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Gold Commissioner's Office  
VANCOUVER, B.C.

**REPORT ON THE  
2001 EXPLORATION PROGRAM**

**THE CHAPPELLE MINERAL CLAIMS**

**TOODOGGONE AREA  
OMINECA MINING DISTRICT  
BRITISH COLUMBIA**

**N.T.S. 94E/6E  
LATITUDE 57° 17' N  
LONGITUDE 127° 06' W**

**FOR  
SABLE RESOURCES LTD.**

**BY  
E.W. CRAFT, P. ENG.  
MANAGER**

**FEBRUARY, 2002**

**GEOLOGICAL SURVEY BRANCH  
ASSESSMENT REPORT**

26,815

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**SUMMARY**

The 2001 exploration program carried out by Sable Resources Ltd. on its Chappelle property consisted of 3.12 kilometers of IP geophysical survey and 416.65 meters of NQ diamond drilling.

The IP survey was carried out by Geotronics Surveys Ltd. and expanded on the 2000 survey.

The IP surveys located several targets, which are all on the Mineral Lease No. 13.

The diamond drilling tested two of the IP targets.

A significant quartz vein was intersected in one of the targets but it did not carry economic gold or silver values.

## **INTRODUCTION**

The 2001 exploration program carried out by Sable Resources Ltd. was concentrated on the Mineral Lease No. 13 on the Chappelle property.

The program started May 29 and ended September 27, 2001. The exploration crew was under the direction of the writer.

Camp preparation and road overhaul was carried out in the early part of the program. This work involved replacing worn out culverts on the road to the camp site. This work was necessary to supply the camp and allow access to the exploration sites allowing for an orderly and cost effective exploration program.

The first diamond drill hole (DD-01-04) was an NQ hole drilled into a 2000 IP drill target (the **Sandy Zone**). This work took place from June 16 – 21, 2001.

All diamond drilling was carried out drilling one 10 hour shift per day.

A 3.12 km IP geophysical survey program was carried out under the direction of David Mark, P. Geo. from August 14 – 23, 2001.

Four more NQ diamond drill holes (DD-01-05 to DD-01-08) were drilled during the period from September 10 – 24, 2001 into a 2001 IP drill target (the **TD Zone**).

As well as the exploration program, the Company processed ore through the Baker Mill for two short periods in July and August, 2001. Production of approximately 1440 tons of ore was gleaned from Veins "A" and "B".

## **LOCATION, ACCESS AND PHYSIOGRAPHY**

The Chappelle property is located in the Mackenzie Basin in the Toodoggone area of north central British Columbia and is 27 miles north of the Kemess Project, formerly owned and operated by Royal Oak Mines (Figures 1 and 2). The Shasta property is located 7 miles south of and contiguous to the Chappelle property. The properties are located some 170 miles north of Smithers with road access from Mackenzie and Fort St. James. Air access via fixed wing aircraft is available to the Sturdee Airstrip, 7 miles from the Chappelle property and the adjacent Baker Mill owned by Sable Resources Ltd.

The Toodoggone area topography is moderately rugged with elevations ranging from 1,400 meters above sea level on the valley floors to nearly 2,000 meters. Locally dense alpine spruce and fir extend from the valley floors to about 1,600 meters elevation above which is typical open alpine country featuring grasses and small shrubs. The valley floors are mainly open alpine and tundra, locally covered by buckbrush and willows. Bedrock exposures are confined to drainages, steeper slopes and ridge crests.

The mean annual precipitation ranges from 50 to 75 cm, most of this occurring as rainfall during the summer months. Average temperatures vary from -20 C in winter to +12C in summer. Snow can be persistent at higher elevations until late June.

## PROPERTY

The Chappelle and Shasta properties consists of 112 mineral claims (220 units) and two mining leases located in the Omineca Mining Division. Sable Resources Ltd. is the 100% owner of 27 mineral claims (120 units) and one mining lease. Multinational Mining Inc., a wholly owned subsidiary of Sable, is the 100% owner of 85 mineral claims (100 units) and one mining lease.

The configuration of the mineral claims and mining leases is shown on Figures 3 and details are as follows:

<b>Claim Name</b>	<b>Record No.</b>	<b>Units</b>	<b>Expiry Date</b>	<b>Owner</b>
Chappelle No. 256	245281	1	November 30, 2005	Sable
Chappelle No. 257	245282	1	November 30, 2005	Sable
Chappelle No. 258	245283	1	November 30, 2005	Sable
Chappelle No. 259	245284	1	November 30, 2005	Sable
Chappelle No. 260	245285	1	November 30, 2005	Sable
Chappelle No. 261	245286	1	November 30, 2005	Sable
Chappelle No. 262	245287	1	November 30, 2005	Sable
Chappelle No. 263	245288	1	November 30, 2005	Sable
Mosley 1	350369	18	November 30, 2005	Sable
Mosley 2	350640	16	November 30, 2005	Sable
Kevin 1	350641	1	November 30, 2005	Sable
Kevin 2	350642	1	November 30, 2005	Sable
Wild Rose 1	351161	1	November 30, 2005	Sable
Wild Rose 2	351162	1	November 30, 2005	Sable
Wild Rose 3	351163	1	November 30, 2005	Sable
Wild Rose 4	351164	1	November 30, 2005	Sable
Wild Rose 5	351165	1	November 30, 2005	Sable
Wild Rose 6	351166	1	November 30, 2005	Sable
Dave Price	238594	6	November 30, 2005	Sable
Shasta 2	239540	10	November 30, 2005	Sable
Shasta 3	238637	18	November 30, 2005	Sable
Shasta 4	238638	12	November 30, 2005	Sable
Shasta 5	238679	6	November 30, 2005	Sable
Shasta 6	241277	4	November 30, 2005	Sable
Shasta 7	241280	12	November 30, 2005	Sable
Crusher	363284	1	May 29, 2005	Sable
Mill	363285	1	May 29, 2005	Sable
Mineral Lease #13	243451		June 13, 2002	Sable
Chappelle No. 12	244952	1	November 30, 2005	Multinational
Chappelle No. 14	244954	1	November 30, 2005	Multinational
Chappelle No. 15	244955	1	November 30, 2005	Multinational
Chappelle No. 16	244956	1	November 30, 2005	Multinational
Chappelle No. 21	244961	1	November 30, 2005	Multinational
Chappelle No. 22	244962	1	November 30, 2005	Multinational
Chappelle No. 25	244963	1	November 30, 2005	Multinational
Chappelle No. 26	307067	1	November 30, 2005	Multinational
Chappelle No. 27	244964	1	November 30, 2005	Multinational
Chappelle No. 28	244965	1	November 30, 2005	Multinational

<b>Claim Name</b>	<b>Record No.</b>	<b>Units</b>	<b>Expiry Date</b>	<b>Owner</b>
Chappelle No. 29	244966	1	November 30, 2005	Multinational
Chappelle No. 30	244967	1	November 30, 2005	Multinational
Chappelle No. 37	307066	1	November 30, 2005	Multinational
Chappelle No. 38	244972	1	November 30, 2005	Multinational
Chappelle No. 39	244973	1	November 30, 2005	Multinational
Chappelle No. 40	244974	1	November 30, 2005	Multinational
Chappelle No. 41	244975	1	November 30, 2005	Multinational
Chappelle No. 42	244976	1	November 30, 2005	Multinational
Chappelle No. 43	245059	1	November 30, 2005	Multinational
Chappelle No. 44	245060	1	November 30, 2005	Multinational
Chappelle No. 45	245061	1	November 30, 2005	Multinational
Chappelle No. 46	245062	1	November 30, 2005	Multinational
Chappelle No. 47	245063	1	November 30, 2005	Multinational
Chappelle No. 48	245064	1	November 30, 2005	Multinational
Chappelle No. 49	245166	1	November 30, 2005	Multinational
Chappelle No. 50	245167	1	November 30, 2005	Multinational
Chappelle No. 51	245168	1	November 30, 2005	Multinational
Chappelle No. 52	245169	1	November 30, 2005	Multinational
Chappelle No. 53	245170	1	November 30, 2005	Multinational
Chappelle No. 54	245171	1	November 30, 2005	Multinational
Chappelle No. 59	245212	1	November 30, 2005	Multinational
Chappelle No. 60	245213	1	November 30, 2005	Multinational
Chappelle No. 61	245214	1	November 30, 2005	Multinational
Chappelle No. 62	245215	1	November 30, 2005	Multinational
Chappelle No. 63	245216	1	November 30, 2005	Multinational
Chappelle No. 64	245217	1	November 30, 2005	Multinational
Chappelle No. 65	245218	1	November 30, 2005	Multinational
Chappelle No. 66	245219	1	November 30, 2005	Multinational
Chappelle No. 67	245220	1	November 30, 2005	Multinational
Chappelle No. 68	245221	1	November 30, 2005	Multinational
Chappelle No. 69	245222	1	November 30, 2005	Multinational
Chappelle No. 70	245223	1	November 30, 2005	Multinational
Chappelle No. 79	245224	1	November 30, 2005	Multinational
Chappelle No. 80	245225	1	November 10, 2005	Multinational
Chappelle No. 81	245226	1	November 10, 2005	Multinational
Chappelle No. 82	245227	1	November 10, 2005	Multinational
Chappelle No. 83	245228	1	November 10, 2005	Multinational
Chappelle No. 84	245229	1	November 10, 2005	Multinational
Chappelle No. 85	245230	1	November 10, 2005	Multinational
Chappelle No. 86	245231	1	November 10, 2005	Multinational
Chappelle No. 87	245232	1	November 10, 2005	Multinational
Chappelle No. 88	245233	1	November 10, 2005	Multinational
Chappelle No. 89	245234	1	November 30, 2005	Multinational
Chappelle No. 90	245235	1	November 30, 2005	Multinational
Chappelle No. 94	245289	1	November 30, 2005	Multinational
Chappelle No. 95	245290	1	November 30, 2005	Multinational
Chappelle No. 96	245291	1	November 30, 2005	Multinational
Chappelle No. 97	245292	1	November 30, 2005	Multinational

Claim Name	Record No.	Units	Expiry Date	Owner
Chappelle No. 98	245293	1	November 30, 2005	Multinational
Chappelle No. 99	245294	1	November 30, 2005	Multinational
Chappelle No. 100	245295	1	November 30, 2005	Multinational
Chappelle No. 109	245296	1	November 30, 2005	Multinational
Chappelle No. 110	245297	1	November 30, 2005	Multinational
Chappelle No. 111	245298	1	November 30, 2005	Multinational
Chappelle No. 112	245299	1	November 30, 2005	Multinational
Chappelle No. 113	245300	1	November 30, 2005	Multinational
Chappelle No. 114	245301	1	November 30, 2005	Multinational
Chappelle No. 115	245302	1	November 30, 2005	Multinational
Chappelle No. 118	245244	1	November 30, 2005	Multinational
Chappelle No. 119	245245	1	November 30, 2005	Multinational
Chappelle No. 120	245246	1	November 30, 2005	Multinational
Chappelle No. 121	245247	1	November 30, 2005	Multinational
Chappelle No. 157	245253	1	November 30, 2005	Multinational
Chappelle No. 159	245255	1	November 30, 2005	Multinational
Chappelle No. 171	245265	1	November 30, 2005	Multinational
Chappelle No. 186	245273	1	November 30, 2005	Multinational
Chappelle No. 188	245274	1	November 30, 2005	Multinational
Chappelle No. 245	245236	1	November 30, 2005	Multinational
Chappelle No. 246	245237	1	November 30, 2005	Multinational
Chappelle No. 247	245238	1	November 30, 2005	Multinational
Chappelle No. 248	245239	1	November 30, 2005	Multinational
Chappelle No. 249	245240	1	November 30, 2005	Multinational
Chappelle No. 250	245241	1	November 30, 2005	Multinational
CW #1 FR.	245750	1	November 30, 2005	Multinational
Heck 1	358218	16	November 30, 2005	Multinational
Mineral Lease #49	243454		September 10, 2002	Multinational

## HISTORY

### Area History

The Toodoggone River area was initially investigated for placer gold in the 1920's. Considerable work was carried out near the junction of McClair Creek and Toodoggone River in 1934. The lode potential of the area was also investigated in the 1930's. Intermittent exploration work continued in the region until the 1960's when it was investigated by a number of companies for porphyry copper potential.

Gold-silver mineralization in quartz veins was recognized at the Chappelle property by Kennco Exploration (Western) Ltd. in 1969. The property was acquired by DuPont of Canada Exploration Ltd. in 1974 and placed in production in 1981 (Baker Mine). DuPont produced 95,000 tons at 100 tons per day from the gold-silver-copper Vein "A" deposit on this property from 1981-83. The production graded an equivalent value of 0.9 oz. of gold per ton.



## Property History

### Chappelle Property

The Chappelle property was acquired by Multinational Resources Inc. from DuPont in 1985 and over the next 3 years extensive exploration by Multinational was carried out on the Vein "B" deposit which outlined an accessible 20,000 tons of ore grading 0.5 oz. gold, 5 oz. silver and 1% copper per ton. In 1991, Sable arranged with Multinational to mine and mill the Vein "B" deposit and processed 17,250 tons of ore intermittently to 1997. The operation was initially by underground methods of mining and reverted to surface and open pit methods due to the very unstable ground conditions. The gold-silver-copper concentrate last produced in 1997 averaged 15 oz. gold, 101 oz. silver and 7% copper per dry ton (1996 - 24 oz. gold, 240 oz. silver and 15% copper per dry ton). Although much of the exploration between 1985 and 1988 on the Chappelle property focused on the immediate area of the Vein "B" deposit, several surveys were carried out on the peripheral mineral claims and in 1989 Multinational carried out an extensive exploration program consisting of 15 kilometers of VLF/Mag geophysics, trenching and the analysis of 653 soil and 316 rock samples. The 1989 program was successful in discovering seven new areas of gold mineralization which warranted drill testing of the target areas. These targets areas were the "B" Vein Offset, West Cirque Zone, Peter's Gulch Showing, Price Zone, Northwest Zone, Mt. Shasta Area, Clancey-North Black Gossan Zone (Delancey, 1989). In 1996, Sable acquired the Chappelle property by the acquisition of Multinational Mining Inc., a private company and now a wholly owned subsidiary of Sable.

### Shasta Property

The Shasta property was staked in 1972 by International Shasta Resources Ltd. when interest in the area was sparked by the discovery and development of the Baker Mine by DuPont of Canada Exploration Ltd. Geochemical, geophysical and geological surveys were carried out between 1973 and 1975. In 1983, Newmont Exploration Canada Ltd. optioned the property and during the next two years staked additional claims. Newmont's extensive exploration identified the Creek Zone and two other mineralized structures, the Rainier and Jock Zones. Esso Minerals Canada Ltd. optioned the property in 1987 and carried out two seasons of extensive exploration with the main result of this work being the discovery of the JM and O Zones. Homestake Canada Ltd. took over Esso's interest in the Shasta property in 1989 and carried out extensive exploration programs over 1989 - 1990. In addition to the exploration program operated by Homestake, International Shasta and Sable Resources Ltd. mined and processed 117,000 tons of ore from the Creek, JM and D Zones. The initial 1989 open-pit operation shifted to an underground operation in 1990 and production from the JM and D deposits averaged 50,000 tons each with ore grades of 0.25 oz gold and 17 oz. silver per ton. Mill production at Sable's Baker Mill was initially 100 tons per day and ultimately increased to 250 tons per day by 1991. In 1994, Sable acquired 100% ownership of the Shasta mineral claims and mining lease. Two small drill programs were carried out by Sable in 1994 and 1995 with no further ore grade zones delineated.

## **GEOLOGY**

### **Regional Geology**

The Toodoggone River area lies within the Stikine Terrane on the eastern margin of the Intermontaine Belt, in the Cassiar-Omineca Mountains (Figure 3). This 2 - 20 kilometer wide, northwesterly belt extends 90 kilometers from Thutade Lake on the south to the Stikine River on the north.

The oldest rocks in the area are the Permian Asitka Group limestones, which are in thrust contact with Upper Triassic Stuhini Group volcanics. Stuhini Group rocks are dominantly alkaline to sub-alkaline, submarine, mafic flows and derived sediments. Unconformably overlying the Stuhini Group are Lower to Middle Jurassic Hazelton Group rocks representing a probable island-arc sequence of volcanics and associated sediments. The Jurassic Toodoggone volcanic rocks represent a distinct Quartz-bearing facies of the Hazelton Group and comprise dominantly calc-alkaline, intermediate to felsic subaerial volcanic rocks and associated sediments. The youngest rocks in the area are chert-pebble conglomerates and sandstones of the Tertiary to Cretaceous Sustut Group, which unconformably overlies the Toodoggone volcanics. Lower Jurassic to Upper Triassic Omineca plutonic rocks, consisting of granodiorite and quartz monzonite, intrude the Stuhini and Toodoggone volcanics

Several precious metal epithermal vein deposits have been discovered in the Toodoggone area in the last two decades. These deposits are generally related to fault structures cutting Toodoggone volcanic rocks or older Takla rocks. The character of the deposits is generally related to the level of deposition within the hydrothermal system. Precious metal mineralization at the Baker Mine (Chappelle property) is hosted in quartz veins cutting Takla basic volcanic rocks. The Cheni Mine mineralization is largely in silicified zones and amythestine breccias. The Shasta Mine (Shasta property) is characterized by braided stockwork zones of quartz, calcite and potassic feldspar with grey sulphides and electrum.

The structure of the Toodoggone area is dominated by normal faults of Lower Jurassic to Tertiary age which have north-northwesterly to north-northeasterly trends. Some of the older faults are thought to have acted as conduits for mineralizing hydrothermal solutions (Schroeter, 1982). The proximity of mineral deposits to these regional structures is shown in Figure 4.

### **Property Geology**

#### **Chappelle Property**

The southwestern portion of the Chappelle property is underlain by Permian limestones which have been thrust over basic Takla volcanic rocks of Upper Triassic age. Rocks exposed in the northeast portion of the property are Toodoggone volcanics of the Jurassic Hazelton Group. The south-central area is cut by a large granitic stock. Contacts between the rock units are generally along northwest trending faults. The Takla volcanic rocks are mostly andesite pyroxene porphyry flows and breccias. Other lithologies include coarse fragmentals, bedded tuffs and argillites.

The Toodoggone volcanics consist of a moderately dipping package of calc-alkaline, felsic, subaerial rocks characterized by dacite, lapilli tuff and quartz-feldspar porphyry. The Toodoggone

rocks have been divided into 24 stratigraphic units (H. Marsden, 1988). The uppermost unit is the Saunders grey dacite. This unit, and the underlying Hornblende-Feldspar Porphyry Flow unit, cover much of the northeastern portion of the Chappelle property. The extrusion of the Saunders grey dacite is separated from the rest of the Toodoggone volcanic activity by a hiatus that coincided with the end of significant gold mineralization. Mapping has indicated little difference between the dacite and porphyry flows. The quartz content varies locally.

Prominent quartz-sericite-chlorite-pyrite gossanous alteration zones occur throughout the area. Precious metal mineralization occurs along, or closely associated with, steeply dipping fault structures. On the Chappelle property, the Baker system of quartz veins strike northeasterly. The Clancey and Peter's Gulch vein structures strike northwesterly. Rock adjacent to the veins, faults and fractures, show local silicification and sericitization. Alteration of feldspars to clay and the presence of quartz-carbonate-epidote veinlets increases with proximity to the structures. The quartz veins or quartz breccias frequently are vuggy.

Gold-silver mineralization is generally associated with pyrite, sphalerite, galena or chalcopyrite. However, there is no direct correlation between the presence of sulphides and the presence of precious metals.

#### Shasta Property

The Shasta property is underlain predominately by a succession of feldspar, quartz, biotite and hornblended crystal-rich pyroclastic and epiclastic rocks within the Toodoggone volcanics. In the Shasta deposit area these rocks have been informally termed the basal series, the pyroclastic series and the epivolcaniclastic series, based on differences in composition and depositional environments (Holbek, 1989). In general, the epivolcaniclastic rocks occur to the west and north of the Shasta deposit area, whereas the pyroclastic rocks host the mineralization and underlie most of the area immediately south and east of the Shasta deposit. The oldest rocks in the property area are pyroxene-feldspar-bearing basalt flows and derived fragmental rocks of the Upper Triassic Stuhini Group. These rocks are exposed on the extreme southern edge of the property, strike east-northeast and dip gently to the northwest. Unconformably overlying the Stuhini Group are a series of pyroclastic and epivolcaniclastic rocks termed the 'basal series', that are typical of Hazelton Group rocks. This unit consists of dark green lapilli tuffs characterized by quartz and feldspar phenocrysts less than 2 millimeters in diameter, and interbedded purple and green volcanic-derived sediments (Marsden and Moore, 1990).

The structure on the Shasta property is dominated by north to northwest trending normal and/or dextral block faulting. The rock units are gently tilted and lack any evidence of ductile deformation, although regionally, the Toodoggone volcanic rocks are reported to display broad open folds (Panteleyev, 1982). Tilting and rotation of the fault blocks and fracturing on the property is important because structural breaks controlled the initial emplacement and the subsequent displacement of mineralization.

Mineralization on the Shasta property, which consists of argentite, electrum, native silver and gold and minor amounts of sphalerite, galena and chalcopyrite, is hosted by structurally controlled quartz-carbonate, stockwork veins and breccia zones. The best precious metal grades typically occur within the breccias or adjacent areas of intense stockwork veins.

## **2001 EXPLORATION PROGRAM**

The 2001 exploration program was carried out totally within the Mineral Lease No. 13 on the Chappelle property mineral claims. The zones of interest with the shallowest, best alteration intensity and strike were selected for testing with diamond drilling in 2001. Many other targets indicated by the geophysical surveys carried out in 2000 and 2001 are too deep to be of interest for the immediate future.

### **The Sandy and TD Zones**

A total of 416.65 m of NQ diamond drilling in 5 holes was completed on the property during the year. The location of the holes are shown on Fig. 6. The drill core is stored at the Baker Mill site. The logs of the holes are contained in Appendix I.

Drill hole DD 01-04 was drilled to intersect an alteration zone (the **Sandy Zone**) located in the 2000 IP program. This hole hit alteration but no quartz vein.

Drill holes DD 01-05 and DD 01-06 were drilled to hit an alteration zone (the **TD Zone**) located in the 2001 IP program. Both of these holes hit a significant quartz vein which does not outcrop and is at about 30 meters below surface and opens to about 12 meters wide. The vein did not carry economically significant gold and silver values.

Drill holes DD 01-07 and DD 01-08 were drilled to intersect the vein located in DD 01-05 and DD 01-06 slightly down dip and to the southwest. Neither of these holes hit the vein so the structure is closed off in that direction.

The vein is still open to the northeast.

### **IP Geophysical Survey**

An IP geophysical survey was carried out on the Chappelle property by Geotronics Surveys Ltd. under the direction of David Mark, P. Geo.

A total of 3.12 line km of survey was done on 6 new lines and one extension on the "B" Vein slope. The location of the survey lines are shown on Fig. 6.

Several significant low resistivity areas were defined and represent alteration zones which will require testing, in order of importance, by a planned diamond drill program in 2002.

The results of the IP geophysical survey carried out in 2001 is contained in a report prepared by David G. Mark, P. Geo dated March 6, 2002 and is included in Appendix II.

**CONCLUSIONS**

The 2001 exploration season was somewhat constrained by limited funds.

Many targets defined by the 2000 and 2001 programs remain to be tested by the 2002 exploration program.

February 20, 2002

E.W. Craft, P. Eng.

### COST STATEMENT

1. Assays			65.00
2. Bulldozing, Trenching & Road Construction			
- 966 C Cat Loader	37 hrs. @ \$110.00	4,070.00	
- D8 Cat Tractor	36 hrs. @ \$145.00	5,220.00	
- Hitachi 200 Excav.	67 hrs. @ \$125.00	8,375.00	
- Site Personnel			
- K. Craft, C. Craft	- May 29 - June 24		
	- 23.25 days @	<u>7,996.11</u>	25,661.11
	\$173.00x2		
3. Surface Drilling			
- Sandy & TD Zone			
- 5 holes (416.65 m)	1354.11 ft. @ \$25.00		33,852.75
4. Geology			
- Consultants			
- M. Smith	- July 23-24, 2001		
	- 2.00 days @ \$500.	1,000.00	
	- Aug. 14-24		
	- 8.00 days @ \$500.	4,000.00	
	- Sept. 11-27		
	- 10.00 days @ \$500.	<u>5,000.00</u>	10,000.00
- Senior Supervision			
- E.W. Craft	- June 1-30 & Sept. 13-27		
	- 38.25 days @ \$200.		7,647.75
5. Geophysical	- Geotronics Surveys Ltd.		
	- IP Survey		21,975.00
6. Communications			443.40
7. Maps, Reports			4,720.17
8. Shipping & Freight			1,224.46
9. Field Supplies			127.66
10. Equipment Service			
- rental			898.80
- maintenance/repairs			2,410.65

**COST STATEMENT (cont'd)****11. Board & Lodging**

- May 29 - June 30	99 days (3)		
- July 23-24	1 day (1)		
- August 14-23	64 days (8)		
- Sept. 10-24	9 days (1)		
	<u>173 days @\$50.00/day</u>		8,650.00

**12. Transportation**

- On Site	2 - 4 x 4 x 1.66 mos. @\$940.00/mo.	3,120.80	
- To/From Site		4,843.17	7,963.97

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<b>TOTAL COSTS -</b>	<b>EXPLORATION</b>		<b>\$125,640.72</b>
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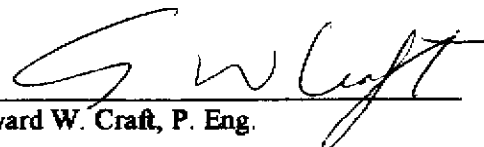
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### STATEMENT OF QUALIFICATIONS

I, Edward W. Craft, of the City of Castlegar, in the Province of British Columbia hereby certify as follows:

- 1) I am a Mining Engineer residing at 1070 Bridgeview Crescent, Castlegar, British Columbia VIN 4L1
- 2) I am a registered Professional Engineer of the Province of British Columbia.
- 3) I am a graduate of the University of British Columbia with a degree of B.A. Sc. (Mining) (1963).
- 4) I have practised my profession as a Mining Engineer for more than thirty years.
- 5) I have personally been on the property and directed the exploration program started on May 29, 2001 and completed on September 23, 2001.

FEB 28, 2002  
Date

  
Edward W. Craft, P. Eng.



**REFERENCES**

**Delancey, Peter R., (1989): 1989 Exploration Report on the Chappelle Property; a report for Multinational Resources Inc.**

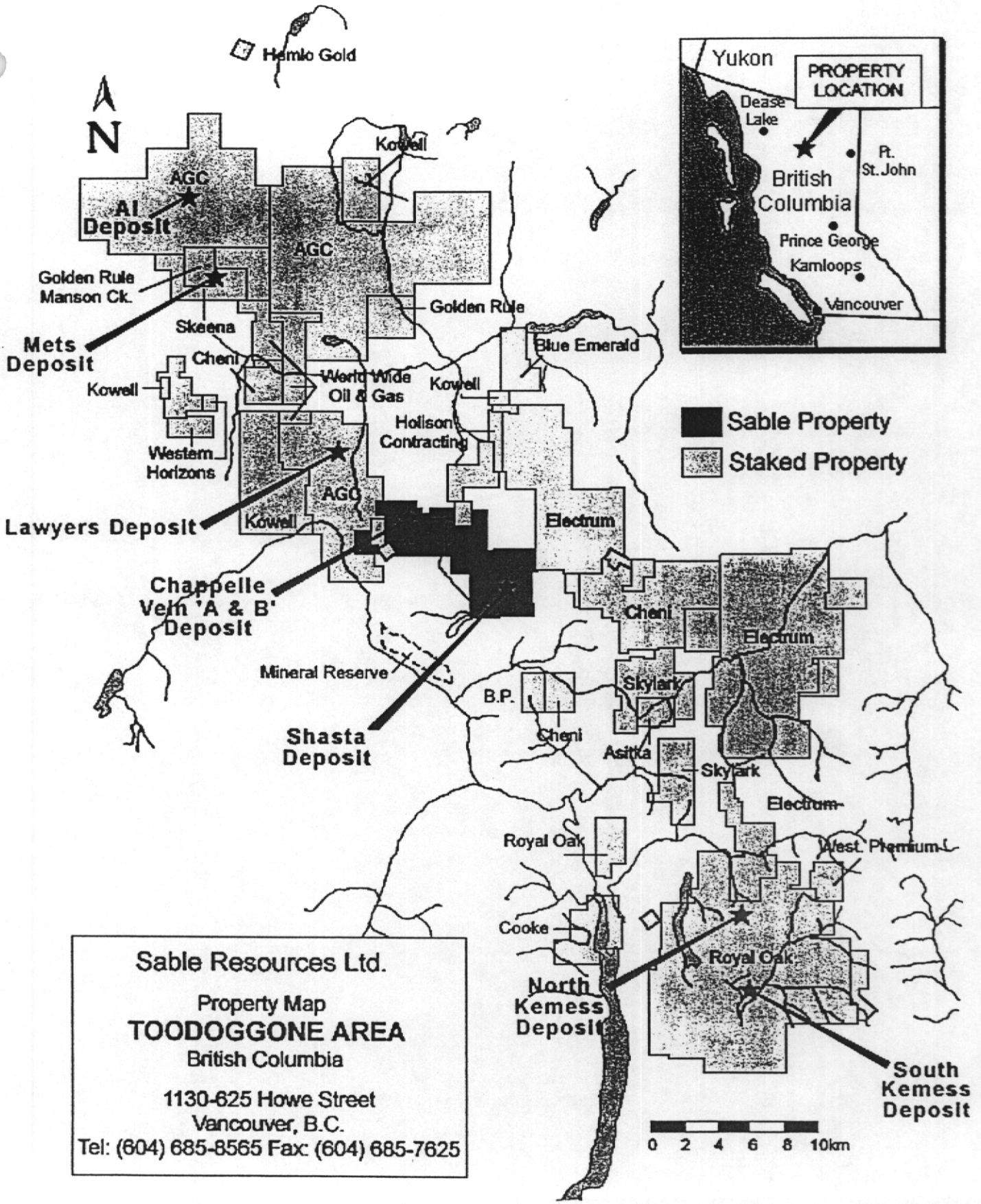
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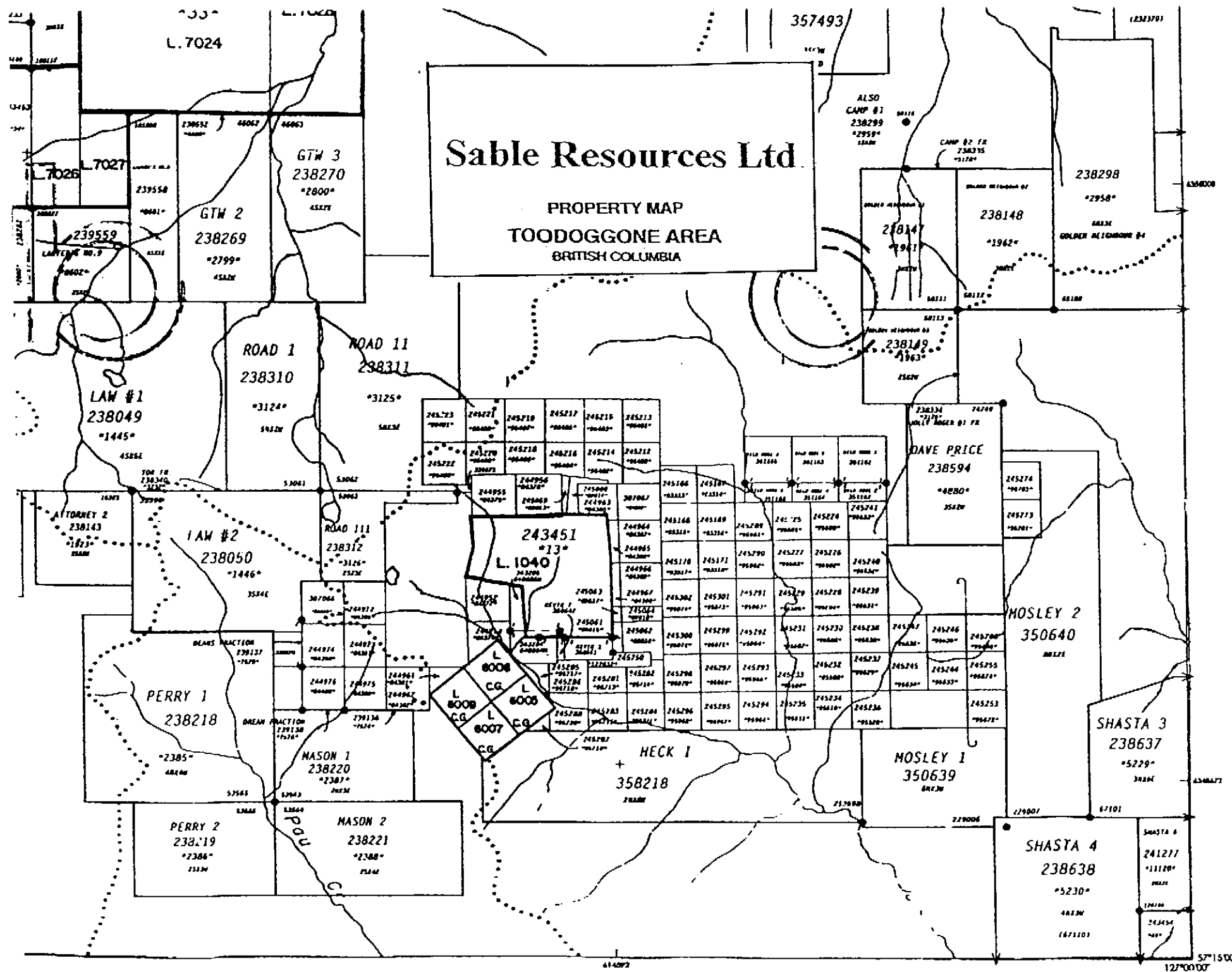
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**Sable Resources Ltd.**  
 Property Map  
**TOODOGGONE AREA**  
 British Columbia  
 1130-625 Howe Street  
 Vancouver, B.C.  
 Tel: (604) 685-8565 Fax: (604) 685-7625

Figure 1



**Sable Resources Ltd.**  
PROPERTY MAP  
TOODOGGONE AREA  
BRITISH COLUMBIA

MINERAL CLAIM	EXAMPLE
MINERAL LEASE	---
INDUSTRIAL MINERAL CLAIM	---
CLAIM NAME	EXAMPLE
TITLE NUMBER	345678
OLD TITLE NUMBER	3400
TAG NUMBER	100000
LEGAL POST	⊙
WITNESS POST	⊙
FORFEITED TENURE	⊖
VERIFIED	VER
SURVEYED	SUR
REVERTED C.G. MINERAL CLAIM	REV CG OR RCG
CROWN GRANTED	C.G.
OPEN FOR STAKING	O.F.S.



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

OP-4E11W	OP-4E11E	OP-4E10W
OP-4E04W	OP-4E04E	OP-4E17W
OP-4E23W	OP-4E02E	OP-4E23W

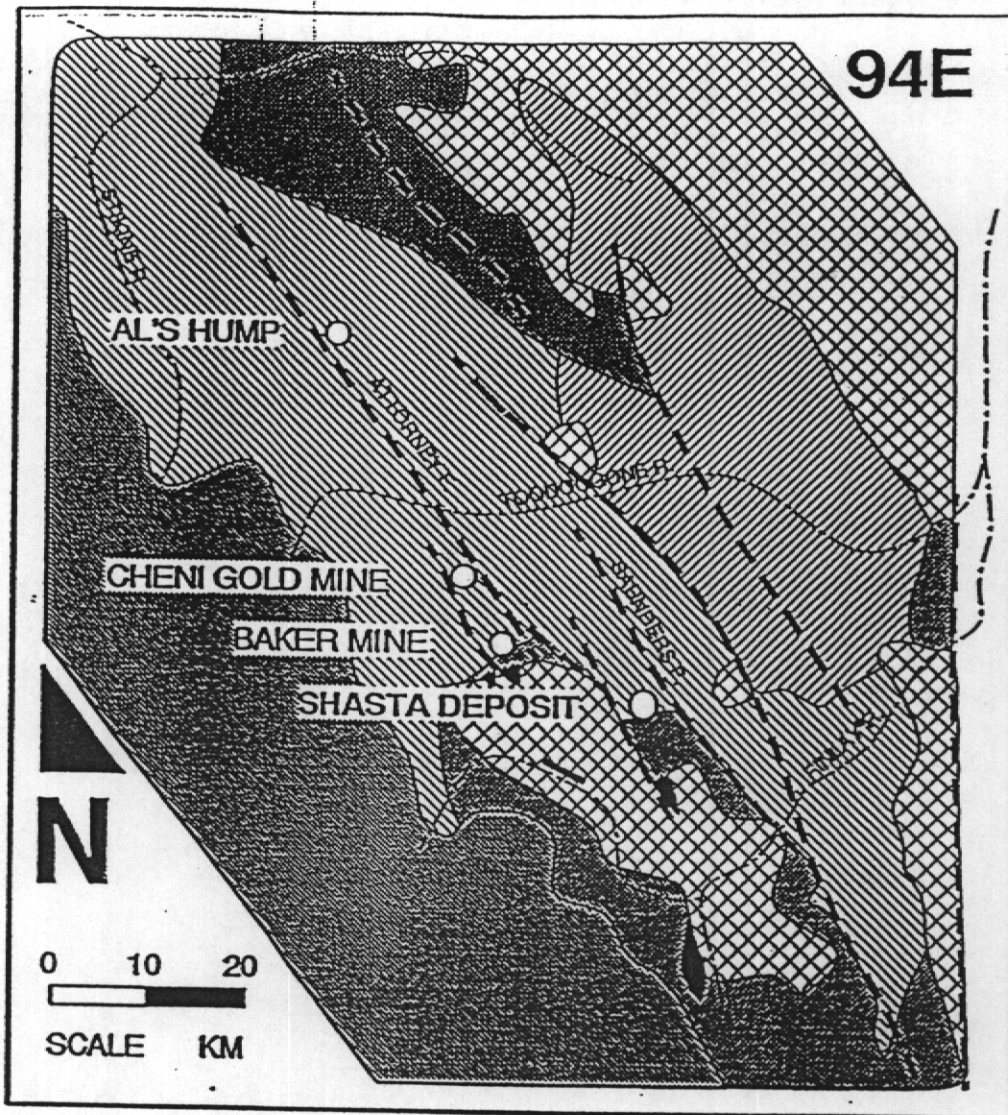
INDEX TO ADJOINING MAPS

M 094E06E

Figure 2

# TOODOGGONE REGIONAL GEOLOGY

94E

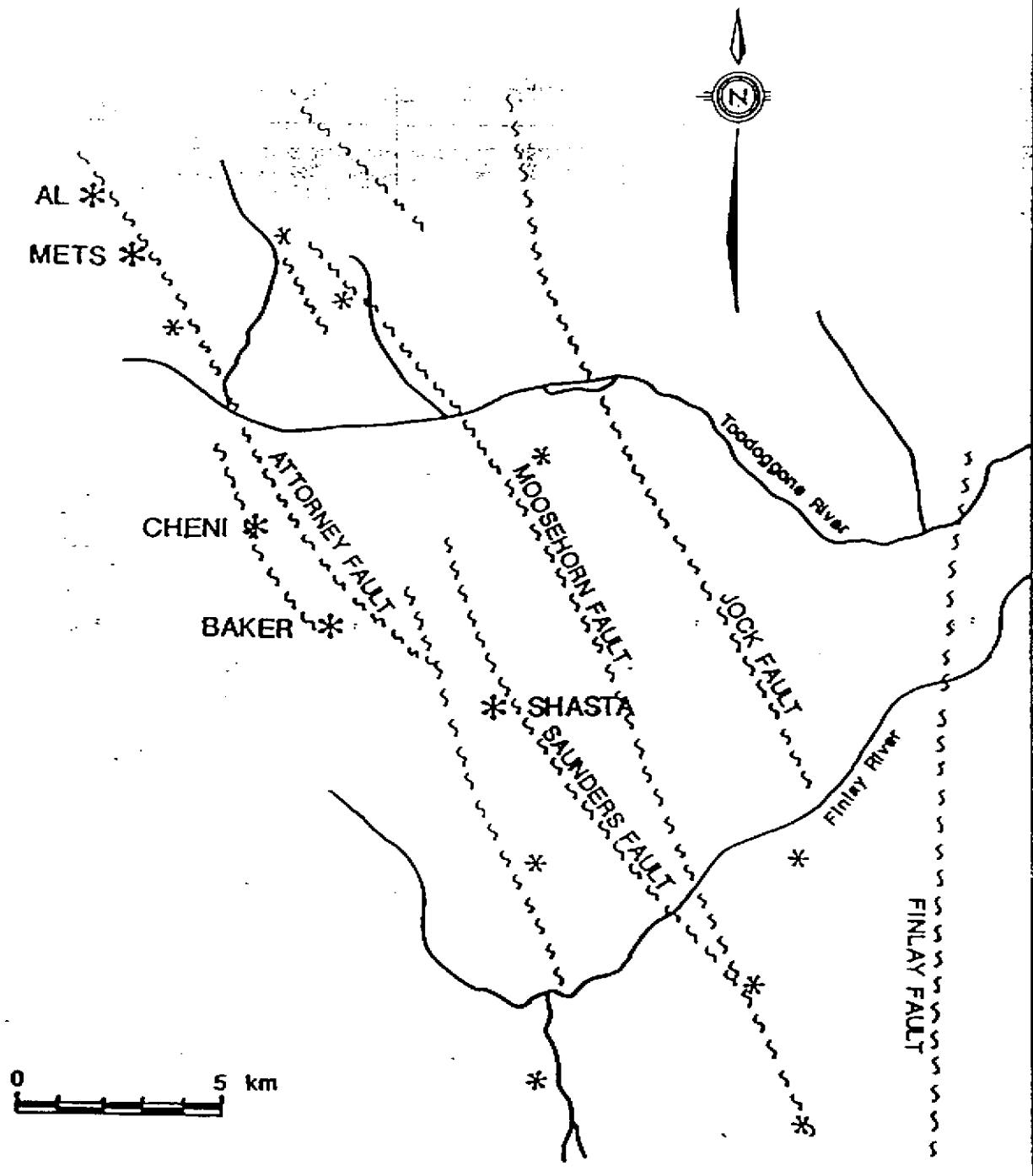


## LEGEND

- |                    |          |                          |       |
|--------------------|----------|--------------------------|-------|
| CRET - TERTIARY    |          | SUSTUT GROUP CLASTICS    |       |
| U TRI - L JURASSIC |          | OMINECA INTRUSIONS       |       |
| L-M JURASSIC       |          | HAZELTON GROUP VOLCANICS |       |
|                    |          | TOODOGGONE VOLCANICS     |       |
| TRIASSIC           |          | STUHINI GROUP VOLCANICS  |       |
| PERMIAN            |          | ASITKA GROUP LIMESTONE   |       |
|                    | AIRSTRIP |                          | FAULT |
|                    |          |                          | RIVER |

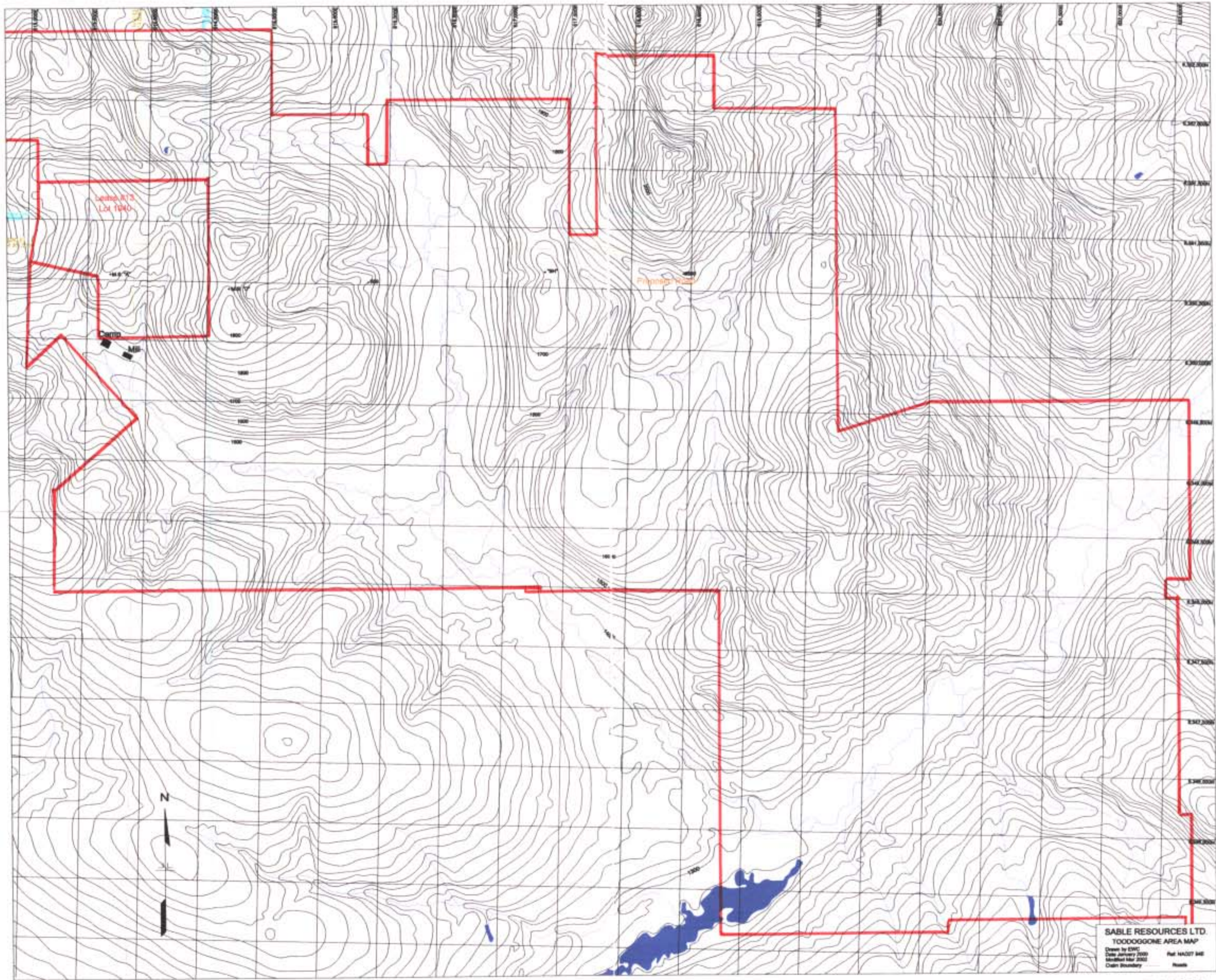
by P. Thiersch after Yulimuri et al. 1986.

Figure 3



<b>Sable Resources Ltd.</b>			
<b>TOODOGGONE AREA</b>			
Mineral Deposits and Regional Faults of the Toodoggone District			
DRAWN MDM	DATE 1V 90	NFS 94E/2,3	

Figure 4



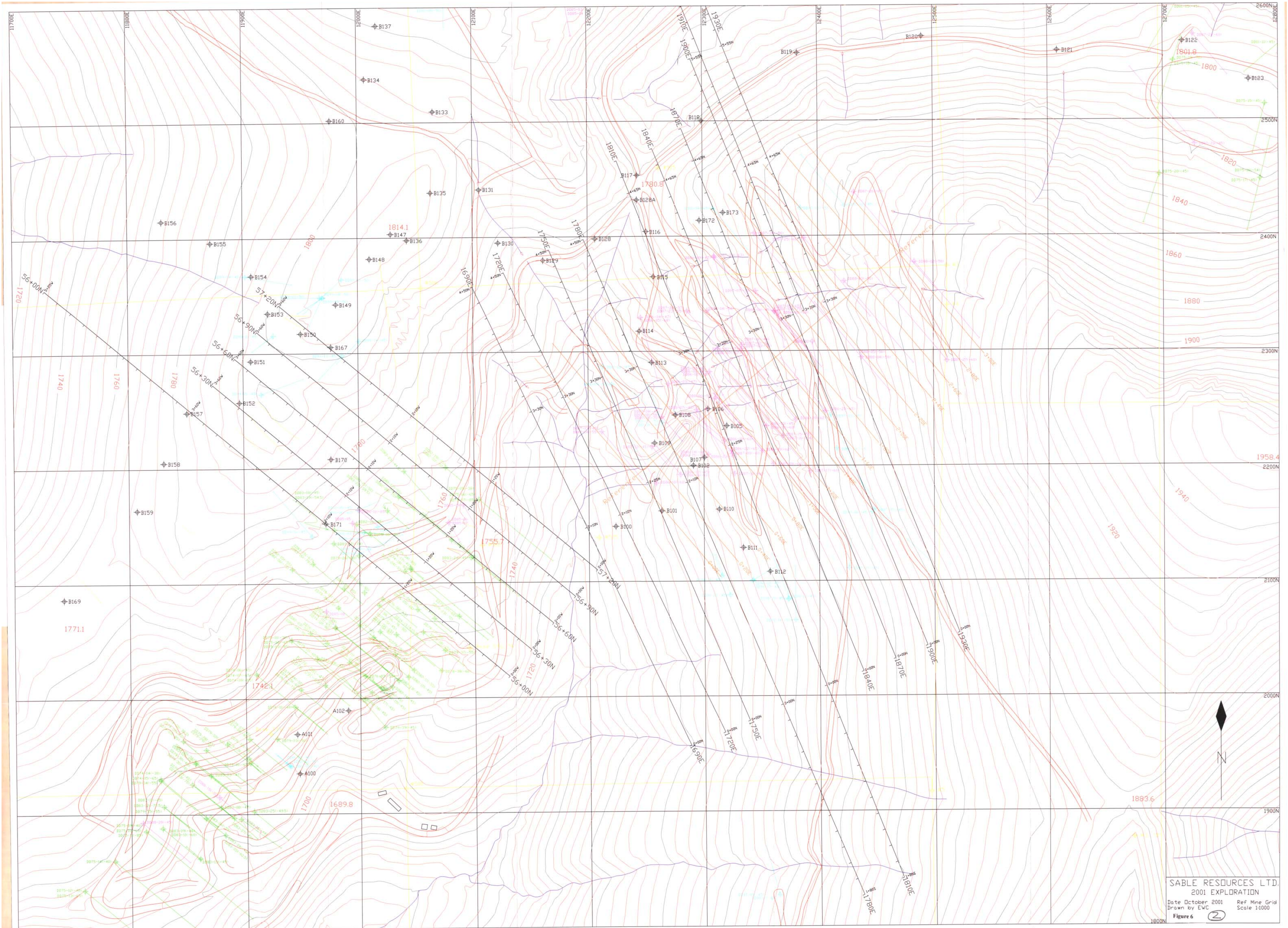
①

Scale 1:2500

Figure 5

GEOLOGICAL SURVEY BRANCH  
Accession # 26,915

26,915



SABLE RESOURCES LTD.  
2001 EXPLORATION  
Date October 2001 Ref Mine Grid  
Drawn by EWC Scale 1:1000  
Figure 6

## **APPENDIX I**



F. Marshall Smith Consulting

Drill Hole Record

Property Baker - Bzone Location Sandy zone  
 Start \_\_\_\_\_ End \_\_\_\_\_  
 % Recov 94.5 (calcd) Dip -6°  
 Coords \_\_\_\_\_

Div/Dist Omineca  
 Core Size NQ  
 Dip Test \_\_\_\_\_  
 Objective Sandy zone (NW ip anomaly) collar 1870E/10+20N on IP grid

Claim \_\_\_\_\_ Length 110.3  
 Bearing \_\_\_\_\_ Elevation 1804.14  
 Horizontal 2423.64 Vertical 12309.06

Interval		Description	Recovery		Depth		Sample %Rec	Sample No	Length	Cu %	Au gm	Ag gm	Unit	
From	To		Run	%	From	To								
0	1.5	Olex burden												
1.5	37.0	<p>(hard)</p> <p>Dacite - augite poor phyr - clastic to knotted pyrite all pale yellow almost cross-bedded porph - augite laths to 1.5 cm most 1 cm all symmed some intensely altered to core other weakly altered - looks like alteration of augite symgentic is done elsewhere - groundmass grey to greyish black albite rich possibly (shewn on augite rim look like albite)</p> <p>- rock is HARD - possibly silica flooded, pyrite primary + replacement</p> <p>- pyrite ~ 1% on oxides on all joints</p> <p>- hematite/epitote zonation very fade as .3m zone</p> <p>- fracture ~ 50/m set ① ~ 30° to DDH ② 120° to DDH is normal ③ at 90° to DDH 1+2 80+% of fractures from 1.5-6.0</p> <p>- unit ~ 10% altered ± pyrite probably silica flooded no calcite, gypsum - sericite common (groundmass) but not predominant - alteration + 10% pyrite spots splashes of crystals and coatings of fractures (ALL) - pyritization varies from 1-7% to 20+% in zones of .3m to 2m pyrite intense to bleaching (ie sericite)</p> <p>- sericitization 2-3% to 60+% in bands .1m to 1m</p> <p>- original probably multi pulse flow - sorted augite bands flow bands and fine grained intervals each not common but evident repeatedly e.g. 13.4 m, 16.2 m</p> <p>- gypsum, zeolite s.kimpers VARIABLE from 1/m to 20/m thicker (1-2cm) in low density and heavier in higher density veins at ALL orientations - no visible pattern</p> <p>- syenite 2 mol. lths to 5 cm 32.3 → 34.5 - easily corroded and assimilated - horrible mic. calcine rich cobbles to pebbles rounded.</p>	3.8	85	1.5	5.3								IP
			17.4	98	5.3	12.7								

Client: Sable Resources  
 Drilling Company: "

Logged By: FM. Smith  
 Date: 26 OF 2001

Hole No: 01-04  
 Page: 1/5

Depth		Description	Recovery		Depth		Sample %	Sample Number	Length	Au	Ag	Unit	
From	To		Run	%	From	To							
37.0	39.3	Dacite - Unit 1 - calcite ver. lots, sericite light to dark (gradational from above) - QS $\bar{c}$ overprint deeper epithermal vein - all Ca LATE - vugs (vuggy always) - white - hairline to disseminated replacement or fractures too fine to see - vugs in light grey soft "kaoline" zones as overprint late fills - 1-2cm ALWAYS zoned - zeolites rare quartz VERY fine grained - dacite so severely altered as to only KHKLY be recognized. - max alteration intensity ~ 34-39.5 - shatter LATE - vuggy fills of ca / qtz to end	19.3	98%	17.7	37.0							1
39.3	40.5	Dacite - Unit 1 - less altered ~ 60% - less Ca veins some zeolite/gypsum to end but rare - little shattering.	1.2	92%	39.3	40.5							
40.5	45.4	Dacite Unit 1 - less <sup>than above</sup> altered - calcite late overprint as vugs $\bar{c}$ some impregnation - green stain / fine mineral on joints (chlorite?) - green mass darker grey to rare blackish - rock sericitized but harder - doesn't "appear" to be silica flooded.	4.9	88%	40.5	45.4							
45.4	47.9	Dacite Unit 1 (?) - altered less shattered - green joint stain more common, zeolites more common (gypsum/zeolite vuggy shatter fill 47 $\rightarrow$ 47.2) - hematite paints on joints rare to end.	2.5	92%	45.4	47.9							
47.9	48.2	Vein - Qtz, calcite, pyrite - black mineral (argente?) basal ~ (maybe) 30° DHA - vuggy (some) - banded - multi stage fill - pyrite xln and fine grained - may be all py. - no visible chalcos, sphalerite - interval 60% well rock shards.	0.3	90%	47.9	48.2							

Client: Sable Resources  
 Drilling Company: ibid

Logged By: F.M. Smith  
 Date: 26 07 2001

Hole No: 01-04  
 Page: 2/5

Depth		Description	Recovery		Depth		Sample %	Sample Number	Length	Cu %	Au gm	Ag gm
From	To		Run	%	From	To						
48.2	51.7	Dacite Unit 1 - VERY silicified - py to 2% average ~ 2% calcite inlets VERY common, weak zeolite/gypsum brownish (weak) looks cooked.	3.5	95	48.2	51.7						
51.7	52.3	Vein - massive grey qtz with thin (2-5mm) pyrite/qtz normal to trace (alter. lath-like inlets) - drill margins (?) - vein looks QD - very early fill - base ~ 35° to core axis	0.6	100	51.7	52.3						
52.3	53.9	Dacite Unit 1 - dark grey - ca v/ shattered - sericite altered less than normal - pyrite ~ 1-2%	1.6	95	52.3	53.9						
53.9	55.0	Vein - breccia qtz, zeolite, ca, wall rock at 10% to core axis - wall rock pieces VERY dark + 20% py.	1.1	98	53.9	55.0						
55.0	56.5	Dacite - unit 1 - shattered and healed qtz, ca, zeolite, gypsum most at low angle to core axis - 3-5cm thick - chertic s/d edges.	1.5	97	55.0	56.5						
56.5	67.5	Dacite - units 2. - similar to Unit 1 in gross composition and appearance - relict matrix smaller and lower % ~ 20% like most of U1 - highly sericitized - no calcite or much mafic minerals left or unaltered. NO zoning of quartz ghosts and no "reaction rims" visible - this is a "mottled" unit observed fine + medium coarse grained portions. py weak to 3% trace narrow zones of 15% - pyroxy (hydrothermal?) calcite veins trace to 1% by unit - decreasing with depth argite < 1cm	11.0	99%	56.5	67.5						
67.5	69.7	low pH - strong/weak - alter U2 green sericite most common rock soft red/orange shales - greenish = white or calcite on hand - probably Sindy 2 v/	1.2	95	67.5	69.7						

Client: Sable Resources  
 Drilling Company: 11

Logged By: F.M. Smith  
 Date: 26 07 2001

Hole No: 01-04  
 Page: p 3/5

Drill Hole Record

Depth		Description	Recovery		Depth		Sample %	Sample Number	Length	Cu %	Au gm	Ag gm
From	To		Run	%	From	To						
68.7	70.0		Dacite Unit 2 - "fresh" to prop E hematite weak chlorite no calcite - may be representative of "unaltered" unit 2 Pyrite < 1%, zeolite veins rare, long pieces of ore quartzite most common	1.3	100	68.7						
70	72	Dacite U2 - low pH alt'n - broken, mudd., soft / spongy lots of pyrite - zeolite veins 1-2%, Ca & epidote / chlorite	2.0	95	70	72						
72	74.6	Dacite U2 - moderate alt'n - Q5 low pyrite	2.6	95	72	74.6						
74.6	75.0	Fault with narrow (5cm) epithermal vein	0.4	60	74.6	75.0						
75.0	82.0	Dacite U2 - narrow zones of structuring (5cm) - narrow zones of vuggy rock (3cm) - moderately altered to Q5 narrow (separate of other zones) pyrite rich to 12-15%	7.0	96	75.0	82.0						
82.0	83.2	Dacite U2 - potassic alt'n overprint - orange/reddish diffuse overprint - not sure if part of epithermal event.	1.2	98	82.0	83.2						
83.2	93	Dacite U2 - very fresh unaltered to weak Q5 - NO Ca - quartz silicified (syngenetic?) - not zoned - minor zones of weak Q5 or SP - rock must have high Si content as is too glassy for mafic unit - "Dacite" probably reasonable.	9.8	100	83.2	93						
93	93.2	Dacite U2 - potassic alt'n as second above - doubtful if related to epithermal.	0.2	95	93	93.2						
93.2	103.2	Dacite U2 - alteration varies up & down - mostly low - pyritization very common 3-15% pyrite - grey creamy sericite zones 10cm random but less than 15% of material - some fracture direction	10.0	92	93.2	103.2						

Client: Sable Resources  
Drilling Company: "

Logged By: FM Smith  
Date: 26 of 2007

Hole No: 01-04  
Page: 4/5

Drill Hole Record

Depth		Description	Recovery		Depth		Sample %	Sample Number	Length	Cu %	Au gm	Ag gm
From	To		Run	%	From	To						
103.2	106.5		Dacite U1 - Zoned + rimmed augite phenos - high % of phenos groundmass is NOT as sericitized as in top of hole but very pyritic - lots of black QSP alteration on joints and disseminated to pervasive pyrite variable from 5% - 7% average ~ 1-2% - no chlorite (or less black is in part chlorination [doubtful])	3.3	95	103.2						
106.5	106.9	Supratentative breccia brownish fine grained sandstone as 30% to core QSP - shaly - shaly - shaly more than enclosing!!!	0.4	100	106.5	106.9						
106.9	110.3	Dacite U1 - Lots of pyrite with black sericite/silica very hard unit - black blocky py 1-25% at 4-5% py as disseminated, thin clotted, joint print, karst patches - QSP = moderate to weak moderate.	3.4	95	106.9	110.3						
110.3		END OF HOLE										

Client: Sable Resources  
 Drilling Company: 1)

Logged By: FM. Smith  
 Date: 26 07 2001

Hole No: 01-04  
 Page: 5/5

Property Baker - B zone Location TD zone  
 Start 11 09 2001 End 13 09 2001  
 % Recov 66.94 (calc) Dip -51° (checked)  
 Coords IP 1480E / 273N

Div/Dist Omineca  
 Core Size NQ  
 Dip Test -  
 Objective TD zone ~ 300m NE of B zone

Claim \_\_\_\_\_  
 Bearing ~ 340° (w 337.5° Az)  
 Horizontal 2238 32

Length 53.95 m  
 Elevation 1755.33  
 Vertical 12,263.79

Interval		Description	Recovery		Depth		Sample %Rec	Sample No	Length	Au	Ag
From	To		Run	%	From	To					
0	2.1	Overburden									
2.1	6.4	Dacite - QSP altered - siliceous band fractured to small shards original dacite is bleached with pyrite - py 40%	4.3	56							
6.4	11.0	Dacite - QSP - altered - softer than above, much better pyrite streaks fracturing broken ground common in upper portion - ground mass has some chlorite - creamy pink mottled fine grained dacite flow - no visible xenoliths or dykes except pyrite - py 5-10%	4.6	76							
11.0	12.0	- no recovery	1	0							
12.0	14.3	- Dacite - QSP altered as above - recovery poor - just big marbles	2.3	13							
14.3	14.8	- no recovery	0.5	0							
14.8	14.82	Dacite - QSP altered as above - poor recovery - marbles	0.2	70%							
14.82	24.0	Tuff - banded pyrite rich - graphitic? - banding parallel to 15° to DDH very soft most of time - clayed (partly or just normally soft?) 5-15% carbonate in bands - veinlets and patches - portions look like stain (weak) pyrite in rounded crystals - siliceous bands or portions variable to 10% in a 1m portion - very variable texture and banding along length - bottom has alternating bands of carbonate and siliceous - whole thing looks like tuff + exhalite?	9.18	66							
24.0	29.6	Dacite - highly altered QS/QSP - grey to light grey banded with contacts ~ 30° to DDH Qtz stringers (ld?) common through - most .5cm to 1cm Dacite has patches - redish to pinkish mottling rare stringers of calcite/Qtz usually low angle ~ 70-80° to DDH low jointing in this unit!									

Client: Sable Resources Ltd  
 Drilling Company: ibid

Logged By: FM Smith  
 Date: 11/09/01

Hole No: 01-05  
 Page: 01/03

Depth		Description	Recovery		Depth		Sample %	Sample Number	Length	Cu %	Au gm/t	Ag gm/t
From	To		Run	%	From	To						
29.6	29.7		Qtz vein - dense non crystalline qtz - argillic alt in week before for ~ 3m and following - pyrite 1-3% with dark grey mineral ~ 45° to DDH	0.1	100							
29.7	30.05	Dacite - argillic alteration - soft - some calcite stringers - light grey mottled texture	0.35	100	29.2	30.2	100	00651M	1.0		0.007	TR
30.5	31.5	Qtz Vein - mottled with weak pyrite and some dark grey mineral - may be sulphidic	1.0	100								
31.5	37.2	Dacite - Very altered QS & QSP, argillic in part, calcite veinlets grey to light grey + brown mottled sections - pyrite rich veinlets common - increasing softness and sericitic to bottom contact & following difficult to define - dacite very siliceous at top → argillic at base.	5.7	100								
37.2	43.98	Quartz Vein - Contact at start maybe gradational - about 20% disseminated pyrite in dense qtz to qtz carb - no other visible sulphide pyrite in splashes, knots + clots - colour from light grey/white to dark grey/black pale grey most common - darker grey zones have much more fine pyrite some black mineral. - no other sulphide visible top to bottom almost bottom of vein than pyrite IN qtz vein portions there is considerable black mineral (1-5%) in carbonate rich portions 40.0 - 40.2, 40.4 - 40.5 Basal portion Fault contact at 15° to DDH CA. - smeared pyrite + black sulphide common for last 20cm - quartz vein carbonate rich + more black sulphides (white py) to base.	6.78	100	37.2	38.7	100	00652	1.5		0.003	0.05
					38.7	40.2	100	00653	1.5		0.006	TR
					40.2	41.4	100	00654	1.2		0.006	TR
					41.4	42.9	100	00655	1.5		0.005	TR
					42.9	43.98	100	00656	1.08		0.004	TR
43.98	43.98	Fault contact at 15° to CA.	-	100								
43.98	53.1	Dacite buff - banding rare but evident. pyrite rich - very siliceous - not clearly that altered - becoming green grey to bottom	9.92	10.0								

Client: Sub Resources Ltd.  
 Drilling Company: ibid

Logged By: FMS  
 Date: 14 09 2007

Hole No: 01-05  
 Page: 02/03





F. Marshall Smith Consulting

Drill Hole Record

Property Baker Beane Location TD zone Div/Dist Omneca Claim \_\_\_\_\_ Length 69.2 m  
 Start 13 09 End 15 09 2001 Core Size NQ Bearing ~340 (337.5 average) Elevation 1755.33  
 % Recov 90.9% (calcd) Dip -61° checked Dip Test \_\_\_\_\_ Lat Horizontal 2238.32 Departure Vertical 12,263.79  
 Coords IP grid 1780E - 273N Objective TD zone below/down dip) of 01-05

Interval		Description	Recovery		Depth		Sample %Rec	Sample No	Length	Cu %	Au gm	Ag gm
From	To		Run	%	From	To						
0	1	Overburden										
1	4.0	Dacite (?) - highly bleached, in sections - stained fine grained silica rich volcanic	3	55							0.02/T	0.02/T
4.0	15.5	Dacite - propylitic altered - green / grey cast - siliceous with several broken sections (marbles band) to 4.0 - 10.2 minor epithermal veinlets 10.2 - 10.3 - minor argillic through 9 is inter-vst. - pyrite moderate to weak - some points on joints - gypsum on joints, calcite rare - only on joints - black hematite common in portions	11.5	72								
15.5	18.2	Dacite - same unit as above but QS and QSP alteration sharp contact (unusual) - zeolite rich veinlets at charge (white to yellow white with NO calcite) - pyrite % at upper contact light - unit bleached to grey amorphous rock - quartz eyes rare but visible - pyrite 1-10% average 2%	2.7	90								
18.2	20.2	Vein and dacite mixed - dacite as above with more pyrite (+5%) with masses of pyrite adjacent to narrow veins. Veins dark quartz with calcite - only visible sulfide is pyrite but up to 20% pyrite in veinlets - veinlets vary from 13cm to 0.5 cm but occupy less than 10% of interval - most veins almost normal (80°) to DDH with to being ~45% DDH.	2	95	18.2	20.2	95	006657	2		0.005	0.03
20.2	21.8	Dacite altered to QSP (moderate) QSP alteration patchy with QS and minor prop/QS throughout - pyrite weak to 3% throughout with most of high part top of interval. - "dd" type QSP veins common especially at base of section.	1.6	98								
21.8	35.1	Dacite? or Andesite - alteration has left some iron silicates so is green / brown in color - looks like altered andesite in portions but alteration has to be typical original to texture - common is grey sericite with pyrite rich bands to 30% sulfide	13.3	97								

Client: Sable Resources Ltd.  
 Drilling Company: ibid

Logged By: FMS  
 Date: 15 09 2001

Hole No: 01-06  
 Page: 01/01

Depth		Description	Recovery		Depth		Sample %	Sample Number	Length	Cu %	Au gm	Ag gm
From	To		Run	%	From	To						
35.1	47.5		Quartz vein $\bar{c}$ silicified wall rock - Qtz is multi phase - early (?) is amorphous grey/whitish milky with NO sulphides visible - re brecciated and healed with clear greyish quartz with NO sulphides - this is cut and by a later white quartz with 5-10% calcite and rare black sulphides - usually too fine to be seen - not fine pyrite - this is fractured and healed with a block to very fine grey quartz with +15% pyrite and very fine (but probably argentiferous) black sulphide - some grains are up to 1mm in size - when pyrite looks partially intergrown with black sulphide - this late block to dark grey Qtz is fractured and healed with narrow veinlets (1-3mm) with Qtz calcite py and black sulphides the clear greyish glc has sharp contact $\bar{c}$ wall rock at 35.1 - contact has $\sim 35^\circ$ to DDH	12.4	98	35.1						
					38.1	41.1	99	006659	3		0.004	TR
					41.1	44.1	98	006660	3		0.005	TR
					44.1	47.1	98	006661	3		0.007	TR
47.5	54.4	Dacite and Qtz veinlets - SEVERELY altered - silica flooded - myriads of narrow 3mm - 5cm veins usually nearly normal to DDH - Dacite is hardly recognizable except for sericite/mica and whiteness - massive pyritic alteration of dacite - veinlets less rich in pyrite than vein above - looks like host of wall rock caught up between veins - alteration and veining look EARLY in history of quartz deposition	7.9	98								
54.4	58.3	Qtz vein - mostly phase 1 type is grey mottled little calcite - not much Sulphides - phase 2-5 are less than 30% of interval	2.9	98	54.4	58.3	98	006662	2.9		0.003	TR
58.3	62.0	Dacite - very siliceous - Fe-silica to pyrite - argillitic to QS alteration throughout to some degree (100-20%) - weakly altered have characteristic pink to orange spots, points will catch veinlets Qtz veinlets and patches of phase 1 quartz at start (see detailed contact in the vein above) - unit grey $\rightarrow$ grey/brown	3.7	98								

Client: Sable Resources  
 Drilling Company: ib.d

Logged By: FM Smith  
 Date: 15/16 01/2011

Hole No: 01-06  
 Page: 2/3



F. Marshall Smith Consulting

Drill Hole Record

Property Bake B zone Location \_\_\_\_\_ Div/Dist Omineca Claim \_\_\_\_\_ Length 108.5  
 Start 16 09 2001 End 20 09 2001 Core Size NQ Bearing 160° Elevation 1741.33  
 % Recov 93.9% (calcd) Dip -56° (checked) Dip Test - <sup>Last</sup> Horizontal 2271.39 <sup>Vertical</sup> 12220.24  
 Coords 311 N on 1750E (IP) Objective TD zone 30m S of 01-06

Interval		Description	Recovery		Depth		Sample %Rec	Sample No	Length	Cu %	Au gm	Ag gm
From	To		Run	%	From	To						
0	1.7	Overburden										
1.7	5.2	Dacite - severely altered to near sand - orange/yellow on 0.3 m surface, unweathered - grey to black silicified with veins of Qtz (1cm) in bleached dark matrix - pyrite hematite common on joints and mineral	2.79	80								
5.2	11.4	Dacite - black quartz eye rare pyrite joints siliceous blocky very short veins but good recovery - previously referred to (old logs) as gneissite - fact to siliceous and too much visible quartz - hornblende porphyry blebs 1/2" but in patches (0.2 m section with 10-70 2mm black minerals) - sulphidic not common interstitial - pyrite/gypsum amorphous parts on joints very common - one old Qtz - Ca veinlet with NO alteration at about 40° to DDI -	5.85	94								
11.4	12.8	Dacite as above - argillic alteration Sericite / kaolin after dacite silica partly to 90% removed with veins, patches and veins of Qtz intersected throughout alteration increases dramatically at start from 11.4 → 12.8 This portion is transition from "fresh" version above.	1.4	90								
12.8	13.5	Dacite (severely altered as above) with oily white/grey - white quartz - No sulphides to very low sulphides ratio is about 0.90% d/g	0.5	82								
13.5	21.6	Dacite severely altered to grey mottled unit - 5% qv as veinlets and patches minor patches of hematite - late calcite veinlets rare argillically altered siliceous dacite pyrite not common less than 1%.	8.1	100								
21.6	22.1	Qtz vein - amorphous milky grey - white - rare pyrite or sulphides	0.5	95								
22.1	31.5	Dacite - weakly altered to moderate argillic alteration - partly argillic first 5m then mixed prop/argillic (QSP/prop)	9.4	100								

Client: Sable Resources Ltd.  
 Drilling Company: ibid

Logged By: FM  
 Date: 18 09 2001

Hole No: 01-07  
 Page: 01/06

Depth		Description	Recovery		Depth		Sample %	Sample Number	Length	Cu %	Au gm	Ag gm
From	To		Run	%	From	To						
22.1	31.5	Cont - hornblende batholiths continue but altered to chlorite-hematite and orange carbons common on joints. pyrite increases to 1-3% with pyrite rich veinlets scattered through interval. - 0.5 to 0.3 sections of increased alteration in grey block → grey. white siliceous veinlets (with calcite) common at top of section black qtz veinlets common at base - zeolite veinlets common to base.	9.4	100								
31.5	35.8	Dacite - severely altered to moderate - mottled - zeolite/Qtz replacement. Common pyrite to 5% but varies from 0 → 5 average ~ 1% Pyrite rich zeolite vein at base ~ 25° to DDH - 5cm wide.	4.3	98								
35.8	55.3	Dacite - dark - only weakly altered - hematite calcite/pyrite pants on joints - some vein crosscut at low angle - in core case two meet at 120° younger is orange zeolite/calcite older is black qtz, pyrite zeolite/calcite - dacite is mottled feldspar, qtz hornblende porphyry when fresh feldspars disappear in initial alteration, hornblende → chlorite → sericite in mid to strong alteration - qtz eyes (black) survive to moderate/strong argillic alteration. - ground mass silica and qtz eyes survive alteration longest. - pyrite in 1-5cm veinlets wandering through (ie ~ parallel to hole) become common beyond 52, ankite or some rapidly weathering iron silicate with pyrite forms purple/brown fill ± pyrite - rare grains of chalcopyrite ± pyrite - alteration increases to base (ie low moderate to moderate) - sericite grey cast only evidence	19.5	99								
55.3	55.6	Fault - sheared dacite - mylonite & clay - slips about north to DDH	0.3	100								
55.6	56.0	Syenite dyke - orange porphyry microcline in black green ground mass felds rounded, broken cluster growth finer grained at start somewhat finer at base - black round spots (hornblende laumontite?) in ground mass	0.4	100								

Client: Sable Resources Ltd

Logged By: T.M. Smith

Hole No: 01-07

Drilling Company: 1011

Date: 13 07 2001

Page: 02/06

Depth		Description	Recovery		Depth		Sample %	Sample Number	Length	Cu %	Au gm	Ag gm
From	To		Run	%	From	To						
55.6	56.0	cont.; Felds cont: two types of feldspar - fine blebed to squat crystal white (chalky) and large orange microcline - patch felds stonier - chill margin, 7 cm at base - contact ~ 40° to DDH	0.4	100								
56.0	58.8	Agglomerate of agglomerate - angular to rounded clasts most 3cm but range + 10 cm. - ground mass dacite - fine grained equid (?) of all other units - clasts are often of previous agglomerate breccia - ground mass appears to be uniform in that breccia and as well all visible clasts are rounded - some have significant reaction rims - breccia 2 (youngest) has reaction rims INSIDE the clasts whereas breccia 1 (older) has reaction rims OUTSIDE on margin of clasts - most of large clasts in breccia 1 are altered - many smaller (uniform composition) tend to be very altered - whole unit is in the moderate to strong argillic - pyrite (not easy to see) is very fine grained - looks to be SP phase of alteration - NO pyrite veinlets - clasts in breccia 1 range from normal dacite (altered) to syenite (not like dyke above but more like A-zone crowded porphyry) - andesite, chert, qtz eye porphyry dacite basal contact ~ 80° to DDH	2.9	98								
58.8	65.6	Dacite - as normal - pyrite veinlets, moderate to strong argillic - calcite, zeolite qtz squashed and rolled veinlets at start - potassic rimmed veinlets common from 62.8 - 65.3 - 65.9 potassic fluid alteration - makes it look like syenite but diffuse edges. top + bottom.	7.16	100								
65.96	66.46	Shear (paleo? - ie at time of forming of unit - may be slump breccia) contorted dacite (calcite, silica, mylonite) at base - normal to DDH	0.49	100								

Client: Sable Resources Ltd  
 Drilling Company: ibid

Logged By: F.M. Smith  
 Date: 17 09 2001

Hole No: 01-07  
 Page: 03/06

Depth		Description	Recovery		Depth		Sample %	Sample Number	Length	Cu %	Au gm	Ag gm
From	To		Run	%	From	To						
66.45	76.3	Dacite - as above - qtz eye feldspar fine ground with venlets of pyrite alteration moderate (20%) to weak QS or Sericite, venlets of calcite, or zeolite & calcite, or pyrite with brown vein wall alteration pyrite also on points on joints and disseminated in unit (weak SP - to sericite pyrite) - black siliceous band - wending non-parallel sides at 73.1L-3 appears to be syngenetic - no change of alteration around.	10.35	98							0.2/T	0.2/T
76.8	78.0	Fault bounded breccia unit - amethystine qtz & pyrite and grey gouge at start (~25° to DDH contact) - grey quartz & pyrite at end - epithermal vein fault: - only sulfide visible is pyrite 1-5% - note - cobble of syenite in core - may just be a shear. - dip is ~80°	1.2	100	76.8	78.0	100	006663	13		0.006	0.07
78.0	79.3	Dacite - as above - moderate to highly altered (30/70) & venlets of calcite Zeolites, pyrite venlets - very fractured and altered in portions	1.3	100								
79.3	80.2	Dacite - highly altered to Sericite + clay - low pyrite (~1-3%) - zeolite / calcite vein (4cm) at 12% to DDH!	0.9	100								
80.2	80.9	Dacite moderate to strong alteration grey with brownish waste - may 1cm to .5cm venlets of qtz/calcite at various orientations	0.7	95	80.5	83.1	97	006664	2.8		0.006	0.05
80.9	83.1	Dacite with qtz/calcite vein - epithermal type - vein at top and bottom each ~5cm thick is 90% altered dacite (mod to intense) alt to Sericite / kaol. - some sections look like dacite on outside of core but are 90% silica & pyrite, black sulphide (no visible sp. Zn) terminates in greenish white qtz, calcite py vein and broken host rock - multi-stage fills of lighter qtz/calcite veins -	2.2	98								

Client: Sable Resources Ltd  
Drilling Company: iab

Logged By: F.M. Smith  
Date: 19 09 2001

Hole No: 01-07  
Page: 04/06

Depth		Description	Recovery		Depth		Sample %	Sample Number	Length	Cu %	Au gm	Ag gm
From	To		Run	%	From	To						
83.1	89.3	Dacite - variable degrees of alteration from weak to intense - pyrite veins with brown coloured alteration common in portions at start of section - zeolite veins + veins common at start - pyrite veins, spots, points (veins) and disseminated about 5-10%	6.2	98								
89.3	89.8	Dacite conglomerate / agglomerate - angular sh. in bleached equivalent of dacite above contact ~50° to DDH (basal) possibly - 60° for top contact. - bands of dark fine grained dacite, white felds, pyrite - potassic rich alteration - syngenetic?	.5	100								
89.8	91.6	Dacite - blocky - dark relatively unaltered - fine grained hard. - one 4 cm piece of mylonite recovered at about 91.2 - not clear if this is real as <u>no</u> alteration on either side	1.8	~80								
91.6	92.9	Dacite - sheared, altered to strong argillic - no visible qz. - some (1-3%) fine pyrite										
92.9	102.7	Dacite - weak to moderate alteration - predominantly weak - gypsum veins common at start - - dark splashes, dark purple blasts variable from 1-2% to nil - pyrite veins (syngenetic?) rare but large or more frequent but narrow - pyrite points more common to base - zeolite stringers / veins common throughout. - relatively dark colour (ie less altered)	9.6	100								
102.7	103.6	Fault or contact between 2 dacite flows - very disturbed ground looks like old shear / fault with mylonite pebbles and shreds in reddish brown altered dacite.	0.9	100								

Client: Sable Resources Ltd  
 Drilling Company: ibid

Logged By: KMSmith  
 Date: 20 09 2001

Hole No: 01-07  
 Page: 05/06





F. Marshall Smith Consulting

Drill Hole Record

Property Baker Bzone Location \_\_\_\_\_  
Start 21 09 2001 End 24 09 2001  
% Recov 84 (calcd.) Dip -47°  
Coords 320E on 1750 IP

Div/Dist Omineca  
Core Size NQ  
Dip Test —  
Objective Drill ~ 20m under TD vein in 01-05, 06

Claim \_\_\_\_\_  
Bearing 134° Az  
Horizontal 22 87.21

Length 74.7 m  
Elevation 1741.78  
Vertical 12212.47

Interval		Description	Recovery		Depth		Sample %Rec	Sample No	Length	Cu %	Au gm	Ag gm
From	To		Run	%	From	To						
0	1	Overburden	1	0								
1	3.4	Dacite? - very badly weathered - only a few "marbles" recovered - brittle rounded hard tough black greenish	2.4	13								
3.4	5.9	Dacite - fresh, hard, black, porphyritic - joints highly weathered to all pyrite + calcite zone (low with pyrite left) - some white feldspar and a few xls of black ferro-mags										
5.9	10.1	Dacite - fresh to weakly altered - quite obviously black, feldspar and mafic mineral porphyry - hard siliceous - highly fractured. 8 to 3 cm breaks in all directions - minor argillite / siltite (ie bleaching) towards bottom in several streaks of whitening - moderate/weak quartz, calcite and pyrite veinlets increase from nil to 2/m	4.2	90								
10.1	15.8	Dacite - altered - moderate/strong to very strong - bleached to pale grey - numerous (1-3/cm) veinlets of calcite, qtz - not very pyritic (~4%) and mostly fine - but for pyrite content - typical low pH for Baker.	5.7	95								
15.8	15.9	Vein - wuggy 2 cm; calcite, gypsum at 15-20° to DDH	0.1	90								
15.9	20.3	Dacite - siliceous feldspar, hornblende (?) porphyry - much more pyrite than above at 3% throughout with zones of +10% - siliceous, black, (marbles) common 17-19, pyrite as disseminated veins with points on points very common feldspar hard to find, hornblende more common and a bit coarser grained (usual is ~ 1-2 mm - this zone of flows ~ 3-5 mm)										
20.3	37.7	Dacite - moderate alteration - grey/brown color - lots of pyrite in veins - some grey siliceous on narrow vein fractures ~ 20° to DDH - sparse in 20-30 m - pyrite veins rare, some disseminated some veinlets (with grey - black siliceous) no, have considerable fine pyrite	17.4	98								

Client: Sible Resources Ltd.  
Drilling Company: ibid

Logged By: FM. Smith  
Date: 22

Hole No: 01-08  
Page: 01/03

$\bar{c}$  = with  $\pi$  = porphyry.

Drill Hole Record

Depth		Description	Recovery		Depth		Sample %	Sample Number	Length	Cu %	Au gm	Ag gm
From	To		Run	%	From	To						
20.3	37.7	cont: percentage of sericite (grey) increases (on average) with depth becoming predominant from 36 → 36.8 contact with underlying flow (the more traditional dacite) is about 20° to DDH. Alteration Moderate/weak	17.4	98							02.1	02.1
37.7	47.8	Dacite, feldspar, hornblende $\pi$ - hornblende ranges from dust to 5mm. in the bands of coarser scattered randomly but rarely through interval - this section has the pyrite rich veins appears fresher than above unit but exhibits SAME (though much less frequent) grey sericite envelopes on narrow fractures alteration weak/moderate [zeolite veins common]	10.1	100								
47.8	51.7	Dacite - mottled almost skarn appearance - lots of early pyrite veins. - calcite / gypsum joint prints - moderate to weak alteration - alteration DECREASING to depth.	3.9	100								
51.7	54.0	Shear, fault carbonate rich zone - looks like skarn (weak) initial contact ~ 25-30° to DDH - small internal mylonite at 52.4 (5cm) - rock looks like a dirty carbonate zone that has been altered to greasy malastone with lots of gypsum, residual carbonate, pyrite and narrow Qtz/calcite stringers (late) - <u>no</u> other sulphides visible	2.3	95								
54.0	57.5	Vein (Qtz carb) - two 4-5cm banded Qtz, calcite, pyrite rich cullin zones at top and near bottom (54-55) (56-2-56.7) both have ~ 10-15° to DDH both have "skarn" zone above and below.	3.5	98	54.0	56.0	100	006665	2		0.002	0.021
					56.0	57.5	96	006666	1.5		0.003	0.037
57.5	67.0	Dacite - hornblende, feldspar dark - relatively weak alteration zeolite, calcite, and minor pyrite veins cross at random directions	9.5	100								

Client: Sable Resources Ltd.  
 Drilling Company: ibid

Logged By: FMSmith  
 Date: 23 09 2001

Hole No: 01-08  
 Page: 02/03



## **APPENDIX II**

**ADDENDUM**

**GEOPHYSICAL REPORT**

**ON**

**IP AND RESISTIVITY SURVEYS**

**B ZONE OF THE**

**BAKER MINE PROPERTY**

**TOODOGGONE RIVER AREA**

**OMINECA MINING DIVISION, B.C.**

---

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DATED:

March 04, 2002



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## LIST OF ILLUSTRATIONS

<u>MAPS</u>	<u>Scale</u>	<u>Map #</u>
Line 1690E	1:1,250	B-10
Line 1720E	1:1,250	B-9
Line 1750E	1:1,250	B-8
Line 1780E	1:1,250	B-7
Line 1810E(new)	1:1,250	B-1A
Line 1840E	1:1,250	B-2
Line 1870E	1:1,250	B-3
Line 1900E	1:1,250	B-4
Line 1910E	1:1,250	B-11
Line 1930E	1:1,250	B-6
Line 1870E(30m)	1:2,500	B-5



## SUMMARY

Induced polarization (IP) and resistivity surveys were carried out during August 2001 over the 'B' vein area of the Baker Mine Property located within the Toodoggone River area of the Omineca Mining Division of B.C.

The main purpose of the geophysical surveys was to extend the epithermal alteration zones as is associated with the known mineralization and as surveyed the previous year. The mineralization consists of gold and silver values within epithermal quartz veins. The specific purpose of the resistivity survey was to map the areal and depth extent of the alteration zones and that of the IP survey was to map the sulphide zones which in this area are known to be related to the epithermal quartz veins.

The resistivity and IP surveys were carried out using a BRGM Elrec-6 multi-channel receiver operating in the time-domain mode. The transmitter used was a BRGM VIP 4000 powered by a 6.5-kilowatt motor generator. The dipole length and reading interval chosen was 15-meters read to 12 levels. The survey consisted of seven lines, including two extensions, for a total survey length of 3,120 meters. The results were plotted in pseudosection form and contoured.

The resistivity and IP surveys showed the 'B' vein along with its parallel veins, to extend further east and west. They also revealed the Sandy and NQR zones to extend further east as well with the NQR zone being open to the east. In addition, the EC zone, which occurs on the southern part of the survey area, was shown to be low in intensity with little depth extent.



# **ADDENDUM GEOPHYSICAL REPORT**

**ON**

## **IP AND RESISTIVITY SURVEYS**

**ALONG THE B VEIN AREA OF THE**

### **BAKER MINE PROPERTY**

**TOODOGGONE RIVER AREA, Omineca Mining Division, B.C.**

---

#### **INTRODUCTION AND GENERAL REMARKS**

This report discusses survey procedure, compilation of data, interpretation methods, and the results of resistivity and induced polarization (IP) surveys carried out over the 'B' vein area of the Baker Mine Property belonging to, and/or optioned by, Sable Resources Ltd. The property is located within the Omineca Mining Division of north central British Columbia.

The IP and resistivity surveys were carried out by a Geotronics crew of five men, one of which was the writer, from August 13<sup>th</sup> to the 24<sup>th</sup>, 2001. The amount of IP and resistivity surveying totaled 3,120 meters.

The 'B' vein had previously been mined but it was known and/or expected that the 'B' vein had an extension to it, possibly faulted off. Furthermore, it was considered a strong probability, because of other alteration zones seen on the surface and/or within drill holes, that additional epithermal veins occurred approximately parallel to the known 'B' vein. The main purpose, therefore, of the geophysics was to map, through mainly the resistivity survey, epithermal alteration zones occurring within the 'B' vein area. It was intended not only to map the areal extent, but also the shape and depth extent of the epithermal alteration and, as a result, locate, for optimum drilling purposes, the epithermal veins.

It was anticipated that the resistivity survey would reflect the alteration zones as resistivity lows, and, if the epithermal quartz veins were large enough, or showed sufficient contrast, it would also reflect the veins as resistivity highs within the resistivity lows. The I.P.



chargeability survey was expected to reflect sulphides, especially pyrite, which are known to be closely associated with the 'B' vein.

The year 2001 surveying was an extension of IP and resistivity surveying carried out the previous year. The area surveyed in the year 2000 was the easterly extension the 'B' vein. The results appeared to be very positive and thus the purpose of the 2001 work was to:

1. determine the easterly and westerly extensions of the 'B' vein as well as parallel vein systems, including the Sandy and the NQR systems, located to the north of the 'B' vein.
2. examine the EC alteration zone at the northwestern end of the grid as well as an alteration zone to the south of the 2000-year survey area.

## **INDUCED POLARIZATION AND RESISTIVITY SURVEYS**

### **(a) Instrumentation**

The transmitter used was a BRGM model VIP 4000. It was powered by a Honda 6.5 kW motor generator. The receiver used was a six-channel BRGM model Elrec-6. This is state-of -the-art equipment, with software-controlled functions, programmable through a keyboard located on the front of the instrument. It can measure up to 10 chargeability windows and store up to 2,500 measurements within the internal memory.

### **(b) Theory**

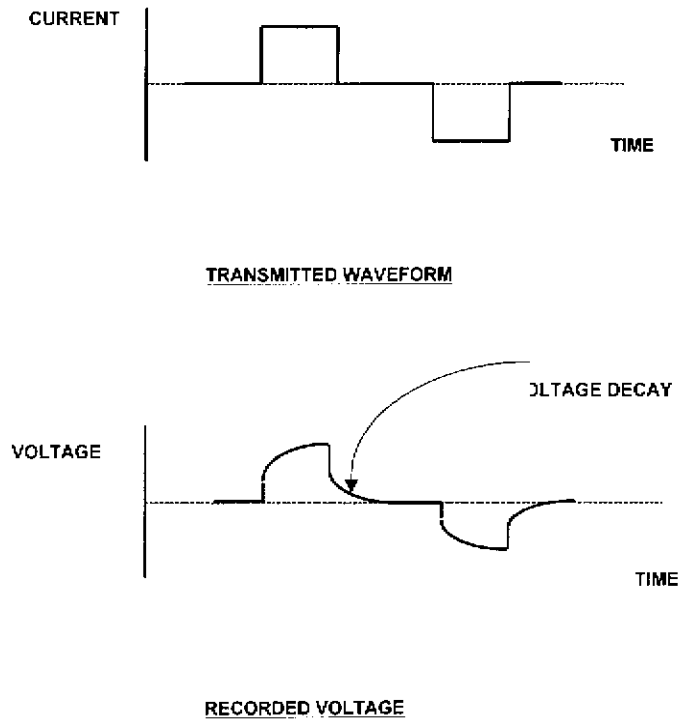
When a voltage is applied to the ground, electrical current flows, mainly in the electrolyte-filled capillaries within the rock. If the capillaries also contain certain mineral particles that transport current by electrons (mostly sulphides, some oxides and graphite), then the ionic charges build up at the particle-electrolyte interface, positive ones where the current enters the particle and negative ones where it leaves. This accumulation of charge creates a voltage that tends to oppose the current flow across the interface. When the current is switched off, the created voltage slowly decreases as the accumulated ions diffuse back into the electrolyte. This type of induced polarization phenomena is known as electrode polarization.

A similar effect occurs if clay particles are present in the conducting medium. Charged clay particles attract oppositely-charged ions from the surrounding electrolyte; when the current stops, the ions slowly diffuse back to their equilibrium state. This process is known as membrane polarization and gives rise to induced polarization effects even in the absence of metallic-type conductors.

Most IP surveys are carried out by taking measurements in the "time-domain" or the "frequency-domain".

Time-domain measurements involve sampling the waveform at intervals after the current is switched off, to derive a dimensionless parameter, the chargeability "M", which is a measure of the strength of the induced polarization effect. Measurements in the frequency domain are based on the fact that the resistance produced at the electrolyte-charged particle interface decreases with increasing frequency. The difference between apparent resistivity readings at a high and low frequency is expressed as the percentage frequency effect, or "PFE".

The quantity, apparent resistivity,  $\rho_a$ , computed from electrical survey results is only the true earth resistivity in a homogenous sub-surface. When vertical (and lateral) variations in electrical properties occur, as they almost always will, the apparent resistivity will be influenced by the various layers, depending on their depth relative to the electrode spacing. A single reading, therefore, cannot be attributed to a particular depth.



The ability of the ground to transmit electricity is, in the absence of metallic-type conductors, almost completely dependent on the volume, nature and content of the pore space. Empirical relationships can be derived linking the formation resistivity to the pore water resistivity, as a function of porosity. Such a formula is Archie's Law, which states (assuming complete saturation) in clean formations:

$$R_o = O^{-2} R_w$$

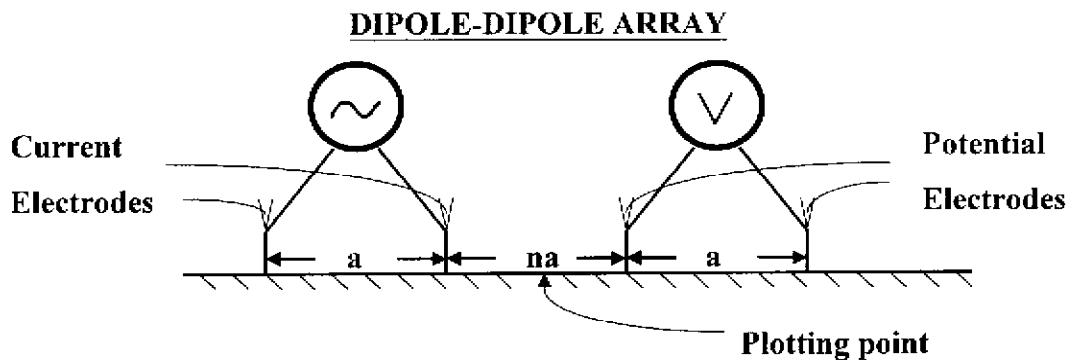
Where:  $R_o$  is formation resistivity  
 $R_w$  is pore water resistivity  
 $O$  is porosity

**(c) Survey Procedure**

Each line was compassed in as the survey was being carried out. The survey direction was 340°E.

The IP and resistivity measurements were taken in the time-domain mode using an 8-second square wave charge cycle (2-seconds positive charge, 2-seconds off, 2-seconds negative charge, 2-seconds off). The delay time used after the charge shuts off was 80 milliseconds and the integration time used was 1,760 milliseconds divided into 10 windows.

The array chosen was the dipole-dipole, shown as follows:



The electrode separation, or 'a' spacing, and reading interval was chosen to be 15 meters read to 12 separations, or 'na', for nine of the lines. This gives a theoretical depth penetration of about 100 meters. Stainless steel stakes were used for current electrodes as well as for the potential electrodes.

The surveying was done on the following lines and to the following lengths.

LINE NUMBER	SURVEY LENGTH	MAP NUMBER	NOTES
1690 E	450 m	B-10	Carried out to determine W'ward extension of B vein and parallel veins.
1720 E	450 m	B-9	Carried out to determine W'ward extension of B vein and parallel veins.
1750 E	450 m	B-8	Carried out to determine W'ward extension of B vein and parallel veins.
1780 E	630 m	B-7	Carried out to determine W'ward extension of B vein and parallel veins as well as to examine alteration zone to S.
1810 E	180 m	B-1A	A 160°E extension of L 1810 E surveyed previous year. Purpose is to examine alteration zone to S. The total line is shown being 630 m in length.
1910 E	345 m	B-11	A 340°E extension of L 1900 E surveyed previous year. Purpose is to examine alteration zone to N.
1930E	615 m	B-6	Carried out to determine E'ward extension of B vein as well as alteration zone to N.

The total amount of IP and resistivity surveying carried out was 3,120 meter.

#### (d) Compilation of Data

All the data were reduced by a computer software program developed by Geosoft Inc. of Toronto, Ontario. Parts of this program have been modified by Geotronics Surveys Inc. for its own applications. The computerized data reduction included the resistivity calculations, pseudosection plotting, survey plan plotting and contouring.

The chargeability (IP) values are read directly from the instrument and no data processing is therefore required prior to plotting. The resistivity values are derived from current and voltage readings taken in the field. These values are combined with the geometrical factor appropriate for the dipole-dipole array to compute the apparent resistivities.

All the data have been plotted in pseudosection form at a scale of 1:1250. One map has been plotted for each of the 7 lines of the 'B' vein grid, as shown on the above table and in the Table of Contents. The pseudosection is formed by each value being plotted at a point formed from the intersection of a line drawn from the mid-point of each of the two dipoles. The result of this method of plotting is that the farther the dipoles are separated, the deeper the reading is plotted. The resistivity pseudosection is plotted on the upper part of the map for each of the lines, and the chargeability pseudosection is plotted on the lower part.

All pseudosections were contoured at an interval of 10 milliseconds for the chargeability results, and at a logarithmic interval to the base 10 for the resistivity results.

The self-potential (SP) data from the IP and resistivity surveys were plotted and profiled above the two pseudosections for each line at a scale of 1 cm = 75 millivolts with a base of zero millivolts for area 'A' and 1 cm = 50 millivolts with a base of zero millivolts for area 'B'. It is not expected that the SP data will be important in the exploration of the property but considering that the data was taken, it was plotted and profiled for its potential usefulness.

For ease of discussion and continuity, the previous year's pseudosections are also included.

## DISCUSSION OF RESULTS

The resistivity survey has revealed several epithermal alteration zones across the survey area as shown by resistivity lows. These are described as follows:

The **'B' vein zone** is the main system within the grid area and can be seen on all lines except on line 1690E. It extends from line 1720E to line 1930E to give a minimum strike length of 210 meters. However, on line 1930E, the zone appears to be dying out and thus it probably does not extend much further east. On the other hand, another possibility is that it has been faulted to depth and thus it may extend further east. The strike direction is 070°E.

The zone, as indicated by the resistivity low, 90 to 120 meters wide and occurs from as far south as 180N and as far north as 335N. It consists of up to four parallel resistivity sub-lows within the wider broad low, which indicate the occurrence of four parallel. One of the veins has been partly mined out.

The **Sandy zone** consists of two parallel resistivity lows at depth at 330N to 375N, therefore indicating two parallel veins. It is best seen on line 1900E but also on lines 1810E, 1840E, 1870E, and probably 1930E where it appears to weaken out. Thus the probable strike length is 120 meters in a 070°E direction.

The **NQR zone** occurs on lines 1870E to 1930E and probably 1840E as well which gives a minimum strike length of 90 meters with it being open to the east. It is located at 420N to 450N. This zone consists one main alteration zone but a second parallel one, but with weaker intensity, is seen on lines 1900E to 1930E occurring to the south of the main one.

On the eastern-most line, 1930E, the resistivity low is the widest and most intense indicating a strong alteration zone that, in turn, indicates a strong epithermal quartz vein. The resistivity pseudosection shows this vein to come to surface where epithermal quartz vein float material has been located within frost boils.

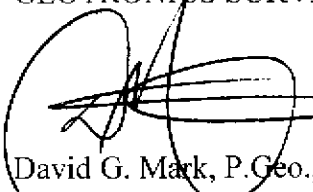
The *EC zone* consists of an alteration zone seen on surface at about 0 to 30N on lines 1780E and 1810E. These two lines, therefore, were extended to the south in order to cover this zone.

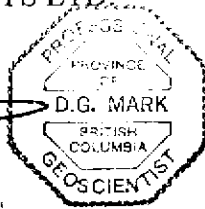
The resistivity pseudosection shows the resistivity low for this zone to be weak and with little depth extent. Therefore, there is a small chance that the low is reflecting an epithermal vein of sufficient size to be of exploration interest.

Strong chargeability (IP) highs occur in the area of the 'B' vein, Sandy, and NQR zones. This is undoubtedly reflecting pyrite mineralization associated with the epithermal veins, as evidenced by the very rusty, or gossanous, zone on surface.

On line 1720E at 135N is a geophysical anomaly that consists of a lineal-shaped IP high correlating with a lineal-shaped resistivity low as well as an SP anomaly. The most likely interpretation is this geophysical response is reflecting a vein system consisting of sulphides. The extension of this anomaly appears to occur on line 1690E at 105N. However, at this location the geophysical response is an SP anomaly correlating with a weak resistivity low and with some minor IP readings. The occurrence on the two lines, therefore, suggests the strike direction to be 025°E.

Respectfully submitted,  
GEOTRONICS SURVEYS LTD.

  
David G. Mark, P. Geo.,  
Geophysicist



March 04, 2002

## GEOPHYSICIST'S CERTIFICATE

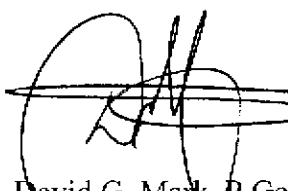
I, DAVID G. MARK, of the City of Vancouver, in the Province of British Columbia, do hereby certify that:

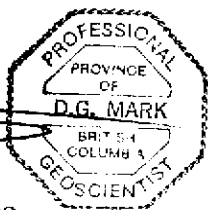
I am registered as a Professional Geoscientist with the Association of Professional Engineers and Geoscientists of the Province of British Columbia.

I am a Consulting Geophysicist of Geotronics Surveys Ltd., with offices at 6204 – 125<sup>th</sup> Street, Surrey, British Columbia.

I further certify that:

1. I am a graduate of the University of British Columbia (1968) and hold a B.Sc. degree in Geophysics.
2. I have been practicing my profession for the past 33 years, and have been active in the mining industry for the past 36 years.
3. This report is compiled from data obtained from an IP and resistivity survey carried out by me over the 'B' vein grid area of the Baker Mine Property from August 13<sup>th</sup> – 24<sup>th</sup>, 2001.
4. I do not hold any interest in Sable Resources Ltd., nor in the property discussed in this report, nor do I expect to receive any interest as a result of writing this report.

  
David G. Mark, P. Geo.  
Geophysicist



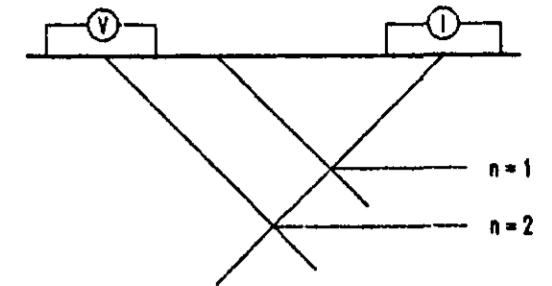
March 04, 2002



Survey Direction: 340 degrees E

26,815

Pseudosection Plotting Method



SELF POTENTIAL (SP)

**LEGEND**

**CONTOUR INTERVALS**

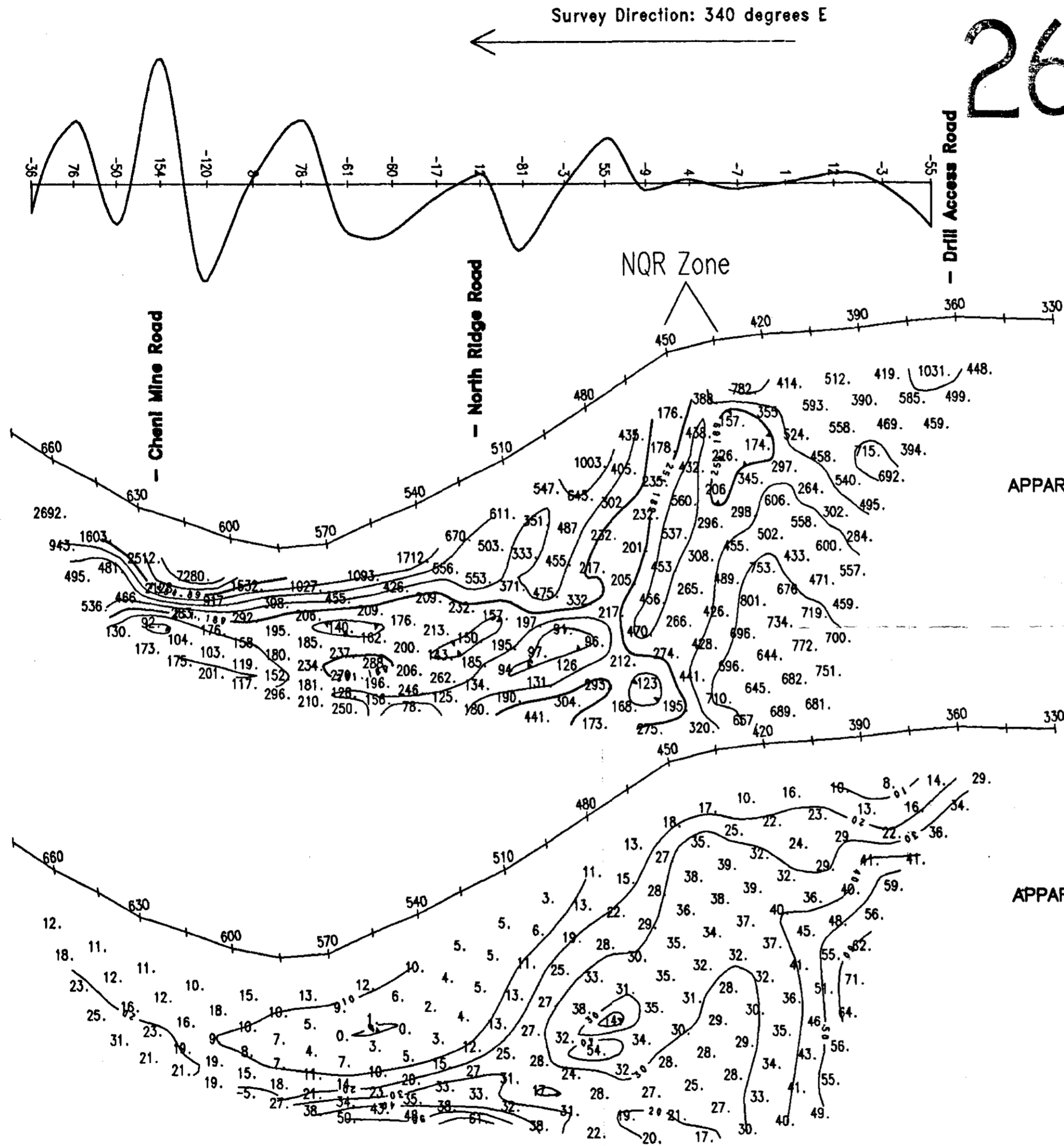
Resistivity : log base 10 ohm-metres  
Chargeability: 10 millisecond

**INSTRUMENTATION**

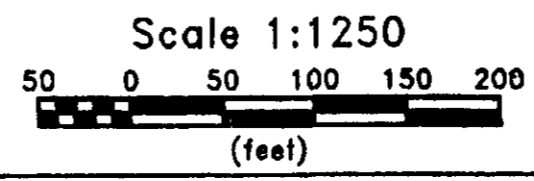
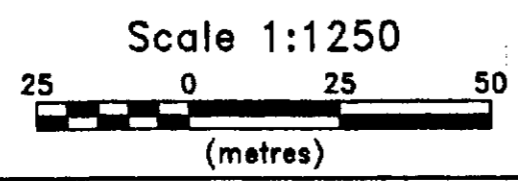
Receiver: BRGM IRIS ELREC 6  
Transmitter: BRGM VIP 4000  
Generator: 6.5 kWatt Honda

**IP SURVEY PARAMETERS**

Survey Mode: Time Domain  
Array: Dipole-Dipole  
Dipole Length: 15 meters (50 feet)  
Dipole separation: n=1 to n=12  
Delay Time: 240 milliseconds  
Integration Time: 1600 milliseconds  
Charge Cycle: 8 second square wave



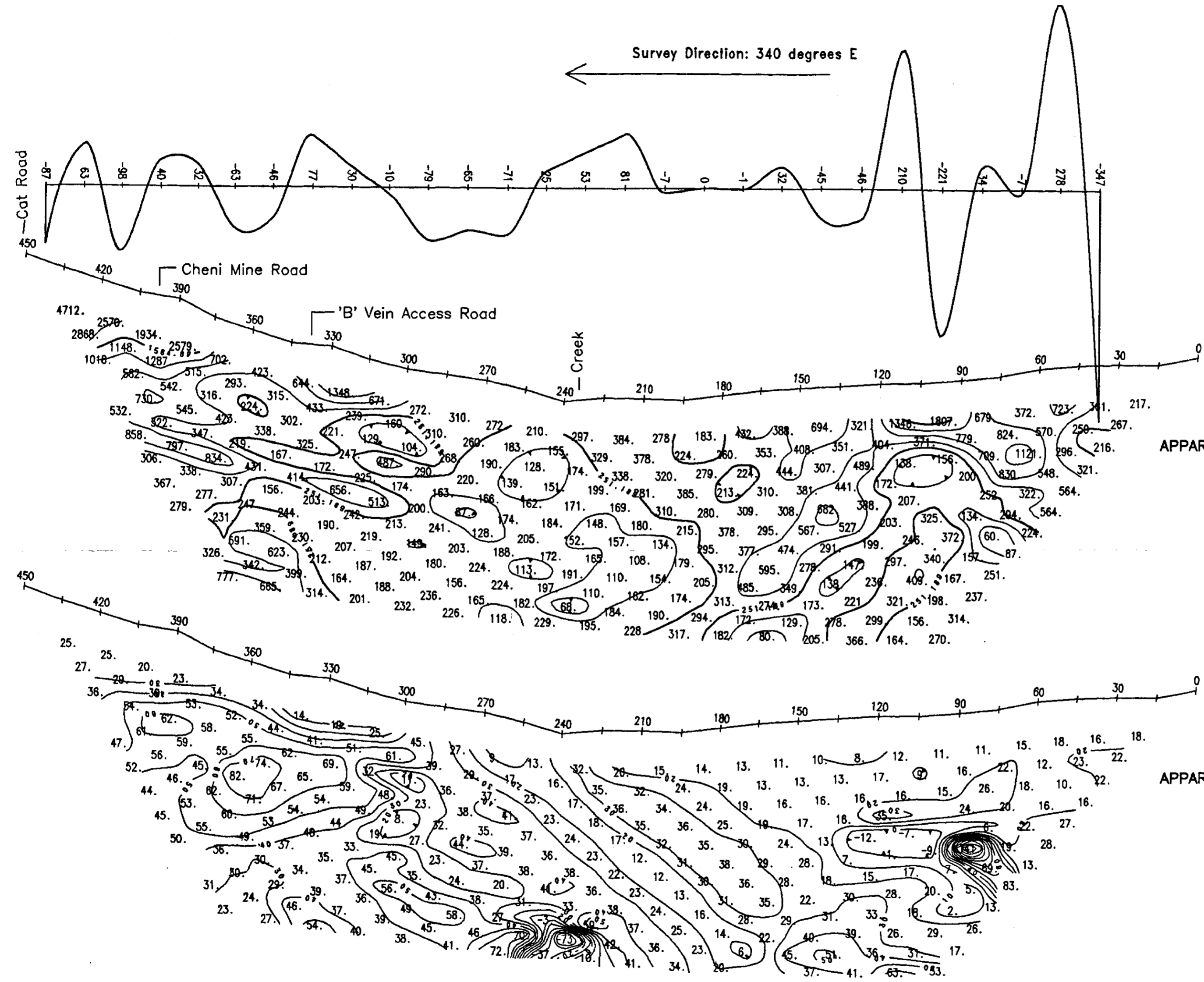
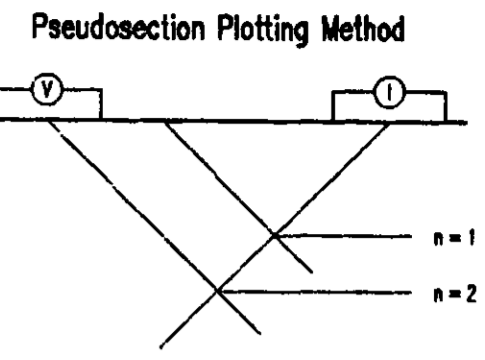
**G**  
GEOTRONICS SURVEYS LTD.  
VANCOUVER BC.



Survey date: AUGUST 2001.

GEOTRONICS SURVEYS LTD.				
SABLE RESOURCES LTD.				
BAKER MINE PROPERTY				
Toodoggone River Area				
Omineca Mining Division, B C				
IP & RESISTIVITY PSEUDOSECTIONS				
WITH SELF POTENTIAL PROFILE				
LINE 1910E				
Drawn by: DGM	Job No. 01-08	NTS 94E/6	Date Aug 01	Fig No. B-11

3



SELF POTENTIAL (SP)

APPARENT RESISTIVITY

APPARENT CHARGEABILITY (IP)

**LEGEND**

**CONTOUR INTERVALS**  
 Resistivity : log base 10 ohm-metres  
 Chargeability: 10 millisecond

**INSTRUMENTATION**  
 Receiver: BRGM IRIS ELREC 6  
 Transmitter: BRGM VIP 4000  
 Generator: 6.5 kWatt Honda

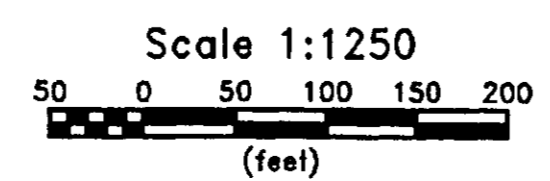
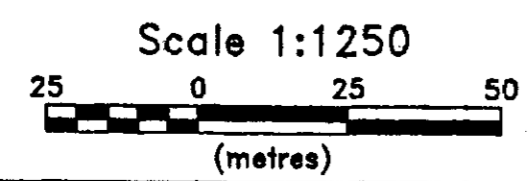
**IP SURVEY PARAMETERS**  
 Survey Mode: Time Domain  
 Array: Dipole-Dipole  
 Dipole Length: 15 meters (50 feet)  
 Dipole separation: n=1 to n=12  
 Delay Time: 240 milliseconds  
 Integration Time: 1600 milliseconds  
 Charge Cycle: 8 second square wave

MINERAL SURVEY BRANCH

26,815



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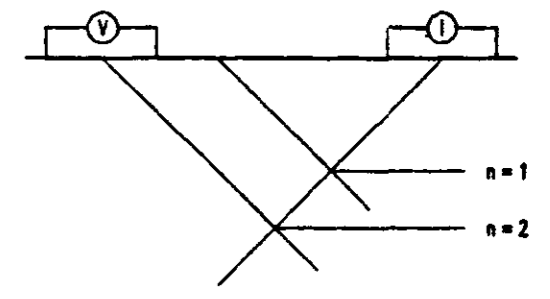


Survey date: AUGUST 2001

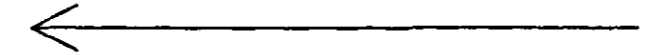
GEOTRONICS SURVEYS LTD.				
SABLE RESOURCES LTD.				
BAKER MINE PROPERTY				
Toodoggone River Area				
Omineca Mining Division, B C				
IP & RESISTIVITY PSEUDOSECTIONS				
WITH SELF POTENTIAL PROFILE				
LINE 1690E				
Drawn by: DGM	Job No. 01-08	NTS 94E/6	Date Aug 01	Fig No. B-10

4

Pseudosection Plotting Method



Survey Direction: 340 degrees E



SELF POTENTIAL (SP)

LEGEND

CONTOUR INTERVALS

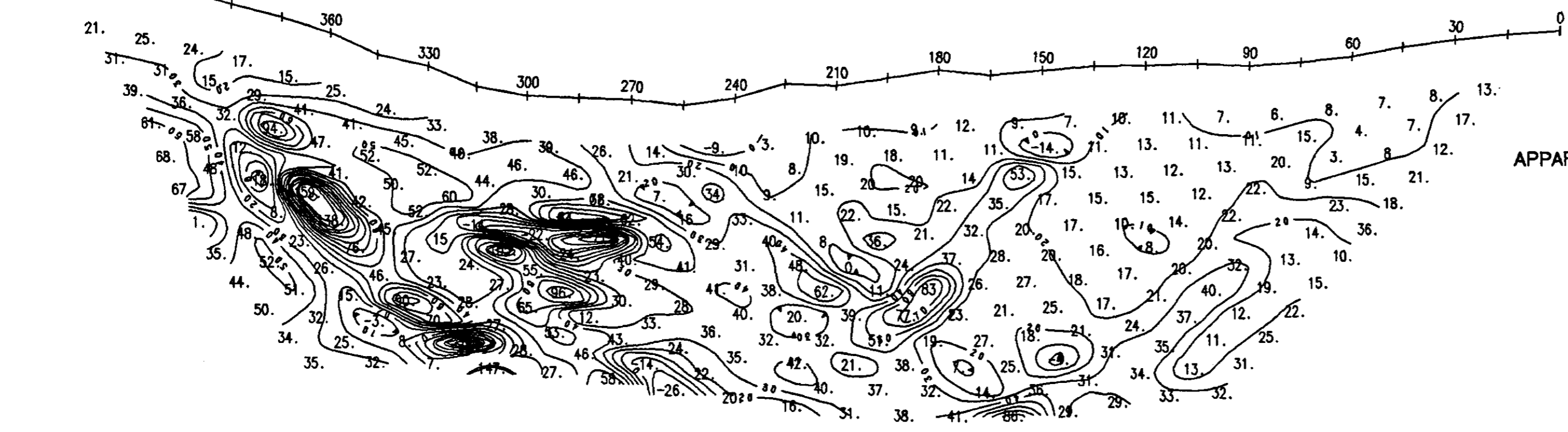
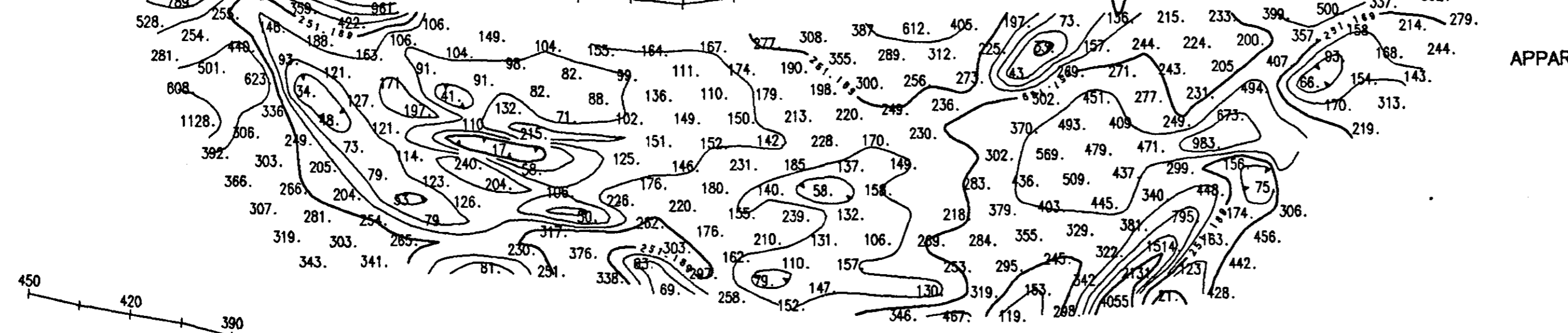
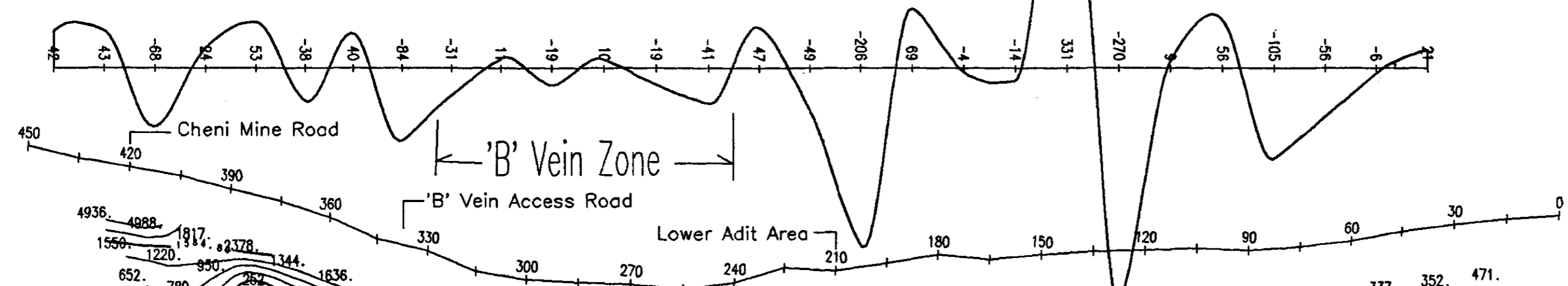
Resistivity : log base 10 ohm-metres  
Chargeability: 10 millisecond

INSTRUMENTATION

Receiver: BRGM IRIS ELREC 6  
Transmitter: BRGM VIP 4000  
Generator: 6.5 kWatt Honda

IP SURVEY PARAMETERS

Survey Mode: Time Domain  
Array: Dipole-Dipole  
Dipole Length: 15 meters (50 feet)  
Dipole separation: n=1 to n=12  
Delay Time: 240 milliseconds  
Integration Time: 1600 milliseconds  
Charge Cycle: 8 second square wave



APPARENT RESISTIVITY

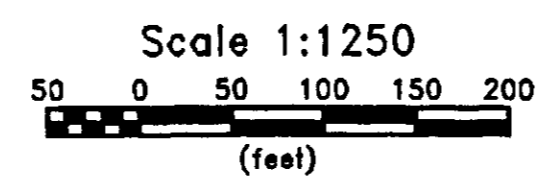
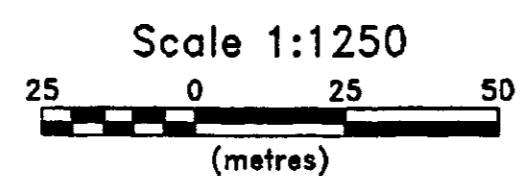
APPARENT CHARGEABILITY (IP)

GEOLOGICAL SURVEY BRANCH  
ASSESSMENT REPORT

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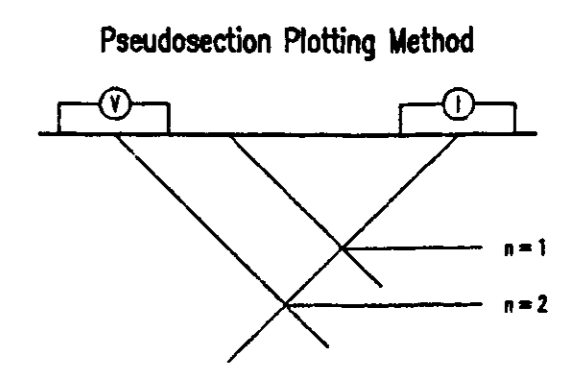
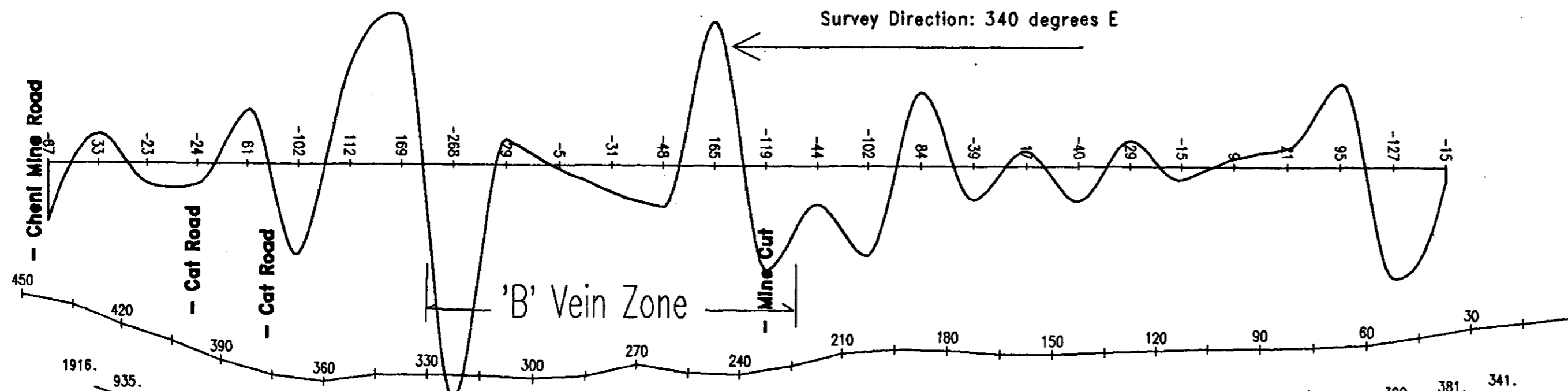


GEOTRONICS SURVEYS LTD.  
VANCOUVER BC.



Survey date: AUGUST 2001

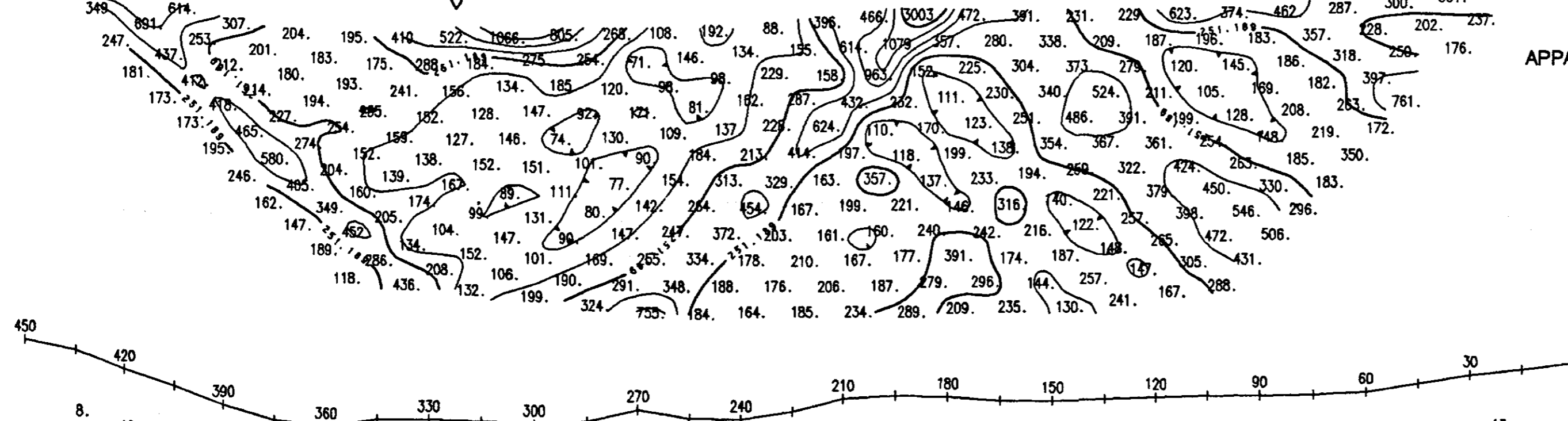
GEOTRONICS SURVEYS LTD.				
SABLE RESOURCES LTD.				
BAKER MINE PROPERTY (5)				
Toodoggone River Area				
Omineca Mining Division, B C				
IP & RESISTIVITY PSEUDOSECTIONS				
WITH SELF POTENTIAL PROFILE				
LINE 1720E				
Drawn by: DGM	Job No. 01-08	NTS 94E/6	Date Aug 01	Fig No. B-9



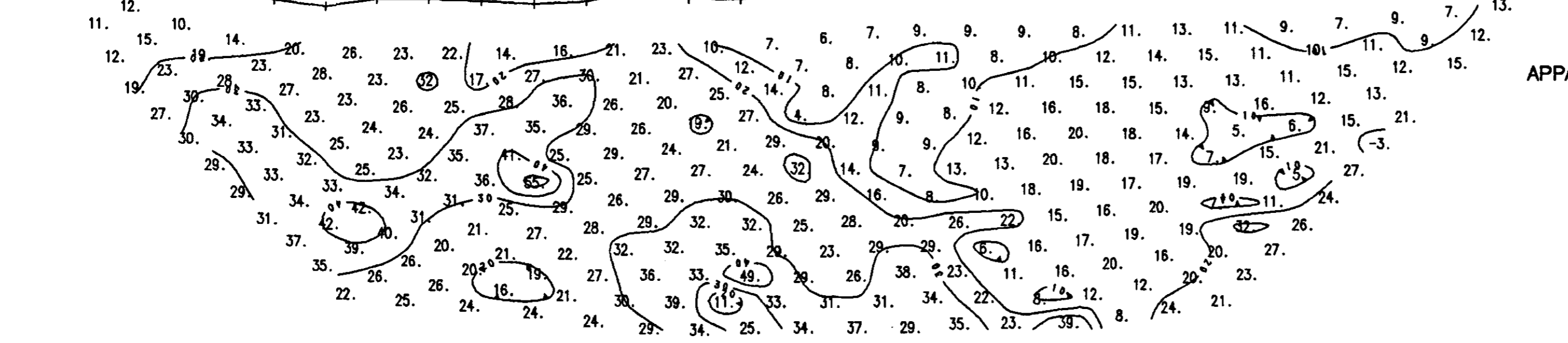
SELF POTENTIAL (SP)

**LEGEND**

- CONTOUR INTERVALS**  
 Resistivity: log base 10 ohm-metres  
 Chargeability: 10 millisecond
- INSTRUMENTATION**  
 Receiver: BRGM IRIS ELREC 6  
 Transmitter: BRGM VIP 4000  
 Generator: 6.5 kWatt Honda
- IP SURVEY PARAMETERS**  
 Survey Mode: Time Domain  
 Array: Dipole-Dipole  
 Dipole Length: 15 meters (50 feet)  
 Dipole separation: n=1 to n=12  
 Delay Time: 240 milliseconds  
 Integration Time: 1600 milliseconds  
 Charge Cycle: 8 second square wave



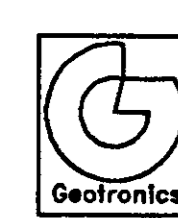
APPARENT RESISTIVITY



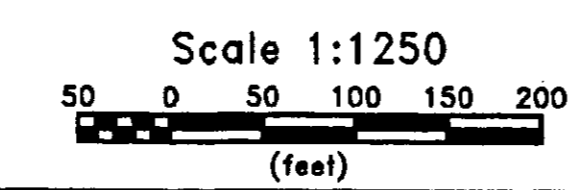
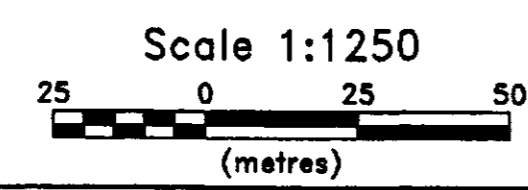
APPARENT CHARGEABILITY (IP)

GEOLOGICAL SURVEY BRANCH  
 TECHNICAL REPORT

26,815

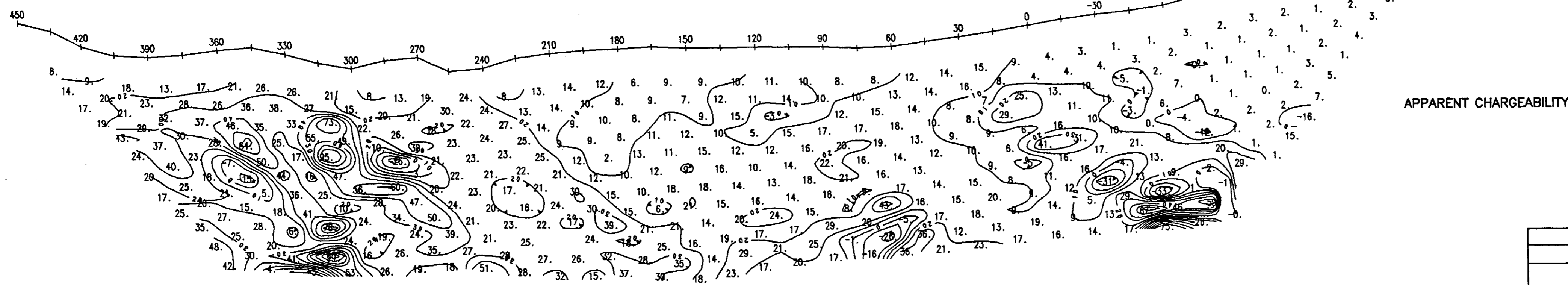
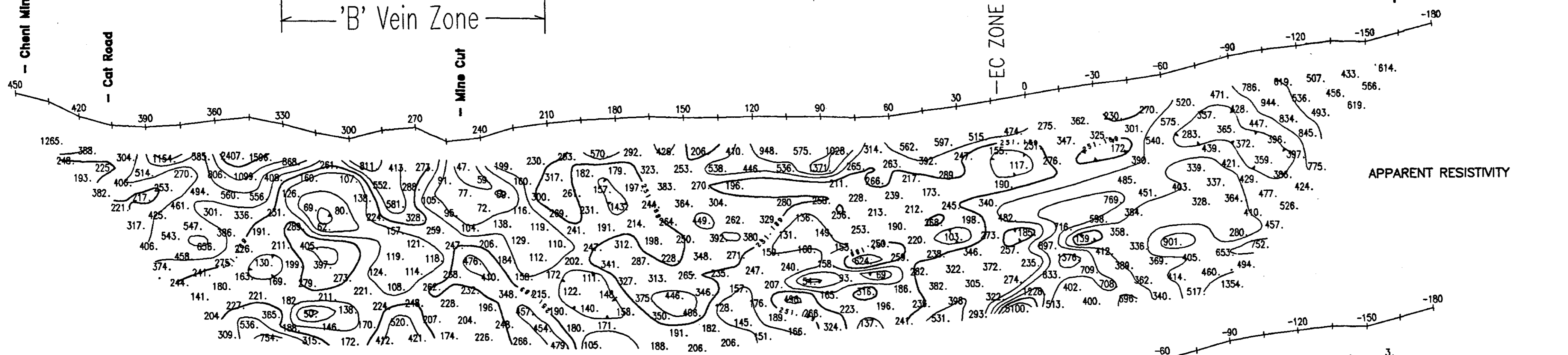
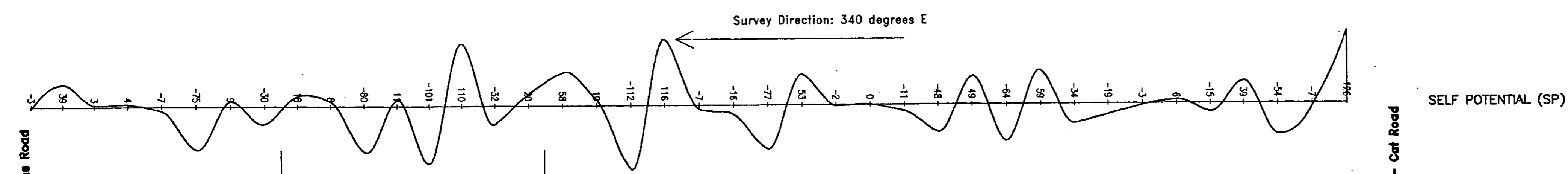
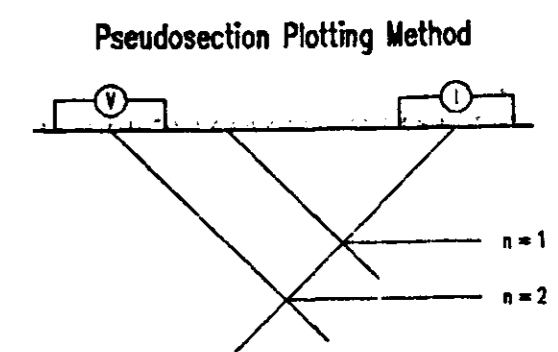


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 VANCOUVER BC.



Survey date: AUGUST 2001

GEOTRONICS SURVEYS LTD.				
SABLE RESOURCES LTD.				
BAKER MINE PROPERTY (6)				
Toodoggone River Area Omineca Mining Division, B C				
IP & RESISTIVITY PSEUDOSECTIONS WITH SELF POTENTIAL PROFILE				
LINE 1750E				
Drawn by: DGM	Job No. 01-08	NTS 94E/6	Date Aug 01	Fig No. B-8



**LEGEND**

**CONTOUR INTERVALS**  
 Resistivity : log base 10 ohm-metres  
 Chargeability: 10 millisecond

**INSTRUMENTATION**  
 Receiver: BRGM IRIS ELREC 6  
 Transmitter: BRGM VIP 4000  
 Generator: 6.5 kWatt Honda

**IP SURVEY PARAMETERS**  
 Survey Mode: Time Domain  
 Array: Dipole-Dipole  
 Dipole Length: 15 meters (50 feet)  
 Dipole separation: n=1 to n=12  
 Delay Time: 240 milliseconds  
 Integration Time: 1600 milliseconds  
 Charge Cycle: 8 second square wave

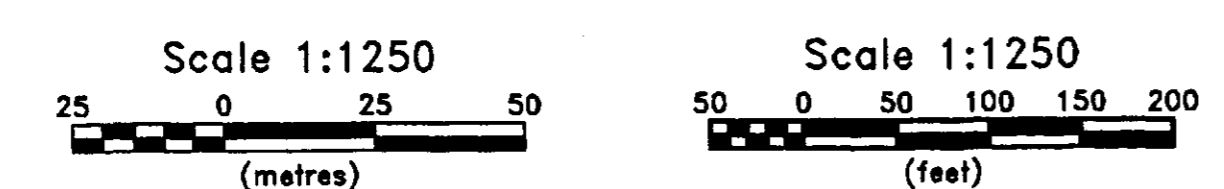
GEOLOGICAL SURVEY BRANCH  
 ASBESTOS REPORT

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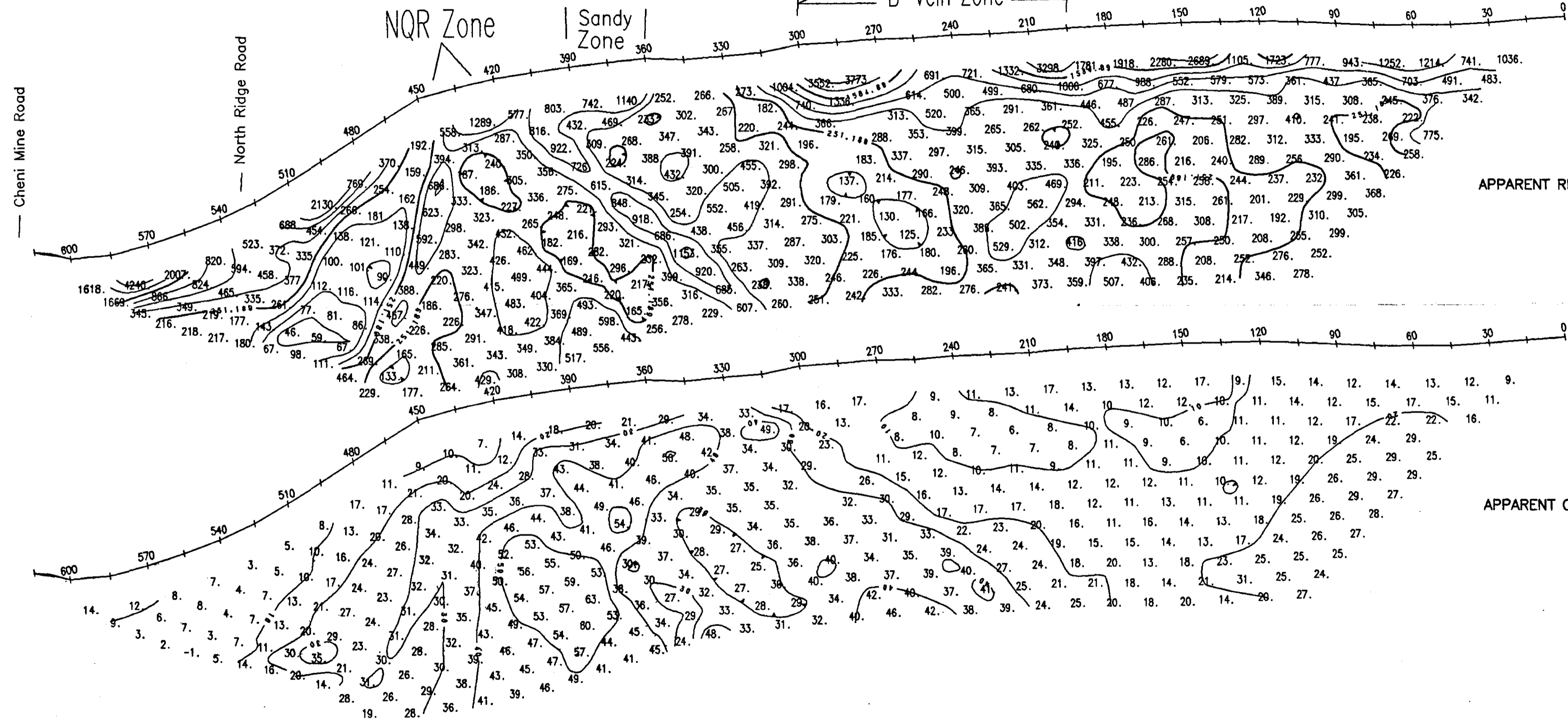
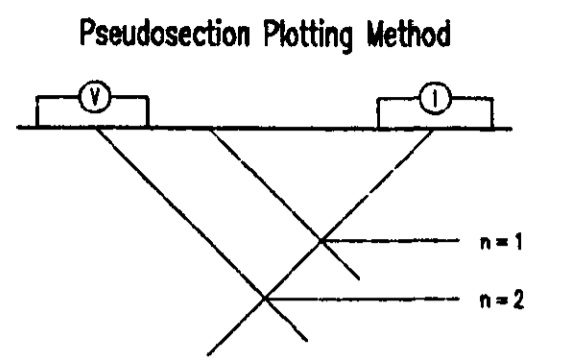
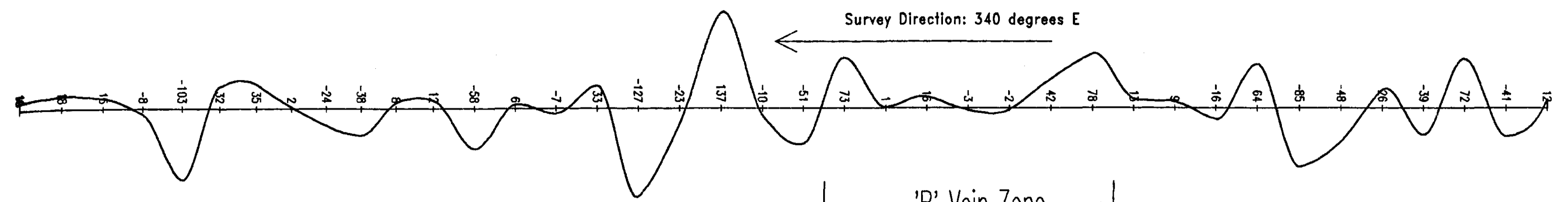
GOTRONICS SURVEYS LTD.				
SABLE RESOURCES LTD.				
BAKER MINE PROPERTY				
Toodoggone River Area				
Omineca Mining Division, B C				
IP & RESISTIVITY PSEUDOSECTIONS				
WITH SELF POTENTIAL PROFILE				
LINE 1780E				
Drawn by: DGM	Job No. 01-08	NTS 94E/6	Date Aug 01	Fig No. B-7



GOTRONICS SURVEYS LTD.  
 VANCOUVER BC.



Survey date: AUGUST 2001



**LEGEND**

- CONTOUR INTERVALS**  
 Resistivity : log base 10 ohm-metres  
 Chargeability: 10 millisecond
- INSTRUMENTATION**  
 Receiver: BRGM IRIS ELREC 6  
 Transmitter: BRGM VIP 4000  
 Generator: 6.5 kWatt Honda
- IP SURVEY PARAMETERS**  
 Survey Mode: Time Domain  
 Array: Dipole-Dipole  
 Dipole Length: 15 meters (50 feet)  
 Dipole separation: n=1 to n=12  
 Delay Time: 240 milliseconds  
 Integration Time: 1600 milliseconds  
 Charge Cycle: 8 second square wave

GEOLOGICAL SURVEY BRANCH  
 ASSOCIATED ENGINEERS

26,815

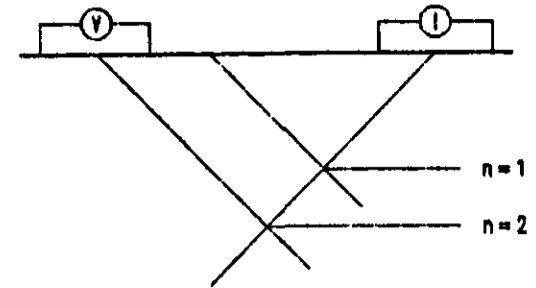
**GEOTRONICS SURVEYS LTD.**  
**VANCOUVER BC.**



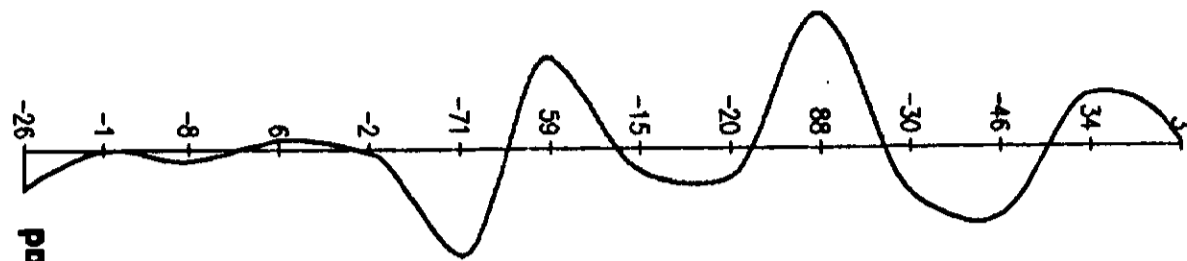
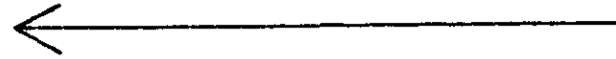
Survey date: AUGUST 2001

GEOTRONICS SURVEYS LTD.				
SABLE RESOURCES LTD.				
BAKER MINE PROPERTY				
Toodoggone River Area				
Omineca Mining Division, B.C. (8)				
IP & RESISTIVITY PSEUDOSECTIONS WITH SELF POTENTIAL PROFILE				
LINE 1930E				
Drawn by: DGM	Job No. 01-08	NTS 94E/6	Date Aug 01	Fig No. B-6

Pseudosection Plotting Method



Survey Direction: 340 degrees E



SELF POTENTIAL (SP)

LEGEND

CONTOUR INTERVALS

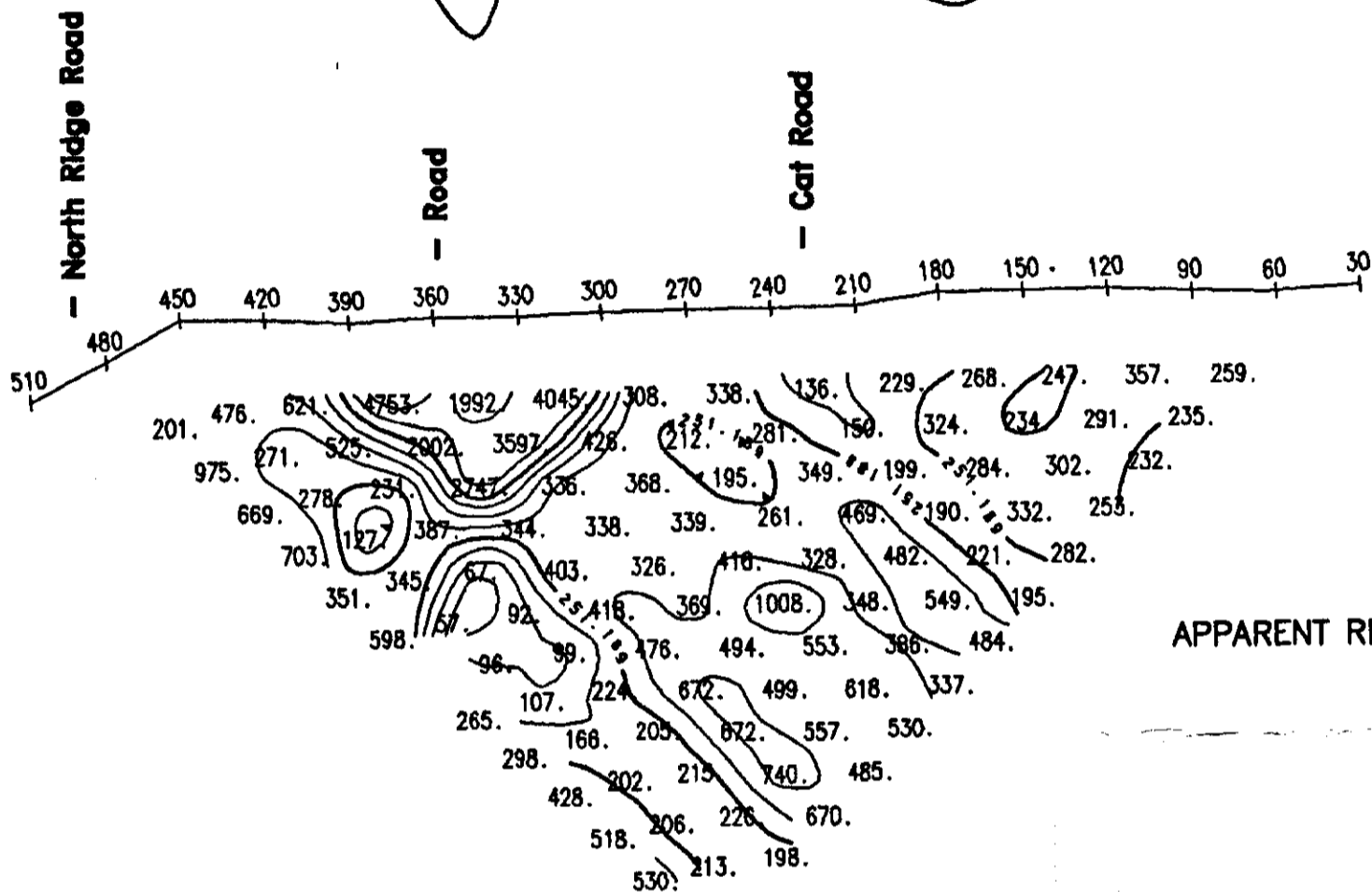
Resistivity : log base 10 ohm-metres  
Chargeability: 10 millisecond

INSTRUMENTATION

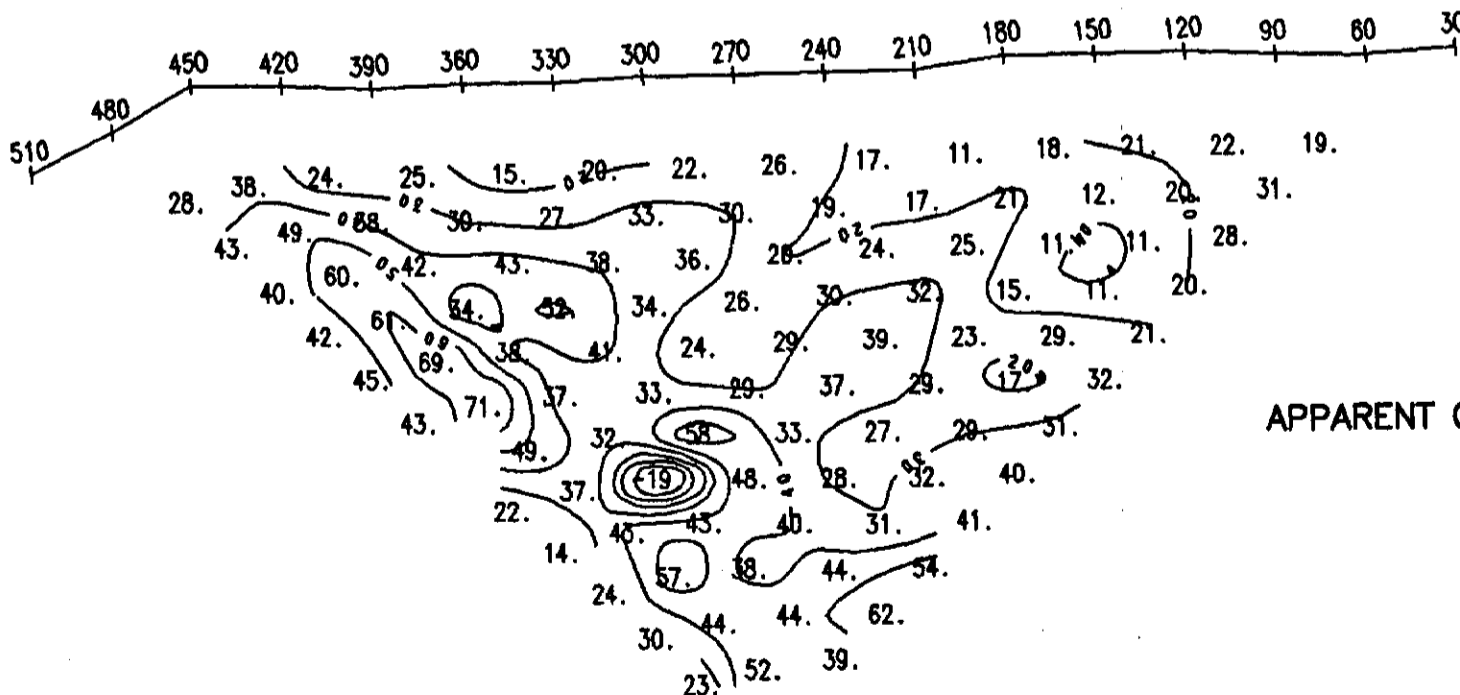
Receiver: ANDROTEX TDR-8  
Transmitter: BRGM VIP 4000  
Generator: 6.5 kWatt Honda

IP SURVEY PARAMETERS

Survey Mode: Time Domain  
Array: Dipole-Dipole  
Dipole Length: 30 meters (100 feet)  
Dipole separation: n=1 to n=12  
Delay Time: 80 milliseconds  
Integration Time: 1760 milliseconds  
Charge Cycle: 8 second square wave



APPARENT RESISTIVITY



APPARENT CHARGEABILITY (IP)

GEOLOGICAL SURVEY BRANCH  
ASST.

26,015

GOTRONICS SURVEYS LTD.

SABLE RESOURCES LTD.

BAKER MINE PROPERTY

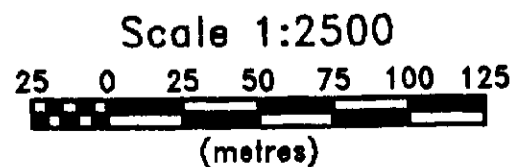
Toodoggone River Area  
Omineca Mining Division, B C

IP & RESISTIVITY PSEUDOSECTIONS  
WITH SELF POTENTIAL PROFILE  
LINE 1870E(30m)

Drawn by: DGM	Job No. 00-10	NTS 94E/8	Date Sept 00	Fig No. B-5
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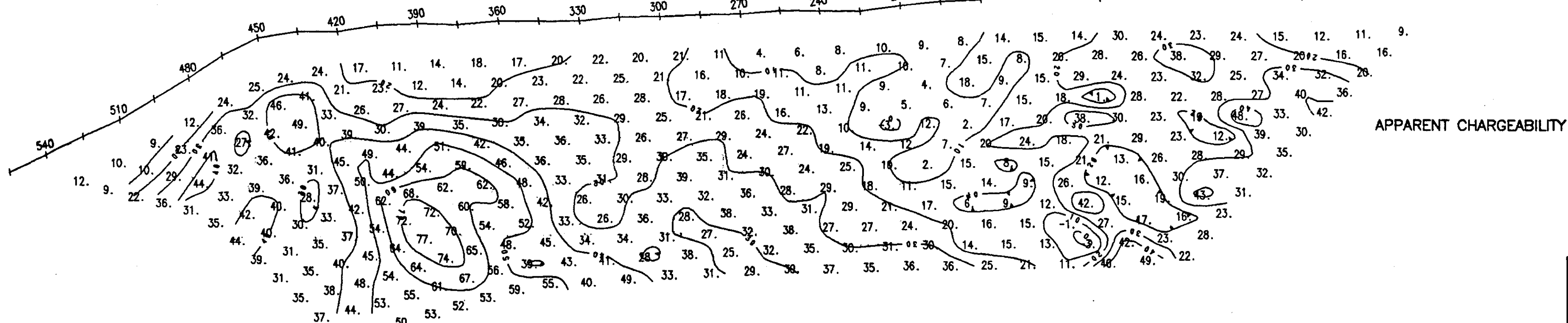
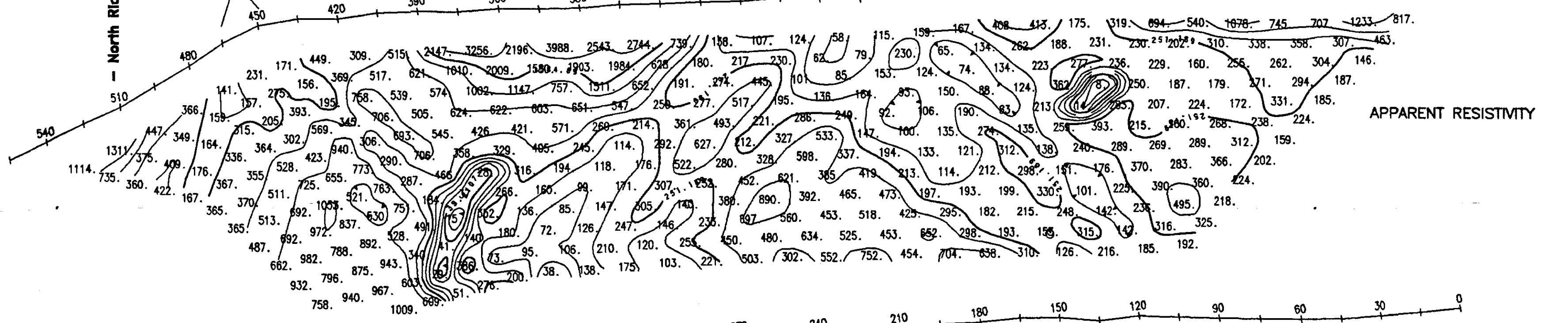
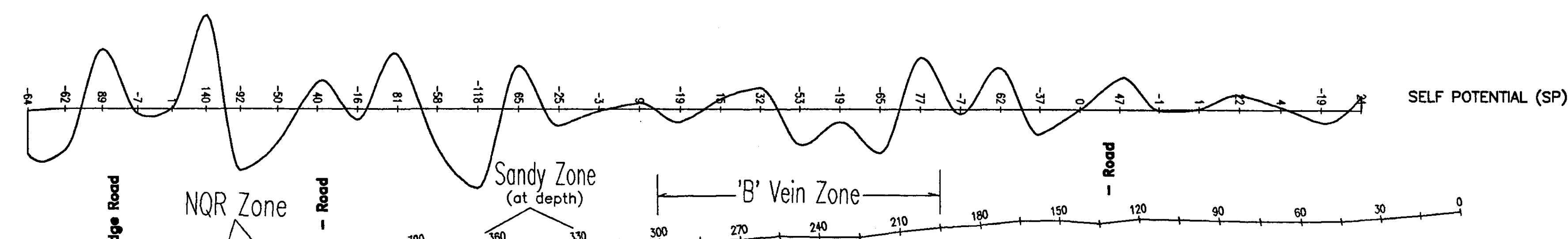
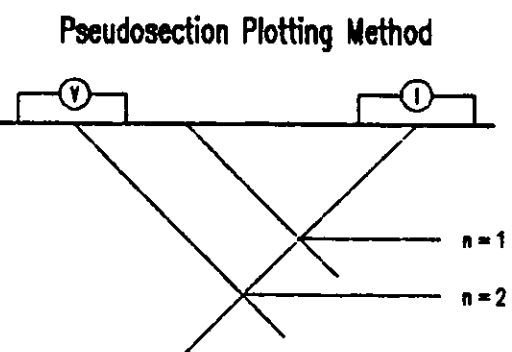
GEOTRONICS SURVEYS LTD.  
VANCOUVER BC.



Survey date: SEPTEMBER 2000

9

Survey Direction: 340 degrees E



**LEGEND**

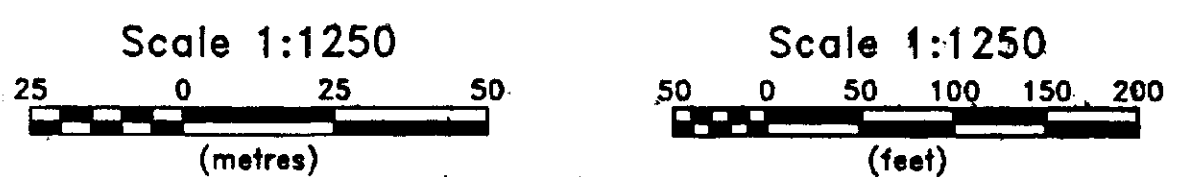
- CONTOUR INTERVALS**  
 Resistivity : log base 10 ohm-metres  
 Chargeability: 10 millisecond
- INSTRUMENTATION**  
 Receiver: ANDROTEX TDR-6  
 Transmitter: BRGM VIP 4000  
 Generator: 6.5 kWatt Honda
- IP SURVEY PARAMETERS**  
 Survey Mode: Time Domain  
 Array: Dipole-Dipole  
 Dipole Length: 15 meters (50 feet)  
 Dipole separation: n=1 to n=12  
 Delay Time: 80 milliseconds  
 Integration Time: 1760 milliseconds  
 Charge Cycle: 8 second square wave

GEOLOGICAL SURVEY BRANCH  
 ASST. COMMISSIONER

26,815



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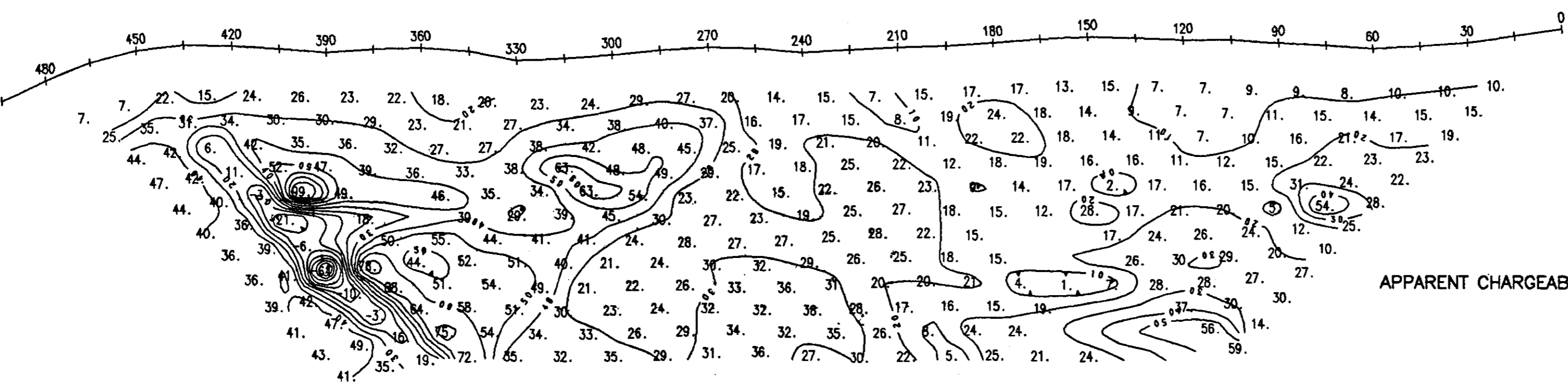
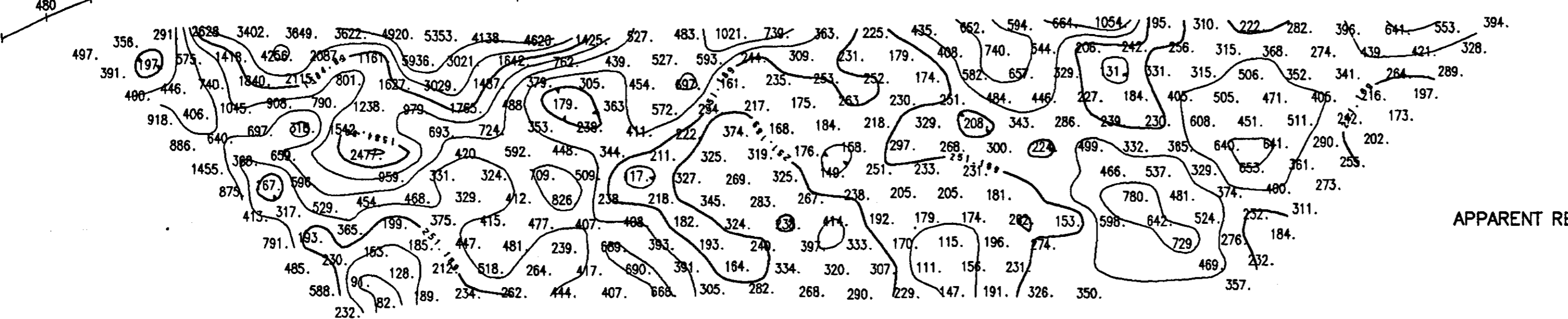
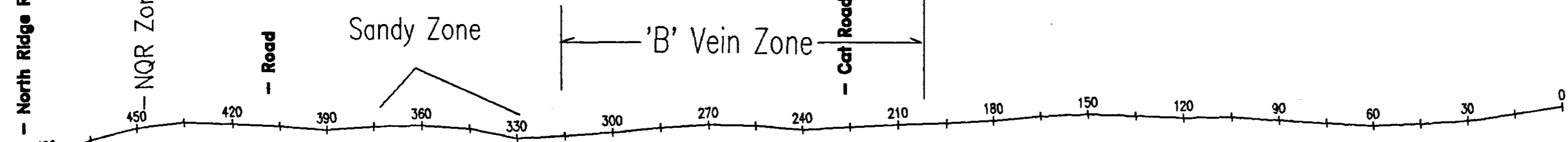
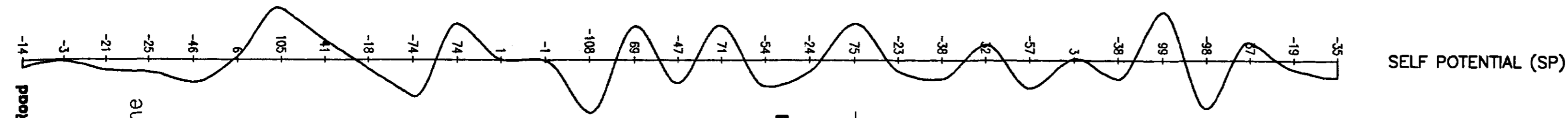
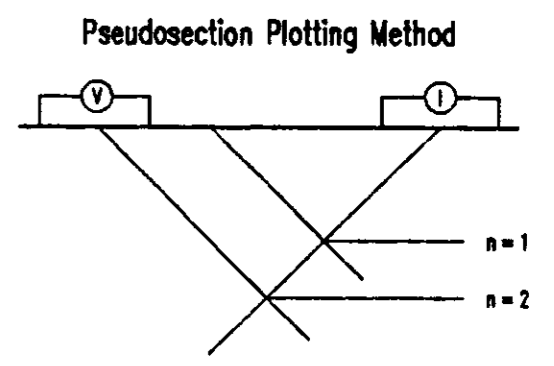
Survey date: SEPTEMBER 2000

GEOTRONICS SURVEYS LTD.				
SABLE RESOURCES LTD.				
BAKER MINE PROPERTY				
Toodoggone River Area				
Omineca Mining Division, B C				
IP & RESISTIVITY PSEUDOSECTIONS				
WITH SELF POTENTIAL PROFILE				
LINE 1900E				
Drawn by: DGM	Job No. 00-10	NTS 94E/6	Date Sept 00	Fig No. B-4





Survey Direction: 340 degrees E



**LEGEND**

**CONTOUR INTERVALS**

Resistivity : log base 10 ohm-metres  
 Chargeability: 10 millisecond

**INSTRUMENTATION**

Receiver: ANDROTEX TDR-6  
 Transmitter: BRGM VIP 4000  
 Generator: 6.5 kWatt Honda

**IP SURVEY PARAMETERS**

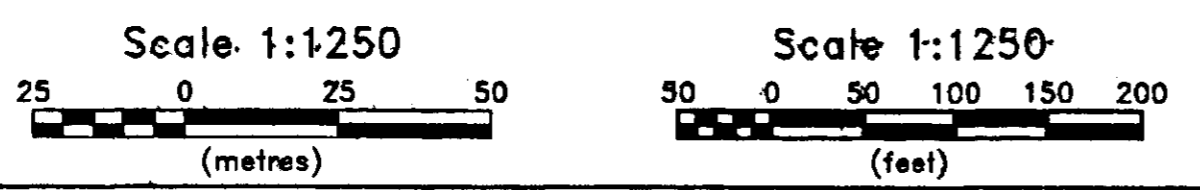
Survey Mode: Time Domain  
 Array: Dipole-Dipole  
 Dipole Length: 15 meters (50 feet)  
 Dipole separation: n=1 to n=12  
 Delay Time: 80 milliseconds  
 Integration Time: 1760 milliseconds  
 Charge Cycle: 8 second square wave

GEOLOGICAL SURVEY BRANCH  
 ASSOCIATION

26,815



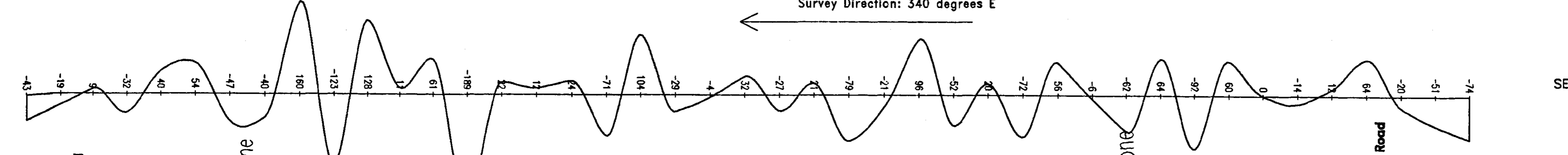
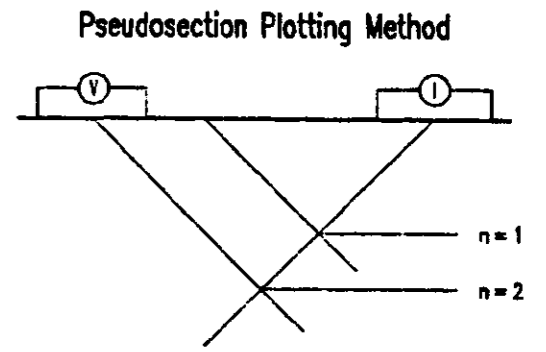
GEOTRONICS SURVEYS LTD.  
 VANCOUVER BC.



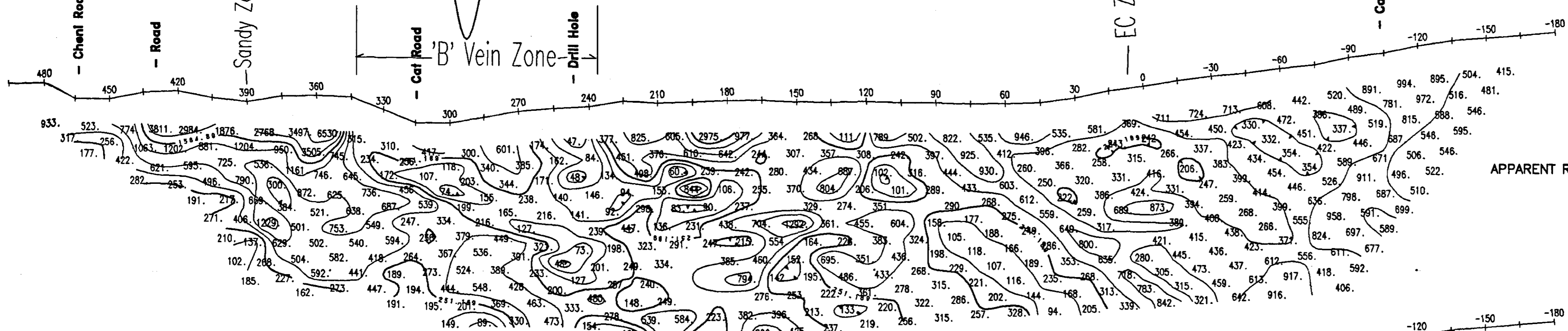
Survey date: SEPTEMBER 2000

GEOTRONICS SURVEYS LTD.				
SABLE RESOURCES LTD.				
BAKER MINE PROPERTY				
Toodoggone River Area				
Omineca Mining Division, B C				
IP & RESISTIVITY PSEUDOSECTIONS				
WITH SELF POTENTIAL PROFILE				
LINE 1840E				
Drawn by: DGM	Job No. 00-10	NTS 94E/6	Date Sept 00	Fig No. B-2

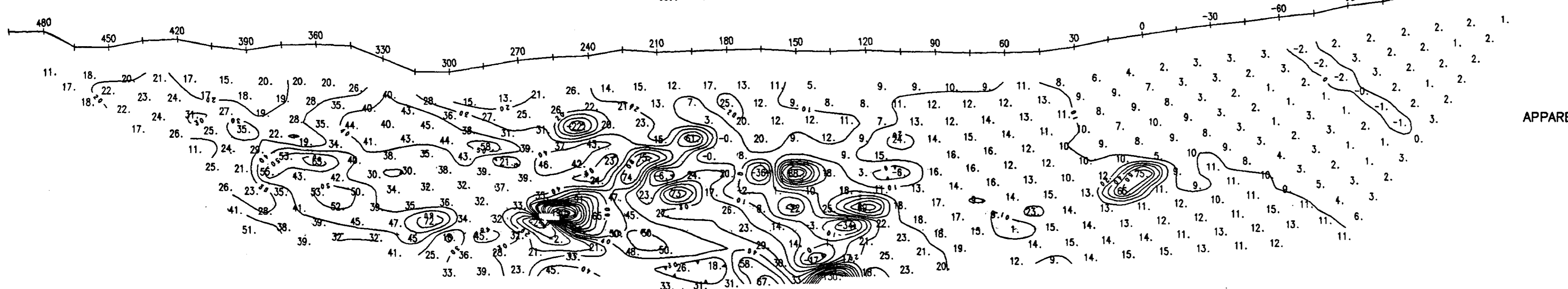
Survey Direction: 340 degrees E



SELF POTENTIAL (SP)



APPARENT RESISTIVITY



APPARENT CHARGEABILITY (IP)

LEGEND

- CONTOUR INTERVALS**  
 Resistivity: log base 10 ohm-metres  
 Chargeability: 10 millisecond
- INSTRUMENTATION**  
 Receiver: BRGM IRIS ELREC 6  
 Transmitter: BRGM VIP 4000  
 Generator: 6.5 kWatt Honda
- IP SURVEY PARAMETERS**  
 Survey Mode: Time Domain  
 Array: Dipole-Dipole  
 Dipole Length: 15 meters (50 feet)  
 Dipole separation: n=1 to n=12  
 Delay Time: 240 milliseconds  
 Integration Time: 1600 milliseconds  
 Charge Cycle: 8 second square wave

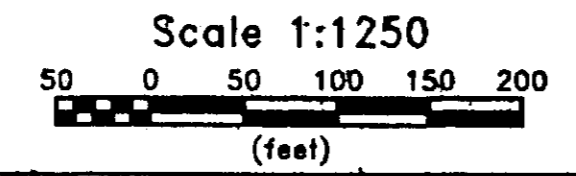
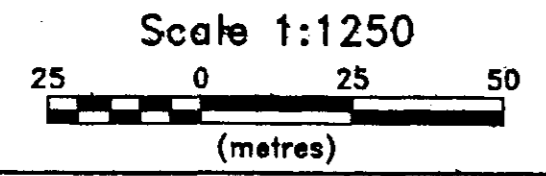
GEOLOGICAL SURVEY BRANCH

26,815

13



GEOTRONICS SURVEYS LTD.  
VANCOUVER BC.



Survey date: AUGUST 2001

GEOTRONICS SURVEYS LTD.				
SABLE RESOURCES LTD.				
BAKER MINE PROPERTY				
Toodoggone River Area				
Ormineca Mining Division, B.C.				
IP & RESISTIVITY PSEUDOSECTIONS				
WITH SELF POTENTIAL PROFILE				
LINE 1810E(NEW)				
Drawn by: DGM	Job No. 01-08	NTS 94E/8	Date Aug 01	Fig No. B-1A