REPORT ON 1986 EXPLORATION
WELLGREEN PROPERTY

86-015

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LIST OF FIGURES

86-015

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& ASSOCIATES (1981) LIMITED
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86-015

KLUANE JOINT VENTURE

GEOCHEMICAL SAMPLING PROGRAM

WELLGREEN PROPERTY

Latitude 61°28'N; Longitude 139°32'W

Whitehorse Mining District

NTS 115G/5

EIP Designation No. 86-~~105~~ 015

January, 1987

Prepared By

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Work Performed Between June 7 to 14 and August 8 to 15, 1986

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SUMMARY AND RECOMMENDATIONS

Kluane Joint Venture was formed in 1986 by Chevron Minerals Ltd. and All-North Resources Ltd. to explore for platinum group elements (PGE) in southwest Yukon Territory. Grid soil sampling, detailed prospecting, a trial bulldozer trenching program and a test geophysical survey were carried out on the Wellgreen Property optioned from Hudson-Yukon Mining Co., Limited (a subsidiary of Hudson Bay Mining and Smelting Co. Limited).

The Wellgreen Option hosts a formerly producing nickel-copper mine which shipped concentrates to Japan over the period 1972 to 1973. Mill feed was supplied from underground mining of narrow, discontinuous massive sulphide lenses associated with olivine gabbro dykes that intrude the faulted contact between volcaniclastic country rock and a thick peridotite sill. At the time of mine closure in early 1973, the remaining reserve of high grade mineralization was calculated at 568,300 tonnes grading 2.04% nickel, 1.42% copper, 0.038% cobalt, 0.038 oz/ton platinum and 0.027 oz/ton palladium. Disseminated sulphides also occur within the gabbro dykes although this type of mineralization was too low grade to be mined economically under the prevailing economic conditions.

The 1986 exploration on the Wellgreen Option was designed to provide the basis for an evaluation of several aspects of known mineralization occurring on the property:

i) the nature and extent of nickel-copper-PGE sulphide mineralization;

ii) the geological potential for large scale open pit mining of "low grade" disseminated mineralization; and,

iii) the geological potential for large scale underground mining of "medium grade" disseminated and massive sulphide mineralization.

The data package obtained from Hudson-Yukon includes a complete set of surface and underground drill hole logs with accompanying assays as well as maps showing results of magnetic surveys, geochemical surveys and geological mapping. Detailed underground mapping including level plans, cross-section and stope maps was also supplied.

Results of the 1986 property exploration and data review confirm the previously known PGE grades of massive sulphide mineralization. As well, systematic rock chip and soil geochemical sampling has established that the associated gabbro dykes contain potentially economic nickel, copper and PGE values in disseminated mineralization over a 2 km strike length and an estimated average width of 9 m. Average grade of this material is conservatively estimated at approximately 0.6% nickel, 0.5% copper, 0.02 oz/ton platinum, 0.02 oz/ton palladium and 0.02% cobalt. This does not include any credit for lenses of much higher grade massive sulphide mineralization that may occur within or adjacent to the gabbro bodies. Limited sampling of the peridotite body itself suggests that anomalous, but subeconomic, values of nickel, copper and PGE are present.

Limited sampling in the 1986 field season has also shown that the massive sulphide and disseminated mineralization contain unusually high quantities of the rare platinum group elements. Results of a chip sample taken across the Discovery (No. 1) Zone are given below:

<u>9.8 m chip sample - massive sulphide mineralization</u>

2.44% nickel		0.070 oz/ton platinum
2.07% copper		0.064 oz/ton palladium
0.09% cobalt		0.016 oz/ton iridium
0.030 oz/ton gold		0.013 oz/ton osmium
		0.019 oz/ton ruthenium
		0.016 oz/ton rhodium
	Total:	0.198 oz/ton PGE

<u>16.2 m chip sample - disseminated sulphide mineralization</u>

0.47% nickel		0.029 oz/ton platinum
1.10% copper		0.017 oz/ton palladium
0.02% cobalt		0.002 oz/ton iridium
0.009 oz/ton gold		0.002 oz/ton osmium
		0.003 oz/ton ruthenium
		0.002 oz/ton rhodium
	Total:	0.054 oz/ton PGE

Grid soil sampling at 50 by 100 m intervals over the west-central part of the property has demonstrated a close correlation of copper, nickel, platinum, palladium, gold and arsenic anomalies with areas of known mineralization. Geophysical orientation surveys on two lines over known mineralization have demonstrated that a combination of VLF and magnetic surveys will further define geochemical targets for follow-up by bulldozer trenching and diamond drilling.

The following preliminary budget is recommended for 1987 exploration on the Wellgreen Option:

Phase One -	geophysical and geochemical surveys, 350 hours of bulldozer trenching and 1800 m of drilling	$600,000	
Phase Two -	50 hours of trenching and 2200 m of drilling	300,000	
	TOTAL		$900,000

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

R.J. Cathro

R.C. Carne

INTRODUCTION

Through an option agreement dated August 21, 1986, Kluane JV acquired from Hudson-Yukon Mining Co., Limited (a subsidiary of Hudson Bay Mining and Smelting Co. Limited), the right to earn a 50% interest in the 91 claim Wellgreen Property by making exploration expenditures of $1,000,000 prior to December 31, 1990. The property includes the former Wellgreen Mine from which high nickel-copper-PGE mineralization was mined underground during 1972-73.

The initial phase of the 1986 program was carried out between June 7 and June 14 after verbal agreement was reached between Chevron Minerals Ltd. (on behalf of the joint venture) and Hudson-Yukon. This work consisted of geological mapping, prospecting, grid soil sampling and systematic rock sampling. A follow-up phase consisting of additional grid soil sampling, limited bulldozer trenching and test geophysical surveys was carried out between August 8 and August 15. A total of 592 rock and soil samples was collected from the property during both phases of the program. Two placer leases were staked on Aird and Nickel Creeks to pre-empt conflicting claims by others.

The crew consisted of geologist R. Carne, geological technician K. Sax and sampler-prospectors D. Lister and K. Capnerhurst. R.J. Cathro provided overall supervision. The Caterpillar D-7E bulldozer used for the trial trenching program was contracted from E. Caron Diamond Drilling and operated by R. Smith. G. Hendrickson and S. Cosman of Delta Geophysics Ltd. carried out the test geophysical survey.

Rock, soil, silt and pan samples from the property were treated identically. They were prepared by crushing and pulverizing the entire sample to -150 mesh prior to fire assay pre-concentration for atomic absorption

(FA-AA) determination of platinum and palladium by the Bondar-Clegg lab, North Vancouver, B.C.. The remaining pulp was then shipped to Chemex Labs Ltd., North Vancouver, B.C. for gold analyses by fire assay-neutron activation analysis (FA-NAA) and for 30 additional elements by inductively coupled plasma (ICP) technique.

Meals and lodging were provided by the White River Lodge for the first phase of the program and by Kluane Wilderness Village Motel and Burwash Landing Lodge for the Quill Creek area exploration. The project was supported by a rented four-wheel drive vehicle.

The data package obtained from Hudson-Yukon includes a complete set of surface and underground drill hole logs with accompanying assays as well as maps showing results of magnetic surveys, geochemical surveys and geological mapping. Detailed underground mapping including level plans, cross-section and stope maps was also supplied.

The following section is a compilation of the Hudson-Yukon and Kluane JV surface exploration data. A more thorough review of the available underground data will be conducted in the spring of 1987.

Much of the detailed geological information in this report is summarized from a 1972 report on bulk tonnage potential of the property by J. S. (Jack) Vincent for the Nickel Syndicate (Canadian Superior Exploration Ltd., Home Oil Co., Aquitaine Co. of Canada Ltd. and Getty Mining Pacific Ltd.); a 1980 summary report on low grade and medium grade bulk tonnage potential of the property by Dave Tenney for Whitehorse Copper Mines Ltd; and, a 1981 Ph.D. thesis by S.W. (Sue) Campbell at the University of British Columbia.

PROPERTY, LOCATION AND ACCESS

The 91 claim Wellgreen Property lies in southwest Yukon, 14 km southwest of Km 1788 on the Alaska Highway at 61°28'N and 139°32'W on NTS Map 115G/5 (Figure 1). A good two-wheel drive road, formerly used for ore haulage, connects the property with the mill site on the highway. Whitehorse is 317 km to the east, about a 3-1/2 hour drive. The nearest airstrip is 30 km east of Km 1788 at Burwash Landing. An all-season deep-sea port on tidewater is located at Haines, Alaska, which lies 410 km to the southeast by good quality paved road.

Kluane National Park lies 25 km to the south. The property lies within Kluane Game Sanctuary.

The topography of the area is rugged with slopes locally in the 30 range and the highest peaks exceeding the 6000 ft elevation. The main mineralized trend on the property lies between elevations of 4250 and 5600 ft on a moderate to steep, south-facing slope.

A complete list of claims is given on Table I on the following page.

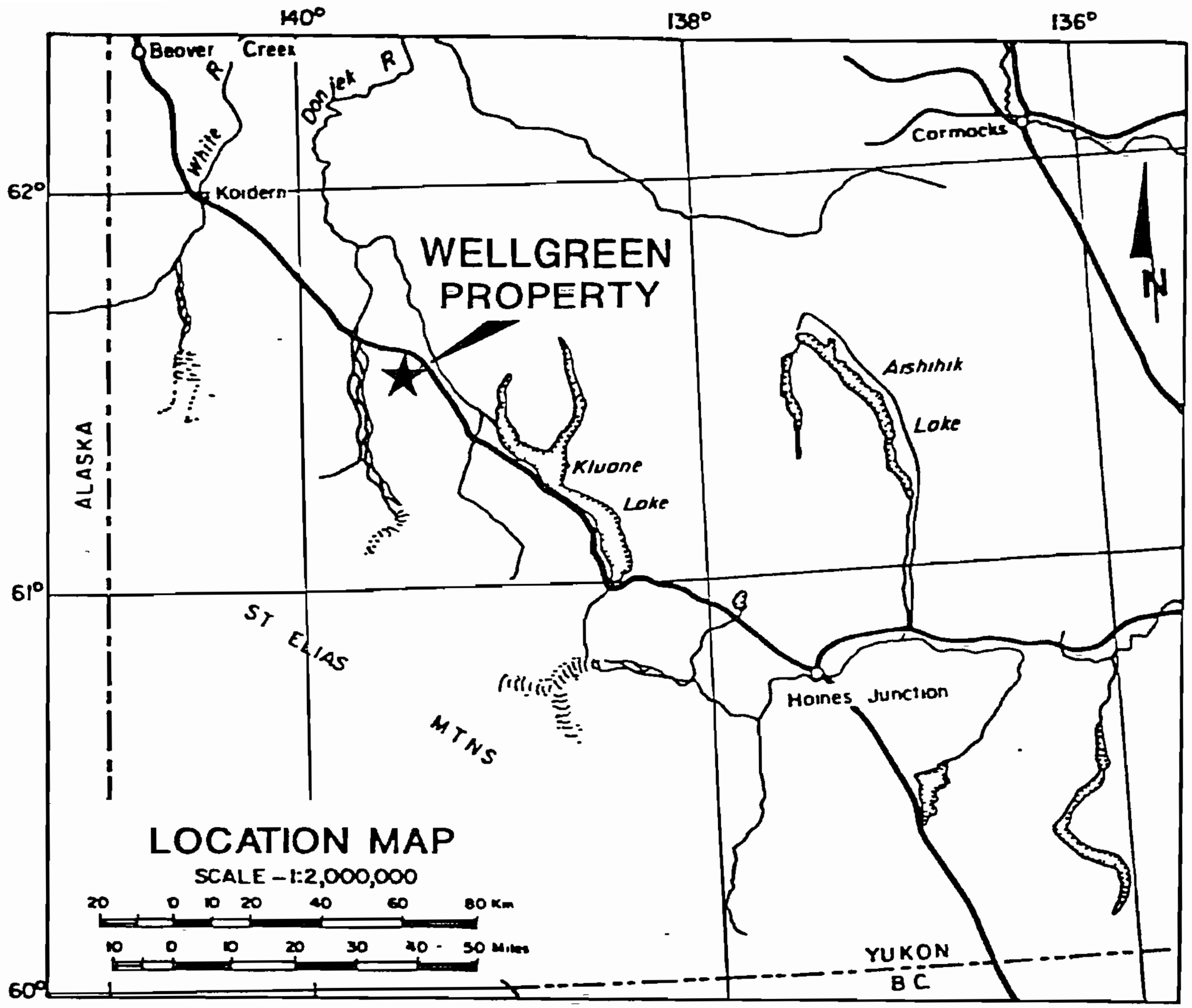


Figure 1: Location Map, Wellgreen Option

TABLE I

LIST OF CLAIMS AND LEASES - WELLGREEN OPTION

Name	Grant Number	Lease Number
Quill 1-8	60767-60774	2554-2561
Discovery 1-8	60775-60782	2562-2569
Wagoner 1-8	60783-60790	2570-2577
Ram 1-8	60791-60798	2578-2585
Irish 1-3	63001-63003	2586-2588
Irish 6	63006	2589
Sam 1-8	63013-63020	2595-2602
Mac 1-8	63021-63028	2603-2610
Betty 1-8	63029-63036	2611-2618
Red 1-8	63037-63044	2619-2626
Ross 25	64066	2629
Ross 15	64076	2627
Ross 16	64077	2628
Ross 94 Fr	64084	2632
Ross 95 Fr	64085	2633
Ross 85	64086	2630
Ross 86	64087	2631
Jeep 238	64122	2635
Ross 96 Fr	64587	2634
Jeep 96	64742	2636
Jeep 234	64828	2637
Jeep 236	64830	2638
Jeep 240	64832	2639
Jeep 242	64834	2640
Jeep 244	64836	2641
Jeep 265	66569	2642
Jeep 267	66571	2643
Jeep 268	66572	2644
Quill Fr	70829	2590
Ross 1-4 Fr	71432-71435	2591-2594
91 Claims		
Placer Leases		
Platinum 1		7415
Platinum 2		7416

HISTORY AND PREVIOUS WORK

The Wellgreen surface showings were discovered in 1952 by prospectors Wellington (Wally) Green, C.A. Aird and C.E. Hankins. The property was optioned by Hudson Bay Exploration and Development Company Limited in 1952 and has been held since 1955 through a subsidiary, Hudson-Yukon Mining Co., Limited. Between 1953 and 1956, the property was explored with 4267 m of underground development on four levels, including two internal shafts and 19,812 m of surface and underground diamond drilling. Ground geophysical surveys (magnetometer and Turam EM), a geochemical survey (nickel and copper only) and 762 m of surface diamond drilling (13 holes) were carried out in 1968.

In March, 1970, a production decision was made with announced reserves shown below:

	Ni %	Cu %	Co %	Pt oz/ton	Pd oz/ton	Au oz/ton	tonnes
Proven Reserves (diluted 10%)	2.04	1.42	0.073	0.038	0.027	0.005	669,150
"Medium Grade" (undiluted)	0.89	1.02	0.038	0.016	0.12	N.A.	93,750

Development work, which started in February, 1970, consisted of slashing the exploration drift, sinking an internal shaft and driving sublevels in preparation for stoping. A mine dry, powerhouse and compressor facility were built at the portal and a mill and townsite were established beside the Alaska Highway (14.5 km from the mine). Milling began on May 1, 1972 but was suspended on July 6, 1973 due to falling metal prices and excessive dilution caused by a weak peridotite hanging wall coupled with the unexpectedly erratic distribution of the massive sulphide lenses. Production was as follows:

	1972	1973	Total
Tonnes milled*	102,015	69,637	171,652
Rate (tonnes/day)	381	323	357

*includes milling of stockpiled ore.

Grade of Mill Feed

	1972	1973	Average
Ni	2.05%	2.49%	2.23%
Cu	1.35%	1.45%	1.39%
Pt*	0.065 oz/ton	0.065 oz/ton	0.065 oz/ton
Co*	0.073%	0.073%	0.073%

*Pt and Co grades were probably calculated from smelter receipts since assays for Co and Pt were not routinely carried out at the mine site.

No smelter receipts or information on mill recovery were provided with the Wellgreen data package.

Since closure, all buildings and machinery have been salvaged from the mine area and camp facilities have been removed from the Alaska Highway site. The mill machinery has also been removed and the buildings are currently being dismantled for salvage. The portal and two raises to surface have been boarded up and covered with loose rock.

GEOLOGY

Geology of the Wellgreen Property is generalized at 1:10,000 scale on Figure 2 on the following page and given at better detail at 1:5,000 scale on Figure 3 in the pocket. A generalized cross-section through the property is given on Figure 4.

The property is underlain by a series of bedded andesitic volcanic tuff and breccia units with minor interbedded argillite and limestone. These are correlated with the Pennsylvanian to Permian Station Creek Fm of the Skolai Group. Mine geologists used the term "quartzite" to describe the volcaniclastic sequence and that nomenclature is retained here. Along the northern edge of the property, these rocks are conformably overlain by a Permian sedimentary sequence consisting of shale, chert, sandstone, conglomerate and limestone, part of the Hasen Creek Fm of the Skolai Group. Upper Triassic Nikolai Group amygdaloidal basalts are in fault contact with Permian rocks along the south side of the property.

A variably serpentinized, 13 km long ultramafic sill, roughly conformable with bedding, passes through the central part of the property in an east-west direction. Thickness of the ultramafite is estimated to range between 100 and 600 m although no complete section is exposed. The Wellgreen Option covers the central 5 km of the sill while Kluane JV's Linda Creek and Arch Creek Properties cover the east and west extensions, respectively.

The sill is mostly composed of intensely sheared, variably serpentinized, dark green to greenish-black, olivine peridotite. A grey-brown weathering serpentinized dunite unit is present as a basal phase along the south edge of the peridotite. Numerous steeply south-dipping, ESE- and ENE-trending normal

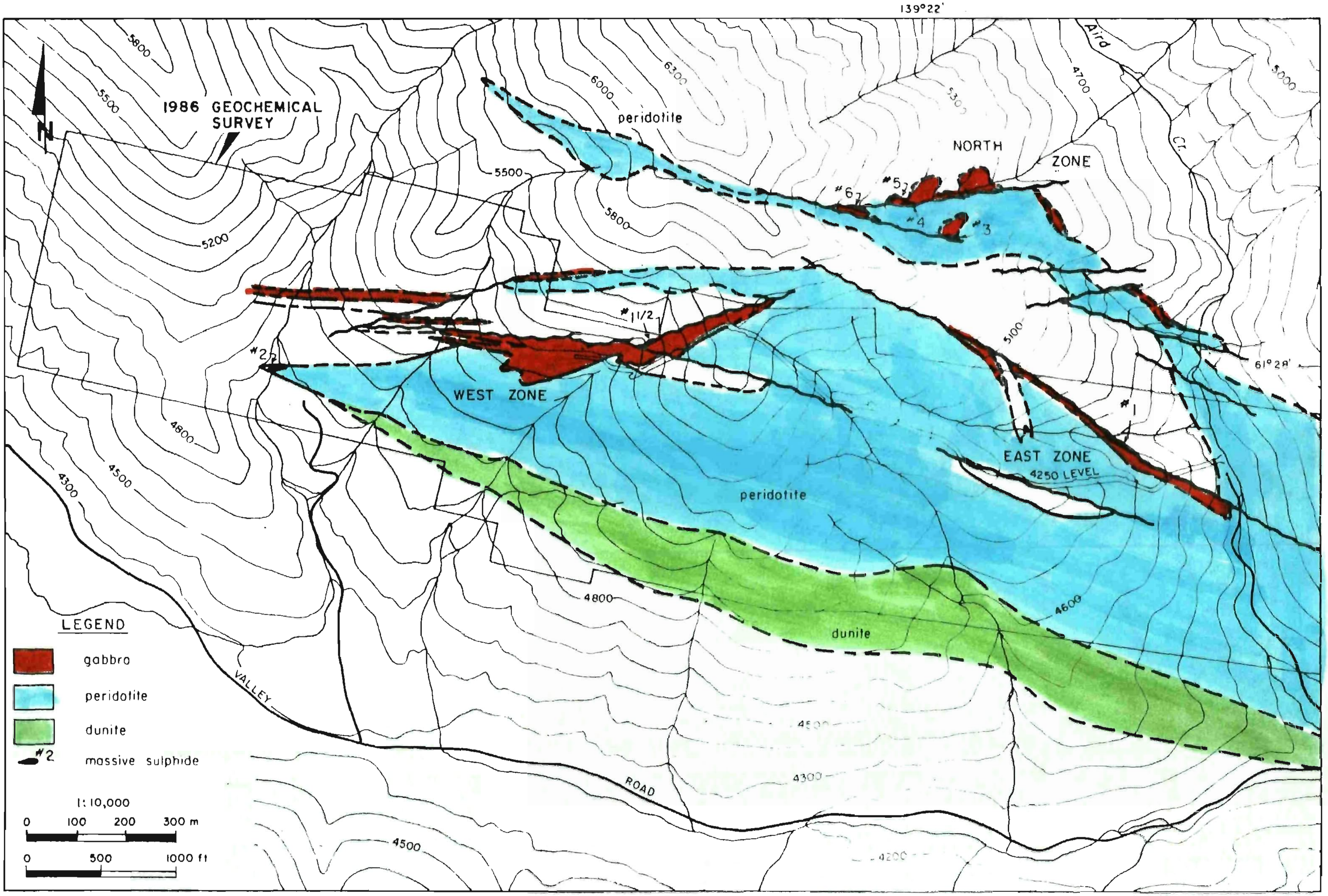


Figure 2: Generalized Geology, Wellgreen Option

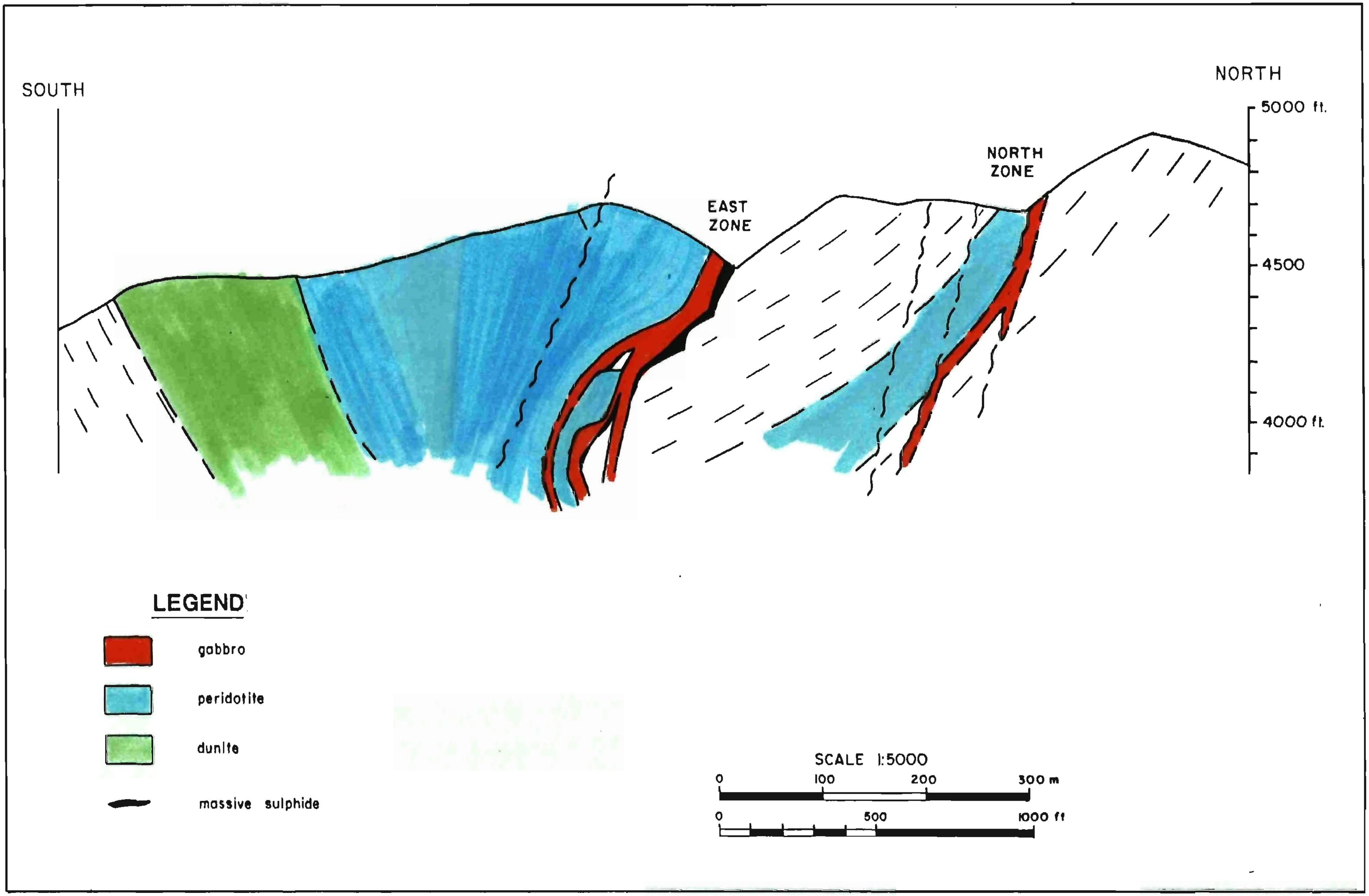


Figure 4: Generalized cross-section, Wellgreen Option

fault zones vertically displace the ultramafite. In the thicker, central part of the sill (east Wellgreen Property), the faults juxtapose peridotite against peridotite while at the thinner east and west ends of the body, hanging wall or footwall sedimentary rocks are faulted against ultramafite.

Narrow gabbro dykes have been injected along the fault zones. Mine personnel called this rock "diorite", although locally the composition varies from pyroxenite through olivine gabbro to anorthosite or diorite. Thickness of the gabbro dykes is quite variable, ranging from less than 1 m to greater than 40 m and averaging about 7 to 10 m. Tabular quartz-carbonate alteration zones sometimes occur either within or adjacent to the gabbros. Irregular 1 to 20 m wide selvages of amphibole-rich "skarn" occur in peridotite adjacent to the gabbro bodies.

MINERALIZATION

All potentially economic sulphide mineralization on the Wellgreen Option is spatially, and probably genetically, associated with the gabbro dykes. Three areas of mineralization are known at present. These are shown as the East Zone, West Zone and North Zone on Figure 2. A detailed cross-section through the No. 1 Showing, East Zone is given on Figure 5 on the following page. Individual massive sulphide lenses discovered by Hudson-Yukon in creek canyons cutting the three zones are listed for reference as follows:

East Zone - No. 1 Showing

West Zone - No. 1-1/2 Showing, No. 2 Showing

North Zone - No. 3-6 Showings

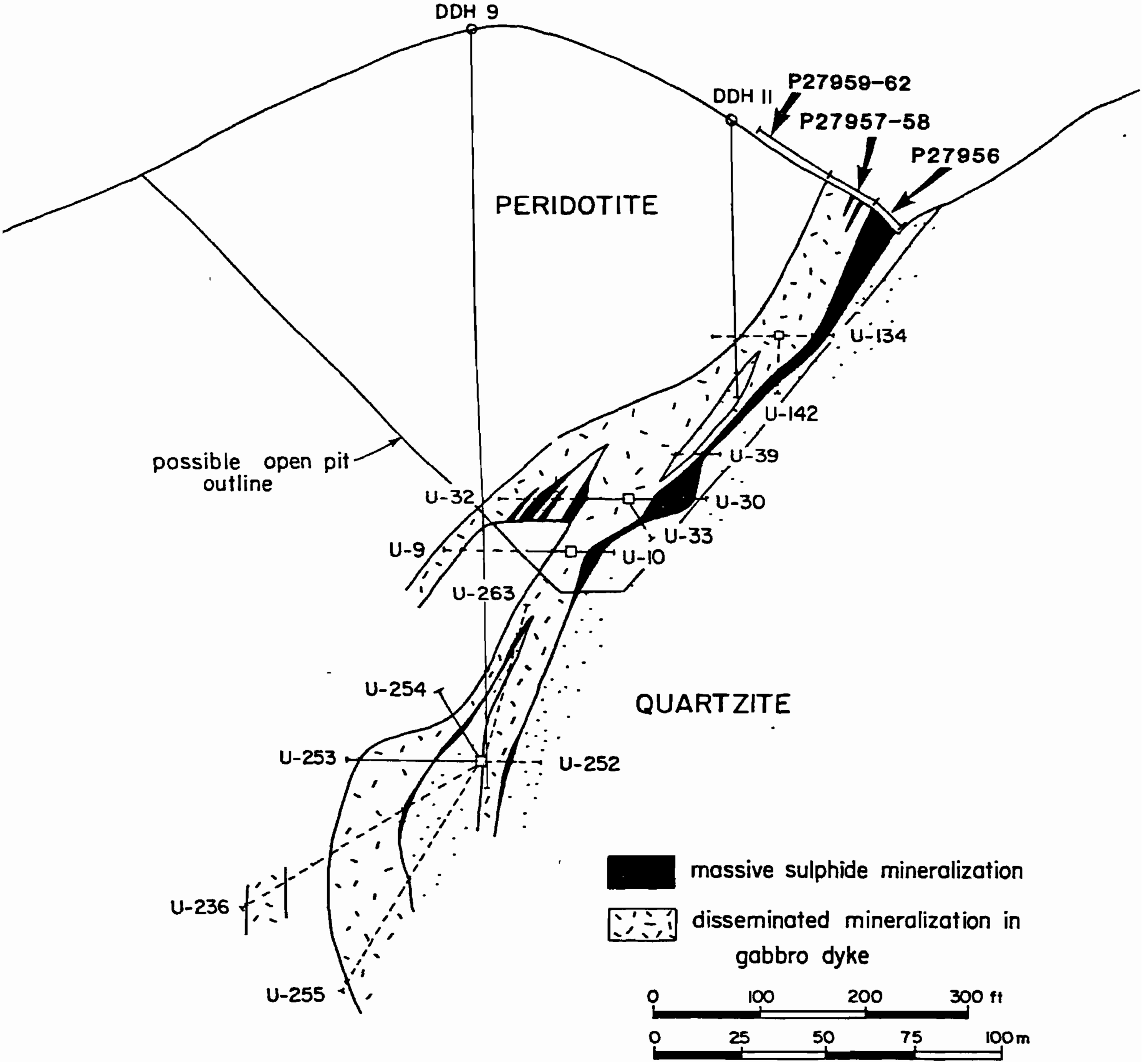
At least four types of nickel-copper-PGE sulphide mineralization have been recognized to date on the Wellgreen Property. A narrow vein of cerargyrite (AgCl) reported from the North Zone was not relocated in 1986.

i) Massive Sulphide

Lenses of massive sulphide mineralization were selectively mined during 1972-73. Widths encountered underground vary rapidly from 1 to 18 m although they are usually less than 6 m wide. The distribution of lenses is erratic and discontinuous with the largest occurring along moderately plunging "rolls" (mine terminology) along the gabbro-quartzite contacts (Figure 5). Sulphide minerals are fine grained. Pyrrhotite is the dominant species with lesser chalcopyrite, pentlandite and magnetite. Pentlandite occurs as fine grains rimming pyrrhotite and as feathery exsolution flames within pyrrhotite. Assays of drill sections range as high as 4.57% nickel, 1.58% copper, 0.10% cobalt, 0.12 oz/ton platinum, and 0.09 oz/ton palladium over 3.6 m (DDH3).

FIGURE 5

VERTICAL CROSS-SECTION THROUGH No.1 ZONE WELLGREEN MINE



Narrow massive sulphide lenses known as the No. 1-1/2 and No. 2 Showings outcrop in creek canyons cutting through overburden cover on the West Zone.

Four nearby areas of massive sulphide mineralization exposed over a 180 m strike length occur within the North Zone, located about 565 m north of the East Zone. All are intimately associated with gabbro bodies intruding a faulted contact between peridotite and quartzite.

Assays of massive sulphide mineralization sampled in 1986 are listed in Table II.

ii) Mineralized Gabbro

Variably mineralized gabbro dykes extend intermittently from the vicinity of the 4250 adit through the East Zone to the West Zone, a distance of about 2 km. Altered and mineralized gabbro is also present in a poorly exposed north-facing slope along the southeast part of the property about 2 km east of the East Zone (not shown on Figure 2). Discontinuous bodies of mineralized gabbro are also associated with massive sulphide mineralization along the ultramafite-quartzite contact at the North Zone.

Chalcopyrite, pyrrhotite and pentlandite occur as fine disseminations and/or narrow sulphide lenses in altered gabbro in proximity to the massive sulphide zones. Two important characteristics distinguish gabbro-hosted mineralization from massive sulphides: (a) grain sizes of metallic minerals are significantly larger in gabbro than in massive sulphide lenses; and, (b) chalcopyrite is the dominant sulphide species, with most assays reflecting a nickel-copper ratio greater than 1:1.

TABLE II

LIST OF ROCK SAMPLE ANALYSES,

WELLGREEN OPTION

SAMPLE NO.	SAMPLE DESCRIPTION	Ni	Cu	Co	Au	Pt	Pd	Ir	Os	Ru	Rh	Au	Pt	Pd	Ir	Os	Ru	Rh	Pt / Pt+Pd	Pt+ / Os+
		%			ppb							oz/ton								
	MASSIVE SULPHIDES:																			
P27954	Composite coarse chip sample of stringer-stockwork zone, No. 1 showing	2.84	0 93	0 096	664	6600	7200					0 019	0 193	0.210	–				0 48	
956	9 8m chip No 1 showing massive sulphide	2 44	2 07	0 094	1020	2400	2200	550	440	650	560	0 030	0 070	0 064	0.016	0.013	0 019	0.016	0 52	2
964	Grab, No 1 showing (East Zone)	3 04	0 83	0.130	298	4350	3190					0.009	0.127	0 093	–				0 57	
965	" " "	3.56	0.75	0.165	509	2700	770					0 015	0 078	0 022					0 78	
966	" " "	2 40	0 75	0 093	183	3600	480					0 005	0 105	0 014	-				0 88	
967	" " "	3.50	0.69	0.168	246	3040	2130					0.007	0 089	0 062	-				0 59	
968	" " "	2.60	3.92	0 101	463	3600	800					0 014	0.105	0.023					0 82	
990	Grab, float west end of East Zone	0.07	0.34	0 003	125	200	270					0 004	0 006	0.008					0 43	
917	Grab, samples from mine dumps	3 26	1.69	0 088	550	1400	1300	1200	950	2000	750	0.016	0 040	0 038	0 035	0 028	0 058	0 022	0 52	0 5
924	" " " "	1.56	4 10	0 084	226	3000	1150				5	0 007	0 086	0 034				—	0 72	
P28339	1.3m chip, No. 2 showing (West Zone)	2.58	2 07	0.115	272	2170	410	780	360	360	400	0 008	0 063	0.012	0 023	0 011	0 011	0.012	0 84	1.3
340	1.5m chip, " " "	0.12	0.40	0 004	500	1730	865					0 029	0 050	0.025					0 67	
P27724	2.0m chip, No. 4 showing (North Zone)	0 88	71%*	0.032	688	3100	4900	60	78	120	90	0.020	0 090	0.143	0.002	0 002	0 004	0.003	0.39	31.
P27944	15cm massive sulphide, No 4 showing	1.42	10.00	0 035	108	1000	1000					0 003	0 029	0.029					0 50	
935	gossanous soil, No. 4 showing	0.19	0.72	0 007	1920	>29000*	14,000	*	*	*	95	0 036	>0 583*	0 408	*	*	*	0 003		
	14 SAMPLES: ARITHMETIC AVERAGE (excluding P27935)	2.16	1 97	0.086		2781	1859						0.081	0 054					0 63	
	HUDSON-YUKON MASSIVE SULPHIDE SAMPLING, NORTH ZONE (1954):																			
	2.1m chip, No 3 showing	4 50	3.81									0 016	0.05	0 15						
	0 3m chip, No 4 showing	5 00	4.22									0 05	0 60	0 20						
	0.3m chip, No 5 showing	5 50	2 79										0 028	0 096						
	0.3m chip, No 6 showing	2 20	0.60										0 015	0 036						

* re-analysis or initial analysis being carried out at time of writing

SAMPLE NO.	SAMPLE DESCRIPTION	Ni	Cu	Co	Au	Pt	Pd	Ir	Os	Ru	Rh	Au	Pt	Pd	Ir	Os	Ru	Rh	Pt / Pt+Pd	Pt+ / Os+
		%			ppb							oz/ton								
	DISSEMINATED MINERALIZATION IN GABBRO																			
P27952	Grab, float - East Zone	1.16	1.74	0.039	939	3550	4135					0.027	0.104	0.121					0.46	
953	" " "	0.53	0.49	0.019	96	810	930					0.003	0.024	0.026					0.47	
955	" " "	0.07	0.25	0.007	3	180	80					—	0.005	0.002					0.69	
957	10.6m chip, above '956, East Zone, #1 'showing	0.54	1.44	0.025	460	1030	460	65	54	71	66	0.013	0.030	0.013	0.002	0.002	0.002	0.002	0.69	5 8
958	5.6m chip, above '957, East Zone, #1 'showing	0.34	0.46	0.015	63	900	840	63	63	125	59	0.002	0.026	0.025	0.002	0.002	0.004	0.002	0.52	5 6
963	Grab, float, East Zone	0.22	0.15	0.015	100	300	260					0.003	0.009	0.008					0.54	
969	" " "	0.59	0.69	0.028	18	800	995					—	0.023	0.029					0.45	
980	" "	0.22	0.10	0.013	30	225	370					0.001	0.007	0.011					0.39	
982	" " "	0.40	0.57	0.019	25	850	800					—	0.025	0.023					0.52	
983	" " "	0.93	0.39	0.047	9	800	930					—	0.023	0.027					0.46	
984	" " "	0.43	1.74	0.048	12	75	55					—	0.002	0.002					0.58	
991	" " "	0.16	0.13	0.010	47	270	365					0.001	0.008	0.010					0.43	
P27918	Grab sample from mine dump	0.52	0.85	0.035	87	1480	1150	*	*	*	*	0.003	0.043	0.034	*	*	*	*	0.56	
919	" " " "	1.52	2.30	0.082	299	2700	2200	*	*	*	25	0.009	0.079	0.064	*	*	*	-	0.55	
921	" " " "	0.45	3.48	0.027	6	300	240					—	0.009	0.007					0.56	
923	" " " "	0.27	0.24	0.014	26	550	665					—	0.016	0.019					0.45	
P27992	Grab, float - West Zone	0.13	0.29	0.008	17	550	560					—	0.016	0.016					0.50	
995	" " " "	0.02	0.02	0.003	<1	450	10					—	—	—					0.50	
996	" " " "	0.11	0.20	0.009	50	190	165					0.001	0.006	0.005					0.54	
997	" " " "	0.10	0.14	0.006	1	120	85					—	0.004	0.002					0.59	
999	" " " "	0.27	0.50	0.011	<1	830	950					—	0.024	0.028					0.47	
P28000	" " " "	0.16	0.60	0.007	34	940	720	17	16	27	18	0.001	0.028	0.021	<0.001	<0.001	0.001	<0.001	0.57	21.
P27902	Grab, float - North Zone	0.06	0.10	0.007	18	600	830					—	0.018	0.024					0.42	
904	" " " "	0.05	0.03	0.007	45	70	125					0.001	0.002	0.004					0.36	
905	" " " "	0.16	0.32	0.010	16	500	750					—	0.015	0.022					0.40	
P27712	10m chip " "	0.07	0.03	0.006	<1	60	45					—	0.002	0.001					0.57	
716	5m chip " "	0.03	0.02	0.005	<1	50	50					—	0.001	0.001					0.50	
718	Grab, float " "	0.11	0.04	0.007	<1	900	130					—	0.026	0.004					0.87	
720	" " " "	0.41	0.51	0.012	21	1800	1000	12	11	<10	38	—	0.053	0.029	—	—	—	0.001	0.64	~5
721	8m chip " "	0.14	0.11	0.007	38	200	360					0.001	0.006	0.011					0.36	
725	5m chip " "	0.15	0.22	0.010	16	180	230					—	0.005	0.007					0.44	
P27945	1.5m chip " "	0.28	0.35	0.011	146	640	1050					0.004	0.019	0.031					0.38	
937	rusty talus fines, " "	0.41	0.49	0.010	793	3700	5750	*	*	*	15	0.023	0.108	0.168	*	*	*	<0.001	0.39	
	33 SAMPLES: ARITHMETIC AVERAGE	0.33	0.56	0.018	103	800	833					0.003	0.023	0.024					0.51	

* analyses being carried out at time of writing

SAMPLE NO.	SAMPLE DESCRIPTION	Ni	Cu	Co	Au	Pt	Pd	Ir	Os	Ru	Rh	Au	Pt	Pd	Ir	Os	Ru	Rh	Pt / Pt+Pd	Pt+ / Os+
		%			ppb							oz/ton								
	MINERALIZED FOOTWALL QUARTZITE:																			
P27978	quartzite breccia, East Zone	0.19	0 05	0.011	15	140	155					—	0 004	0 005					0 47	
986	disseminated sulphides, East Zone	0 10	0.20	0.007	4	270	240					—	0.008	0.007					0 53	
M24641	gersdorfite(?) veins and disseminations from mine dump. East zone	0 05	0 23	0 003	1250	1300	700				<5	0 036	0.038	0 020				—	0 65	
642	" " " "	0 80	0 55	0.050	2350	1100	650				5	0 069	0 032	0 019				—	0 63	
P28342	dissem sulphides, West Zone	1 42	0 87	0 059	481	920	440					0 001	0 027	0 013					0.63	
P27993	dissem. & fracture-filling sulphides, West Zone	0.13	0.09	0.007	21	200	160					—	0 006	0.005					0.55	
P27913	1m chip, sulphides on fractures, West Zone	0.02	0 04	0.001	54	70	140					0 002	0.002	0.004					0 33	
723	3m chip, dissem sulphides, North Zone	0 10	0.10	0.003	6	150	220					—	0.004	0.006					0.41	
P27920	chalcopyrite vein in quartzite, East Zone	1.52	7 92	0.063	547	1830	3450	*	*	*	*	0.016	0.053	0 101	*	*	*	*	0 35	
	8 SAMPLES: ARITHMETIC AVERAGE (excluding P27920)	0.35	0.26	0 017	468	519	338					0.014	0 015	0 010					0.53	

* analyses being carried out at time of writing

SAMPLE No.	SAMPLE DESCRIPTION	Ni	Cu	Co	Au	Pt	Pd	Ir	Os	Ru	Rh	Au	Pt	Pd	Ir	Os	Ru	Rh	Pt / Pt+Pd	Pt+Pd / Os+Ir+
		%			ppb							oz/ton								
	DISSEMINATED SULPHIDES IN PERIDOTITE:																			
P27951	East Zone hanging wall, float	0.15	0.02	0.012	5	95	140						0.003	0.004					0.40	
959	5.0m chip, hanging wall No 1 showing, East Zone	0.21	0.08	0.013	10	450	400						0.013	0.011					0.53	
960	5.0m chip " "	0.19	0.08	0.012	13	240	270						0.007	0.008					0.47	
961	5.0m chip " " "	0.19	0.10	0.013	24	240	275						0.007	0.008					0.47	
962	9.0m chip " " "	0.17	0.05	0.011	17	130	165						0.004	0.005					0.44	
970	light dissem sulphides, float, East Zone	0.14	0.02	0.011	6	100	80						0.003	0.002					0.55	
971	" " "	0.20	0.07	0.013	39	200	210						0.006	0.006					0.49	
972	" " "	0.19	0.09	0.013	9	150	190						0.004	0.006					0.44	
973	" " "	0.19	0.07	0.013	21	180	240						0.005	0.007					0.43	
974	" " "	0.13	0.03	0.012	6	90	85						0.003	0.002					0.51	
975	" " "	0.24	0.12	0.014	36	240	290						0.007	0.008					0.43	
976	" " "	0.25	0.10	0.015	24	215	285						0.006	0.008					0.43	
977	" " "	0.33	0.14	0.016	29	330	470						0.010	0.014					0.41	
981	" " "	0.18	0.05	0.012	12	100	120						0.003	0.004					0.45	
987	" " "	0.18	0.09	0.012	18	80	120						0.002	0.004					0.40	
P27915	rock sample traverse, east end East Zone	0.26	0.14	0.015	45	340	500						0.010	0.015					0.40	
916	" " "	0.28	0.15	0.016	36	350	530						0.010	0.015					0.40	
922	sulphide veinlets in peridotite, mine dump	1.69	1.83	0.014	582	3200	2130					0.017	0.093	0.062					0.60	
P27710	5m chip, North Zone	0.16	0.02	0.012	2	70	60						0.002	0.002					0.54	
711	5m chip " "	0.14	0.02	0.012	1	50	40						0.001	0.001					0.56	
715	10m chip " "	0.13	0.03	0.010	1	50	90						0.001	0.003					0.36	
714	10m chip " "	0.17	0.03	0.010	4	110	135						0.003	0.004					0.45	
717	5m chip " "	0.21	0.24	0.008	11	470	500						0.018	0.015					0.48	
722	5m chip " "	0.14	0.05	0.009	13	130	190						0.004	0.006					0.41	
726	10m chip " "	0.17	0.05	0.012	5	100	155						0.003	0.004					0.39	
P26201	10m channel, East Zone bulldozer trench	0.26	0.09	0.014	42	300	195						0.009	0.006					0.61	
202	14m " " "	0.24	0.14	0.014	31	220	290						0.006	0.008					0.43	
203	10m " " "	0.27	0.12	0.014	40	150	130						0.004	0.004					0.54	
204	9m " " "	0.27	0.13	0.014	32	180	210						0.005	0.006					0.46	
205	11m " " "	0.22	0.09	0.012	24	150	210						0.004	0.006					0.42	
206	10m " " "	0.28	0.18	0.015	44	370	355						0.011	0.010					0.51	
207	7m " " "	0.19	0.12	0.014	51	370	165						0.011	0.005					0.69	
208	13m " " "	0.26	0.17	0.015	114	150	45						0.004	0.001					0.77	
209	10m " " "	0.28	0.21	0.019	81	780	200						0.023	0.006					0.80	
211	6.5m " " "	0.12	0.08	0.013	15	<50	10						—	—						
212	8m " " "	0.16	0.13	0.014	13	<50	10						—	—						
214	4.5m " " "	0.18	0.06	0.015	8	<50	10						—	—						
	36 SAMPLES: ARITHMETIC AVERAGE (excluding P27922)	0.20	0.09	0.013	24	200	230						0.006	0.006					0.47	

Exploration by Hudson-Yukon during the 1950's and 1960's was not directed at the gabbro-hosted mineralization, which was regarded as "waste" due to prevailing technological and economic constraints. Consequently, many of the drill intersections of mineralized gabbro were not assayed completely. For example, a 20.0 m intersection in Hole 41 (West Zone) returned values of 0.44% nickel and 0.63% copper. The only portion assayed for other metals was the better mineralized footwall section which returned 0.83% nickel, 1.11% copper, 0.048% cobalt, 0.043 oz/ton platinum and 0.017 oz/ton palladium across a 9.6 m true width. Assays of disseminated mineralization sampled in 1986 are listed in Table II.

iii) Mineralized Footwall Quartzite

The footwall quartzite is locally mineralized with disseminations, erratic pods and stringer-stockwork zones of sulphides along the gabbro contact. Metal grades are reportedly similar to those in adjacent gabbro. Continuity is poor, however, and no attempt was made to mine the mineralized quartzite. Assays of quartzite-hosted mineralization sampled in 1986 are listed in Table II.

iv) Disseminated Sulphides in Peridotite

Surface mapping by Campbell and by Kluane JV in June, 1986 has identified a halo of disseminated nickeliferous pyrrhotite and chalcopyrite mineralization in peridotite that extends over 100 m into the hanging wall of the peridotite-gabbro contact. According to Campbell, this phenomenon is especially pronounced in the hanging wall of the East and West Zones.

Sulphide textures vary from scattered fine disseminations to patchy net-textures interstitial to relict olivine crystals. Intensity of sulphide mineralization seems to be proportional to intensity of pervasive serpentinization of peridotite. Since this effect is most pronounced adjacent to gabbro bodies, it is possible that disseminated mineralization in the peridotite results from the release of silicate iron, nickel and copper during alteration related to intrusion of the gabbro dykes. Hole 54, which tested the central part of the West Zone at depth, cut a 128 m section grading 0.25% nickel. This interval was not completely assayed for copper but a grade of 0.10% seems reasonable from the partial values reported. Assays of peridotite specimens sampled in 1986 are listed in Table II.

A continuous chip sample was taken in 1986 across the surface exposure of the No. 1 Showing, East Zone. Location of the sample line is shown on the detailed cross-section given previously on Figure 5. Results of the sampling, along with a description of the material sampled, are given in Table III following.

TABLE III
CONTINUOUS CHIP SAMPLE, WELLGREEN NO. 1 SHOWING

9.8 m chip sample - massive sulphide mineralization

2.44% nickel		0.070 oz/ton platinum
2.07% copper		0.064 oz/ton palladium
0.09% cobalt		0.016 oz/ton iridium
0.030 oz/ton gold		0.013 oz/ton osmium
		0.019 oz/ton ruthenium
		0.016 oz/ton rhodium
	Total:	0.198 oz/ton PGE

16.2 m chip sample - disseminated sulphide mineralization

0.47% nickel		0.029 oz/ton platinum
1.10% copper		0.017 oz/ton palladium
0.02% cobalt		0.002 oz/ton iridium
0.009 oz/ton gold		0.002 oz/ton osmium
		0.003 oz/ton ruthenium
		0.002 oz/ton rhodium
	Total:	0.054 oz/ton PGE

METALLURGY

According to the records provided to Kluane JV, metallurgical testing was carried out on an "as needed" basis by Hudson-Yukon during the development and mining phases. This work was performed by company metallurgists in Flin Flon who were presumably familiar with nickel-copper sulphide ores. According to Vincent, however, testing was confined specifically to massive sulphide mineralization and very little, if any, testing was performed on lower grade material such as mineralized gabbro or peridotite.

R. McIntosh (formerly manager of Hudson Bay's Whitehorse regional office) is quoted in Tenney's 1980 summary as reporting that Whitehorse Assay Labs did some test work on samples of mineralized low grade peridotite from Wellgreen. Although no details of the testing are given, McIntosh reported that the nickel values could not be concentrated.

A flotation test was carried out in December, 1980 on a sample of serpentinized peridotite with disseminated pyrrhotite and chalcopyrite collected 8 m into the hanging wall from No. 1 Showing massive sulphide. This test was performed by Bacon, Donaldson & Associates Ltd. for Whitehorse Copper Mines Ltd., apparently at the request of Tenney. Specifics are given below:

SIZE ANALYSIS (Flotation Feed)

Fraction	Weight %
+ 35	5.29
- 35 + 48	12.01
- 48 + 65	11.10
- 65 +100	8.82
-100 +150	6.64
-150 +200	7.99
-200 +325	7.50
-325	40.65

RESULTS

PRODUCT	WEIGHT %	ASSAY Cu %	Ni %	Co %	Ag oz/ton	Au oz/ton	DISTRIBUTION % Cu	Ni	Co
Concentrate	3.31	2.52	3.10	0.172	0.50	<.003	55.9	36.7	33.5
Cleaner tail	4.83	0.22	0.43				7.1	7.4	
Rougher tail	91.86	.06	0.17				37.0	55.9	
Feed (Calc.)	100	.15	0.28						
Feed (Assay)		.15	0.28	0.017	0.04	<.003			

The author of the report notes that a finer grind would have enhanced recovery if the mineralization in the sample submitted was finely disseminated. The sample was tested as received and no attempt was made to test various grain sizes. More than 50% of the sample (by weight) was coarser than -200 mesh. In contrast, the crushing and grinding circuit at the Wellgreen mill, which was designed to treat the massive sulphide mineralization, provided flotation feed of 70% -325 mesh. According to Vincent, the mill metallurgist noted the tendency of peridotite hanging wall material mixed with massive sulphide ore to slime under these conditions.

No metallurgical results from the 1972-73 production period were provided to the joint venture with the data obtained from the Whitehorse Hudson Bay office.

1986 BULLDOZER TRENCHING

One 194 m long bulldozer trench was cut across the east end of the East Zone in late August, 1986. The trench was originally planned for an area about 70 m west of its present location to compliment the test geophysical survey along L2E. Heavy frost was encountered while building an access road to the site and the trench was relocated to keep within the 20 hours of machine time budgeted for the program. The relocated trench cut a wide, but relatively low grade, section of gabbro dyke. This was not completely unexpected as the trench lies outside the previously known extent of mineralization.

Results of a continuous channel/chip sample taken along the length of the trench are shown on Figure 6 and summarized below:

TABLE IV
SUMMARY OF ANALYSES, TRENCH 86-1

South to North:

Width (m)	Ni(%)	Cu(%)	Co(%)	Pt (ppb)	Pd (ppb)	Description
24	0.25	0.12	0.014	253	250	dissem. sulphides in peridotite
	Fault Zone(?)					
80	0.25	0.15	0.014	281	164	dissem. sulphides in peridotite
	Fault Zone(?)					
14.5	0.14	0.11	0.014	<50	10	skarnified peridotite
2.5	0.06	0.13	0.005	<50	5	gabbro dyke
4.5	0.18	0.06	0.015	<50	10	skarnified peridotite
24	0.17	0.15	0.12	121	64	gabbro dyke

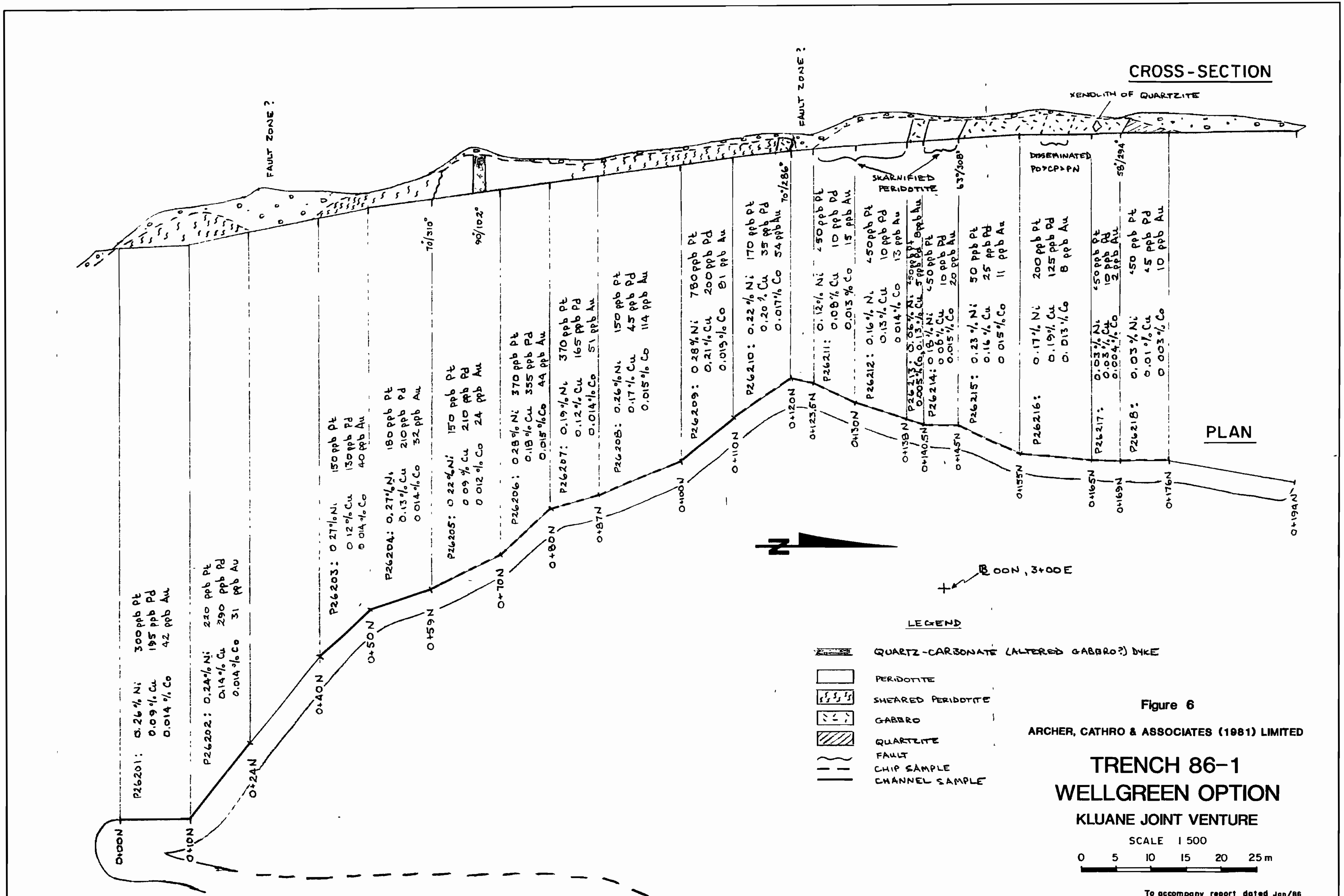


Figure 6

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

TRENCH 86-1
WELLGREEN OPTION
KLUANE JOINT VENTURE

To accompany report dated Jan/86

1986 GEOCHEMICAL SURVEY

Results of the 1986 soil sampling survey of the central Wellgreen Option are summarized at 1:10,000 scale on Figures 7 through 15. Individual soil sample values are given at 1:5,000 scale on Figures 16 through 23. A total of 399 soil samples and 93 rock samples was collected during the 1986 program. Results of the rock sampling program are not plotted on the present series of maps although they are listed individually on Table II. Rock sample analyses will be shown in detail on a new series of 1:2,500 scale maps to be prepared in the pre-field phase of the 1987 program.

Only the west-central part of the property was sampled in detail. Soil samples were collected at 50 m intervals on lines established at 100 m spacing with hip-chain and compass from a baseline surveyed by chain and compass. Soil samples were collected from the "C" horizon, where possible, and shipped in pre-numbered Kraft paper bags to Bondar-Clegg & Company Ltd., North Vancouver, B.C. They were prepared by crushing and pulverizing the entire sample to -150 mesh prior to fire assay pre-concentration for atomic absorption (FA-AA) determination of platinum and palladium. The remaining pulp was then shipped to Chemex Labs Ltd., North Vancouver, B.C. for gold analyses by fire assay-neutron activation analysis (FA-NAA) and for 30 additional elements by inductively coupled plasma (ICP) technique. An ongoing cross check of both soil and rock platinum and palladium assays is currently being carried out at Chemex, Bondar-Clegg and Neutron Activation Services, Hamilton, Ontario. Results of this work will be summarized when all the data is received.

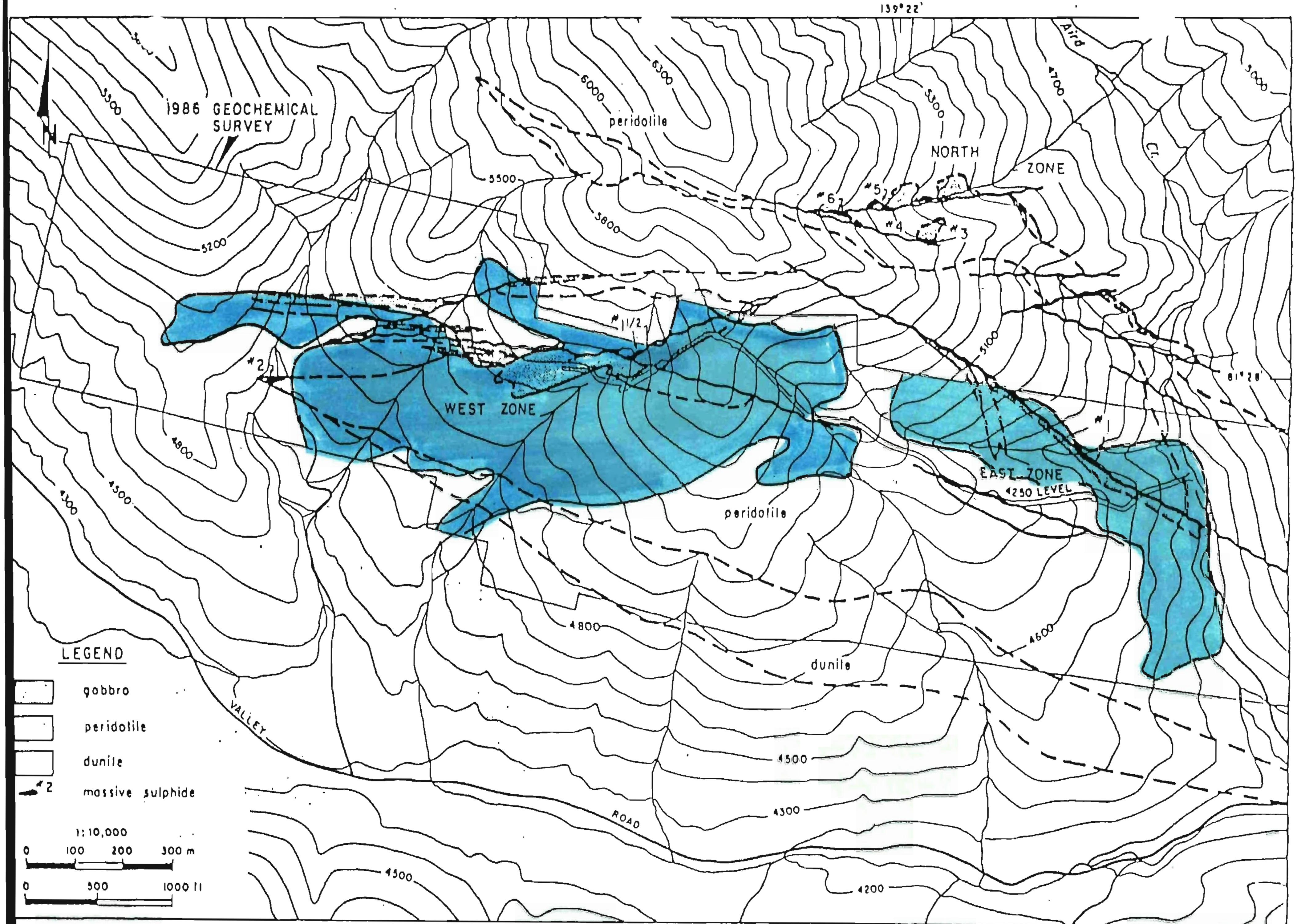


Figure 7: Copper Soil Anomaly (>400 ppm Cu), Wellgreen Option

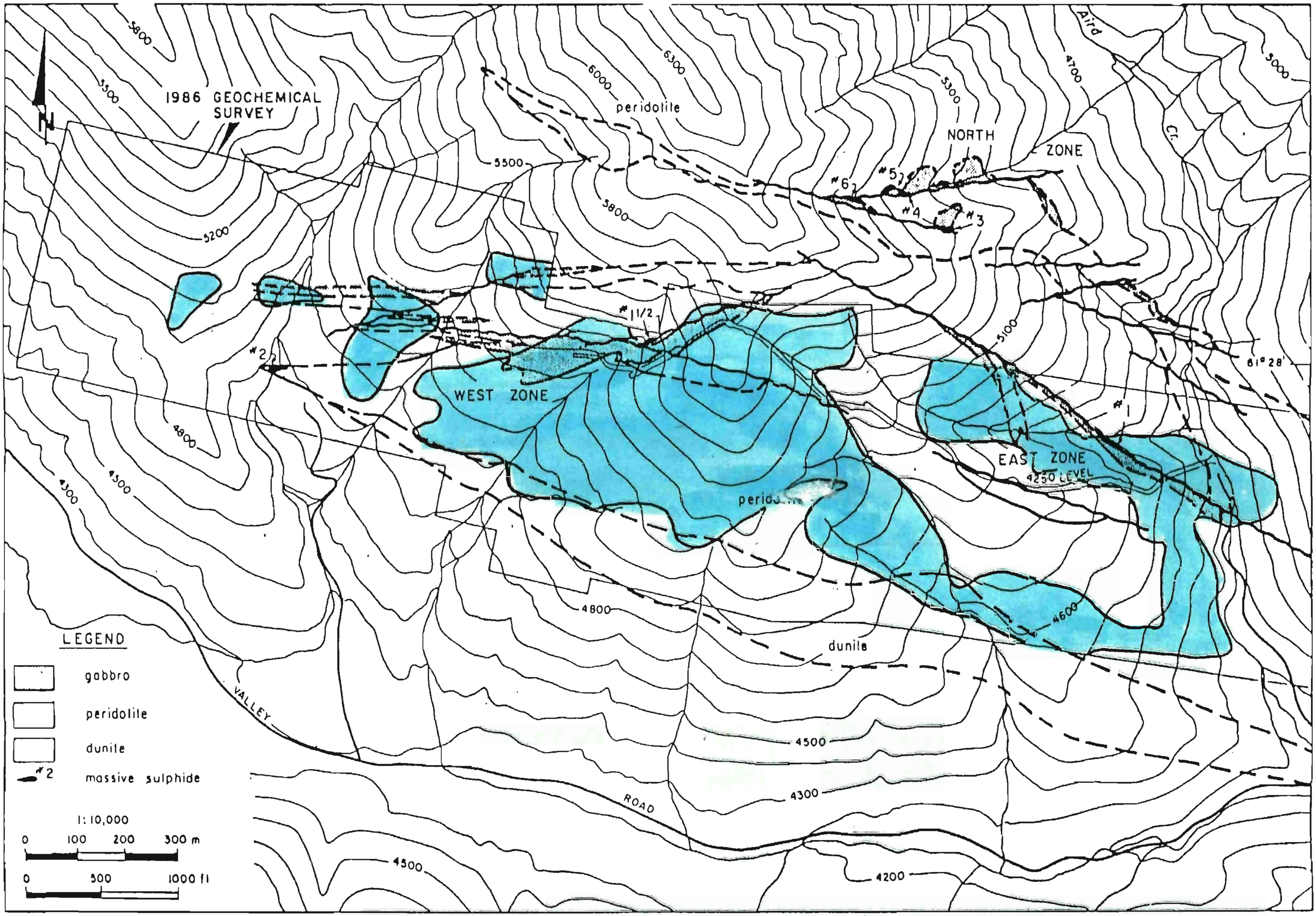


Figure 8: Nickel Soil Anomaly (>1000 ppm Ni), Wellgreen Option

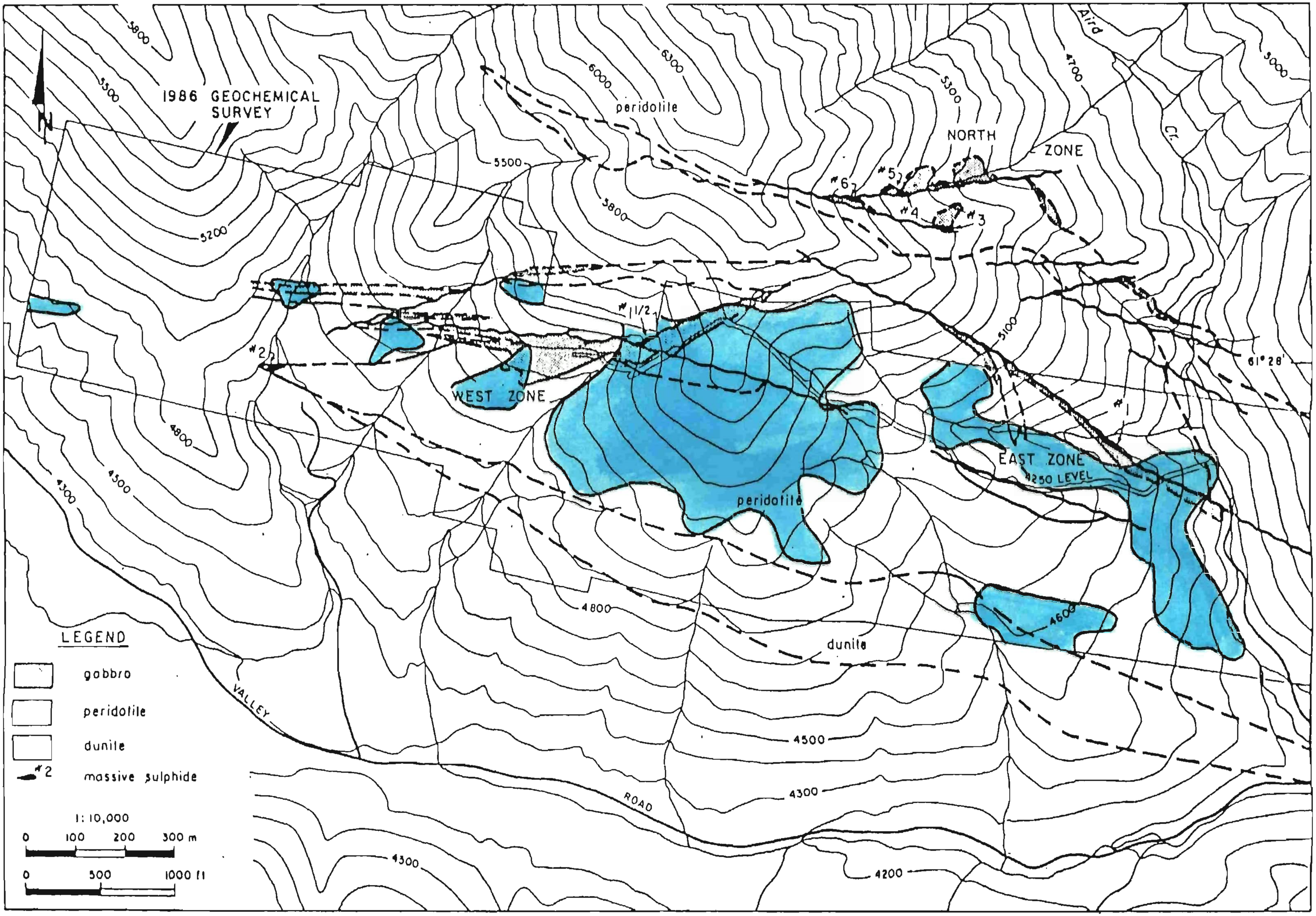


Figure 9: Cobalt Soil Anomaly (>100 ppm Co), Wellgreen Option

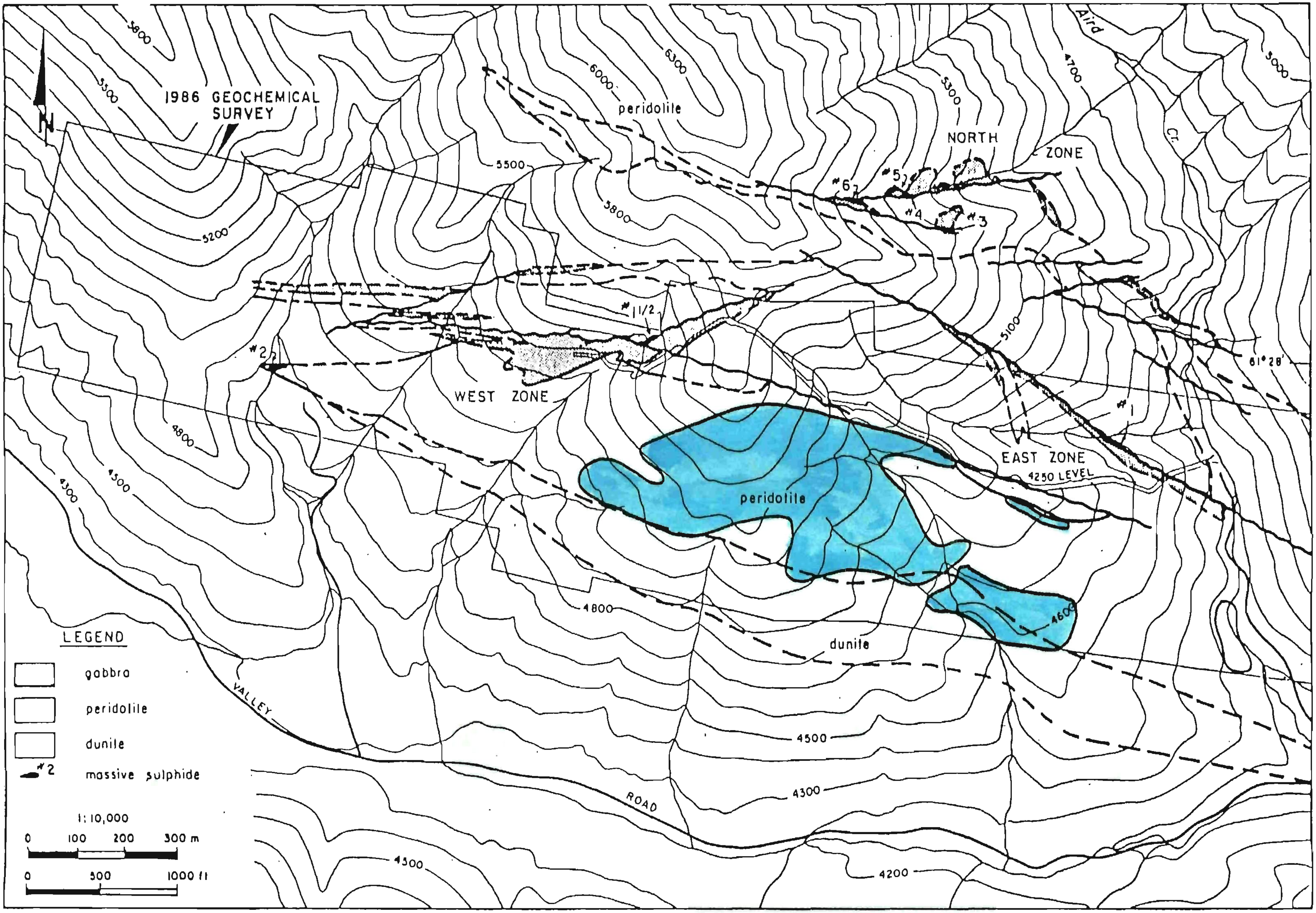


Figure 10: Chromium Soil Anomaly (>1200 ppm Cr), Wellgreen Option

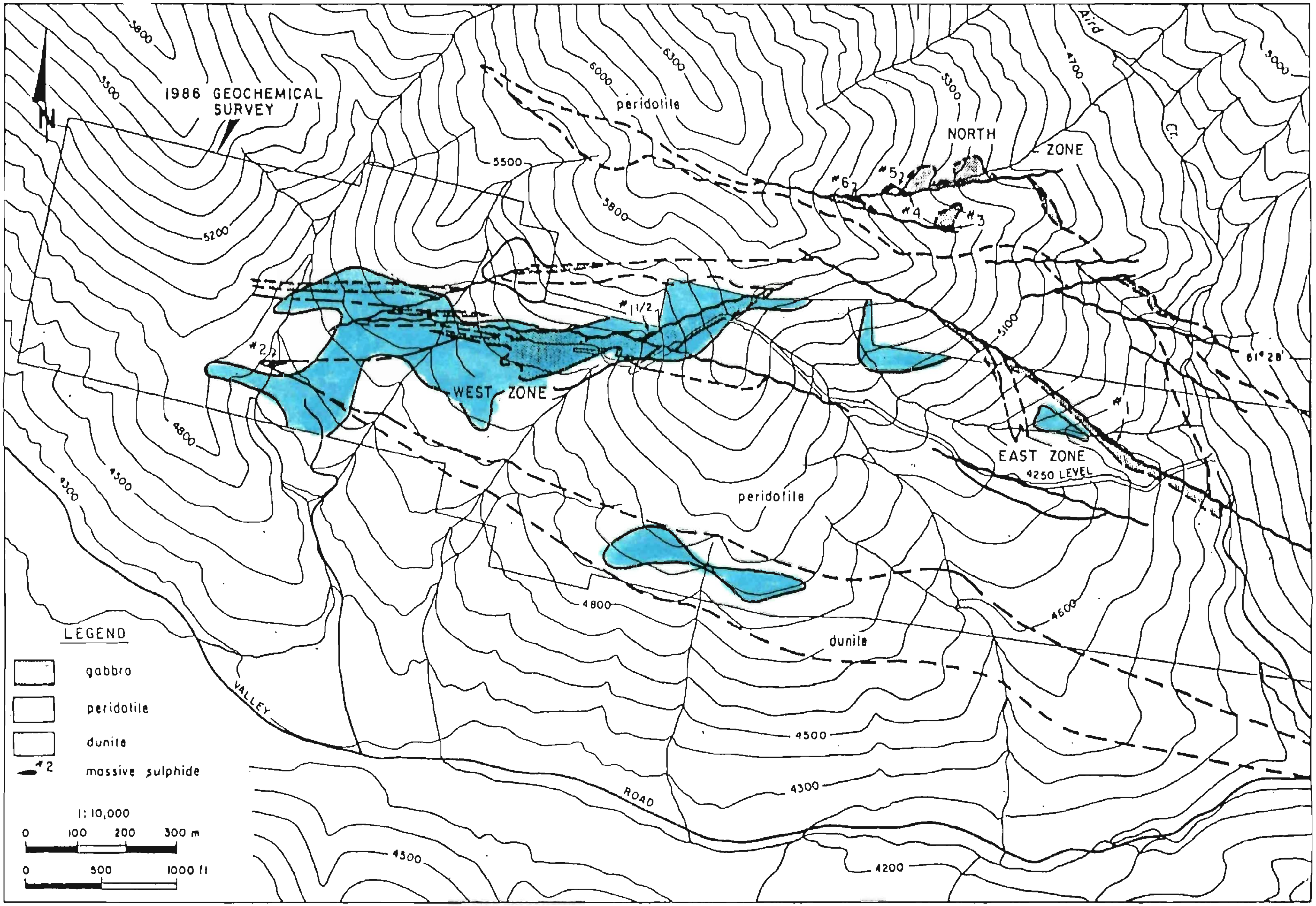


Figure 11: Arsenic Soil Anomaly (>30 ppm As), Wellgreen Option

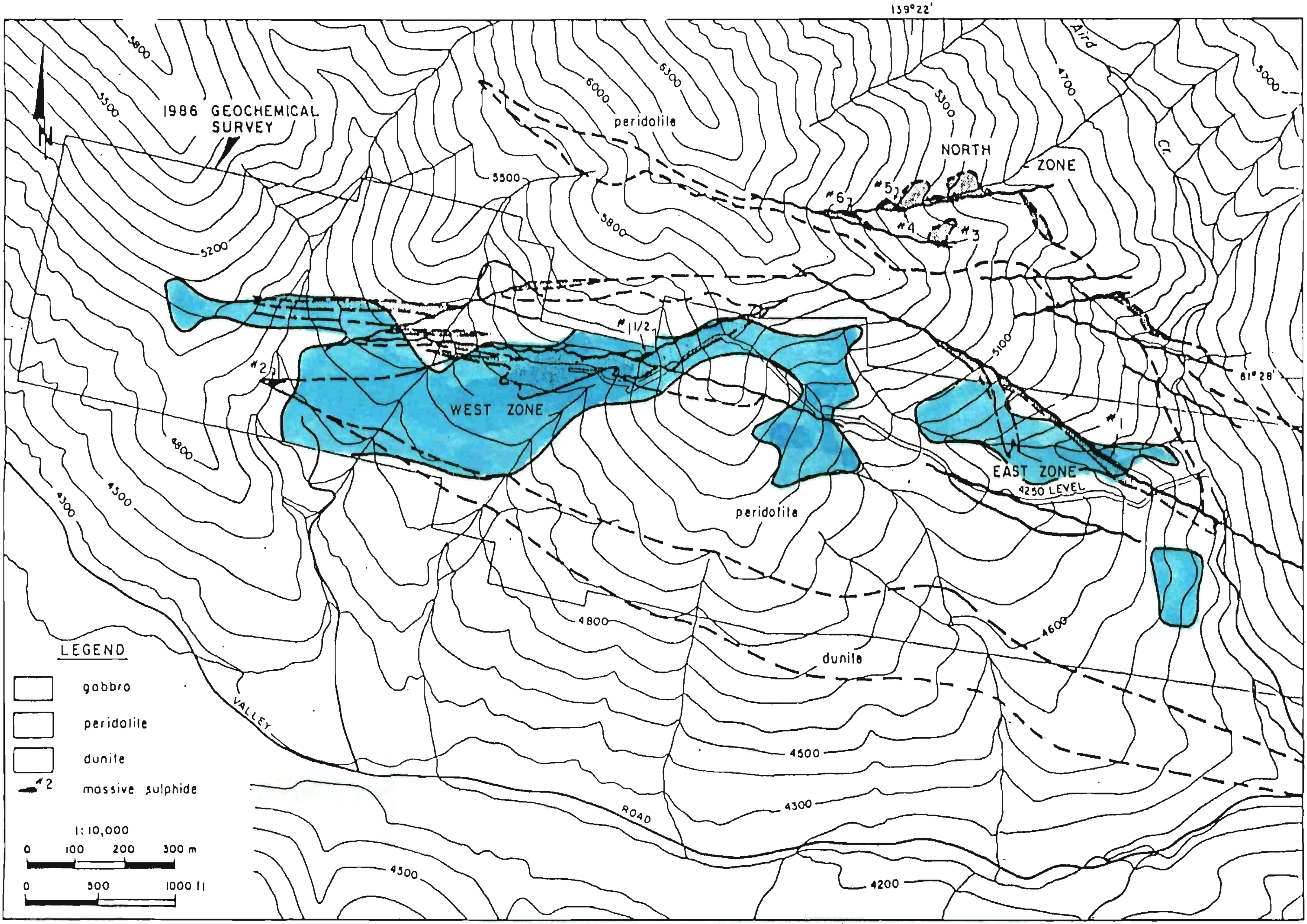


Figure 12: Gold Soil Anomaly (>20 ppb Au), Wellgreen Option

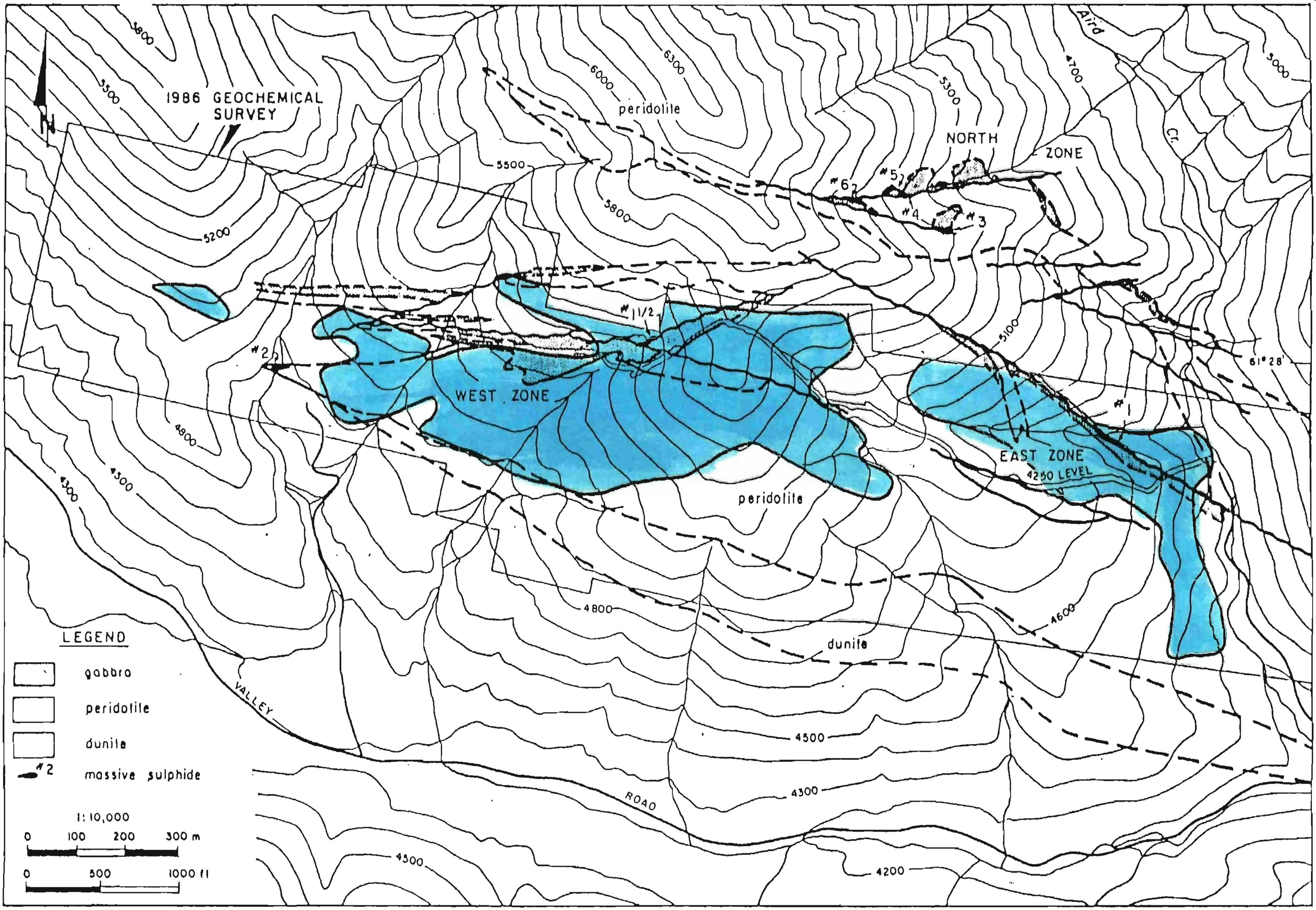


Figure 13: Platinum Soil Anomaly (>100 ppb Pt), Wellgreen Option

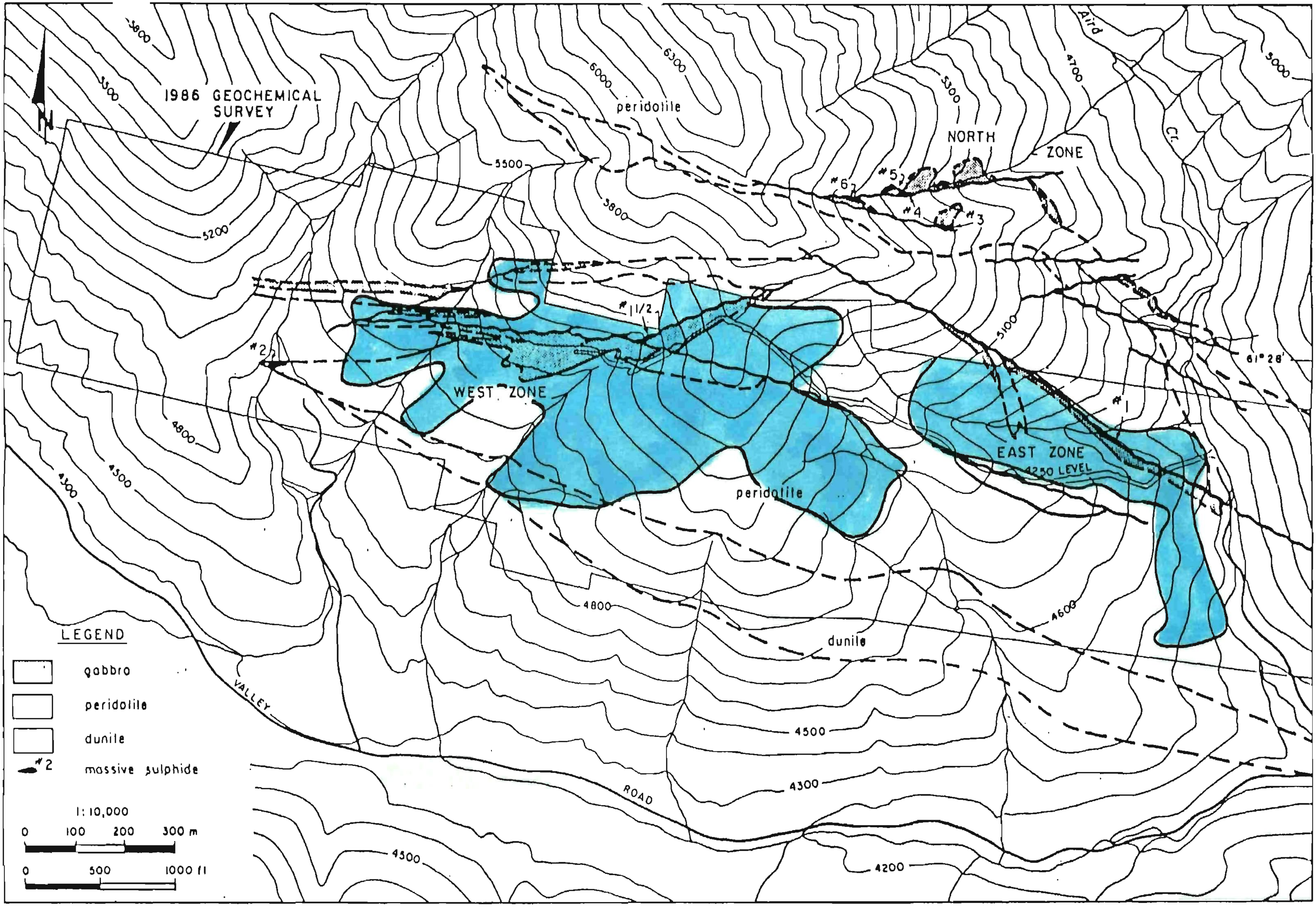


Figure 14: Palladium Soil Anomaly (>100 ppb Pd), Wellgreen Option

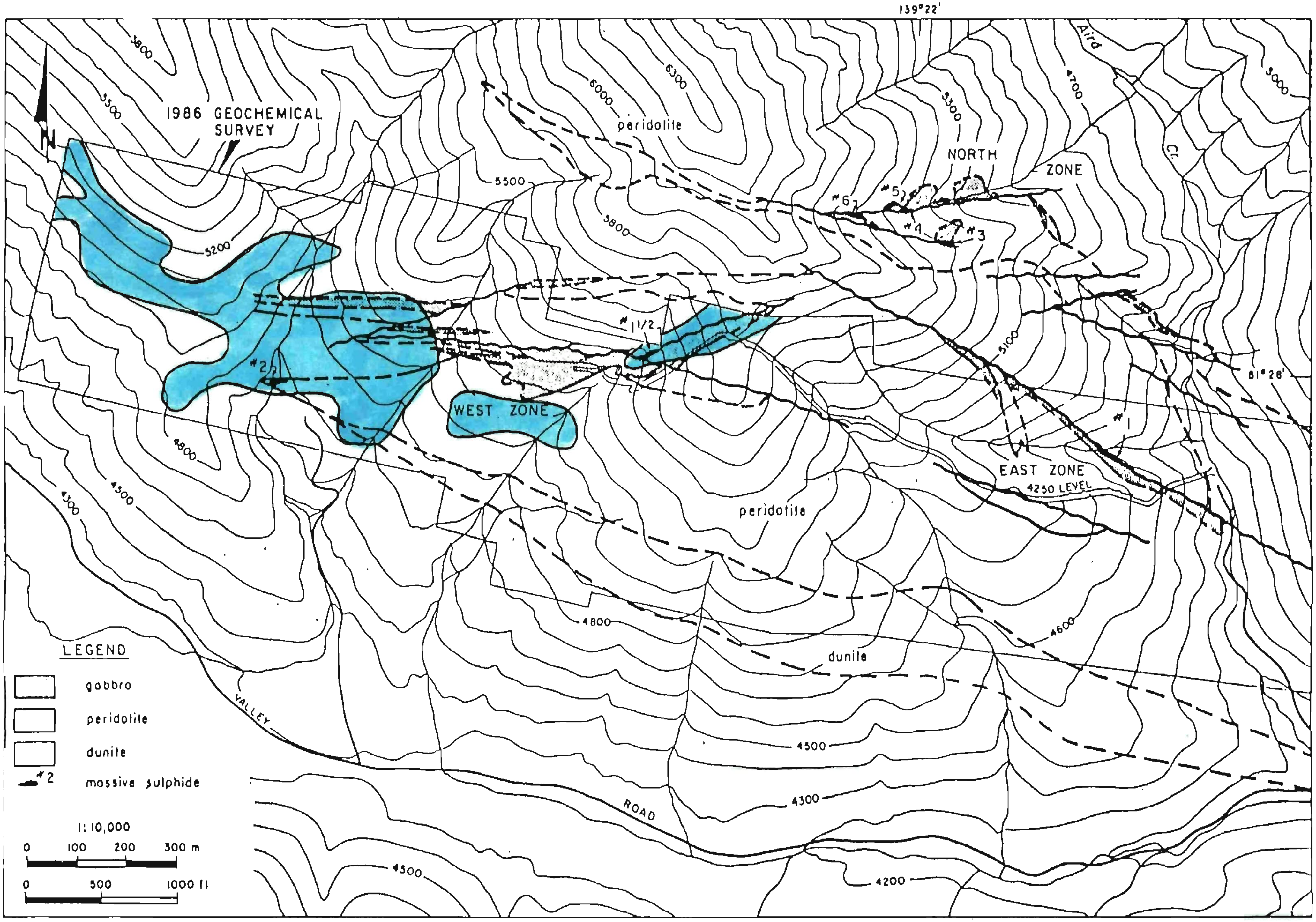


Figure 15: Platinum:Palladium Ratio in Soil (Pt:Pd >1.5:1), Wellgreen Option

The 1986 soil geochemical survey covered the East Zone and West Zone, as well as the bulk of the associated peridotite body and much of the basal dunite sequence. The North Zone was also sampled at a reconnaissance scale.

Copper, platinum, palladium and gold distribution are remarkably similar. The anomalies correspond well with the known extent of mineralized gabbro and massive sulphide bodies comprising the East and West Zones. A mineralized strike length of about 0.7 km for the East Zone and about 1.4 km for the West Zone is indicated from the distribution of these elements. Highest values of copper, platinum, palladium and gold occur within the West Zone anomalies, being 3502 ppm for copper, 550 ppb for platinum, 660 ppb for palladium and 441 ppb for gold. The copper, platinum, palladium, and to a lesser extent, gold values also outline a 300 m long, southerly-trending anomaly extending south from the east end of the East Zone along the steep hillside of Aird Creek valley. Peridotite in this area was channel sampled in Trench 86-1 and moderately anomalous values of copper, platinum and palladium were received from analyses of the samples. The strongest part of the soil anomaly, however, lies south of the area explored by Trench 86-1 across a strong fault zone. This fault extends in a westerly direction to the West Zone where it partially controls distribution of mineralized gabbro dykes. A similar relationship between this fault and mineralization remains to be investigated in the area south of the East Zone.

Nickel values range up to 2759 ppm and reflect known mineralization with highest values associated with the West Zone mineralization. Distribution is very similar to that of copper, platinum and palladium anomalies except that a much larger area underlain by peridotite is anomalous for nickel.

Cobalt distribution follows that of nickel with a maximum value up to 372 ppm located within the West Zone anomaly.

Arsenic contents of soils range up to 230 ppm with moderately to strongly anomalous values restricted almost entirely to the West Zone.

Chromium anomalies are associated with both the East and West Zone although moderate strength values (greater than 1200 ppm to a maximum value of 2632 ppm) are from areas underlain by peridotite.

A single sample multi-element anomaly occurs at the extreme east end of the grid (not shown on the 1:10,000 scale, page-sized summary maps). This sample was taken along the north side of the main access road in an overburden-covered area. The analyses returned values of 5298 ppm copper, 1763 ppm nickel, 870 ppb platinum, 380 ppb palladium, 402 ppb gold, 161 ppm cobalt and 40 ppm arsenic.

Platinum-palladium ratios from soil sample analyses are summarized at 1:10,000 scale on Figure 15 and are given in detail at 1:5,000 scale on Figure 24. Moderately anomalous values (greater than 1.5 Pt:1.0 Pd) ranging as high as 32.5:1 are restricted to the West Zone area.

In summary, results of the 1986 soil geochemical survey suggest that the best geological potential for nickel, copper, platinum, palladium, cobalt and gold mineralization lies within the West Zone gabbro bodies. Most of the Hudson-Yukon exploration as well as the 1972-73 mining was confined, on the other hand, to the less anomalous East Zone.

1986 GEOPHYSICAL SURVEY

Two geophysical test lines were run on the Wellgreen Option in 1986. One line was completed for a total distance of 600 m north and south of BL 00N, 2E to test the East Zone response, while another was run north of BL 00N, 10W for a distance of 275 m to test the West Zone response. A report summarizing results of the test by Grant Hendrickson of Delta Geoscience Ltd. is included as Appendix I.

Geophysical methods tested were VLF-EM, Magnetic, Induced Polarization, Resistivity and Co-Planar Horizontal Loop EM (MaxMin). Based on response measured on the two lines, it appears that sulphide-bearing gabbro bodies will have:

i) moderate magnetic expression,

ii) moderate to strong chargeability; and,

iii) moderately strong Fraser-filtered VLF response.

Hendrickson has recommended a combined VLF/mag survey on lines spaced 50 m apart as the most cost-effective method of geophysical evaluation. A limited amount of IP surveying as a follow-up technique on VLF/mag anomalies is also recommended.

GEOLOGICAL POTENTIAL

Three types of mineralization are present on the Wellgreen Option. These are:

i) massive pyrrhotite-pentlandite-chalcopyrite lenses and stringer zones;

ii) disseminated sulphides in the gabbro dykes; and,

iii) disseminated sulphides in the main peridotite sill.

These are invariably found in close spatial relationship to each other and are probably genetically related.

The potential for finding more massive sulphide lenses is good since the surface showings found by Hudson-Yukon were easy discoveries exposed in creek cuts. Overburden-covered areas of the property have received very little surface exploration since 1956. Exploration exclusively for this type of mineralization is not warranted, however, since the massive sulphide lenses and stringer zones are not sufficiently continuous and predictable to be selectively mined without serious dilution.

The best exploration potential is associated with the mineralized gabbro, which is lower in grade but apparently much larger in size. The only analysis of its potential for which records are available was made in 1972 by Vincent, who was able to inspect the underground workings, review the geological and assay records with the mine staff and discuss the metallurgy with the mill staff.

Vincent concluded that the east-west trending gabbro dykes are virtually continuous for a length of about 2 km between the adit portal and the West Zone with an average width of about 9 m. This was presumably based on underground evidence in conjunction with diamond drill hole data because surface maps prepared by Hudson-Yukon do not show that. In fact, preliminary mapping and geochemical sampling in 1986 has shown that gabbro bodies exposed at surface are not continuous.

Sampling of the mineralized gabbro by Hudson-Yukon has been very sporadic and those portions sampled in drill core or underground workings were generally not assayed for platinum. Assays that are available show nickel grades of up to 1%, with many between 0.5 and 0.75%. Based on his review of the available data, which was more complete than that available to Kluane JV, Vincent estimated that the average grade of the mineralized gabbro block at the East Zone is approximately 0.6 to 0.65% nickel and 0.5% copper. A grade of 0.02 oz/ton platinum, 0.02 oz/ton palladium and 0.02% cobalt is probably a reliable estimate based on the partial assays done on the drill core by Hudson-Yukon. This grade does not include any credit for higher grade lenses of massive sulphide that may occur within or beside the gabbro dyke.

The relatively high grade of rare PGE returned from preliminary sampling in 1986 remains to be confirmed with detailed exploration. Assuming that PGE ratios from the chip sample taken across the No. 1 Showing are representative, the combined gross metal value of osmium-iridium-ruthenium-rhodium in the gabbro-massive sulphide mineralization is greater than one-half the combined gross metal value of platinum-palladium. Recoverability of these high value metals is not yet known. The full effect of their value on the economic potential of the property will not be known until detailed sampling and metallurgical tests are carried out in 1987.

In addition to the medium grade mineralization contained within the gabbro dyke, large areas of disseminated sulphides have been recognized within hanging wall peridotite. Although these areas have an enormous tonnage potential, they appear to be much lower in grade and of secondary importance.

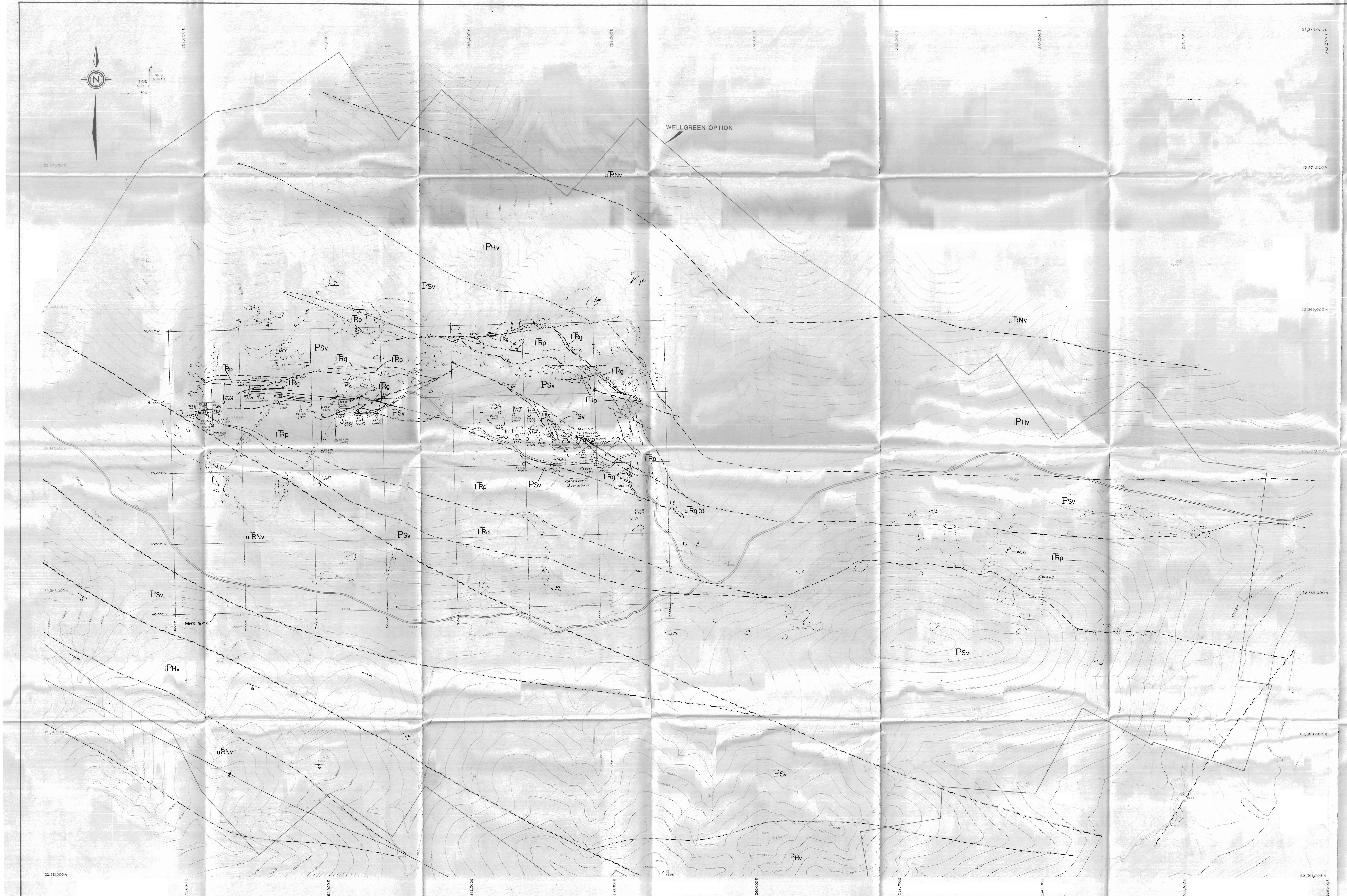
A much more thorough assessment of the geological potential of the Wellgreen Option will be carried out in the spring of 1987. This will incorporate the detailed underground geology and assay data supplied by Hudson-Yukon.

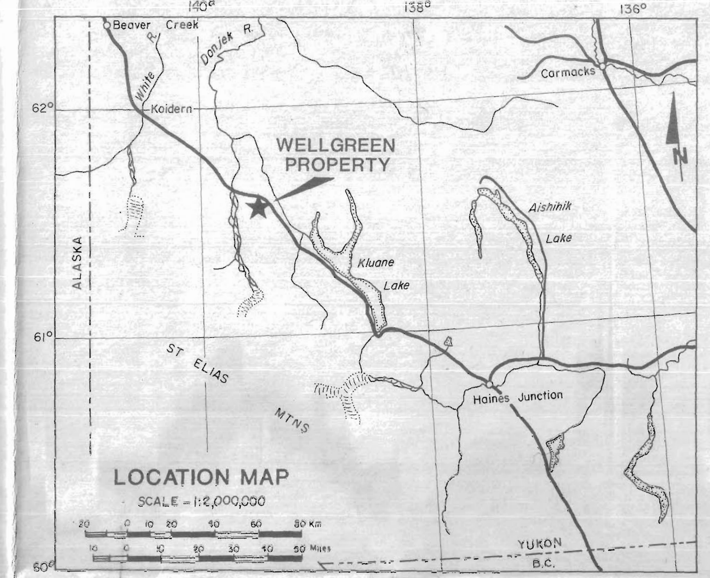
Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

R.J. Cathro

R.C. Carne





LOCATION MAP
SCALE = 1:2,000,000

TABLE OF FORMATIONS

INTRUSIVE ROCKS

uTRg — Upper Triassic
medium-grained diabasic gabbro dykes and small stocks, probably feeders for Nikolai Group basalts

lTRg — Lower to Middle Triassic
olivine gabbro dykes; probably late phase differentiates of Lower Triassic ultramafics

lTRub — Lower Triassic
differentiated komatiitic sills consisting mainly of peridotite (lTRp) with lesser dunite (lTRd) and anorthositic gabbro

Lower to Middle Triassic (?)
massive sulphide mineralization - (pyrrhotite, chalcopyrite, pentlandite)

LAYERED ROCKS

uTRNv — Upper Triassic
Nikolai Group - dark green and maroon amygdaloidal basalt, volcanic breccia and conglomerate; minor thin-bedded limestone, chert and argillite

unconformity

lPHv — Lower Permian
Hasen Creek Formation - siliceous argillite, sandstone, amygdaloidal pillow basalt, limestone and conglomerate

Psv — Pennsylvanian and (?) Permian
Station Creek Formation - tuff, volcanic breccia, siliceous argillite, andesite and basalt flows

Geology compiled from mapping by Hudson-Yukon, S. Campbell, G.S.C. and Kluane J.V.

LEGEND

- area of outcrop
- DDH 25 (-45°) — diamond drill hole
- TR 86-1 — bulldozer trench
- 50 — bedding attitude
- cleavage attitude
- geological contact (known, assumed)
- fault (known, assumed)

Figure 3

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

GEOLOGY

WELLGREEN PROPERTY

KLUANE JOINT VENTURE

SCALE 1:5000
0 50 100 200 300 400 500 Metres
0 100 500 1000 1500 Feet

To accompany report dated Jan. 87

Figure 16
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
COPPER GEOCHEMISTRY
WELLGREEN PROPERTY
KLUANE PROJECT

This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

YUKON GEOLOGICAL SURVEY

Figure 17

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

NICKEL GEOCHEMISTRY

WELLGREEN PROPERTY

KLUANE PROJECT

To accompany report dated Jan., 1987

86-015

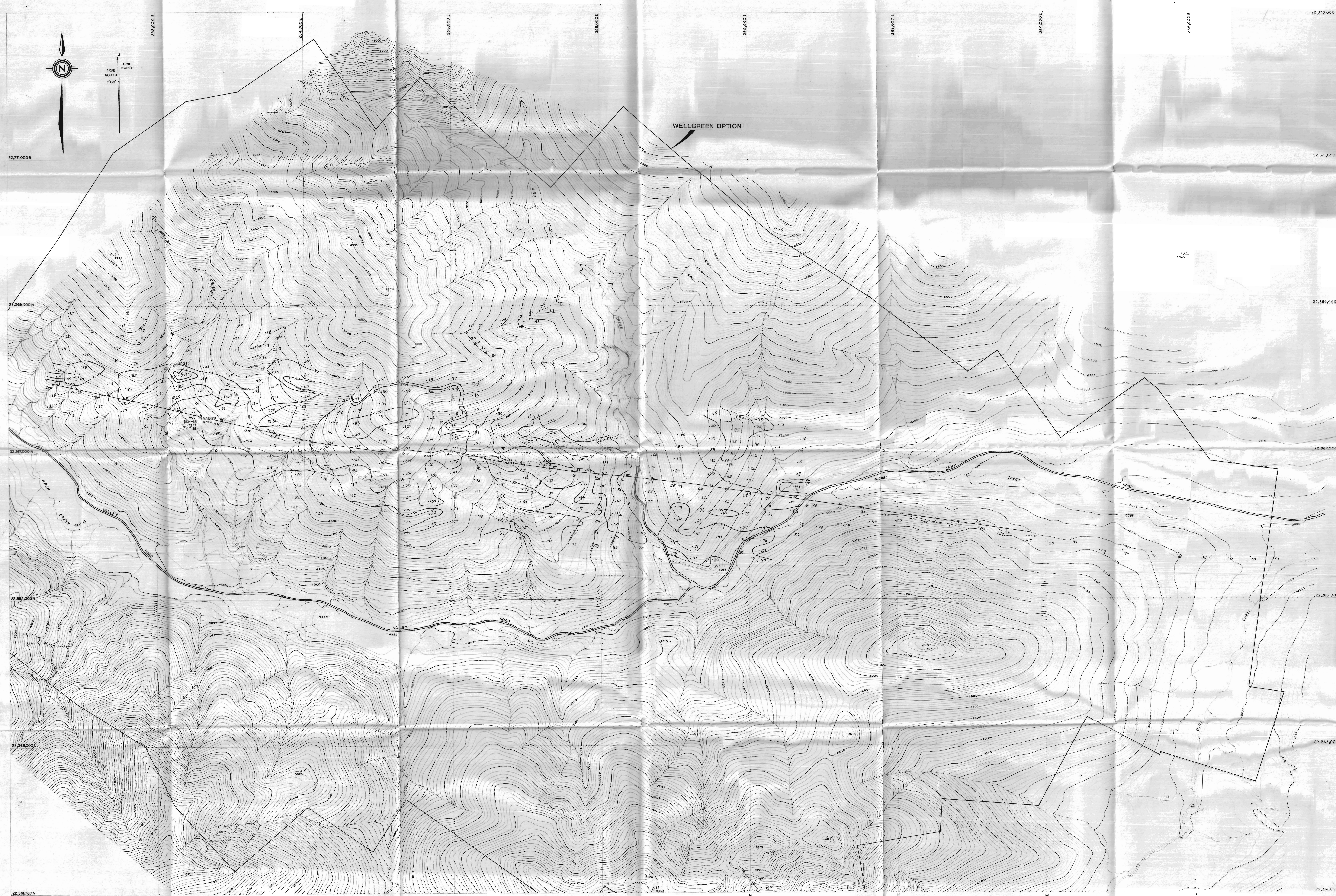
Figure 7a

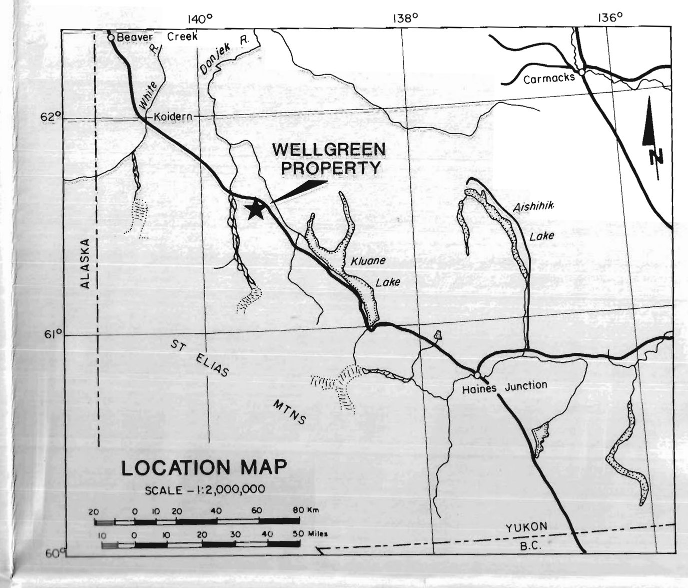
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

GOLD GEOCHEMISTRY
ADD AREA
REVENUE PROPERTY

NORDAC MINING CORPORATION

To accompany report dated December, 19





• 142 soil sample location with Co in ppm

—— 100 —— contour intervals at 50, 100 and 200 ppm Co

Figure 18

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

COBALT GEOCHEMISTRY

WELLGREEN PROPERTY

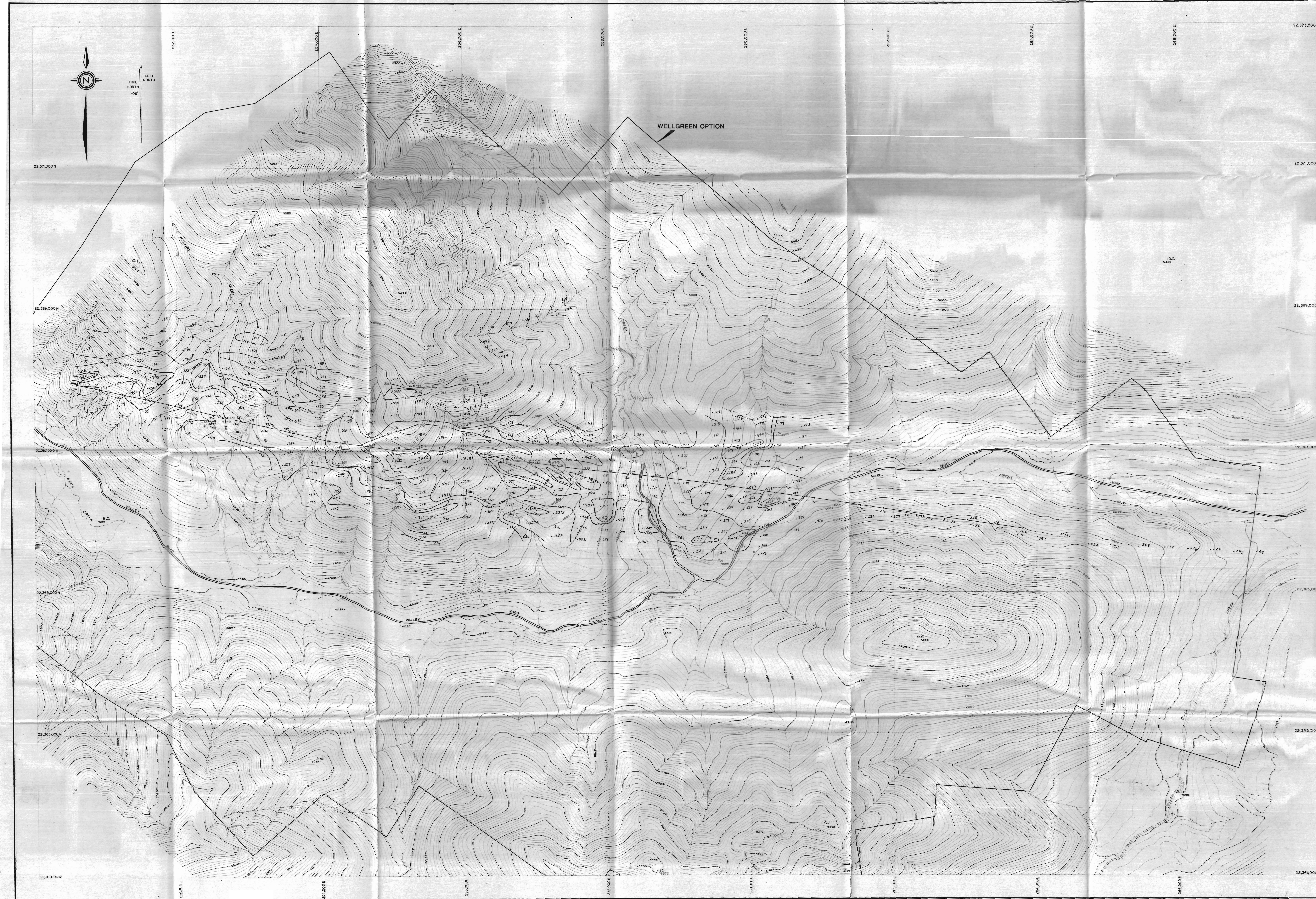
KLUANE PROJECT

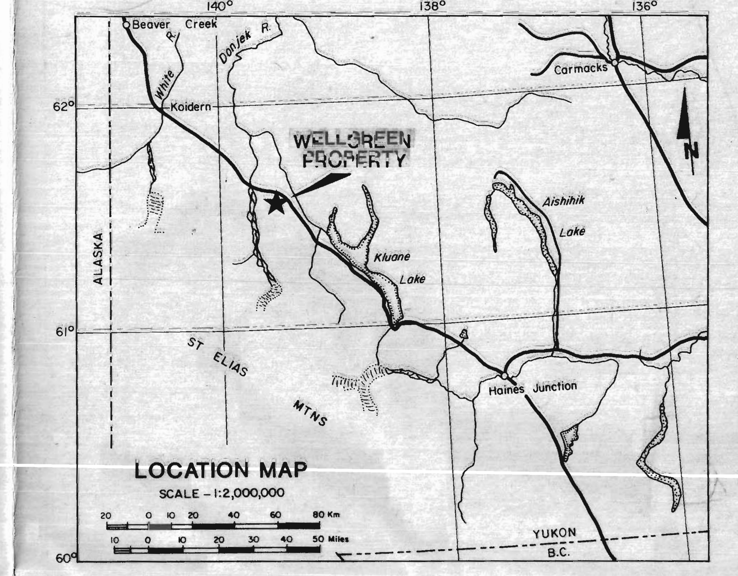
SCALE 1:5000

0 50 100 200 300 400 500 Metres

0 100 500 1000 1500 Feet

To accompany report dated Jan., 1987





LOCATION MAP

SCALE 1:2,000,000

•432 soil sample location with Cr in ppm

—1200— contour intervals at 150, 300, 600, 1200 and 2400 ppm Cr

Figure 19

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

CHROMIUM GEOCHEMISTRY

WELLGREEN PROPERTY

KLUANE PROJECT

SCALE 1:5000

0 50 100 200 300 400 500 Metres

0 100 500 1000 1500 Feet

To accompany report dated Jan., 1987

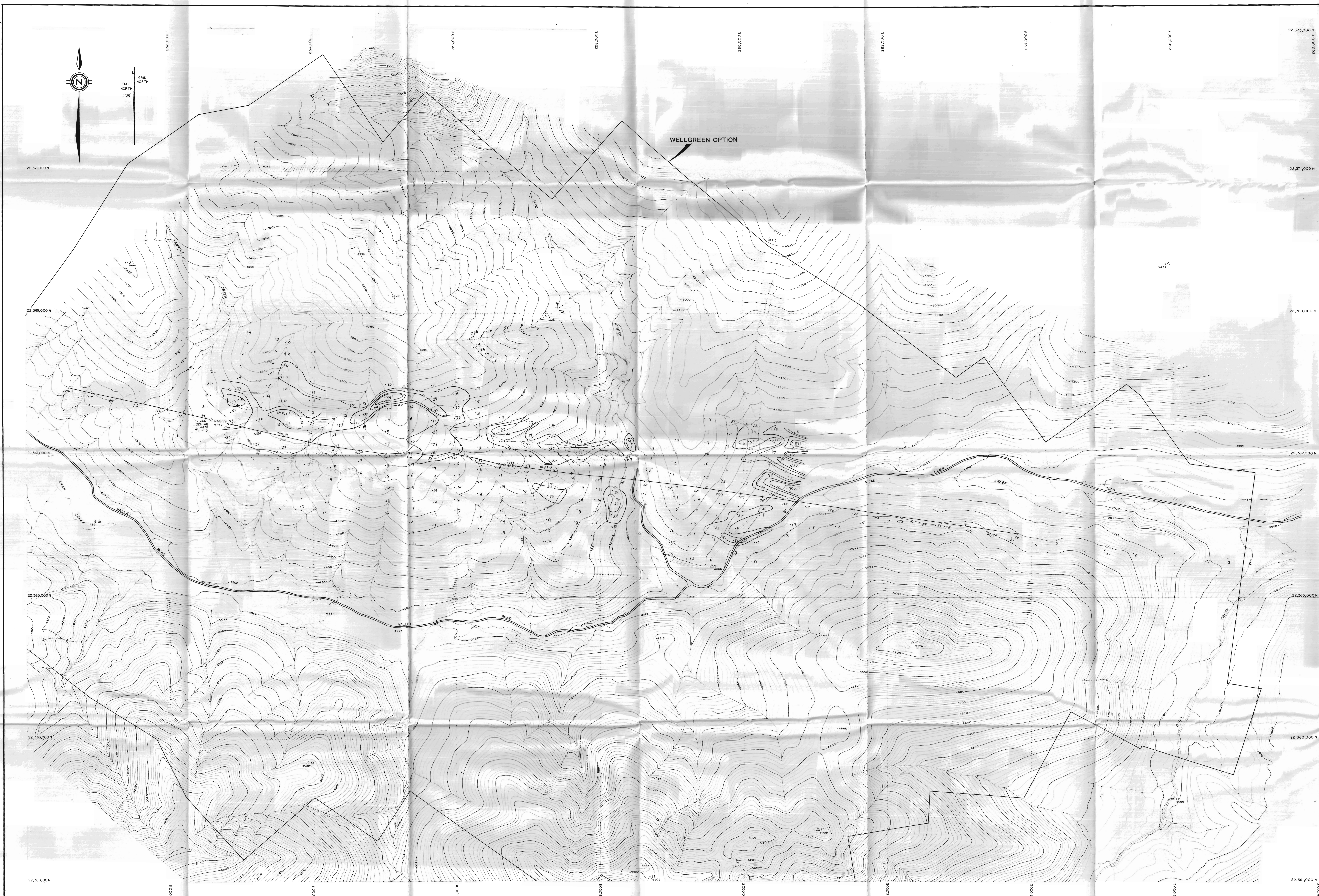
Figure 20

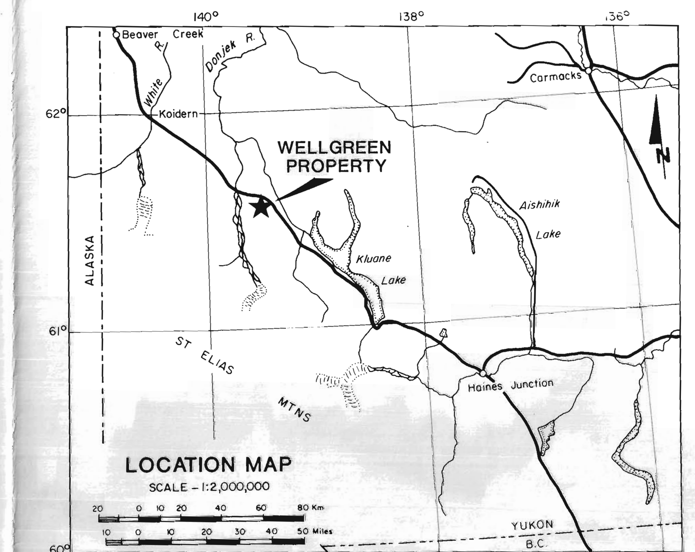
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

ARSENIC GEOCHEMISTRY

WELLGREEN PROPERTY

KLUANE PROJECT





•48 soil sample location with Au in ppb

—80— contour intervals at 20, 40, 80 and 160 ppb Au

Figure 21

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

GOLD GEOCHEMISTRY

WELLGREEN PROPERTY

KLUANE PROJECT

SCALE 1:5000

0 50 100 200 300 400 500 Metres

0 100 500 1000 1500 Feet

To accompany report dated Jan.,1987


WELLGREEN OPTION
TRUE NORTH
GRID NORTH
LOCATION MAP
WELLGREEN PROPERTY
Haines Junction
Carmacks
ALASKA
YUKON
B.C.
• 550 soil sample location with Pt in ppb
—400— contour intervals at 50, 100, 200 and 400 ppb Pt
Figure 22
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
PLATINUM GEOCHEMISTRY
WELLGREEN PROPERTY
KLUANE PROJECT
SCALE 1:5000
0 50 100 200 300 400 500 Metres
0 100 500 1000 1500 Feet
To accompany report dated Jan., 1987

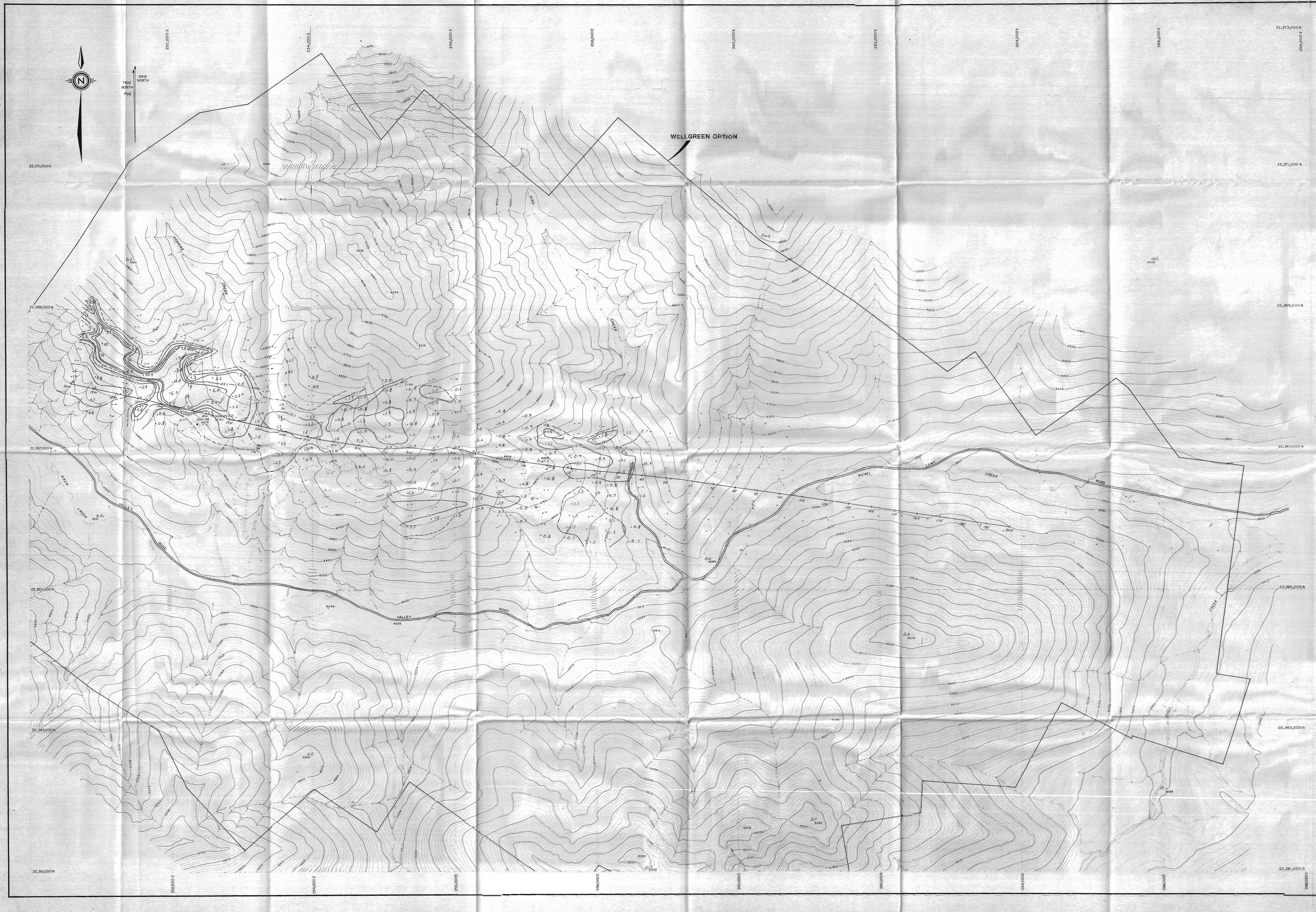
Figure 23

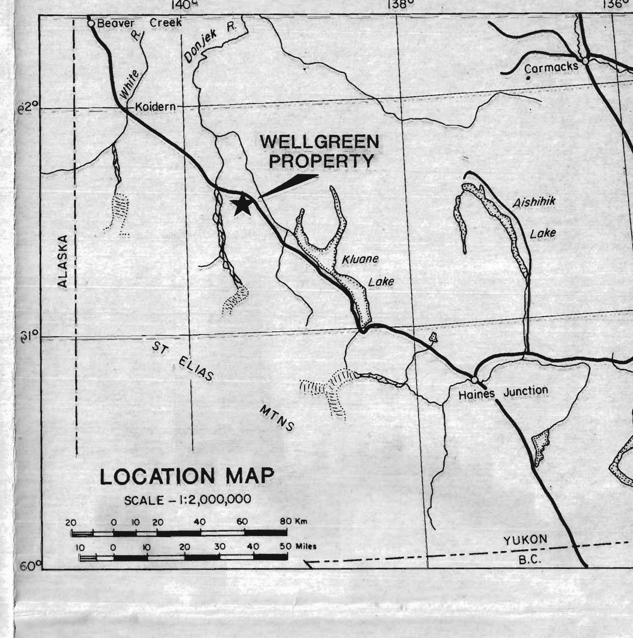
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

PALLADIUM GEOCHEMISTRY

WELLGREEN PROPERTY

KLUANE PROJECT





• 0.8 (:1) soil sample location with Pt (:Pd ratio)

• — Pt and/or Pd less than detection limits

—— 1.4 —— contour intervals at Pt:Pd ratios of 1:1, 1.5:1, 2:1, 2.5:1 and 3:1

Figure 24

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

PLATINUM : PALLADIUM IN SOIL

WELLGREEN PROPERTY

KLUANE PROJECT

SCALE 1:5000

0 50 100 200 300 400 500 Metres

0 100 500 1000 1500 Feet

To accompany report dated Jan., 1987

REPORT ON GEOPHYSICAL TEST SURVEYS

WELLGREEN PROPERTY
N.W. YUKON

BY

DELTA GEOSCIENCE LTD.

TABLE OF CONTENTS

Introduction

At the request of Archer, Cathro & Associates, Delta Geoscience Ltd., conducted a geophysical orientation survey on the Wellgreen nickel property. This property is located in the north-western Yukon.

Bob Cathro of Archer, Cathro & Associates commissioned the survey and was present during the field tests. G. Hendrickson of Delta Geoscience Ltd., supervised the data collection.

The purpose of the work was to discover which geophysical techniques best detected the sulphide mineralization, which is of interest for its nickel and possible related platinum group elements. Geophysical methods used were V.L.F., Magnetics, Induced Polarization, Resistivity, and Horizontal Co-Planer Loop Electromagnetics.

This brief report discusses the data collected, the methods of surveying used and makes recommendations for future surveys.

Personnel

R. Cathro R. Carnes K. Capnerhurst	Archer, Cathro & Associates
G. Hendrickson S. Cosman	Delta Geoscience Ltd.

Equipment

- Scintrex I.G.S. system configured as V.L.F/MAG.
- Scintrex MP-3 base station magnetometer.
- Scintrex I.P.R.10 induced polarization receiver.
- Scintrex 250 watt induced polarization transmitter.
- Apex Parametrics MAXMIN 1+ electromagnetic system.
- H.P. 110 field computer system.

Survey Procedure

Archer, Cathro & Associates had chained two lines, Lines 2E and 10W, across the east and west ends of the deposit. Station separation was 20 metres horizontal. Topographic profiles were established from the chaining notes. All profiles are plotted at a horizontal scale of 1:2000.

The I.P. work was done using the Schlumberger array. Current electrode separation was set at 180 metres, while potential electrode separation was set at 20 metres. This array gives excellent horizontal resolution with the prime depth of investigation at the 20 to 30 metre depth.

The horizontal co-planer loop survey (H.L.E.M.) work was done with an 80 metre coil separation to maximize horizontal resolution. Maximum depth of investigation for vertical bodies, with this coil separation is 40 metres. Corrections to the in-phase data were applied for coil separation variation.

The V.L.F. work was done using the Cutler, Maine, V.L.F. station (N.A.A.), transmitting at 24.0 khz. This station was almost in line with the known strike of the sulphide bodies, thus providing good coupling. The V.L.F. data was subsequently filtered to reduce topographical effects.

The magnetic survey was done simultaneously with the V.L.F. survey. Magnetic total field readings were taken every 10 metres. The M.P.3 base station was used to correct the data for any diurnal change of the magnetic field. The earth's magnetic field was quiet during the course of this survey.

Note: Overburden thickness varied from nil to probably no more than 10 metres. The average overburden thickness is in the 1 to 2 metre range.

Discussions of the Data

Induced Polarization - (chargeability):

- appears to be detecting sulphide and magnetite mineralization equally as well, thus on its own, cannot discriminate. The low sulphide content of the Quartzite allows us to recognize its presence at the north ends of the lines.

Resistivity:

- clearly detects and discriminates the resistive Quartzite.
- appears to be mapping variations in the ultramafic body as it varies from Gabbro (resistive) to Serpentinized Peridotites (weakly conductive).

V.L.F:

- detects the known sulphide mineralization well. However, on its own, may have trouble discriminating from responses caused by Serpentinized Peridotites. In conjunction with the magnetometer, this discrimination should be possible.
- will detect unmineralized structures such as faults. However, in conjunction with the I.P., these structures would generally be recognized by the lack of an I.P. response.

Magnetics:

- maps very well the magnetite distribution within the rocks, thus can discriminate against Quartzite, Gabbro and Peridotite. Careful surveying is required to distinguish between the Quartzite and Gabbro.
- known sulphide mineralization produces a relatively moderate response. Readings at 10 metre intervals are required.
- intense response (62,000 nanotesla) from the Peridotite indicates large magnetite concentrations.

Horizontal Co-Planer Loop E.M:

- does not respond well to known sulphide mineralization. This fact suggests that the mineralized body is thin and discontinuous, since individual hand specimens of the mineralization were highly conductive.
- the low conductivity of the Peridotite body is reflected by the large quadrature response at the high frequency (3555 Hz).

Based on response measured on the two lines, it appears that sulphide zones will have (a) moderate magnetic expression, (b) moderate to strong chargeability, and (c) moderately strong V.L.F. response. Careful magnetic surveying is required, since the area on the flanks of the Peridotite body is of prime interest.

Coincident induced polarization, V.L.F. and MAG anomalies lying within areas of low magnetic background, would be prime targets for further exploration.

Strong I.P. anomalies coincident with intense magnetic anomalies within areas of high magnetic background, indicate magnetite rich zones within the Peridotite. The lack of, or weak V.L.F. responses, coincident with these high magnetic responses, supports the interpretation of magnetite, since Serpentinized Peridotites are known to have low conductivity largely due to their magnetite content. Strong V.L.F. and/or horizontal loop anomalies within the Peridotite may be indicating sulphide concentrations, as well as magnetite. (e.g. the V.L.F. anomaly at the south end of line 2E). Geochemistry may help evaluate the cause of V.L.F. anomalies within the Peridotite body.

Three rock types are indicated in the data and were observed in the field:

Silicious Quartzite:

- very high resistivity 1000
- low chargeability 15msec.
- low magnetic response 56,000 nanotesla.

Gabbro:

- moderate resistivity (500 m). Should be much higher, however lowered by the presence of disseminated and massive sulphides.
- high chargeability due to the above.
- in general, should have a slightly higher magnetic response than the Quartzite.

Serpentinized Peridotites:

- low resistivity (approx. 200 m), in part due to abundant magnetite.
- high chargeability, again due to abundant magnetite.
- very high magnetic response due to the magnetite. 58,000 nanotesla.

Conclusion and Recommendations

The conclusion reached is based on a limited amount of surveying, however consistent facts emerged from the two lines surveyed.

In view of these facts, the combined V.L.F/MAG survey offered by the Scintrex I.G.S. II system is the best method for further exploration of this deposit. This method also has the advantage of being the most cost effective. A limited amount of I.P. surveying should augment the combined V.L.F/MAG survey to evaluate the cause of the V.L.F. responses.

Line spacing should be 50 metres, with stations every 20 metres. Magnetic readings should be taken every 10 metres, to ensure resolution of narrow bodies. The terrain, although steep, will allow for relatively easy surveying.

Production rates for the combined V.L.F/MAG survey should be in excess of 5 km. per day, while 2 km. per day could be expected from an I.P. crew.

A study of the geophysical data obtained by previous operators should be done to see how much of it is useful and to avoid duplication.

G. Hendrickson

G.A. Hendrickson, P.Geoph.

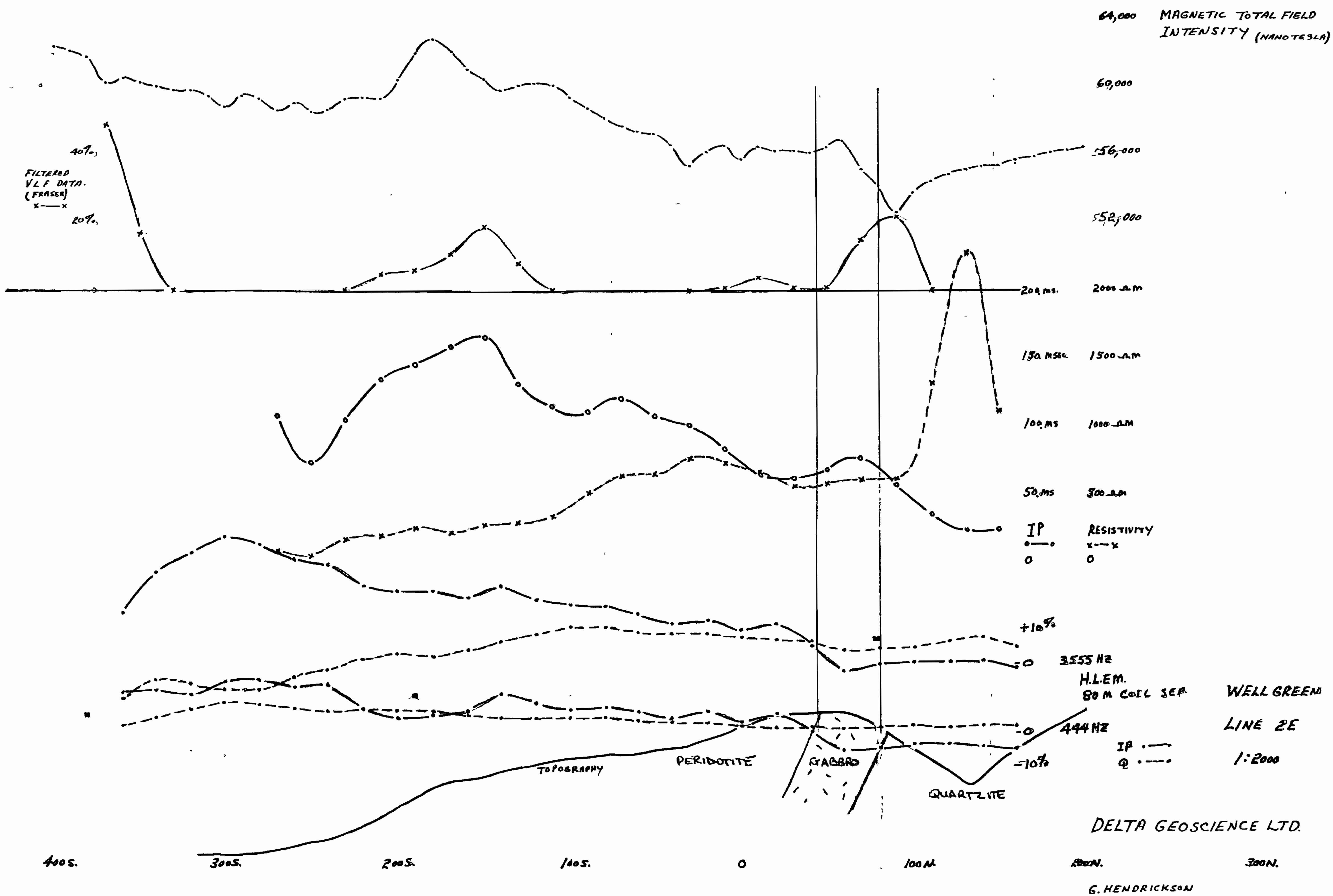
Statement of Qualification

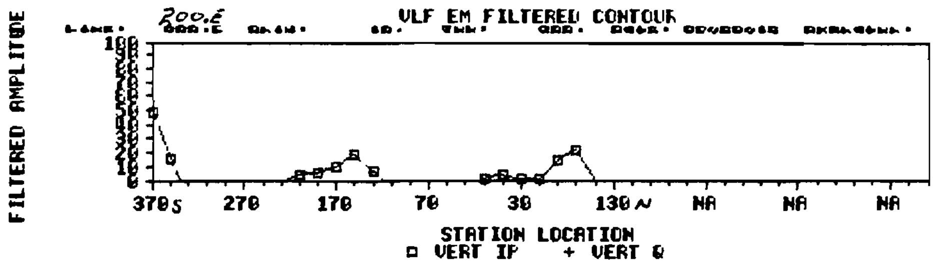
Grant A. Hendrickson

- B.Science, U.B.C., 1971, Geophysics option.
- for the past 16 years, I have been actively involved in mineral exploration projects throughout Canada and the United States.
- I am a registered Professional Geophysicist with the Association of Professional Engineers, Geologists and Geophysicists of Alberta.
- I am a member of the S.E.G., E.A.E.G., and C.I.M.

G. Hendrickson

Grant A. Hendrickson.


64,000
MAGNETIC TOTAL FIELD INTENSITY (NANOTESLA)
60,000
56,000
52,000
40%
FILTERED VLF DATA. (FRASER) x—x
20%
200 ms.
2000 Ωm
150 msec
1500 Ωm
100 ms
1000 Ωm
50 ms
500 Ωm
IP
RESISTIVITY
0
0
+10%
0
3555 HZ
H.L.E.M.
80 M COIL SEP.
WELLGREEN
LINE 2E
0
444 HZ
IP
Q
-10%
1:2000
TOPOGRAPHY
PERIDOTITE
GABBRO
QUARTZITE
DELTA GEOSCIENCE LTD.
400S.
300S.
200S.
100S.
0
100N.
200N.
300N.
G. HENDRICKSON



VLF DATA CONTOURING ROUTINES
DELTA GEOSCIENCE LTD.

CONTOURING AND GRAPHING WORKSHEET

SCINTREX V1.6 VLF M-Field R1.4
VLF #3 24.0KHz Ser No:840320.
Line: 200.E Grid: 10. Job: 900. Date: 86/08/15 Operator:

Station	Vert IP	Vert Q	Hor Fl	PLOT PT	FILTERED OUTPUTS VERT IP	VERT Q
400 S	39	-14	1.69			
380	28	-15	1.69			
360	11	-8	1.54	370	49	-20
340	7	-1	1.33	350	17	-23
320	15	1	1.03	330	-18	-16
300	21	6	1.29	310	-19	-9
280	20	3	1.11	290	-11	-4
260	27	8	1.11	270	-12	-9
240	26	10	1.13	250	-9	-12
220	30	13	1.15	230	-2	-8
200	25	13	1.36	210	5	-2
180	26	12	1.36	190	6	6
160	23	8	1.43	170	11	10
140	17	7	1.47	150	19	8
120	13	5	1.33	130	8	8
100	19	2	1.17	110	-8	4
80	19	6	1.28	90	-6	-7
60	19	8	1.34	70	-2	-9
40	21	9	1.34	50	-5	-2
20	22	7	1.35	30	-4	-1
0	22	11	1.33	10	1	-5
20	20	10	1.19	10	4	-2
40	20	10	1.29	30	1	2
60	21	9	1.28	50	1	4
80	18	7	1.33	70	15	12
100	8	0	1.17	90	22	8
120	9	8	1	110	-2	-18
140	19	17	0.95	130	-27	-24
160	25	15	1.05	150	-25	-3
180	28	13	1.09	170	-9	10
200 N	25	9	1.14	190	NA	NA
NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA

SCINTREX V1.6 Magnetometer R1.7
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Line: 200.E Grid: 10. Job: 900. Date: 86/08/15 Operator: 1.

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380.S	61897.9	-352.6	10:14:32	
370.S	60353.6	-1544.3	10:13:41	
360.S	60696.0	342.4	10:12:41	
350.S	60378.1	-317.9	10:11:40	
340.S	60090.6	-287.5	10:10:22	
330.S	59991.3	-99.3	10:09:29	
320.S	59933.4	-57.9	10:08:24	
310.S	59560.0	-373.4	10:07:34	
300.S	58960.9	-599.1	10:06:31	
290.S	59682.5	721.6	10:05:33	
280.S	59416.3	-266.2	10:03:03	
270.S	58711.1	-705.2	10:01:46	
260.S	59154.6	443.5	10:00:27	
250.S	58628.7	-525.9	09:59:06	
240.S	58766.2	137.5	09:56:59	
230.S	59431.6	665.4	09:55:25	
220.S	59583.0	151.4	09:54:07	
210.S	59479.3	-103.7	09:52:13	
200.S	60452.4	973.1	09:49:41	
190.S	62020.8	1568.4	09:47:40	
180.S	62831.7	810.9	09:46:22	
170.S	62070.9	-760.8	09:45:24	
160.S	61164.4	-906.5	09:44:26	
150.S	60570.1	-594.3	09:43:40	
140.S	59883.1	-687.0	09:42:49	
130.S	60186.6	303.5	09:41:50	
120.S	60258.4	71.8	09:40:46	
110.S	60201.0	-57.4	09:39:57	
100.S	59557.8	-643.2	09:38:58	
90.S	58804.3	-753.5	09:38:06	
80.S	58282.2	-522.1	09:36:58	
70.S	57775.7	-506.5	09:36:02	
60.S	57480.5	-295.2	09:35:00	
50.S	57337.2	-143.3	09:33:56	
40.S	56646.8	-690.4	09:33:00	
30.S	55413.6	-1233.2	09:32:08	
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20.N	56322.9	-198.0	09:27:17	
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110.N	54549.6	760.1	09:17:42
120.N	54910.9	361.3	09:16:30
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140.N	55345.1	113.7	09:12:48
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200.N	56590.2	224.1	09:03:28

SCINTREX V1.6 VLF M-Field R1.4
VLF #3 24.0KHz Ser No:840320.
Line: 200.E Grid: 10. Job: 900. Date: 86/08/15 Operator: 1.

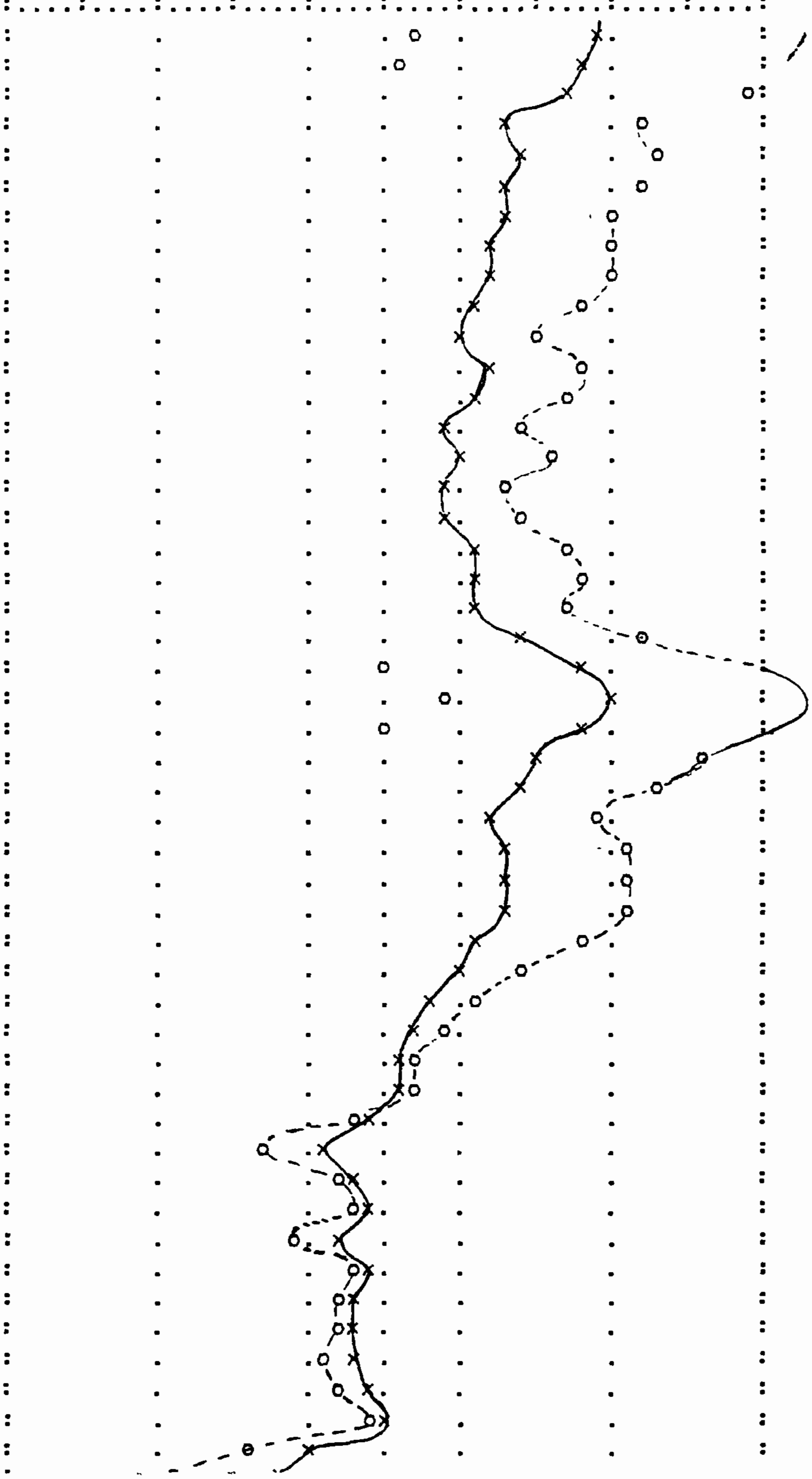
Station	Vert IP	Vert Q	Hor Fld		Information
400.S	39	-14	1.69	10:16:57	
390.S	33	-16	1.70	10:16:04	
380.S	28	-15	1.69	10:15:06	
370.S	20	-11	1.64	10:14:05	
360.S	11	-8	1.54	10:13:10	
350.S	10	-4	1.43	10:12:10	
340.S	7	-1	1.33	10:10:50	
330.S	10	-0	1.11	10:09:56	
320.S	15	1	1.03	10:09:06	
310.S	22	4	1.15	10:08:06	
300.S	21	6	1.29	10:06:57	
290.S	20	4	1.11	10:06:06	
280.S	20	3	1.11	10:03:31	
270.S	25	6	1.12	10:02:24	
260.S	27	8	1.11	10:01:00	
250.S	24	6	1.14	09:59:39	
240.S	26	10	1.13	09:57:35	
230.S	27	13	1.28	09:55:59	
220.S	30	13	1.15	09:54:51	
210.S	28	14	1.31	09:52:55	
200.S	25	13	1.36	09:50:09	
190.S	25	11	1.25	09:48:06	
180.S	26	12	1.36	09:47:02	
170.S	26	10	1.41	09:46:00	
160.S	23	8	1.43	09:45:00	
150.S	20	7	1.46	09:44:08	
140.S	17	7	1.47	09:43:19	
130.S	17	7	1.39	09:42:25	
120.S	13	5	1.33	09:41:25	
110.S	15	6	1.32	09:40:24	
100.S	19	2	1.17	09:39:28	
90.S	21	3	1.18	09:38:34	
80.S	19	6	1.28	09:37:39	
70.S	21	5	1.31	09:36:32	
60.S	19	8	1.34	09:35:32	
50.S	21	8	1.17	09:34:35	
40.S	21	9	1.34	09:33:31	
30.S	23	6	1.18	09:32:41	
20.S	22	7	1.35	09:31:43	
10.S	19	8	1.33	09:30:57	
0.	22	11	1.33	09:29:55	
10.N	21	11	1.32	09:28:56	
20.N	20	10	1.19	09:27:56	
30.N	19	11	1.29	09:26:54	
40.N	20	10	1.29	09:26:04	
50.N	21	9	1.14	09:25:06	
60.N	21	9	1.28	09:24:14	
70.N	20	6	1.35	09:23:10	

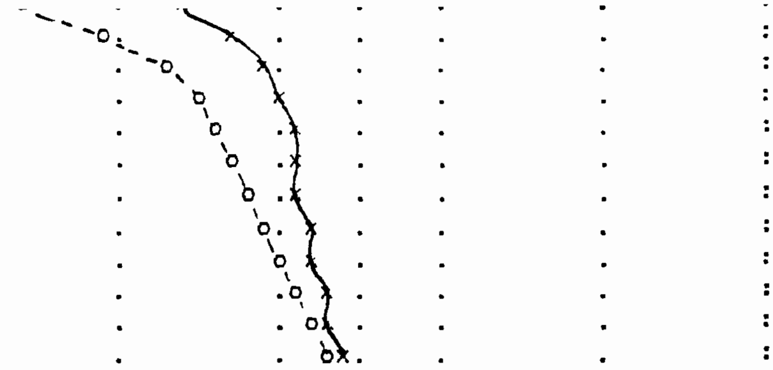
80.N	18	7	1.33	09:22:06
90.N	12	4	1.35	09:20:51
100.N	8	0	1.17	09:19:35
110.N	7	4	1.06	09:18:17
120.N	9	8	1.00	09:17:05
130.N	11	16	0.85	09:15:30
140.N	19	17	0.95	09:13:27
150.N	20	18	0.95	09:12:20
160.N	25	15	1.05	09:11:17
170.N	25	14	1.06	09:10:12
180.N	28	13	1.09	09:06:36
190.N	24	12	1.11	09:05:21
200.N	25	9	1.14	09:04:03

SCINTREX V1.6 Magnetometer R1.7
Base Field: 57000. *=Uncorrected Data Ser No:840320.
Line: 200.E Grid: 10. Job: 900. Date: 86/08/15 Operator: 1.

x Total Field (Gammas)
Bias: 57000. F = 1E4 .8xF .4xF - Bias + .4xF .8xF
o Total Field (Gammas)
Bias: 57000. F = 1000. 4xF 2xF - Bias + 2xF 4xF

Station	Mag Fld	Change
400.S	62490.0	
390.S	62250.5	-239.5
380.S	61897.9	-352.6
370.S	60353.6	-1544.3
360.S	60696.0	342.4
350.S	60378.1	-317.9
340.S	60090.6	-287.5
330.S	59991.3	-99.3
320.S	59933.4	-57.9
310.S	59560.0	-373.4
300.S	58960.9	-599.1
290.S	59682.5	721.6
280.S	59416.3	-266.2
270.S	58711.1	-705.2
260.S	59154.6	443.5
250.S	58628.7	-525.9
240.S	58766.2	137.5
230.S	59431.6	665.4
220.S	59583.0	151.4
210.S	59479.3	-103.7
200.S	60452.4	973.1
190.S	62020.8	1568.4
180.S	62831.7	810.9
170.S	62070.9	-760.8
160.S	61164.4	-906.5
150.S	60570.1	-594.3
140.S	59883.1	-687.0
130.S	60186.6	303.5
120.S	60258.4	71.8
110.S	60201.0	-57.4
100.S	59557.8	-643.2
90.S	58804.3	-753.5
80.S	58282.2	-522.1
70.S	57775.7	-506.5
60.S	57480.5	-295.2
50.S	57337.2	-143.3
40.S	56646.8	-690.4
30.S	55413.6	-1233.2
20.S	56317.3	903.7
10.S	56652.6	335.3
0.	55827.3	-825.3
10.N	56520.9	693.6
20.N	56322.9	-198.0
30.N	56368.6	45.7
40.N	56158.1	-210.5
50.N	56439.3	281.2
60.N	56826.3	387.0
70.N	55180.2	-1646.1
[illegible]	[illegible]	[illegible]



100.N	53789.5	1078.9:	
110.N	54549.6	760.1:	
120.N	54910.9	361.3:	
130.N	55231.4	320.5:	
140.N	55345.1	113.7:	
150.N	55524.5	179.4:	
160.N	55757.4	232.9:	
170.N	55940.6	183.2:	
180.N	56170.6	230.0:	
190.N	56366.1	195.5:	
200.N	56590.2	224.1:	

SCINTREX V1.6 VLF M-Field R1.4
VLF #3 24.0KHz Ser No:840320.
Line: 200.E Grid: 10. Job: 900. Date: 86/08/15 Operator: 1.

x Horizontal field
Bias: 0. F = 10. Bias + .4xF .8xF 1.2xF 1.6xF 2xF
o Vertical in-phase
Bias: 0. F = 100. .8xF .4xF - Bias + .4xF .8xF

Station	HOR FLD	VERT IP
400.S	1.69	39.
390.S	1.70	33.
380.S	1.69	28.
370.S	1.64	20.
360.S	1.54	11.
350.S	1.43	10.
340.S	1.33	7.
330.S	1.11	10.
320.S	1.03	15.
310.S	1.15	22.
300.S	1.29	21.
290.S	1.11	20.
280.S	1.11	20.
270.S	1.12	25.
260.S	1.11	27.
250.S	1.14	24.
240.S	1.13	26.
230.S	1.28	27.
220.S	1.15	30.
210.S	1.31	28.
200.S	1.36	25.
190.S	1.25	25.
180.S	1.36	26.
170.S	1.41	26.
160.S	1.43	23.
150.S	1.46	20.
140.S	1.47	17.
130.S	1.39	17.
120.S	1.33	13.
110.S	1.32	15.
100.S	1.17	19.
90.S	1.18	21.
80.S	1.28	19.
70.S	1.31	21.
60.S	1.34	19.
50.S	1.17	21.
40.S	1.34	21.
30.S	1.18	23.
20.S	1.35	22.
10.S	1.33	19.
0.	1.33	22.
10.N	1.32	21.
20.N	1.19	20.
30.N	1.29	19.
40.N	1.29	20.
50.N	1.14	21.
60.N	1.28	21.
70.N	1.35	20.

```
 [illegible]  [illegible]  12. :   x         .          .    .  o  .         .          :
  100.N       1.17          8. :   x         .          .    . o   .         .          :
  110.N       1.06          7. :   x         .          .    . o   .         .          :
  120.N       1.00          9. :   x         .          .    . o   .         .          :
  130.N       0.85         11. : x           .          .    .   o .         .          :
  140.N       0.95         19. : x           .          .    .     o         .          :
  150.N       0.95         20. : x           .          .    .     o         .          :
  160.N       1.05         25. :   x         .          .    .     .o        .          :
  170.N       1.06         25. :   x         .          .    .     .o        .          :
  180.N       1.09         28. :   x         .          .    .     . o       .          :
  190.N       1.11         24. :   x         .          .    .     .o        .          :
  200.N       1.14         25. :   x         .          .    .     .o        .          :
.
.
.
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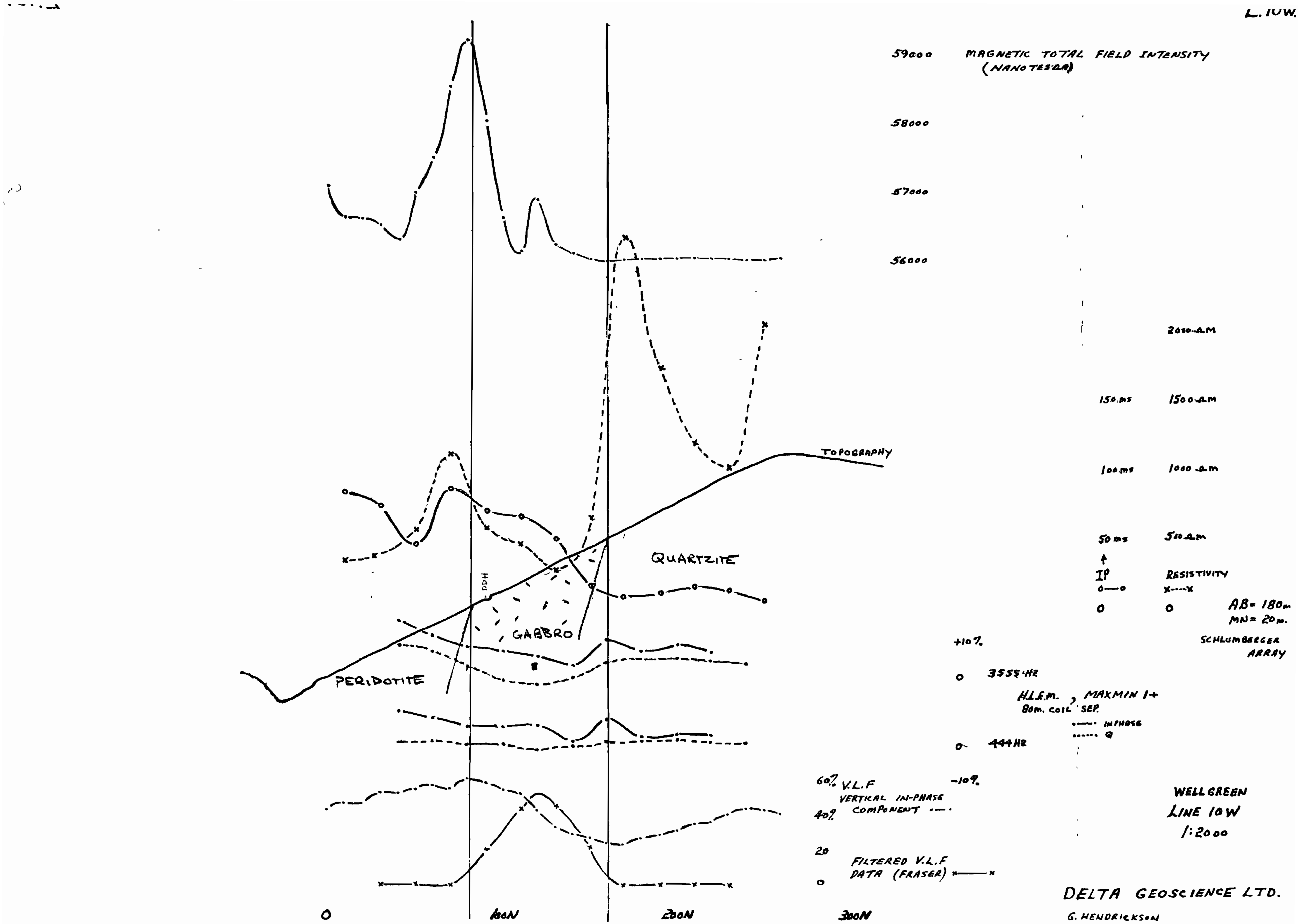
SCINTREX V1.3 Magnetometer
Base Field 57000. Cycle Time 30 sec Ser No:244934.
Line: 1110.S Grid: 1. Job: 900. Date: 86/08/15 Operator: 10.

Station: 780.E Information

Time	Mag Fld	+1	+2	+3	+4	+5	+6	+7	+8	+9
				Changes Between Readings						
07:20:38	57102.5	-.5	0.8	-.8	-.3	0.4	0.2	-.6	0.3	0.0
07:25:38	57101.9	-.4	0.0	0.0	0.0	-.1	0.6	-.6	0.2	-.8
07:30:38	57100.6	-.4	-.3	0.0	0.0	-.5	0.1	-.4	0.0	0.0
07:35:38	57098.9	0.0	-.3	-.1	0.7	0.0	-.2	0.7	-.1	0.4
07:40:38	57101.0	-.5	0.3	-.1	-.1	0.1	0.1	0.3	-.2	0.3
07:45:38	57101.2	0.0	-.5	-.6	0.2	-.2	0.1	11.7	1.2	0.0
07:50:38	57113.0	0.1	0.1	-.1	0.1	0.5	-.2	0.3	-.3	0.3
07:55:38	57114.1	0.0	-.1	0.1	0.3	-.2	-.4	0.4	-.1	-.3
08:00:38	57114.1	0.0	-.2	-.1	0.4	0.1	0.1	-.1	0.3	-.5
08:05:38	57114.3	0.0	-.2	0.0	0.1	-.1	0.3	-.4	-.1	-.2
08:10:38	57113.7	0.0	0.1	0.1	-.2	-.4	0.3	0.2	-.1	-.2
08:15:38	57114.0	-.5	0.0	0.1	-.2	-.2	0.0	0.0	0.0	0.2
08:20:38	57113.4	0.0	0.2	-.6	0.1	-.4	-.1	-.2	-.1	0.3
08:25:38	57112.4	0.0	-.3	-.2	0.1	-.4	0.3	-.1	-.5	0.5
08:30:38	57111.7	-.4	0.7	-.3	0.4	-.1	0.3	0.1	0.5	-.6
08:35:38	57112.7	0.2	-.3	0.6	0.0	0.3	0.3	-.1	-.1	-.1
08:40:38	57113.1	-.2	-.1	0.4	-.3	-.2	-.3	-.2	0.2	0.0
08:45:38	57111.9	-.9	-.5	0.2	0.0	-.5	0.2	-.3	-.2	-.7
08:50:38	57108.7	-.2	0.0	-.2	0.0	-.1	0.4	-.1	0.1	-.7
08:55:38	57108.0	-.1	-.2	0.2	-.1	-.1	-.1	0.2	-.1	0.0
09:00:38	57107.9	-.1	-.2	0.1	-.1	-.1	0.0	-.1	-.3	0.4
09:05:38	57107.3	-.1	0.0	-.3	0.3	-.4	0.2	-.3	0.2	-.5
09:10:38	57106.7	-.1	-.2	-.3	-.1	0.0	-.3	0.1	0.0	0.1
09:15:38	57105.6	0.2	-.3	0.4	-.1	0.0	0.2	0.3	-.2	-.3
09:20:38	57105.9	0.0	0.0	0.2	-.4	-.5	0.8	-.5	-.4	0.6
09:25:38	57105.5	0.1	-.2	0.3	0.1	-.6	0.2	-.1	-.2	0.0
09:30:38	57105.6	-.2	-.5	0.2	0.0	0.0	0.1	-.1	-.3	0.7
09:35:38	57105.2	0.3	-.4	0.3	-.3	0.3	0.0	-.1	-.6	0.2
09:40:38	57104.5	0.7	-.7	-.1	0.3	-.3	0.2	0.8	-.1	-.6
09:45:38	57105.9	-.3	0.1	0.5	-1.2	-.1	0.1	0.1	-.9	-.3
09:50:38	57103.2	0.7	-.6	0.2	-.5	0.2	1.2	-.3	-.3	-.5
09:55:38	57103.6	0.6	0.2	-.3	-.1	0.6	0.2	-.5	0.0	0.6
10:00:38	57104.8	0.1	0.0	0.2	-.4	-1.5	1.3	0.7	-.1	0.3
10:05:38	57105.7	0.1	-.2	0.1	0.0	0.0	0.0	0.2	0.5	-1.2
10:10:38	57106.2	-1.4	1.0	0.3	-.8	0.5	0.2	-.3	0.2	-.2
10:15:38	57106.2	-.8	0.1	0.2	-.4	0.6	-.9	0.6	0.4	-.3
10:20:38	57105.8	-.1	-.5	0.2	-.3	0.0	-.2	-.3	-.1	0.4
10:25:38	57104.7	-.9	0.5	-.4	0.6	-.4	0.3	0.0	-.2	-.1
10:30:38	57104.0	0.7	-.4	-2.1	1.6	0.2	0.0	-.3	-.1	0.3
10:35:38	57103.8	0.2	-.3	0.5	-.4	0.1	-.1	0.5	0.3	-.1
10:40:38	57105.0	0.2	-.1	-.1	0.1	-.5	-.2	-.3	0.3	0.0
10:45:38	57104.7	0.3	-.1	0.5	-.1	0.1	0.2	0.1	-.3	-.5
10:50:38	57105.4	-.5	-.3	-1.4	1.3	-.3	0.1	-.7	0.0	-.1
10:55:38	57103.8	0.3	-.6	0.9	0.2	0.9	0.2	0.0	0.7	0.3
11:00:38	57106.9	0.0	0.2	-15.2	-.3	-.3	-.7	0.0	-.3	-.6
11:05:38	57089.1	-.3	-.2	-.3	-.2	0.4	0.5	0.4	0.6	0.5
11:10:38	57091.0	0.0	0.1	0.0	0.6	-.3	-.1	-.2	-.1	-2.2
11:15:38	57088.5	0.2	0.0	0.0	-.5	0.0	8.6	0.5	27.0	5.8
11:20:38	57129.3	0.7	0.3	0.0	-.3	0.0	-28.6	-.2	-.1	0.1

11:30:38	57128.5	0.1	-.5	-.5	0.5	-.2	0.2	0.0	-.5	0.1
11:35:38	57128.2	-.1	0.0	0.3	0.0	-.2	0.4	-.2	0.0	-.1
11:40:38	57128.4	-.3	0.4	-.4	-.5	0.1	-.3	-.3	0.3	0.1
11:45:38	57126.9	0.3	-.9	0.6	-.1	0.2	-.1	-.5	0.0	0.0
11:50:38	57126.5	0.1	0.5	-.1	-.1	-.1	-.6	-.1	-.2	-.3
11:55:38	57126.0	0.1	-.5	-.1	-.1	0.0	-.3	0.0	-.5	0.4
12:00:38	57125.3	-.8	-.5	0.1	-.8	-.2	-.2	0.0	-.4	-.5
12:05:38	57122.2	0.0	0.0	-.1	-.4	0.5	-.1	0.0	0.2	0.0
12:10:38	57122.9	-.6	0.6	-.6	0.5	0.1	0.1	-.9	0.4	-.2
12:15:38	57122.0	-.1	0.3	0.6	-.4	-.5	-.6	1.3	-.4	0.7
12:20:38	57121.6	0.5	-.3	-.5	0.3	0.0	0.1	0.2	0.1	0.0
12:25:38	57121.2	0.9	0.0	-.3	-.8	-.7	0.2	-.1	0.2	1.1
12:30:38	57121.0	0.3	0.3	-.3	-.8	0.1	-.4	0.0	0.0	-.4
12:35:38	57119.3	-.2	-.2	0.6	-.5	0.6	0.5	0.3	0.3	0.0
12:40:38	57120.2	0.2	-.5	0.5	-.2	0.0	-.5	0.2	-.4	0.0
12:45:38	57119.1	-.5	0.0	0.6	0.3	-.5	-.2	-.2	0.2	-.3
12:50:38	57119.1	-.6	0.6	0.1	-.1	0.3	-1.3	1.0	-.2	0.3
12:55:38	57119.0	-.3	-.4	1.0	-1.4	1.0	-.8	0.6	0.3	-.3
13:00:38	57118.4	-.3	0.1	-.4	0.1	0.2	0.3	-1.0	0.7	-.3
13:05:38	57117.4	0.3	0.0	0.4	-.7	-.3	0.1	-.3	0.2	-.3
13:10:38	57117.2	0.9	-.7	0.0	-.6	0.5	-.1	-.6	1.1	-.4
13:15:38	57116.5	0.9	0.2	-.5	0.5	-.5	-14.4	-.2	0.5	-.6
13:20:38	57102.4	0.0	0.1	0.3	-.3					



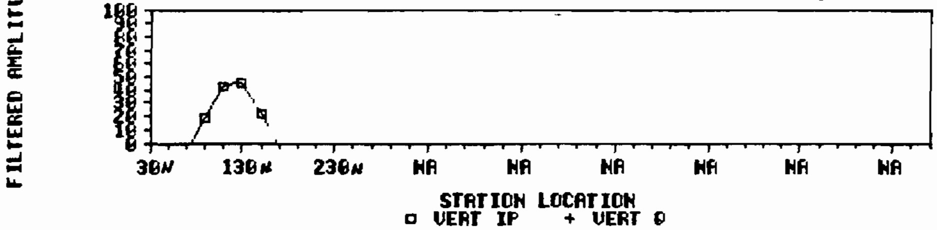
L. 10W.
59000
MAGNETIC TOTAL FIELD INTENSITY (NANOTESLA)
58000
57000
56000
2000 Ω.M
150 ms
1500 Ω.M
TOPOGRAPHY
100 ms
1000 Ω.M
50 ms
500 Ω.M
QUARTZITE
IP
0—0
RESISTIVITY
x----x
0
0
AB = 180m.
MN = 20m.
SCHLUMBERGER ARRAY
DDH
GABBRO
PERIDOTITE
+10%
0
3555 HZ
H.L.E.M., MAXMIN I+
80m. COIL SEP.
INPHASE
Q
0
444 HZ
-10%
60%
V.L.F
VERTICAL IN-PHASE COMPONENT
40%
20
0
FILTERED V.L.F
DATA (FRASER)
WELLGREEN
LINE 10W
1:2000
DELTA GEOSCIENCE LTD.
G. HENDRICKSON
0
100N
200N
300N

SCINTREX V1.6 Magnetometer R1.7
Base Field: 57000. *=Uncorrected Data Ser No:840320.
Line: 1000.W Grid: 10. Job: 900. Date: 86/08/14 Operator: 1.

Station	Mag Fld	Change	Time	Information
0.	57108.6		14:58:54	
10.N	56672.0	-436.6	14:57:57	
20.N	56665.5	-6.5	14:57:04	
30.N	56535.1	-130.4	14:56:10	
40.N	56335.7	-199.4	14:55:13	
50.N	57021.5	685.8	14:54:20	
60.N	57503.7	482.2	14:53:34	
70.N	58575.9	1072.2	14:52:32	
80.N	59257.5	681.6	14:51:18	
90.N	58078.0	-1179.5	14:50:15	
100.N	56686.0	-1392.0	14:49:18	
110.N	56188.1	-497.9	14:48:24	
120.N	56913.7	725.6	14:47:05	
130.N	56279.7	-634.0	14:46:14	
140.N	56131.1	-148.6	14:45:28	
150.N	56060.9	-70.2	14:44:32	
170.N	56017.5	-43.4	14:42:49	
180.N	56043.6	26.1	14:41:52	
190.N	56061.2	17.6	14:41:09	
200.N	56077.9	16.7	14:40:10	
210.N	56073.7	-4.2	14:39:29	
220.N	56081.0	7.3	14:38:48	
230.N	56086.8	5.8	14:38:04	
240.N	56067.0	-19.8	14:37:18	
250.N	56050.9	-16.1	14:36:30	
260.N	56094.1	43.2	14:35:30	

VLF EM FILTERED CONTOUR

Line: 1000.W Grid: 10. Job: 900. Date: 86/08/14 Operator:



VLF DATA CONTOURING ROUTINES
DELTA GEOSCIENCE LTD.

CONTOURING AND GRAPHING WORKSHEET

SCINTREX V1.6 VLF M-Field R1.4
VLF #3 24.0KHz Ser No:840320.
Line: 1000.W Grid: 10. Job: 900. Date: 86/08/14 Operator:

Station	Vert IP	Vert Q	Hor F1	PLOT PT	FILTERED OUTPUTS VERT IP	VERT Q
0	43	12	0.93			
20	47	11	0.99			
40	53	12	1.04	30	-20	1
60	57	10	1.15	50	-18	1
80	61	12	1.27	70	-6	-3
100	55	13	1.57	90	20	-5
120	43	14	1.7	110	44	0
140	29	11	1.66	130	46	6
160	23	10	1.44	150	22	3
180	27	12	1.35	170	-6	-4
200	31	13	1.3	190	-17	-11
220	36	20	1.23	210	-22	-13
240	44	18	1.32	230	-18	-3
260W	41	18	1.4	250	NA	NA
NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA

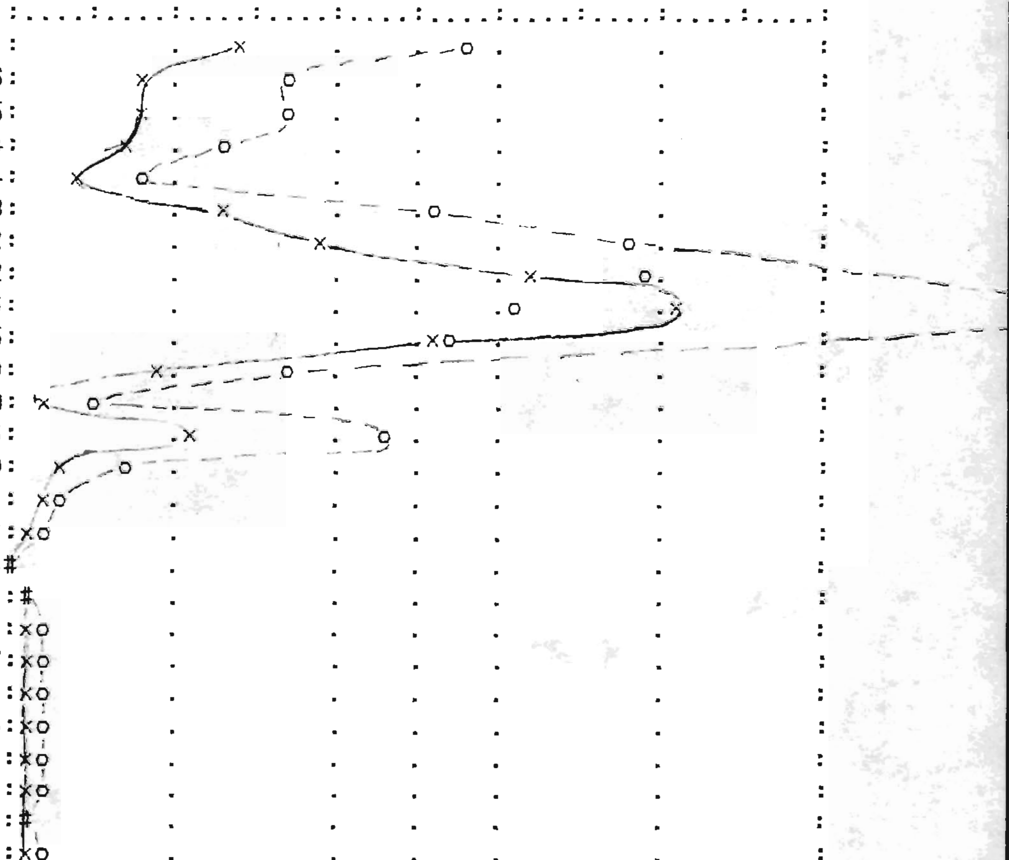
SCINTREX V1.6 VLF M-Field R1.4
VLF #3 24.0KHz Ser No:840320.
Line: 1000.W Grid: 10. Job: 900. Date: 86/08/14 Operator: 1.

Station	Vert IP	Vert Q	Hor Fld		Information
0.	43	12	0.93	14:59:24	
10.N	47	9	1.01	14:58:20	
20.N	47	11	0.99	14:57:35	
30.N	53	13	1.02	14:56:45	
40.N	53	12	1.04	14:55:47	
50.N	55	11	1.08	14:54:51	
60.N	57	10	1.15	14:54:02	
70.N	55	9	1.11	14:53:17	
80.N	61	12	1.27	14:51:52	
90.N	58	12	1.40	14:50:58	
100.N	55	13	1.57	14:49:48	
110.N	52	15	1.69	14:48:58	
120.N	43	14	1.70	14:47:49	
130.N	33	12	1.73	14:46:43	
140.N	29	11	1.66	14:45:56	
150.N	27	9	1.57	14:45:09	
160.N	23	10	1.44	14:44:12	
170.N	23	9	1.47	14:43:15	
180.N	27	12	1.35	14:42:23	
190.N	29	14	1.31	14:41:35	
200.N	31	13	1.30	14:40:38	
210.N	35	17	1.32	14:39:55	
220.N	36	20	1.23	14:39:10	
230.N	41	19	1.13	14:38:32	
240.N	44	18	1.32	14:37:45	
250.N	43	19	1.33	14:37:02	
260.N	41	18	1.40	14:36:00	

SCINTREX V1.6 Magnetometer R1.7
Base Field: 57000. *=Uncorrected Data Ser No:840320.
Line: 1000.W Grid: 10. Job: 900. Date: 86/08/14 Operator: 1.

x Total Field (Gammas)
Bias: 58000. F = 1000. 1.6xF .8xF - Bias + .8xF 1.6xF
o Total Field (Gammas)
Bias: 57000. F = 1000. .8xF .4xF - Bias + .4xF .8xF

Station	Mag Fld	Change
0.	57108.6	
10.N	56672.0	-436.6
20.N	56665.5	-6.5
30.N	56535.1	-130.4
40.N	56335.7	-199.4
50.N	57021.5	685.8
60.N	57503.7	482.2
70.N	58575.9	1072.2
80.N	59257.5	681.6
90.N	58078.0	-1179.5
100.N	56686.0	-1392.0
110.N	56188.1	-497.9
120.N	56913.7	725.6
130.N	56279.7	-634.0
140.N	56131.1	-148.6
150.N	56060.9	-70.2
170.N	56017.5	-43.4
180.N	56043.6	26.1
190.N	56061.2	17.6
200.N	56077.9	16.7
210.N	56073.7	-4.2
220.N	56081.0	7.3
230.N	56086.8	5.8
240.N	56067.0	-19.8
250.N	56050.9	-16.1
260.N	56094.1	43.2



SCINTREX V1.3 Magnetometer
Base Field 56800. Cycle Time 30 sec Ser No:244934.
Line: 1110.S Grid: 1. Job: 900. Date: 86/08/14 Operator: 10.

Station: 780.E Information

Time	Mag Fld	+1	+2	+3	+4	+5	+6	+7	+8	+9
		Changes Between Readings								
07:07:42	57067.4	-.1	0.3	0.4	0.3	0.1	0.4	0.4	0.4	0.3
07:12:42	57070.4	0.8	0.6	-.1	0.8	0.2	0.1	0.3	0.7	0.6
07:17:42	57074.6	0.7	0.4	0.6	0.2	0.5	0.5	0.1	0.1	0.3
07:22:42	57078.2	0.1	-.4	-.5	-.2	-.1	-.5	-.1	-.2	-.2
07:27:42	57076.4	-.7	0.4	0.0	10.1	4.7	0.8	-.3	0.3	0.3
07:32:42	57091.9	-.1	0.0	0.5	-.1	0.0	0.1	0.3	0.1	-.1
07:37:42	57093.0	0.2	0.1	0.5	0.1	0.4	0.7	0.4	0.1	-.3
07:42:42	57095.2	0.0	-.6	0.0	-.3	0.0	0.8	0.1	0.4	0.7
07:47:42	57096.4	0.1	0.4	0.4	-.4	0.2	-.1	-.1	0.1	-.1
07:52:42	57097.0	-.1	0.1	0.1	0.2	-.1	-.3	0.0	0.0	-.1
07:57:42	57096.5	0.1	0.3	-.4	0.2	0.0	0.0	-.2	-.2	0.0
08:02:42	57096.7	0.4	-.2	0.2	0.1	0.3	-.6	0.6	-.5	-.2
08:07:42	57096.3	0.1	-.2	-.2	-.3	0.0	-.2	0.3	0.0	0.1
08:12:42	57096.6	0.2	0.3	-.1	-.2	-.3	-.1	0.1	0.3	0.3
08:17:42	57097.6	0.3	-.1	0.1	0.4	0.0	0.3	-.2	0.1	0.2
08:22:42	57098.9	0.1	-.3	-.4	-.1	0.0	-.1	-.1	0.2	-.2
08:27:42	57098.1	0.3	-.3	0.8	-.2	-.6	-.5	-1.1	-.5	-.5
08:32:42	57095.9	0.7	0.8	0.9	1.1	0.6	0.4	0.2	-.5	-.4
08:37:42	57099.1	-.5	-.2	-.6	-.2	0.0	-.6	0.2	-.1	0.1
08:42:42	57097.1	-.1	0.3	0.2	0.2	0.3	0.0	0.2	-.1	-.1
08:47:42	57097.9	-.6	-.1	0.2	0.7	0.1	-.2	-.1	0.2	-.2
08:52:42	57097.6	-.3	-.3	0.0	0.0	0.2	0.1	0.4	-.1	0.6
08:57:42	57098.4	-.5	-.1	-.5	-.3	-.1	-.1	0.2	0.1	0.1
09:02:42	57097.4	0.3	0.5	-.2	-.4	-1.1	0.2	1.0	-.3	-.1
09:07:42	57097.7	0.7	0.9	-.5	-.7	-.9	-.9	-.1	0.1	0.4
09:12:42	57097.2	0.2	0.0	0.5	-.4	0.1	0.1	0.2	0.1	0.1
09:17:42	57097.8	0.4	0.1	-.1	-.2	0.4	-.3	0.1	0.2	0.0
09:22:42	57098.5	-.2	0.2	0.2	0.2	-.3	0.2	0.0	0.1	0.0
09:27:42	57098.9	0.0	0.0	0.1	0.0	0.1	-.8	0.6	0.3	-.1
09:32:42	57098.9	0.0	0.1	0.1	-.3	0.5	-.4	0.4	-.4	0.0
09:37:42	57098.9	0.0	-.4	0.1	0.3	0.0	0.0	0.2	-.1	-.4
09:42:42	57099.3	0.1	-.1	0.3	-.2	0.0	-.2	-.3	0.0	-.3
09:47:42	57098.7	0.1	-.5	0.6	-.1	0.3	-.1	0.1	-.2	0.2
09:52:42	57098.6	0.3	-.3	-.1	0.3	0.0	-.5	0.0	0.0	-.3
09:57:42	57098.1	0.1	-.2	-.2	-.4	0.0	0.1	-.5	0.0	-.1
10:02:42	57096.1	-.1	0.0	-.1	0.0	-.2	0.0	-.6	-.3	-.1
10:07:42	57094.6	0.1	-.4	-.8	0.0	0.1	-.1	0.0	-.4	-.1
10:12:42	57093.2	-.3	-.1	-.7	0.4	-.6	0.0	0.0	-.7	-.5
10:17:42	57091.3	-.4	-.5	-.3	0.2	-.8	0.4	0.1	0.1	-.6
10:22:42	57089.1	-.3	-.3	-1.0	-.3	0.0	0.3	0.5	0.5	-.1
10:27:42	57088.0	0.0	-.1	0.0	-.5	0.4	-.1	-.4	-.4	-.9
10:32:42	57087.2	0.0	0.3	-.3	0.0	-.4	-.1	0.3	0.0	1.7
10:37:42	57090.2	-.4	0.3	0.4	0.2	-.6	-1.2	-.3	-.8	-.1
10:42:42	57087.9	0.7	0.3	0.4	0.3	0.3	0.0	0.6	0.5	-.6
10:47:42	57090.0	-.1	-.6	-.9	-.2	-.1	0.4	0.8	0.5	0.9
10:52:42	57090.9	1.1	0.2	0.0	-.5	0.1	-1.0	1.4	-.3	-.6
10:57:42	57091.7	0.6	-.7	0.3	-.2	0.3	-.4	0.1	0.4	-.5
11:02:42	57091.6	-.4	0.5	-1.1	0.3	-.3	0.2	0.2	-.8	-.2
11:07:42	57090.2	0.7	-.5	-.3	0.6	0.1	-.6	0.0	0.0	-.2

11:22:42	57086.9	-.1	0.0	0.3	-.6	0.0	-1.0	-.6	-.9	-.4
11:27:42	57083.3	-.5	0.2	0.1	-.1	-.5	1.0	0.4	-.6	-.3
11:32:42	57083.5	-.7	0.1	-.2	-.3	-.1	-.3	0.2	-.6	0.2
11:37:42	57081.3	-.9	-.4	-.4	-.4	-.3	0.6	0.3	1.1	0.3
11:42:42	57081.7	-.4	0.5	0.5	-2.7	0.8	0.1	-.4	0.9	0.2
11:47:42	57081.7	-.8	1.3	0.2	0.3	-.5	-.3	0.4	0.2	-.4
11:52:42	57081.9	0.1	-.4	0.2	-.2	0.2	0.0	-.1	0.3	0.0
11:57:42	57082.6	-.1	0.6	0.0	-.1	-.2	0.7	0.0	0.5	0.0
12:02:42	57084.3	-.3	-.2	0.1	0.2	-.5	0.0	0.3	-.4	0.3
12:07:42	57083.7	0.1	-.2	-.1	-.1	-.1	0.0	0.1	-1.0	0.3
12:12:42	57082.6	0.2	-.7	0.4	0.1	0.3	0.1	-.1	-.1	0.1
12:17:42	57082.6	0.1	-.6	0.3	-.8	0.4	0.7	0.4	-.2	0.1
12:22:42	57083.1	0.1	0.1	0.6	-.1	0.3	-.1	-.1	0.0	-.3
12:27:42	57083.7	-.3	0.0	-.1	-.4	0.0	0.2	-.1	-.1	-.2
12:32:42	57082.8	0.5	0.0	0.1	-.1	-.6	0.6	0.5	-.4	0.4
12:37:42	57083.9	-.2	0.0	0.0	0.1	0.1	0.4	-.5	0.0	0.1
12:42:42	57084.4	-.1	-.5	0.2	-1.5	1.1	0.2	-.8	0.8	-.4
12:47:42	57083.5	-.3	0.5	-.6	0.4	-.6	0.4	0.4	0.3	-.1
12:52:42	57084.1	1.4	-.8	0.2	0.1	-.5	-.2	0.4	-.7	-.8
12:57:42	57083.1	0.0	-.1	-.7	0.9	0.2	0.2	-.1	0.5	0.6
13:02:42	57081.8	2.1	0.1	0.8	-.7	-.6	-.2	-.2	0.4	0.1
13:07:42	57083.7	-.2	0.6	0.7	0.2	0.6	0.9	-.1	-.4	0.3
13:12:42	57086.3	-.4	0.5	-.7	0.1	-.8	-.1	-.1	0.8	-.6
13:17:42	57084.5	0.0	0.6	-1.0	0.3	0.2	0.3	-.3	-.4	0.1
13:22:42	57084.3	1.1	-.7	0.4	0.4	0.2	0.3	0.2	0.1	0.1
13:27:42	57086.4	0.5	-.6	0.2	-.5	-.3	0.6	0.3	0.0	-.5
13:32:42	57086.5	-.5	0.2	0.8	-.4	0.6	-.2	-.1	-1.2	0.2
13:37:42	57085.4	0.3	0.0	0.4	-.1	0.5	-.2	0.4	0.1	0.1
13:42:42	57086.9	-.3	0.4	-.2	0.3	0.2	0.2	0.1	0.0	-.2
13:47:42	57087.6	0.0	0.1	0.0	0.0	0.1	0.9	-.4	0.3	0.3
13:52:42	57088.7	0.4	-.1	-1.4	1.5	-.1	0.5	0.7	0.1	0.0
13:57:42	57090.7	-.7	0.4	-.1	0.0	-.1	0.2	0.7	-1.6	-.1
14:02:42	57089.8	-.3	0.0	0.1	0.0	0.1	-.3	-.1	-.3	-3.4
14:07:42	57084.9	-.3	0.0	0.6	-.3	0.4	0.1	-.2	0.0	-.8
14:12:42	57085.5	-1.0	-.1	0.2	-.3	0.2	0.4	-.2	0.1	-.5
14:17:42	57084.6	-1.3	1.3	-.5	0.6	-.7	-.3	-.4	-.4	0.8
14:22:42	57083.2	-.1	0.3	0.3	0.5	0.4	0.2	-.2	0.4	0.1
14:27:42	57085.5	-.6	-.5	0.5	1.2	-.2	0.5	0.6	0.1	-.4
14:32:42	57086.2	0.7	0.5	-.2	-.2	0.4	-.4	-.4	0.1	-.4
14:37:42	57086.7	0.0	0.3	0.5	-.2	0.9	1.0	0.0	0.4	0.1
14:42:42	57076.7	-1.4	0.2	0.6	-.5	0.0	0.1	0.5	0.2	0.1
14:47:42	57076.5	0.5	-.8	0.6	0.3	0.1	0.2	0.4	-.1	-.1
14:52:42	57077.9	0.4	-.1	15.8	2.3	-.4	0.3	-.1	0.4	0.4
14:57:42	57096.4	0.6	0.1	0.1	0.2	0.3	-.3	-.2	0.3	0.6
15:02:42	57098.2	-.2	0.4	-.2	1.0	0.6	-.2	-.1	0.2	-.1
15:07:42	57099.6	0.2	-.6	1.0	-.5	0.8	-.5	0.1	-.2	-.3
15:12:42	57099.0	0.4	0.2	0.7	0.1	0.1	-.5	0.4	0.5	0.0
15:17:42	57102.2	0.5	0.5	-.2	-.5	0.1	0.4	0.2	0.2	-.5
15:22:42	57102.9	0.5	-.1	0.0	0.3	0.0	0.0	0.0	-.2	0.1
15:27:42	57104.3	0.1	0.1	0.2	-.3	0.1	-.3	0.0	-.1	-.2
15:32:42	57103.8	-.4	-.1	0.4	-.1	-.3	0.0	-.2	0.2	0.3
15:37:42	57103.8	-.3	0.1	0.3	-.5	0.4	-.8	0.1	0.0	0.3
15:42:42	57102.9	-1.5	1.3	0.6	-.1	-.1	0.1	0.4	-.4	0.1
15:47:42	57103.2	0.0	-.7	0.2	0.3	-.5	0.1	0.2	-.4	-.3
15:52:42	57101.8	-.1	0.1	0.2	-.5	0.3	0.3	0.0	-.2	-.2
15:57:42	57102.2	-.5	0.2	-.1	0.5	-.1	0.3	0.0	0.2	0.3
16:02:42	57102.8	0.4	0.0	-.3	0.2	0.3	0.6	0.2	0.1	0.1
16:07:42	57104.8	-.1	-.4	0.3	-.5	0.4	0.1	0.5	0.2	-.2
16:12:42	57105.2	0.1	0.4	0.0	-.3	0.0	-.2	-.1	0.3	-.5
16:17:42	57104.9	0.3	0.1	0.4	0.4	0.2	-.4	0.5	0.2	0.3
16:22:42	57107.1	0.4	-.5	0.4	0.7	-.2	0.3	0.4	0.3	-.3
16:27:42	57108.6	0.5	-.2	0.5	-.7	0.6	0.3	0.6	-.1	0.2
16:32:42	57110.0	0.3	-.6	-.1	-.4	0.9	-.2	0.2	0.0	-.7
16:37:42	57109.8	-.7	-.2	0.3	0.0	-.1	-.3	0.7	0.1	0.2
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

16:52:42	57110.6	0.6	0.4	-.1	0.2	0.2	0.4	-1.1	-.1	0.3
16:57:42	57111.3	0.1	-.8	0.1	0.9	0.2	-.3	0.2	0.1	-.2
17:02:42	57111.2	-.1	0.3	0.2	0.0	-.4	0.4	-.5	0.5	0.4
17:07:42	57111.9	0.5	0.2	-.2	0.5	-.5	0.3	0.1	-.2	-.8
17:12:42	57111.8	-.5	-.7	-.6	0.2	-3.7	-9.2	-.1	0.0	0.3
17:17:42	57097.0	-.4	0.2	0.4	-.6	0.5	-2.8	-.5	2.7	