8	0.19	24	22	1	6	44	5
	84	10	0.47	10	18	1	52	500	29
	85	6	0.12	27	36	1	2	12	
	86	2	0.08	56	45	2	2	14	
	87	6	2.40	1400	79	1	7	990	41
	88	2	0.57	63	35	2	6	14	
	89	2	0.33	330	40	6	3	260	17
	90	6	6.80	5200	180	6	1	23	27
	91	8	8.10	9500	2900	4	1	16	
	92	4	0.20	69	60	1	6	7	
	93	4	0.06	27	47	1	1	4	
	94	2	0.41	193	89	3	1	5	
	95	2	0.04	8	23	1			
	96	2	0.03	5	36	1			
	97	4	0.06	8	133	2			
	98	2	0.04	7	124	1			
	99	2	0.04	3	22	1			
	100	6	0.08	24	104	1			
	101	6	0.07	13	73	1			
	150	2	0.07	4	500	1			
	151	8	0.08	3	85	1			
	152	2	0.08	3	68	1			

TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Geostrategic Consultants Ltd.

Dave Evans

cc: John Scott

Date: November 1, 1990

Job No: 90-232

Project: **Nelplat**

P.O. No:

43 Rock

Signed: ____________

14-2235 30th Avenue N.E., Calgary, Alberta, T2E 7C7
Phone (403) 250-9460 Fax (403) 291-7064

TERRAMIN RESEARCH LABS Ltd.

Job#: 90-232

Project: Nelplat

	Sample Number	Au ppb	Ag ppm	Cu ppm	Zn ppm	As ppm	Pb ppm	Mo ppm	W ppm
NP-	102	66	0.67	36	39	3	1	63	41
	103	62	0.17	19	19	3	1	37	150
	104	2	0.06	18	37	2	3	10	
	105	2	0.20	260	38	2	4	7	
	106	4	0.10	12	12	2	4	10	
	107	5700	12.6	230	1810	1	34000	17	
	108	52	5.40	3200	103	2	143	11	
	109	2	0.28	185	54	2	30	6	
	110	2	0.04	20	94	1	16	6	
	111	2	0.12	75	64	3	6	6	
	112	2	7.20	5600	98	2	1	5	
	113	2	0.18	98	16	1	4	87	7
	114	2	0.10	41	54	2	6	6	
	115	28	5.80	880	111	2	15	25	1
	116	4	0.19	63	20	1	3	9	
	117	2	0.02	7	13	1	3	6	
	118	2	0.14	63	60	1	8	4	
	119	4	3.00	1910	199	1	1	34	10
	120	2	0.47	710	55	7	1	79	19
NP-	153	2	0.01	24	28	3	3	4	
	154	2	0.01	21	58	1	1	2	
	155	4	0.13	33	5	1	3	3	
	156	2	0.11	14	10	1	7	5	
	157	2	0.13	172	22	1	1	2	
	158	2	0.11	100	61	1	1	1	
	159	32	0.12	63	63	2	1	7	
	160	6	13.2	1470	15500	7	18	5	
	161	2	1.33	340	28000	4	2	5	
	162	2	0.20	141	370	1	2	9	
	163	2	0.19	66	47	2	5	4	
	164	22	1.47	930	50	1	1	64	8
	165	2	0.18	69	94	1	2	2	
	166	48	2.20	960	85	1	4	3	
	167	2	0.16	64	75	1	3	3	
	168	16	9.20	2100	220	6	6	4	
	169	4	0.13	122	138	1	1	9	
	170	2	0.08	38	22	3	4	6	
	171	2	0.07	10	17	1	6	4	
	172	2	0.55	540	102	1	7	3	
	173	2	0.13	64	38	2	3	6	
	174	2	0.15	108	73	1	2	2	
	175	2	0.01	18	12	1	1	5	
Sept.20	107	4	0.03	12	39	1	6	4	

APPENDIX III

GEOCHEMICAL SPECIFICATIONS

TML

TERRAMIN RESEARCH LABS LTD.

14-2235 - 30th Avenue N.E. Calgary, Alberta T2E 7C7
(403) [illegible]
250-

SAMPLE PREPARATION

Soil and sediment samples are dried and sieved through 80 mesh nylon screen (maximum partlcle size 200 microns).

Rock or drill core samples are crushed to approximately 1/8" in a jaw crusher, riffled to obtain a representative sample, and pulverized to 150 mesh (100 micron particle size).

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(403) 250-9460

Table - Gold &/or Other Precious Metals

Rocks: The entire sample is first crushed and pulverized.

Sediments: Samples are sieved to several size fractions before tabling.

The sample is separated into a concentrate and a tailings by passing across a gravity table. Each portion is then dried and weighed. The entire concentrate is fire assayed, and a representative sample of the tailings is fire assayed. By factoring in the weights of concentrate and tailings, an assay of gold present in the entire sample is obtained.

TERRAMIN RESEARCH LABS LTD.
14-2235 - 30th Avenue N.E. Calgary, Alberta T2E 7C7
(403) ~~276-8668~~
250-9460

FIRE ASSAY/AA METHOD FOR GOLD AND SILVER
PLATINUM AND PALLADIUM

Approximately 1 assay ton of prepared sample is fused with a litharge flux charge to obtain a lead button. The button is cupelled down to a precious metal prill which is then dissolved in aqua regia. The resulting solution is analysed by atomic absorption spectrophotemetry to determine the precious metals.

TERRAMIN RESEARCH LABS LTD.
14-2235 - 30th Avenue N.E. Calgary, Alberta T2E 7C7
(403) ~~XXXXXXX~~
250-9460

ANALYTICAL METHODS FOR BASE METALS

Cd, Cr, Co, Cu, Fe (soluble), Pb, Mn (soluble), Mo, Ni, Ag, Zn

A portion of the prepared sample is digested in hot nitric/perchloric acid mixture, or hot aqua regia (nitric/hydrochloric acids).

Elements are determined by atomic absorption spectrophotometry.

TERRAMIN RESEARCH LABS LTD.

14-2235 - 30th Avenue N.E. Calgary, Alberta T2E 7C7
(403) 276-8668

ANALYTICAL METHOD FOR ARSENIC

A portion of the prepared sample is digested in 6 N hydrochloric acid at 95° C. Arsenic is determined colorimetrically by generation of the hydride (arsine) and complexing with silver diethyldithiocarbamate.

TERRAMIN RESEARCH LABS LTD.
14-2235 - 30th Avenue N.E. Calgary, Alberta T2E 7C7
(403) [redacted]
250-9460

ANALYTICAL METHOD FOR TUNGSTEN

A portion of the sample is fused with a flux at high temperature, then leached in acid. Tungsten is determined colorimetrically using the tungsten/dithiol complex procedure.

APPENDIX IV

STATEMENT OF EXPLORATION EXPENDITURES

APPENDIX IV

STATEMENT OF EXPLORATION EXPENDITURES 1990

Geology, prospecting and field supervision		$19,570
Helicopter, truck rentals and gas		5,000
Food and accommodation		4,500
Geochemical analysis and assays		3,487
Maps, supplies, field		3,000
Consulting, geological and geochemical		14,000
Project Management/Office		4,000
Drafting		1,600
Report & reproduction		5,000
	TOTAL	$60,157

Allocations:

Stel #10, 9, 8, 7, 5 & Monarch (2082)

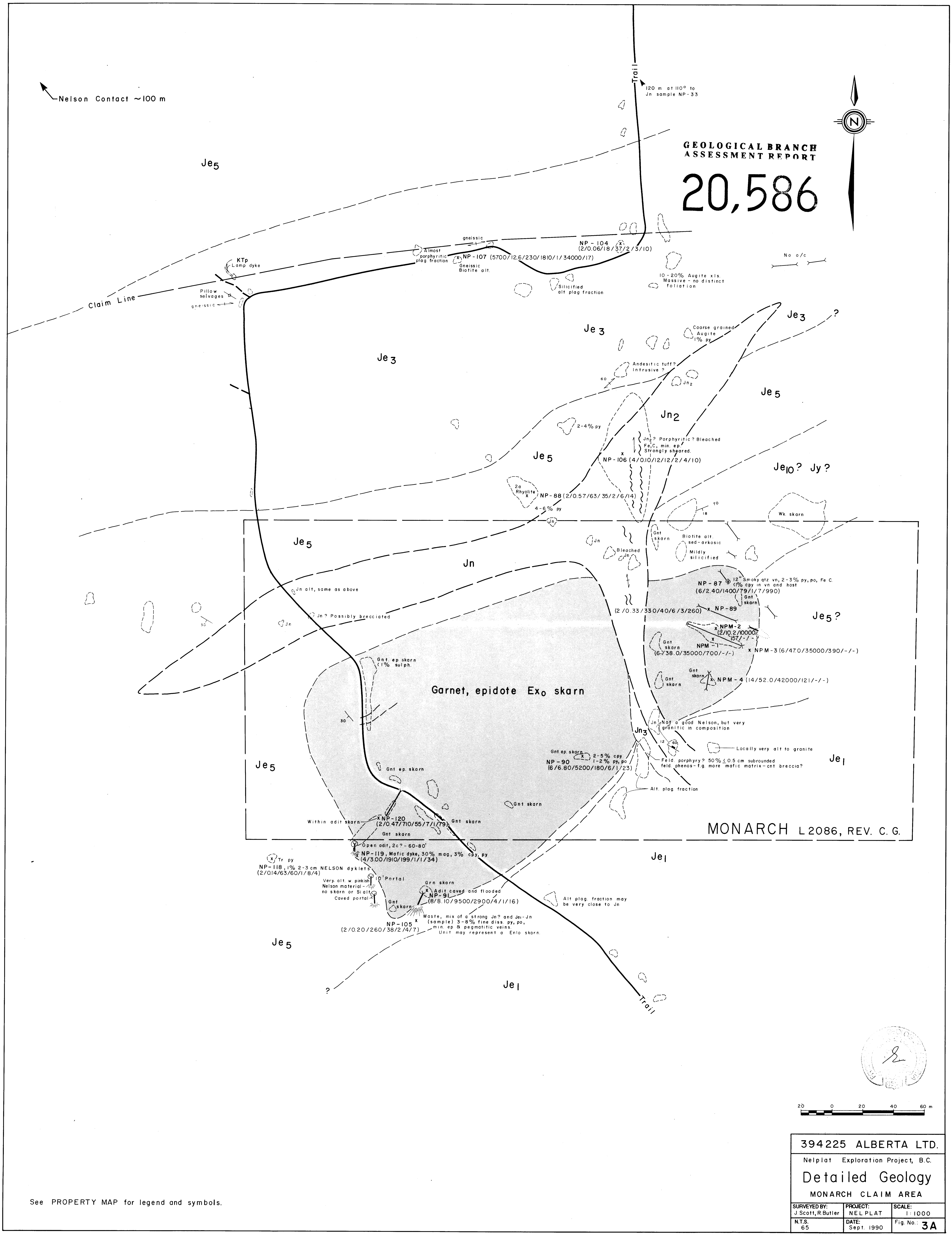
APPENDIX V

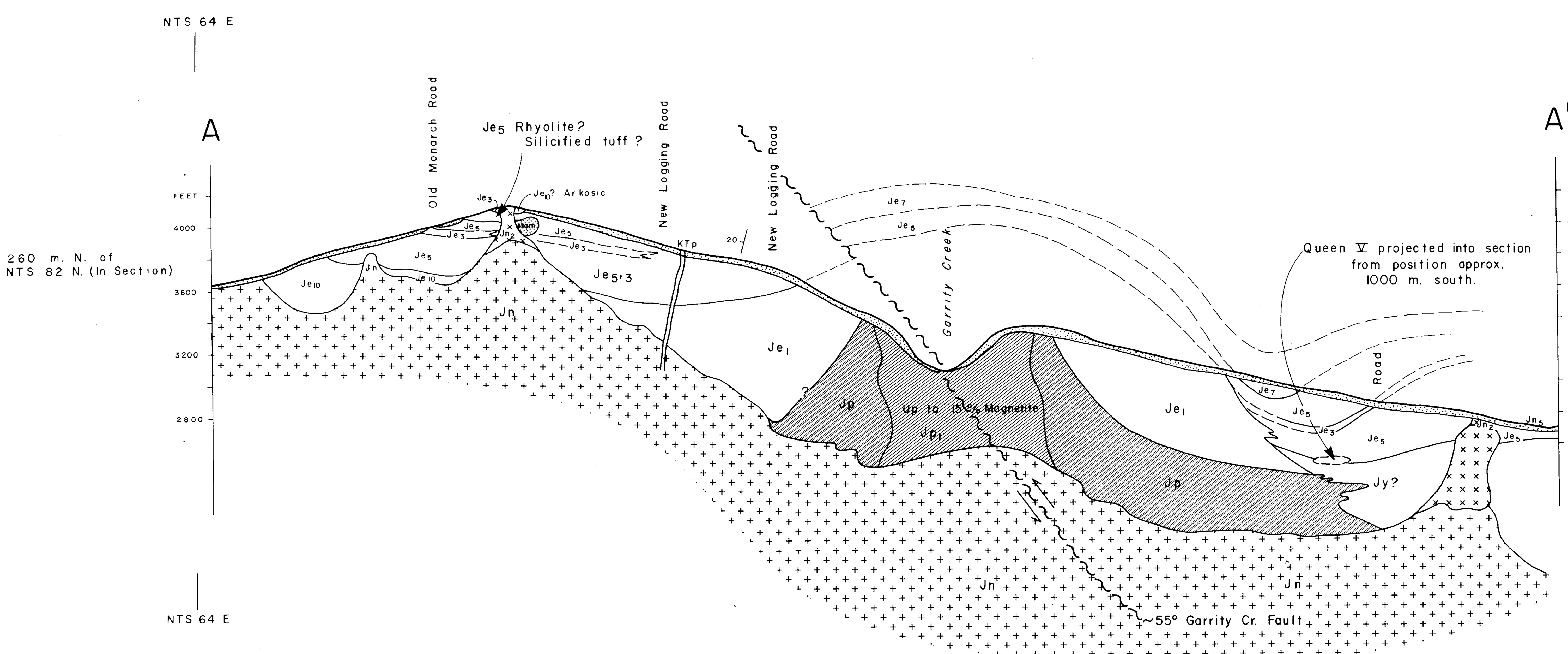
PERSONNEL

APPENDIX V

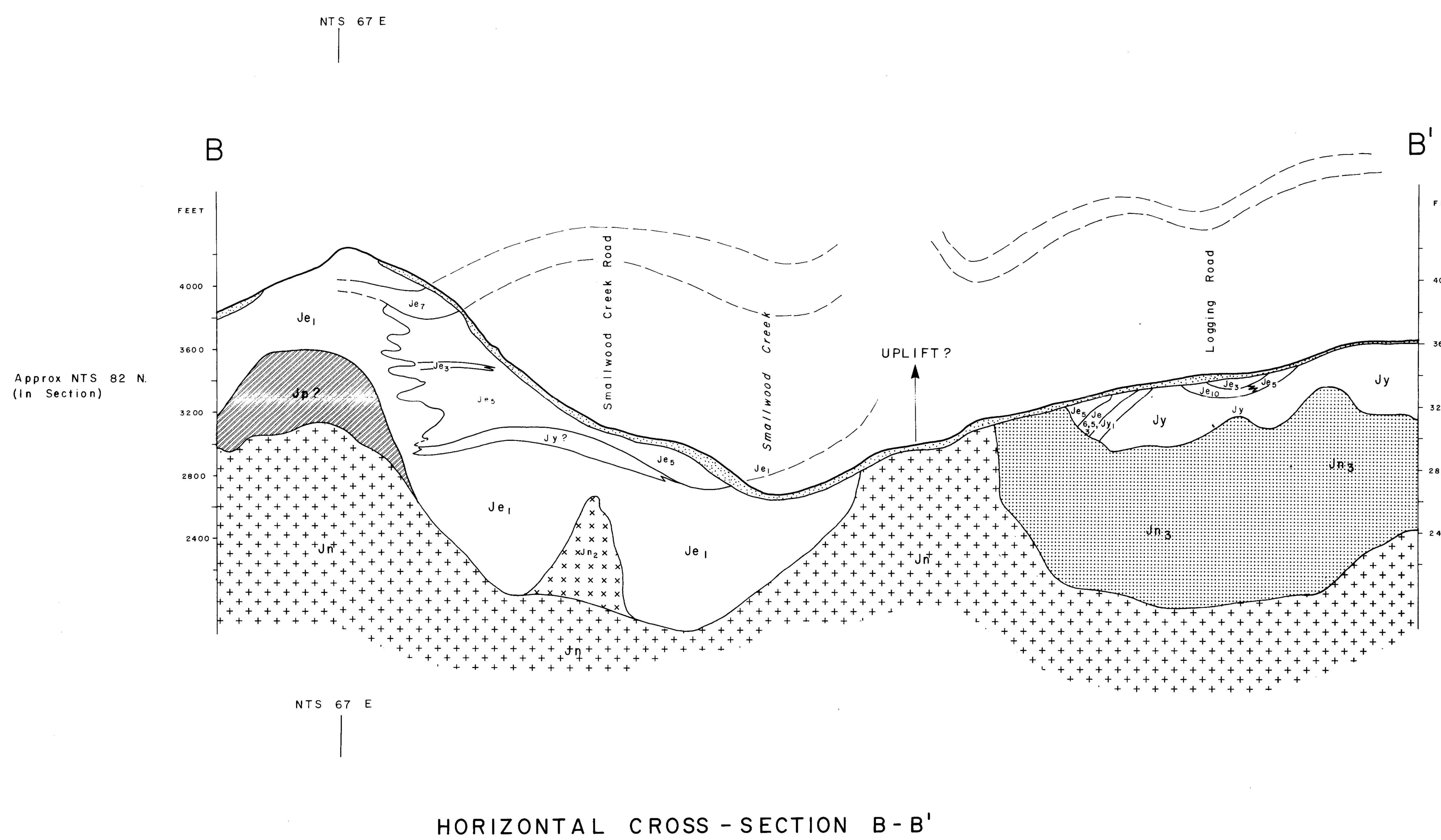
PERSONNEL

John Scott, B.Sc. Geologist	-	Project Supervisor, Geological Mapping and co-author of report
Ron Butler, B.Sc. Geologist	-	Geological Mapping
Brian Cross, Badger Explorations Service Ltd.	-	Stream Sediment Sampling additional staking prospecting
Dave Evans, Ph.D., P. Geol.	-	Consulting Geologist & co-author of report
Martha A. Paridaen, B. Ed.	-	Drafting


GEOLOGICAL BRANCH
ASSESSMENT REPORT
20,586
Nelson Contact ~100 m
Trail
120 m at 110° to Jn sample NP-33
Je5
Claim Line
KTp Lamp dyke
Pillow selvages
gneissic
Almost porphyritic plag fraction
NP-107 (5700/12.6/230/1810/1/34000/17)
Gneissic Biotite alt.
Silicified alt plag fraction
NP-104 (2/0.06/18/37/2/3/10)
10-20% Augite xls. Massive - no distinct foliation
No o/c
Je3
Coarse grained Augite 1% py
Andesitic tuff? Intrusive?
Jn2
2-4% py
Jn2? Porphyritic? Bleached Fe C, min. ep. Strongly sheared.
NP-106 (4/0.10/12/12/2/4/10)
Je10? Jy?
Zo Rhyolite
NP-88 (2/0.57/63/35/2/6/14)
4-6% py
Wk. skarn
Biotite alt. sed-arkosic
Mildly silicified
Bleached
Jn
Jn alt, same as above
Jn? Possibly brecciated
NP-87 12" Smoky qtz vn, 2-3% py, po, Fe C. (1% cpy in vn and host
(6/2.40/1400/79/1/7/990)
(2/0.33/330/40/6/3/260)
NP-89
NPM-2 (2/10.2/10000/157/-/-)
NPM-1 (6/38.0/35000/700/-/-)
NPM-3 (6/47.0/35000/390/-/-)
NPM-4 (14/52.0/42000/121/-/-)
Je5?
Gnt ep skarn (1% sulph.
Garnet, epidote Ex0 skarn
Gnt skarn
Jn3
Not a good Nelson, but very granitic in composition
Locally very alt to granite
Gnt ep skarn 2-5% cpy 1-2% py, po
NP-90 (6/6.80/5200/180/6/1/23)
Feld. porphyry? 50% ≤ 0.5 cm subrounded feld. phenos - f.g. more mafic matrix - cnt breccia?
Alt. plag fraction
Je1
Gnt ep. skarn
Within adit skarn
NP-120 (2/0.47/710/55/7/1/79)
Open adit, 2c? - 60-80'
NP-119, Mafic dyke, 30% mag, 3% cpy, py (4/3.00/1910/199/1/1/34)
MONARCH L2086, REV. C. G.
Tr py
NP-118, 1% 2-3 cm NELSON dyklets (2/0.14/63/60/1/8/4)
Very alt. w. pinkish Nelson material - no skarn or Si alt.
10' Portal
Caved portal
Grn skarn
Adit caved and flooded
NP-91 (8/8.10/9500/2900/4/1/16)
Alt plag. fraction may be very close to Jn
NP-105 (2/0.20/260/38/2/4/7)
Waste, mix of a strong Jn? and Je1-Jn (sample) 3-8% fine diss. py, po, min. ep & pegmatitic veins. Unit may represent a Enlo skarn.
20 0 20 40 60 m
394225 ALBERTA LTD.
Nelplat Exploration Project, B.C.
Detailed Geology
MONARCH CLAIM AREA
SURVEYED BY: J Scott, R Butler
PROJECT: NELPLAT
SCALE: 1:1000
N.T.S. 65
DATE: Sept. 1990
Fig. No.: 3A
See PROPERTY MAP for legend and symbols.



HORIZONTAL CROSS-SECTION A - A'



HORIZONTAL CROSS-SECTION B - B'

GEOLOGICAL BRANCH
ASSESSMENT REPORT

20,586

Note:

Vertical scale in feet.
Horizontal scale in meters.

Vertical exaggeration X 1:1.64

20 0 20 40 60 m.

Refer to Property Geology Map

394225 ALBERTA LTD.		
Nelplat Exploration Project, B.C.		
Horizontal Cross - Sections		
SURVEYED BY: J. Scott	PROJECT: NELPLAT	SCALE: 1:1000
N.T.S. 65	DATE: Sept., 1990	Fig. No.: 4

See PROPERTY MAP for legend and geology.

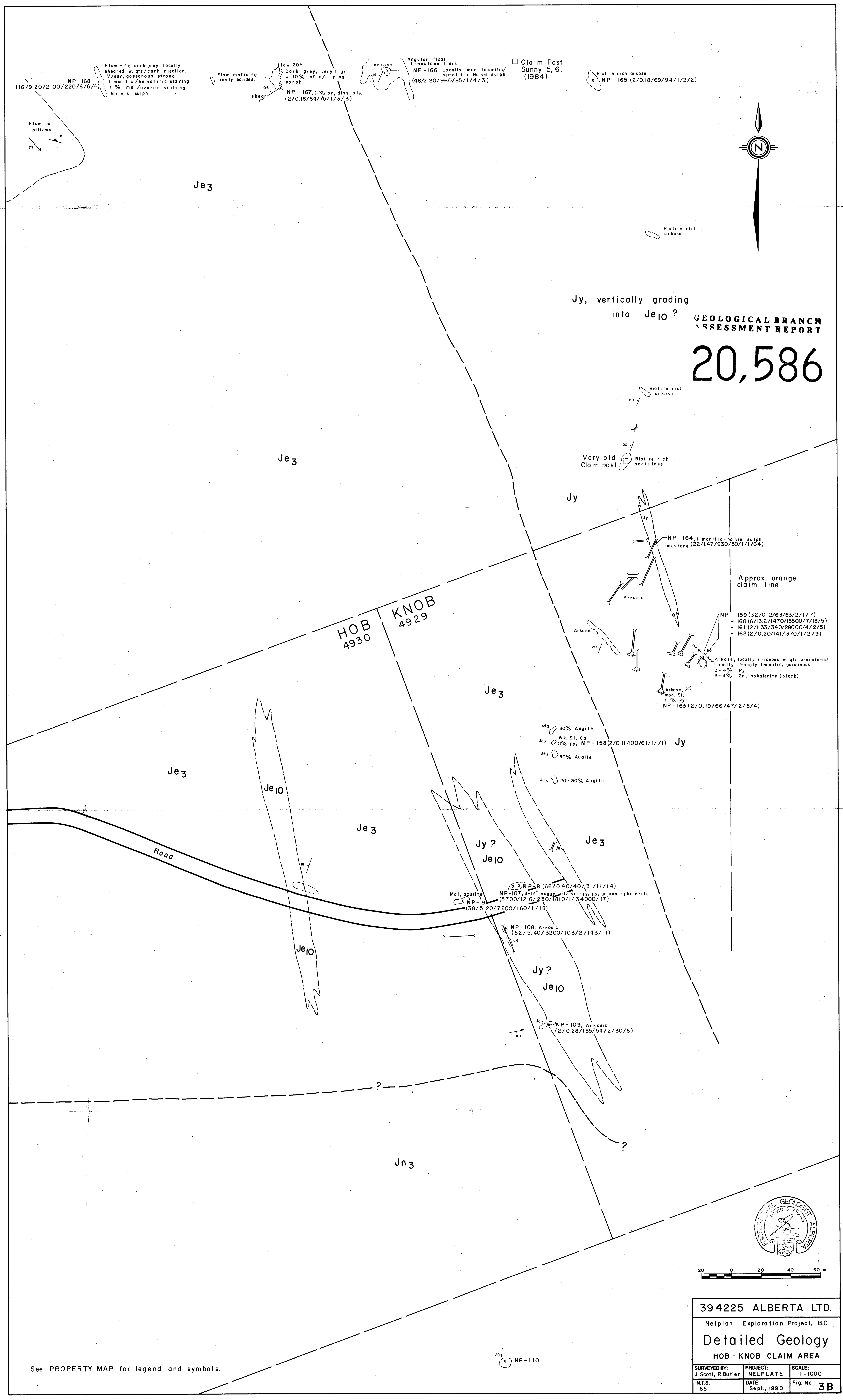
394225 ALBERTA LTD.

Nelplat Exploration Project, B.C.

Stream Sediment Location Map

SURVEYED BY:	PROJECT:	SCALE:
J. Scott, R. Butler	NELPLAT	1: 10,000
N.T.S.	DATE: September, 1990	Fig. No.: 5

64 + 00
66 + 00
90 + 00 N
88 + 00 N
86 + 00 N
84 + 00 N
82 + 00 N
49° 30' 00"
STEL 1
5920
HM - 11 (308/0.17/ -/ -)
(2752/0.72/11/144)
Sproule Creek
STEL 2
5921
STEL 3
5922
Falls Creek
SP - 4 (4/0.11/31/260/-/-)
SP - 5 (10/0.15/30/84/-/-)
HM - 1 (3341/1.65/20/149)
(2289/0.72/21/131)
HM - 4 (66/0.18/22/280)
(964/0.27/-/-)
HM - 3 (60/0.23/19/260)
(2101/0.37/-/-)
SP - 1 (8/0.20/34/128/-/-)
STEL 5
5924
SP - 6 (6/0.08/19/89/7/1)
HM - 2 (123/0.17/15/195)
(86/0.10/16/196)
HM-5 (10/0.15/30/84)
(45/0.10/20/191)
Old Logging Road
Falls Ck. Road (Gate Closed)
SP - 2 (8/0.05/13/68/1/1)
GOLD HILL 2
5074
HM - 6 (8/0.03/16/26
(1637/0.26/19/250
9291
R.C.G.
9290
R.C.G.
9289
R.C.G.
STEL 9
5933
STEL 8
5932
SP-7 (106/1.53/18/73/12/5)
HM - 8 (688/0.53/142/143)
(40/0.43/134/117)
ELK L 2081
HM - 9
(22/0.19/29/159)
(83/0.12/26/146)
6125
6126
STEL 9
5S, 2 W
QUEEN
1602
MONARCH
L 2082 R.C.G.
L 7616
R.C.G.
L 5082
R.C.G.
Radio Tower Line
STEL 10
6563
Garrity Creek


NP-168
(16/9.20/2100/220/6/6/4)
Flow - f.g. dark grey locally sheared w. qtz/carb injection. Vuggy, gossanous strong limonitic/hematitic staining. (1% mal/azurite staining. No vis. sulph.
Flow, mafic f.g. finely banded.
flow 20°
Dark grey, very f. gr. w. 10% of o/c plag. porph.
shear
NP-167 (1% py, diss. xls. (2/0.16/64/75/1/3/3)
arkose
Angular float Limestone bldrs
NP-166, Locally mod. limonitic/hematitic. No vis. sulph. (48/2.20/960/85/1/4/3)
Claim Post Sunny 5, 6. (1984)
Biotite rich arkose
NP-165 (2/0.18/69/94/1/2/2)
Flow w. pillows
Je3
Biotite rich arkose
Jy, vertically grading into Je10 ?
GEOLOGICAL BRANCH
ASSESSMENT REPORT
20,586
Biotite rich arkose
Very old Claim post
Biotite rich schistose
Jy
NP-164, limonitic - no vis. sulph.
Limestone (22/1.47/930/50/1/1/64)
Approx. orange claim line.
Arkosic
HOB 4930
KNOB 4929
Arkose
NP - 159 (32/0.12/63/63/2/1/7)
- 160 (6/13.2/1470/15500/7/18/5)
- 161 (2/1.33/340/28000/4/2/5)
- 162 (2/0.20/141/370/1/2/9)
Arkose, locally siliceous w. qtz brecciated. Locally strongly limonitic, gossanous.
3-4% Py
3-4% Zn, sphalerite (black)
Arkose, mod. Si, (1% Py
NP-163 (2/0.19/66/47/2/5/4)
30% Augite
Wk. Si, Ca (1% py, NP-158 (2/0.11/100/61/1/1/1)
30% Augite
20-30% Augite
Road
Je10
Jy ?
NP-8 (66/0.40/40/31/11/14)
Mal, azurite
NP-107, 3-12" vuggy qtz vn, cpy, py, galena, sphalerite (5700/12.6/230/1810/1/34000/17)
NP-9 (38/5.20/7200/160/1/18)
NP-108, Arkosic (52/5.40/3200/103/2/143/11)
NP-109, Arkosic (2/0.28/185/54/2/30/6)
Jn3
NP-110
See PROPERTY MAP for legend and symbols.
PROFESSIONAL GEOLOGIST ALBERTA
394225 ALBERTA LTD.
Nelplat Exploration Project, B.C.
Detailed Geology
HOB - KNOB CLAIM AREA
SURVEYED BY: J. Scott, R. Butler
PROJECT: NELPLATE
SCALE: 1:1000
N.T.S. 65
DATE: Sept., 1990
Fig. No.: 3B

SAMPLE RESULTS

Sample location, sample number, (assay values):

	(Au ppm/	Ag ppm/	Cu ppm/	Zn ppm/	As ppm/	Pb ppm/	Mo ppm/	W ppm)
NP- 1	6	0.05	7	41	-	-	-	
- 2	4	0.02	7	6	-	1	12	
- 3	8	0.40	170	37	-	2	6	
- 4	10	0.17	62	58	-	1	5	
- 5	24	5.80	1320	45	-	4	8	
- 6	6	0.07	35	50	-	1	5	
- 7	6	0.44	121	38	-	8	6	
- 8	66	0.40	40	31	-	11	14	
- 9	38	5.20	7200	160	-	1	18	
- 10	6	0.06	12	29	-	1	7	
- 11	14	0.17	168	86	-	4	7	
- 12	10	0.29	520	55	-	2	7	
- 13	2	0.37	380	185	-	1	16	
- 14	4	0.11	29	31	-	2	17	
- 15	6	0.03	7	8	-	1	12	
- 16	8	0.02	7	27	-	2	11	
- 17	6	0.39	25	70	-	4	6	
- 18	6	0.05	19	16	-	1	11	
- 19	4	0.13	32	140	-	15	20	
- 20	6	0.58	210	35	-	11	11	
- 21	6	0.02	8	30	-	7	14	
- 22	8	0.01	4	3	-	11	38	
- 23	8	0.11	36	14	-	5	16	3
- 24	8	0.15	15	9	-	14	89	7
- 25	2	0.46	670	80	-	3	4	
- 26	2	0.18	121	40	-	3	6	
- 27	2	0.19	103	16	-	1	13	
- 28	2	0.06	10	25	-	16	155	9
- 29	10	0.21	49	108	-	20	185	13
- 30	10	0.06	26	76	-	5	11	
- 31	38	0.28	6	96	-	5	8	
- 32	8	0.17	88	22	-	2	12	
- 33	2	0.08	14	60	-	2	22	6
- 34	14	0.02	7	4	-	3	20	
- 35	10	0.22	71	45	-	6	14	
- 36	2	0.03	19	31	-	-	-	
- 37	4	3.50	13	119	-	-	-	
- 38	24	2.40	270	195	-	3	83	11
- 39	148	0.62	135	83	-	2	20	
- 40	6	0.13	43	71	-	2	11	
- 41	14	0.04	12	60	-	-	-	
- 42	2	0.38	80	21	-	-	-	
- 43	4	0.03	7	5	-	-	-	
- 44	2	0.15	20	16	-	-	-	
- 45	2	0.12	3	3	-	-	-	
- 46	34	0.15	42	70	-	-	-	
- 47	8	0.04	14	61	-	-	-	
- 48	4	0.02	17	57	-	2	6	
- 49	6	0.02	11	61	-	2	3	
- 50	6	0.52	116	29	-	2	6	
- 51	14	0.30	200	15	-	1	5	
- 52	2	0.11	31	175	-	1	4	
- 53	2	0.05	21	119	-	1	5	
- 54	6	0.02	7	28	-	1	5	
- 55	4	0.16	45	40	-	2	25	4
- 56	4	0.05	15	53	-	1	7	
- 57	8	0.14	59	21	-	2	96	1
- 58	2	0.09	23	32	-	1	12	
- 59	20	0.31	76	46	-	1	16	
- 60	6	0.01	5	39	-	1	9	
- 61	4	0.08	70	23	-	6	7	
- 62	2	0.02	4	24	-	-	-	
- 63	4	0.04	4	71	-	-	-	
- 64	2	0.13	2	142	-	-	-	
- 65	2	0.11	14	24	-	-	-	
- 66	2	0.07	36	78	-	3	9	
- 67	6	0.33	102	60	-	3	11	
- 68	4	0.19	41	40	-	4	7	
- 69	6	0.13	35	41	-	3	11	
- 70	2	0.20	63	24	-	2	13	
- 73	30	0.20	65	40	1	1	7	
- 74	12	0.09	15	7	1	1	15	
- 75	2	0.12	10	1	1	1	98	4
- 76	2	0.15	28	33	1	1	39	9
- 77	2	0.10	25	47	1	2	37	4
- 78	4	0.09	16	61	3	1	11	
- 79	8	0.37	16	11	6	12	52	9
- 80	2	0.17	11	29	8	5	32	4
- 81	2	0.03	13	30	7	1	11	
- 82	2	0.93	930	62	2	3	10	
- 83	8	0.19	24	22	1	6	44	5
- 84	10	0.47	10	18	1	52	500	29
- 85	6	0.12	27	36	1	2	12	
- 86	2	0.08	56	45	2	2	14	
- 87	6	2.40	1400	79	1	7	990	
- 88	2	0.57	63	35	2	6	14	
- 89	2	0.33	330	40	6	3	260	17
- 90	6	6.80	5200	180	6	1	23	27
- 91	8	8.10	9500	2900	4	1	16	
- 92	4	0.20	69	60	1	6	7	
- 93	4	0.06	27	47	1	1	4	
- 94	2	0.41	193	89	3	1	5	
- 95	2	0.04	8	23	1	-	-	
- 96	2	0.03	5	36	1	-	-	
- 97	4	0.06	8	133	2	-	-	
- 98	2	0.04	7	124	1	-	-	
- 99	2	0.04	3	22	1	-	-	
-100	6	0.08	24	104	1	-	-	
-101	6	0.07	13	73	1	-	-	
-102	66	0.67	36	39	3	1	63	41.
-103	62	0.17	19	19	3	1	37	150
-104	2	0.06	18	37	2	3	10	
-105	2	0.20	260	38	2	4	7	
-106	4	0.10	12	12	2	4	10	
-107	5700	12.6	230	1810	1	34000	17	
-108	52	5.40	3200	103	2	143	11	
-109	2	0.28	185	54	2	30	6	
-110	2	0.04	20	94	1	16	6	
-111	2	0.12	75	64	3	6	6	
-112	2	7.20	5600	98	2	1	5	
-113	2	0.18	98	16	1	4	87	7
-114	2	0.10	41	54	2	6	6	
-115	28	5.80	880	111	2	15	25	1
-116	4	0.19	63	20	1	3	9	
-117	2	0.02	7	13	1	3	6	
-118	2	0.14	63	60	1	8	4	
-119	4	3.00	1910	199	1	1	34	10
-120	2	0.47	710	55	7	1	79	19
-150	2	0.07	4	500	1	-	-	
-151	8	0.08	3	85	1	-	-	
-152	2	0.08	3	68	1	-	-	
-153	2	0.01	24	28	3	3	4	
-154	2	0.01	21	58	1	1	2	
-155	4	0.13	33	5	1	3	3	
-156	2	0.11	14	10	1	7	5	
-157	2	0.13	172	22	1	1	2	
-158	2	0.11	100	61	1	1	1	
-159	32	0.12	63	63	2	1	7	
-160	6	13.2	1470	15500	7	18	5	
-161	2	1.33	340	28000	4	2	5	
-162	2	0.20	141	370	1	2	9	
-163	2	0.19	66	47	2	5	4	
-164	22	1.47	930	50	1	1	64	8
-165	2	0.18	69	94	1	2	2	
-166	48	2.20	960	85	1	4	3	
-167	2	0.16	64	75	1	3	3	
-168	16	9.20	2100	220	6	6	4	
-169	4	0.13	122	138	1	1	9	
-170	2	0.08	38	22	3	4	6	
-171	2	0.07	10	17	1	6	4	
-172	2	0.55	540	102	1	7	3	
-173	2	0.13	64	38	2	3	6	
-174	2	0.15	108	73	1	2	2	
-175	2	0.01	18	12	1	1	5	
NPM- 1	6	38.00	38000	700	-	-	-	
- 2	2	10.20	10000	157	-	-	-	
- 3	6	47.00	35000	390	-	-	-	
- 4	14	52.00	42000	121	-	-	-	

SYMBOLS

Located claim post
Approximate location of claim post
Road (driveable)
Old roads (not driveable)
Trail
Stream with direction of flow
Area of clearcutting
Outcrop
Float, small outcrop or rock sample location
Foliation
Bedding
Vein or contact direction
Pillows
Primary flow structures
Lineation
Shear
Shearing
Skarn area
Adit
Trenches
Felsic dyke

GEOLOGICAL BRANCH ASSESSMENT REPORT

20,586

LEGEND

CENOZOIC

Quaternary
- Qal — Unconsolidated Deposits: Till, sand, gravel, silt.

Tertiary or Older(?)
- KTd — Diorite Dykes - Mafic, dark colored dykes
- KTr — Rhyolitic Dykes - Siliceous, med. grey green ± 1-5%py
- KTp — Lamprophyre Dykes

MESOZOIC

Jurassic
- Jn — Nelson Intrusive; Granodiorite
- Jn_2 — Nelson Intrusive, Kokanee Phase - 10-30%, 1-6cm subrounded feldspar phenocrysts
- Jn_3 — Nelson Intrusive? Porphyritic, occasionally dyke like - 30-60%, 2-5mm plageoclase phenocrysts in a f.g. grey ground mass. This unit appears to be a late phase and may be cretaceous or tertiary in age.
- Jp — Pseudodiorite
- Jp_1 — Pyroxenite - ≥80% pyroxene, ≥10% magnetite

Lower and Middle(?) Jurassic
Rossland Group
- Jh — Hall Formation - Sandstone, siltstone, min. limestone; Jh_1
- Je — Elise Formation - Mafic to intermediate flows, tuffs, epiclastic deposits and subvolcanic intrusions.

Upper Elise Formation
Epiclastic Units
- Je_{10} — Interbedded sequence of grit, sandstone and siltstone- generally arkosic, 5-10% biotite, ± tuffaceous component.
- Je_7 — Lapilli Tuff, 10-50% sil stretched subrounded pyroclasts of varied composition.
- Je_6 — Crystal Tuff - 30-50% sub-euhedral, 1-3cm plageoclase phenocrysts.
- Je_5 — Ash Tuff - bedded locally, water lain?, generally tuffaceous component ≤1mm.
- Je_3 — Medium grained Augite Porphyry Flows - pillows locally all preserved.

Lower Elise Formation
- Je_1 — Augite Basaltic Flows, subvolcanic intrusions. Massive 15-25% Augite phenos altering to biotite.

Ymir Group
- Jy — Wacke - arenaceous sediments
- Jy_1 — Limestone

PROFESSIONAL GEOLOGIST DAVID S. EVANS ALBERTA

ABBREVIATIONS

alt	Alteration
bldrs	Boulders
cn'ts	Centre(s)
diss	Disseminated
f.g.	Fine grained
min	Minor
mod	Moderate
o/c	Outcrop
sh	Shear
str	Stringers
sulph	Sulphides
tr	Trace
vis	Visible
vn	Vein
vnlts	Veinlets
wk	Weak
xls	Crystals
amph	Amphibolite
and	Andesite
azur	Azurite
br	Breccia
carb	Carbonate
cpy	Chalcopyrite
ep	Epidote
fe C	Iron oxide
feld	Feldspar
gnt	Garnet
hem	Hematite
lamp	Lamprophyre
mag	Magnetite
mal	Malachite
plag	Plageoclase
po	Pyrrhotite
porph	Porphyry
py	Pyrite
qtz	Quartz
rhy	Ryholite
si	Siliceous

394225 ALBERTA LTD.

Nelplat Exploration Project, B.C.

Property Geology

SURVEYED BY:	PROJECT:	SCALE:
J. Scott, R. Butler	NELPLAT	1:10,000
N.T.S. 65	DATE: September, 1990	Fig. No.: 3


64 + 00
66 + 00
90 + 00 N
88 + 00 N
86 + 00 N
84 + 00 N
82 + 00 N
49° 30' 00"
STEL 1
5920
STEL 2
5921
STEL 3
5922
STEL 5
5924
STEL 8
5932
STEL 9
5933
STEL 10
6563
GOLD HILL 2
ELK L 2081
MONARCH
L. 2082 R.C.G.
9291
R.C.G.
9290
R.C.G.
9289
R.C.G.
6125
6126
ADIT (15')
ADIT
GLORY HOLE
Zone of Skarnification
Falls Creek
Falls Ck. Road (Gate Closed)
Sproule Creek
Garrity Creek
Old Logging Road
Strongly magnetic
Magnetic Jn
Magnetic Jn float
Pillow selvages
Old drill location
See Detailed Geology Map
NP - 87, 88, 89, 90
NP - 104, 105, 106, 107
NP - 118, 119, 120
NPM - 1, 2, 3, 4
Jn
Je1
Je3
Je5
Je7
Je10
Jp
Jp1
A
B


64 + 00
66 + 00
90 + 00 N
88 + 00 N
86 + 00 N
84 + 00 N
82 + 00 N
49° 30' 00"
STEL 1
5920
STEL 2
5921
STEL 3
5922
STEL 5
5924
STEL 8
5932
STEL 9
5933
STEL 10
6563
Jn
Jn3
Je1
Je3
Je5
Je5,6
Je5,3
Je7
Je10
Jp
Jp1
Sproule Creek
Falls Creek
Falls Ck. Road (Gate Closed)
Old Logging Road
Garrity Creek
GOLD HILL 2
5074
skarn
9291
R.C.G.
9290
R.C.G.
9289
R.C.G.
ELK L 2081
L 2081 R.C.G.
MONARCH
L 2082 R.C.G.
STEL 9
5S, 2 W.
STEL 9
5S, 1 W.
6125
6126
QUEEN V
1602
L 7616
R.C.G.
L 5082
R.C.G.
Radio Tower Line
x NP - 30 (20 ppm Pb, 185 ppm Mo)
x NP - 28 (155 ppm Mo)
x NP - 75 (98 ppm Mo)
(30 ppb Au) NP - 73 x
x NP - 23 (89 ppm Mo)
x NP - 39 (148 ppb Au)
NP - 79 (52 ppm Mo)
x NP - 84 (52 ppm Pb, 500 ppm Mo, 29 ppm W)
NP-115 (28 ppb Au)
x NP - 38 (83 ppm Mo)
NP - 112 (5600 ppm Cu)
NP - 113 (87 ppm Mo)
(260 ppm Mo) x NPM - 89
x NPM - 87 (1400 ppm Cu, 990 ppm Mo, 41 ppm W)
NPM - 1 (38 ppm Ag, 35000 ppm Cu, 700 ppm Zn)
-2 (10.2 ppm Ag, 10000 ppm Cu)
-3 (47 ppm Ag, 35000 ppm Cu, 390 ppm Zn)
(5200 ppm Cu, 27 ppm W) NPM - 90 x
x NPM - 4 (52 ppm Ag, 42000 ppm Cu)
x NPM - 120 (79 ppm Mo, 19 ppm W)
x NPM - 119 (1910 ppm Cu)
NPM - 91 (9500 ppm Cu, 2900 ppm Zn)

68 + 00
70 + 00
90 + 00 N
88 + 00 N
86 + 00 N
84 + 00 N
82 + 00 N
N
Jn
Trail
Old Sawmill Equipment
Legal Claim Post STEL 6 (3 E.)
STEL 6
5925
STEL 4
5923
Sproule
Creek
GEOLOGICAL BRANCH
ASSESSMENT REPORT
20,586
SYMBOLS
Located claim post
Approximate location of claim post
Road (driveable)
Old roads (not driveable)
Trail
Stream with direction of flow
Area of clearcutting
Rock sample location
Jn3
GOLD HILL 1
5073
GOLD HILL 3
5075
LCP
Je10
x NP - 102 (66 ppb Au, 63 ppm Mo, 41 ppm W)
- 103 (62 ppb Au, 150 ppm W)
GOLD HILL 4
5076
Je5,3
Je5
Jy
x NP - 166 (48 ppb Au)
x NP - 168 (9.2 ppm Ag, 2100 ppm Cu)
x NP - 5 (1320 ppm Cu)
NP - 164 x (64 ppm Mo)
x NP - 159 (32 ppb Au)
- 160 (13.2 ppm Ag, 1470 ppm Cu, 15500 ppm Zn)
- 161 (28000 ppm Zn)
KNOB
4929
STEL 7
5931
Wood
Creek
(38 ppb Au, 7200 ppm Cu) NP - 9 x
(52 ppb Au, 3200 ppm Cu, 143 ppm Pb) NP - 108 x
x NP - 8 (66 ppb Au)
x NP - 107 (5700 ppb Au, 12.5 ppm Ag, 1810 ppm Zn, 34000 ppm Pb)
x NP - 109 (30 ppm Pb)
HOB
4930
L 7614
RCG
5881
Je1
5174
5880
5175
To HWY 3A and Nelson
PROFESSIONAL GEOLOGIST
DAVID S. EVANS
ALBERTA
200 0 200 400 600 800 m
Scale
394225 ALBERTA LTD.
Nelplat Exploration Project, B.C.
Anomalous Rock Geochemistry
SURVEYED BY: J. Scott, R. Butler
PROJECT: NELPLAT
SCALE: 1:10,000
N.T.S. 65
DATE: September, 1990
MAP NO.: 6
See PROPERTY MAP for legend