ELECTRUM RESOURCES INC.

ASSESSMENT REPORT - 1995 AND 1996 EXPLORATION

PINE PROPERTY

OMINECA MINING DIVISION
BRITISH COLUMBIA
CANADA

N.T.S. 94E - 2 & 7
Latitude 57° 13'N
Longitude 126° 42'W

Claim	Tenure#
Kath 2	319656
Kath 4	319658
Kath 5	319659
Kath 6	319661
Kath 7	319662
Kath 8	319663
Kath 9	319666
Kath 10	319667

Owner and Operator

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By

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November 1, 1996

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1.0 SUMMARY

The Pine Property consists of 439 claim units covering 100 square kilometres, centred at 57°14'N Latitude and 126°42'W Longitude on NTS 94E-07, located approiximately 450 km northwest of Prince George, in the Kemess - Toodoggon district of north-central British Columbia, Canada.

All-weather mainline logging roads and the Omenica Resources Access Road provide access to the property from the communities of Mackenzie and Fort St. James. The Sturdee valley airfield, which is serviced by scheduled aircraft based in Smithers and Vancouver, is 38 kilometers by road from the property.

The claims are wholly owned by Electrum Resources Inc.

The property covers an area that was worked by: Kennco Exploration (Western) Ltd., from 1968 to 1973; Riocanex, from 1979 to 1980; Brinco in 1982; Cominco, in 1990 and Romulus Resources in 1992 and 1993. Collectively, these operators completed a total of 3,868 m of drilling in addition to geologicl mapping, sampling and geophysical surveys. To date, drilling has identified an intial geological reserve of 40 million tonnes grading 0.57g/t Au and 0.15% Cu. Potential for a larger reserve exists within the untested portions of an induced polarization chargeability anomaly.

The gold-rich prophyry copper mineralization at the Pine property is spatially and genetically related to intrusion of a high level quartz monzonite pluton which is comagmatic with the host Early Jurassic Toodoggone Formation volcanic rocks. Pyrite, chalcopyrite, minor bornite and lesser molybdenite occur as disseminations, fracture fillings and within quartz veins in both the pluton and adjacent volcanic rocks. Higher concentrations of gold and copper occur in the pluton, and correlate with zones of pervasive quartz stockwork with potassium feldspar vein selvages, locally intense quartz-magnetite flooding and the persistence of magnetite stringers and disseminations. The core of the potassic zone has yet to be defined. The gold-copper mineralization and its associated alteration are enclosed by a large area of phyllic alteration which laterally grades outward into a propylitic assemblage characterised by the presence of epidote and lesser chlorite.

In 1995 Electrum Resources carried out sampling on the Kath and Paula claims, located north and south respectively of the the Pine deposit, and sampled selected portions of the Pine drill core. Results of this programme are summarized. Breccia pipes containing anomalous quantities of gold and copper were identified on these claims. In 1996, Electrum Resources commissioned Geomatics International Inc. to obtain Landsat TM imagery of district for the purpose of

-performing regional analyses of the spectral response and structural controls of porphyry copper-gold mineralization in the district,

-to relate spectral response associated with proven mineralization to similar features which might be occur on the Pine property,

-to search for a possible spatial relation of the breccia pipes to the Pine mineralization.

An area bounded by 57° N to 57°19'North Latitude and 126°36'W to 126°52'W Longitude was analysed and in particular, the spectral response of alteration zones and apparent regional structural controls on the Kemess deposits were compared to mineralization in the vicinity of the Pine.

While the spectral response of alteration facies is identical, some of the regional structural controls appear to be different. Although somewhat simplistic, the major stream valleys surrounding the massif containing the Kemess deposits appear to be structurally controlled, suggestive of a caldera type feature containing Hazelton and Takla Group volcanics intruded by the Kemess stock. No such feature was imediately apparent on Electrum Resource's property. A possible similarity in structural control is that Diakow et al. (1993) show a northeast trending structure proximal to the Kemess North deposit and the Pine deposit has been offset by the northeast-trending Cascadero Fault.

Although conflicting interpretations are presented by Diakow et al. (1993) and Rebagliati et al.(1995) with respect to the Cascadero fault, features delineated on Landsat imagery which are thought to be faults, combined with mapped offsets of dykes, contacts, mineralization and IP anomalies provide a rationalization of the conflict and give some direction as to future exploration on the Pine property. Emplacement of the intrusive hosting the Pine deposit may have been controlled by the Cascadero fault with later reactivation involving vertical and lateral displacement. Vertical and lateral displacement along younger northwest trending structures may have broken the Pine into four blocks with variable amounts of exposure. Only the southeast block has been drill tested to any extent. The breccia pipes appear to be controlled by northwest-trending and east-northeast trending structures and an are presently thought to be related to the Pine only in that they are subvolcanic intrusions contemporaneous with the Hazelton Group volcanics.

The Kath 4 claim does not appear to have potential to host porphyry style Cu-Au-Mo mineralization but, it is strategically located to provide access to other mineralized areas.

The Kath 2, 5, 6, 7, 8, 9 and 10 claims all lie within highly prospective areas and require further sampling, mapping and geophysical surveys.

A programme of airborne geophysics, and ground follow up with further detailed mapping and sampling on selected claims is recommended for the entire property.

2.0 INTRODUCTION

2.1 Statement of Activities

This report documents the results of a sampling programme and interpretation derived from LandSat Thematic mapper satellite imagery. Property history, regional geology, property geology and descriptions of mineralization based on past work are summarized to set the base for Landsat interpretation.

Recommendations are made for ground truthing of the Landsat interpretation and continued exploration based on results of ground follow-up.

2.2 Location and Access

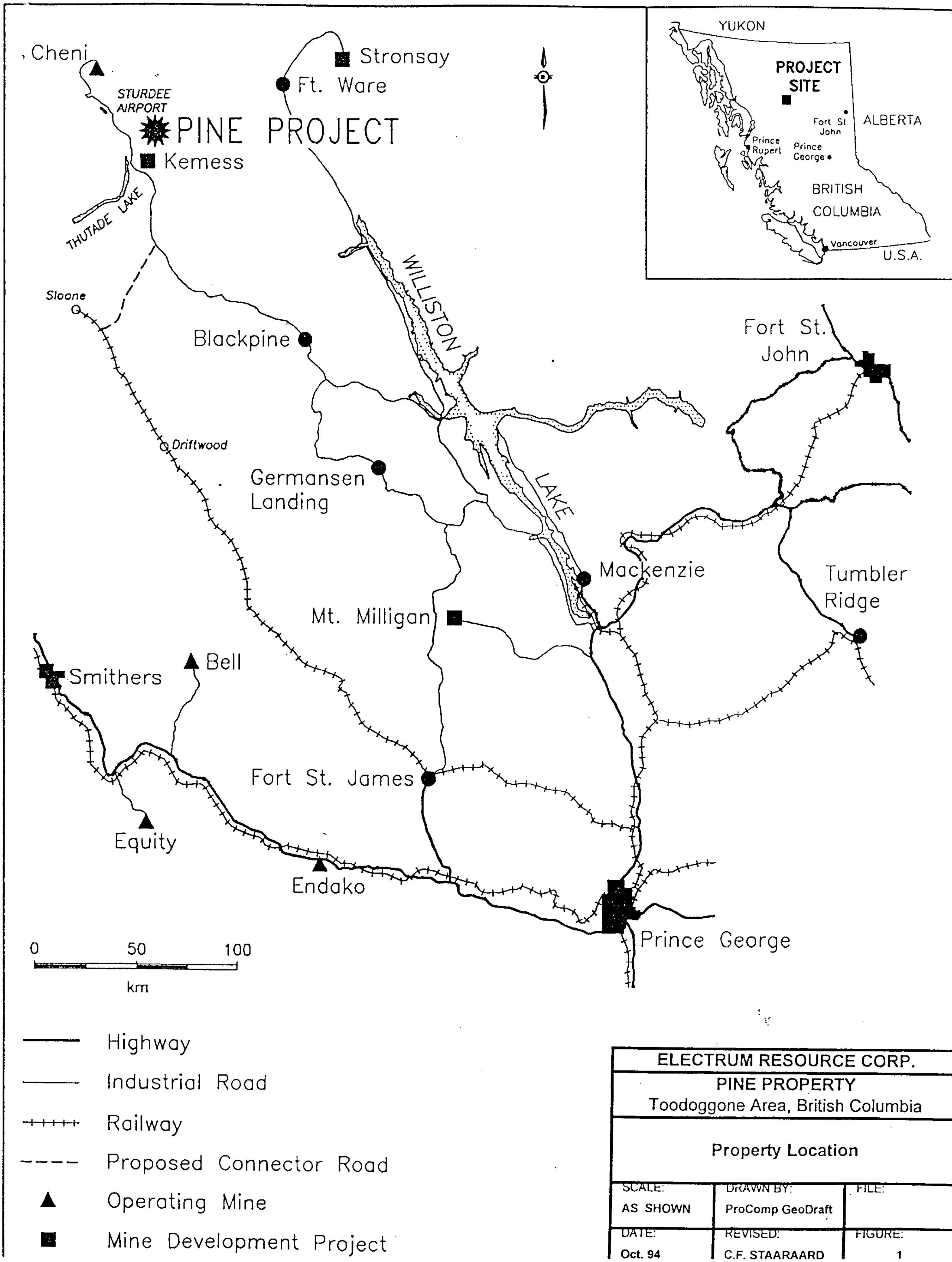
The Pine property is located in north-central British Columbia at 57°14'North Latitude and 126°42'W Longitude, in the Omenica Mining Division, approximately 275 km north of Smithers and 450 km northwest of Prince George. The property lies 25 km due north of the the Kemess property (Figure 1) where two large gold-copper porphyry deposits have been delineated.

Access to the property is from Fort St. James or Mackenzie, via all-weather mainline logging roads and the Omenica Resources Access Road. A 21 km service road provides vehicle access to the core of the property. The Sturdee valley airfield, which is serviced by commuter style aircraft based in Smithers and Vancouver, is 38 km by road from the property.

The communities of Prince George, Fort St. James are south of the property and have a tradition of supplying goods and services for mineral exploration and mine development.

2.3 Topography, Vegetation and Climate

The Pine property lies in the Arctic drainage system along the western margin of the Swannell Range of the Omenica Mountains. Property topography is dominated by the



YUKON
PROJECT SITE
ALBERTA
Fort St. John
Prince Rupert
Prince George
BRITISH COLUMBIA
Vancouver
U.S.A.
Cheni
Stronsay
Ft. Ware
STURDEE AIRPORT
PINE PROJECT
Kemess
THUTADE LAKE
Sloone
Blackpine
WILLISTON
LAKE
Fort St. John
Driftwood
Germansen Landing
Mackenzie
Tumbler Ridge
Mt. Milligan
Smithers
Bell
Fort St. James
Equity
Endako
Prince George
0
50
100
km
Highway
Industrial Road
Railway
Proposed Connector Road
Operating Mine
Mine Development Project
ELECTRUM RESOURCE CORP.
PINE PROPERTY
Toodoggone Area, British Columbia
Property Location
SCALE:
AS SHOWN
DRAWN BY:
ProComp GeoDraft
FILE:
DATE:
Oct. 94
REVISED:
C.F. STAARAARD
FIGURE:
1

broad Finlay River valley, with its moderately flat terrain of old river terraces. Moderate to locally more rugged, alpine terrain to the northwest and southeast flank the valley bottom. Elevations range from 1000m to 2000m.

A mixed coniferous forest of lodgepole pine and spruce dominates the river valley portion of the claims. At elevation, vegetation is sparse and consists of stunted conifers, dwarf alder and grassy alpine meadows. The climate is generally moderate, with temperatures ranging from -35° to +35° Celsius. Precipitation is moderate (in the range of 890mm per year) and in general, is uniformly distributed throughout the year.

2.4 Claims

The Pine property covers an area of 11,200 hectares and consists of 17 two post mineral claims and 29 modified grid claims (474 units) totalling 491 units. The claims are wholly owned by Electrum Resources Inc. Claim data is summarized in Figure 2 and Table 1.

When plotting the claims on geo-referenced Landsat imagery, a marked discrepancy was noted between the location of the claims relative to UTM coordinates and their location relative to drainage and topographic control. If claims were tied to UTM coordinates, they were a minimum of 1 kilometer offset from drainage in a north-south direction and 2 to 3 kilometers offset in an east-west direction. If claims were tied to Finlay River offset was minimized. The author was advised by a representative at the Mining Recorder's office in Vancouver to make a best match of tying the drainage and topography on the claim map to that on the imagery, and locate claims accordingly. This has resulted in location of the Paula claim over ground thought to be held by Electrum. If GPS were used to stake the claims, then their location relative to the claim map is in some doubt.

2.5 Exploration History

The Pine property covers an area that was worked by Kennco Exploration (Western) Ltd. from 1968 to 1973. Kennco's work included soil and silt sample surveys, ground and

Claim Name	Owner	Tenure Number	Units	Record Date	Expiry Date	New Expiry Date*
Fin 3	Electrum	238305	1	31-Jul-80	31-Jul-2003	31-Jul-2004
Fin 11	Electrum	240089	20	11-Aug-88	11-Aug-2003	11-Aug-2004
Fin 12	Electrum	240090	20	11-Aug-88	11-Aug-2003	11-Aug-2004
Fin 14	Electrum	240091	20	11-Aug-88	11-Aug-2003	11-Aug-2004
Fin 16	Electrum	240092	6	11-Aug-88	11-Aug-2003	11-Aug-2004
Fin 17	Electrum	240093	8	11-Aug-88	11-Aug-2003	11-Aug-2004
Fin 18	Electrum	240094	12	11-Aug-88	11-Aug-2003	11-Aug-2004
Fin 19	Electrum	240095	6	11-Aug-88	11-Aug-2003	11-Aug-2004
Fin 20	Electrum	241595	20	13-Feb-90	13-Feb-2003	13-Feb-2004
Fin 21	Electrum	241596	16	13-Feb-90	13-Feb-2003	13-Feb-2004
Easter 1	Electrum	241918	16	16-Apr-90	16-Apr-2003	16-Apr-2004
Easter 2	Electrum	241919	12	16-Apr-90	16-Apr-2003	16-Apr-2004
Easter 3	Electrum	241920	20	16-Apr-90	16-Apr-2003	16-Apr-2004
Easter 4	Electrum	241921	20	17-Apr-90	17-Apr-2003	17-Apr-2004
Easter Seal	Electrum	303156	20	08-Aug-91	08-Aug-2003	08-Aug-2004
Fin 21	Electrum	308119	20	14-Mar-92	14-Mar-2003	14-Mar-2004
Fin 22	Electrum	308120	21	14-Mar-92	14-Mar-2003	14-Mar-2004
Fin 23	Electrum	308121	21	14-Mar-92	14-Mar-2003	14-Mar-2004
Fin 24	Electrum	308122	21	14-Mar-92	14-Mar-2003	14-Mar-2004
Fin 25	Electrum	308123	21	14-Mar-92	14-Mar-2003	14-Mar-2004
Fin 26	Electrum	308124	21	14-Mar-92	14-Mar-2003	14-Mar-2004
Song 1	Electrum	310079	21	29-May-92	29-May-2000	29-May-2001
Song 2	Electrum	310064	21	30-May-92	30-May-2001	30-May-2002
Egg 1	Electrum	310065	15	29-May-92	29-May-2000	29-May-2001
Egg 2	Electrum	310066	15	29-May-92	29-May-2000	29-May-2001
Song 3	Electrum	310038	1	31-May-92	31-May-99	31-May-2001
Song 4	Electrum	310039	1	31-May-92	31-May-99	31-May-2001
Song 5	Electrum	310040	1	31-May-92	31-May-99	31-May-2001
Song 6	Electrum	310041	1	31-May-92	31-May-99	31-May-2001
Song 7	Electrum	310042	1	31-May-92	31-May-99	31-May-2001
Song 8	Electrum	310043	1	31-May-92	31-May-99	31-May-2001
Song 9	Electrum	310044	1	31-May-92	31-May-99	31-May-2001
Song 10	Electrum	310045	1	31-May-92	31-May-99	31-May-2001
Ly 1	Electrum	310081	20	30-May-92	30-May-2000	30-May-2001
Ly 2	Electrum	310060	1	30-May-92	30-May-2000	30-May-2001
Ly 3	Electrum	310061	1	30-May-92	30-May-2000	30-May-2001
Ly 4	Electrum	310062	1	30-May-92	30-May-2000	30-May-2001
Ly 5	Electrum	310080	1	30-May-92	30-May-2000	30-May-2001
Kath 2	Electrum	319656	20	19-Jul-93	19-Jul-94	19-Jul-96
Kath 4	Electrum	319658	15	20-Jul-93	20-Jul-94	20-Jul-96
Kath 5	Electrum	319659	12	20-Jul-93	20-Jul-94	20-Jul-96
Kath 6	Electrum	319661	1	19-Jul-93	19-Jul-94	19-Jul-96
Kath 7	Electrum	319662	1	19-Jul-93	19-Jul-94	19-Jul-96
Kath 8	Electrum	319663	1	19-Jul-93	19-Jul-94	19-Jul-96
Kath 9	Electrum	319666	1	20-Jul-93	20-Jul-94	20-Jul-96
Kath 10	Electrum	319667	1	20-Jul-93	20-Jul-94	20-Jul-96

Total Claims 46 **Total Units** 491 **Total Area (ha)** 11200

Table 1. Pine Property Mineral Claims, NTS 94E/2, 94E/7 Omineca Mining Division

airborne magnetic surveys, reconnaissance IP, geological mapping and one 25m x-ray diamond drill hole. Kennco recognized the porphyry copper-moybdenum potential of the area, but due to budget constraints, was forced to abandon the property in April 1973. The property was subsequently restaked by others.

In 1978, Bradford D. Pearson staked and optioned the central portion of the existing claims area to Rio Tinto Canadian Exploration Ltd. (Riocanex). Work by Riocanex in 1979-80 included soil sampling, geological mapping, ground magnetic surveys and 12 holes comprising 1354m of BQ diamond drilling. Most of this drilling was carried out approximately 2.5 km to the southwest of the Kennco X-ray hole. The drilling encountered several well-mineralized gold-copper intercepts in a number of shallow holes, however, Riocanex subsequently dropped the option.

Brinco Mining Ltd. held the property under option from Bradford Pearson in 1982 and commissioned J.R. Woodcock Consultants Ltd. to undertake a detailed mapping program in the vicinity of the Kennco X-ray hole. Although Woodcock recognized the porphyry potential of a granodiorite-hosted, copper-molybdenum mineralized system, Brinco chose not to pursue this target and later relinquished their option.

Electrum Resources acquired the property in 1988 and optioned it to Cominco Ltd. in May 1990. That year, Cominco carried out road building, rock sampling, induced polarization and magnetic surveys, geological mapping and 1460m of percussion drilling in 23 holes. The percussion drilling, which mainly tested the copper-molybdenum target, indicated low grade copper mineralization. The IP survey partially defined a large anomaly which remained open to the southwest towards the Riocanex drill area.

Following completion of the 1990 program, Cominco was unable to renegotiate an extension of their option with Electrum Resources and as a result, the property was returned to Electrum.

In 1992, Romulus Resources Ltd. entered into an option agreement with Electrum Resources Ltd. and carried out an integrated program of grid establishment, IP surveys, soil and rock geochemical sampling, detailed geological mapping, color air photography, survey control, additional sampling of Riocanex core and 783m of HQ diamond drilling in four holes. Significant gold and copper values were returned from previously unassayed Riocanex core and drilling, which focussed on an underexplored IP anomaly, demonstrated that the anomaly was highly prospective.

In 1993, Romulus Resources drilled 1702.31m in nine holes on the Main Grid IP anomaly and extended the known limits of the gold-copper mineralization. They surmised that mineralization was related to intrusion of a quartz monzonite pluton and that only a portion of the target had been drill tested.

3.0 REGIONAL GEOLOGY

3.1 Stratigraphy

Regional geology is summarized after Rebagliati et al. (1995a,b), Rebagliati (1993) and Diakow et al.,(1985, 1993). The Pine property is located in the east-central portion of the Kemess-Toodoggone district. A northwesterly-trending belt of mafic flows, breccias and minor sedimentary rocks of the Upper Triassic to Lower Jurassic Takla Group and pyroclastic volcanic and epiclastic sedimentary rocks of the Lower to Middle Jurassic Hazelton Group (Toodoggone Formation) underlies the area (Figure 3).

Takla Group rocks are characterised by massive, dark green, coarse-grained porphyritic augite basalt, and fine grained, aphyric, basaltic andesite lava flows with subordinate interbeds of lapilli tuff and volcanic breccia. Less common are flows with amygdules or platy, glomerophyric plagioclase clusters up to 1.5 cm long. Pillow lavas interbedded with hyaloclastite and well bedded sandstone and conglomerate were mapped east of the

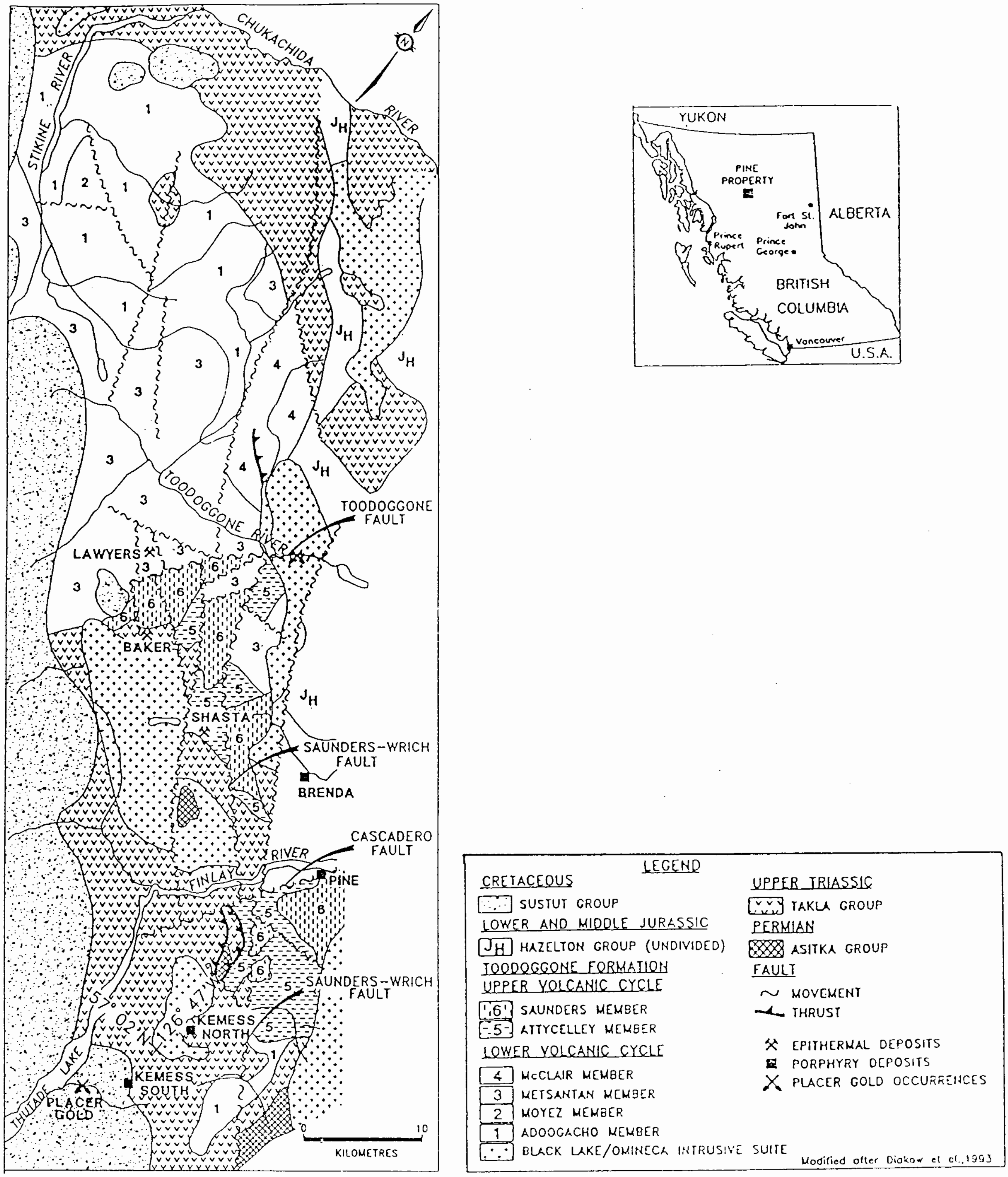


Figure 3. Regional Geology of the Kemess-Toodoggone District, Northern B.C. (after Diakow et al., (1993) and Rebagliati et al., (1995).

Black Lake stock (Diakow et al., 1993). Epidote replaces plagioclase and chlorite pseudomorphs mafic minerals in all the flows. Although a very gentle angular unconformity may be present, contacts of Takla Group volcanics with Jurassic sequences are generally faulted.

The Hazelton Group is subdivided into three formations of nonmarine and marine volcanic and volcaniclastic rocks in north-central British Columbia. The Toodoggone Formation is time equivalent to the Telkwa Formation, the oldest of these three formations. The Toodoggone Formation consists of interstratified red and maroon flow and pyrocalstic rocks divided into lower and upper volcanic cycles. The lower cycle consists of four members; Adoogacho, Moyez, Metsantan and McClair. The upper cycle outcrops on the Pine Property and consists of the Attycelley and Saunders Members.

The Attycelley Member is a 500m thick, heterogeneous mixture of green, grey and mauve lapilli-ash tuff, subordinate lapilli-block tuff, a few interspersed ash and lava flows, and interbedded epiclastic rocks. It is similar in texture to the Adoogacho Member and distinguished only by its relationship with the distinctive bounding strata of the overlying Saunders and underlying Metsantan Members.

The Saunders Member is composed almost exclusively of welded, crystal-rich, dacitic ash flow tuffs. Although the lower contact of this member appears to be conformable with the Attycelley Member, locally, the lower contact is erosional with lava flows of the Takla Group, where conglomerate, derived mainly from lava flows of the Takla Group, is interstratified with tuffites forming the base.

Mapping by Bailey et al.(1991) and earlier workers has established a continuous lithological gradation from Takla Group rocks, characterized by subaqueous, low energy volcanism with minor periods of quiescence and sedimentation, through to a more turbulent, high energy, proximal volcanic series that may in part comprise the Hazelton Group.

To the west, Takla and Hazelton Groups are unconformably overlain by subaerial sedimentary rocks of the Lower to Upper Cretaceous Sustut Group (Figure 3).

Pleistocene glaciation has intensively scoured the entire district, and deposited variably thick mantles of till and glaciofluvial material over much of the lower benchland topography. Cirque features with rock glaciers and residual moraine debris are present at higher elevations.

3.2 Omenica Intrusions

Lower to Middle Jurassic Omineca stocks and subvolcanic porphyritic plutons (Black Lake Intrusive Suite) cut older strata and are spatially associated with Toodoggone Formation volcanic rocks. They are mainly felsic in composition and form several porphyry systems, a number of skarns and many vein-type mineral occurrences. Rubidium-strontium analyses of samples from an intrusion located 3 km north of the Kemess South deposit gave a Lower Jurassic date of 190+/-9 Ma. (Cann et al., 1980). A U-Pb zircon age determination from the quartz monzonite-granodiorite Sovereign stock (possibly the same intrusion) adjacent to the Kemess North deposit is 202.7 +1.9-1.7 Ma. (Mortensen, pers. com., 1994 **in** Rebagliati et al., 1995). According to Diakow et al. (1993), the spatial and temporal relationship of these intrusions with predominantly calc-alkaline Upper Triassic to Lower Jurassic volcanic successions suggests that they probably mark the locus of an extensive magmatic arc.

Most of the felsic intrusions form dykes, sills and small stocks ranging in composition from diorite and quartz-diorite through quartz monzonite, with minor syenite to granodiorite. Later, minor intrusions of a more mafic compsition (gabbro to mafic diorite) have been observed cutting the felsic plutons. The plutons are also cut by a suite of late, post-mineral dykes including quartz latite porphyry, trachyte and minor mafic varieties.

Detailed relationships and association of the igneous rocks with the Takla and Hazelton Groups are at present unclear. Clarification would require substantial whole rock analyses and age dating.

3.3 Structural Geology

Numerous, steeply dipping normal faults and a few strike slip and thrust faults cut the Takla Group and Toodoggone Formation (Figure 3). Deep-seated, steeply dipping, northwesterly trending fault zones have controlled Lower to Middle Jurassic comagmatic, intrusive, volcanic and hydrothermal events and form the dominant regional structural fabric. Northeasterly-trending, high angle faults comprise a subordinate fault system, which truncates and displaces the northwest trending structures, forming boundaries for variably tilted and rotated blocks of monoclinal strata (Diakow et al., 1993). The former are often an important control to mineralization in the district.

The majority of northwest and northeast-trending faults appear to be extensional, with normal and rarely, strike slip movement. Movement on the faults is in part synchronous with eruptions of the Toodoggone Formation and emplacement of high level intrusive bodies. Granitoid stocks, smaller bodies and several sets of dykes are either elongated or preferentially oriented northwest or to a lesser extent northeast, parallel to the regional structural fabric, suggesting that upward movement of magma was facilitated by extensional structures.

3.4 Metamorphism

Regional metamorphism of the supracrustal rocks in the Kemess-Toodoggone District is of subgreenshist or zeolite facies (Bailey et al., 1991). Strata are typically non-schistose, with original textures generally well preserved. With one exception, prehnite and pumpellyite have not been recognized in the Toodoggone Formation. They are common in the underlying Takla Group.

Minor thermal metamorphism and recrystallization has occurred adjacent to intrusive bodies. Large areas of hydrothermal metasomatism have overprinted the effects of metamorphism in the vicinity of the Pine and Kemess properties.

3.5 Mineralization

The Kemess and Toodoggone district is well-documented for its porphyry copper and epithermal precious metals mineralization (Diakow et al., 1993, 1991). Gold-rich prophyry copper deposts are hosted by both Takla Group and Toodoggone Formation volcanic rocks and are spatitally and temporally associated with porphyry dikes and plutons. The Kemess North and South porphyry gold-copper deposits located 16km and 22km south of the Pine property have geological reserves of 175 million tonnes grading 0.37 g/tAu and 0.18% Cu and 248 Mt grading 0.62 g/t Au and 0.22% Cu respectively. The volcanic rocks also host epithermal gold and silver mineralization which is doubtless genetically related to the deeper seated porphyry copper deposits (Diakow et al., 1991).

4.0 PROPERTY GEOLOGY

4.1 Introduction

Property geology is summarized after Rebagliati et al. (1995), Rebagliati (1993), and Diakow et al. (1993, 1985). Interpretation of LandSat imagery and its relationship to previous geological interpretations is discussed in a separate section. Geology of the central Pine property based on past work by others is shown in Figure 4; geology of the entire property based on Diakow et al.(1993) and LandSat interpretation is shown in Figure 2.

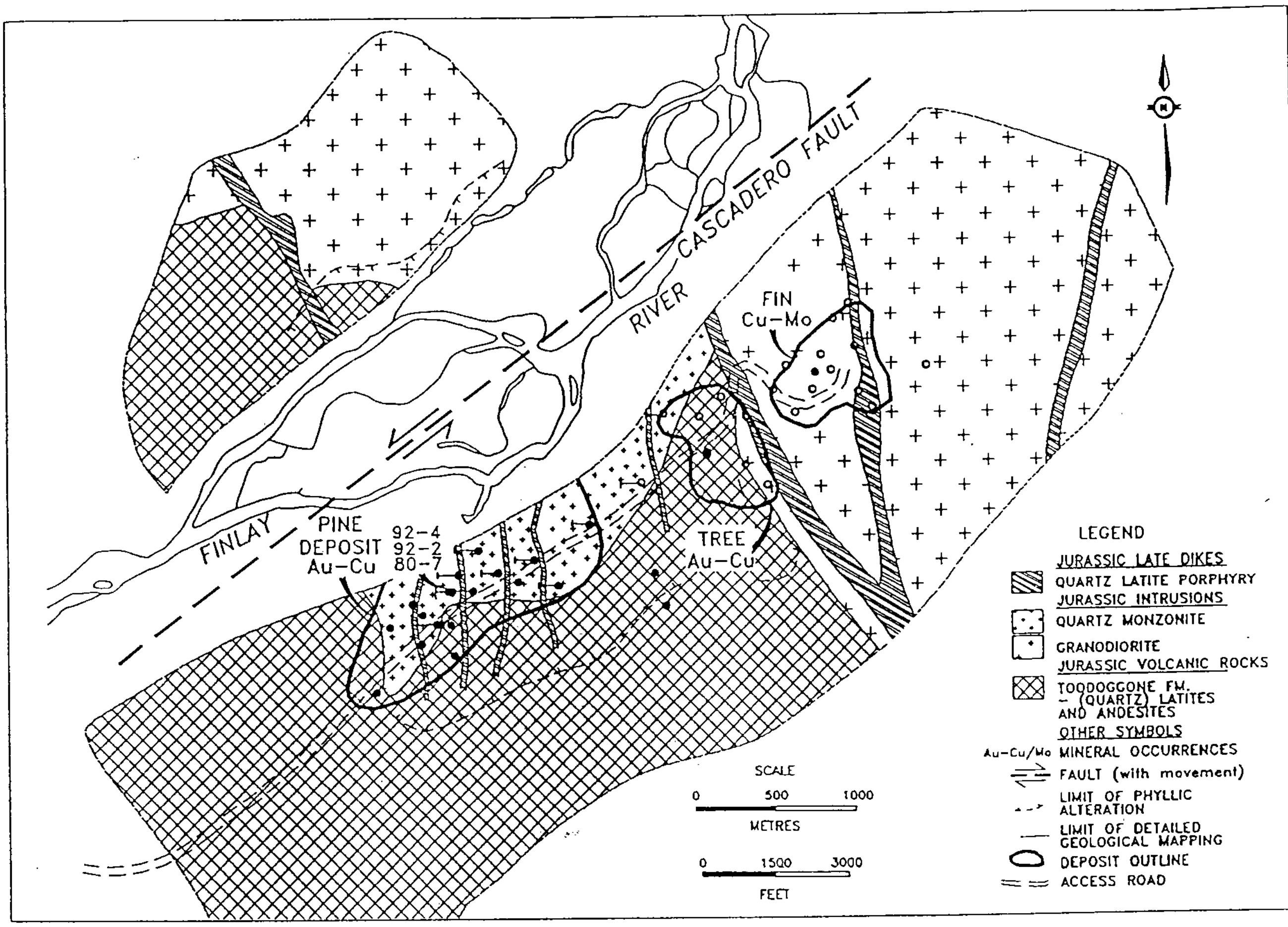


Figure 4. Central Pine property geology (after Rebagliati et al.,1995).

Geological interpretation of the property north of the Finlay River is limited to a detailed survey of a small portion of Romulus Resources'. Northwest Grid (1992) and 1:50,000 mapping by Diakow et al (op. cit.). It appears that this area is less understood than other sections of the Kemess-Toodoggone district as substantial portions are named only Hazelton Group.

4.2 Lithology

Undivided Hazelton Group volcanics described by Diakow et al. (1993) as well bedded lapilli tuff and pyrocalstic breccia, with rare accretionary lapilli tuff outcrop on the Kath 2, 4, 6, 7, 8, 9, 10 claims, the Easter 3 and 4 claims and the Fin 24, 25, and 26 claims at the northern limits of the Pine property. They are also now thought to occur on the southwest side of the property, formerly mapped as granodiorite

Toodoggone Formation, Lower Volcanic Cycle, Metsantan Member high potassium, massive, latite flows with local flow breccia outcrop on the Kath 5 and Egg1 and 2 claims.

Upper Volcanic Cycle, Attycelley Member crystal tuffs and other fine-grained pyroclastic rocks outcrop in the southwest corner of the claim block. They are commonly quartz-bearing and/or feldspar porphyritic latite to andesite.

Also in the Upper Volcanic Cycle, the Saunders Member outcrops in the west-central portion of the claim block and hosts the quartz monzonite body containing the Pine Au-Cu mineralization. Dacitic ash flow tuffs, incipiently to intensely welded, with locally well developed compaction layering are commonly blocky and strongly jointed. Diagnostic features of this unit are juvenile crystal vitric and locally abundant accidental granodiorite clasts.

4.3 Omenica Intrusions

Omenica intrusions ranging in composition from hornblend granodiorite with lesser granite and quartz monzonite intrude the Toodoggone Formation in the east and northeastern portions of the property (Figure 2). They are thought to represent one large stock or possibly several smaller bodies.

A quartz monzonite body has been mapped and intersected in drill core on the Fin 12, 14, and 16 claims and hosts the Pine mineralization. It intrudes the Saunders Member crystal tuffs, is variably potassically altered, and locally contains 2-8% magnetite.

A suite of post mineral dykes consisting of quartz latite porphyry, trachyte and minor mafic varieties cuts mineralization and all other rock types. They strike northerly, dip moderately to steeply east and are a maximum of a few tens of metres wide.

4.4 Structure

The Cascadero Fault is a regional northeast trending structure which follows the Finlay River valley on the Pine property (Figures 2 and 4). Although it appears on the property geology map in Rebagliati et al.(1995), he states that "......major northeasterly trending faults have not beeen recognized to date at Pine.....". Daikow et al. (1993) have interpreted this feature as a normal fault with south side downthrown. The author's interpretation of previous geological mapping suggests that displacement is normal (amount unknown) with a sinstral component in the order of 1,773m, based on offset of the contact between Saunders tuffs and granodiorite, and displacement of a late, northwest-trending quartz latite prophyry.

A series of moderate to high angle fault and fracture systems striking between 330^0 and due north, has been identified by Rebagliati et al. (1993) at several localities, but were not plotted or projected to surface plan maps. They were interpreted to parallel the trends of late dykes and thought to control their emplacement. These faults are also interpreted to offset mineralization.

Several areas of intense fracturing exposed along northwest trending creek canyons are thought to be related to deep-seated, northwesterly trending regional fault zones. One such fault transects the Fin14, 22, 23 and Song 2, 4 claims and is locally known as the Canyon Creek Fault.

4.5 Alteration and Mineralization

4.5.1 Introduction

Pine property mineralization and alteration is briefly summarized from Rebagliati (1993) and Rebagliati et al. (1995). North and South breccia pipe mineralization and whole rock analyses of Pine drill core are described in a separate section.

4.5.2 Central Pine Mineralization and Alteration

An induced polarization anomaly in excess of 4 km^2 contains three prophyry prospects (Figure 4):

Pine - a gold-copper system hosted by quartz mozonite.
Tree - a gold-copper system hosted by quartz latite volcanic rocks.
Fin - a copper-molybdenum system hosted by granodiorite.

Drilling at the Pine prospect has partially outlined mineralization width in excess of 400m. Pyrite, chalcopyrite, minor bornite and lesser molybdenite occur as disseminations, fracture fillings and within quartz veins, with total sulphide content estimated at 2-4%. The average grade of the zone is 0.57 g/t Au, 0.15% Cu, 1.3ppm Ag and 14 ppm Mo. Typical calc-alkaline potassic, phyllic and propylitic alteration suites are developed within and around the quartz monzonite. Higher concentrations of gold and copper correlate with zones of intense quartz stockwork, accompanied by strong potassic alteration of vein selvages, locally intense quartz-magnetite flooding and persistent presence of magnetite stringers and disseminations.

The Tree prospect volcanic-hosted gold-copper mineralization has an average grade of 0.20g/t Au and 0.12% Cu and is open to extension. Pyrite and chalcopyrite occur as disseminated grains and fracture fillings within quartz-magnetite veins. Total sulphide content is estimated at 3% and alteration is characterised by development of weak to moderate quartz-magnetite stockwork, accompanied by locally intense silica flooding, moderate to pervasive sericite and weak potassium feldspar in vein selvages.

The Pine and Tree prospects are enclosed by a large area of sericite-quartz-pyrite phyllic alteration which grades outward into a propylitic assemblage characterised by epidote and lesser chlorite. The core of the potassic zone, which may be common to both prospects has not yet been defined.

The Fin prospect porphyry-style copper-molybdenum mineralization occurs in altered hornblend granodiorite in a 200m by 300m zone outlined by drilling where assays were greater that 0.1% Cu. Pyrite, chalcopyrite and minor molybdenite occur as disseminations, fracture fillings and within quartz veins. Alteration is manifest as the development of epidote coating fractures and as disseminated replacements of mafic minerals. Quartz stockwork is weakly developed and pervasive sericite, where present is structurally controlled.

Similarity of alteration and Au:Cu ratios at the Pine and Tree prospects indicate both are related to the high-level Pine quartz monzonite intrusion. Although the age of this intrusion relative to the Fin granodiorite is unknown, Rebagliati et al. (1995) speculate that the granodiorite is an older and deeper seated intrusion.

4.5.3 Weathering and Supergene Characteristics

A major part of the geophysical anomaly is recessive and overburden covered. Where exposed, volcanic rocks subjected to phyllic alteration exhibit intense shattering, limonitic staining and have probabaly undergone near surface copper depletion (Rebagliati et al., 1993).

4.6 Landsat TM Interpretation of the Claim Block

4.6.1 Introduction

Principal component analysis of seven band Landsat TM imagery covering an area bounded by 57° N to 57°19'North Latitude and 126°36'W to 126°52'W Longitude was conducted for the purpose of

- defining structures which might control the central Pine and other mineralized areas within the claim group.

- identifying features (silica, clay and iron-rich alteration zones) within the claim group which may be mineralized, based on analogies drawn from known mineralized areas both within and outside the claim group.

In particular, the spectral response of alteration zones and inferred regional structural controls on the Kemess deposits were compared to similar features within and adjacent to Electrum Resource's claim block.

One 1:50,000 scale plot of Edge Enhanced Band 5 was made and plots of the following band combinations and ratios were made at a scale of 1:100,000 for the purposes of interpretation.

FCC (R7, G5, B2)

TCC(3,2,1)

Iron Ratio (R3/1, G3, B1)

Crosta Image

A pronounced striping caused by poor data quality caused some difficulty with interpretation of the Crosta Image, especially in areas where striping was parallel to regional structures.

Claim outlines, major drainage patterns, regional geology, mineralization and sample locations were plotted at a scale of 1:50,000 and drainage patterns, regional geology, mineralization and mapped alteration were plotted at a scale of 1:100,000 on mylar overlays, using the imagery as base reference. Additional structure and alteration patterns were added subsequent to image interpretation. Plots of the claim block at a scale of 1:50,000 were made of all of the above images. Claim location, geology and interpretive work were digitized in MapInfo and superposed on the FCC (R7, G5, B2) image (Figure 2). Features distinguished as a result of this study's interpretive work are outlined in red. Sample locations were digitized in Map Info and overlain on the TCC (3,2,1,) image (Figure 5a).

4.6.2. Alteration Features Delineated By Landsat Interpretation

The TCC (3,2,1) color composite in RGB (red, **g**reen, **b**lue) provided imagery closest to that of a color air photograph (Figure 5b) and the FCC (R7, G5, B2) (Figure 6)enhanced the color contrasts between features with differing spectral response. The most obvious color anomalies occur where vegetation is sparse or absent. Visible gossans at north Kemess and in the vicinity of the Pine deposit were delineated and their locations plotted on the Iron Ratio (R3/1, G3, B1) (Figure 7) and Crosta (Figures 8, 9) images. Areas rich in iron oxide are displayed in bright yellow-orange on the Iron Ratio image and areas of enriched hydroxyl and iron oxide plot as pale blue to white on the Crosta image. The spectral response of areas where mineralization is know to occur were used as a basis to delineate other anomalous zones.

Figure 8 is a Crosta image of central Kemess - Toodoggone district. The Kemess North deposit, with abundant talus weathering from mineralized outcrops at the heads of a series of cirques, creates a striking east-northeast-trending spectral anomaly centred at UTM 635600m E, 6325700m N. Although located in the forested Finlay River valley, the area underlain by the Pine deposit (UTM 6341000 x 6344000m N and 637000 x 640000m E) displays a subtle anomalous pattern of iron enrichment and to a lesser extent, hydroxyl enrichment. As with the Pine, Kemess South is in a forested zone centred at UTM 6362500m E, 632000m N, but can be distinguised by iron enrichment at drill roads and sites. Clay content of the some of the lakes, secondary stream valleys and that of the Finlay River is evinced by a yellow to orange response. Iron-rich streams and lakes plot dark blue.

Returning to the Electrum claim block, two egg-shaped areas labelled BX and BXi on the geological map (Figure 2) display the bright blue-white response of combined iron and hydroxyl enrichment (Figure 9). The former is centred on UTM 635550m E, 6348250m N with approximate core dimensions 500m x 800m, and covers portions of Kath 2, 6, 7, 8, 9, 10 and Fin 24. The latter is centred on UTM 641400m E, 6342250m N with approximate core dimensions of 400m x 700m and occupies the centre of the Paula claim. It has been mapped by Diakow et al., (1985) as a limonitic zone of hydrothermal alteration which transects the contact between Hazelton Group volcanics and Lower to Middle Jurassic porphyritic ganodiorite to quartz diorite. A much larger portion of each area appears to be talus weathering from the crest of the ridges mapped as Hazelton Group by Daikow et al. (1993). The anomalous areas'ovoid shapes and relatively small size compared to other intrusive bodies mapped by Diakow and Rebagliati et al. suggest small intrusive plugs or pipes which may be part of, or younger than the Hazelton Group.

The west-central portion of Kath 2 is transected by a north-south trending ridge displaying a subdued, mottled pale yellow and blue Crosta response with the strongest alteration centred on UTM 634000m E, 6349000m N. This is probably a zone of weak to moderate argillization. The iron ratio image shows a weak orange tinge, indicative of minor iron enrichment (Figure 7).

The Kath 4 shows no obvious anomalous responses that may be related to mineralized rocks. Pale orange to yellow colors interspersed with blue are probably due to high clay content of the overburden in the stream valley.

The Kath 5 claim displays a blue to bright yellow response on the Crosta image (Figure 9) from what again appears to be talus derived from an east-west trending ridge which forms the north claim boundary. As there is little indication of iron enrichment on the iron ratio image (Figure 7), this anomaly appears to be due to argillization of Metsantan Member latite flows of the Toggone Formation.

The east-central portion of Song 1, centred on UTM 638000m E, 6338000m N, the east-central portion of Fin 23, centred on UTM 640750m E, 6340750m N and the south-central portion of Song 2, centred on UTM 641000m E, 6337350m N display a weaker, blue to bright yellow response on the Crosta image. These are accompanied by a weak orange tinge on the mountain ridges, displayed in Figure 7, suggesting that minor iron enrichment accompanies argillization. the anomaly on Song 2 extends southeast, off the claims.

The northern boundary of Fin 24 displays a Crosta response similar to that of Kath 5. The area immediately north and west of these claims warrants investigation as another ovoid body with indications of high iron and clay content appears to be centred at UTM 634850m E and 6350250m N.

4.6.3. Structural Features Delineated By Landsat Interpretation

A grey scale, edge enhanced Band 5 image (Figure 10)was used in conjunction with the Crosta and TCC (3, 2, 1) images for structural interpretation. Unfortunately plotting the image at a scale of 1:50,000 reduced the sharpness of the image and funds were not available to produce one at 1:100,000 scale. In areas where striping on the Crosta image paralled the orientation of suspected structures, all images were examined in an effort to distinguish the two. Vegetation also masks structural features, but the Crosta image appears to "see through" it to outline linear zones of iron and/or clay enrichment which may be interpreted as alteration associated with faults.

At 1:100,000 scale, the linear Finlay River valley and other major, linear stream/river valleys which intersect it are visible candidates for regional structures. Although not discussed in detail in either text, Rebagliati et al. (1995) interprets the Cascadero Fault to be a sinistral, strike-slip feature occupying the Finlay River Valley while Diakow et al. (1993) interpret it as a normal fault with south side downthrown (Figures 2, 3, and 4) .

Displacement of the contact between Toodoggone Formation and Jurassic granodiorite, plus offset of a quartz latite porphyry dyke in the vicinity of the Pine mineralization were doubtless used to support Rebagliati's interpretation. Apparent sinistral movement in the order of 2 kilometers is inferred by the author from these offsets. However, absence of the quartz monzonite body, presence of phyllic alteration and changes in composition of the Toodoggone Formation from southeast side to northwest side of the Finlay River are suggestive of a possible north side down vertical component to the displacement. This is contrary to Diakow et al.'s rendition and would imply that the Pine mineralization continues at depth on the north side of the Finlay River. Interpretation of imagery is insufficient to resolve the conflicting interpretations.

A feature interpreted as northeast trending fault which appears to postdate Cascadero Fault trends from UTM 642600m E, 6341730m N to 636200m E, 6351870m N and extends off the 1:50,000 image. The southern ovoid anomaly (BXi) appears to be localised along this structure.

Another perceived fault may strike southeast into the Canyon Creek normal fault (Diakow et al.,1993), which crosses Fin 14, 22 and Song 2 claims. However the linear spectral response is lost for approximately 2 kilometers immediately south of the Finlay River (Figure 10). North of the Finlay, this could account for the change from Metsantan Member in the southwest, to undifferentiated Hazelton Group in the northeast. In the vicinity of the Pine deposit, west side down normal displacement on the Canyon Creek fault may be accompanied by apparent sinistral movement based on offset of an IP anomaly (Figure 11). Displacement would be in the order of 1.55 kilometers. Unfortunately the limits of the IP survey do not allow confirmation of this offset.

North side down movement with a sinistral component along the Cascadero Fault, followed by west side down movement with an apparent sinistral component along the Canyon Creek Fault could increase the potential to find a southwestern extension of lithologies hosting the Pine deposit at depth in the vicinity of an area bounded by UTM

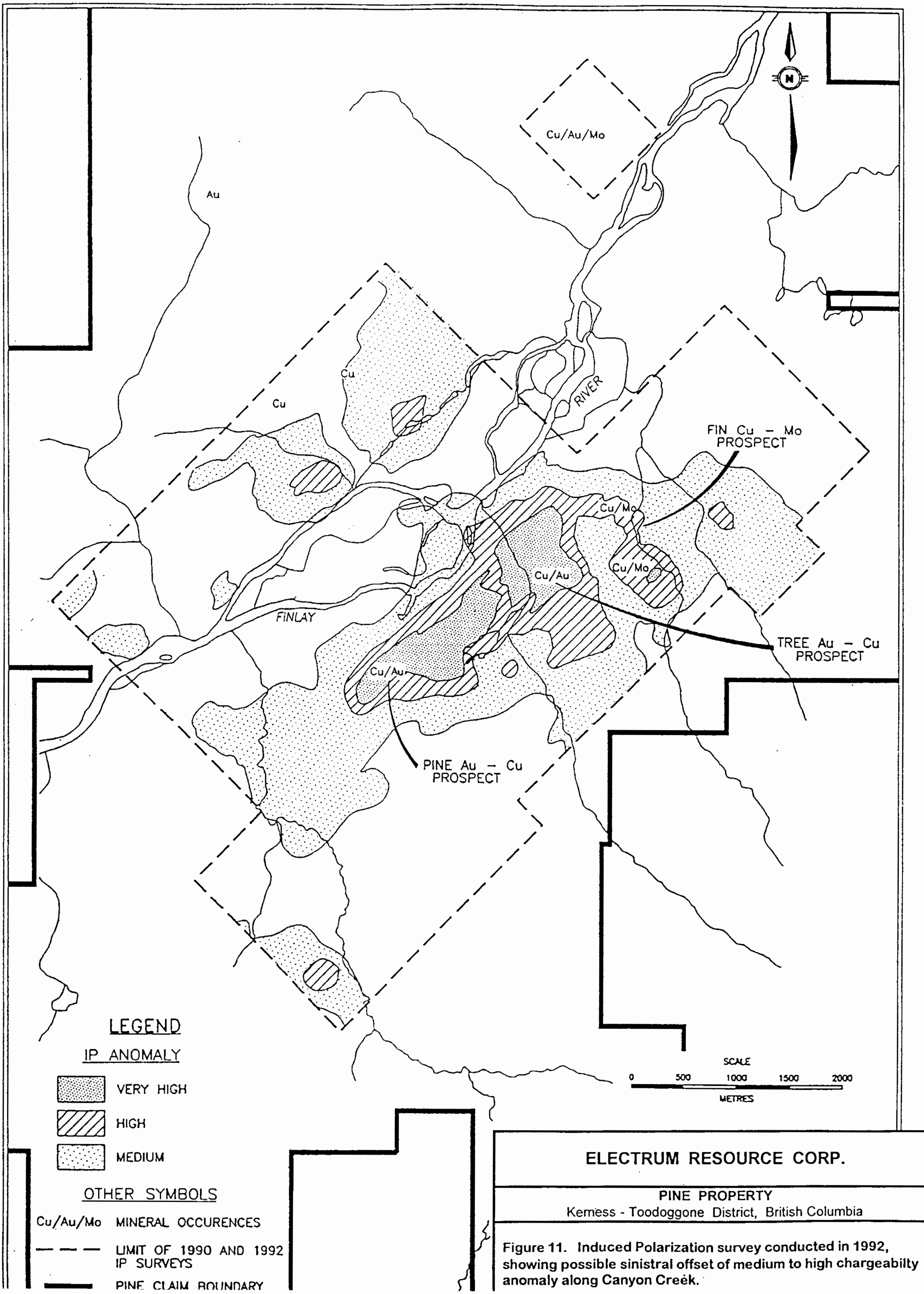


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Figure 11. Induced Polarization survey conducted in 1992, showing possible sinistral offset of medium to high chargeabilty anomaly along Canyon Creek.

634000 to 637000m E and 6341000 to 6343000m N. Within that area, the Crosta image (Figure 10) displays a subtly anomalous pattern centred on UTM 635500m E and 6342350m N. However, it also appears that this is a zone of blue-dominated striping, thus this may be a false anomaly.

Pronounced, linear, east-west- and northeast-southwest-trending features located in the northwestern sector of the claim block may also represent structures (Figure 2, dotted red lines). These features extend west and north, off the claim block. The two ėn echelon curvilinear features whose axes are transected by a northeast-trending stream valley may represent thrust faults or bedding plane traces marking two limbs of a broad open antiform. Ground truthing is required to test these theories.

5.0 SAMPLING PROGRAMME

The two areas with the most favorable Crosta response were sampled and selected sections of drill core from the Pine were resampled. The southernmost area was thought to be on Electrum's claims at the time of sampling and ownership is still uncertain. Thus the southern samples will not be discussed here. Sample locations were plotted on the Landsat TCC (3,2,1) image (Figure 5a). Rock and talus sample descriptions and their analytical results are shown in Tables 2, 3 and 4. Descriptions and analyses of samples taken from outcrop and drill core for whole rock analysis are shown in Tables 5 and 6.

In 1995, eleven samples were taken for multi-element analysis and eight samples were taken for whole rock analysis from Romulus Resources' (1992) Northwest Grid area (Kath 8,9; Fin 24). Previous sampling by Bowen (1992) established the following threshold and anomalous soil sample values for copper, molybdenum, gold, lead, zinc,and silver as shown below:

ELEMENT	THRESHOLD	ANOMALOUS
Copper	50 ppm	100 ppm
Molybdenum	10 ppm	15 ppm
Gold	20 ppb	50 ppb
Lead	150 ppm	300 ppm
Zinc	150 ppm	300 ppm
Silver	1.5 ppm	2.5 ppm

Samples 173176 to 173178, 174958 to 174960 (multi-element) and 173198 to 173200 and 174938 to 174941 (whole rock) inclusive were taken in the immediate vicinity of the Crosta anomaly from talus and outcrop. Samples are described as vuggy, oxidized, fractured, bleached and altered intermediate volcanics, feldspar porphyry and syenite with weak to strong propylytization, moderate to strong kaolinization, moderate to strong silicification, and weak jarosite alteration. Disseminated pyrite (tr-5%) is present. Except for sample 173176 which returned 40 ppb Au, all other samples reported 5ppb Au with Cu values ranging from 21-89 ppm. Sample 173177 which returned 446 ppm Pb.

Samples 173179 to17181 and 174963 to 174965 were taken from talus approximately 1 kilometer east of and downslope from the larger Crosta anomaly. Here, iron and hydroxyl enrichment is is not as apparent on the image, possibly due to the limited extent (150m x 250m) and an increase in vegetation. Samples are described as vuggy, oxidized, fractured breccia and altered felsic intrusive with moderate to strong kaolinization, moderate silicification, and moderate to strong jarosite alteration. No visible mineralization was noted except for a trace of pyrite in sample 174965. Samples

SAMPLE	UTM E (x)	UTM N (y)	ELEV. (z)	ZONE	NTS	DATE	TYPE	UNIT	LITHO 1	METAM	TEXTURE	ALTER 1	INTENS 1	ALTER 2	INTENS 2	MINRAL 1	QTY 1	MINRAL 2	QTY 2	OTHRMIN	SAMPLETYPE	COMMENTS
173176	635380	6348090	0	9	94E/7	7/13/95	TALUS	INTERVOL	MASSIVE	SUBGREEN	MG	PROPYLITC	MOD	SILICA	MOD	PYRITE	5				GRAB	
173177	635410	6348090	0	9	94E/7	7/13/95	TALUS	INTERVOL	ALT	SUBGREEN	WELLFRAC	KAOLINITE	MOD	SILICA	MOD						GRAB	Vuggy,oxidized
173178	635460	6348160	0	9	94E/7	7/13/95	TALUS	INTERVOL	ALT	SUBGREEN	MODFRAC	KAOLINITE	MOD	SILICA	MOD						GRAB	Vuggy,oxidized
173179	636340	6347970	0	9	94E/7	7/13/95	TALUS	BRECCIA	FRACT	SUBGREEN	BRECCIATED	SILICA	MOD								GRAB	Vuggy,oxidized
173180	636348	6347968	0	9	94E/7	7/13/95	TALUS	BRECCIA	ALT	SUBGREEN	WELLFRAC	SILICA	MOD								GRAB	Vuggy,oxidized
173181	636348	6347968	0	9	94E/7	7/13/95	TALUS	BRECCIA	ALT	SUBGREEN	WELLFRAC	SILICA	MOD								GRAB	Vvuggy,oxidized
174951	641306	6341960	6100	9	94E/2	7/12/95	OUTCROP	FELSICINT	FRAMENTAL	SUBGREEN	BRECCIATED	SILICA	MOD	LIMONITE	MOD	PYRITE	TR				GRAB	
174952	641223	6342011	5900	9	94E/2	7/12/95	OUTCROP	INTERVOL	MASSIVE	SUBGREEN	FG	PROPYLITC	WEAK	SILICA	STRONG	PYRITE	10				GRAB	
174953	641256	6341999	5800	9	94E/2	7/12/95	OUTCROP	INTERVOL	FRAMENTAL	SUBGREEN	BRECCIATED	PROPYLITC	MOD	JAROSITE	WEAK						GRAB	Oxidized, pyrite gone
174954	641182	6342107	5900	9	94E/2	7/12/95	OUTCROP	INTERVOL	FRAMENTAL	SUBGREEN	BRECCIATED	PROPYLITC	MOD	SILICA	MOD	PYRITE	TR				GRAB	Vuggy
174955	641227	6342300	0	9	94E/2	7/12/95	OUTCROP	INTERVOL	FRAMENTAL	SUBGREEN	BRECCIATED	SILICA	MOD	PORPYLITC	WEAK	PYRITE	TR				GRAB	Vuggy
174956	641227	6342343	5800	9	94E/2	7/12/95	OUTCROP	INTERVOL	MASSIVE	SUBGREEN	WELLFRAC	PROPYLITC	MOD	JAROSITE	WEAK	PYRITE	2				GRAB	Weak silica
174957	641225	6342865	0	9	94E/2	7/12/95	TALUS	INTERVOL	MASSIVE	SUBGREEN	MODFRAC	JAROSITE	STRONG	SILICA	STRONG	PYRITE	5	MOLY	TR		GRAB	
174958	635568	6348075	5500	9	94E/7	7/13/95	OUTCROP	FELSICINT	FRACT	SUBGREEN	WELLFRAC	KAOLINITE	WEAK	JAROSITE	STRONG	PYRITE	2				GRAB	Vuggy
174959	635497	6347989	5500	9	94E/7	7/13/95	TALUS	INTERVOL	FRACT	SUBGREEN	WKFRAC	SILICA	STRONG	KAOLINITE	MOD	PYRITE	TR				GRAB	
174960	635632	6348051	5600	9	94E/7	7/13/95	OUTCROP	FELSICINT	FRACT	SUBGREEN	FG	SILICA	MOD	POTASSIC	MOD	PYRITE	5				GRAB	
174961	636034	6348217	5300	9	94E/7	7/13/95	OUTCROP	INTERVOL	MASSIVE	SUBGREEN	WELLFRAC	SILICA	STRONG	KAOLINITE	MOD	PYRITE	10				GRAB	Mod K-spar
174962	636034	6348217	5300	9	94E/7	7/13/95	OUTCROP	FELSICINT	ALT	SUBGREEN	WELLFRAC	KAOLINITE	STRONG	PORPYLITC	MOD						GRAB	Vuggy, labelled 942 in bush
174963	636348	6347948	4900	9	94/E7	7/13/95	TALUS	BRECCIA	FRAMENTAL	SUBGREEN	WELLFRAC	KAOLINITE	MOD	JAROSITE	MOD						GRAB	Qtz rich, vuggy
174964	636358	6347948	4900	9	94E/7	7/13/95	TALUS	BRECCIA	FRACT	SUBGREEN	WKFRAC	KAOLINITE	STRONG	JAROSITE	STRONG						GRAB	Vuggy, sulphides oxidized, hem stain (10750E 10375N)
174965	636385	6347703	4700	9	94E/7	7/13/95	TALUS	FELSICINT	ALT	SUBGREEN	WELLFRAC	KAOLINITE	STRONG	PORPYLITC	MOD	PYRITE	TR				GRAB	Fract, qtz filled, old #28701

Table 2. Pine Property, Rock Sample Descriptions.

SAMPLE	UTM E (x)	UTM N (y)	ELEV. (z)	ZONE	NTS	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cu	Fe	K	La	Li	Mg	Mn	Mo	Na	Ni	P	Pb	Sb	Sr	Ti	V	Zn
173176	635380	6348090	0	9	94E/7	40	0.4	2.1	2	147	0.3	5	0.13	0.3	31	3	6	22	4.32	0.67	13	7	0.85	919	1	0.11	4	0.04	95	1	18	0.26	82	80
173177	635410	6348090	0	9	94E/7	5	1.2	4.18	3	678	0.5	5	0.02	0.2	8	1	4	21	2.25	1.79	3	1	0.29	122	4	0.15	6	0.06	446	1	56	0.24	92	16
173178	635460	6348160	0	9	94E/7	5	0.2	6.95	9	955	0.5	5	0.02	0.2	19	1	2	30	3.41	2.96	8	3	0.35	163	5	0.09	3	0.05	76	1	43	0.09	132	36
173179	636340	6347970	0	9	94E/7	145	0.2	8.24	7	1524	0.4	5	0.01	0.2	27	1	1	32	3.62	3.47	11	2	0.14	41	1	0.15	3	0.11	56	1	69	0.08	146	25
173180	636348	6347968	0	9	94E/7	700	0.2	6.78	6	1240	0.3	5	0.01	0.9	23	1	1	82	8.75	2.88	11	1	0.11	53	14	0.12	1	0.2	76	1	58	0.07	107	64
173181	636348	6347968	0	9	94E/7	15	0.2	7.35	4	1376	0.9	5	0.05	0.6	32	1	3	45	4.78	2.67	15	5	0.53	368	4	0.28	5	0.11	33	1	114	0.08	121	87
174951	641306	6341960	6100	9	94E/2	60	2.2	2.71	2	502	0.3	5	0.03	0.3	22	1	5	231	4.27	1.1	11	2	0.29	539	20	0.16	6	0.04	89	1	51	0.19	60	136
174952	641223	6342011	5900	9	94E/2	40	0.2	3.69	2	342	0.6	5	0.24	2.3	42	3	6	67	4.12	1.38	17	6	0.52	697	12	0.18	5	0.05	145	1	64	0.15	82	144
174953	641256	6341999	5800	9	94E/2	5	0.2	4.44	2	569	0.5	5	0.02	0.2	29	1	4	62	4.55	2	15	5	0.61	306	3	0.18	2	0.08	45	1	58	0.11	56	69
174954	641182	6342107	5900	9	94E/2	5	0.2	3.32	3	667	0.5	5	0.02	2.7	32	1	4	35	3.55	1.8	16	4	0.33	173	10	0.17	5	0.09	68	1	60	0.12	72	45
174955	641227	6342300	0	9	94E/2	40	0.2	3.78	2	412	0.5	5	0.06	3.7	30	1	6	38	4.2	1.6	16	6	0.64	500	45	0.12	6	0.07	92	1	52	0.14	67	98
174956	641227	6342343	5800	9	94E/2	90	0.2	3.81	2	325	0.4	5	0.12	0.5	25	4	7	26	3.26	1.76	11	2	0.28	250	9	0.12	7	0.04	4	1	18	0.18	53	77
174957	641225	6342865	0	9	94E/2	125	0.2	3.34	6	186	0.4	5	0.58	0.4	44	3	7	169	3.24	1.35	15	3	0.48	865	370	0.08	7	0.04	37	1	87	0.14	53	87
174958	635568	6348075	5500	9	94E/7	5	0.2	5.08	15	927	0.6	5	0.62	0.4	56	4	5	27	4.41	0.98	22	13	0.81	858	5	0.29	5	0.11	37	1	120	0.25	112	81
174959	635497	6347989	5500	9	94E/7	5	0.2	3.46	2	194	0.5	5	0.99	0.9	64	4	5	39	5.25	0.98	21	7	1	1809	4	0.13	4	0.08	10	1	71	0.28	109	143
174960	635632	6348051	5600	9	94E/7	5	0.2	2.28	2	58	0.3	5	0.93	0.3	59	5	6	89	3.88	0.33	18	7	0.93	1007	1	0.24	7	0.04	2	1	60	0.17	90	83
174961	636034	6348217	5300	9	94E/7	5	0.2	2.01	2	259	0.3	5	0.5	0.9	48	2	9	118	4.24	0.49	17	5	0.68	992	3	0.2	8	0.06	135	1	47	0.22	124	84
174962	636034	6348217	5300	9	94E/7	5	0.2	5.04	2	769	0.6	5	0.9	2	59	1	4	23	4.33	1.56	19	6	0.79	930	1	0.16	4	0.07	13	1	123	0.21	146	163
174963	636348	6347948	4900	9	94/E7	15	0.2	8.02	4	1136	0.6	5	0.02	0.2	14	1	2	51	4.73	3.7	7	3	0.34	150	10	0.08	4	0.13	56	1	26	0.17	127	43
174964	636358	6347948	4900	9	94E/7	130	1	2.1	16	394	0.3	5	0.01	0.2	12	1	7	66	6.68	0.91	6	1	0.08	90	9	0.04	4	0.13	47	1	18	0.1	53	39
174965	636385	6347703	4700	9	94E/7	405	0.2	6.18	2	1040	0.5	5	0.01	0.2	32	1	3	21	3.27	2.99	16	4	0.49	261	25	0.15	4	0.06	96	1	51	0.1	106	33

Table 3. Pine Property, Multi-element Analysis of Rock Samples.

SAMPLE	UTM E (x)	UTM N (y)	ELEV. (z)	ZONE	NTS	DATE	SAMPLETYPE	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cu	Fe	K	La	Li	Mg	Mn	Mo	Na	Ni	P	Pb	Sb	Sr	Ti	V	Zn
LD95001	641456	6341873	5800	9	94E/2	7/12/95	TALUSFINE	76	0.8	5.37	29	161	1.4	5	0.35	3.4	60	12	3	439	5.27	0.54	22	9	0.29	1674	7	0.03	3	0.13	123	1	30	0.25	101	779
LD95002	641356	6341933	5800	9	94E/2	7/12/95	TALUSFINE	1800	4.8	6.44	9	276	1.2	5	0.86	3.8	75	5	12	466	6.37	0.95	30	8	0.48	1032	71	0.06	6	0.3	47	1	115	0.21	115	1805
LD95003	641256	6341999	5800	9	94E/2	7/12/95	TALUSFINE	26	0.2	7.66	6	657	0.7	5	0.72	5.3	87	1	3	145	8.35	2.66	40	10	0.94	715	29	0.23	2	0.22	136	1	163	0.15	107	169
LD95004	641200	6342203	5800	9	94E/2	7/12/95	TALUSFINE	414	1.4	7.04	4	804	0.7	5	0.49	6.1	71	2	3	223	7.8	2.37	32	12	1.07	747	181	0.13	2	0.23	276	1	132	0.18	115	261
LD95005	641227	6342343	5800	9	94E/2	7/12/95	TALUSFINE	506	0.8	6.96	9	782	0.8	5	0.37	10.6	77	2	3	142	7.53	2.55	36	10	0.96	677	120	0.13	2	0.23	399	1	123	0.16	100	343
LD95006	641197	6342262	5800	9	94E/2	7/12/95	TALUSFINE	764	0.6	7.36	14	965	0.7	5	0.2	3.6	63	2	7	92	6.57	2.71	31	8	0.66	631	120	0.13	4	0.16	172	1	135	0.18	100	197
LD95007	641181	6342369	5800	9	94E/2	7/12/95	TALUSFINE	502	0.2	6.62	26	839	0.6	5	0.37	2.2	64	1	3	68	7.04	2.65	31	7	0.68	1222	36	0.09	2	0.12	245	1	90	0.21	121	161
LD95008	641192	6342501	5750	9	94E/2	7/12/95	TALUSFINE	192	0.2	6.98	18	732	0.8	5	0.82	4.2	77	3	3	211	6.89	2.04	33	8	0.71	846	46	0.08	3	0.23	107	1	234	0.23	104	219
LD95009	641372	6342650	0	9	94E/2	7/12/95	SILT	388	0.8	6.69	6	502	3.6	5	0.79	4.6	74	39	5	2066	7.42	1.41	25	9	0.51	2789	99	0.07	3	0.18	89	1	147	0.18	93	388
LD95010	641010	6343172	0	9	94E/2	7/12/95	SILT	426	0.4	5.7	8	410	13.9	5	0.78	40.6	84	234	5	7413	9.64	0.98	28	7	0.4	11568	107	0.05	7	0.12	50	1	118	0.13	88	2089

Table 4. Pine Property, Talus Sample Descriptions and Analyses.

SAMPLE	UTM E (x)	UTM N (y)	ELEV. (x)	ZONE	NTS	DATE	TYPE	UNIT	LITHO 1	METAM.	TEXTURE	ALTER 1	INTENS 1	ALTER 2	INTENS 2	MINERAL 1	QTY 1	MINERAL 2	QTY 2	OTHRMIN	SAMPLTYPE	COMMENTS
173198	635700	6348250	0	9	94E/7	7/13/95	OUTCROP	FELSICINT	MASSIVE	SUBGREEN	MG	PROPYLITC	WEAK						0		GRAB	Feldspar porphyry
173199	635660	6348290	0	9	94E/7	7/13/95	TALUS	INTERVOL	MASSIVE	SUBGREEN	MG	PROPYLITC	STRONG			PYRITE	5		0		GRAB	
173200	635410	6348130	0	9	94E/7	7/13/95	TALUS	INTERVOL	ALT	SUBGREEN	MODFRAC	KAOLINITE	MOD	SILICA	MOD				0		GRAB	Vuggy,oxidized
174929	641223	6341935	5500	9	94E/2	7/12/95	OUTCROP	FELSICINT	FRACT	SUBGREEN	BLOCKY	PROPYLITC	STRONG			PYRITE	TR		0		GRAB	
174930	641197	6342262	5800	9	94E/2	7/12/95	OUTCROP	INTERVOL	MASSIVE	SUBGREEN	BLOCKY	JAROSITE	MOD	SILICA	STRONG	PYRITE	20		0		GRAB	
174931	638040	6343235	0	9	94E/2	7/12/95	DRILLCORE	FELSICINT	MASSIVE	SUBGREEN	WELLFRAC	BIOTITE	WEAK			PYRITE	2	MAG	5	TR CPY	GRAB	DDH 93-41 77-79m
174932	637951	6343337	0	9	94E/2	7/12/95	DRILLCORE	FELSICINT	MASSIVE	SUBGREEN	WKFRAC	POTASSIC	MOD			PYRITE	5	MAG	2		GRAB	DDH 93-42 26-28m
174933	638195	6343348	0	9	94E/2	7/12/95	DRILLCORE	FELSICINT	MASSIVE	SUBGREEN	MODFRAC	POTASSIC	MOD	ARGILLIC	MOD	PYRITE	5		0		GRAB	DDH 93-44 47-49m Qtz stockwork
174934	638567	6343248	0	9	94E/2	7/12/95	DRILLCORE	FELSICINT	MASSIVE	SUBGREEN	WELLFRAC	POTASSIC	MOD	CARBONATE	MOD	PYRITE	2		0		GRAB	DDH 93-45 141-143m Qtz stockwork
174935	638761	6343638	0	9	94E/2	7/12/95	DRILLCORE	FELSICINT	MASSIVE	SUBGREEN	WELLFRAC	POTASSIC	MOD	BIOTITE	WEAK	PYRITE	5	MAG	1		GRAB	DDH 93-47 66.14-69.19m
174936	639228	6344310	0	9	94E/2	7/12/95	DRILLCORE	FELSICINT	MASSIVE	SUBGREEN	WELLFRAC	POTASSIC	MOD			PYRITE	TR		0		GRAB	DDH 93-49 96-99m
174937	639348	6344064	0	9	94E/2	7/12/95	DRILLCORE	FELSICINT	MASSIVE	SUBGREEN	WELLFRAC					PYRITE	5		0		GRAB	DDH 92-37 122-124 Wk qtz stockwork
174938	635553	6347803	5400	9	94E/7	7/13/95	OUTCROP	FELSICINT	FRACT	SUBGREEN	WKFRAC	KAOLINITE	STRONG	SILICA	MOD				0		GRAB	Vuggy
174939	635556	6347895	5500	9	94E/7	7/13/95	OUTCROP	INTERINT	BLEACHED	SUBGREEN	WELLFRAC	KAOLINITE	MOD	JAROSITE	WEAK				0		GRAB	
174940	635639	6348039	5500	9	94E/7	7/13/95	OUTCROP	FELSICINT	FELDPORPH	SUBGREEN	MODFRAC	SILICA	MOD	PORPYLITC	WEAK	PYRITE	TR		0		GRAB	
174941	635588	6348166	5600	9	94E/7	7/13/95	OUTCROP	FELSICINT	SYEN	SUBGREEN	WKFRAC	POTASSIC	STRONG	JAROSITE	WEAK	PYRITE	TR		0		GRAB	
174942	636884	6347177	4900	9	94E/7	7/13/95	OUTCROP	INTERINT	GRANO	SUBGREEN	WELLFRAC	SILICA	MOD	PORPYLITC	MOD	PYRITE	2		0		GRAB	

Table 5. Pine Property, Description of Samples Taken For Whole Rock Analyses .

SAMPLE	UTM E (x)	UTM N (y)	ELEV. (z)	ZONE	NTS	SiO2	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ba	Ni	Sr	Zr	Y	Nb	Sc	LOI	SUM
173198	635700	6348250	0	9	94E/7	62.01	16.3	4.75	1.57	1.29	4.8	5.02	0.52	0.22	0.21	0.004	2907	10	264	125	25	10	10	2.1	99.34
173199	635660	6348290	0	9	94E/7	60.77	16.61	6.59	1.95	2.88	2.79	2.02	0.69	0.22	0.19	0.003	927	10	327	90	19	10	10	4.3	99.23
173200	635410	6348130	0	9	94E/7	70.84	13.3	3.47	0.55	0.21	2.36	2.78	0.66	0.12	0.02	0.004	1282	23	227	91	11	10	10	5	99.58
174929	641223	6341935	5500	9	94E/2	61.6	14.23	7.13	1.14	10.66	0.42	2.34	0.64	0.19	0.11	0.002	1046	10	1234	91	12	10	11	1.5	100.3
174930	641197	6342262	5800	9	94E/2	60.16	15.29	7.68	1.57	2.3	2.31	4.34	0.51	0.18	0.21	0.002	1937	14	327	78	12	10	10	4.7	99.64
174931	638040	6343235	0	9	94E/2	62.27	14.73	9.23	0.69	0.59	1.28	6.12	0.47	0.14	0.1	0.002	3029	18	203	71	13	10	10	3.7	99.88
174932	637951	6343337	0	9	94E/2	64.9	12.98	8.99	1.22	0.59	3.68	2.9	0.47	0.16	0.07	0.004	1250	10	149	63	11	10	10	4	100.21
174933	638195	6343348	0	9	94E/2	69	11.06	8.61	0.61	0.27	0.84	3.38	0.36	0.13	0.03	0.002	924	15	64	44	10	10	10	5.8	100.27
174934	638567	6343248	0	9	94E/2	59.47	15.07	8.96	1.01	0.67	2.66	4.98	0.48	0.21	0.07	0.001	1936	10	161	65	13	10	10	5.6	99.54
174935	638761	6343638	0	9	94E/2	62.45	16.74	7.94	0.82	0.42	2.75	4.3	0.65	0.17	0.12	0.003	1330	10	87	109	15	10	10	3.3	99.92
174936	639228	6344310	0	9	94E/2	60.62	17.08	7.02	2.25	3.97	3.9	1.42	0.54	0.21	0.17	0.003	1084	13	643	85	14	10	10	1.8	99.26
174937	639348	6344064	0	9	94E/2	59.91	15.59	9.14	2.26	0.43	0.58	4.68	0.51	0.21	0.11	0.004	859	16	57	74	14	10	10	6.3	99.89
174938	635553	6347803	5400	9	94E/7	92.09	2.14	1.94	0.05	0.04	0.03	0.09	0.99	0.12	0.01	0.002	173	18	617	129	10	10	10	1.9	99.53
174939	635556	6347895	5500	9	94E/7	64.39	14.27	5.85	0.74	0.45	3.91	2.98	0.6	0.18	0.05	0.001	1128	10	309	74	10	10	10	6.1	99.76
174940	635639	6348039	5500	9	94E/7	60.44	16.21	6.21	3.65	2.67	3.12	2.21	0.58	0.16	0.35	0.005	2459	10	437	87	14	10	10	3.9	99.99
174941	635588	6348166	5600	9	94E/7	68.22	14.85	3.13	0.69	1.46	3.95	4.05	0.29	0.11	0.15	0.003	2036	10	150	114	16	10	10	2.8	100.09
174942	636884	6347177	4900	9	94E/7	60.71	16.55	5.97	2.2	4.29	3.27	2.85	0.6	0.13	0.26	0.005	1885	14	467	95	17	10	10	2.9	100.13

Table 6. Pine Property, Whole Rock Analyses.

173181 and 174963 returned 15 ppb Au; other values ranged from 130-700 ppb with Cu values ranging from 21-231 ppm and Mo values from 1-25 ppm.

Bowen (1992) could not determine a protolith for these rocks but described outcrops to the northwest as exhibiting possible porphyry-style alteration zoning. He noted a zone of strong phyllicalteration with 5-8% pyrite up to 400 m from the outer limit of strong kaolinization. Further to the northwest, dacitic rocks are propylitically altered and contain minor pyrite, with a trace of disseminated galena at one locality. Bowen postulated that the area of strong kaolinization could represent a high-level, brecciated, pipe-like body emanating from a buried porphyry-style Au-Cu-Mo mineralized system.

6.0 CONCLUSIONS

Interpretation of seven band Landsat TM imagery and correlation with past mineral discoveries in the Kemess - Toodoggone district was carried out to establish spectral signatures useful for exploration for porphyry-style copper-gold-molybdenum deposits. Crosta composite, Iron Ratio (R3/1, G3, B1), Band 5 Edge Enhanced and TCC (3,2,1) are the most useful images for delineating alteration zones containing argillic and iron-rich minerals, linear or curvilinear features which may represent faults, intrusive bodies or stratigraphy, and cultural features (e.g. roads, burned areas, clear cuts, drill sites) which may interfere with a bedrock-related response. These images were used to distinguish features on the Pine property which may contain or control porphyry Cu-Au+/-Mo- or epithermal Au-Ag-related mineralization and to make recommendations for ground follow up.

A circular to ovoid feature covering portions of Kath 2, 6, 7, 8, 9, 10 and Fin 24 claims demonstrates a response characteristic of intense argillic and iron oxide enrichment. Sampling during Romulus Resources' 1992 program returned anomalous values of copper (max. 281 ppm), lead (max. 2098 ppm) and zinc (max.1454 ppm) from soils. The 1995 sampling program returned only one anomalous lead value of 446 ppm from moderately kaolinized and silicified, well fractured intermediate volcanics. Other rock types sampled at this time were altered feldspar porphyry and syenite.

Although iron and hydroxyl enrichment is is not immediately apparent on Figure 10 due to the limited aerial extent and an increase in vegetation, samples of vuggy, oxidized, fractured breccia and altered felsic intrusive with moderate to strong kaolinization, moderate silicification, and moderate to strong jarosite alteration were taken from talus on the Fin 24 claim, approximately 1 kilometer east of and downslope from the large Crosta anomaly. Past sampling in this area (Bowen, 1992) returned anomalous values of gold and molybdenum from an intensly kaolinized, brecciated rock of unknown provenance, defining a zone 150m by 250m elongate about an axis of 110^{o}. The 1995 sampling program returned values of 15-700 ppb for gold with copper values ranging from 21-231 ppm and molybdenum values from 1-25 ppm.

A north-south trending ridge top transecting the Kath 2 claim surface exhibits response indicative of weak to moderate argillic alteration accompanied by weak iron enrichment.

The Kath 5 claim displays spectral response suggesting strong argillization and little or no iron enrichment of Metsantan Member latite flows of the Toggone Formation.

The area covered by Kath 4 claim does not display obvious spectral features related to prophyry-style alteration, but contains the trace of a linear feature which may be a fault.

The east-central portion of Song 1, the east-central portion of Fin23 and the south-central protion of Song 2 each feature a response suggesting that minor iron enrichment accompanies argillization.

The northern boundary of Fin 24 displays a Crosta response similar to that of Kath 5. The area immediately north and west of these claims warrants investigation as another ovoid body with indications of high iron and clay content appears to be centred at UTM

634850m E and 6350250m N. Also of interest is a deep blue anomalous zone centred on UTM 634000m E and 635080m N. This region may be a area of intense argillic and/or silicic alteration or it may only be an area of high reflectance due to the sun's incidence on an east-facing slope.

7.0 Recommendations

An airborne magnetic, em and radiometric survey is recommended for the entire property to aid in discrimination of various intrusive bodies and potassic alteration. Where warranted, this should be followed up by ground geophysical surveys.

The Kath 4 claim does not appear to have potential to host porphyry style Cu-Au-Mo mineralization but, it is strategically located to provide access to other mineralized areas. suitable work shodl be done to keep the claim in good standing.

The Northwest Grid area should be mapped and trenched for further sampling of both the breccia pipe and possible related mineralization. An IP survey is also recommended here.

The Crosta anomaly on the Kath 5 claim requires prospecting, detailed mapping, trenching and sampling.

The Main IP Grid established in 1992 by Romulus Resources should be extended southwest in the vicinity of Canyon Creek, and both north and south of Finlay River. These areas should be mapped, trenched and sampled in detail, and IP surveys conducted to test sinstral offset theory along Canyon Creek, vertical offset theory across Finlay River and to determine if and where Pine mineralization continues.

Further prospecting, trenching, sampling and detailed mapping of the Crosta anomalies on the Song 1, 2 and Fin 23, 24 is recommended.

8.0 STATEMENT OF COSTS

Imagery:

One Seven (7) Band Custom Scene (16km x 35km) @$1475.00 + $0.11/km^2

$1536.60

Processing:

Load scene
Geo-referencing
Band and ratio combinations (7,5,2 false color image; 3,2,1)
Principal Component Analysis (Crosta, Iron Ratio)
Edge Filtering (Band 5)
Layer Lat., Long. and UTM

Total Processing Cost **$2200.00**

Interpretation & Report Generation:

Delineate features 8 hours @ $85.00/h

$ 680.00

Digitally layer interpretation over image 4 hours @$50.00

$ 200.00

Report generation 8 hours @ $85.00/h

$ 680.00

.

Map Plotting:

One 1:50,000 Plot of claim area (if resolution permits)

$ 200.00

Total Cost:

Using one Custom Scene **$5,496.60**

GST and PST: **$ 769.44**

TOTAL COST: **$6,266.04**

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1995a: The Pine Property gold-copper and copper molybdenum prophyry prospects, Kemess-Toodoggone district, northern British Columbia **in** Porphyry Deposits of the Northwestern Cordillera of North america. **Ed.** T.G. Schroeter. Canadian Institute of Mining and Metallurgy, Special Volume 46.

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APPENDIX I

STATEMENT OF QUALIFICATIONS

I, Velma Zwaantje Sterenberg of 8111 Ash Street, Vancouver, B.C. hereby certify that:

1. I am an employee of Geomatics International Inc. with offices at Suite 720, 1140 West Pender Street, Vancovuer, B.C.

2. I am a graduate of University of Alberta, Edmonton (B.Sc., Geological Sciences, 1974).

3. I am a graduate of Queen's University at Kingston, Ontario (M.Sc., Geological Sciences, 1985).

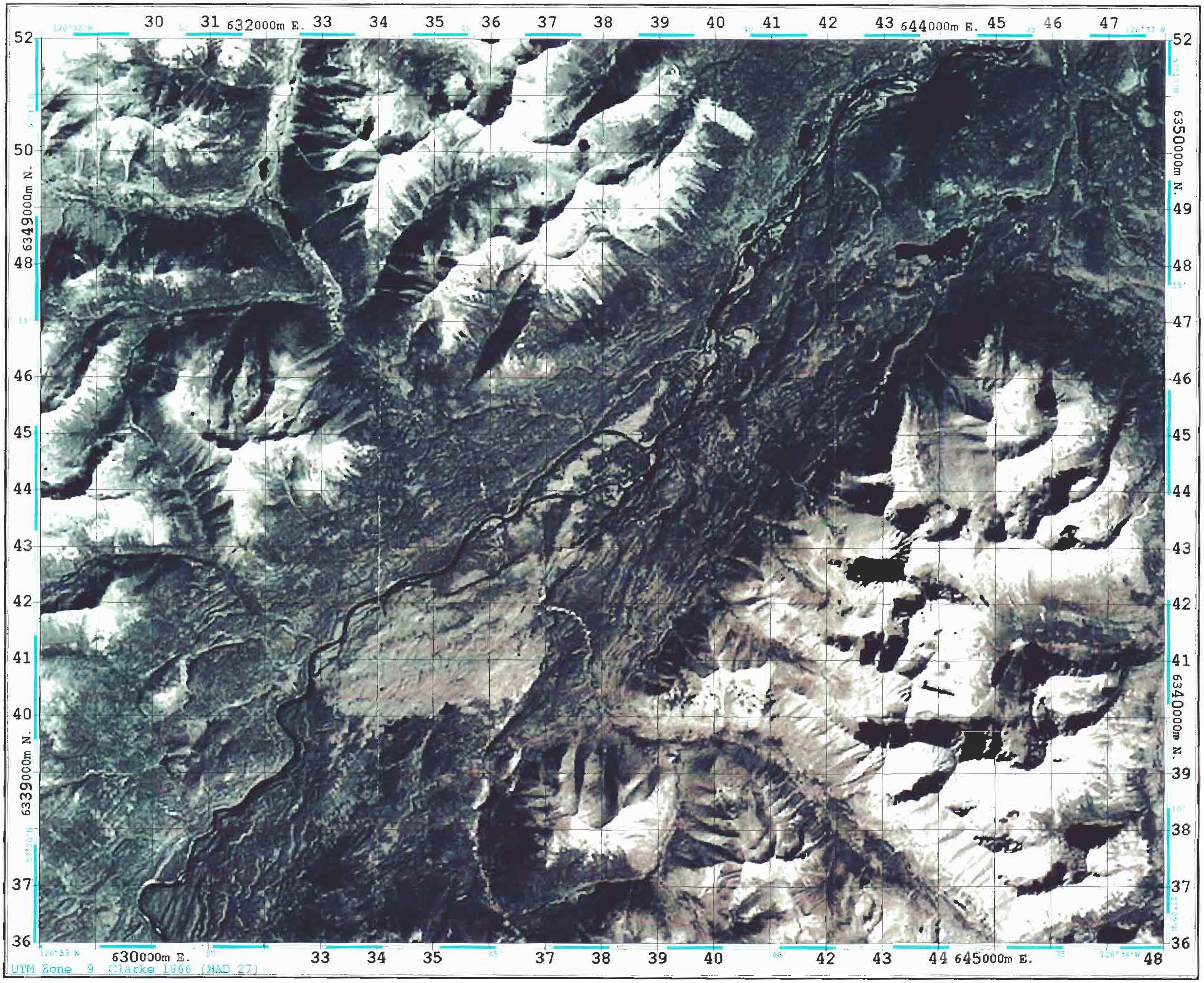
4. I am a member in good standing of the Association of Professional Engineers, Geologists and Geophysicists of Alberta.

5. I am a Fellow of the Geological Association of Canada.

6. I have practised my profession continuously since graduation.

7. The foregoing report is based on:
   a) a study of reports listed in references.
   b) communications with Electrum staff who have been on the property.
   c) my personal knowledge of the district based on a visit to the Toodoggone property in 1981 and work on a related deposit (Mt. Milligan) in B.C.
   d) my knowledge of the use of remote sensing techniques in mapping and mineral exploration which I have used since 1979.

Velma Z. Sterenberg, P.Geol.
November 1, 1993



Path 052 Row 020

Band 5 Edge Enhanced

1:50 000 Scale

Kilometres 1 0 1 2 3 4 5 6 7

Miles 1 0 1 2 3 4

ELECTRUM RESOURCES INC.

PINE PROPERTY

Kemess - Toodoggone District, British Columbia

Figure 10. Landsat Band 5, Edge Enhanced image at a scale of 1:50,000.

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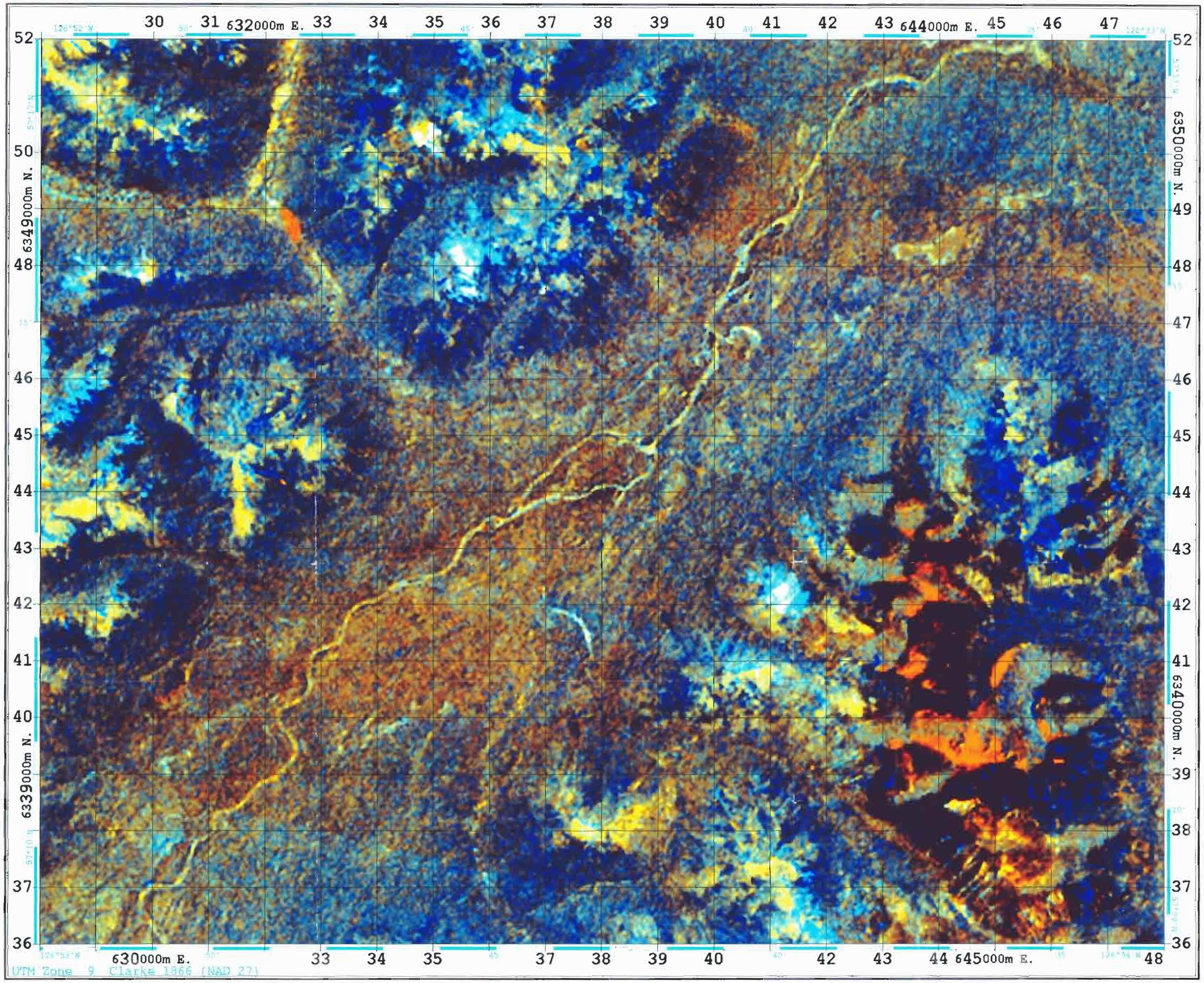

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Crosta Image

1:50 000 Scale

Kilometres 1 0 1 2 3 4 5 6 7

Miles 1 0 1 2 3 4

ELECTRUM RESOURCE CORP.

PINE PROPERTY
Kemess - Toodoggone District, British Columbia

Figure 9. Landsat Crosta image at a scale of 1:50,000 showing bright white to pale blue areas of combined iron oxide and hydroxyl enrichment.

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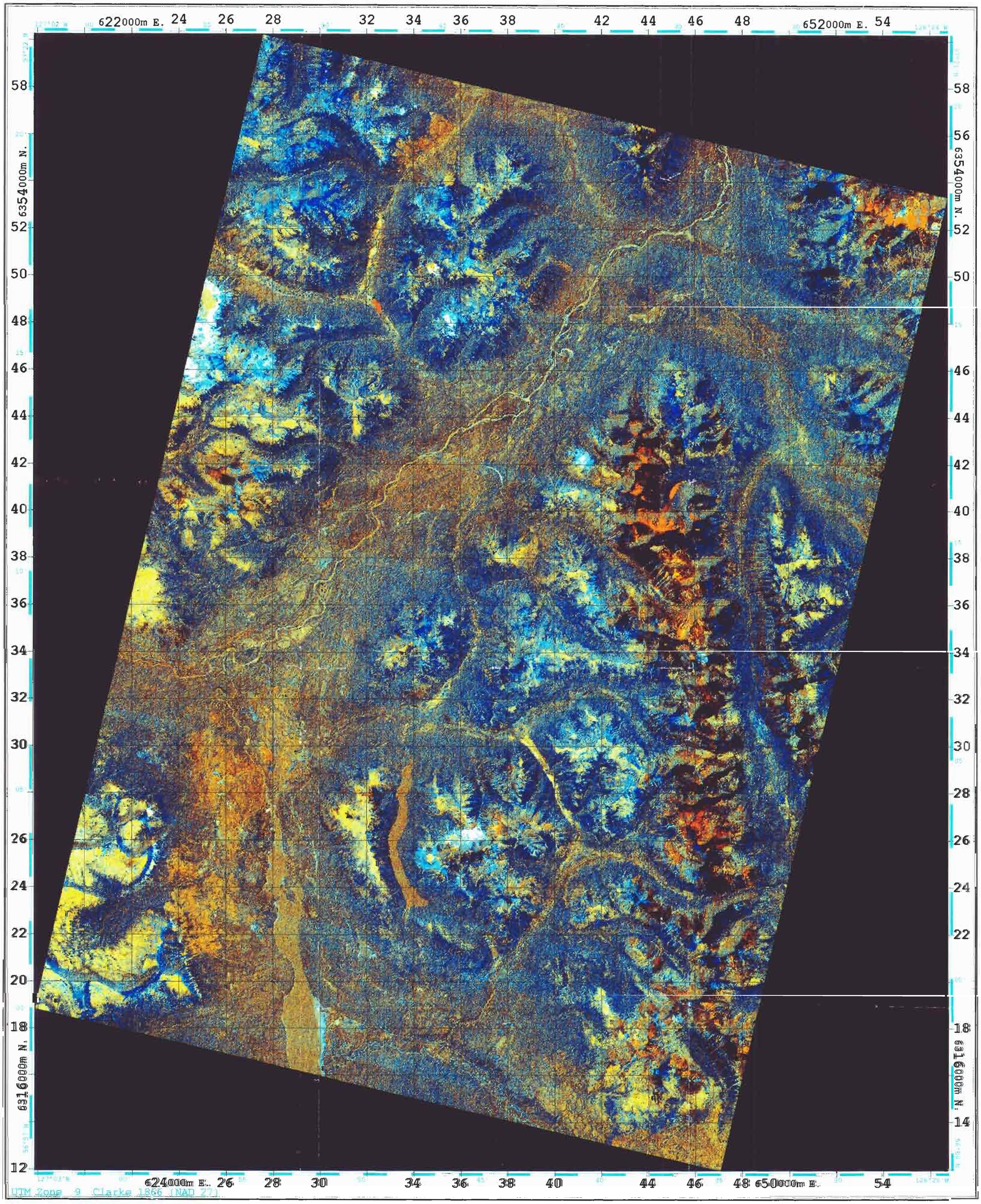

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Crosta Image

1:100 000 Scale

Kilometres 1 0 1 2 3 4 5 6 7

Miles 1 0 1 2 3 4 5 6 7

ELECTRUM RESOURCE CORP.

PINE PROPERTY
Kemess - Toodoggone District, British Columbia

Figure 8. Landsat Crosta image of the Kemess - Toodoggone District at a scale of 1:100,000 showing bright white to pale blue areas of combined iron oxide and hydroxyl enrichment.

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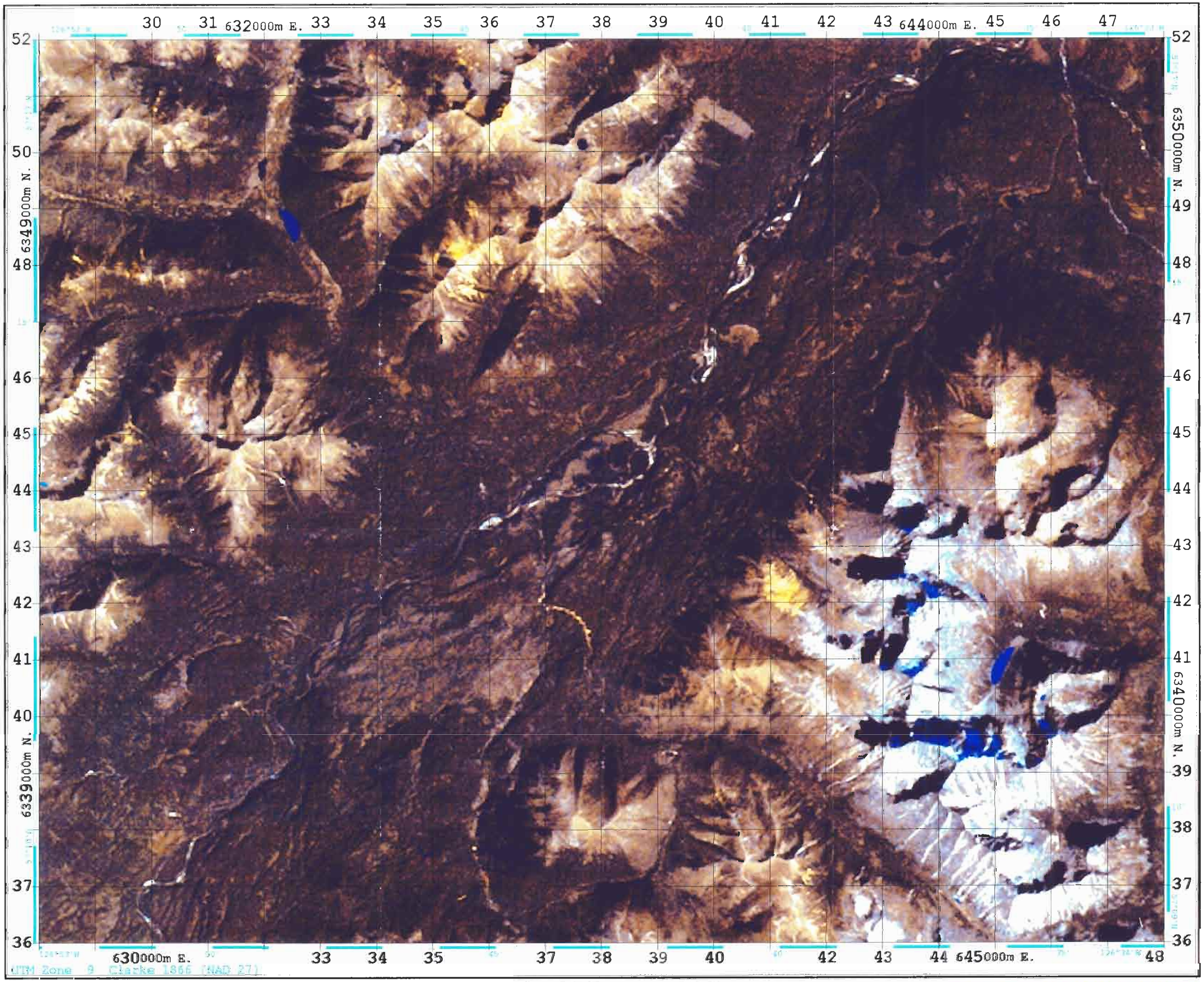

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Landsat Iron Ratio (R 3/1,G 3,B 1)

1:50 000 Scale

Kilometres 1 0 1 2 3 4 5 6 7

Miles 1 0 1 2 3 4

ELECTRUM RESOURCE CORP.

PINE PROPERTY

Kemess - Toodoggone District, British Columbia

Figure 7. Landsat Iron Ratio (R3/1, G3, B1) image showing bright yellow-orange areas of high iron oxide content.

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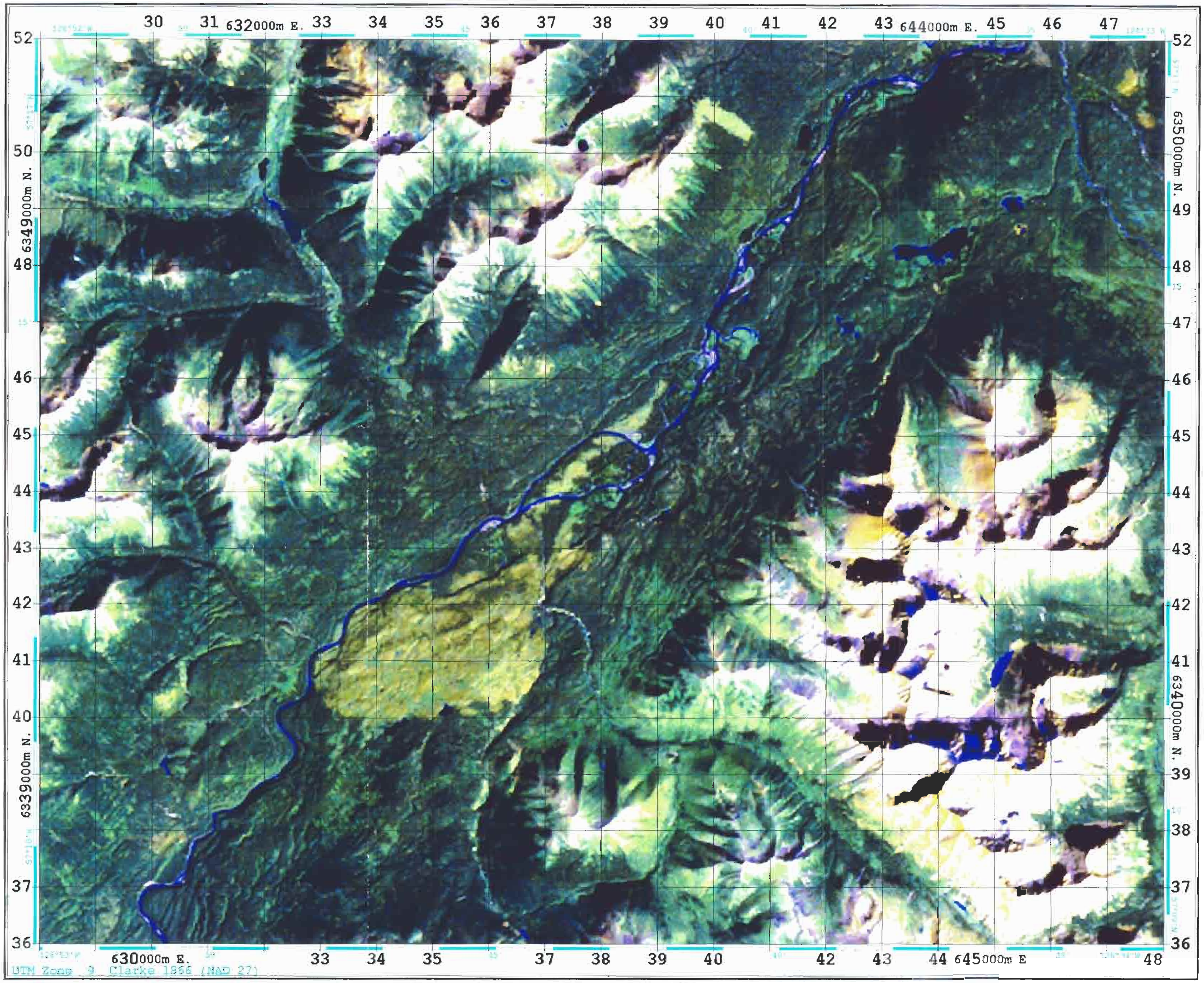

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Landsat FCC (R 7,G 5,B 2)

1:50 000 Scale

Kilometres 1 0 1 2 3 4 5 6 7

Miles 1 0 1 2 3 4

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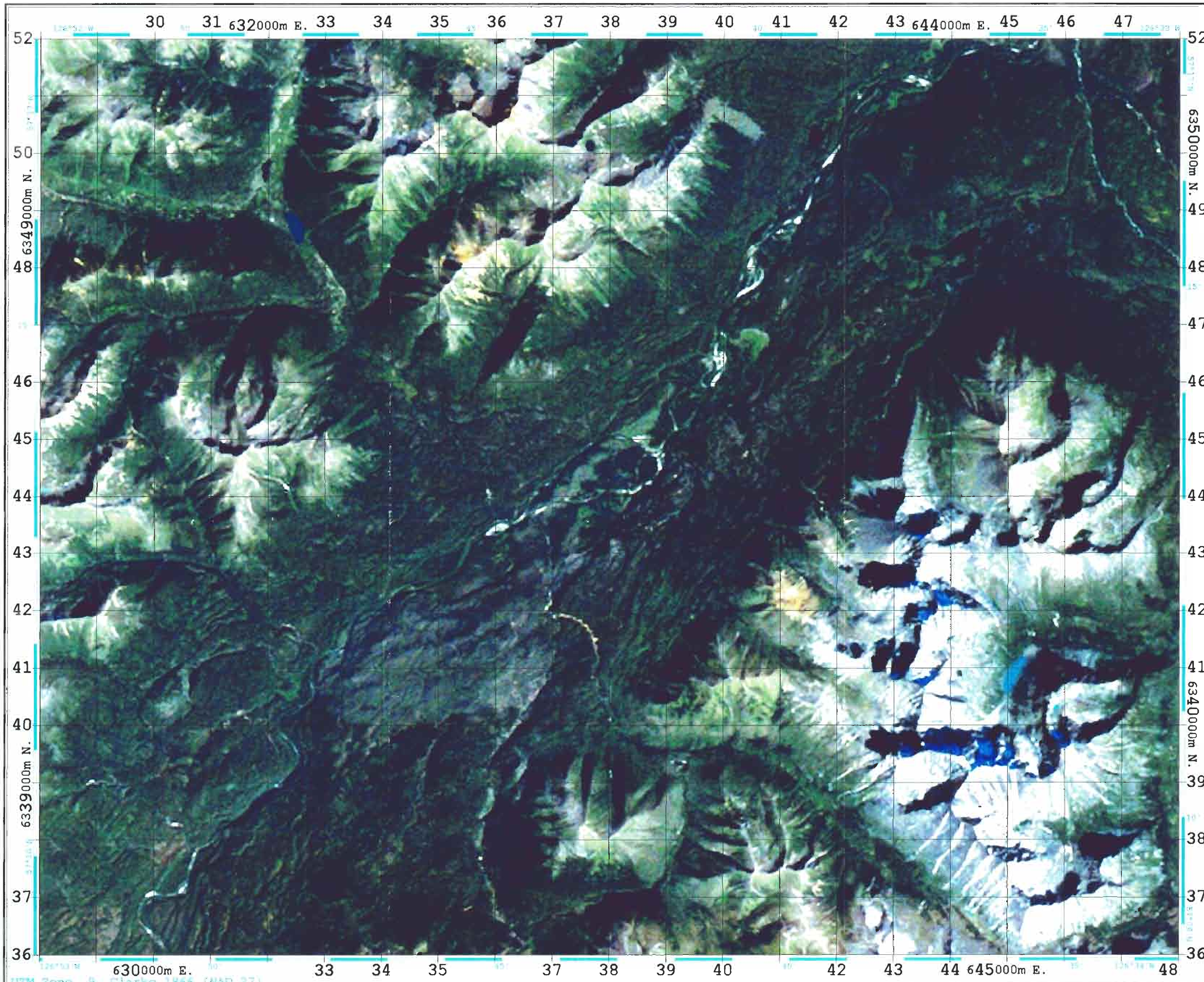
PINE PROPERTY Kemess - Toodoggone District, British Columbia
Figure 6. Landsat FCC (R7, G5, B2) image showing enhanced contrast between features with differing spectral response.

Geomatics International



Path 052 Row 020

Landsat TCC (3,2,1)

1:50 000 Scale

Kilometres 1 0 1 2 3 4 5 6 7

Miles 1 0 1 2 3 4

ELECTRUM RESOURCE CORP.
PINE PROPERTY Kemess - Toodoggone District British Columbia
Figure 5b. Landsat TM TCC (3, 2, 1) image.

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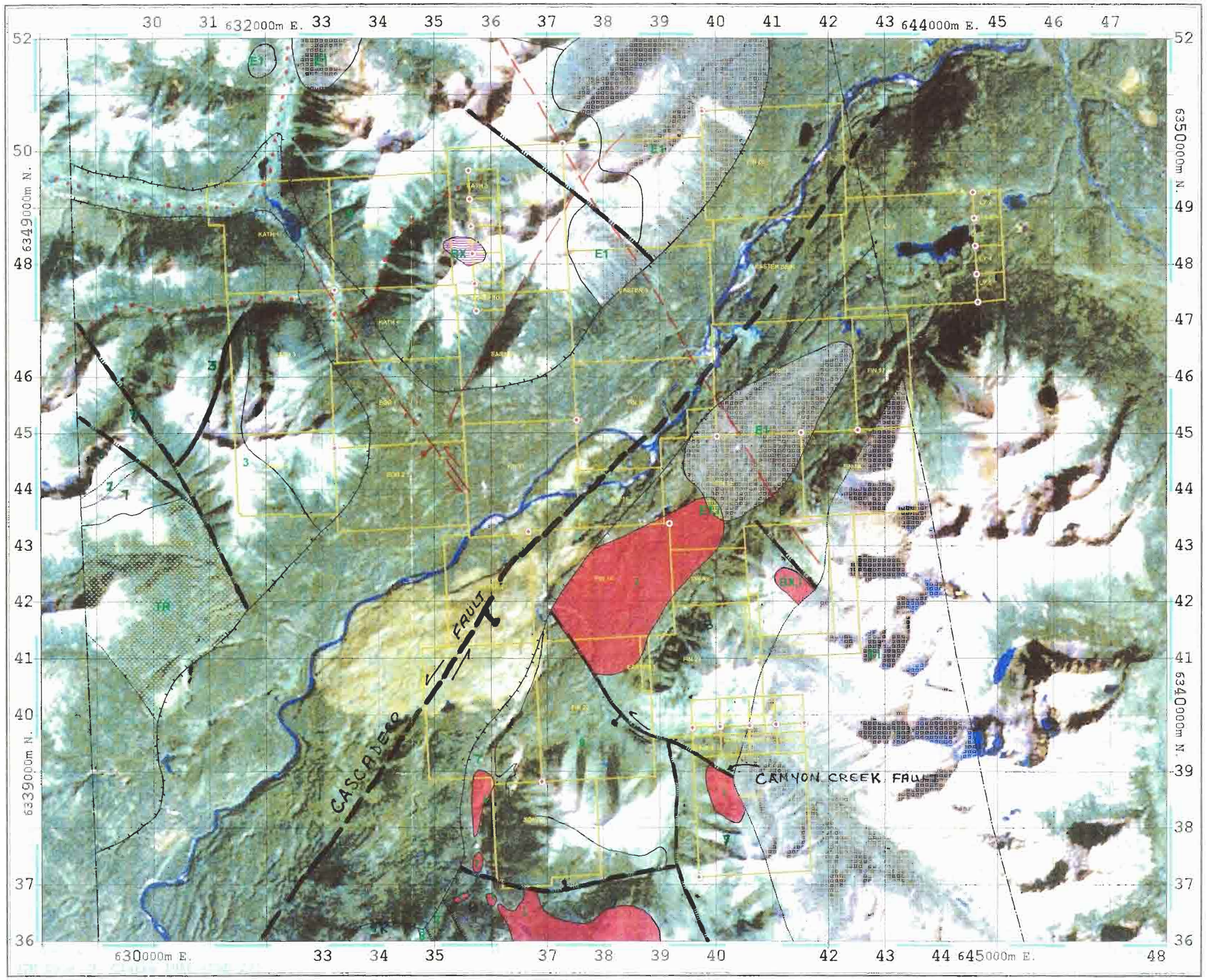

Path 052 Row 020
Landsat FCC (R 7,G 5,B 2)
1:50 000 Scale
Kilometres 1 0 1 2 3 4 5 6 7
Miles 1 0 1 2 3 4

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Figure 2. **Landsat TM FCC (R7, G5, B2) image showing claim location, geology and interpretive work. Property geology in part after Diakow, et al. (1993) with Landsat interpretation.**

LEGEND

JURASSIC

LOWER AND (?) MIDDLE JURASSIC

HAZELTON GROUP

9 UNDIVIDED, PREDOMINANTLY GREY, GREEN, PURPLE AND ORANGE-BROWN HONRBLENDE PLAGIOCLASE AND PLAGIOCLASE PHYRIC ANDESITE PORPHYRY FLOWS, WELL BEDDED TUFFS, BRECCIA, SOME LAHAR, CONGLOMERATE, GREYWACKE, SILTSTONE, RARE RHYOLITE-PERLITE. INCLUDES SOME DYKES AND SILLS.

LOWER TO MIDDLE JURASSIC

TOODOGGONE FORMATION - UPPER VOLCANIC CYCLE

SAUNDERS MEMBER

8 "GREY DACITE" DARK TO PALE GREY OR GREEN QUARTZOSE BIOTITE HORNBLENDE PLAGIOCLASE ASH FLOW TUFFS OF HIGH POTASSIUM, DACITIC COMPOSITION. INCIPIENTLY TO INTENSELY WELDED WITH LOCALLY WELL-DEVELOPED COMPACTION LAYERING; CONTAINS DIAGNOSTIC JUVENILE CRYSTAL-VITRIC AND LOCALLY ABUNDANT ACCIDENTAL GRANODIORITE CLASTS; OUTCROPS ARE COMMONLY BLOCKY AND STRONGLY JOINTED

ATTYCELLY MEMBER

7 RECESSIVE, CRUDELY LAYERED, GREY, MAUVE, PURPLE QUARTZOSE PLAGIOCLASE LITHIC-CRYSTAL TUFF, LAPILLI TUFF AND LOCAL PYROCLASTIC BRECCIA, MINOR INCIPIENTLY TO MODERATELY WELDED ASH-FLOW TUFF AND RARE, CROSS STRATIFIED SURGE DEPOSITS; INTERSPERSED VOLCANIC SILTSTONE-SANDSTONE AND RARE LIMESTONE LENSES

TOODOGGONE FORMATION - LOWER VOLCANIC CYCLE

METSANTAN MEMBER

3 GREEN TO GREY, HIGH-POTASSIUM, LATITE (TRACHYANDESITE) FLOWS, MASSIVE WITH LOCAL FLOW BRECCIA

TRIASSIC

UPPER TRIASSIC

TALKA GROUP

TR DARK GREEN, COARSE GRAINED, AUGITE PHYRIC BASALT AND ANDESITE FLOWS, LESSER AMYGDALOIDAL AND COARSE BLADED PLAGIOCALSE PHYRIC FLOWS, LOCAL PILLOW LAVA AND HYALOCLASITE; INTERFLOW TUFFACEOUS SILTSTONE AND FOSSIL BEARING MUDSTONE; LIMESTONE LENSES

INTRUSIVE ROCKS

JURASSIC

LOWER TO MIDDLE (?) JURASSIC

DYKES AND SUBVOLCANIC INTRUSIONS CONTEMPORANEOUS WITH VOLCANISM OF THE LOWER VOLCANIC CYCLE

E1 STOCKS AND SMALLER SATELLITE INTRUSIONS OF EQUIGRANULAR, BIOTITE-HORNBLENDE GRANODIORITE, QUARTZ MONZONITE AND QUARTZ DIORITE

SYMBOLS

Geological Contact, defined, assumed

Bedding and Igneous Layering, inclined

Fault, defined, assumed, dot on downthrown side, arrows indicate sense of strike-slip movement

Fault Inferred From Landsat Interpretation

Boundary Between Areas With Abundant Outcrop and Those With Abundant Overburden

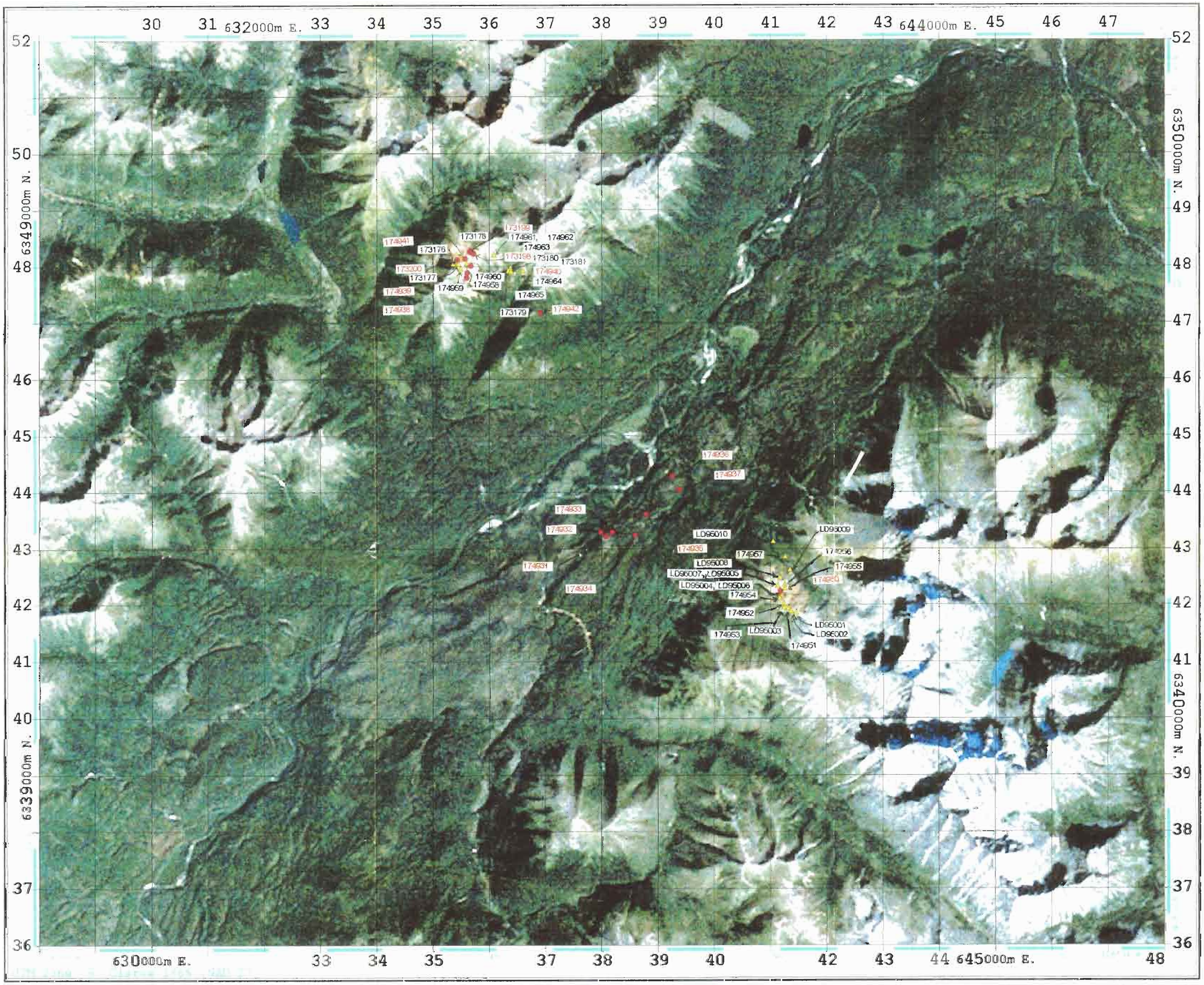
Limit of Geological Mapping

Breccia BX

HYDROTHERMAL ALTERATION

Gossan, Limonitic Zone

Features plotted in red ink are from Landsat interpretation



Path 052 Row 020

Landsat TCC (3,2,1)

1:50 000 Scale

Kilometres

Miles

● Whole Rock Sample Locations

▲ Rock and Talus Sample Locations

ELECTRUM RESOURCE CORP.

PINE PROPERTY

Kemess - Toodoggone District, British Columbia

Figure 5a. Landsat TM TCC (3, 2, 1) image showing sample locations.

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