

ASSESSMENT REPORT
1985 SOIL GEOCHEMISTRY REPORT ON THE
BLACK I, II, III AND IV MINERAL CLAIMS

Toodoggone River Area
OMINECA M.D.
NTS 94 E/63E

Latitude 57° 03' 16" N
Longitude 127° 03' 47" W

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

For

Operator:

Toodoggone Syndicate
9251 Beckwith Road
Richmond, B.C.
V6X 1V7

Owner: Clive Ashworth

14,732

FILMED

By

Malcolm Bell
Hi-Tec Resource Management Ltd.
1590 - 609 Granville Street
Vancouver, B.C.
V7Y 1C6

January 15, 1986

Work Done: September 11 and 12, 1985

Claims Worked

Claim Name	Units	Record No.	Anniversary Date
Black I	15	6922	March 25
Black II	15	6923	March 25
Black III	20	6924	March 25
Black IV	12	6925	March 25



HI-TEC
RESOURCE
MANAGEMENT
LIMITED

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SUMMARY

The Black I, II, III and IV mineral claims are located in the Toodoggone River area, some 250 kilometers north of Smithers, B.C. The Toodoggone gold belt extends from the Stikine River to Thutade Lake and hosts numerous precious metal prospects.

Preliminary exploration work on the Black claims conducted in 1985 included reconnaissance silt and contour soil geochemistry. This work has delineated several areas that are anomalous in gold, silver, arsenic and copper.

INTRODUCTION

Property and Ownership

The Black group consists of the Black I, II, III and IV mineral claims, which together comprise 62 claim units (Figure 2). The claims were recorded on March 25, 1985 and are owned by the Toodoggone Syndicate.

The pertinent claim data are as follows:

<u>Claim</u>	<u>Record No.</u>	<u>Units</u>	<u>Record Date</u>
Black I	6922	15	March 25, 1985
Black II	6923	15	March 25, 1985
Black III	6924	20	March 25, 1985
Black IV	6925	12	March 25, 1985

Location and Access

The Black claims are situated in the Toodoggone River area, 250 kilometers north of Smithers, B.C. and are approximately four kilometers southeast of the Baker gold-silver mine of Dupont of Canada Exploration Ltd. Access to the Black claims is by fixed-wing aircraft to the Sturdee River airstrip, and then by gravel road for 7 kilometers to the north.



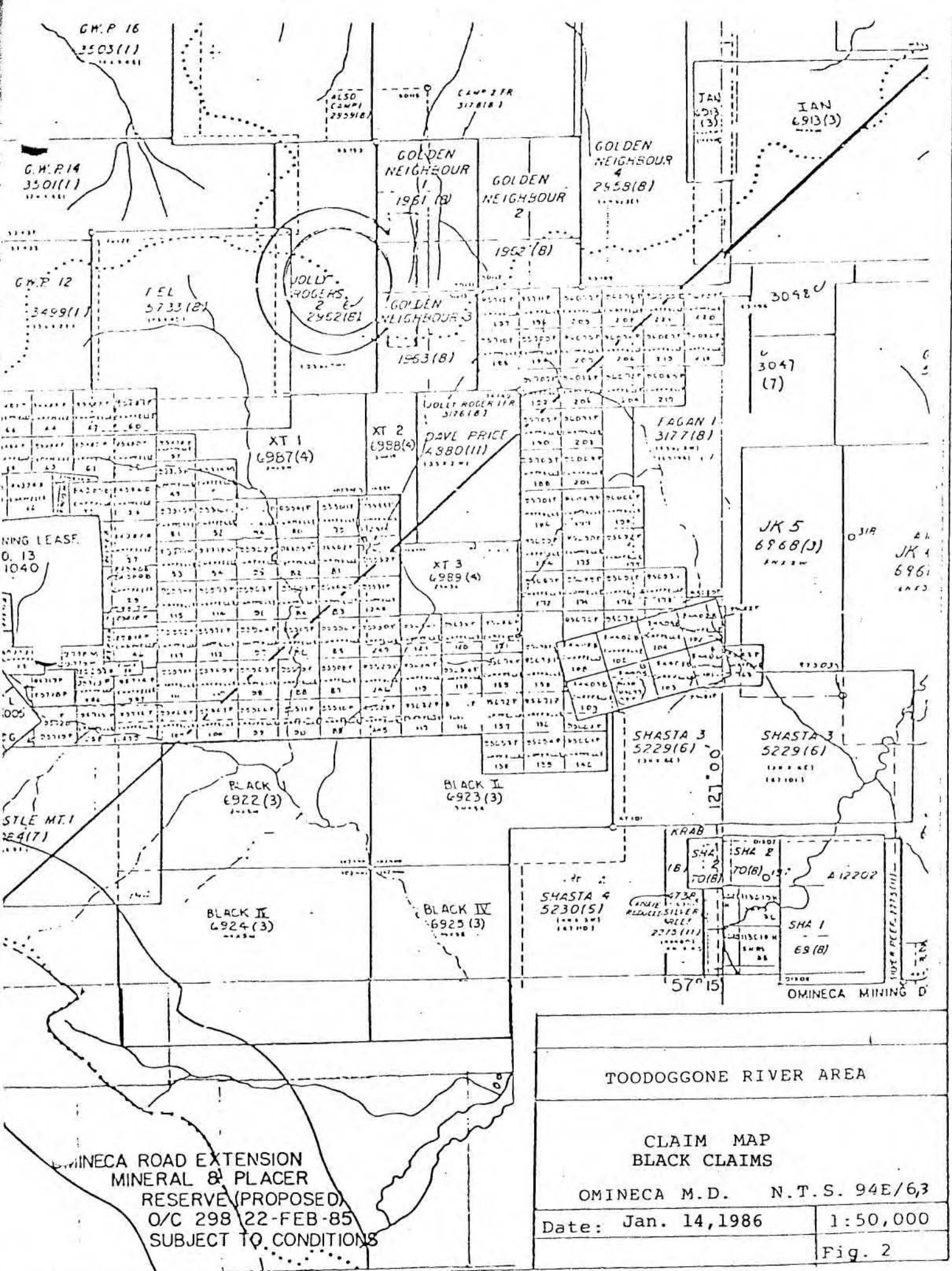
TOODOGGONE RIVER AREA

LOCATION MAP
BLACK CLAIMS

Omineca M.D.

NTS 94 E/6,3

OWN BY:	DATE:
CHK BY:	FIGURE
SCALE AS SHOWN	1



Construction of a new gravel road into the area is scheduled to begin in 1986 and this road will cut the southwest corner of the Black II claim.

While conducting the work herein reported on, the crew stayed at a base camp at the Sturdee airstrip and accessed the property by helicopter.

History and Previous Work

The earliest record of exploration and mining in the area relates to placer mining activities on McClair Creek and Toadoggone River in 1930. There was sporadic exploration for gold, copper, lead and zinc between 1934 and 1960. The area was actively explored by Sumitomo, Umex and Texas Gulf Sulphur between 1963 and 1967, and in 1968 for porphyry copper and molybdenum deposits by Kennco Exploration (Western) Ltd., Cominco Ltd., and Cordilleran Engineering Ltd.

Kennco Exploration (Western) Ltd. recognized the precious metal potential of the area and staked the Lawyers and Chapelle claims and explored them until 1975. The Chapelle property was eventually optioned to Conwest Explorations Ltd. and then to DuPont of Canada Exploration Ltd. This led to the discovery of the Baker deposit. The Baker mine was placed into production with indicated reserves of 70,000 tons and grades of 0.9 oz/T Au and 19.0 oz/T Ag in the A vein. The Baker deposit was mined out in 1983. The Lawyers property is presently held under option to Serem Inc. Surface and underground drilling has defined a deposit containing 1,000,00 tons grading 0.21 oz/T Au and 7.1 oz/T Ag (Schroeter, 1985).

Energex Minerals Ltd. has recently reported drill indicated reserves of 160,000 tons with a grade of 0.37 oz/T Au.

There is no record of previous work being done on the area now covered by the Black claims.

REGIONAL GEOLOGY AND MINERALIZATION

The Toodoggone gold camp is a 15 to 20 kilometer wide belt of volcanic, sedimentary and intrusive rocks extending northwesterly from Thutade Lake to the Stikine River, a distance of more than 100 kilometers. The oldest rocks in the area belong to the Asitka Group of Permian age. This group consists of cherts, argillites, limestone and greenstones. They are overlain by the Takla Group, which consists of intermediate flows and pyroclastics of Upper Triassic age. The Takla is characterized by abundant flows of augite andesite, basalt, porphyritic feldspar andesite and their volcanoclastic sedimentary equivalents.

The volcanic rocks lying stratigraphically above the Takla Group have been classified under two headings: i) the Toodoggone Group and ii) the Hazelton Group. The Toodoggone Group is of Lower Jurassic age and is equivalent to the base of the Hazelton Group (Panteleyev, 1984). The Toodoggone volcanics consist predominantly of subaerial dacite, latite, trachyte and rhyolite pyroclastic rocks more than 500 metres in thickness, which unconformably overlie the Takla. The majority of the epithermal precious metal occurrences in the area are associated with the Toodoggone volcanic rocks. However, the Baker deposit occurs in Takla volcanic rocks.

The Toodoggone volcanics are bordered on the east by, and are in fault contact with, the Hazelton Group rocks, consisting of intermediate volcanic conglomerate, breccia, lahar and abundant pink feldspar porphyry dikes and sills. These rocks range in age from Lower Jurassic to Upper Jurassic.

In addition to the abundant intrusive dikes and sills noted within the Toodoggone and Hazelton Groups, acid to intermediate and alkaline stocks and plugs intrude the Toodoggone area.

The Toodoggone camp exhibits at least four types of precious metal mineralization, the most common of which is epithermal in origin. The epithermal deposits occur as massive quartz veins such as at the Baker mine, or as silicified zones and amethystine breccia zones such as at the Lawyers deposit. They are generally proximal to major northwest faults and are associated with siliceous volcanic centres, exhalative vents and zones of alteration within the

Toodoggone volcanics. Quartz, barite and carbonate are the chief gangue minerals. The vein minerals are acanthite, pyrite, electrum, chalcopyrite, native gold, sphalerite and galena. Grades range from 0.1 to 1.0 oz/T Au and 1.0 to 20.0 oz/T Ag.

Property Geology

No detailed geological mapping has been done on the Black group. Regional mapping by the British Columbia Ministry of Mines shows the claims to be underlain by three different rock units that are in fault contact with each other (Diakow et al., 1985). Portions of the Black Lake quartz monzonite stock are exposed on the western part of the claims. This unit is in contact with Upper Triassic volcanic rocks which occur as a thin wedge near the centre of the group. The most eastern portion of the claim is marked by acid to intermediate tuffs and breccias of the Toodoggone Group.

Mineralization

There are no known mineral occurrences on the Black claims. Despite this fact the presence of favourable Toodoggone Group volcanic rocks, and the property's location between two precious metal deposits make it a target worth pursuing. The results of the geochemical survey reported herein support this belief.

GEOCHEMISTRY

Sampling and Analytical Procedure

A total of 81 soil samples, and 5 panned concentrate samples were collected in 1985 for geochemical analysis from the Black group. This work was conducted by J. Ashenhurst, T. Archibald, B. Dent and T. Roocroft under the supervision of M. Bell of Hi-Tec Resource Management Ltd. during the period of September 11 and 12, 1985. Soil samples were collected at 50 metre intervals along two contour traverse lines at approximately 1,500 and 1,600 metre elevations. Samples were taken with a mattock from depths of 15 cm to 25 cm, placed in numbered kraft paper bags and shipped to Min-En Laboratories Ltd. in North Vancouver for analysis.

Soil samples were dried at approximately 90°C and then sieved to minus 80 mesh. A 0.5 gram portion of each sample was extracted by digestion with nitric acid and aqua regia followed by six element ICP analysis. Panned concentrates were separated by heavy liquid and crushed before extraction and ICP analysis. Gold was extracted by aqua regia solution and measured by atomic absorption.

Presentation and Discussion of Results

The analytical results are presented in Appendix I. Significant anomalous values are plotted on Figure 3. It can be seen from this plot that a number of soils are anomalous for gold, with values falling in the range of 10-125 ppb gold. Values over 1 ppm silver and 10 ppb gold are considered anomalous. The four consecutive anomalous samples #15, 16, 17 and 18 were taken over the Toodoggone volcanic rocks in the eastern part of the Black II claim. Anomalous panned concentrate sample #4 (2,580 ppb Au and 1.4 ppm Ag) was collected from a creek draining the same area. By comparison the panned concentrate sample #44 (40 ppb Au and 8.4 ppm Ag) was taken on the main Chapelle Creek which drains from the Baker deposit.

CONCLUSIONS

The potential for the discovery of precious metal mineralization appears best in two areas of the property. The most attractive area lies on the eastern part of the Black II claim which is underlain by Toodoggone volcanic rocks. The second area of interest is along the northwest fault structures which separate the volcanic rocks from the Black Lake quartz monzonite stock.

RECOMMENDATIONS

A program of detailed geological mapping, soil sampling, VLF-EM surveying and rock chip sampling should be conducted to locate and define the main sources of gold, silver, arsenic and copper anomalies on the Black group.

Respectfully, submitted

A handwritten signature in cursive script, reading "Malcolm Bell".

HI-TEC RESOURCE MANAGEMENT LTD.

STATEMENT OF COSTS

Personnel

J. Ashenhurst	1 day @ \$260.00/day	\$,260.00
T. Archibald	1 day @ \$225.00/day	225.00
B. Dent	1 day @ \$225.00/day	225.00
T. Roocroft	1 day @ \$225.00/day	<u>225.00</u>
		\$ 935.00

Mobilization/Demobilization		\$1,500.00
Materials		175.00
Expediting		140.00
Fixed Wing Charters		275.00
Helicopter		318.00
Meals Accomodation	3 days @ \$50.00/day	150.00
Camp Support Costs	3 days @ \$25.00/day	75.00
Assays - 88 soils @ \$10.35		910.80
- 3 pan concentrates @ \$12.35		37.05
Supervision (M. Bell)		800.00
Drafting		150.00
Assessment Report Writing, Compilation, Copying		<u>1,000.00</u>

TOTAL: \$6,465.85

STATEMENT OF QUALIFICATIONS

I, Malcolm Bell, of Vancouver, B.C., hereby certify that:

1. I have worked in mineral exploration since 1970.
2. I am the president of Hi-Tec Resource Management Limited and have been supervising and directing exploration programs in Canada, Colombia, S.A., and Australia since Hi-Tec was established in May, 1980.
3. I have successfully completed studies in Survey Engineering at B.C.I.T. (1979).
4. This report is based on survey work completed by personnel under my direct supervision.

Dated at Vancouver B.C. this 9 day of March, 1986.

MALCOLM BELL

A handwritten signature in cursive script that reads "Malcolm Bell". The signature is written in dark ink and is positioned below the printed name "MALCOLM BELL".

APPENDIX I

Analytical Results

ATTENTION: MALCOLM BELL

(604)980-5814 OR (604)988-4524

TYPE SOIL GEOCHEM # DATE: OCT 7, 1985

VALUES IN PPM	AG	AS	BA	CU	PK	ZN	AU-PPB
001 40M	.3	1	87	22	22	50	10
003	.7	1	78	23	18	47	5
005 40M	.4	4	66	15	18	60	5
007 20M	.5	19	38	11	27	47	5
008	.2	5	66	15	19	35	10
009	.4	1	81	19	32	45	10
010	.6	1	78	15	34	63	5
011	.7	2	82	11	35	49	5
012	.6	1	74	11	27	62	5
013	.4	1	101	17	35	58	10
014	.2	1	90	15	26	51	5
015	1.1	1	92	21	25	56	10
016	.8	1	79	14	21	48	125
017	.9	1	105	14	21	50	50
018	.4	1	102	19	26	47	20
019	.1	1	99	12	22	42	5
020	.3	1	88	15	22	49	5
021	.3	1	94	14	27	47	10
022	.9	1	136	15	21	41	5
023	.9	1	107	14	22	45	5
024	.2	1	120	9	18	35	10
025	.8	1	126	13	23	55	5
026 20M	1.0	1	57	30	28	70	5
PC044 40M	8.4	1	78	62	62	134	40
PC045 40M	1.2	1	79	19	26	61	5
S046	.5	1	57	103	39	56	5
S047	.4	1	66	93	29	54	5
S048	.3	1	160	23	23	58	10
S049	.5	1	103	33	30	87	5
S050	.1	1	110	12	21	40	10
S051	.7	1	170	26	30	55	5
S052	.6	1	141	16	28	61	10
S053	.3	1	210	23	26	54	5
S054	.4	1	124	16	19	62	10
S055	.3	1	106	10	18	36	5
S056	.3	1	160	16	22	39	5
S057	.5	1	116	18	27	56	5
S058	.4	1	88	12	24	47	5
S059	.5	1	123	20	25	57	10
S060	.5	4	156	24	26	48	10
S061	1.1	1	118	54	33	77	5
S062	.8	1	120	39	40	68	5
S063	.8	1	95	14	24	40	10
S064	.3	5	122	17	28	64	3
S065	.2	19	191	35	47	105	5
S066	.5	2	218	24	33	66	5
S067	.5	7	217	35	36	63	10
S068	.4	1	190	26	31	72	5
S069	.5	5	246	29	33	73	5
S070	.5	1	231	20	25	66	5
421	.5	1	111	23	29	109	5
422	.7	1	195	26	31	93	5
3	1.0	1	98	27	40	167	10
424	.7	18	103	67	41	71	5
425 40M	.4	1	95	31	32	98	5
426	1.1	1	124	30	45	102	5
427	.6	2	109	21	32	61	5
428	.4	1	94	23	23	62	5
429	.4	1	105	11	28	31	30
430	.9	31	195	183	80	91	5

NOTE: Samples #PC044 and 045, S 066-070 incl., and 421 - 440 incl. were taken on the Black IV claim.

PROJECT NO: DL 85

745 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

FILE NO: S-7305/F3-4

ATTENTION: MALCOLM BELL

16041980-5814 OF 16041985-4524

TYPE SOIL BECCEM DATE: OCT 7, 1985

VALUES IN FPM	AS	AS	FA	CU	FB	ZN	AU-PFB
431	1.0	12	165	76	39	51	5
432	1.4	60	386	312	59	93	10
433 40H	1.0	63	329	227	76	115	5
434 40H	.9	23	202	169	57	88	5
435	.9	1	117	43	26	51	5
436	1.0	4	78	33	35	61	10
437	.9	1	98	17	32	90	5
438	.7	1	139	12	22	65	10
439	.8	1	104	24	29	75	5
440	.3	1	61	14	23	42	5
526	.4	11	157	25	21	43	5
527	.5	4	133	23	24	47	15
528	.2	4	116	15	19	30	10
529	.9	4	128	38	28	58	5
530	.5	11	140	28	29	44	10
531	.5	1	240	21	27	51	20
532	.5	3	131	16	24	45	20
533	1.3	8	105	31	31	76	5
534	1.0	1	126	18	24	45	10
535	.5	11	104	26	30	50	5
536	.4	2	110	18	23	42	5
537	.3	19	132	18	28	37	5
538	.7	24	122	30	30	56	5
539	.5	9	127	16	26	47	10
540	.4	1	97	12	23	29	10
541	.5	27	133	30	31	52	10
542	.6	1	102	17	27	48	5
543	.6	23	162	34	42	108	20
544	.7	10	129	15	25	50	5
545	.5	1	178	15	18	57	10
546	.4	27	141	46	37	58	5
547	.3	13	177	28	26	50	5
548	.6	4	189	18	30	59	10
549	.7	10	131	107	29	54	5
550	.3	24	91	54	37	38	5
551	.8	2	123	93	31	48	5
552	.7	17	136	53	38	77	5
553	.7	16	106	63	39	56	10
554	.5	13	93	21	30	37	5
555	.3	29	91	40	38	30	5
556	.2	19	105	30	28	31	5
557	1.0	16	121	53	43	57	5
558	.5	16	91	26	31	32	5
559	.5	26	105	40	40	39	5
560	.1	14	109	30	25	29	10
561	.4	10	110	26	28	31	5
562	.5	34	84	32	46	35	5
563	1.3	13	116	45	48	55	5
564	1.8	39	81	73	51	49	10
565	1.1	28	187	37	50	52	5
566	.9	8	114	37	30	56	5

NON-HI-TEC RESOURCE MANAGEMENT

NON-HI-TEC LABS FOR REPORT

DATE: DEC 27, 1985 PAGE 1 OF 1

PROJECT NO: DL 85

745 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

FILE NO: S-7305

ATTENTION: MALCOLM BELL

16041980-5814 OF 16041985-4524

TYPE PAN CONC DATE: OCT 7, 1985

VALUES IN FPM	AS	AS	FA	CU	FB	ZN	AU-PFB
02	1.8	1	82	31	77	107	10
04	1.4	1	100	28	50	92	2500
06	2.1	1	109	37	65	124	7