GEOLOGICAL, GEOPHYSICAL AND DIAMOND DRILLING REPORT

ON THE

Rateria Property

Kamloops Mining Division

NTS 092I.036

Prepared for

HAPPY CREEK MINERALS LTD.
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By

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Table of Contents

Tables

Figures

Appendices

Summary

The Rateria property is located approximately 10 kilometres southeast of the Valley Copper operation of Teck-Cominco Ltd, Highland Valley, and approximately 50 kilometres north of Merritt British Columbia.

Less than 5% outcrop occurs on the property, with glacial till, sand and gravel deposits of up to 100 feet recorded. Outcrop, float, percussion and diamond drill core logs suggest the property is underlain by the multiphase Guichon batholith, Upper-Triassic Lower Jurassic in age. Hornblende-biotite granodiorite and biotite-granodiorite possibly of Chataway variety, occurs in north trending contact to the west with biotite quartz diorite-quartz monzonite possibly of Skeena variety, and likewise occurs in north trending contact to the west with leuco quartz diorite/monzonite porphyry possibly of Bethsaida variety. Small plugs, dikes and sills of Bethsaida or younger include quartz feldspar porphyry, aplite. Large scale structures cut the Rateria property in northwest to northeast and east trending structures; these low angle to steeply dipping structures contain dominantly chlorite, sericite, carbonate, kaolin, and locally quartz- sericite-K-feldspar, along with variable concentrations of iron oxides, malachite in fractures. Copper minerals include bornite, chalcocite, malachite and minor chalcopyrite. In 2005, diamond drilling totaling 341 metres in two holes tested two areas of weakly anomalous IP response from a 2000 Cominco IP survey over the central portion of the property. Values of up to 0.13% copper over 2.5 metres, or 0.07% copper over 13.8 metres and 0.06% copper over 9.7 metres were obtained in strongly faulted zones containing clay gouge, kaolin, and quartz-sericite veins up to 2 cm containing bornite-chalcocite.

Approximately 15 kilometres of 3D induced polarization survey was completed to the north of the 2005 drilling and returned an east-west oriented anomaly approximately 1.5-2.0 kilometres in length and 350-600 metres in width and extending to over 250 metres in depth around the Jay 11 and Three Creeks prospect. Prospecting, and rock sampling over this area was also conducted in the late season. Rock samples returned up to 13.14% copper over 0.20 metres, 0.11% copper over 10 metres in grabs in the Three Creeks area, and approximately 2.0 kilometres west, directly above the 2005 IP anomaly, abundant float of strong sericite, moderate k-feldspar altered granodiorite/quartz diorite and quartz veins contains bornite, chalcocite, malachite. Float samples returned up to 0.72% copper, 0.007% molybdenum 43 ppm silver above the 2005 IP anomaly. Rock samples from the Moss 4 prospect in the southern portion of the property were also moderately- strongly quartz-sericite altered with quartz-k-feldspar veins, and quartz vein float over 0.40 metres returned 9.71% copper.

The last sample from three historical percussion drill holes in direct proximity of the 2005 IP survey anomaly returned anomalous copper values; on the south side of the anomaly, 0.57% copper from 110-140 feet of hole 70D-8c, 645 ppm copper from 100-110 feet of hole 70D-8, and on the north side of the anomaly, 437 ppm copper from 110-120 feet of hole 70D-7.

The geology, structure, alteration, and copper minerals present in outcrop, float, and drill core in proximity with the large IP anomaly are consistent with a calc alkaline, copper-molybdenum porphyry deposit in the northern portion of the Rateria property.

Recommendations include diamond drilling of 4,000 metres in ten holes, along with further IP, geology surveys at the Moss 4 and northeast portion of the property, for a total cost of approximately $750,000.

1. Location and Access

The Rateria Property is located approximately 10 kilometers southeast of the Valley Copper-Lornex mine, Highland Valley, British Columbia (Figure 1). The property is centred on 120^0 57” 27’ West longitude and 50^0 21” 59’ North latitude, on NTS mapsheet 092I.036. Access to the property from Merritt, B.C., is via an all weather logging road, approximately 34 kilometres in length. Good quality, recently built logging roads transect the property. As the property is in relative proximity with the Valley Copper Mine and operating mill, infrastructure is excellent.

The Rateria property is situated within an upland plateau area approximately 1400 and 1600 metres elevation, and is underlain by thick blanket of sand and gravel of glacio fluvial origin. The forest is comprised of lodgepole pine and locally fir, birch, poplar and spruce, and grass covers the forest floor and open swampy areas. The area has burnt several times, and logging activity in response to pine beetle infestation is on-going. The area is characterized by an interior climate; temperatures range from -40 to +40 degrees centigrade, and 50-100 cm of precipitation, occurs mostly as snow in the winter months.

2. Claim Status

The Rateria property is composed of three cell claims totaling approximately 1,793 hectares in the name of Brian Malahoff (Figure 2, Table 1). Tenures # 513870 and

511809 are in good standing until December 12, 2012, and tenure #522356 is in good standing until November 17, 2006. An option was signed in December 2004 with Happy Creek Minerals Ltd. whereby the company can earn a 100% interest in the property by paying cash, issuing shares and performing work. This report was prepared in connection with B.C Permit MX-4-402, Rateria; 1620473, Kamloops.

3. History

The Rateria property covers an historical claim boundary between Chataway Explorations Co. Ltd/ King Resources Co, and Pathfinder Resources/ International Mogul Mines Ltd. This boundary was in effect between 1968 and at least 1973 for which exploration data is in part available. Asarco Inc. optioned the Chataway property between 1970 and 1971(Bayley, 1970). Limited data is available for work done prior to 1971, and after 1972. It is assumed the land positions were, at least in part amalgamated into Highmont Mining Company, Teck Corp, and later National Trust Company, and finally Teck-Cominco Inc., Valley Copper Mines Ltd. By 1999 a large number of claims had lapsed south of the mines, and the Rateria property was staked by Brian Malahoff.

Between 1968 and 1973, the area of the Rateria property was subject to regional silt geochemistry, grids, soils (in part by a qualitative Rubianic method), geological mapping and low power induced polarization surveys, bulldozer trenching, road building, percussion and minor diamond drilling (References). In 1970, Asarco drilled percussion holes to test up to 100 feet of bedrock usually to a total depth of approximately 90-120 feet on average, but locally 200 or more feet, on a 2000 foot grid pattern, over a very large area. Two additional percussion holes were drilled 285 metres southwest and 312 metres northeast of percussion hole 70-D8c containing 0.57% copper in the last 30 feet; these holes, drilled to depths of 120 and 200 feet, respectively did not intersect encouraging values. In 1972 a diamond drill hole was located 45 metres west of and drilled toward D-8c at -45 degrees. Hole M72-4 was stopped at 225 feet (68.6 metres, or 48.5 metres in plan view) and the last sample contained 0.06% copper and strong oxidation as noted in drill logs; this hole may not to have gone far enough to cut the mineralized zone in hole 70-D8c.

Diamond drillhole 1973-4 is 848 feet in length, -60^0 dip, and directed eastward toward the Three Creeks prospect (outside of the 2005 IP anomaly).

Approximately 100-300 metres north of the Rateria property, the Yubet prospect is reported to contain 30,000 tons grading 2.5% copper, with abundant bornite, chalcopyrite and locally chalcocite (Minfile 092ISE150), and a coincident soil geochemical anomaly trend south towards the historical and current claim boundary (International Mogul Mines).

In 2000 Cominco Ltd. optioned the Rateria property and commissioned an induced polarization survey (Bond, 2000), performed by Scott Geophysics, of Vancouver, B.C. A pole dipole array was used with an “a” spacing of 100 metres and “n” separations of 1 to 6, with a 10 kw generator. The survey was conducted on lines spaced 300 metres apart, and focused on the central portion of the property. The survey did not cover the north or south portion of the property. This work identified several strong through-going structural features comprised of slightly elevated chargeability and resistive values. Chargeability values are generally low, approximately twice background with values up to 7.0mV/V (Bond, 2000). It was concluded that the survey did not detect anomalous sulphide concentrations indicative of a large tonnage porphyry system.

In the fall of 2004, and early spring 2005, Happy Creek Minerals Ltd optioned the Rateria property and performed silt geochemistry, gps surveying of topographic and historical features, grids and tied-in approximately, the historical work with current NAD83UTM control.

4. Regional Geology

The Rateria property is located within the Guichon batholith, 198+/-8my, Upper Triassic-Lower Jurassic in age, covering an area of approximately 1000square kilometres (McMillan, CIM Special Volume 15, 1976). The batholith is elongated in a north-northwesterly direction, and consists of several nearly concentric phases having sharp to locally gradational contacts, and in part are brecciated (Figure 3). Intrusive phases are distinguished by their texture and composition after Northcote, 1969. Cross cutting relationships suggest younger intrusive phases appear in the central core of the batholith.

The oldest phase of the Guichon batholith is the Border or Hybrid phase, a fine to medium grained, mafic rich diorite, and quartz diorite and locally contains xenoliths of amphibolite, and monzonite composition. The Highland Valley phase consists of Guichon and Chataway varieties. The Guichon variety is quartz diorite to granodiorite, contains 15% mafic minerals, and the Chataway variety is hornblende granodiorite with 12% evenly distributed mafic minerals.

The Bethlehem phase, hornblende porphyritic granodiorite contains around 8% mafic minerals, and amoeboid quartz crystals. Skeena variety is similar to Bethlehem phase, however is comprised of coarser grained granodiorite, slightly lower mafic content, and coarser grained, subhedral to anhedral quartz.

The youngest intrusive phase of the Guichon batholith is the Bethsaida, biotite+/-hornblende quartz porphyry monzonite to granodiorite in composition, and contains around 6% mafic minerals, dominantly biotite. The core of the Guichon batholith, including the Rateria property is within a regional magnetic low (Figure 4).

A swarm of porphyry dykes cut Bethlehem granodiorite north of the Valley Copper deposit, and dykes and small plugs of porphyry cut Skeena variety; some porphyry dykes appear as offshoots of Bethsaida phase (McMillan, 1976).
Mineral occurrences of copper, molybdenum occur widely distributed throughout the Guichon batholith, however, the large deposits are either associated with the dyke swarm, north of the Highland Valley, or occur in or near the contact of the Bethsaida phase and related dykes. The major deposits in and south of Highland Valley all appear younger than Bethsaida phase.

At the Valley and Lornex deposits, dominant ore-controlling fracture sets trend north-northwest to northeast and locally east-southeast. The Lornex Fault strikes north, dips steeply with a dextral sense slip, cuts the length of the Guichon batholith; this fault appears to cut off the northwest end of the Lornex deposit, where a 55-60^0 west dipping breccia zone contains bornite, and >0.60% copper. Copper minerals are associated with strong cross cutting fault and fracture zones.

Copper sulphides occur in fractures filled with quartz, sericite (2M1 muscovite-McMillan, 1976), k-feldspar and green to brown colored biotite, and quartz vein stock work zones are developed locally. Hypogene copper sulphides consist dominantly of chalcopyrite, bornite, and minor digenite. A total sulphide content of only around 1% occurs in the ore zones, and is comprised of nearly equal amounts of chalcopyrite and bornite. A kaolinite alteration overprint of the potassic alteration assemblage occurs is spatially associated with ore zones. Pyrite is reported to occur in amounts of less than1% in a propylitic fringe to potassic alteration. Oxide minerals include limonite, malachite, chalcocite, native copper and possibly tenorite, and occur above hypogene copper sulphides zones.

Alkaline and felsic volcanic dike, flow, and tuff cut all previous units and are Eocene-Miocene in age. The area was covered by ice during glaciation, and removed in part Tertiary and older rocks, and deposited between 1 and 30 metres or more of till, glaciofluvial and lacustrine cover, with a 165^0 direction.

5. Property Geology

Less than 5% of the property is underlain by rock outcrops, and occur in limited exposures such as creek beds, old melt-water channels and locally crest of hills. Although use of a bulldozer for trenching in the 1970' appears widespread, the depth of glacial deposits of between 7-18 metres limited trenching effectiveness. Historical percussion and diamond drill logs, outcrop, and the 2000 and 2005 induced polarization and resistivity surveys were used to make a geology base map of the property (Figure 5).

The western part of the property is underlain by quartz rich, mafic poor intrusive rocks of quartz-diorite, granodiorite, quartz-monzonite composition (possible "Bethsaida variety") and occurs in north trending contact with medium grained granodiorite, biotite quartz diorite (possible "Skeena variety) to the east. East of a north trending contact, medium-coarse grained granodiorite (possible "Chataway variety) occurs. Magnetite concentrations of between 1-5% in part replaces altered mafic minerals, and may be deuteric in origin. Locally dykes and small plugs of quartz monzonite, aplite, quartz and feldspar porphyry, and quartz-k-feldspar-crowded feldspar porphyry occur. Fractures in outcrops trend northwest to northeast and locally east and contain variable amounts of quartz, k-feldspar, and pale green sericite, kaolin and iron oxides. In surface exposures historical percussion drill chips or diamond drill core, variable concentrations of bornite, chalcocite, cuprite, malachite and some native copper and chalcopyrite occur dominantly in quartz, sericite, limonite filled fractures. The strongest and most widespread quartz, sericite, clay, and quartz-k-feldspar alteration identified to date occurs in the area of the 2005 IP survey on the north-central portion of the property.

To the northeast, a distance of approximately 700 metres, the Bob 6 area is underlain by Skeena variety cut by Bethsaida dykes, approximately 75 metres in width and trends 345^0. Deep rusty weathering and widespread trace malachite, pyrite and chalcopyrite occur. The Yubet (30,000 tons @ 2.25% copper) prospect is located just northwest of the 2005 IP survey. East of the 2005 IP survey, the Three Creeks area is located in spatial proximity with the Skeena and Chataway variety contact and widespread and deep rusty weathering, and trace amounts of malachite, and quartz veins contain bornite-chalcocite occur (See 2005 Exploration Section)

In the southeast corner of the Rateria property, the Moss 4 area is underlain by Skeena and Chataway rocks, and boulders contain quartz veins with bornite and chalcopyrite. Percussion hole E-11 returned increasing oxidation and up to 123 ppm copper at the end of the hole, 140 feet, and the closest hole, D-11 approximately 750 metres west encountered 100 feet of overburden and no bedrock.

6. 2005 Exploration

Between July 1 and November 18th, 2005, a program of diamond drilling of 341 metres in two holes, 13.5 kilometres of cut line and induced polarization survey, and prospecting, mapping and 20 rock samples were collected and 10 assayed. Geology, rock sample and diamond drill hole locations are plotted in Figure 5. Assay certificates are located in Appendix 1, rock sample descriptions are located in Table 2, and diamond drillhole core logs are located in appendix 2. Cross sections of diamond drillhole 05-1, 05-2 are located in Figures 6, 7, respectively, and the 2005 IP grid and 2005 IP survey report are located in Figure 8, and appendix 3, respectively.

Rock samples from a trench at the Three Creeks prospect returned up to 13.14% copper, 71.0 ppm silver from a 0.20 metre wide quartz vein, followed by a 10.0 metre grab sample returned 0.11% copper, followed by a grab sample of rusty, malachite-rich granite containing 0.13% copper. In the Jay 11 area, quartz vein float located near the logging road corner (Gregs Corner) returned 0.72% copper, 43 ppm silver, and a grab of granodiorite wallrock in float returned 0.09% copper from the same area. In the southeast part of the property at the Moss 4 prospect, trenches contain oxidized granodiorite with malachite, and two large boulders of quartz vein material, approximately 0.40m in width were sampled and returned 9.71% copper, 29.0 ppm silver.

Diamond drill hole 05-1 tested a Cominco 2000 IP anomaly having over 7 ms chargeability at depth. This hole intersected weak- moderately sericite altered granodiorite, with minor fracturing containing malachite. Quartz and quartz-sericite veins up to 2 cm occur, and locally contain trace bornite, chalcocite (Figure 6).

Diamond drillhole 05-2 tested a similar 2000 IP anomaly approximately 1.0 kilometre to the west of hole 05-1, and cut across a swamp/creek containing 1644 ppm copper, 60 ppm molybdenum in silt (Blann 2005). This hole intersected several strong fault zones containing small aplite dikes, gouge, and strong sericite +/- clay alteration and quartz-sericite veins with trace to locally 1% bornite, chalcocite minerals (Figure 7). Assays returned up to 0.127% copper over 2.5 metres. Composite assays include 0.07% copper over 13.8 metres and 0.06% copper over 9.7 metres.

The 2005 Induced Polarization (IP) survey was performed over the northern portion of the property, north of the 2005 diamond drilling (Figure 8). The survey was completed after the 2005 diamond drilling was completed. This area was identified by historical percussion drilling returning anomalous copper (up to 0.57% copper over 30 feet), surface rock and stream silt samples containing significant copper. The IP results have identified an east-west trending zone of anomalous chargeability values (>6 ms chargeability) and coincident low resistivity values in an area approximately 1.5

kilometres by 600 metres in dimension. Refer to Appendix 3 for a detailed description of the procedures and analysis.

7. Discussion

The Rateria property is located in the southeast portion of the Guichon batholith, approximately 10 kilometres southeast of the Valley Copper operations of Teck-Cominco, Canada's largest metal mine. The property is 95% covered by glacial deposits of sand, gravel and till, however, outcrop, float and historical drilling suggest it is underlain by granodiorite, quartz diorite to quartz monzonite and dikes and small plugs of crowded quartz feldspar porphyry, and locally aplite composition. These rocks are tentatively assigned to the Bethsaida, Skeena, Chataway variety intrusive rocks, representing the youngest phases of the batholith and are similar to the Lornex, Valley, JA deposits further north. North trending geological contacts between these units are affected by regional scale strike slip faults and conjugate splays trending northwest to northeast, and east-west occur.

In the area of the 2005 IP anomaly, historical drilling of wide spaced percussion holes, and locally follow up diamond drilling were in most cases very shallow, and often ended in broken up, oxidized, hematite, limonite stained rocks and contain anomalous concentrations of chalcocite +/- bornite and associated copper values.

Geology, structure, alteration and copper minerals present in outcrop, float, and drill core, and the large area of anomalous induced polarization chargeability, soil and silt geochemistry is consistent with a large calc alkaline Highland Valley style porphyry copper-molybdenum deposit in the northern portion of the Rateria property.

8. Conclusions

The Rateria property is located approximately 10 kilometres southeast of the Valley Copper Mine, Highland Valley, in south central British Columbia. Excellent access and infrastructure is in place.

The Rateria property is underlain by granodiorite, quartz diorite to quartz monzonite tentatively assigned Bethsaida, Skeena, Chataway varieties of the Guichon batholith, representing the youngest phases; these rocks are cut by dykes and small plugs of crowded quartz feldspar porphyry and aplite. Faults and fractures trend northwest to northeast, and locally easterly, and are filled with quartz, sericite, k-feldspar, kaolinite, and variable concentrations of malachite, bornite, chalcocite and locally chalcopyrite. Deep rusty weathering occurs in the northern portion of the property near the Jay 11 and Three Creeks area.

An induced polarization survey carried out in 2000 and 2005 identified large scale structures trending north, subparallel to intrusive contacts, and an east-west oriented chargeability and resistivity anomaly approximately 1.5 kilometres in length and 600 metres in width in the Jay 11 and Three Creeks area.

Locally significant oxidation occurs to depth, and may have in part removed copper from near-surface. Historical percussion hole 70D-8c returned 0.57% Cu over 30 feet (from 110-140 feet) at the end of the hole, and surface rock samples taken in 2005 contain anomalous copper values (up to 13.14% copper) in proximity with the 2005 IP anomaly.

The geology, structure, alteration and copper minerals present, induced polarization chargeability and resistivity anomalies, historical and recent drilling, and copper in soil and silt samples have identified potential for a large calc alkaline porphyry copper-molybdenum deposit on the northern portion of the Rateria property.

9. Recommendations and Budget

Further work totaling $750, 000 is recommended.

1) Diamond drilling of 10 holes, totaling 4,000 metres over the 2005 IP anomaly at a cost of $600,000.
2) Geology, prospecting, mapping, sampling and induced polarization surveys over the Moss 4 and northeast portion of the property at a cost of $150,000.

Respectfully Submitted,

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David E Blann, P.Eng.

10. Statement of Costs

Wages	# days	$/day		Totals
D. Blann, P.Eng	23.1	$600.00		$13,860.00
G. Thomson, P.Geo	4.0	$450.00		$1,800.00
D. Ridley, Prospector	12.0	$375.00		$4,500.00
D. Black, Prospector	10.0	$275.00		$2,750.00
J.N. MacLeod	7.0	$275.00		$1,925.00
P. Lautsch	6.0	$225.00		$1,350.00
J.L.Zackodnik	5.0	$275.00		$1,375.00
C. Blann, MSc	16.0	$225.00		$3,588.75
				$31,148.75

Disbursements		#	$/#	Totals
Frontier Diamond Drilling				$26,710.00
SJ Geophysics				$29,587.25
Trucks, 4X4		57.17	$75.00	$4,287.94
Room/Board(SMX and SJ Geophysics personnel)		83	$75.00	$6,225.00
Communications		83	$7.00	$581.00
Field Supplies				$118.89
Assays	Rocks/Core	52	$19.94	$1,036.71
Reproductions				$197.31
Report				$3,500.00
				$72,244.10

Wages and Disbursements	$103,392.85
10% on Wages and Disbursements	$10,339.29
	$113,732.14
GST @ 7%	$7,961.25
	$121,693.38

11. References

Bayley, E.P, 1970, Summary Report of Percussion Drilling Program, Chataway Exploration Co. LTD, Highland Valley Claim Group, for Asarco.

Blann, D.E., P.Eng., 2005, Geology, Geochemical Report on the Rateria Property, Kamloops Mining Division, Highland Valley, B.C., for Happy Creek Minerals Ltd.

Bond, Lorne, P.Geo, 2000, Geophysical Report on the Rateria Mineral Claims, Kamloops Mining Division, for Cominco Ltd.Philp, RHD, Hawley, RG., 1971, Report on the Geological, Geochemical, and Magnetometer Surveys on the Roscoe Lake Property, Highland Valley, B.C., for Pathfinder Resources Ltd.

Hallof, Phillip G., Ashton W. Mullan, 1972, Report on the Induced Polarization and Resistivity Survey on the Chataway Claim Group, prepared for International Mogul Mines Ltd.

Meyer, W., Robinson, M.C., 1968, Report on Geological (petrographic) Survey of the Chataway Exploration Co LTd., Property, Chataway Lake, B.C., for King Resources Company.

Reed., AJ., 1971, Report on Geological and Geochemical work performed by Highmont Mining Corporation Ltd on the PEN claims, Highland Valley area, Kamloops Mining Division, B.C. Asst # 2901. (Note property is north of Rateria Claims)

Sanford, G.R., 1983, Diamond Drilling Report on the Roscoe 1 Mineral Claim, Highmont Mines, prepared for National Trust Company Limited, Ass# 11,369. (Note: Property is north of Rateria Claims)

Sutherland Brown, Editor, 1976, Porphyry Deposits of the Canadian Cordillera, CIM Special Volume 15.

Tsang, L.C.H., 1985, Percussion Drilling Report on the Roscoe 1 Mineral Claim, Kamloops Mining Division, Highmont Mining Corporation, prepared for National Trust Company Limited. Asst # 13824 (Note: property is north of Rateria Claims)

Willars, Jack G., P.Eng., 1972, Report on the Geological Survey and Diamond Drilling on the Property of Chataway Explorations Co. Ltd., for International Mogul Mines Limited. Asst # 4050.

12. Statement of Qualifications

I, David E. Blann, P.Eng., of Squamish, British Columbia, do hereby certify:

That I am a Professional Engineer registered in the Province of British Columbia.

That I am a graduate in Geological Engineering from the Montana College of Mineral Science and Technology, Butte, Montana, 1987.

That I am a graduate in Mining Engineering Technology from the B.C. Institute of Technology, 1984.

That I have been actively engaged in the mining and mineral exploration industry since 1984, and conclusions and recommendations within this report are based on property fieldwork conducted between 2004 and 2005, and historical literature.

Dated in Squamish, B.C., February 13, 2006

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David E Blann, P.Eng.

Tables

Table 1
Mineral Claims

Tenure #	Name	FMC# Owner*	%	Mapsheet	Claim Standing	Area (Ha)
513870		116699	100	092I036	2012.12.31	1154.2
511809	New Rateria	116699	100	092I036	2012.12.31	144.3
522356	Rateria NE	116699	100	092I036	2006.11.17	494.4
						1792.9

116699 * Brian Malahoff

Table 2
Rock Sample Descriptions and Assay Results

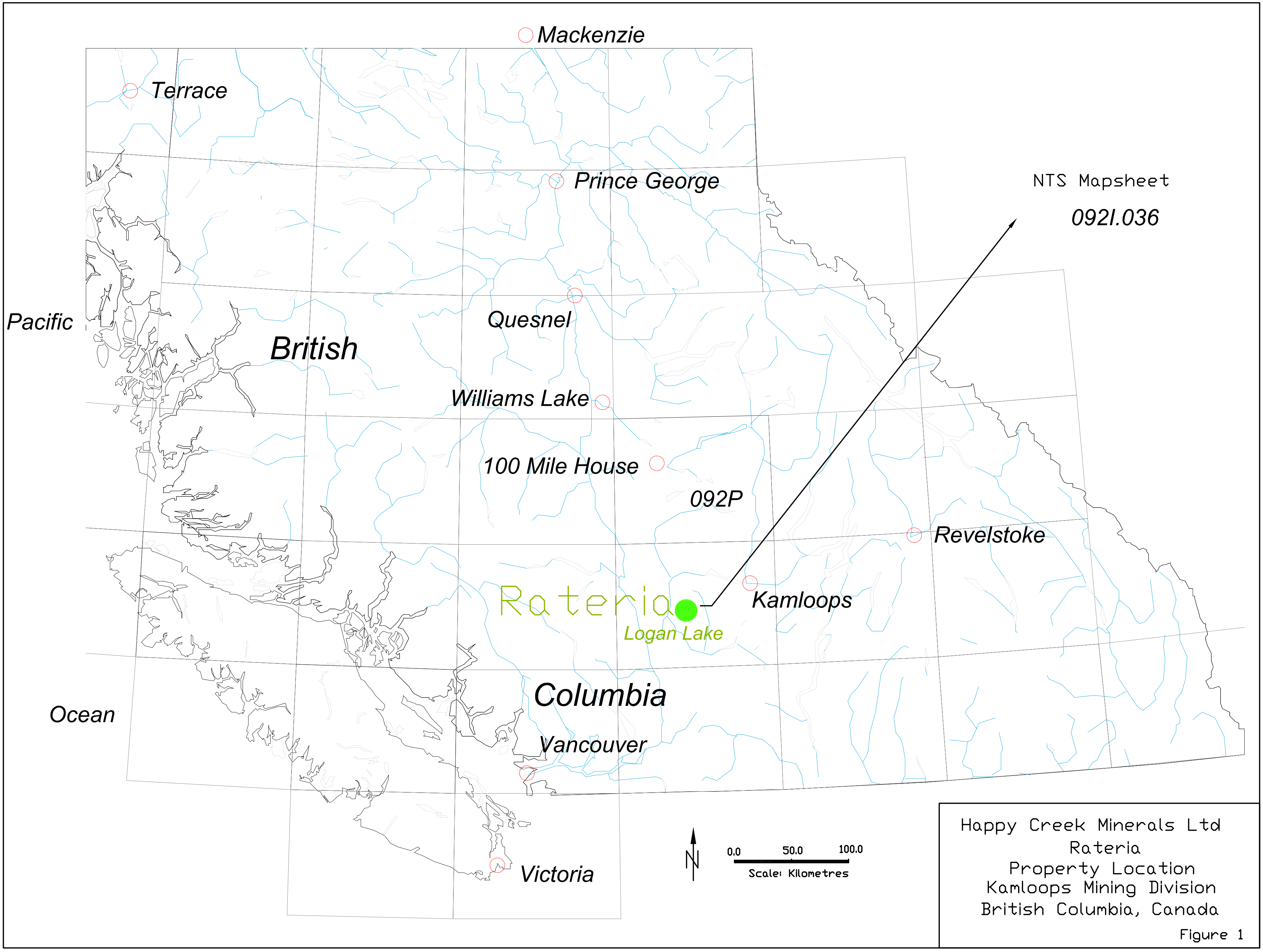
	Sample ID	Easting	Northing	Grid E	Grid N	Elev (m)	EPE (m)	Description	Chip(m)	Mo %	Cu %	Ag gm/mt
DB	151701	645334	5582566				10	At bend in road, float of QVN material, Cp, bo, cc, red-brown hem after Cp, vuggy Qtz with hem.		0.007	0.715	43
DB	151702	645338	5582562				10	At 151701 grab of wallrock, CG Gr, Gp mod-strong perv. Ser, wk Chl-Ep + wk-mod 2K 2B, tr Mal, Cp, bo, cc, red hem after Cp.		0.001	0.091	2
DB	151743	646787	5582480				7	3 Creeks Grab 8 m 180°. BGd, Mal-SDG, Ser altered+/- wk Bi-Ser Clay (pale green), strong FeOx	8	<.001	0.018	<2
DB	151744	646823	5582480				6	3 Creeks Grab Qtz-bo/cc 20 cm, 320o/30o. High grade Qtz vn bx (70 cm) + rusty fractured wallrock.	0.2	0.001	13.141	71
DB	151745	646832	5582472				6	3 Creeks Chip/grab from 151744 to 646832 5582472. B Gd wallrock, mod fractures, FeOx, Tr mal+/- Spec Bo.	10	<.001	0.108	<2
DB	151746	646664	5580253				7	Moss 4 Banded Q vn bo-cc-mal- 30 cm, 2 boulders beside trench.		0.003	9.712	29
DR	185404	646844	5582466			1514	7	3 creek area; grab poorly exposed outcrop; rusty granite; bornite-malachite		<.001	0.13	<2
DR	185405	646829	5582735			1530	6	north of road, 25m north of L85+50S;12+100E;norn-bt granite, qtz-ep stringers, minor bornite; 330\20W		<.001	0.132	<2
DR	185406	646659	5580224			1513	10	ang float; diorite with pink aplite; minor bornite-malachite		<.001	0.017	<2
DR	185407			5 m north of L82+50S;12+100E				grab from outcrop; granodiorite w aplite? (K-spar-qtz); 065\25S		<.001	0.003	<2
DR	Yubet	644947	5583338			1614	9	bag includes high grade bornite which was not abundant				
DR	DR 1	644800	5583266			1630	6	outcrop at edge clearcut on Yubet access road; slightly altered fractures (qtz-ep) @ 330\65W Gr, mod ser				
DR	DR2	644570	5583180			1604	6	approx location; float boulders in till				
DR	DR 3	644570	5583180			1604	6	approx location; float boulders in till				
DR	DR 4	645138	5582802			1595	6	granite w qtz veinlets; tr cpy, strong ser				
DR	DR 5	645139	5582801	beside DR 4		1595	6	qtz vn 3 cm w cpy; ang float				
DR	DR 6	645094	5582656			1587	7	qtz braccia with minor cpy; ang float beside main road				
DR	DR 7	645293	5582688			1600	6	qtz stockwork, intense ser, Monzonite float w bo-cp-malachite				
DR	DR 8	645012	5582434			1587	7	granite boulder/outcrop @ L87S;10+300E;ser fractures @ 258\65N				
BK		645643	5582293					L 88+50S, 10+875E two trenches mg Gr P intense ser, mod k-feld, Qtz vns to 0.5 cm, tr mal				

Old cut line

	Easting	Northing	EPE (m)	Description
DB	645031	5581836	6	Road and clearing
DB	645344	5581789	12	L93S + ?E
DB	645216	5581750	7	L93S + ?E. Top west side of swamp.
DB	645144	5581763	8	At creek, DB-8 Silt. K-Feld GrP, mal in float
DB	645035	5581754	11	L93S ?E
DB	645154	5581839	10	L93S + 104E at creek.

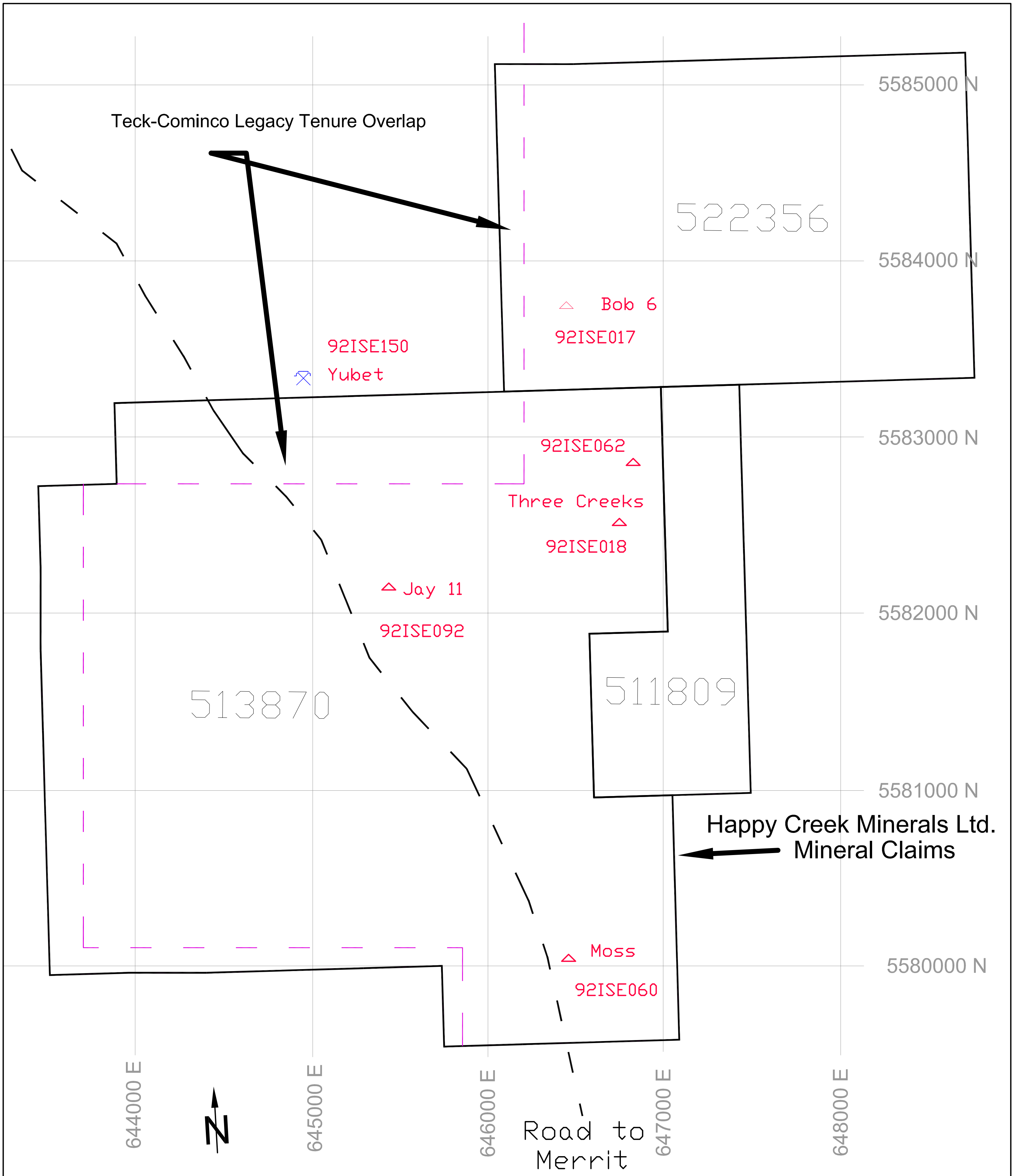
DB	645066	5581828	9	L93S + 103E, DDH05-1 at L93S + 103+40E
DB	645057	5582086	14	L90S + 104E
DB	645100	5582111	7	L90S + 104E, edge of swamp, road at 102 + 30E
DB	644952	5582094	9	L90S + 102E
DB	645508	5582211	9	At main road and trail.
DB	645735	5582461	7	Trail N side of clearcut.
DB	645615	5582369	10	Sump/ Cat push, k-feld Gr P, intense ser, tr mal, Qtz vns
DB	645645	5582411	10	Junction in trail to NW.
DB	645770	5582404	7	Clearcut edge.
DB	645820	5582425	11	DDH?- possible pad setup
DB	645940	5582362	11	New logging trail
DB	646262	5582141	17	S end of trail at good road
DB	646225	5582128	10	main road, qtz vn float with bo-cc, mal
DB	646260	5582063	11	L90S 11+500E, good road 11+530E
DB	646060	5582084	31	L90S 11+300E
DB	645965	5582077	7	L90S 11+200E, trace Cp? Beth B Qp? Ser-
DB	645746	5582367	6	Possible dd road to D8-C
DB	645603	5582022	8	Main road and possible old trail? Cp in float.
DB	645356	5582081	7	90S 10+600E, W side of swamp.
DB	645447	5582065		90S 10+700E, on old road by trench.
DB	645549	5582076	6	90S 10+800E at main road culvert and trench.
DB	645868	5581590	9	9450S 11+100E
DB	646056	5581367	14	9600S 11+300E
DB	646056	5581373		Main road at 11+250E
November 12, 2005 Moss 4 trenches at road. Trenches cross road to west (mal fractures in BGd)				
DB	646646	5580247		start of trench
DB	646756	5580312	7	end of trench
DB	646674	5580393	7	other trench start
DB	646593	5580317	9	at road
DB	646550	5580360		Trench Mal + bo? In orange-red rusty fractures. 2K vns +/- Q vns, subangular float in ditch and around Q vn boulders.

Figures



Happy Creek Minerals Ltd
Rateria
Property Location
Kamloops Mining Division
British Columbia, Canada

Figure 1



513870 Mineral Tenure Number

Jay 11 Minfile Prospect and #

△ 92ISE092

0 500 1000 1500m

Scale: metres

NAD83 UTM: Zone 10

Mapsheet 092I036

D. Blann, P.Eng.

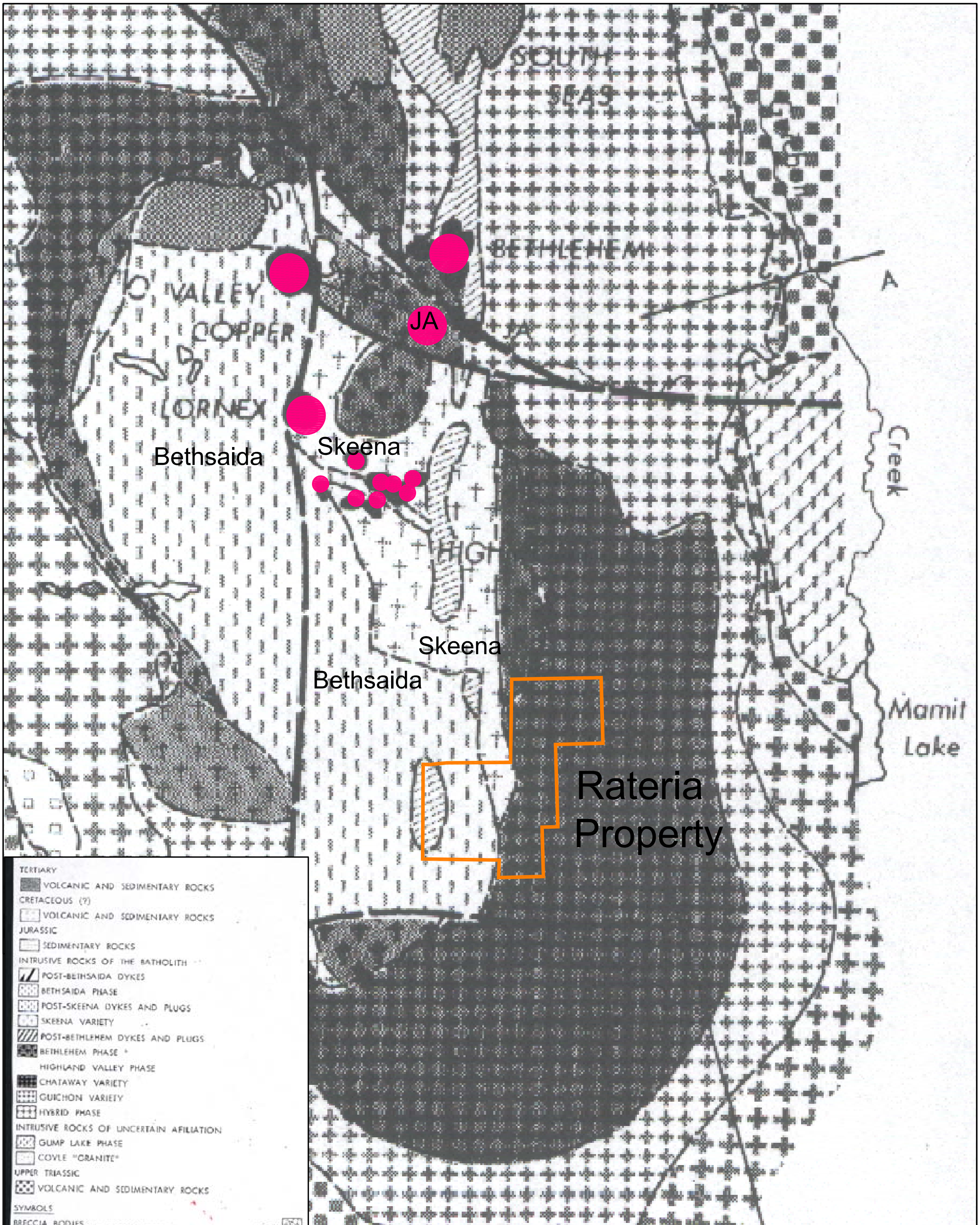
Happy Creek Minerals Ltd

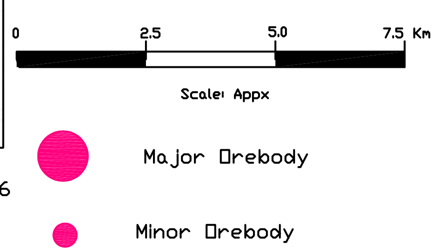
Rateria Property

Highland Valley, B.C.

Claim Location

Figure 2



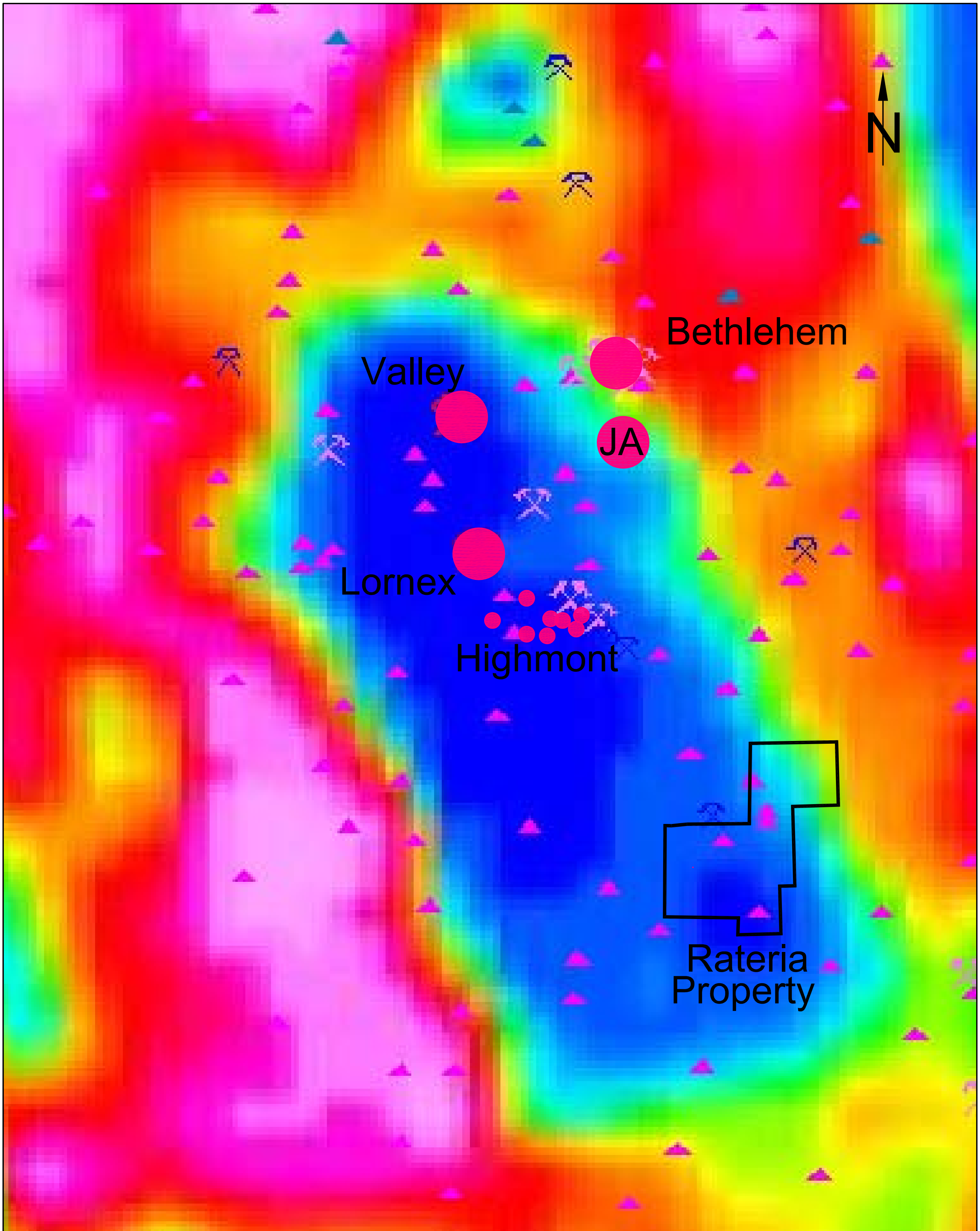


Geology in CIM Special Volume 15, 1976

Happy Creek Minerals Ltd
Rateria Property
Regional Geology
Kamloops Mining Division

Mapsheet 092I036
D. Blann, P.Eng.

Figure 3



Major Deposit

Minor Deposit

Minfile prospect

Prospect/ Developed

0 2.5 5.0 7.5 Km

Scale: Appx

Happy Creek Minerals Ltd

Rateria Property

Regional Aeromagnetics

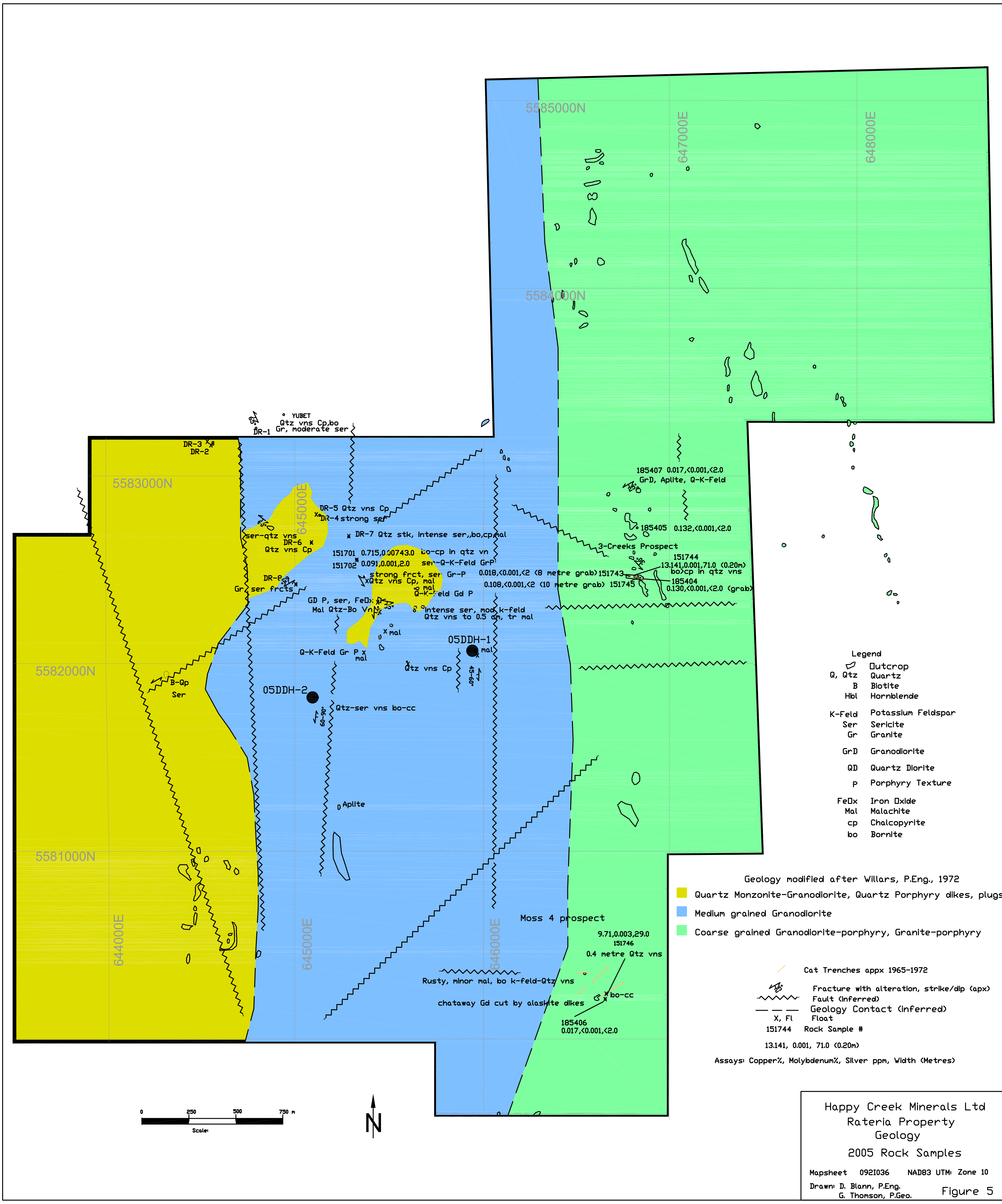
NAD83 UTM: Zone 10

Mapsheet 092I036

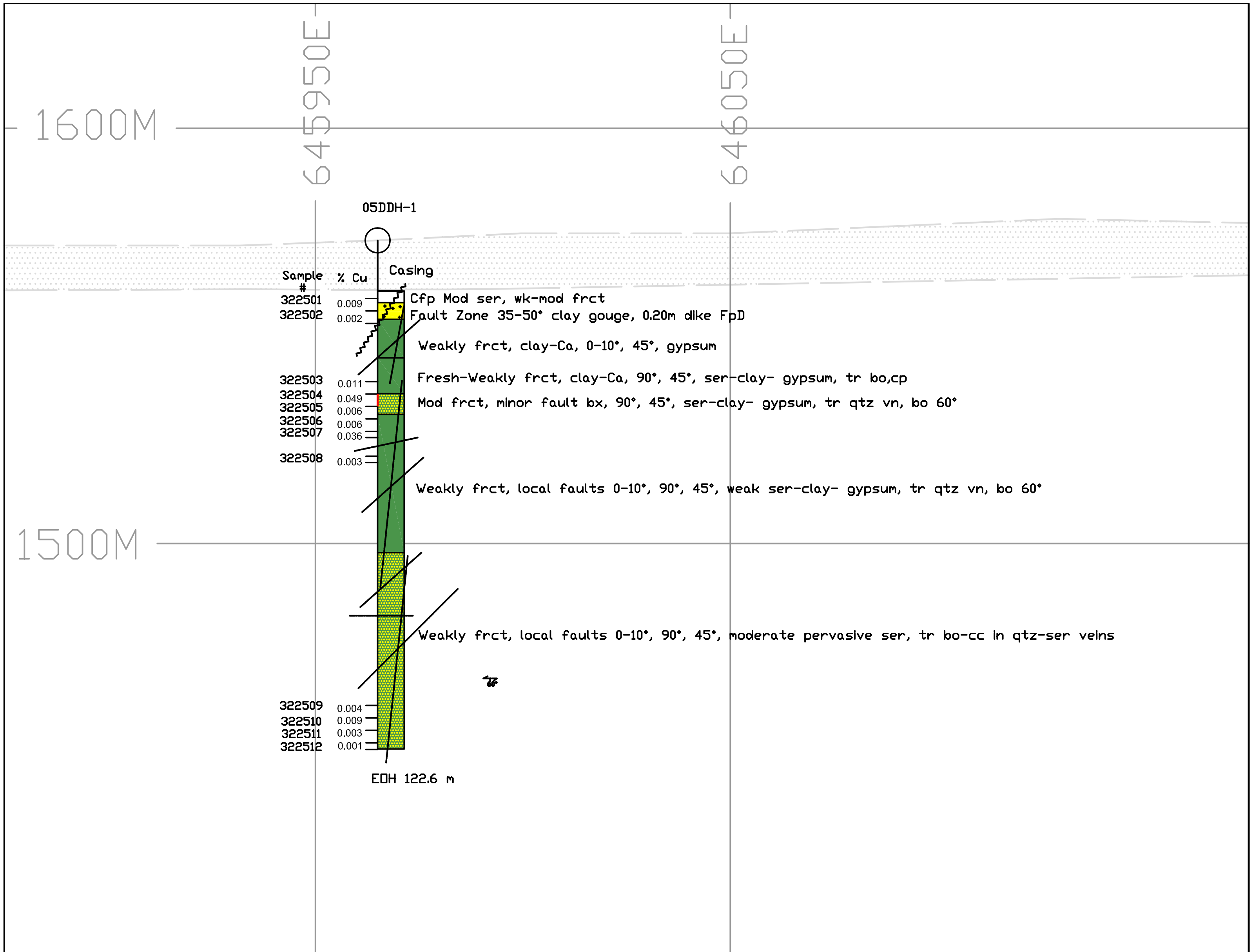
Kamloops Mining Division

D. Blann, P.Eng.

Figure 4



5585000N
5584000N
5583000N
5582000N
5581000N
644000E
645000E
646000E
647000E
648000E
YUBET
Qtz vns Cp,bo
Gr, moderate ser
DR-1
DR-3
DR-2
DR-5 Qtz vns Cp
DR-4 strong ser
DR-7 Qtz stk, intense ser,,bo,cp,mal
ser-qtz vns
DR-6
Qtz vns Cp
151701 0.715,0.00743.0 bo-cp in qtz vn
151702 0.091,0.001,2.0 ser-Q-K-Feld GrP
DR-8
Gr ser frcts
strong frct, ser Gr-P
Qtz vns Cp, mal
mal
Q-K-Feld Gd P
GD P, ser, FeOx
Mal Qtz-Bo Vn
intense ser, mod k-feld
Qtz vns to 0.5 cm, tr mal
mal
05DDH-1
mal
Q-K-Feld Gr P
mal
Qtz vns Cp
45-60°
B-Qp
Ser
05DDH-2
60-90°
Qtz-ser vns bo-cc
Aplite
185407 0.017,<0.001,<2.0
GrD, Aplite, Q-K-Feld
185405 0.132,<0.001,<2.0
3-Creeks Prospect
151744
13.141,0.001,71.0 (0.20m)
bo>cp in qtz vns
0.018,<0.001,<2 (8 metre grab) 151743
0.108,<0.001,<2 (10 metre grab) 151745
185404
0.130,<0.001,<2.0 (grab)
Moss 4 prospect
9.71,0.003,29.0
151746
0.4 metre Qtz vns
Rusty, minor mal, bo k-feld-Qtz vns
chataway Gd cut by alaskite dikes
bo-cc
185406
0.017,<0.001,<2.0
Legend
Outcrop
Q, Qtz Quartz
B Biotite
Hbl Hornblende
K-Feld Potassium Feldspar
Ser Sericite
Gr Granite
GrD Granodiorite
QD Quartz Diorite
P Porphyry Texture
FeOx Iron Oxide
Mal Malachite
cp Chalcopyrite
bo Bornite
Geology modified after Willars, P.Eng., 1972
Quartz Monzonite-Granodiorite, Quartz Porphyry dikes, plugs
Medium grained Granodiorite
Coarse grained Granodiorite-porphyry, Granite-porphyry
Cat Trenches appx 1965-1972
Fracture with alteration, strike/dip (apx)
Fault (inferred)
Geology Contact (inferred)
X, Fl Float
151744 Rock Sample #
13.141, 0.001, 71.0 (0.20m)
Assays: Copper%, Molybdenum%, Silver ppm, Width (Metres)
0 250 500 750 m
Scale:
N
Happy Creek Minerals Ltd
Rateria Property
Geology
2005 Rock Samples
Mapsheet 092I036 NAD83 UTM: Zone 10
Drawn: D. Blann, P.Eng.
G. Thomson, P.Geo.
Figure 5



Legend

- Sand Gravel, Glacial Till
- Qtz Vein and breccia +/- cp,bo,cc
- Moderate Silicification, sericite-carbonate-clay
- Hornblende-Biotite-Quartz Diorite, Granodiorite
- Pink, Fine grained Aplite, Quartz-Feldspar porphyry Dike
- × Float
- / Fault/Fracture

0 25 50 m

Scale:

Happy Creek Minerals Ltd

Rateria Property

2005 DDH - 1

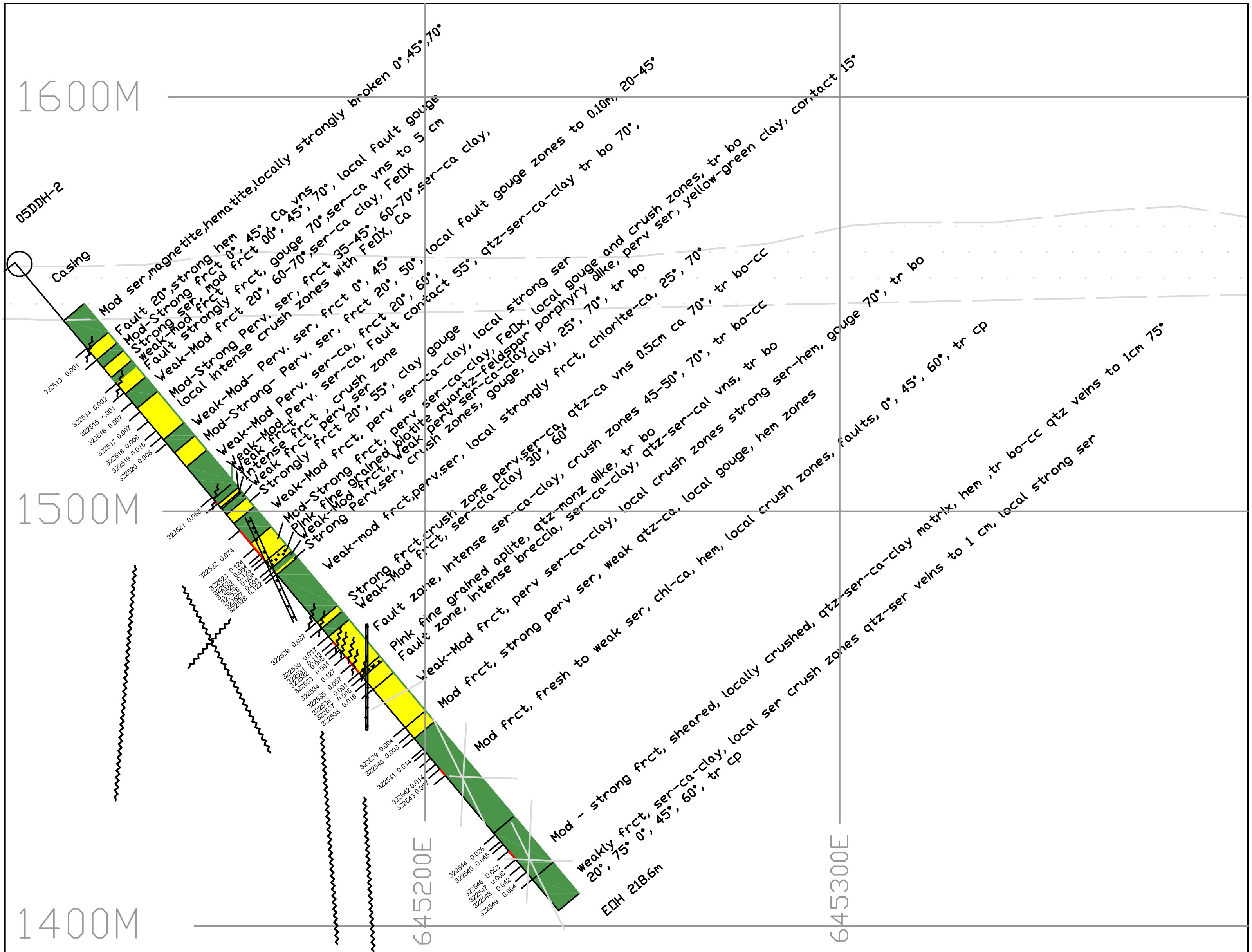
Cross Section

Facing North

Mapsheet 092I036 NAD83 UTM: Zone 10

D. Blann, P.Eng. January 31, 2006

Figure 6



Legend

- Sand Gravel, Glacial Till
- Qtz Vein and breccia +/- cp,bo,cc
- Moderate Silicification, sericite-carbonate-clay
- Hornblende-Biotite-Quartz Diorite, Granodiorite
- Pink, Fine grained Aplite, Quartz-Feldspar porphyry Dike
- × Float
- Fault / Fracture

Happy Creek Minerals Ltd

Rateria Property

2005 DDH - 2

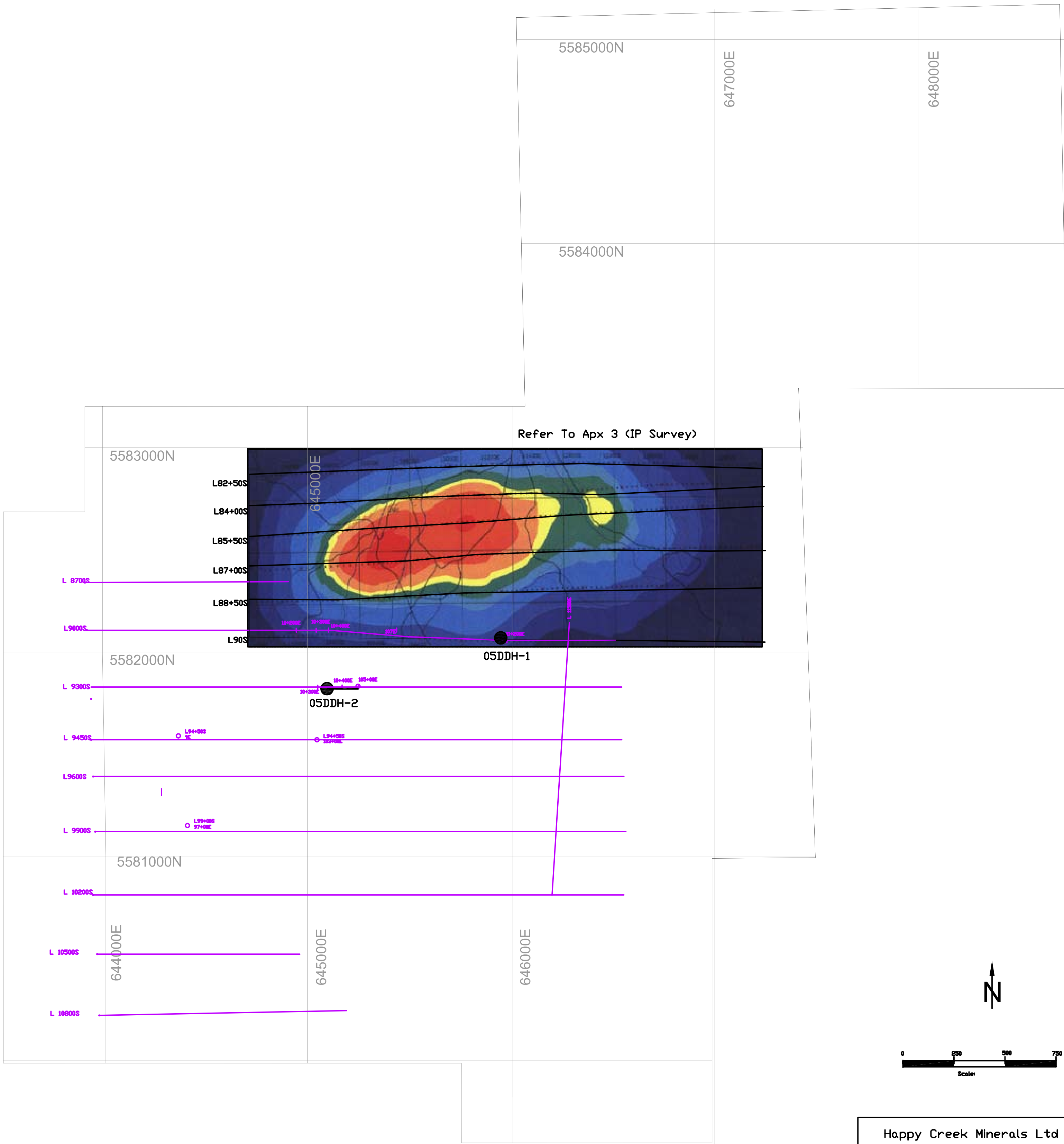
Cross Section

Facing North

Mapsheet 092I036 NAD83 UTM: Zone 10

D. Blann, P.Eng. January 31, 2006

Figure 7



2005 Happy Creek Minerals Ltd IP Grid

2000 Teck-Cominco IP Grid

Happy Creek Minerals Ltd
Rateria Property
2000, 2005 IPt Grid
IP Chg 250 metres below surface

Mapsheet 092I036 NAD83 UTM: Zone 10

Drawn: D. Blann, P.Eng.
G. Thomson, P.Geo.

Figure 8

Appendix 1

Assay Certificates

From ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716 @ CSV TEXT FORMAT
To Standard Metals PROJECT RATERIA
Acme file # A507579   Received: NOV 22 2005 *   12 samples in this disk file.
Analysis: GROUP 7AR - 1.000 GM SAMPLE, AQUA - REGIA (HCL-HNO3-H2O) DIGESTION TO 100 ML, ANALYSED BY ICP-ES.

ELEMENT	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Sr	Cd	Sb	Bi	Ca	P	Cr	Mg	Al	Na	K	W	Hg
SAMPLES	%	%	%	%	gm/mt	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
G-1	<.001	<.001	<.01	0.01	<2	<.001	<.001	0.05	1.95	<.01	0.009	<.001	<.001	<.01	0.84	0.085	0.001	0.64	1.02	0.08	0.54	<.001	<.001
C151701	0.007	0.715	0.01	<.01	43	<.001	<.001	0.01	1.71	<.01	0.001	<.001	<.001	<.01	0.08	0.008	0.001	0.08	0.18	0.01	0.1	<.001	<.001
C151702	0.001	0.091	<.01	<.01	2	<.001	<.001	0.02	1.22	<.01	0.003	<.001	<.001	<.01	0.86	0.04	<.001	0.45	1.08	0.05	0.14	<.001	<.001
C151743	<.001	0.018	<.01	<.01	<2	0.001	0.001	0.04	2.15	<.01	0.005	<.001	0.001	<.01	1.31	0.065	<.001	0.43	0.67	0.06	0.13	<.001	<.001
C151744	0.001	13.141	<.01	<.01	71	<.001	<.001	0.03	1.99	0.01	0.001	<.001	0.001	0.01	0.25	0.031	<.001	0.11	0.23	0.02	0.06	<.001	<.001
C151745	<.001	0.108	<.01	<.01	<2	0.001	0.001	0.04	2.28	<.01	0.003	<.001	<.001	<.01	0.64	0.072	0.001	0.27	0.67	0.05	0.18	<.001	<.001
C151746	0.003	9.712	<.01	<.01	29	<.001	<.001	0.02	0.93	<.01	0.003	<.001	<.001	0.01	1.32	0.002	<.001	0.47	0.04	0.01	<.01	<.001	<.001
B185404	<.001	0.13	<.01	0.01	<2	0.001	0.001	0.08	2.17	<.01	0.007	<.001	<.001	<.01	2.75	0.066	<.001	0.89	0.59	0.04	0.25	<.001	<.001
B185405	<.001	0.132	<.01	<.01	<2	0.001	0.001	0.03	2.38	<.01	0.002	<.001	0.001	<.01	0.62	0.069	0.001	0.76	0.87	0.07	0.26	<.001	<.001
B185406	<.001	0.017	<.01	0.01	<2	0.001	<.001	0.03	2.39	<.01	0.004	<.001	0.001	<.01	0.5	0.07	<.001	0.16	0.46	0.09	0.14	0.001	<.001
B185407	<.001	0.003	<.01	<.01	<2	<.001	<.001	0.02	1.52	<.01	0.002	<.001	0.001	<.01	1.16	0.043	<.001	0.49	1.12	0.04	0.11	<.001	<.001
STANDARD R-2a	0.051	0.565	1.55	4.11	152	0.357	0.042	0.2	22.26	0.22	0.169	0.028	0.126	<.01	2.17	0.084	0.068	1.65	1.37	0.2	0.5	0.067	0.173

From ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716 @ CSV TEXT FORMAT
To Standard Metals PROJECT RATERIA
Acme file # A507578 Page 1 Received: NOV 22 2005 * 55 samples in this disk file.
Analysis: GROUP 7AR - 1.000 GM SAMPLE, AQUA - REGIA (HCL-HNO3-H2O) DIGESTION TO 100 ML, ANALYSED BY ICP-ES.

ELEMENT	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Sr	Cd	Sb	Bi	Ca	P	Cr	Mg	Al	Na	K	W	Hg	Sample
SAMPLES	%	%	%	%	gm/mt	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	kg
G-1	<.001	<.001	<.01	<.01	<2	0.001	<.001	0.06	1.99	<.01	0.007	<.001	<.001	<.01	0.58	0.078	0.006	0.61	1.01	0.09	0.52	<.001	<.001	-
322501	0.001	0.009	<.01	<.01	<2	<.001	<.001	0.08	1.29	<.01	0.004	<.001	0.001	<.01	1.82	0.044	<.001	0.37	0.69	0.06	0.23	<.001	<.001	5.58
322502	<.001	0.002	<.01	<.01	<2	<.001	<.001	0.07	1.24	<.01	0.006	<.001	<.001	<.01	1.69	0.039	<.001	0.33	0.72	0.07	0.22	0.001	<.001	3.1
322503	<.001	0.011	<.01	<.01	<2	<.001	<.001	0.05	1.49	<.01	0.004	<.001	<.001	<.01	1	0.043	0.001	0.36	0.75	0.09	0.19	<.001	<.001	6.94
322504	<.001	0.049	<.01	<.01	<2	<.001	<.001	0.07	1.52	<.01	0.006	<.001	0.001	<.01	1.4	0.045	0.001	0.41	0.89	0.1	0.21	<.001	<.001	5.54
322505	<.001	0.006	<.01	<.01	<2	<.001	<.001	0.05	1.4	<.01	0.008	<.001	<.001	<.01	1.29	0.041	<.001	0.41	1.11	0.17	0.22	<.001	<.001	5.74
322506	<.001	0.006	<.01	<.01	<2	<.001	<.001	0.05	1.55	<.01	0.006	<.001	0.001	<.01	0.92	0.04	0.001	0.4	0.82	0.09	0.13	<.001	0.001	6.2
322507	<.001	0.036	<.01	<.01	<2	<.001	<.001	0.05	1.44	<.01	0.007	<.001	<.001	<.01	1.3	0.041	<.001	0.41	0.86	0.09	0.19	<.001	<.001	3.46
322508	<.001	0.003	<.01	0.01	<2	<.001	<.001	0.06	1.05	<.01	0.016	<.001	0.001	<.01	3.76	0.041	<.001	0.16	0.62	0.02	0.31	0.001	<.001	2.9
322509	<.001	0.004	<.01	<.01	<2	<.001	<.001	0.06	1.07	<.01	0.011	<.001	<.001	<.01	1.32	0.026	<.001	0.38	0.99	0.15	0.25	<.001	<.001	5.88
322510	0.001	0.009	<.01	<.01	<2	<.001	<.001	0.06	1.34	<.01	0.009	<.001	<.001	<.01	1.55	0.036	<.001	0.39	0.88	0.11	0.24	0.001	<.001	6.1
322511	0.001	0.003	<.01	<.01	<2	<.001	<.001	0.07	1.41	<.01	0.009	<.001	<.001	<.01	1.58	0.043	<.001	0.36	1.01	0.13	0.28	<.001	<.001	7.02
322512	<.001	0.001	<.01	<.01	<2	<.001	<.001	0.09	1.32	<.01	0.009	<.001	<.001	<.01	1.9	0.039	<.001	0.4	1	0.1	0.27	0.001	<.001	3.8
322513	<.001	0.001	<.01	<.01	<2	<.001	<.001	0.04	1.15	<.01	0.006	<.001	<.001	<.01	2.09	0.04	<.001	0.19	0.6	0.06	0.18	0.001	<.001	4.84
322514	<.001	0.002	<.01	<.01	<2	<.001	<.001	0.06	1.23	<.01	0.012	<.001	<.001	<.01	1.77	0.039	0.001	0.32	0.69	0.06	0.2	<.001	<.001	5.46
322515	<.001	<.001	<.01	<.01	<2	<.001	<.001	0.04	1.29	<.01	0.02	<.001	0.001	<.01	1.19	0.041	<.001	0.3	0.67	0.07	0.12	<.001	<.001	5.64
322516	<.001	0.007	<.01	<.01	<2	<.001	<.001	0.06	1.14	<.01	0.011	<.001	<.001	<.01	1.95	0.038	<.001	0.21	0.55	0.04	0.21	<.001	<.001	6.66
322517	<.001	0.007	<.01	<.01	<2	<.001	<.001	0.07	0.94	<.01	0.008	<.001	<.001	<.01	2.57	0.039	<.001	0.2	0.4	0.05	0.27	0.001	<.001	6.4
322518	<.001	0.006	<.01	<.01	<2	<.001	<.001	0.06	1.08	<.01	0.007	<.001	<.001	<.01	1.96	0.038	<.001	0.29	0.47	0.06	0.23	0.001	<.001	5.18
322519	<.001	0.015	<.01	<.01	<2	<.001	<.001	0.07	1.06	<.01	0.008	<.001	0.001	<.01	2.28	0.037	<.001	0.34	0.46	0.05	0.24	0.001	<.001	2.22
322520	<.001	0.008	<.01	<.01	<2	<.001	<.001	0.05	1.2	<.01	0.015	<.001	0.001	<.01	1.34	0.038	<.001	0.29	0.68	0.06	0.14	<.001	<.001	3
322521	<.001	0.058	<.01	<.01	<2	<.001	<.001	0.14	1.02	<.01	0.013	<.001	<.001	<.01	2.5	0.038	<.001	0.18	0.58	0.03	0.35	0.001	<.001	3.7
RE 322521	<.001	0.057	<.01	<.01	<2	<.001	<.001	0.14	0.99	<.01	0.013	<.001	0.001	<.01	2.47	0.041	<.001	0.18	0.55	0.03	0.34	<.001	<.001	-
RRE 322521	<.001	0.049	<.01	<.01	<2	<.001	<.001	0.15	1.04	<.01	0.013	<.001	0.001	<.01	2.53	0.039	<.001	0.19	0.59	0.04	0.36	<.001	<.001	-
322522	<.001	0.074	<.01	<.01	<2	<.001	<.001	0.11	1.08	<.01	0.009	<.001	<.001	<.01	2.05	0.038	<.001	0.24	0.58	0.04	0.31	<.001	<.001	3.08
322523	<.001	0.124	<.01	<.01	<2	<.001	<.001	0.14	1.05	<.01	0.008	<.001	0.001	<.01	2.66	0.043	0.001	0.21	0.57	0.04	0.4	0.001	<.001	3.96
322524	<.001	0.064	<.01	0.01	<2	<.001	<.001	0.09	1.23	<.01	0.011	<.001	<.001	<.01	1.63	0.04	<.001	0.29	0.71	0.05	0.31	0.001	<.001	1.84
322525	0.001	0.123	<.01	<.01	<2	<.001	<.001	0.08	1.15	<.01	0.011	<.001	<.001	<.01	1.52	0.04	<.001	0.26	0.68	0.06	0.31	<.001	<.001	3.28
322526	<.001	0.006	<.01	<.01	<2	<.001	<.001	0.02	0.39	<.01	0.005	<.001	<.001	<.01	0.9	0.008	<.001	0.06	0.29	0.06	0.19	<.001	<.001	4.72
322527	<.001	0.001	<.01	<.01	<2	<.001	<.001	0.05	1.49	<.01	0.01	<.001	0.001	<.01	1.11	0.043	<.001	0.44	0.92	0.1	0.16	0.001	<.001	1.98
322528	<.001	0.122	<.01	<.01	<2	<.001	<.001	0.11	0.92	<.01	0.007	<.001	<.001	<.01	2.15	0.043	<.001	0.21	0.52	0.04	0.33	0.001	<.001	3.46
322529	<.001	0.037	<.01	<.01	<2	<.001	<.001	0.09	1.18	<.01	0.011	<.001	<.001	<.01	1.95	0.044	<.001	0.28	0.68	0.05	0.26	0.001	<.001	3.84
322530	<.001	0.017	<.01	<.01	<2	<.001	<.001	0.09	1.19	<.01	0.011	<.001	0.001	<.01	1.91	0.042	<.001	0.27	0.57	0.05	0.26	0.001	<.001	3.26
322531	<.001	0.11	<.01	<.01	<2	<.001	<.001	0.1	0.79	<.01	0.008	<.001	<.001	<.01	2.15	0.042	<.001	0.15	0.4	0.02	0.36	<.001	<.001	2.58
322532	<.001	0.005	<.01	<.01	<2	<.001	<.001	0.1	0.82	<.01	0.013	<.001	<.001	<.01	3.02	0.043	<.001	0.14	0.49	0.02	0.36	<.001	<.001	2.76
STANDARD R-2a	0.046	0.56	1.52	4.24	156	0.362	0.043	0.2	22.34	0.22	0.173	0.028	0.129	<.01	2.22	0.077	0.068	1.64	1.32	0.19	0.5	0.072	0.175	-
G-1	<.001	<.001	<.01	<.01	<2	<.001	<.001	0.05	1.94	<.01	0.009	<.001	<.001	<.01	0.83	0.088	0.001	0.65	1.07	0.11	0.6	<.001	<.001	-
322533	<.001	0.001	<.01	<.01	<2	<.001	<.001	0.05	1.01	<.01	0.012	<.001	<.001	<.01	2.13	0.041	<.001	0.13	0.58	0.04	0.32	0.001	<.001	2.76
322534	<.001	0.127	<.01	<.01	<2	<.001	<.001	0.11	0.69	<.01	0.012	<.001	0.001	<.01	2.84	0.04	<.001	0.11	0.49	0.02	0.42	<.001	<.001	5.2
RE 322534	<.001	0.128	<.01	<.01	<2	<.001	<.001	0.11	0.68	<.01	0.012	<.001	0.001	<.01	2.82	0.041	<.001	0.11	0.49	0.02	0.41	0.001	<.001	-
RRE 322534	<.001	0.122	<.01	<.01	<2	<.001	<.001	0.1	0.64	<.01	0.011	<.001	<.001	<.01	2.73	0.04	<.001	0.1	0.47	0.02	0.4	<.001	<.001	-
322535	<.001	0.057	<.01	<.01	<2	<.001	<.001	0.07	0.63	<.01	0.013	<.001	<.001	<.01	1.93	0.03	<.001	0.14	0.44	0.03	0.31	<.001	<.001	4.44
322536	<.001	0.001	<.01	<.01	<2	<.001	<.001	0.02	0.65	<.01	0.013	<.001	<.001	<.01	0.97	0.02	0.001	0.14	0.38	0.06	0.17	0.001	<.001	2.64
322537	<.001	0.005	<.01	<.01	<2	<.001	<.001	0.06	0.38	<.01	0.011	<.001	0.001	<.01	2.19	0.021	<.001	0.08	0.37	0.03	0.36	0.001	<.001	4.66
322538	<.001	0.018	<.01	<.01	<2	<.001	<.001	0.05	0.84	<.01	0.012	<.001	<.001	<.01	2.3	0.036	<.001	0.13	0.53	0.04	0.35	0.001	<.001	2.96
322539	<.001	0.004	<.01	<.01	<2	<.001	<.001	0.04	0.83	<.01	0.011	<.001	0.001	<.01	1.8	0.039	<.001	0.14	0.43	0.05	0.26	<.001	<.001	4.3
322540	<.001	0.003	<.01	<.01	<2	<.001	<.001	0.04	0.76	<.01	0.015	<.001	<.001	<.01	2.15	0.04	<.001	0.12	0.47	0.04	0.25	<.001	<.001	2.54
322541	<.001	0.014	<.01	<.01	<2	<.001	<.001	0.05	0.9	<.01	0.011	<.001	<.001	<.01	1.88	0.037	<.001	0.2	0.55	0.05	0.31	<.001	<.001	1.58
322542	<.001	0.014	<.01	<.01	<2	<.001	<.001	0.06	1.07	<.01	0.008	<.001	0.001	<.01	1.63	0.039	<.001	0.27	0.56	0.05	0.2	<.001	<.001	2.74
322543	0.001	0.057	<.01	<.01	<2	<.001	<.001	0.08	1	<.01	0.009	<.001	0.001	<.01	2.32	0.047	0.001	0.18	0.54	0.04	0.36	0.001	<.001	4.28
322544	<.001	0.026	<.01	<.01	<2	<.001	<.001	0.11	0.72	<.01	0.007	<.001	<.001	<.01	2.22	0.039	<.001	0.13	0.42	0.03	0.34	0.001	<.001	4.32
322545	<.001	0.045	<.01	<.01	<2	<.001	<.001	0.16	0.85	<.01	0.011	<.001	0.001	<.01	3.49	0.039	<.001	0.08	0.52	0.02	0.45	<.001	<.001	2.02
322546	<.001	0.053	<.01	<.01	<2	<.001	<.001	0.13	0.54	<.01	0.008	<.001	<.001	<.01	2.67	0.038	<.001	0.08	0.44	0.02	0.42	<.001	<.001	5.24
322547	<.001	0.006	<.01	<.01	<2	<.001	<.001	0.1	1.04	<.01	0.017	<.001	0.001	<.01	3.25	0.038	0.001	0.18	0.68	0.03	0.32	<.001	<.001	4.16
322548	0.001	0.042	<.01	0.01	<2	<.001	<.001	0.11	0.4	<.01	0.01	<.001	0.003	<.01	2.77	0.034	0.001	0.08	0.41	0.01	0.43	0.001	<.001	4.02
322549	<.001	0.004	<.01	<.01	<2	<.001	<.001	0.06	1.1	<.01	0.016	<.001	<.001	<.01	1.78	0.038	<.001	0.31	0.79	0.07	0.23	<.001	<.001	3.88
STANDARD R-2a	0.046	0.564	1.54	4.22	156	0.368	0.043	0.2	22.58	0.23	0.179	0.029	0.13	<.01	2.21	0.08	0.069	1.65	1.32	0.2	0.52	0.078	0.178	-

Appendix 2

Diamond Drill Logs

Interval				Alteration												Copper Minerals (%)							Assay Data			
From (m)	To (m)	Rock Code	Geological Description	Qvn>5mm/m	Frct>5mm/m	Chlorite	Epidote	Sericite	Silica	K-Feldspar	Carbonate	Clay	FeOx	MnOx	Zeolite	Pyrite	Chalcopyrite	Bornite	Chalcocite	Malachite / Azurite	Native Cu	Molybdenite	Sample No.	From (m)	To (m)	Interval (m)
0.0	12.2	CAS	Casing. Sand, boulders.																							
12.2	15.0	BQD	Biotite quartz diorite. Locally coarse, 10% biotite + hbl, 5% magnetite replacing mafics, 25% quartz. Zoned, pale green, medium grained crowded plagioclase. Moderately replaced by sericite. Quartz phenocrysts 2-3mm. Variable interstitial orange-pink K-feldspar. Wk-mod. fractured.	-	2	1	1	3	-	1	1	1	-	-	1	-	0.05	0.05	-	-	-	-	322501	14	17	3
			14.47-15.0 m Clay gouge fault, C.A. 45°, clay slips < 5 mm, C.A. 0°, 90°.																							
15.0	19.0	BQD	As above. Strongly fractured, fault zone, C.A. 35-50°+0°, clay gouge, Bx. Possible 20 cm dike of Fpd in fault (fewer mafics)	-	5	1	1	3	-	1	2	3	0.1	-	1	-	0.05	0.05	-	-	-	-	322502	17	20	3
19	28.3	BQD	As above. Wk-mod fractured. Clay +/- calcite filled, flakey sericite, C.A. 0-10°m 45°. Gypsum in fractures.	-	2	1	1	2	-	-	1	1	-	-	-	-	0.05	0.05	-	-	-	-				
28.3	37.0	BQD	As above. Fresh, weakly acid. Weakly factured, C.A. 0, 45, 90°, Sericite, clay filled +/- gypsum.	-	1	-	2	-	-	1	1	-	-	-	-	-	0.05	0.05	-	0.1	-	-	322503	34	37	3
			At 34.1 m 2 mm sericite fracture with trace bornite and chalcopyrite.																				322504	37	40	3
37.0	42.0	BQD	As above. Mod. Broken core, fractures 1-5 mm filled by clay, C.A. 0,45,90°.	-	3	-	1	3	-	-	1	2	0.1	-	-	-	-	0.1	-	-	-	-	322505	40	43	3
			At 39.5 m 5 cm fault breccia, gouge with quartz + bornite, C.A. 60°.																				322506	43	46	3
42	75.3	BQD	As above. Weakly broken core, fractures 1-5 mm, sericite gypsum, clay 0-20°, 45-60°. Variably altered to sericite. Magnetite replacing mafics.	-	2	-	1	3	-	-	1	2	1	-	-	-	-	0.05	-	-	-	-	322507	46	47.5	1.5
			44.7-48.1 m Clay slip 0-10° C.A.																				322508	52	53.5	1.5
			46.0-46.4 m Sericite-clay 3-5 mm, 0-10° and Bo+/-Qtz in fractures, 80° C.A.																							
			52.0-52.6 m Gouge in fault breccia, C.A. 45-60°, strong green sericite.																							
			53.9-54.2 m Fault breccia-gouge C.A. 60°, hem.																							
			55.5-56.5 m Mod - strongly broken core, C.A. 20°, 45-60o, weak Hem-Ser-gypsum-clay.																							
			68.7-69.6 m Pale pink-cream fine grained feldspar porphyry aplite sill, C.A. 75°.																							
			70.4-70.7 m Fault Bx, clay gouge, C.A. 45°, 0-20°.																							
			72.32-73.3 m 10 cm fault gouge, strong fracturing 10°, 75° clay.																							
			74.3-75.3 m Aplite, 80° C.A.																							
75.3	122.6	BQD	As above. Weakly fractured, fresh to moderate pervasive sericite.	-	0.5	-	1	2	-	-	-	1	-	-	1	-	-	Tr	-	Tr	-	-	322509	112	115	3
			89.5-89.6 m Fault Bx-gouge C.A. 75°																				322510	115	118	3
			104-106 m Moderately broken core, Aplite + Quartz vein (1 cm) C.A. 75°, fractures20-45°,																				322511	118	121	3
			112.3-113.6 m Weakly broken C.A. 10-45°																				322512	121	122.6	1.6
			At 114.3 m 0.05 cm Bx, Bo, Mal C.A. 20°.																							
			At 115.6 m 0.1 cm fracture Bo, Mal, C.A. 20°																							
			At 118.5 m 0.1 mm fracture Bo, Mal, C.A. 80°																							
122.6			End of hole.																							

Sample No.	From (m)	To (m)	Interval (m)	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Sr	Cd	Sb	Bi	Ca	P	Cr	Mg	Al	Na	K	W	Hg	Sample
				%	%	%	%	gm/mt	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	kg
322501	14	17	3	0.001	0.009	<.01	<.01	<2	<.001	<.001	0.08	1.29	<.01	0.004	<.001	0.001	<.01	1.82	0.044	<.001	0.37	0.69	0.06	0.23	<.001	<.001	5.58
322502	17	20	3	<.001	0.002	<.01	<.01	<2	<.001	<.001	0.07	1.24	<.01	0.006	<.001	<.001	<.01	1.69	0.039	<.001	0.33	0.72	0.07	0.22	0.001	<.001	3.1
322503	34	37	3	<.001	0.011	<.01	<.01	<2	<.001	<.001	0.05	1.49	<.01	0.004	<.001	<.001	<.01	1	0.043	0.001	0.36	0.75	0.09	0.19	<.001	<.001	6.94
322504	37	40	3	<.001	0.049	<.01	<.01	<2	<.001	<.001	0.07	1.52	<.01	0.006	<.001	0.001	<.01	1.4	0.045	0.001	0.41	0.89	0.1	0.21	<.001	<.001	5.54
322505	40	43	3	<.001	0.006	<.01	<.01	<2	<.001	<.001	0.05	1.4	<.01	0.008	<.001	<.001	<.01	1.29	0.041	<.001	0.41	1.11	0.17	0.22	<.001	<.001	5.74
322506	43	46	3	<.001	0.006	<.01	<.01	<2	<.001	<.001	0.05	1.55	<.01	0.006	<.001	0.001	<.01	0.92	0.04	0.001	0.4	0.82	0.09	0.13	<.001	0.001	6.2
322507	46	47.5	1.5	<.001	0.036	<.01	<.01	<2	<.001	<.001	0.05	1.44	<.01	0.007	<.001	<.001	<.01	1.3	0.041	<.001	0.41	0.86	0.09	0.19	<.001	<.001	3.46
322508	52	53.5	1.5	<.001	0.003	<.01	0.01	<2	<.001	<.001	0.06	1.05	<.01	0.016	<.001	0.001	<.01	3.76	0.041	<.001	0.16	0.62	0.02	0.31	0.001	<.001	2.9
322509	112	115	3	<.001	0.004	<.01	<.01	<2	<.001	<.001	0.06	1.07	<.01	0.011	<.001	<.001	<.01	1.32	0.026	<.001	0.38	0.99	0.15	0.25	<.001	<.001	5.88
322510	115	118	3	0.001	0.009	<.01	<.01	<2	<.001	<.001	0.06	1.34	<.01	0.009	<.001	<.001	<.01	1.55	0.036	<.001	0.39	0.88	0.11	0.24	0.001	<.001	6.1
322511	118	121	3	0.001	0.003	<.01	<.01	<2	<.001	<.001	0.07	1.41	<.01	0.009	<.001	<.001	<.01	1.58	0.043	<.001	0.36	1.01	0.13	0.28	<.001	<.001	7.02
322512	121	122.6	1.6	<.001	0.001	<.01	<.01	<2	<.001	<.001	0.09	1.32	<.01	0.009	<.001	<.001	<.01	1.9	0.039	<.001	0.4	1	0.1	0.27	0.001	<.001	3.8

Interval				Alteration												Copper Minerals (%)							Assay Data			
From (m)	To (m)	Rock Code	Geological Description	Qvn>5mm/m	Frct>5mm/m	Chlorite	Epidote	Sericite	Silica	K-Feldspar	Carbonate	Clay	FeOx	MnOx	Zeolite	Pyrite	Chalcopyrite	Bornite	Chalcocite	Malachite / Azurite	Native Cu	Molybdenite	Sample No.	From (m)	To (m)	Interval
0.0	18.3	CAS	Casing. Sandy till and boulders.																							
18.3	27.4	BQD	Medium grained biotite quartz diorite, <10% K-feldspar (interstitial), scattered large biotite phenocrysts. Plagioclase/Biotite replaced 40% with pale green sercite+/-magnetite, hematite.	-	2	-	1	3	-	-	1	1	2	-	-	-	-	-	-	-	-	-				
			18.3-20.8 m Strongly broken C.A. 0, 45, 70° along sericite-clay filled fractures.																							
			23.8-26.0 m Strongly broken as above. Hematite/FeOx coated fractures increasing down section.																							
27.4	30.7	FLT	Fault Zone. BQD - Strongly fractured/broken core, strong FeOx, +/-Lim on fractures, strong hematite replacing magnetite.	-	10	-	1	4	-	-	3	3	3	-	-	-	-	-	-	-	-	-	322513	27	30.7	3.7
			30.0-30.2 m Clay gouge C.A. 20°, 1 cm carbonate vein C.A. 10°.																							
30.7	33.1	BQD	As at 18.3-27.4m. Mod-strongly fractured, broken core. Weak-mod sericite factures 1-3mm, 5-10/m C.A. 0,45°. 5 mm carbonate vein C.A. 30°.	-	2	-	1	2	-	-	2	2	1	-	1	-	-	-	-	-	-	-				
33.1	36.0	BQD	As above. Very strong sericite 75% replacing plagioclase and mafics. Core is pervasive pale green, moderately fractured C.A. 20, 45, 70°, mod FeOx, Hem.	-	3	-	1	4	-	-	2	2	3	-	1	-	-	-	-	-	-	-				
			35.8-36.0 m Fault gouge C.A. 45°.																							
36	37.7	BQD	As above. Weak-mod fractured.	-	1	-	1	2	-	-	1	1	2	-	1	-	-	-	-	-	-	-				
37.7	41.2	FLT	Fault Zone. BQD, strongly fractured, mod FeOx.	-	7	1	1	3	-	-	3	3	3	-	1	-	-	-	-	-	-	-	322514	38	41	3
			38.1-38.6 m Clay gouge C.A. 70°.																							
			39.0-41.2 m Subparallel fault. Sericite-carbonate 5 cm.																							
41.2	45.7	BQD	As above. Weak-mod fractured. Sericite-carbonate clay filled, red-orange clay gouge in fractures C.A. 20°, 60-70°. Patchy FeOx.	-	2	1	1	2	-	-	2	2	2	-	-	-	-	-	-	-	-	-	322515	41	44	3
45.7	55.6	QD	Medium grained quartz diorite similar to above, fewer mafics. Pervasive pale green matrix. Feldspars + mafics 80% replaced with sericite. Mod-strongly fractured, locally intense crushing + clay fillings. Carbonate veins 1-10 mm C.A. 60°, 30°.																				322516	44	47	3
			46.0-46.3 m Clay fault gouge C.A. 35-40°.																				322517	47	50	3
			47.0-47.1 m Clay fault gouge C.A. 35-40°.																				322518	50	53	3
			50.0-50.1 m Clay fault gouge C.A. 45, 20°.																				322519	53	55	2
			51.7-51.9 m Clay fault gouge C.A. 45, 20°, strong bleaching, FeOx.																							
			54.4-54.7 m Clay fault gouge C.A. 60°,																							
			55.0-55.6 m Clay fault gouge C.A. 60°, poor recovery (approx. 50%).																							
55.6	59.7	BQD	As above. Weak-mod fractured. Weak-mod pervasive sericite + biotite - magnetite in part replaced with Ser / Hem. C.A. 0, 45°.	-	3	1	1	2	-	-	2	2	2	-	-	-	-	-	-	-	-	-	322520	55	57	2
59.7	64.2	BQD	As above. Mod-strongly broken, pervasive sericite, fractures have less clay, C.A. 20°, 50°.	1	5	1	1	3	-	-	3	2	1	-	-	-	-	-	-	-	-	-				
			60.0-60.1 m Fault gouge C.A. 20°.																							

Interval				Alteration												Copper Minerals (%)							Assay Data			
From (m)	To (m)	Rock Code	Geological Description	Qvn>5mm/m	Frct>5mm/m	Chlorite	Epidote	Sericite	Silica	K-Feldspar	Carbonate	Clay	FeOx	MnOx	Zeolite	Pyrite	Chalcopyrite	Bornite	Chalcocite	Malachite / Azurite	Native Cu	Molybdenite	Sample No.	From (m)	To (m)	Interval
			62.1-62.4 m Fault gouge (10 cm) C.A. 20°.																							
			63.8 - 63.9 m Fault gouge C.A. 45°.																							
			64.1-64.3 m Fault gouge C.A. 45°.																							
64.2	74.3	BQD	As above. Weak-mod fractured with sericite-carbonate-clay fillings C.A. 20, 60°. Moderately broken core. Moderate patchy pervasive sericite hematite replacing mafics, magnetite.	+	2	1	1	3	-	-	2	2	1	-	-	-	-	-	-	-	-	-				
			72.0-74.3 m Increasing fracturing.																							
74.3	76.1	BQD	As above. 55° C.A. Fault contact. Mod-strongly fractured, pervasive ser-carb-clay. 1 cm Qtz-ser veins with bornite C.A. 70° at 75.32 m. 0.5 cm Q-ser-Ca vein C.A. 70° at 75.7m.	1	3	-	1	4	1	-	3	3	1	-	-	-	-	0.1	-	-	-	-	322521	74	76	2
76.1	77.1	BQD	As above. Weakly fractured.	-	1	1	1	1	-	-	2	1	-	-	-	-	-	-	-	-	-	-				
77.1	77.5	FLT	Fault zone. BQD intensely fractured.	-	10	2	1	3	-	-	3	2	-	-	1	-	-	-	-	-	-	-				
77.5	79.3	BQD	As above. Weakly fractured. Weak pervasive Ser.	-	3	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-				
79.3	82.1	BQD	As above. Strongly broken, mod-strong pervasive sericite+/-Ca-clay, Hem, replacing plagioclase, mafics.	+		4	2	1	4	-	-	1	1	-	-	-	-	-	-	-	-	-				
			79.5-79.6 m Clay-carb gouge C.A. 20°.																							
			81.0-81.03 m Clay-carb gouge C.A.55°.																							
			81.7-82.1 m Strongly broken, Chl-Ca C.A. 50°, 0°.																							
82.1	88.4	BQD	As above. Weak-mod fracturing, Ser-Ca-clay fillings, locally strongly broken and strong pale green sericite.	-	1	1	1	2	+	-	1	1	-	-	1	-	-	-	-	-	-	-				
88.4	94	BQD	As above. Mod-strongly fractured, faulted with breccia + clay gouge zones. Strong pervasive pale green flaky sericite. Magnetite replaced by hematite+/-Bo-Cc +in veinlets 0.1 mm - 1.0 mm locally clots/blebs of Bo-Cc.	2	10	2	-	4	-	1	2	4	2	-	-	-	-	0.05	0.05	-	-	-	322522	84.4	90	5.6
			88.4-89.2 m Gouge and crush zone / Bx, C.A. 70, 25°																				322523	90	92	2
			90.2-90.6 m Bo-Hem disseminated in Ser matrix																				322524	92	93	1
			91.4-92.6 m Intense fault; crush zone, clay gouge, trace disseminated Bo, Qtz-Ca veins, C.A. 70, 20°																				322525	93	94	1
			93.6-93.8 m Crush zone, trace Bo disseminated.																							
94	96.2	Fp	Pink, fine grained biotite-quartz feldspar porphyry, glassy matrix, dike. Mafics altered 90% to sericite, yellow-green clay altered feldspar. Lower contact C.A. 15° sharp. Core is strongly broken.	-	1	-	-	3	1	3	2	2	2	-	-	-	-	0.05	-	-	-	-	322526	94	96.2	2.2
96.2	97.3	BQD	As previous. Weak-mod fractured, weak sericite.	-	3	1	1	3	0	2	2	1	-	1	-	-	-	-	-	-	-	-	322527	96.2	97.3	1.1
97.2	98.2	BQD	Strong pervasive sericite crush zone +/- gouge, clay. Trace Bo-Hem replacing magnetite in matrix and minor in fractures/veins, C.A. 70 and 25°.	-	7	1	1	4	-	-	3	3	3	-	-	-	-	0.05	0.05	-	-	-	322528	97.3	98.2	0.9
98.2	113.3	BQD	As previous. Weak-mod fractured, pervasive sericite.	-	3	1	1	2	-	-	2	2	1	-	-	-	-	-	-	-	-	-				
			107.0-108.4 m Strongly broken, + Ser.																							
			109.9-110.5 m Strongly broken. Pervasive Ser-Chl+/-Carb, C.A. 25,70°.																							
113.3	115.1	BQD	Crush zone, strong pervasive Ser+/-Carb, Qtz-Ca veins 0.5 cm, C.A. 70°, trace Bo-Cc in matrix and veinlets.	2	10	1	1	4	1	1	3	2	3	-	-	-	-	0.05	0.05	-	-	-	322529	113.3	115.1	1.8

Interval				Alteration												Copper Minerals (%)							Assay Data			
From (m)	To (m)	Rock Code	Geological Description	Qvn>5mm/m	Frct>5mm/m	Chlorite	Epidote	Sericite	Silica	K-Feldspar	Carbonate	Clay	FeOx	MnOx	Zeolite	Pyrite	Chalcopyrite	Bornite	Chalcocite	Malachite / Azurite	Native Cu	Molybdenite	Sample No.	From (m)	To (m)	Interval
115.1	117.7	BQD	Weak-mod fractured with Ser-Clay-Carb fractures, C.A. 30, 60°.	-	5	1	1	3	-	1	2	2	1	-	-	-	-	-	-	-	-	-				
117.7	129.2	FLT	Fault zone. BQD - Intense Ser-Clay-Carb matrix and fractures. Crush zones with Bo-Cc-Hem.	2	10	1	1	4	1	1	3	4	3	-	-	-	-	0.05	0.05	-	-	-	322530	117.7	119.5	1.8
			117.7-118.0 m Clay gouge, C.A. 45°.																				322531	119.5	120.7	1.2
			120.7-122.0 m Strong gouge and crush zone.																				322532	120.7	122	1.3
			122.6-122.9 m Gouge, C.A. 45°.																				322533	122	124	2
			124.0-124.4 m Gouge / clay, C.A. 70°.																				322534	124	126.5	2.5
			125.0 -125.2 m Gouge fault Bx, C.A. 45-60°.																				322535	126.5	129.2	2.7
			125.5-126.3 m Gouge fault Bx, C.A. 50°.																							
			126.5-127.0 m Gouge fault Bx, C.A. 45-50°.																							
129.2	130.5	Fp	Pink, fine grained aplite-quartz monzonite dike, few mafics. Trace Bo in Mag-Hem.	-	2	1	1	3	1	2	2	2	3	-	-	-	-	Tr	Tr	-	-	-	322536	129.2	130.5	1.3
130.5	134.4	FLT	BQD? Bleached and intense fault breccia. Clay gouge Qtz fragments. Trace Bo in pale green intense Ser-Ca matrix.	1	10	1	1	4	1	1	4	4	3	-	-	-	-	0.05	0.05	-	-	-	322537	130.5	132.1	1.6
			134.3-134.9 m Decreasing Ser + clay alteration.																				322538	132.1	134.4	2.3
134.4	146.4	BQD	As pervious unit. Weak-mod fractured, pervasive Ser-Ca-Clay. Hem replacing magnetite + Bo-Cc locally.	1	1	1	1	2	-	-	1	2	1	-	-	-	-	Tr	Tr	-	-	-				
			135.2-135.7 m Crush zone. Strong Ser+/-Hem.																							
			138.0-138.5 m As above. 3 cm fault gouge, C.A. 70°. Trace Bo-Cc																							
			139.5-142.3 m Strong Ser crush zone, trace Bo. (141.0-141.2 m) Qvn 1 cmin strong Ser envelope, C.A. 30°, strong Hem replacing Mag.																							
146.4	149.8	FLT	Strong pale green matrix, Ser-Qtz-Ca alteration. Gouge zone 148.5 to 148.6 m. Strong Hem replacing Mag, trace Bo-Cc.	2	10	1	-	4	1	-	3	2	2	-	-	-	-	0.05	0.05	-	-	-	322539	146.4	148.4	2
149.8	179.6	BQD	As perviously. Generally fresh to weakly Ser-Chl-Ca altered Hem.	-	3	1	1	3	-	-	1	1	1	-	-	-	-	-	-	-	-	-	322540	148.4	149.8	1.4
			150.9-151.1 m Mod Ser, crush zone.																				322541	153.2	154.1	0.9
			153.2-154.1 m Strong fault, Ser-Hem Qtz-Ca-Clay (white), C.A. 60°. Weak K-feldspar envelope (10 cm)																				322542	158.1	159.5	1.4
			155.0-156.1 m Mod-strong Ser-Ca-Clay, Hem, C.A. 45°.																				322543	159.5	161.5	2
			158.1-161.5 m Strong Ser-Ca-Clay, Hem, C.A. 0°.																							
			159.5-159.7 m Clay gouge, C.A. 60°.																							
			159.7-165.0 m Weakly broken core, minor Ser.																							
			165.0-166.8 m Weak-mod broken croe, C.A. 45+60°, 10-25°.																							
			166.8-170.1 m Fault gouge (1 cm) + Ser crush zone, C.A. 45°.																							
			171.8-172.5 m Strong Ser, trace Cp, Hem.																							
179.6	194.2	FLT	BQD. Strong shear, local crushed Qtz-Ser-Ca-Clay matrix Hem, +/- trace Bo-Cc, Qtz veins to 1 cm, C.A. 75degrees,tr Bo-Cc.	1	3	1	1	4	1	-	3	3	3	-	-	-	-	0.05	0.05	-	-	-	322544	180.3	182.3	2
			179.6-180.1 m Mod Ser-Hem 1 cm gouge, C.A. 80°.																				322545	182.3	183.3	1
			180.4-182.1 m Q-S-Ca veins 1 cm, C.A. 80, 45°. Strong Q-Ser matrix, mod Hem. Crush zone.																				322546	185.3	188	2.7

Interval				Alteration												Copper Minerals (%)							Assay Data			
From (m)	To (m)	Rock Code	Geological Description	Qvn>5mm/m	Frct>5mm/m	Chlorite	Epidote	Sericite	Silica	K-Feldspar	Carbonate	Clay	FeOx	MnOx	Zeolite	Pyrite	Chalcopyrite	Bornite	Chalcocite	Malachite / Azurite	Native Cu	Molybdenite	Sample No.	From (m)	To (m)	Interval
			182.17-182.2 m Fault gouge.																				322547	188	190	2
			185.3-186.0 m Intense crush zone, gouge, Ca, pervasive Ser.																				322548	190	192	2
			187.0-187.5 m Gouge and crush zone, C.A. 80°/60°.																				322549	192	194.2	2.2
			189.0-189.2 m Soft clay (green), Ca, C.A. 0-100°, 80°.																							
			190.8-191.9 m Fault Bx, Clay matrix, Carb Qtz fragments, Bo-Cc.																							
			192.9-193.3 m Fault gouge and strong clay-Carb, C.A. 0-20°, 70-80°.																							
194.2	218.6	BQD	As previous. Weakly broken core, weak Ser-Ca+/-clay. Local Ser crush zones with Qtz-Ser veins 1cm.	0.5	5	1	1	2	-	-	1	1	1	-	-	-	-	-	-	-	-	-				
			197.8-198.0 m Strong Ser-Ca-Qtz-Hem, C.A. 0-20°, 75°.																							
			212.2-213.2 m Mod-strong Ser-Qtz-Ca-Hem crush, 1 cm Qtz-Ser vein, C.A. 80°.																							
218.6			End of Hole.																							

Sample No.	From (m)	To (m)	Interval (m)	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Sr	Cd	Sb	Bi	Ca	P	Cr	Mg	Al	Na	K	W	Hg	Sample
				%	%	%	%	gm/mt	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	kg
322513	27	30.7	3.7	<.001	0.001	<.01	<.01	<2	<.001	<.001	0.04	1.15	<.01	0.006	<.001	<.001	<.01	2.09	0.04	<.001	0.19	0.6	0.06	0.18	0.001	<.001	4.84
322514	38	41	3	<.001	0.002	<.01	<.01	<2	<.001	<.001	0.06	1.23	<.01	0.012	<.001	<.001	<.01	1.77	0.039	0.001	0.32	0.69	0.06	0.2	<.001	<.001	5.46
322515	41	44	3	<.001	<.001	<.01	<.01	<2	<.001	<.001	0.04	1.29	<.01	0.02	<.001	0.001	<.01	1.19	0.041	<.001	0.3	0.67	0.07	0.12	<.001	<.001	5.64
322516	44	47	3	<.001	0.007	<.01	<.01	<2	<.001	<.001	0.06	1.14	<.01	0.011	<.001	<.001	<.01	1.95	0.038	<.001	0.21	0.55	0.04	0.21	<.001	<.001	6.66
322517	47	50	3	<.001	0.007	<.01	<.01	<2	<.001	<.001	0.07	0.94	<.01	0.008	<.001	<.001	<.01	2.57	0.039	<.001	0.2	0.4	0.05	0.27	0.001	<.001	6.4
322518	50	53	3	<.001	0.006	<.01	<.01	<2	<.001	<.001	0.06	1.08	<.01	0.007	<.001	<.001	<.01	1.96	0.038	<.001	0.29	0.47	0.06	0.23	0.001	<.001	5.18
322519	53	55	2	<.001	0.015	<.01	<.01	<2	<.001	<.001	0.07	1.06	<.01	0.008	<.001	0.001	<.01	2.28	0.037	<.001	0.34	0.46	0.05	0.24	0.001	<.001	2.22
322520	55	57	2	<.001	0.008	<.01	<.01	<2	<.001	<.001	0.05	1.2	<.01	0.015	<.001	0.001	<.01	1.34	0.038	<.001	0.29	0.68	0.06	0.14	<.001	<.001	3
322521	74	76	2	<.001	0.058	<.01	<.01	<2	<.001	<.001	0.14	1.02	<.01	0.013	<.001	<.001	<.01	2.5	0.038	<.001	0.18	0.58	0.03	0.35	0.001	<.001	3.7
322522	84.4	90	5.6	<.001	0.074	<.01	<.01	<2	<.001	<.001	0.11	1.08	<.01	0.009	<.001	<.001	<.01	2.05	0.038	<.001	0.24	0.58	0.04	0.31	<.001	<.001	3.08
322523	90	92	2	<.001	0.124	<.01	<.01	<2	<.001	<.001	0.14	1.05	<.01	0.008	<.001	0.001	<.01	2.66	0.043	0.001	0.21	0.57	0.04	0.4	0.001	<.001	3.96
322524	92	93	1	<.001	0.064	<.01	0.01	<2	<.001	<.001	0.09	1.23	<.01	0.011	<.001	<.001	<.01	1.63	0.04	<.001	0.29	0.71	0.05	0.31	0.001	<.001	1.84
322525	93	94	1	0.001	0.123	<.01	<.01	<2	<.001	<.001	0.08	1.15	<.01	0.011	<.001	<.001	<.01	1.52	0.04	<.001	0.26	0.68	0.06	0.31	<.001	<.001	3.28
322526	94	96.2	2.2	<.001	0.006	<.01	<.01	<2	<.001	<.001	0.02	0.39	<.01	0.005	<.001	<.001	<.01	0.9	0.008	<.001	0.06	0.29	0.06	0.19	<.001	<.001	4.72
322527	96.2	97.3	1.1	<.001	0.001	<.01	<.01	<2	<.001	<.001	0.05	1.49	<.01	0.01	<.001	0.001	<.01	1.11	0.043	<.001	0.44	0.92	0.1	0.16	0.001	<.001	1.98
322528	97.3	98.2	0.9	<.001	0.122	<.01	<.01	<2	<.001	<.001	0.11	0.92	<.01	0.007	<.001	<.001	<.01	2.15	0.043	<.001	0.21	0.52	0.04	0.33	0.001	<.001	3.46
322529	113.3	115.1	1.8	<.001	0.037	<.01	<.01	<2	<.001	<.001	0.09	1.18	<.01	0.011	<.001	<.001	<.01	1.95	0.044	<.001	0.28	0.68	0.05	0.26	0.001	<.001	3.84
322530	117.7	119.5	1.8	<.001	0.017	<.01	<.01	<2	<.001	<.001	0.09	1.19	<.01	0.011	<.001	0.001	<.01	1.91	0.042	<.001	0.27	0.57	0.05	0.26	0.001	<.001	3.26
322531	119.5	120.7	1.2	<.001	0.11	<.01	<.01	<2	<.001	<.001	0.1	0.79	<.01	0.008	<.001	<.001	<.01	2.15	0.042	<.001	0.15	0.4	0.02	0.36	<.001	<.001	2.58
322532	120.7	122	1.3	<.001	0.005	<.01	<.01	<2	<.001	<.001	0.1	0.82	<.01	0.013	<.001	<.001	<.01	3.02	0.043	<.001	0.14	0.49	0.02	0.36	<.001	<.001	2.76
322533	122	124	2	<.001	0.001	<.01	<.01	<2	<.001	<.001	0.05	1.01	<.01	0.012	<.001	<.001	<.01	2.13	0.041	<.001	0.13	0.58	0.04	0.32	0.001	<.001	2.76
322534	124	126.5	2.5	<.001	0.127	<.01	<.01	<2	<.001	<.001	0.11	0.69	<.01	0.012	<.001	0.001	<.01	2.84	0.04	<.001	0.11	0.49	0.02	0.42	<.001	<.001	5.2
322535	126.5	129.2	2.7	<.001	0.057	<.01	<.01	<2	<.001	<.001	0.07	0.63	<.01	0.013	<.001	<.001	<.01	1.93	0.03	<.001	0.14	0.44	0.03	0.31	<.001	<.001	4.44
322536	129.2	130.5	1.3	<.001	0.001	<.01	<.01	<2	<.001	<.001	0.02	0.65	<.01	0.013	<.001	<.001	<.01	0.97	0.02	0.001	0.14	0.38	0.06	0.17	0.001	<.001	2.64
322537	130.5	132.1	1.6	<.001	0.005	<.01	<.01	<2	<.001	<.001	0.06	0.38	<.01	0.011	<.001	0.001	<.01	2.19	0.021	<.001	0.08	0.37	0.03	0.36	0.001	<.001	4.66
322538	132.1	134.4	2.3	<.001	0.018	<.01	<.01	<2	<.001	<.001	0.05	0.84	<.01	0.012	<.001	<.001	<.01	2.3	0.036	<.001	0.13	0.53	0.04	0.35	0.001	<.001	2.96
322539	146.4	148.4	2	<.001	0.004	<.01	<.01	<2	<.001	<.001	0.04	0.83	<.01	0.011	<.001	0.001	<.01	1.8	0.039	<.001	0.14	0.43	0.05	0.26	<.001	<.001	4.3
322540	148.4	149.8	1.4	<.001	0.003	<.01	<.01	<2	<.001	<.001	0.04	0.76	<.01	0.015	<.001	<.001	<.01	2.15	0.04	<.001	0.12	0.47	0.04	0.25	<.001	<.001	2.54
322541	153.2	154.1	0.9	<.001	0.014	<.01	<.01	<2	<.001	<.001	0.05	0.9	<.01	0.011	<.001	<.001	<.01	1.88	0.037	<.001	0.2	0.55	0.05	0.31	<.001	<.001	1.58
322542	158.1	159.5	1.4	<.001	0.014	<.01	<.01	<2	<.001	<.001	0.06	1.07	<.01	0.008	<.001	0.001	<.01	1.63	0.039	<.001	0.27	0.56	0.05	0.2	<.001	<.001	2.74
322543	159.5	161.5	2	0.001	0.057	<.01	<.01	<2	<.001	<.001	0.08	1	<.01	0.009	<.001	0.001	<.01	2.32	0.047	0.001	0.18	0.54	0.04	0.36	0.001	<.001	4.28
322544	180.3	182.3	2	<.001	0.026	<.01	<.01	<2	<.001	<.001	0.11	0.72	<.01	0.007	<.001	<.001	<.01	2.22	0.039	<.001	0.13	0.42	0.03	0.34	0.001	<.001	4.32
322545	182.3	183.3	1	<.001	0.045	<.01	<.01	<2	<.001	<.001	0.16	0.85	<.01	0.011	<.001	0.001	<.01	3.49	0.039	<.001	0.08	0.52	0.02	0.45	<.001	<.001	2.02
322546	185.3	188	2.7	<.001	0.053	<.01	<.01	<2	<.001	<.001	0.13	0.54	<.01	0.008	<.001	<.001	<.01	2.67	0.038	<.001	0.08	0.44	0.02	0.42	<.001	<.001	5.24
322547	188	190	2	<.001	0.006	<.01	<.01	<2	<.001	<.001	0.1	1.04	<.01	0.017	<.001	0.001	<.01	3.25	0.038	0.001	0.18	0.68	0.03	0.32	<.001	<.001	4.16
322548	190	192	2	0.001	0.042	<.01	0.01	<2	<.001	<.001	0.11	0.4	<.01	0.01	<.001	0.003	<.01	2.77	0.034	0.001	0.08	0.41	0.01	0.43	0.001	<.001	4.02
322549	192	194.2	2.2	<.001	0.004	<.01	<.01	<2	<.001	<.001	0.06	1.1	<.01	0.016	<.001	<.001	<.01	1.78	0.038	<.001	0.31	0.79	0.07	0.23	<.001	<.001	3.88

Appendix 3

3D Induced Polarization Survey

GEOPHYSICAL REPORT

3D INDUCED POLARIZATION

ON THE

RATERIA PROJECT

FOR

HAPPY CREEK MINERALS LTD.
STANDARD METALS EXPLORATION LTD.

644756E 5582571N - NAD83 ZONE10 (STATION 8550S, 10000E OF GRID)
Location: North West of Merrit, British Columbia

NTS Sheet: 092I/07

Mining Zone: Kamloops Mining Division

SURVEY CONDUCTED BY
SJ GEOPHYSICS LTD.
NOVEMBER, 2005

REPORT WRITTEN BY
BRIAN CHEN
S.J.V. CONSULTANTS LTD.
JANUARY 2006

Table of Contents

Illustrations

List of Plates (Digital PDF files and Page size maps in appendix)

1. Introduction

A 3D Induced Polarization survey was undertaken for Happy Creek Minerals Ltd. and Standard Metals Exploration Ltd. on Rateria Project SJ Geophysics Ltd. in November 2005. This report describes the ground geophysical exploration project and discusses the IP responses based on the inverted models of the survey.

The property has been explored for intrusive hosted copper and molybdenum. The intention of the geophysical survey was to provide information to assist in further mineral exploration.

The interpretation of the IP results within this report are solely based on this geophysical program, as little geology was known by the author. This report is written as an addendum to a more complete report; therefore, this does not cover items such as previous exploration work, discussion of the background geology, or costs associated with the survey.

2. Location and Line Information

The property is located approximately 40km north west of Merrit, in Kamloops mining zone of British Columbia. The grid can be accessed by road from Merrit. From Merrit, head west along Hwy 8, turn north in Lower Nicola, follow the signs to Chataway Lodge. The driving distance was approximately 30km from the turn off. The grid situated in the site approximately 5km from Chataway Lodge. Several active and de-activated roads cut through the grid. See Figure 1. for grid location information.

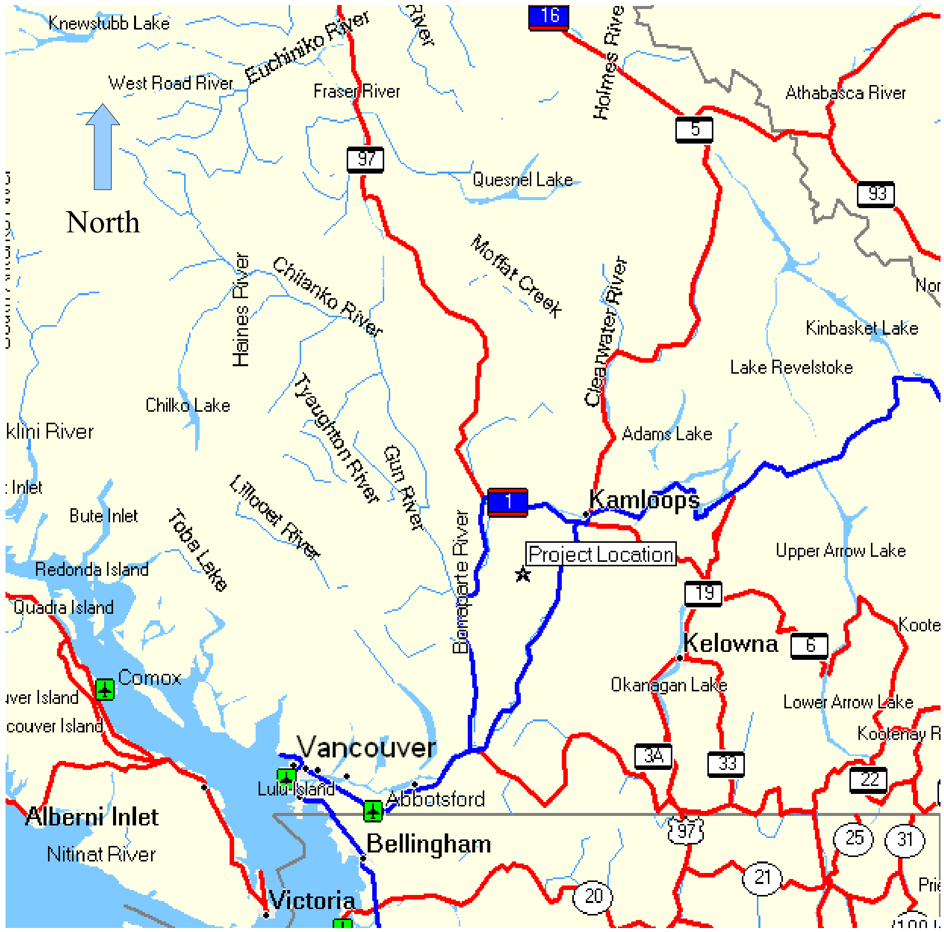


Figure 1: Rateria Project Location Map.

The survey grid consisted of 6 EW trending 2500m long lines. The line spacing and station separation of the lines are about 150m and 50m respectively. The elevations on the survey grid range from 1494m to 1628m. The total line kilometers of the survey was 15 km. Figure 2 below shows the survey lines. Please refer to Appendix 2 for details on line information.

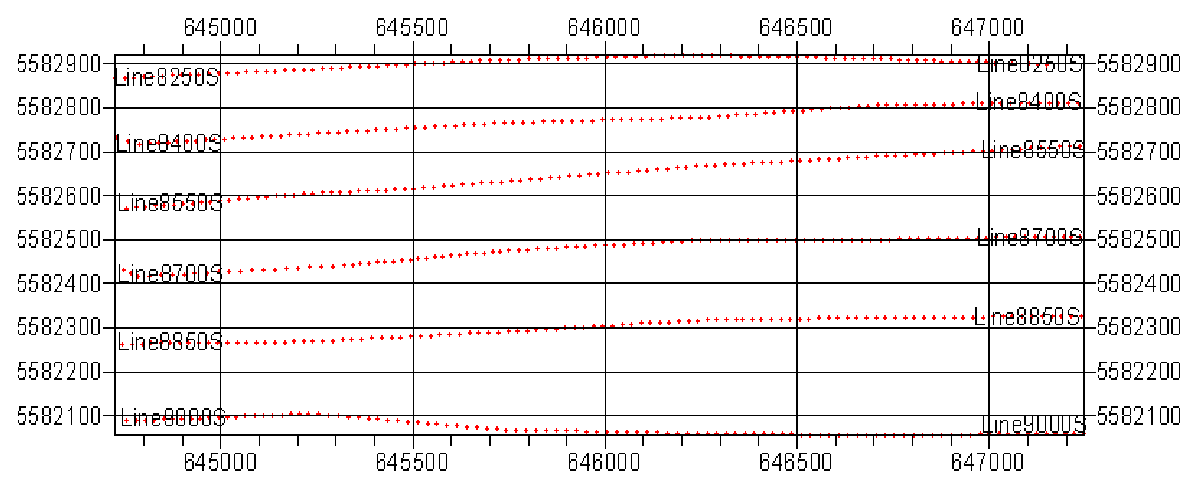


Figure 2: IP Survey lines of Rateria project

3. Field Work and Instrumentation

The IP crew consisted of six SJ Geophysics Ltd. employees: Rob Sweatman, Lauran Devlin, Fox Thunderstorm, Scott Graham, Andrew Martin and Travis Forsyth. The crew mobilized from Delta, B.C. on November 9th, 2005. On November 10th the crew setup for the survey. Data acquisition lasted from November 11th to November 17th. The IP crew demobilized on November 18th. The IP survey included 7 production days, 1 setup day and 2 mobilization days. Accommodation was provided by the client at Chataway Lodge which was located about 5km away from the survey grid.

For the 3D-IP survey a modified pole-dipole 3D-IP configuration array was used with 12 dipoles of 50m separation. The IP data was collected using SJ Geophysics' Full Wave Form receiver. The current was injected with a 2 seconds on, 2 seconds off duty cycle into the ground via a transmitter (Tx). As for the transmitter, a GDD Tx II 3.6 KW was used during the duration of the program.

The potential array was implemented using standard 8 conductor cables configured with 50m takeouts for the potential rods. At each current station, the electrodes used consisted of 5/8" stainless steel rods of approximately 1m in length. For the potential line, the electrodes consisted of 3/8" stainless steel “pins” of 0.5m in length. The exact location of the remote current is used in the geophysical calculations.

The location data was collected using a standard Garmin GPS to an accuracy of 5m and Sunto Inclinometer to an accuracy of 1-2°. BC trim DEM data was used to generate the topography for location and final inversion model.

Survey data QC and processing were done on daily base.

4. Geophysical Techniques

4.1. IP Method

The time domain IP technique energizes the ground surface with an alternating square wave pulse via a pair of current electrodes. On most surveys, such as this one, the IP/Resistivity measurements are made on a regular grid of stations along survey lines.

After the transmitter (Tx) pulse has been transmitted into the ground via the current electrodes, the IP effect is measured as a time diminishing voltage at the receiver electrodes. The IP effect is a measure of the amount of IP polarizable materials in the subsurface rock. Under ideal circumstances, IP chargeability responses are a measure of the amount of disseminated metallic sulfides in the subsurface rocks.

Unfortunately, there are other rock materials that give rise to IP effects, including some graphitic rocks, clays and some metamorphic rocks (serpentinite for example). So from a geological point of view, IP responses are almost never uniquely interpretable. Because of the non-uniqueness of geophysical measurements it is always prudent to incorporate other data sets to assist in interpretation.

Also, from the IP measurements the apparent (bulk) resistivity of the ground is calculated from the input current and the measured primary voltage.

IP/resistivity measurements are generally considered to be repeatable to within about five percent. However, they will exceed that if field conditions change due to variable water content or variable electrode contact.

IP/resistivity measurements are influenced, to a large degree, by the rock materials nearest the surface (or, more precisely, nearest the measuring electrodes), and the interpretation of the traditional pseudosection presentation of IP data in the past has often been uncertain. This is because stronger responses that are located near surface could mask a weaker one that is located at depth.

4.2. 3D-IP Method

Three dimensional IP surveys are designed to take advantage of the interpretational functionality offered by 3-D inversion techniques. Unlike conventional IP, the electrode arrays are no longer restricted to in-line geometry. Typically, current electrodes and receiver electrodes are located on adjacent lines. Under these conditions, multiple current locations can be applied to a single receiver electrode array and data acquisition rates can be significantly improved over conventional surveys.

In a common 3D-IP configuration, a receiver array is established, end-to-end along a survey line while current electrodes are located on two adjacent lines. The survey typically starts at one end of the line and proceeds to the other end. A typical 8 dipole array normally consists of a two 100m dipoles, followed by four 50m dipoles and then two more 100m dipoles at the end of the array. In some areas these spacings are modified to compensate for local conditions such as inaccessible sites, streams, and overall conductivity of ground. Current electrodes are advanced along the adjacent lines, starting at approximate 200m from the centre of the array and advances approximately 400m through the array at 50m increments. At this point, the receiver array is advanced 400m and the process is repeated down the line. Receiver arrays are typically established on every second line (200m apart) thereby providing subsurface coverage at 100m increments.

4.3. Inversion Programs

"Inversion" programs have recently become available that allow a more definitive interpretation, although the process remains subjective.

The purpose of the inversion process is to convert surface IP/Resistivity measurements into a realistic "Interpreted Depth Section." However, note that the term is left in quotation marks.

The use of the inversion routine is a subjective one because the input into the inversion routine calls for a number of user selectable variables whose adjustment can greatly influence the output. The output from the inversion routines do assist in providing a more reliable interpretation of IP/Resistivity data, however, they are relatively new to the exploration industry and are, to some degree, still in the experimental stage.

The inversion programs are generally applied iteratively to evaluate the output with regard to what is geologically known, to estimate the depth of detection, and to determine the viability of specific measurements.

The Inversion Program (DCINV3D) used by the SJ Geophysical Group was developed by a consortium of major mining companies under the auspices of the UBC-Geophysical Inversion Facility. It solves two inverse problems. The DC potentials are first inverted to recover the spatial distribution of electrical resistivity, and, secondly, the chargeability data (IP) are inverted to recover the spatial distribution of IP polarizable particles in the rocks.

The interpreted depth section maps represent the cross sectional distribution of polarizable materials, in the case of IP effect, and the cross sectional distribution of the apparent resistivity, in the case of the resistivity parameter.

5. Data Presentation

5.1. Cross Sections

As described above, the IP data is processed through an inversion program that outputs one possible subsurface distribution of resistivity and polarizable materials that would produce the observed data. These results are presented in a false-colour cross section and these displays can be directly interpreted as geological cross sections.

Cross sections are created as 1:5000 scale plots and provided to the clients in digital PDF format files. Cross section maps of page size are also produced and included in the Appendix.

5.2. Plan Maps

False colour contour maps of the inverted resistivity and chargeability results can be produced for selected depths. Data is positioned using UTM coordinates gathered during the field work. This display illustrates the areal distribution of the geophysical trends, outlining strike orientations and possible fault offsets.

Plan maps are created for both resistivity and chargeability at depths of 25m, 50m, 75m, 100m, 150m, 200m and 250m below surface at a 1:5000 scale and provided to the clients in digital PDF format files. Plan maps of page size are also produced and included in the Appendix.

5.3. Inversion Model

With computer technology that exists today, the 3D inversions results can be easily viewed using a 3D visualization program such as UBC-GIF's dicer3d program or open-source software packages such as Paraview. These programs use a block model format to manipulate the data and allow a user to view the model from infinite viewing angles, or to create infinite cross-sections or plan maps. In addition, these visualization programs allow the user to isolate different isosurfaces to facilitate interpretation of the data.

6. Discussion of Results

This discussion of results is solely based on the geophysical data collected for this project. This report is meant to be an addendum to a more complete report, and thus a comprehensive description of geology and previous exploration work are not discussed at all, or only briefly.

Figure 3 below is a simplified 3D perspective plot derived from IP inversion models with cutoff values to show only the possible chargeability and resistivity anomaly features. The bodies in yellow color shows the inverted chargeability with value greater than 4.2 ms while the pink units exhibit the inverted resistivity with value greater than 530 Ohm.m.

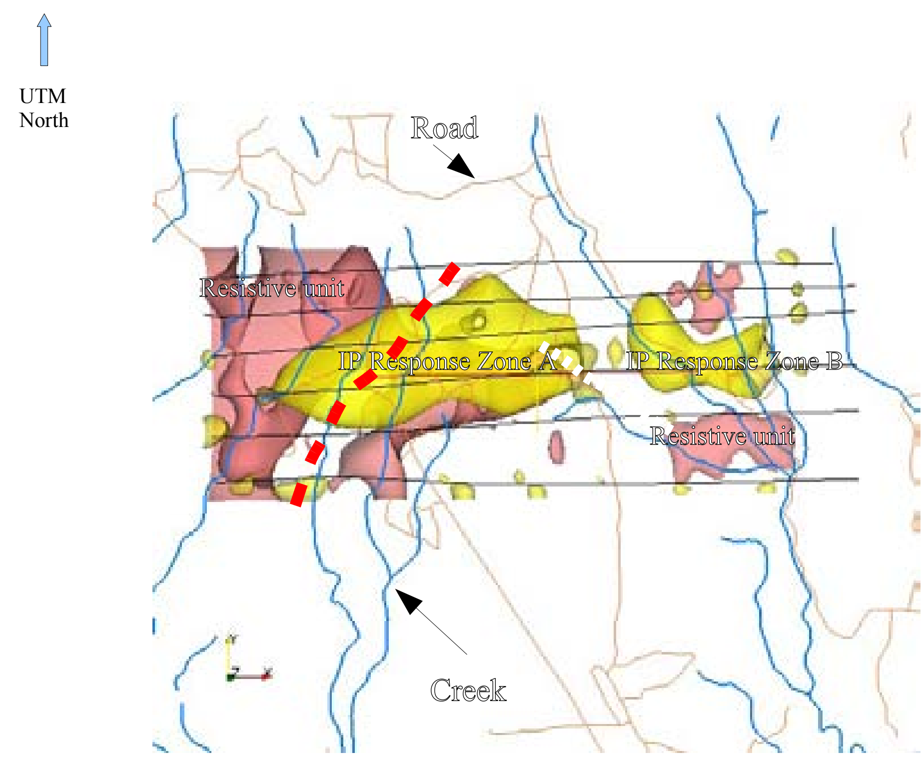


Figure 3: 3D perspective plot of simplified IP inversion model

Chargeability (Yellow, with cutoff value of 4.2ms, showing the weak high Chargeability features) and Resistivity (pink, with cutoff value of 530 Ohm.m, showing the resistive features) , viewed from top of the model.

The overall inverted chargeability values shown on the 3D inversion models are less than 6 ms. It suggests a weak chargeability response over the survey area. In the survey grid, two weak chargeability responses with inverted chargeability greater than 4.2 ms were identified from the inversion model and shown on Figure 3 as IP response zone A and B. The burial depth of the majority IP responses is about 90-100 m with several spots that may continue to surface. See Figure 4 below for more details. The hot color (yellow to red) shows the outline of the weak chargeability responses with inverted chargeability greater than 4.2ms. The top panel on Figure 4 exhibits the shallow distribution of inverted chargeability at the depth of 25m below surface while the bottom panel displays the main body of the weak IP responses at the depth of 150m below surface. There are two obvious surface IP responses along line 8700S around station 11400E and 12200E, denoted with "A" and "B" on the figure. The main body of the IP responses, zone A and zone B, situates between line 8400S and 8850S, station 10200E and 12200E. These two east west elongated zones were centered in survey grid, therefore the author believe that their horizontal boundaries were well defined by the inversion models.

The resistivity values in the survey grid are low to moderate with the majority value of below 500 Ohm.m revealed from the resistivity inversion model. The inversion model also shows that the resistive units with inverted resistivity value greater than 530 Ohm.m situated mainly in the west portion of the grid. One obvious NE trending resistivity contact in this portion of the grid was identified and denoted with red dashed line on Figure 3. The east portion of the grid is dominated by rock units with low to moderate resistivity values. Several shallow source resistivity units are found scattering around this portion of the grid.

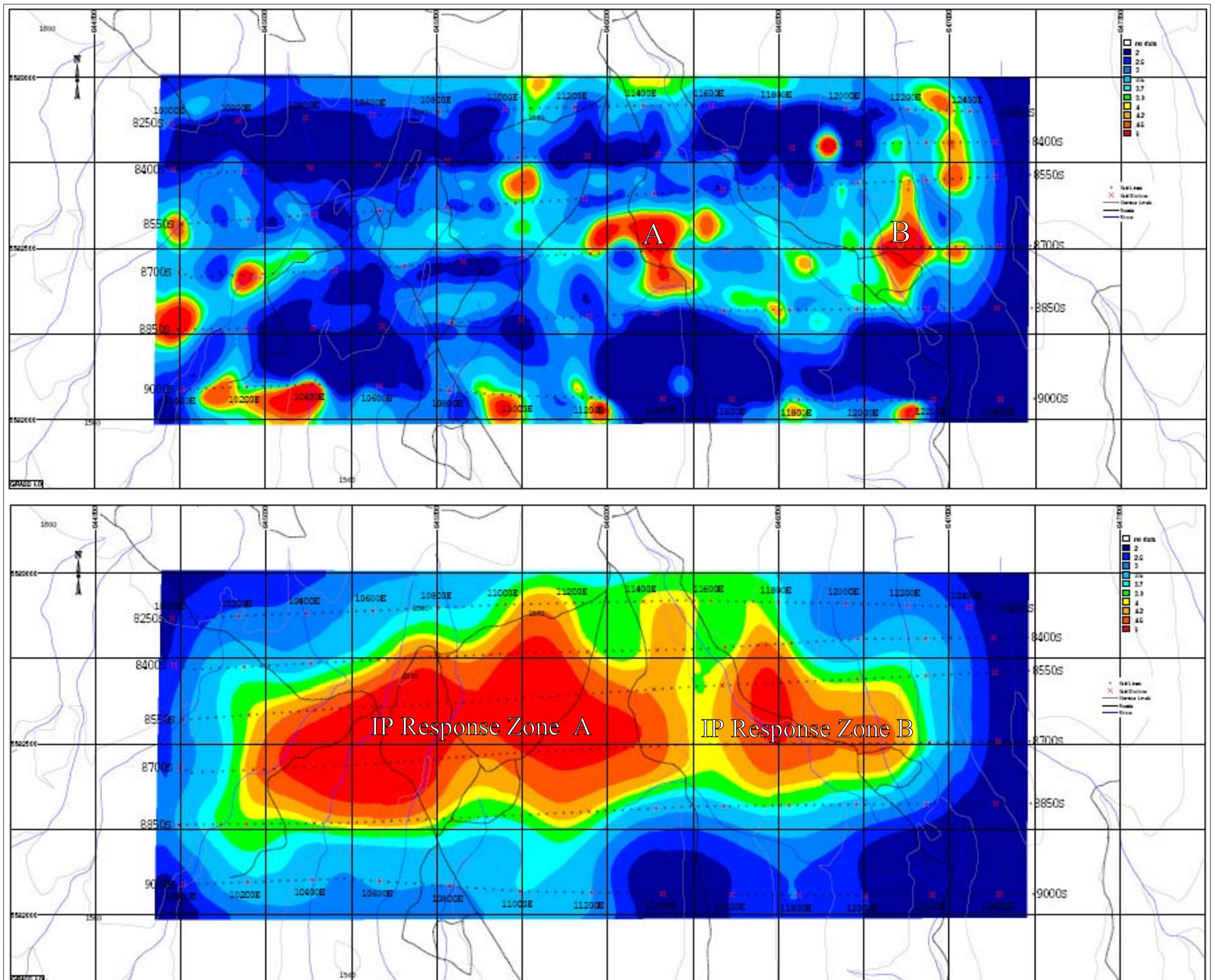


Figure 4: Inverted Chargeability (ms) false color contour map at 25m (top) and 150m (bottom) depth below topography

Figure 5 demonstrates the different 3D prospect views of simplified IP inversion model by altering the viewing angle. It exhibits the outline of the IP features and the approximative relation between chargeability and resistivity in the survey area. Figure 5, c) exhibits the position of high IP feature in depth.

In general, the weak IP response zones are associated with low to moderate value of resistivity.

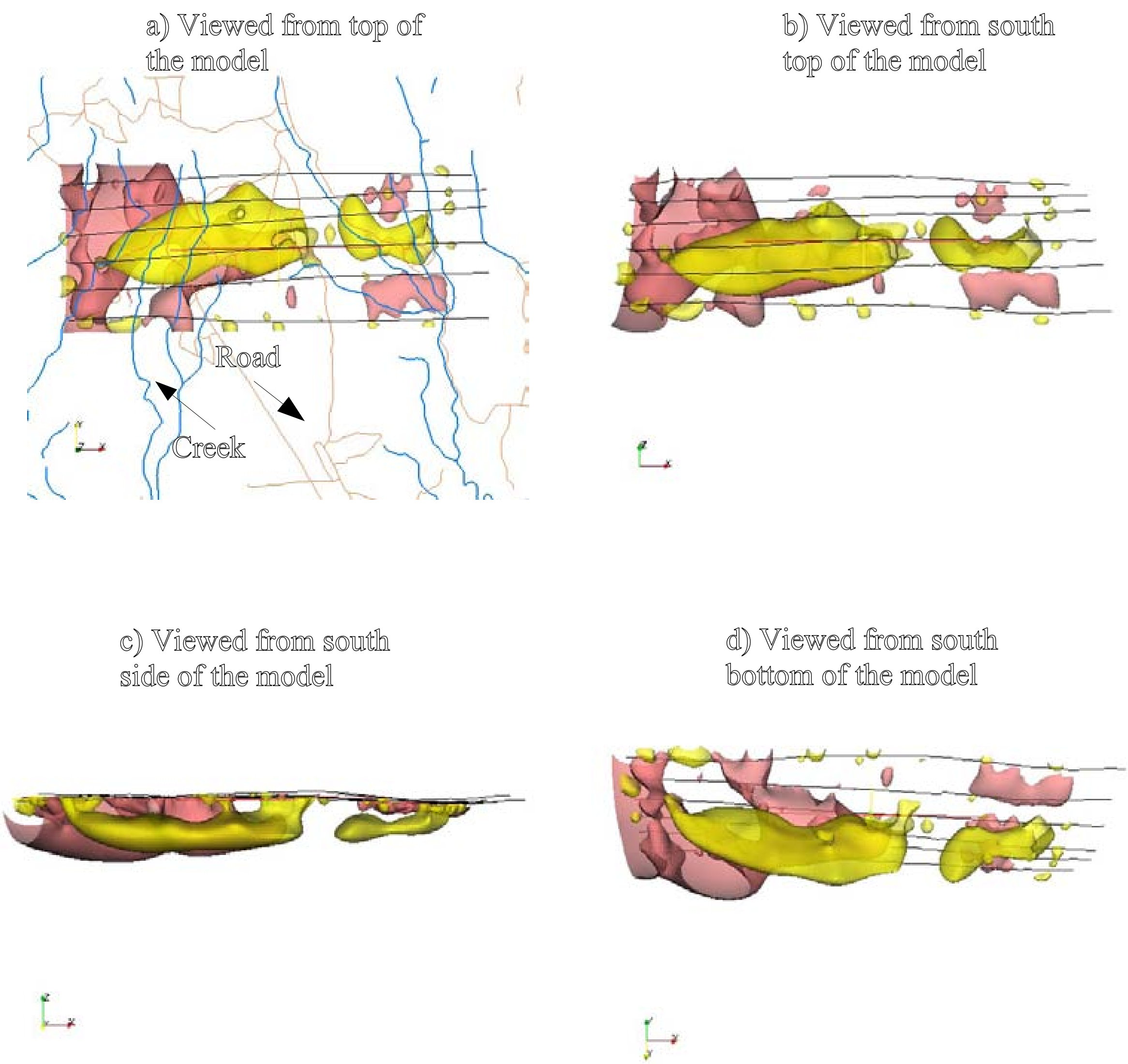


Figure 5: 3D perspective plots of simplified IP inversion model

Chargeability (Yellow, with cutoff value of 4.2ms, showing the weak high Chargeability features) and Resistivity (Pink, with cutoff value of 530 Ohm.m, showing the resistive features) , viewed from different angle of the model.

7. Conclusions and Recommendations

Two east west elongated weak IP response zones are revealed by the inversion model which are characterized by having low to moderate resistivity values. The zones are situated in the centre of the survey grid, therefore, their horizontal boundaries may be well controlled and defined by the data collected.

A combined interpretation of the weak IP response with other sources of data and results is suggested in order to find out the their relationship to mineralization sought.

Initially, a detailed interpretation of the area should be conducted that should include regional geology, geochemistry and other geophysical data.

Respectfully Submitted,
per S.J.V. Consultants Ltd.

Brian Chen, M.Sc.
Geophysics

8. Appendix 1 – Statement of Qualifications - Brian Chen

I, Brian Chen, of the city of Delta, Province of British Columbia, hereby certify that:

1. I graduated from the University of Science and Technology of China in 1989 with a Bachelor of Science degree in geophysics and from South China Sea Inst. Of Oceanology, CAS in 1992 with a Master of Science degree in Mathematical geology.
2. I have been working in geophysics since 1992.
3. I have no interest in Happy Creek Minerals Ltd. and Standard Metals Exploration Ltd., or in any property within the scope of this report, nor do I expect to receive any.

Signed by: ___________________________

Brian Chen, M.Sc.

Geophysicist

Date: ___________________________

9. Appendix 2 – Summary Tables

Line Number (S)	***Start Station (E)***	***End Station (E)***	***Current Remote used***	***Tx/ Rx***	***Length(m)***
8250	10000	12500	10000E 6250S	Tx	2500
8400	10000	12500	10000E 6250S	Rx	2500
8550	10000	12500	10000E 6250S	Tx	2500
8700	10000	12500	10000E 6250S	Rx	2500
8850	10000	12500	10000E 6250S	Tx	2500
9000	10000	12500	10000E 6250S	Rx	2500

Total Line kilometres =15000 m

10. Appendix 3 – Instrument Specifications

10.1. GDD Tx II IP Transmitter

Input voltage:	120V / 60 Hz or 240V / 50Hz (optional)
Output power:	1.4 kW maximum.
Output voltage:	150 to 2000 Volts
Output current:	5 ma to 10Amperes
Time domain:	Transmission cycle is 2 seconds ON, 2 seconds OFF
Operating temp. range	-40^0 to $+65^0$ C
Display	Digital LCD read to 0.001A
Dimensions (h w d):	34 x 21 x 39 cm
Weight:	20kg.

10.2. Full-Waveform Digital IP Receiver

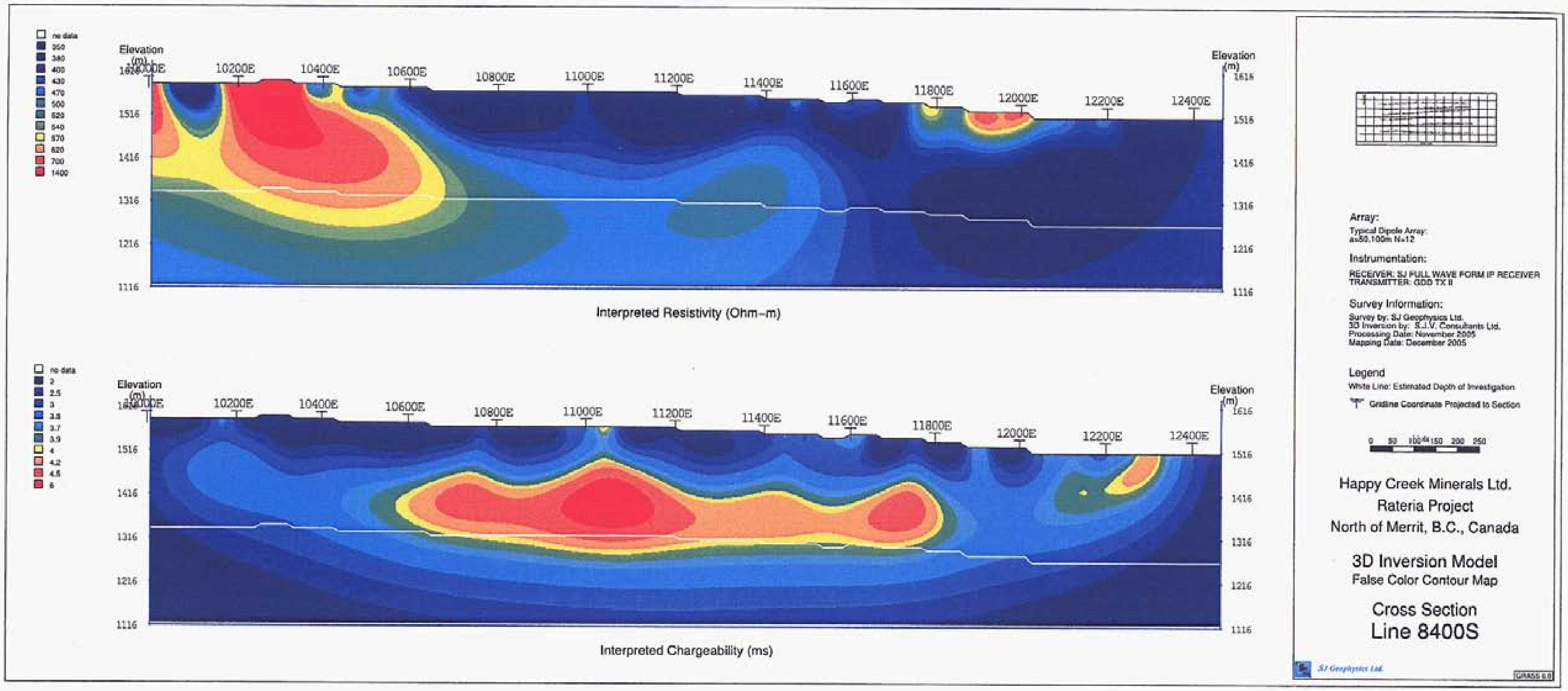
Technical:

Input impedance:	10 Mohm
Input overvoltage protection:	up to 1000V
External memory:	Unlimited readings
Number of dipoles:	4 to 16 +, expandable.
Synchronization:	Software signal post-processing user selectable
Common mode rejection:	More than 100 dB (for Rs =0)
Self potential (Sp):	Range:-5V to + 5V
	Resolution: 0.1 mV
	Proprietary intelligent stacking process rejecting strong non-linear SP drifts
Primary voltage:	Range: 1μV – 10V (24bit)
	Resolution: 1μV
	Accuracy: typ. <1.0%
Chargeability:	Resolution: 1μV/V
	Accuracy: typ. <1.0%

General (4 dipole unit):

Dimensions:	18x16x9 cm
Weight:	1.1 Kg
Battery:	12V External
Operating temperature range:	-20°C to 40°C

11. Appendix 4 – Depth plan maps and cross section maps(page size)



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10000E
10200E
10400E
10600E
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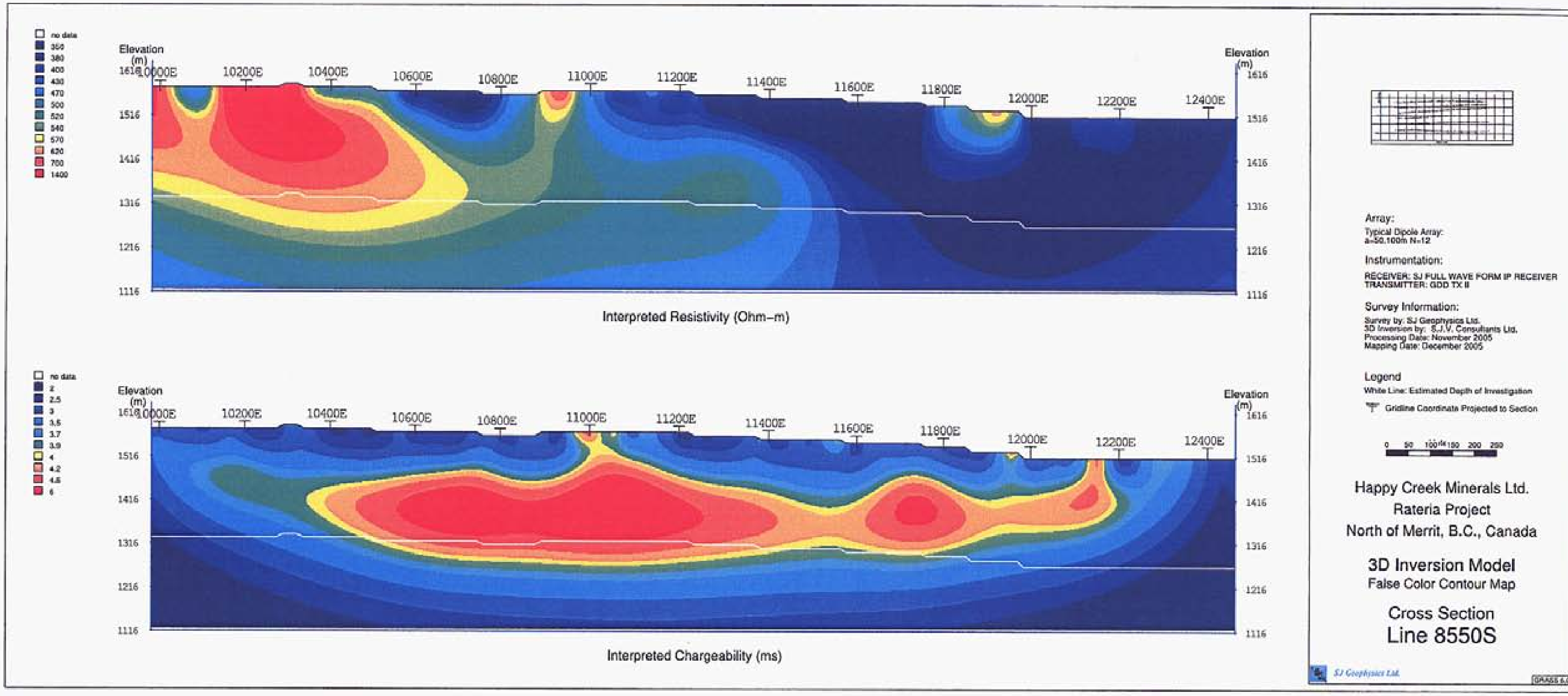
11000E
11200E
11400E
11600E
11800E
12000E
12200E
12400E
1616
1516
1416
1316
1216
1116
no data
350
380
400
430
470
500
520
540
570
620
700
1400
Interpreted Resistivity (Ohm−m)
no data
2
2.5
3
3.5
3.7
3.9
4
4.2
4.5
6
Interpreted Chargeability (ms)
Array:
Typical Dipole Array:
a=50,100m N=12
Instrumentation:
RECEIVER: SJ FULL WAVE FORM IP RECEIVER
TRANSMITTER: GDD TX II
Survey Information:
Survey by: SJ Geophysics Ltd.
3D Inversion by: S.J.V. Consultants Ltd.
Processing Date: November 2005
Mapping Date: December 2005
Legend
White Line: Estimated Depth of Investigation
Gridline Coordinate Projected to Section
0 50 100 150 200 250
Happy Creek Minerals Ltd.
Rateria Project
North of Merrit, B.C., Canada
3D Inversion Model
False Color Contour Map
Cross Section
Line 8400S
SJ Geophysics Ltd.



Elevation (m)
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12400E
1616
1516
1416
1316
1216
1116
Interpreted Resistivity (Ohm-m)
Interpreted Chargeability (ms)
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3D Inversion by: S.J.V. Consultants Ltd.
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Mapping Date: December 2005
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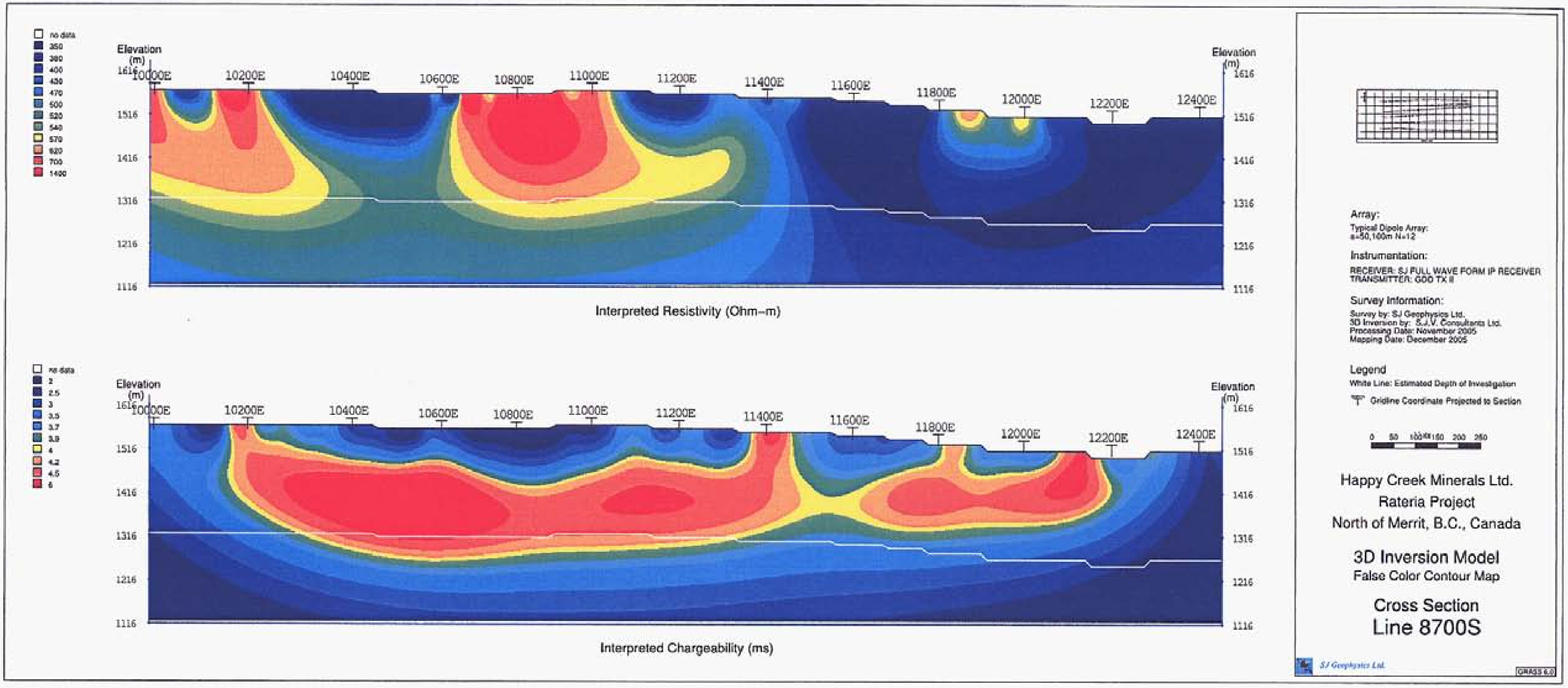
Gridline Coordinate Projected to Section
Happy Creek Minerals Ltd.
Rateria Project
North of Merrit, B.C., Canada
3D Inversion Model
False Color Contour Map
Cross Section
Line 8550S
SJ Geophysics Ltd.



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Elevation (m)
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10800E
11000E
11200E
11400E
11600E
11800E
12000E
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12400E
1616
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1216
1116
Interpreted Resistivity (Ohm–m)
no data
2
2.5
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3.5
3.7
3.9
4
4.2
4.5
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Interpreted Chargeability (ms)
Array:
Typical Dipole Array:
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Instrumentation:
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Processing Date: November 2005
Mapping Date: December 2005
Legend
White Line: Estimated Depth of Investigation
Gridline Coordinate Projected to Section
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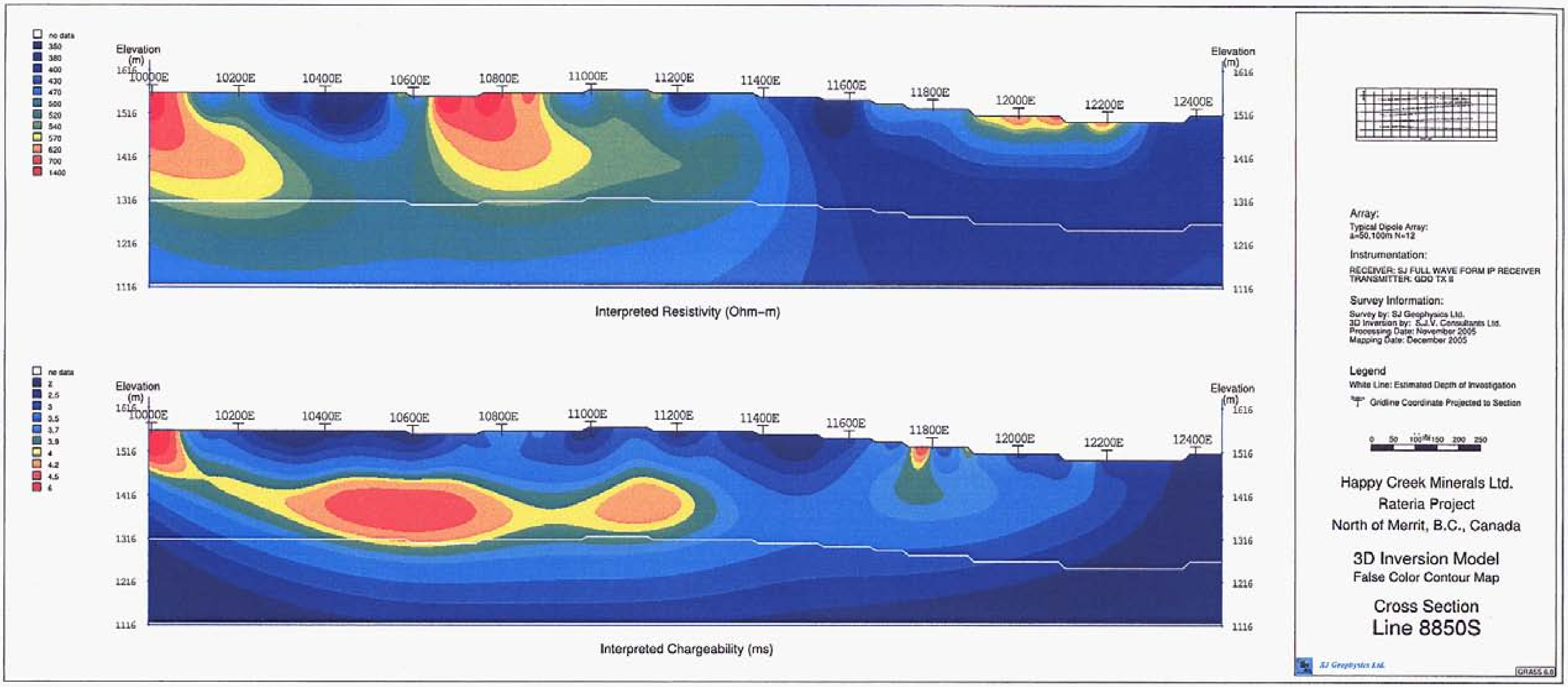
Happy Creek Minerals Ltd.
Rateria Project
North of Merrit, B.C., Canada
3D Inversion Model
False Color Contour Map
Cross Section
Line 8700S
SJ Geophysics Ltd.
GRASS 6.0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Instrumentation:
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TRANSMITTER: GDD TX II
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3D Inversion by: S.J.V. Consultants Ltd.
Processing Date: November 2005
Mapping Date: December 2005
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White Line: Estimated Depth of Investigation
Gridline Coordinate Projected to Section
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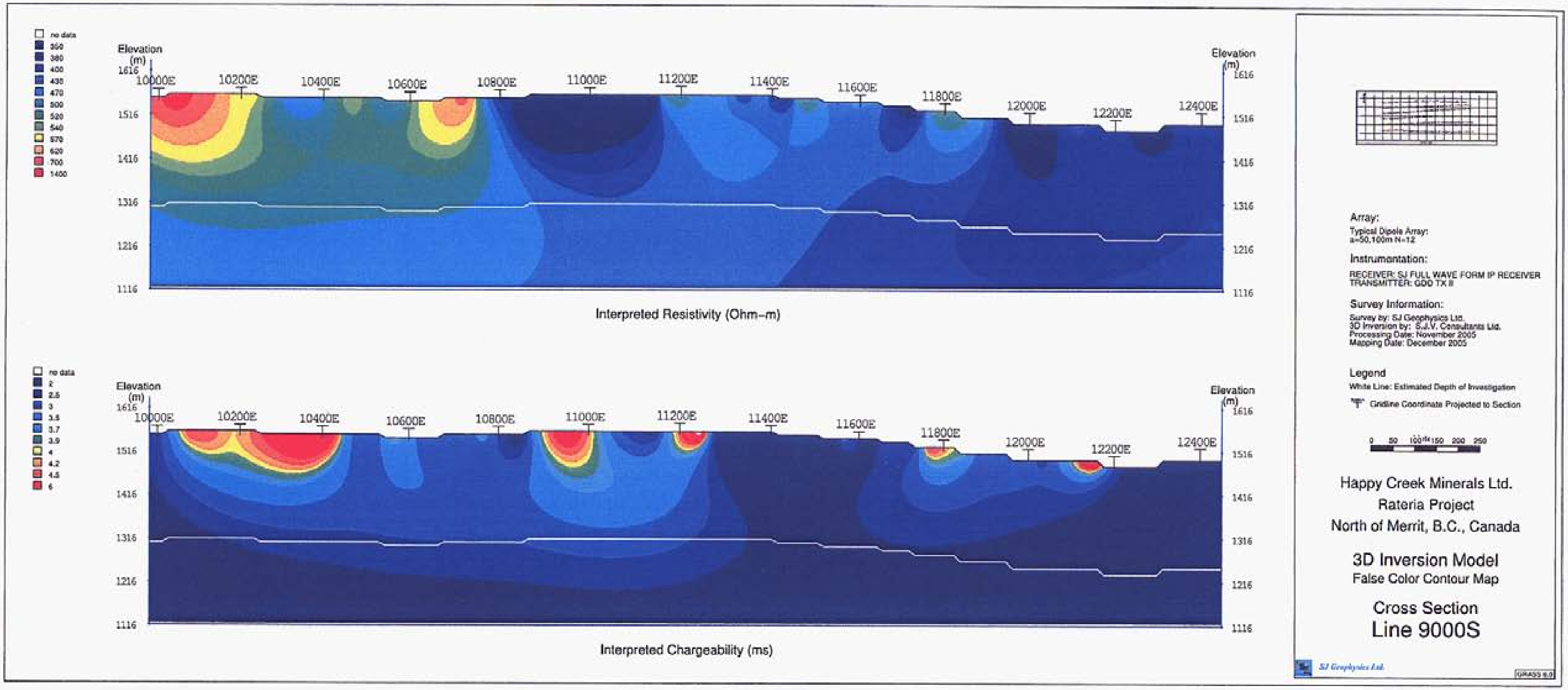
Happy Creek Minerals Ltd.
Rateria Project
North of Merrit, B.C., Canada
3D Inversion Model
False Color Contour Map
Cross Section
Line 8850S
SJ Geophysics Ltd.
GRASS 6.0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Interpreted Resistivity (Ohm–m)
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4.2
4.5
6
Interpreted Chargeability (ms)
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Instrumentation:
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TRANSMITTER: GDD TX II
Survey Information:
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3D Inversion by: S.J.V. Consultants Ltd.
Processing Date: November 2005
Mapping Date: December 2005
Legend
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Gridline Coordinate Projected to Section
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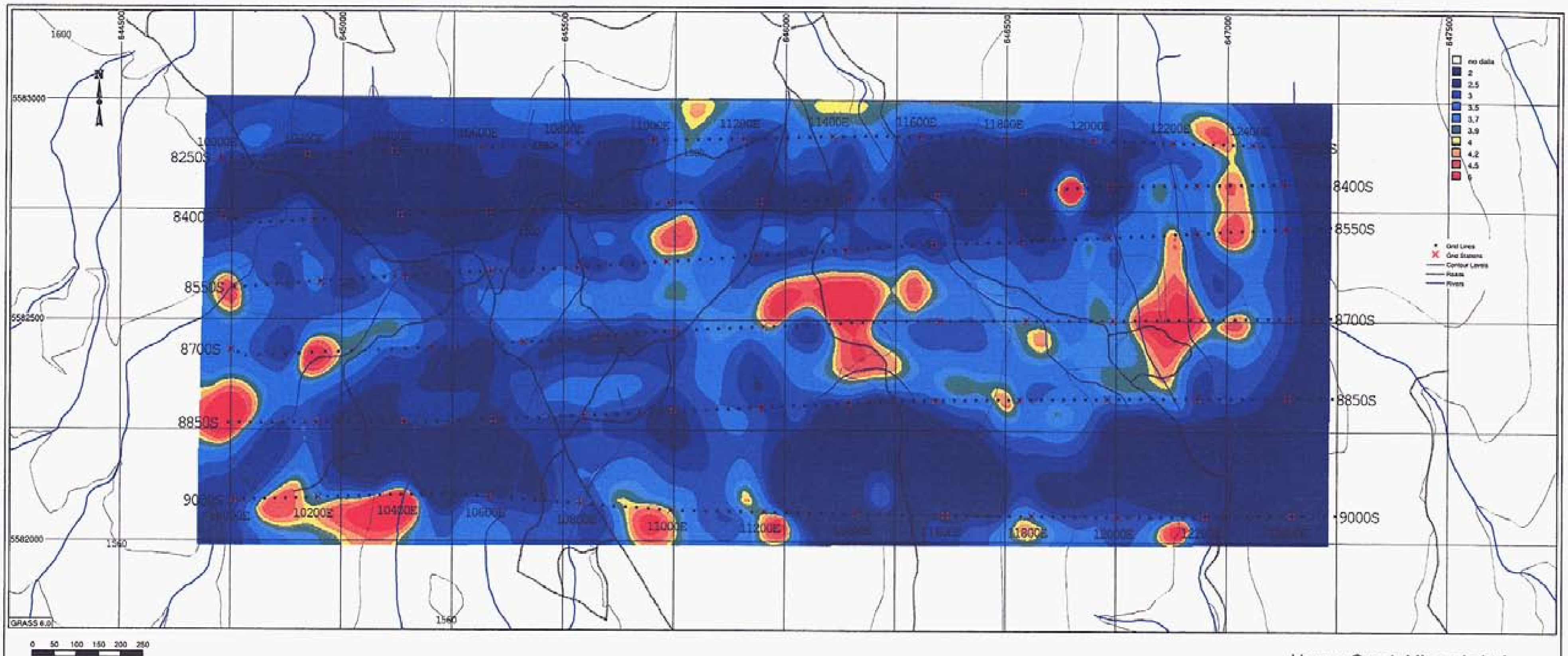
Happy Creek Minerals Ltd.
Rateria Project
North of Merrit, B.C., Canada
3D Inversion Model
False Color Contour Map
Cross Section
Line 9000S
SJ Geophysics Ltd.



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Datum: NAD83
Zone: 10
Mapping Date: December 2005

Survey Information

Instrumentation:

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TRANSMITTER: GDD TX II

Typical Dipole Array:
a=50,100m N=12

Survey by: SJ Geophysics Ltd.
3D Inversion by: S.J.V. Consultants Ltd.
Processing Date: November 2005

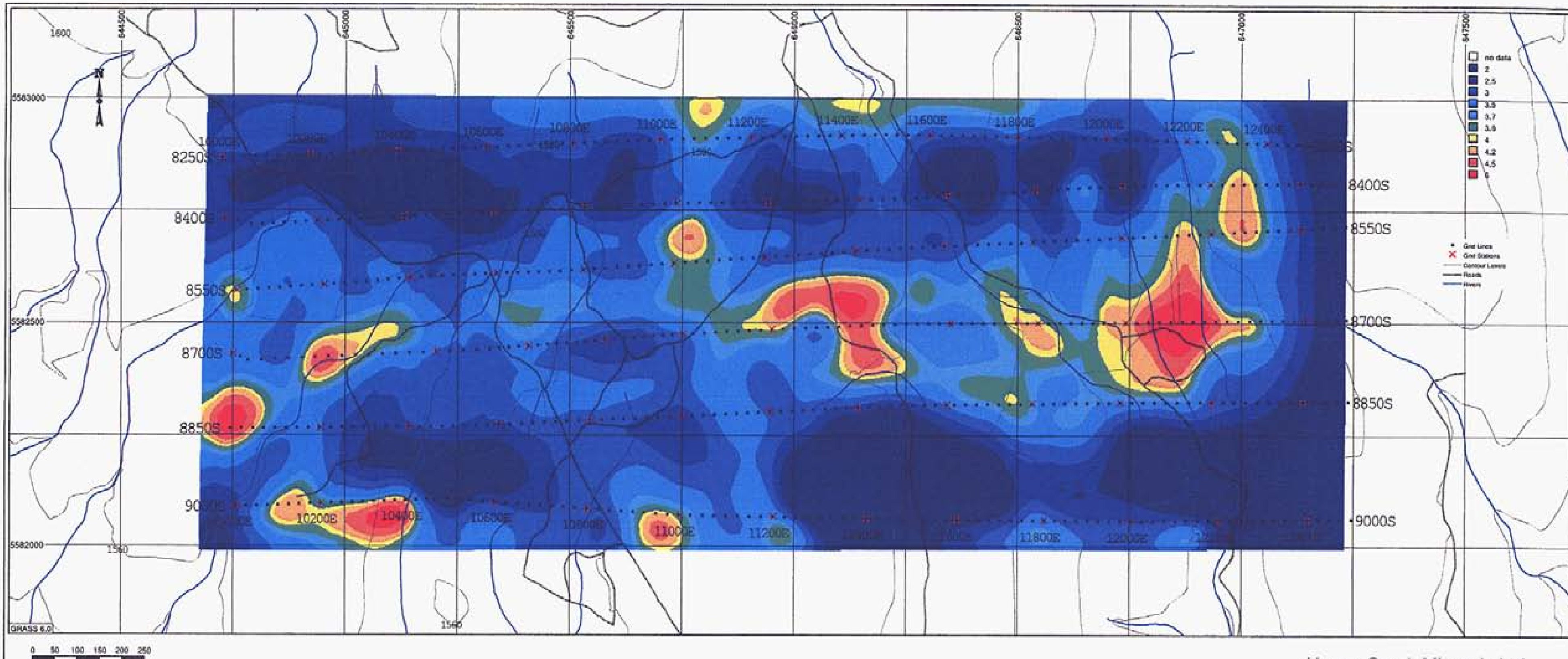
SJ Geophysics Ltd.

Happy Creek Minerals Ltd.
Rateria Project
North of Merrit, B.C., Canada

3D Inversion Model
Interpreted Chargeability (ms)
False Color Contour Map

25 m Below Surface

Plate C-1



Projection: UTM meters
Datum: NAD83
Zone: 10
Mapping Date: December 2005

SJ Geophysics Ltd.

Survey Information

Instrumentation:

RECEIVER: SJ FULL WAVE FORM IP RECEIVER
TRANSMITTER: GDD TX II

Typical Dipole Array:
a=30,100m N=12

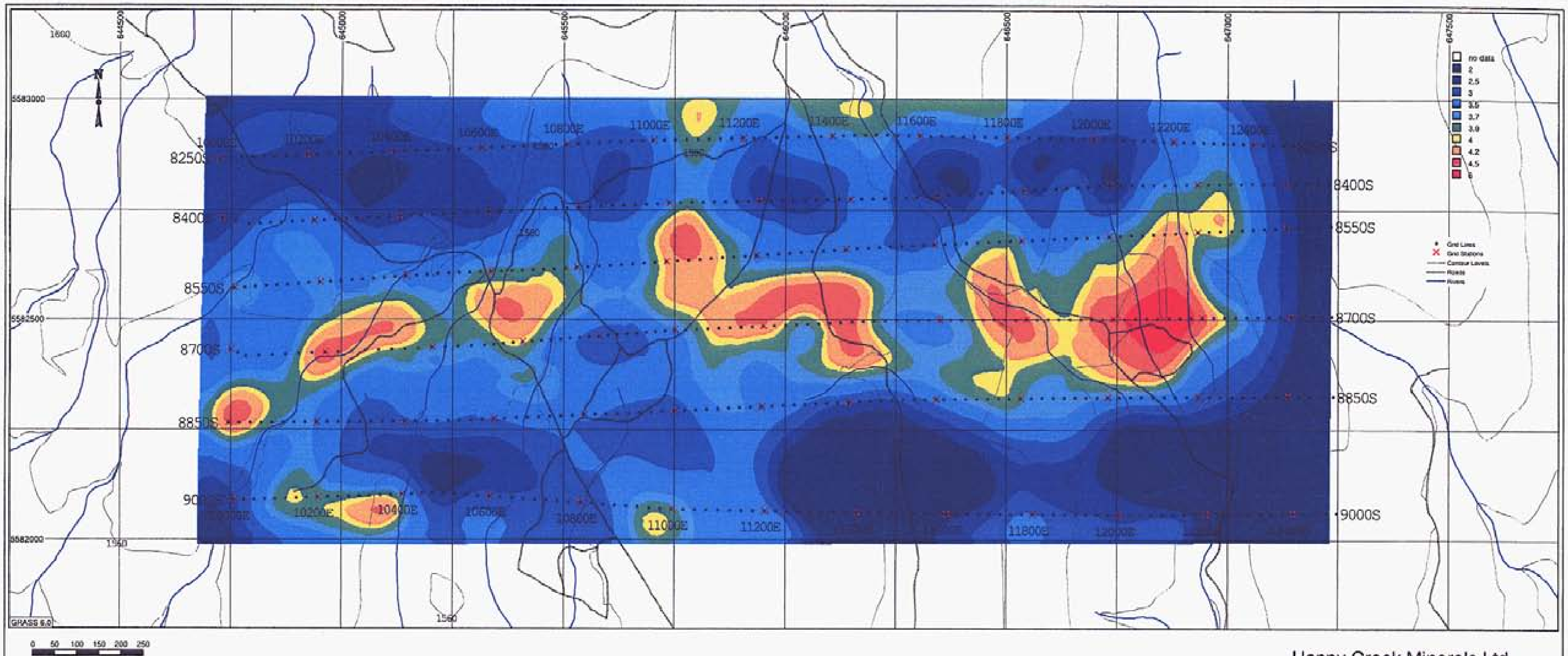
Survey by: SJ Geophysics Ltd.
3D Inversion by: S.J.V. Consultants Ltd.
Processing Date: November 2005

Happy Creek Minerals Ltd.
Rateria Project
North of Merrit, B.C., Canada

3D Inversion Model
Interpreted Chargeability (ms)
False Color Contour Map

50 m Below Surface

Plate C-2



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Datum: NAD83
Zone: 10
Mapping Date: December 2005

Survey Information

Instrumentation:

RECEIVER: SJ FULL WAVE FORM IP RECEIVER
TRANSMITTER: GDD TX II

Typical Dipole Array:
a=50,100m N=12

Survey by: SJ Geophysics Ltd.
3D Inversion by: S.J.V. Consultants Ltd.
Processing Date: November 2005

Happy Creek Minerals Ltd.

Rateria Project

North of Merrit, B.C., Canada

3D Inversion Model

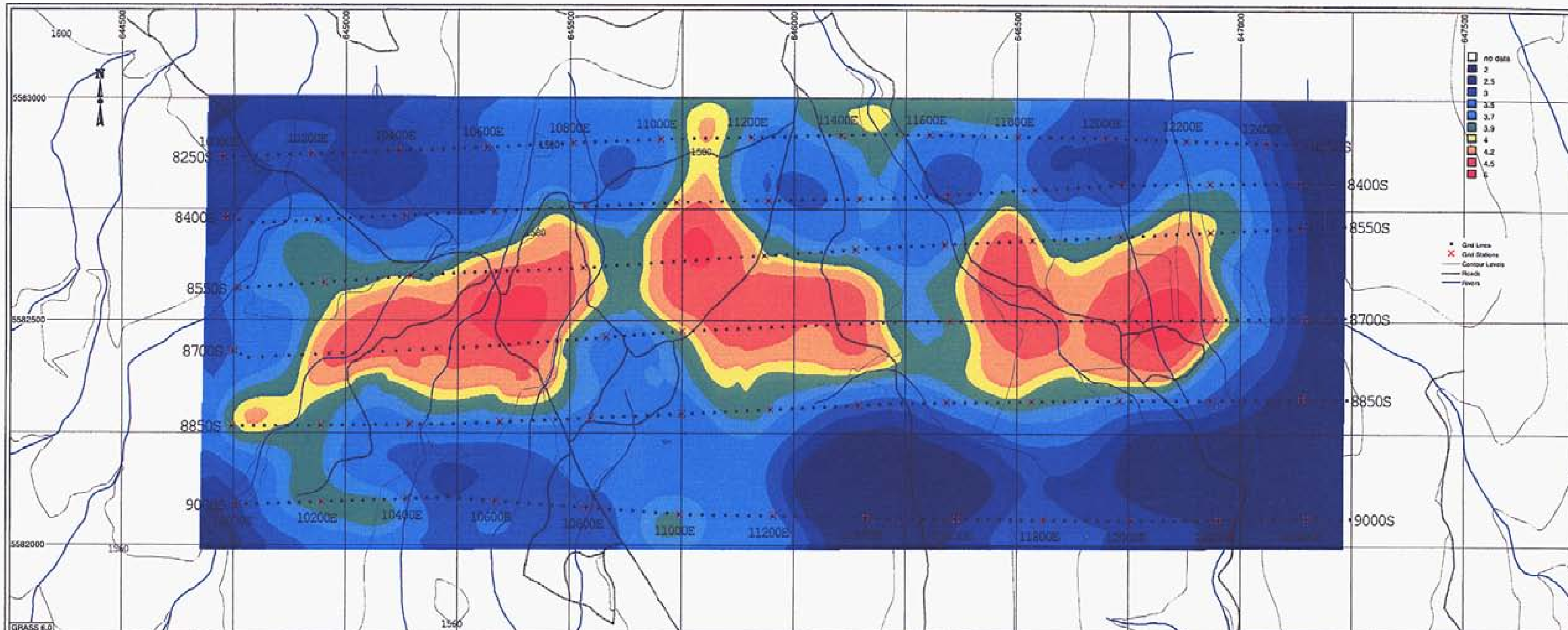
Interpreted Chargeability (ms)

False Color Contour Map

75 m Below Surface

SJ Geophysics Ltd.

Plate C-3



0 50 100 150 200 250

Projection: UTM meters
Datum: NAD83
Zone: 10
Mapping Date: December 2005

Survey Information

Instrumentation:

RECEIVER: SJ FULL WAVE FORM IP RECEIVER
TRANSMITTER: GDD TX II

Typical Dipole Array:
a=30,100m N=12

Survey by: SJ Geophysics Ltd.
3D Inversion by: S.J.V. Consultants Ltd.
Processing Date: November 2005

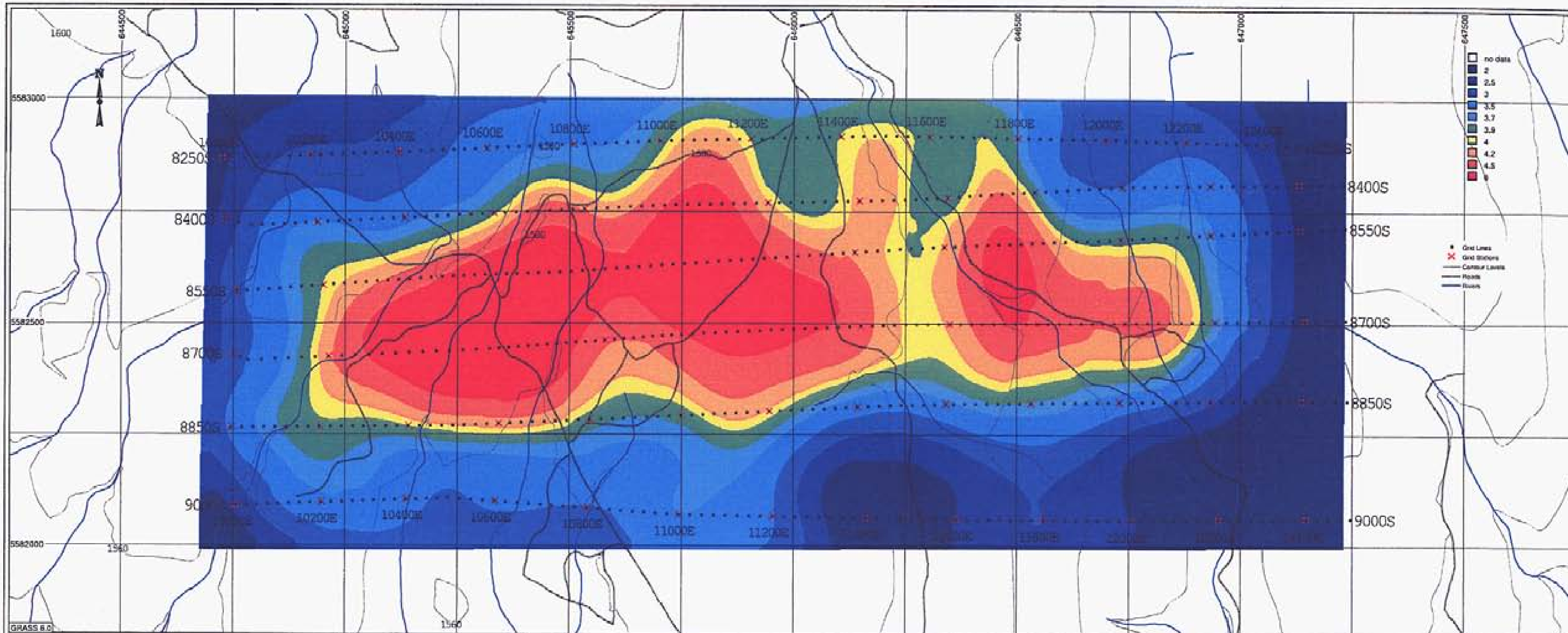
Happy Creek Minerals Ltd.
Rateria Project
North of Merrit, B.C., Canada

3D Inversion Model
Interpreted Chargeability (ms)
False Color Contour Map

100 m Below Surface

SJ Geophysics Ltd.

Plate C-4



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Projection: UTM meters
Datum: NAD83
Zone: 10
Mapping Date: December 2005

Survey Information

Instrumentation:

RECEIVER: SJ FULL WAVE FORM IP RECEIVER
TRANSMITTER: GDD TX II

Typical Dipole Array:
a=50,100m N=12

Survey by: SJ Geophysics Ltd.
3D Inversion by: S.J.V. Consultants Ltd.
Processing Date: November 2005

Happy Creek Minerals Ltd.

Rateria Project
North of Merrit, B.C., Canada

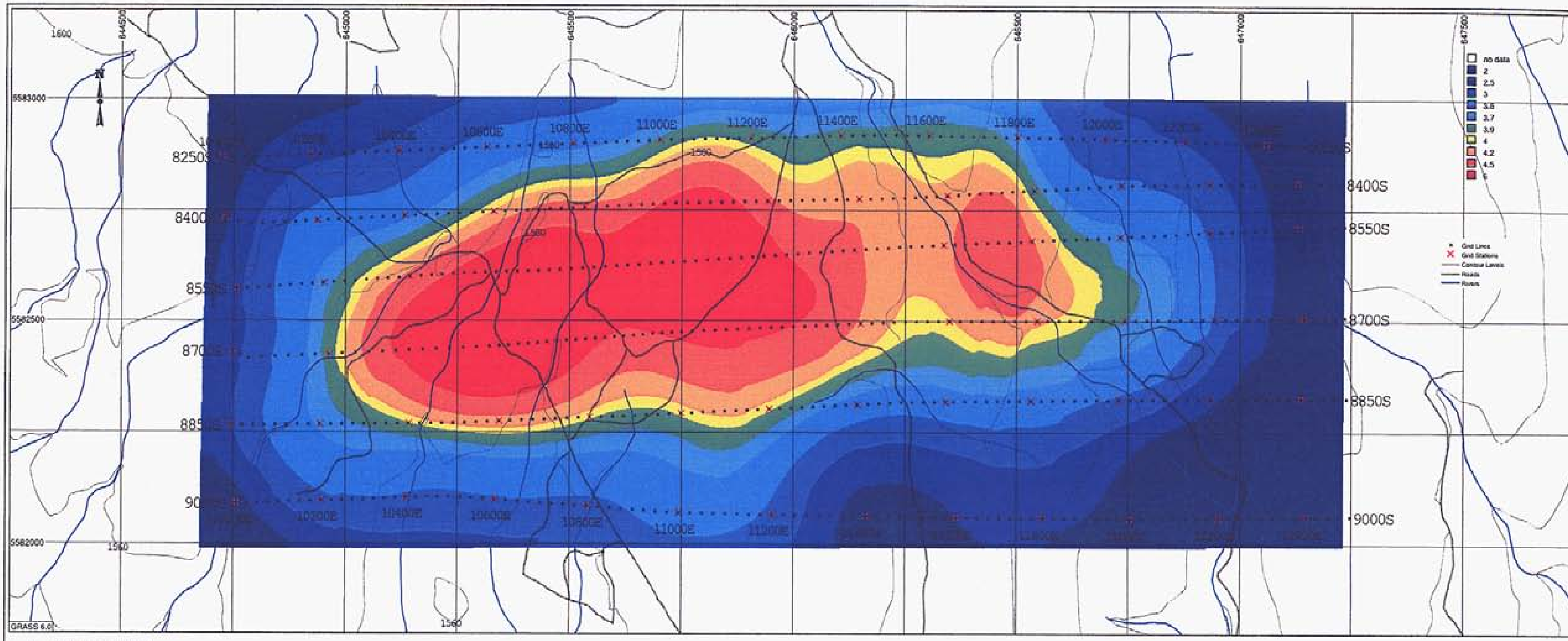
3D Inversion Model

Interpreted Chargeability (ms)
False Color Contour Map

150 m Below Surface

SJ Geophysics Ltd

Plate C-5



0 50 100 150 200 250

Projection: UTM meters
Datum: NAD83
Zone: 10
Mapping Date: December 2005

Survey Information

Instrumentation:

RECEIVER: SJ FULL WAVE FORM IP RECEIVER
TRANSMITTER: GDD TX II

Typical Dipole Array:
a=50,100m N=12

Survey by: SJ Geophysics Ltd.
3D Inversion by: S.J.V. Consultants Ltd.
Processing Date: November 2005

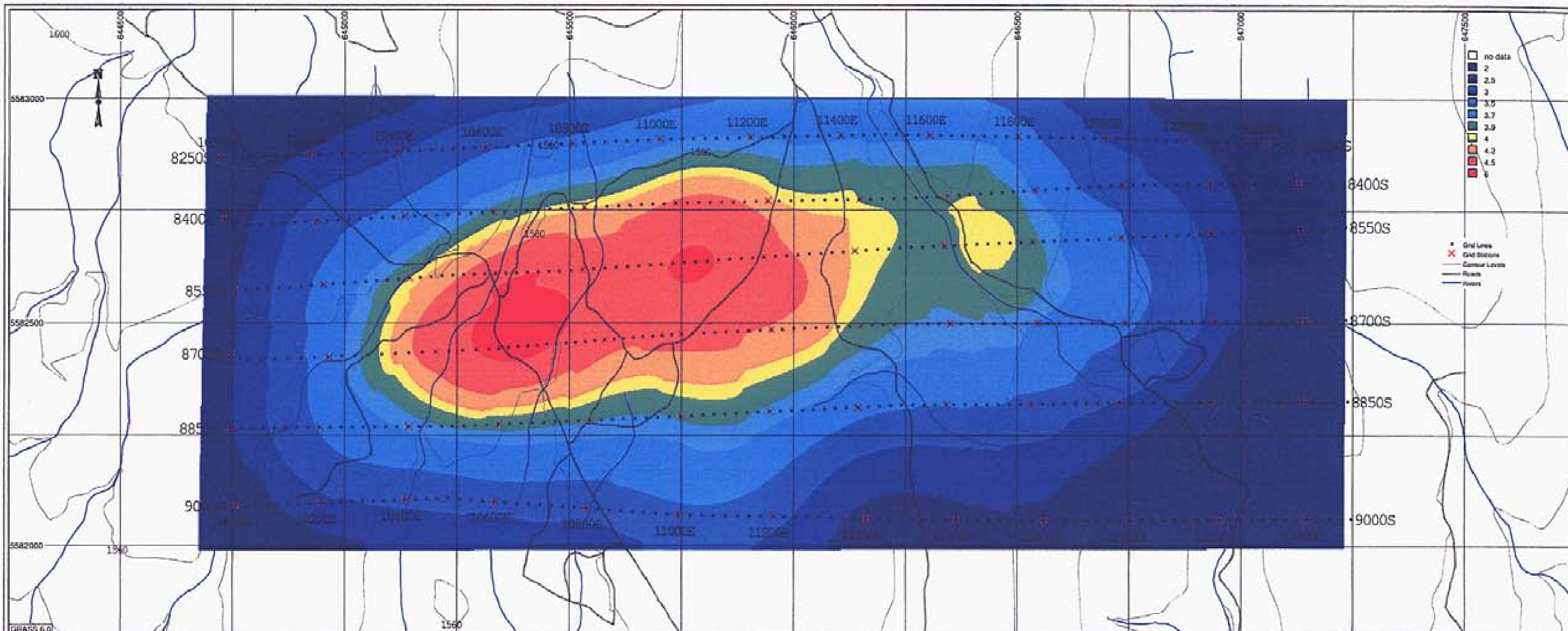
Happy Creek Minerals Ltd.
Rateria Project
North of Merrit, B.C., Canada

3D Inversion Model
Interpreted Chargeability (ms)
False Color Contour Map

200 m Below Surface

SJ Geophysics Ltd

Plate C-6



0 50 100 150 200 250

Projection: UTM meters
Datum: NAD83
Zone: 10
Mapping Date: December 2005

Survey Information

Instrumentation:

RECEIVER: SJ FULL WAVE FORM IP RECEIVER
TRANSMITTER: GDD TX II

Typical Dipole Array:
a=50,100m N=12

Survey by: SJ Geophysics Ltd.
3D Inversion by: S.J.V. Consultants Ltd.
Processing Date: November 2005

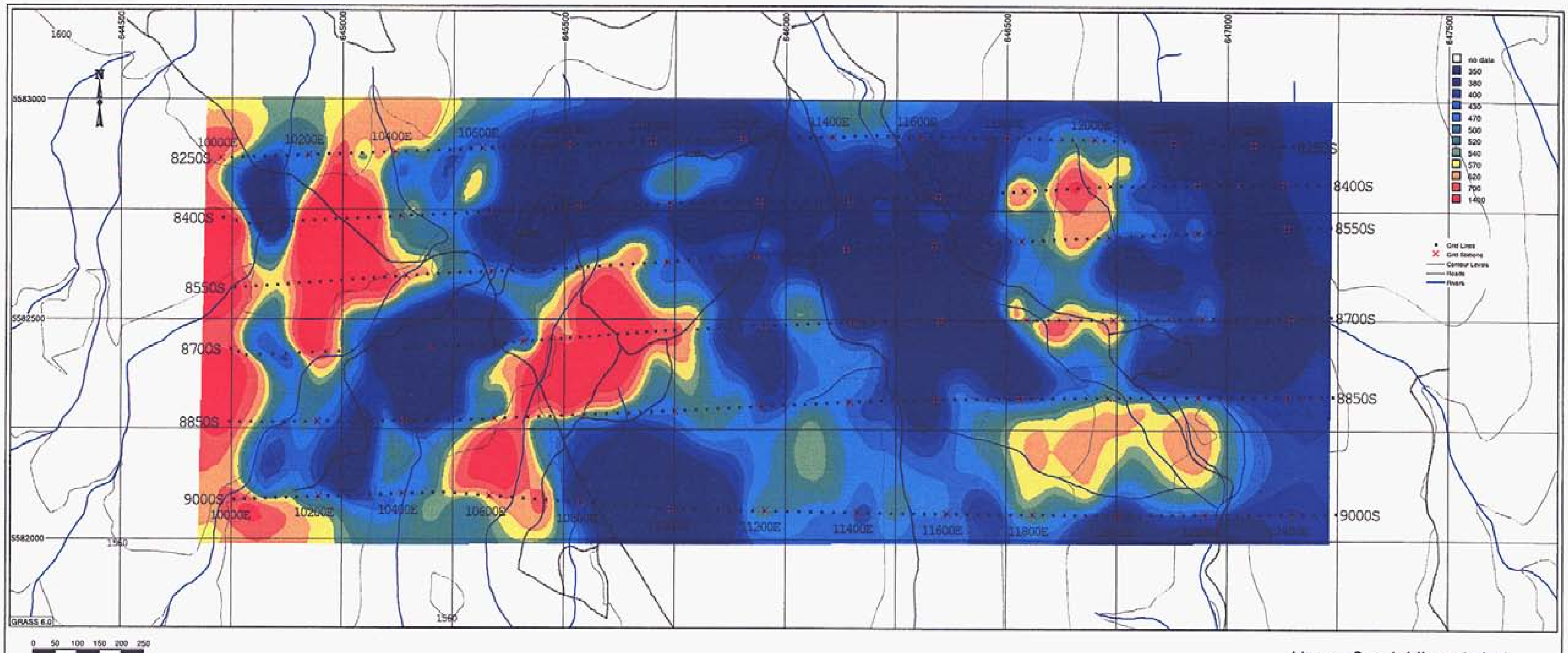
Happy Creek Minerals Ltd.
Rateria Project
North of Merrit, B.C., Canada

3D Inversion Model
Interpreted Chargeability (ms)
False Color Contour Map

250 m Below Surface

SJ Geophysics Ltd.

Plate C-7



Survey Information

Instrumentation:

RECEIVER: SJ FULL WAVE FORM IP RECEIVER
TRANSMITTER: GDD TX II

Typical Dipole Array:
a=50,100m N=12

Survey by: SJ Geophysics Ltd.
3D Inversion by: S.J.V. Consultants Ltd.
Processing Date: November 2005

Projection: UTM meters
Datum: NAD83
Zone: 10
Mapping Date: December 2005

SJ Geophysics Ltd.

Happy Creek Minerals Ltd.

Rateria Project

North of Merrit, B.C., Canada

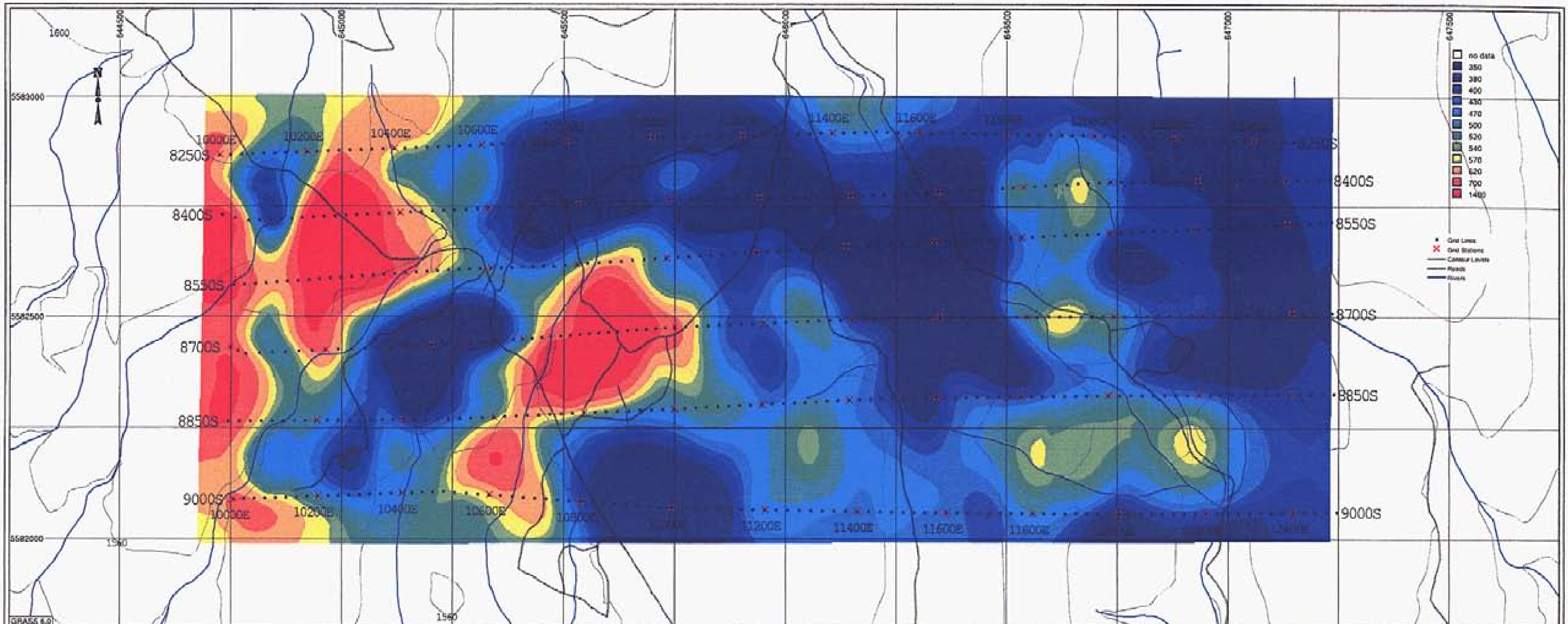
3D Inversion Model

Interpreted Resistivity (Ohm-m)

False Color Contour Map

25 m Below Surface

Plate R-1



0 50 100 150 200 250

Projection: UTM meters
Datum: NAD83
Zone: 10
Mapping Date: December 2005

Survey Information

Instrumentation:

RECEIVER: SJ FULL WAVE FORM IP RECEIVER
TRANSMITTER: GDD TX II

Typical Dipole Array:
a=50,100m N=12

Survey by: SJ Geophysics Ltd.
3D Inversion by: S.J.V. Consultants Ltd.
Processing Date: November 2005

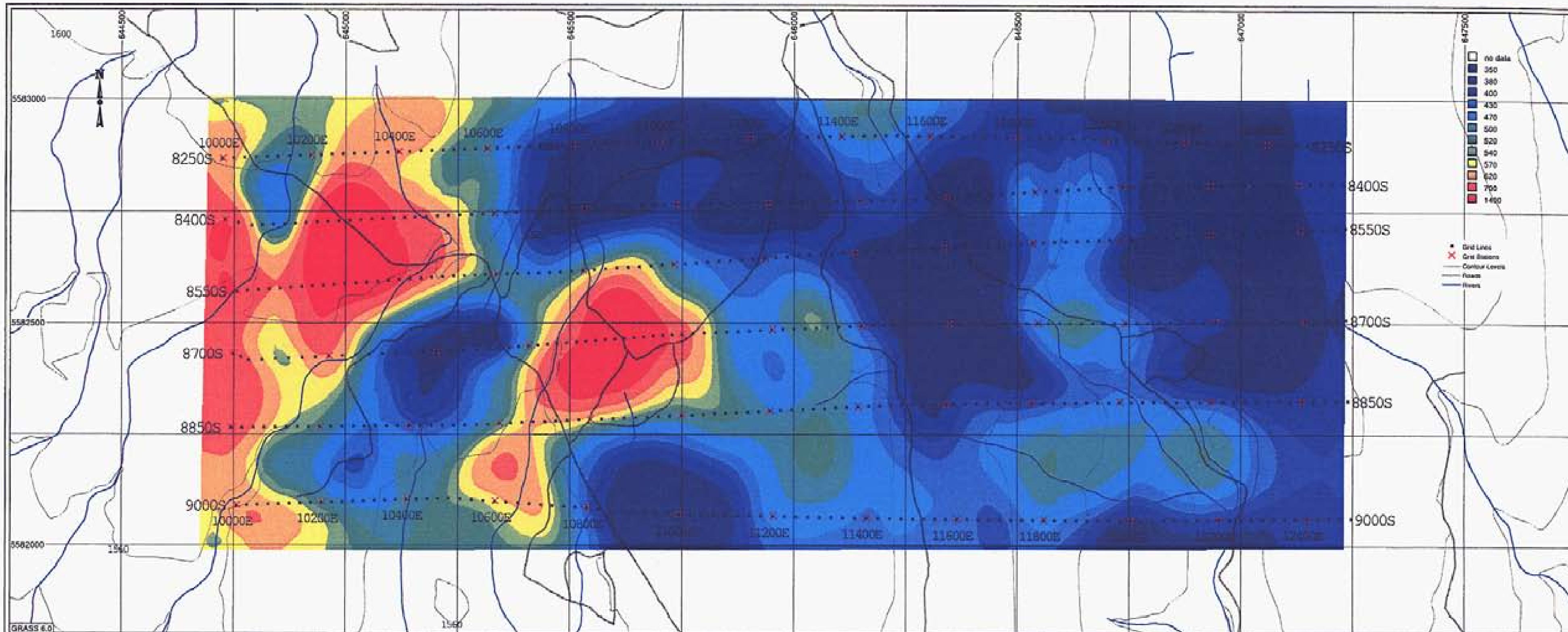
Happy Creek Minerals Ltd.
Rateria Project
North of Merrit, B.C., Canada

3D Inversion Model
Interpreted Resistivity (Ohm–m)
False Color Contour Map

50 m Below Surface

SJ Geophysics Ltd.

Plate R–2



0 50 100 150 200 250

Projection: UTM meters
Datum: NAD83
Zone: 10
Mapping Date: December 2005

Survey Information

Instrumentation:
RECEIVER: SJ FULL WAVE FORM IP RECEIVER
TRANSMITTER: GDD TX II

Typical Dipole Array:
a=50,100m N=12

Survey by: SJ Geophysics Ltd.
3D Inversion by: S.J.V. Consultants Ltd.
Processing Date: November 2005

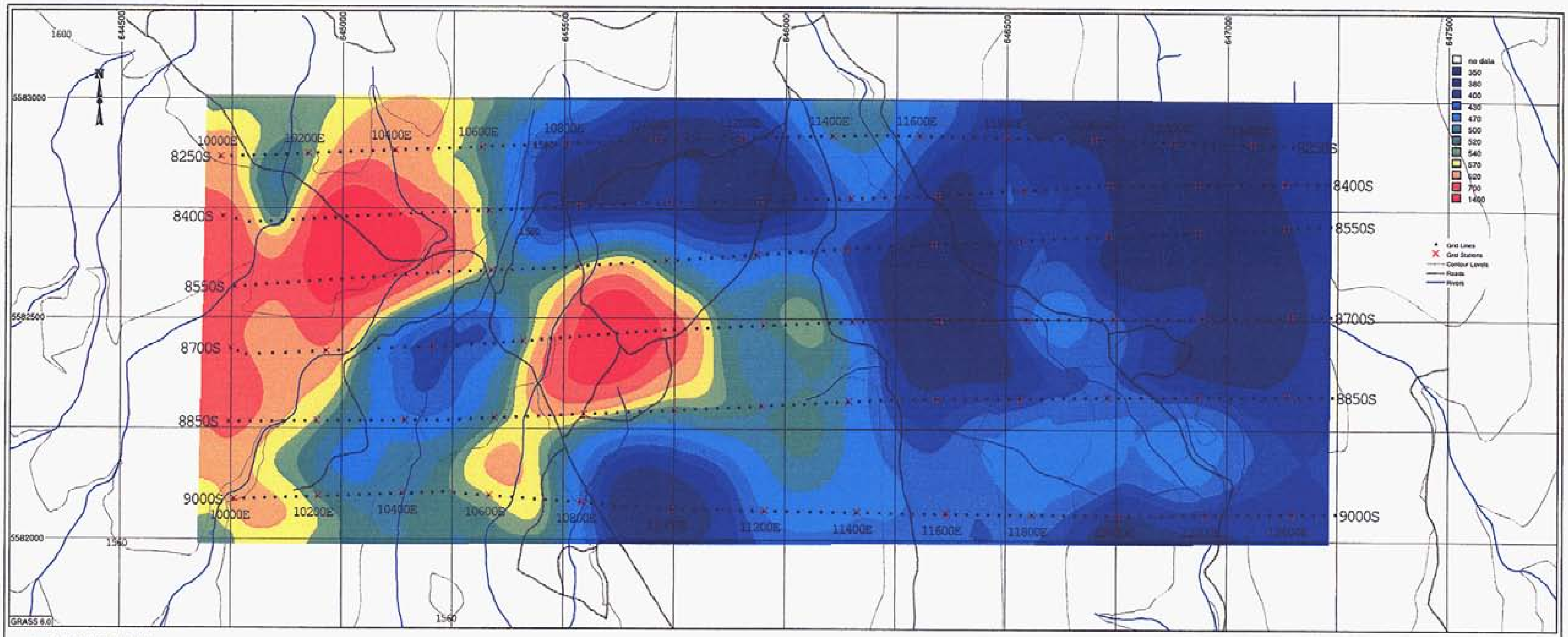
Happy Creek Minerals Ltd.
Rateria Project
North of Merrit, B.C., Canada

3D Inversion Model
Interpreted Resistivity (Ohm–m)
False Color Contour Map

75 m Below Surface

SJ Geophysics Ltd.

Plate R-3



0 50 100 150 200 250

Projection: UTM meters
Datum: NAD83
Zone: 10
Mapping Date: December 2005

Survey Information

Instrumentation:

RECEIVER: SJ FULL WAVE FORM IP RECEIVER
TRANSMITTER: GDD TX II

Typical Dipole Array:
a=50,100m N=12

Survey by: SJ Geophysics Ltd.
3D Inversion by: S.J.V. Consultants Ltd.
Processing Date: November 2005

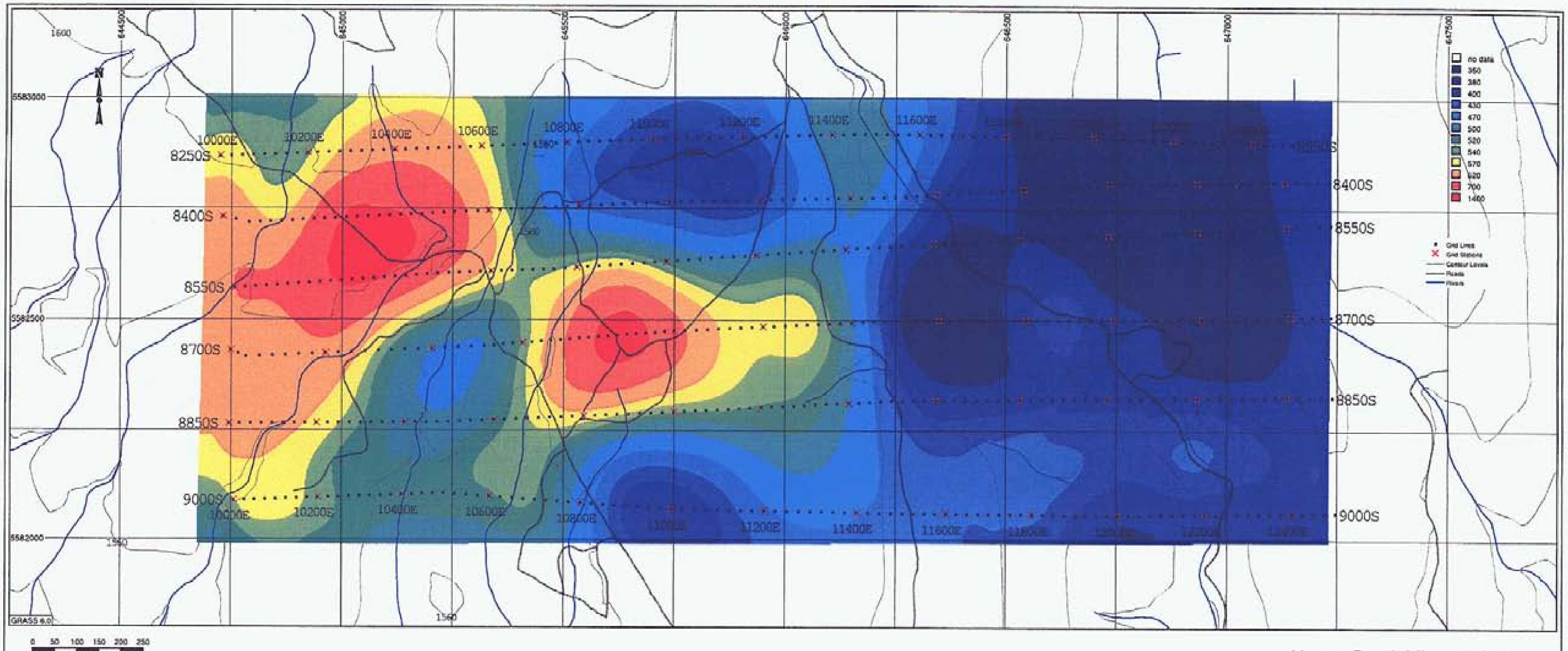
Happy Creek Minerals Ltd.
Rateria Project
North of Merrit, B.C., Canada

3D Inversion Model
Interpreted Resistivity (Ohm–m)
False Color Contour Map

100 m Below Surface

SJ Geophysics Ltd.

Plate R–4



Projection: UTM meters
Datum: NAD83
Zone: 10
Mapping Date: December 2005

Survey Information

Instrumentation:

RECEIVER: SJ FULL WAVE FORM IP RECEIVER
TRANSMITTER: GDD TX II

Typical Dipole Array:
a=30,100m N=12

Survey by: SJ Geophysics Ltd.
3D Inversion by: S.J.V. Consultants Ltd.
Processing Date: November 2005

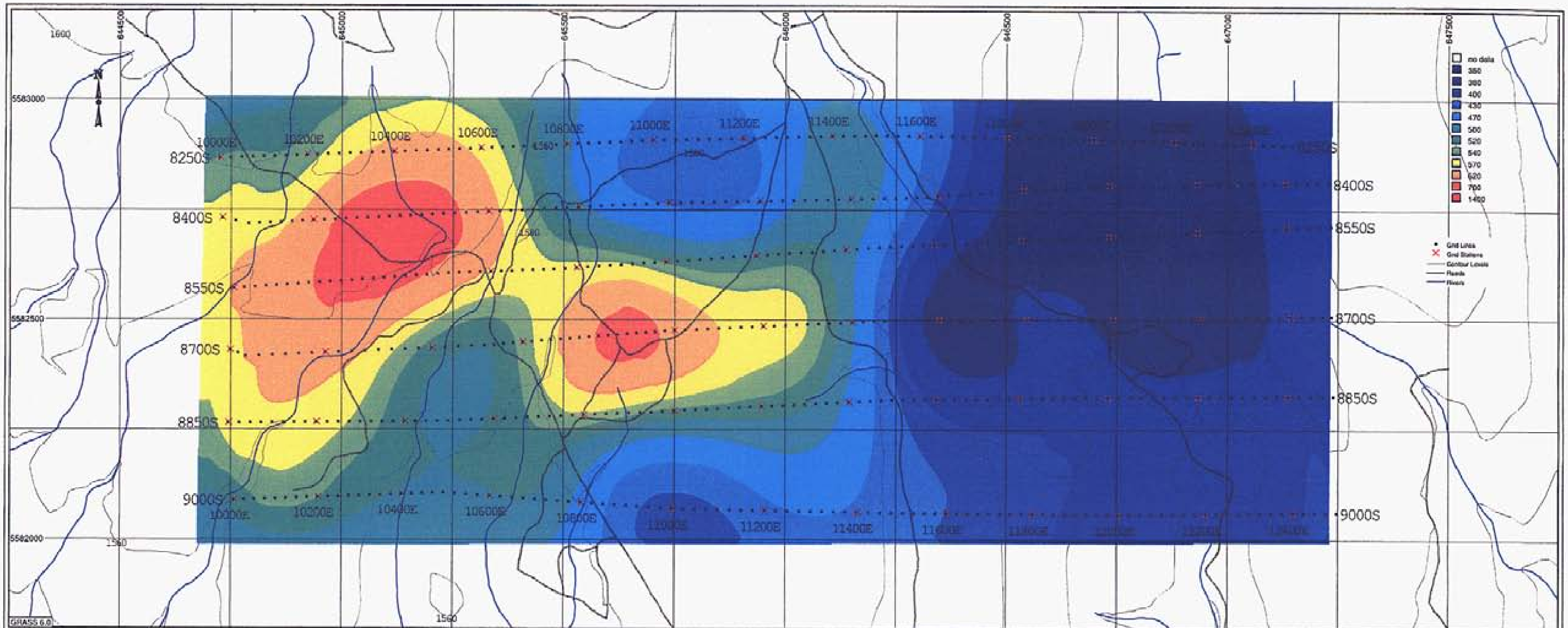
Happy Creek Minerals Ltd.
Rateria Project
North of Merrit, B.C., Canada

3D Inversion Model
Interpreted Resistivity (Ohm–m)
False Color Contour Map

150 m Below Surface

SJ Geophysics Ltd.

Plate R–5



0 50 100 150 200 250

Projection: UTM meters
Datum: NAD83
Zone: 10
Mapping Date: December 2005

Survey Information

Instrumentation:
RECEIVER: SJ FULL WAVE FORM IP RECEIVER
TRANSMITTER: GDD TX II

Typical Dipole Array:
a=50,100m N=12

Survey by: SJ Geophysics Ltd.
3D Inversion by: S.J.V. Consultants Ltd.
Processing Date: November 2005

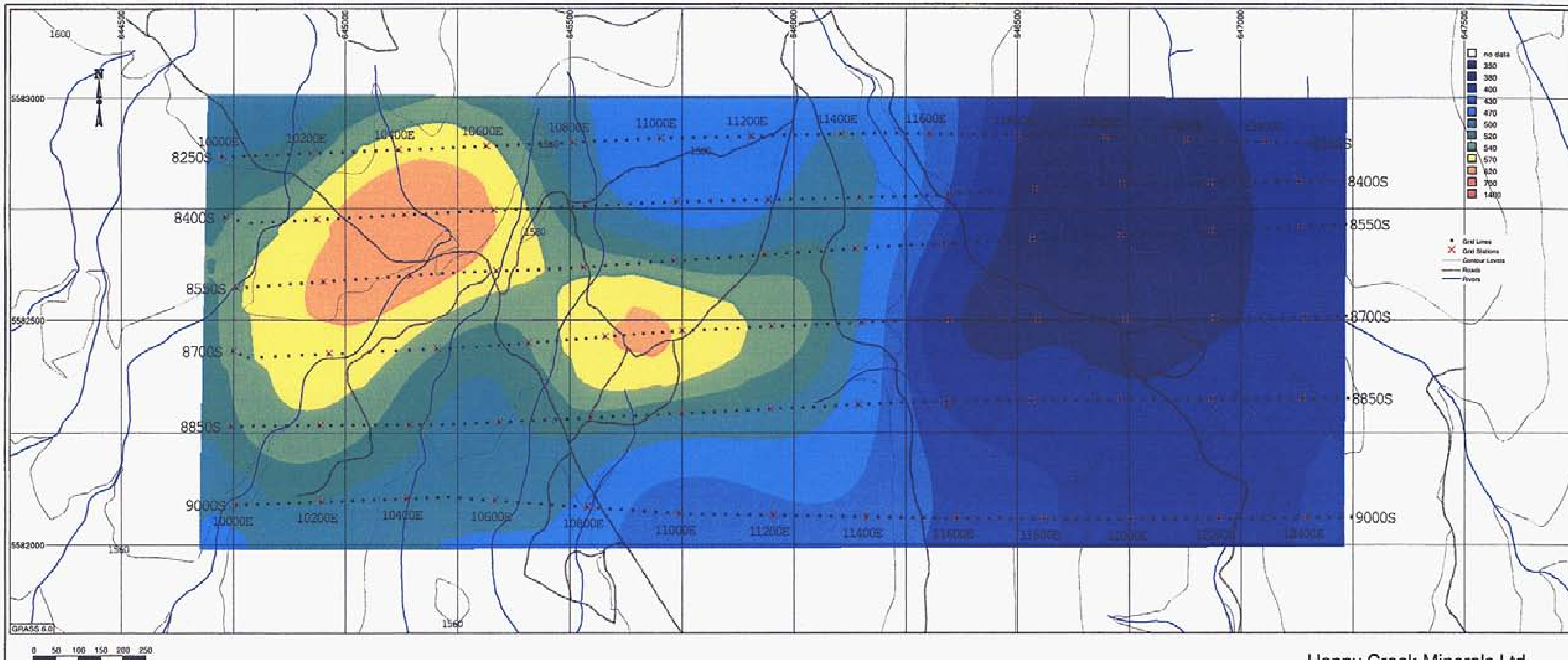
Happy Creek Minerals Ltd.
Rateria Project
North of Merrit, B.C., Canada

3D Inversion Model
Interpreted Resistivity (Ohm–m)
False Color Contour Map

200 m Below Surface

SJ Geophysics Ltd.

Plate R–6



Projection: UTM meters
Datum: NAD83
Zone: 10
Mapping Date: December 2005

Survey Information

Instrumentation:
RECEIVER: SJ FULL WAVE FORM IP RECEIVER
TRANSMITTER: GDD TX II

Typical Dipole Array:
a=50,100m N=12

Survey by: SJ Geophysics Ltd.
3D Inversion by: S.J.V. Consultants Ltd.
Processing Date: November 2005

Happy Creek Minerals Ltd.
Rateria Project
North of Merrit, B.C., Canada

3D Inversion Model
Interpreted Resistivity (Ohm–m)
False Color Contour Map

250 m Below Surface

SJ Geophysics Ltd.

Plate R-7