

D. L. COOKE AND ASSOCIATES LTD.

MINERAL EXPLORATION CONSULTANTS LTD.

LOG NO: JUN 10 1992 RD.

ACTION:

ASSESSMENT REPORT FILE NO:

1991 RECONNAISSANCE GEOPHYSICS AND GEOCHEMISTRY OF THE LAC 1 - 4 CLAIMS

SUB-RECORDER RECEIVED JUN 02 1992 M.R. # ..... \$ ..... VANCOUVER, B.C.

MT. MILLIGAN AREA N.T.S. 930/4W

LATITUDE: 55° 06' NORTH LONGITUDE: 123° 50' WEST OMINECA M.D.

by

DAVID L. COOKE, PH.D., P.ENG. D. L. COOKE AND ASSOCIATES LTD. 811 - 675 WEST HASTINGS STREET VANCOUVER, B.C. V6B 1N2

GEOLOGICAL BRANCH ASSESSMENT REPORT

22,357

MAY 26, 1992

WORK DONE: AUGUST 25 - 30, 1991

CLAIMS ON WHICH WORK WAS DONE

Table with 4 columns: Claim, Units, Record No., Month of Record. Rows for LAC 1 and LAC 2.

**D. L. COOKE AND ASSOCIATES LTD.**  
**MINERAL EXPLORATION CONSULTANTS**

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LAC CLAIMS; 1:3,000

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### SUMMARY

The Lac 1 to 4 mineral claims ~~are~~ comprised of 70 claim units. These claims are located in the Mt. Milligan area and may be reached by road, 85 kilometres southwest of McKenzie, B.C.

The Mt. Milligan area is a new camp for porphyry copper-gold deposits. Placer Dome Inc. acquired the Mt. Milligan copper-gold deposit in 1990 and completed a feasibility study in 1991. The host rocks consist of Takla volcanic flows and tuffs and coeval alkaline intrusions of monzonite composition. The mineralization consists mainly of pyrite and chalcopyrite stockworks and disseminations. Gold-bearing quartz-carbonate veins occur peripheral to the porphyry copper-gold mineralization and are localized by fault zones.

The Lac claims are partially covered by glacial drift. Rock exposures consist of strongly sheared and carbonatized Takla volcanic rocks containing abundant disseminations of pyrite. There is also evidence of quartz-carbonate stockwork and veins within the sheared and altered volcanic rocks. Minor amounts of black pyritic argillites occur within the volcanic assemblage.

Reconnaissance induced polarization and resistivity survey, geological mapping, rock and soil sampling were done over the western part of the property during the period August 25 to 30, 1991. Scattered anomalous values for gold, copper and arsenic in soils were found. The geophysical traverse along the main road through the property gave high chargeability and low resistivity readings over an area which is probably underlain by pyritic black argillites.

Additional geological mapping, soil and rock geochemistry are recommended, together with induced polarization surveys to detect disseminated sulphides below the glacial cover.

## INTRODUCTION

The Lac claims were staked over the eastern portion of a small boomerang-shaped aeromagnetic anomaly which occurs approximately 4.5 kilometres east of the Mt. Milligan copper-gold deposit. The Mt. Milligan deposit lies on the southeast margin of a large aeromagnetic anomaly which reflects an underlying diorite-syenodiorite-monzonite intrusive complex. Detailed low-level airborne and ground magnetic surveys define the Mt. Milligan zones of mineralization as small satellite magnetic anomalies caused by sulphide-bearing monzonitic dikes and plugs.

The Lac claims were examined for their porphyry copper-gold and gold vein potential during the period August 25 to 30, 1991. The results of this exploration work forms the subject of this report. A total of \$8,608.25 was spent on the exploration of the Lac claims and this report is submitted for assessment credits on the property.

## 1991 EXPLORATION PROGRAM

The current reconnaissance program consisted of prospecting, geological mapping, soil and rock geochemistry along east-west lines from the western boundary of the Lac 1 mineral claim. Soil samples were collected on the Lac 1 claim every 100 metres along the traverse lines, 100 metres apart. Rock samples were collected for assaying at irregular intervals. Data was plotted on 1:10,000 topographic maps (Figure 3). Sample control was provided by topofil chain from known points.

This work was done by David L. Cooke, Ph.D., P.Eng., geologist, and M. A. Cooke, field assistant. One test line of induced polarization and resistivity was done by Lloyd Geophysics Ltd. along the main haulage road running northwesterly across the Lac 2 mineral claim.

### LOCATION AND ACCESS

The Lac mineral claims are situated in the Omineca Mining Division, approximately 85 kilometres southwest of McKenzie, B.C. (Figure 1). The claims lie 4.5 kilometres east of the Mt. Milligan copper-gold deposit. Access to the claims is from McKenzie by 85 kilometres of good logging roads operated by Fletcher Challenge Ltd. The area is one of active logging operations, and there are numerous clear-cut areas on the Lac property.

The property area is generally gently rolling. Elevations on the claims range from 992 metres at the level of Philip Lakes to 1,300 metres in the northeast section. Vegetation is primarily a mixture of spruce, fir and lodgepole pine. The underbrush is very dense in areas of secondary growth, which consist of young spruce and fir.

### PROPERTY AND OWNERSHIP

The Lac 1 to 4 mineral claims are owned by D. L. Cooke, 10667 Arbutus Wynd, Surrey, B.C., V4N 1W5. The pertinent claim data is as follows:

	<u>Units</u>	<u>Record No.</u>	<u>Record Date</u>
Lac 1	20	11722	March 28, 1989
Lac 2	20	11723	March 28, 1989
Lac 3	18	11724	March 27, 1989
Lac 4	12	11725	March 27, 1989

### REGIONAL GEOLOGY AND MINERALIZATION

Mt. Milligan occurs roughly at the core of an area of porphyry copper-gold mineralization which runs northwesterly from Carp Lake to the Nation River in the Omineca Mining Division of B.C. This area is part of the Quesnel Trough of Upper Triassic rocks, which extend northwesterly from the U.S. border through B.C. to the Yukon.

The Upper Triassic rocks in the Mt. Milligan area belong to the Takla Group and consist mainly of andesitic and basaltic flows and pyroclastics. Minor amounts of black argillites have been noted locally. Older metamorphic rocks of the Slide Mountain and Cache Creek Groups occur to the east of the Takla rocks. The Takla volcanic rocks are intruded by calc-alkaline and alkaline plutons of Upper Triassic to Cretaceous ages.

The geology of the Mt. Milligan area is mainly covered by glacial till. The Mt. Milligan porphyry copper-gold deposit, which is currently being developed by Placer Dome Inc., contains 329 million tons of probable ore with a grade of 0.22% copper and 0.013 ounce gold per ton. The mineralization consists of pyrite, chalcopyrite and free gold within Takla volcanic rocks and in coeval alkaline intrusions (monzonite, diorite, etc.) of Triassic age. The sulphides occur as disseminations and stockworks in both intrusive and volcanic host rocks.

The intrusions are characterized by abundant disseminations of magnetite, which make them detectable by airborne and ground magnetic surveys. Sulphides are concentrated in the intrusive margins and adjacent volcanic rocks and may be traced under the glacial cover by induced polarization methods.

In addition to the disseminated and stockwork habit of sulphide mineralization, there are fault-controlled gold veins which occur peripheral to the porphyry mineralization. The veins contain quartz, carbonate, pyrite, chalcopyrite and gold which in some cases is of economic interest.

#### PROPERTY GEOLOGY AND MINERALIZATION

The Lac claims lie over the eastern portion of a small boomerang-shaped aeromagnetic anomaly, which lies to the southeast of the larger Mt. Milligan aeromagnetic anomaly. These claims have potential for the occurrence of mineralized satellitic alkaline intrusions similar to the Mt. Milligan intrusions. The property, however, is extensively covered by glacial material of unknown thickness. Some rock exposures occur in the northwestern parts of the claim group (Figure 3), indicating that the area is underlain by sheared and altered Takla volcanic flows and fragmentals. Minor amounts of black, pyritic argillites occur in the southwest corner of the property.

Various amounts of pyrite occur in the sheared volcanic rocks. Alteration consists of silicification and carbonatization. In the northwest part of the property, carbonatized rocks contain quartz, carbonate and pyrite veinlets. The silica and carbonate alteration zone is anomalous in arsenic and copper. Although the dimensions are not known, it appears to be trending to the northeast and may to be fault-controlled.

## GEOCHEMISTRY

### Sample Preparation and Analysis

Soil samples were taken from the B-horizon with a shovel at depths of 15-30 centimetres and at 50 metre intervals, along E-W lines 100 metres apart. Soil samples were placed in numbered Kraft sample bags and shipped to Min-En Laboratories in North Vancouver, B.C. for analysis. Rock samples were occasionally collected in the course of soil sampling, prospecting, mapping, etc. The sample location sites and numbers are indicated on Figure 3.

The soil samples were dried at approximately 60°C and then sieved to minus 80 mesh. A 1.0 gram sample was then digested with HNO<sub>3</sub> and HClO<sub>4</sub> mixture. These samples were then diluted to standard volume after cooling, and the solutions analyzed for 30 elements by computer operated Jarrell Ash 9000 Induction Coupled Plasma (ICP) Analyzer. Gold was determined on separate solutions by atomic adsorption spectrophotometry. Rock samples were crushed and treated in a similar geochemical fashion.

### Discussion of Results

The analytical results are presented in Appendix III. Significant values for copper, gold and arsenic in rocks and soils are plotted on Figure 4. Because of the small sample population, statistical treatment of the data was not attempted. By inspection and experience, the following values were assumed to be anomalous:

gold	:	+ 10 ppb
arsenic	:	+ 20 ppm
copper	:	+100 ppm

No prominent clusters of anomalous values were obtained by this program. It is not known what extent this may be due to the cover of glacial till and sand.

## GEOPHYSICS: IP AND RESISTIVITY

An induced polarization and resistivity survey line was done by Lloyd Geophysics Ltd. along the main logging road which runs across the Lac 2 claim. The survey line was run from kilometre 60.0 to kilometre 61.875. The results are presented as chargeability and resistivity profiles on Figure 5.

The high chargeabilities (+20 milliseconds) and very low resistivities (below 100 ohm - metres) which occur between kilometres 60.0 and 60.75 correspond to underlying black, pyritic argillites. The remainder of the line consisting of low chargeabilities and higher resistivities probably represents volcanic tuffs and flows.

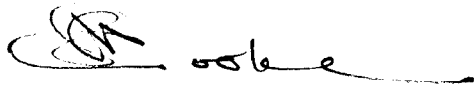
#### CONCLUSIONS AND RECOMMENDATIONS

The reconnaissance geological mapping, soil and rock geochemistry of the Lac claims identified weakly anomalous and altered zones permissive for the occurrence of fault-controlled gold-quartz mineralization. The IP and resistivity survey gave anomalous results, which may be due to pyritic argillites rather than to porphyry copper-gold mineralization.

The extensive glacial drift cover in the low-lying areas is probably masking most of the geochemical response from the underlying bedrock. Additional soil sampling, rock geochemistry and geophysics should be done over the area to the south of the Lac 1 claim to further evaluate a small aeromagnetic anomaly on the Lac 2 claim.

Report by:

D. L. COOKE AND ASSOCIATES LTD.



David L. Cooke, Ph.D., P.Eng.

May 26, 1992





REFERENCES

- Cooke, D.L., 1989: Summary Report, Lac 1-4 Mineral Claims.  
Mt. Milligan Area, 3 pp.
- Cooke, D.L., 1991: 1990 Reconnaissance Geology and Geochemistry  
of the Lac 1-4 Claims, Mt. Milligan Area, 9 pp.
- Geophysical Paper, 1961: Philip Lakes, British Columbia,  
Map 1573G, Geological Survey Canada.
- Geophysical Paper, 1961: Wittsichica Creek, British Columbia,  
Map 1584G, Geological Survey Canada.
- Muller, J.E., 1961: Geology, Pine Pass, British Columbia,  
Map 11-1961, Geological Survey Canada.
- Rice, H.M.A., 1948: Smithers - Fort St. James, British Columbia,  
Map 971A; 1 inch to 8 miles.

**D. L. COOKE AND ASSOCIATES LTD.**  
**MINERAL EXPLORATION CONSULTANTS**

APPENDIX I

STATEMENT OF 1991 EXPENDITURES  
LAC 1 - 4 MINERAL CLAIMS

SALARIES

D. L. Cooke. Geologist, Aug. 25-30, 1991		
6 days @ \$350/day .....	\$2,100.00	
M. A. Cooke, Field Assistant, Aug.25-30, 1991		
6 days @ \$150/day .....	<u>900.00</u>	\$3,000.00

GEOCHEMISTRY

104 Soil and 4 Rock Samples (Min En Lab)....	\$1,686.32	
Field Supplies .....	<u>86.56</u>	1,772.88

GEOPHYSICS

Recce. IP and Resistivity Survey, Aug.4, 1991		
1.875 km (Lloyd Geophysics Ltd.) .....		1,444.50

DOMICILE

Room and Board: 12 man days @ \$50/day .....	\$ 600.00	
Communications .....	<u>35.00</u>	635.00

TRANSPORTATION

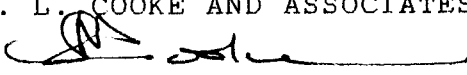
Truck Rental: 6 days @ \$60/day .....	\$ 360.00	
Mileage: 1,415 km @ \$0.20/km. ....	283.00	
Gasoline and Repairs .....	<u>177.87</u>	820.87

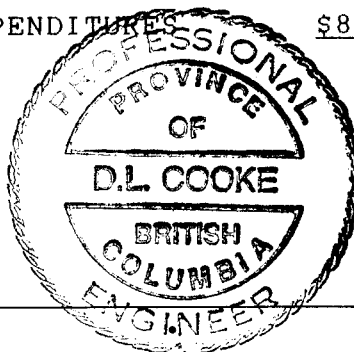
REPORT

Data Interpretation and Report .....	\$ 700.00	
Drafting .....	125.00	
Stenographic Service .....	<u>110.00</u>	935.00

TOTAL EXPENDITURES \$8,608.25

Prepared by:  
D. L. COOKE AND ASSOCIATES LTD.

  
\_\_\_\_\_  
David L. Cooke, Ph.D., P.Eng.  
May 26, 1992.



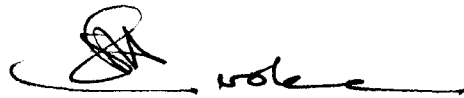
**D. L. COOKE AND ASSOCIATES LTD.**  
**MINERAL EXPLORATION CONSULTANTS**

APPENDIX II

STATEMENT OF QUALIFICATIONS

I, DAVID LAWRENCE COOKE, of the Municipality of Surrey in the Province of British Columbia, hereby certify:

1. That I am a Consulting Geologist, residing at 10667 Arbutus Wynd, Surrey, B.C., V4N 1W5, with a business office at 811 - 675 West Hastings Street, Vancouver, B.C., V6B 1N2.
2. That I graduated with a B.Sc. degree in Geology from the University of New Brunswick in 1959, and with M.A. and Ph.D. degrees in Geology from the University of Toronto in 1961 and 1966 respectively.
3. That I have practised my profession as an exploration geologist from 1959 to the present time in Canada, the U.S.A., Mexico, the Caribbean and South America.
4. That I am a Registered Member of the Association of Professional Engineers of the Province of British Columbia since 1970.
5. That I have personally performed the exploration work on the Lac 1 - 4 mineral claims described herein.
6. And that I am the author of this report on the Lac 1 - 4 mineral claims, dated May 26, 1992.



DAVID L. COOKE, PH.D., P.ENG.

May 26, 1992

APPENDIX III

ANALYTICAL RESULTS

COMP: D.L. COOKE &amp; ASSOC.

PROJ: LAC

ATTN: D.L. COOKE

## MIN-EN LABS — ICP REPORT

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

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

FILE NO: 1V-1017-SJ1+2

DATE: 91/09/16

\* SOIL \* (ACT:F31)

SAMPLE NUMBER	AG PPM	AL PPM	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA PPM	CD PPM	CO PPM	CU PPM	FE PPM	K PPM	LI PPM	MG PPM	MN PPM	MO PPM	NA PPM	NI PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	TI PPM	V PPM	ZN PPM	GA PPM	SN PPM	W PPM	CR PPM	AU-FIRE PPB
LAC91-001	.1	20230	40	13	84	.9	6	6430	.1	14	42	43470	980	29	5980	320	1	1350	9	2330	94	1	28	1	937	92.8	150	1	1	3	36	1
LAC91-002	.6	17380	6	5	84	.5	6	6140	.1	13	31	35550	910	17	4690	630	1	1400	13	1020	38	1	23	1	940	85.8	89	1	1	3	37	2
LAC91-003	.5	16260	1	3	58	.3	7	8270	.1	13	30	32860	950	12	4980	406	1	1150	12	800	34	1	33	1	1304	99.4	66	1	1	3	39	1
LAC91-004	.5	18090	4	3	95	.5	8	7620	.1	16	38	41960	1370	16	6140	598	1	1140	8	2030	31	1	43	1	1269	104.4	100	1	1	3	36	2
LAC91-005	.1	17660	1	3	88	.7	6	6030	.1	17	54	53940	1800	12	4170	575	1	960	6	1480	22	1	28	1	657	82.7	157	1	1	2	30	1
LAC91-006	.4	22680	1	2	108	.5	9	8840	.1	17	42	44380	1560	26	5900	768	1	1400	15	980	24	1	40	1	1296	100.2	131	1	1	3	43	1
LAC91-007	.1	12270	1	4	88	1.0	3	5970	.1	26	105	100660	1360	5	1260	1551	4	1100	1	1880	37	1	31	1	128	47.1	145	1	1	1	8	1
LAC91-008	.1	15730	11	1	97	.5	7	6760	.1	17	57	44760	1620	12	5150	1113	1	1140	7	2670	27	1	31	1	983	86.6	150	1	1	3	34	1
LAC91-009	.7	18240	8	1	196	.4	6	6410	1.3	12	30	36180	1610	19	4400	379	1	1060	7	2920	21	1	33	1	1022	101.9	251	1	1	3	36	2
LAC91-010	.4	18610	9	1	283	.6	6	7720	3.4	13	41	36630	1740	19	5660	427	1	1630	16	3620	27	1	42	1	922	100.9	291	1	1	3	40	3
LAC91-011	.8	18850	10	1	206	.6	5	7060	.1	13	56	43890	2050	20	7240	335	2	1250	26	3060	21	1	64	1	785	109.5	289	1	1	3	46	1
LAC91-012	.2	20740	17	1	102	.7	7	6160	.1	17	66	49070	1270	20	5630	388	1	950	10	1040	14	1	28	1	844	92.7	107	1	1	3	35	1
LAC91-013	.3	20610	10	1	72	.5	7	6530	.1	15	47	44230	1160	19	6270	327	1	1270	12	950	21	1	30	1	1081	90.1	87	1	1	3	37	1
LAC91-014	.5	23030	1	1	100	.6	6	9280	.1	16	31	37160	960	34	5640	601	1	1280	12	650	22	1	47	1	965	85.6	129	1	1	3	38	2
LAC91-015	.1	18880	1	1	93	.5	5	9130	.1	18	59	44060	1280	15	4920	931	1	1320	11	1180	25	1	46	1	664	77.3	109	1	1	2	31	3
LAC91-016	.2	22890	9	1	101	.5	5	12210	.1	18	106	41180	1660	38	3630	479	1	940	13	700	18	1	60	1	448	73.1	182	1	1	2	30	1
LAC91-017	.1	21630	19	1	90	.5	5	6070	.1	18	58	46230	1560	29	5260	427	1	1200	17	650	21	1	26	1	628	83.8	106	1	1	2	35	1
LAC91-018	.3	19570	50	1	127	.3	7	8500	.1	19	70	42460	1210	15	5940	726	1	840	15	1060	16	1	37	1	909	93.7	98	1	1	3	37	1
LAC91-019	.9	20860	1	1	150	.5	7	10460	.1	15	71	34460	760	35	5110	760	1	1010	15	910	15	1	52	1	1368	99.6	160	1	1	3	43	1
LAC91-020	1.1	17140	1	1	105	.2	9	11820	.1	12	40	30630	1080	22	6300	498	1	1310	13	680	16	1	53	1	1568	92.8	73	1	1	3	43	1
LAC91-021	.9	16250	1	1	127	.4	7	13080	.1	13	53	33020	1200	16	7090	735	1	1020	20	1460	15	1	53	1	1367	95.0	88	1	1	3	45	1
LAC91-022	1.0	17370	1	1	119	.2	9	12320	.1	15	58	34570	1960	12	8540	742	1	1090	28	1400	19	1	53	1	1595	111.2	112	1	1	4	54	2
LAC91-023	.7	18000	1	1	67	.2	9	7660	.1	13	47	36260	1110	24	5070	477	1	1060	10	1070	16	1	36	1	1598	105.6	74	1	1	3	42	1
LAC91-024	1.0	17520	1	1	63	.3	9	7710	.1	13	23	29500	920	13	4510	401	1	1100	8	1010	11	1	35	1	1623	88.4	105	1	1	3	36	1
LAC91-025	.7	16190	1	1	56	.4	6	5590	.1	18	34	35180	880	15	5890	1639	1	990	5	1790	28	1	27	1	815	100.2	130	2	1	3	33	2
LAC91-026	1.1	19610	1	1	83	.3	9	8970	.1	14	38	33390	940	11	6770	359	1	1110	14	1200	14	1	41	1	1716	105.2	62	1	1	4	45	1
LAC91-027	.8	15030	1	1	55	.1	8	6430	.1	9	15	27390	550	11	3090	220	1	1110	6	1340	12	1	26	1	1334	85.1	61	1	1	2	31	2
LAC91-028	.6	18120	1	1	54	.3	8	7290	.1	12	28	32280	730	15	6020	283	1	910	10	1660	14	1	34	1	1425	92.3	85	1	1	3	36	1
LAC91-029	.5	20150	1	1	73	.4	7	6960	.1	15	37	32770	440	11	6050	367	1	1900	18	1250	19	1	30	1	1242	89.4	62	1	1	3	44	1
LAC91-030	.6	17830	1	1	73	.5	8	7130	.1	13	37	36530	500	16	8380	416	1	940	7	2550	14	1	53	1	1263	97.7	74	1	1	3	38	1
LAC91-032	.3	15660	14	7	77	.1	9	7720	.1	11	26	28570	690	10	6880	267	1	130	11	850	12	1	31	1	1611	95.5	42	2	1	3	39	2
LAC91-033	.5	14860	7	5	79	.1	8	8360	.1	10	20	26230	560	11	5130	286	1	120	7	550	14	1	33	1	1485	90.4	62	2	1	3	33	1
LAC91-034	.5	15950	10	5	81	.1	9	12610	.1	13	40	37320	1160	12	8490	423	1	300	10	1280	13	1	52	1	1703	121.3	47	2	1	4	53	1
LAC91-035	.3	11370	1	4	50	.1	8	11260	.1	11	23	31050	700	8	6210	315	1	210	8	1310	7	1	43	1	1636	105.2	30	1	1	4	45	3
LAC91-036	.5	22090	10	4	110	.1	9	9920	.1	14	38	32090	700	14	6920	300	1	180	14	600	11	1	42	1	1656	109.1	47	3	1	4	43	2
LAC91-037	.7	29580	15	5	196	.1	9	11780	.1	17	100	44490	1980	24	8880	575	1	210	31	700	16	2	51	1	1647	127.1	96	4	2	5	60	1
LAC91-038	.6	22040	14	4	132	.1	7	8800	.1	15	46	34670	1300	27	7100	626	1	140	19	720	18	1	34	1	1321	101.9	92	2	1	4	45	1
LAC91-039	.5	18050	12	4	100	.1	8	8720	.1	13	28	32620	1620	18	6480	350	1	120	13	1440	13	1	35	1	1506	92.2	90	4	1	3	41	1
LAC91-040	.8	16980	10	3	84	.1	8	7250	.1	12	23	32010	930	13	5400	374	1	120	9	1810	14	1	30	1	1442	95.3	131	3	1	3	38	3
LAC91-041	.6	17990	11	3	136	.1	8	7510	.1	13	35	36030	1000	22	5610	316	1	120	13	2770	15	1	33	1	1436	102.8	160	3	1	3	41	4
LAC91-042	.7	14480	5	3	65	.1	9	7220	.1	11	24	31670	830	12	5230	266	1	110	7	870	13	1	32	1	1759	101.2	53	3	1	4	46	2
LAC91-043	.4	17900	11	3	68	.1	9	6390	.1	14	47	35380	510	15	6980	507	1	90	11	1550	12	1	35	1	1612	106.0	54	4	1	4	59	1
LAC91-044	.1	27600	10	4	139	.1	10	7500	.1	20	69	56030	1240	28	15830	512	1	70	10	2900	18	1	47	1	1778	123.8	58	3	1	6	99	1
LAC91-045	.5	24860	9	4	63	.1	10	7390	.1	22	53	49870	770	26	20500	502	1	90	26	1040	14	1	32	1	1941	145.9	62	3	1	7	111	2
LAC91-046	1.0	22850	20	3	61	.1	9	6650	.1	18	44	48270	830	20	10360	398	1	80	15	1970	18	2	50	1	1649	140.9	120	4	1	6	84	4
LAC91-047	.7	22490	21	3	60	.1	9	6750	.1	15	43	42140	950	23	8820	344	1	70	13	2410	20	2	40	1	1463	106.7	158	4	1	4	51	1
LAC91-048	.6	22180	18	3	60	.1	10	7940	.1	18	47	41950	740	19	8330	419	1	120	12	2270	43	1										

COMP: D.L. COOKE & ASSOC.

PROJ: LAC

ATTN: D.L. COOKE

MIN-EN LABS — ICP REPORT
705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

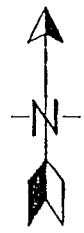
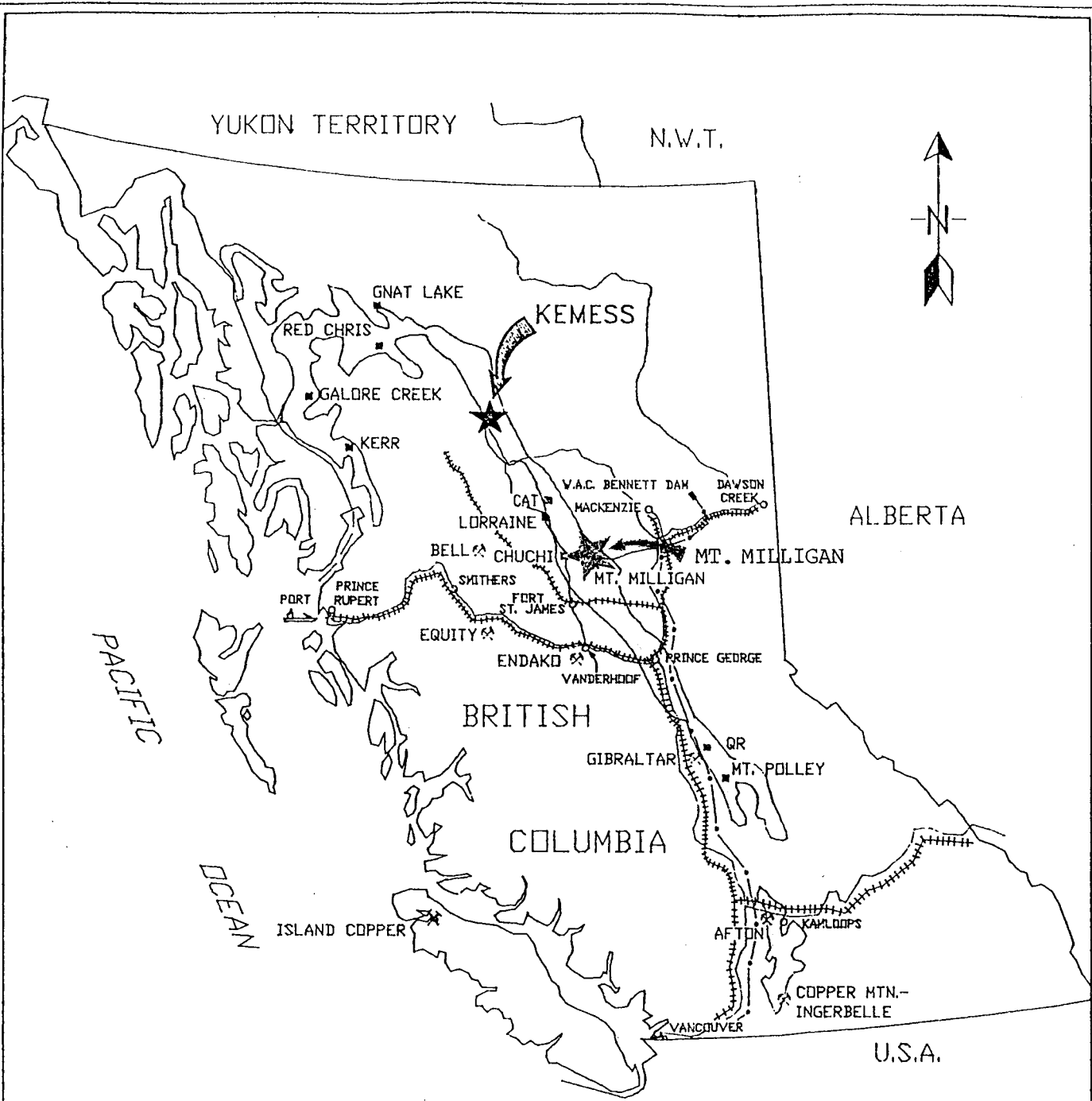
FILE NO: 1V-1017-SJ3+4

DATE: 91/09/16

\* SOIL \* (ACT:F31)

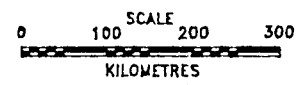
Table with columns: SAMPLE NUMBER, AG PPM, AL PPM, AS PPM, B PPM, BA PPM, BE PPM, BI PPM, CA PPM, CD PPM, CO PPM, CU PPM, FE PPM, K PPM, LI PPM, MG PPM, MN PPM, MO PPM, NA PPM, NI PPM, P PPM, PB PPM, SB PPM, SR PPM, TH PPM, TI PPM, V PPM, ZN PPM, GA PPM, SN PPM, W PPM, CR PPM, AU-FIRE PPB. Rows include samples LAC91-061 through LAC91-111.





**LEGEND**

- ROAD
- +++ RAILWAY
- .- MAJOR POWER LINE
- QUESNEL TROUGH
- ⊗ PRODUCING PORPHYRY MINES
- COPPER AND/OR GOLD DEPOSIT



MT. MILLIGAN AREA		
D. L. COOKE & ASSOCIATES LTD.		
<b>LOCATION MAP</b>		
<b>LAC CLAIMS</b>		
SCALE: AS SHOWN	DRAWN BY: ProComp GeoDraft Ltd.	FILE:
DATE: SEPT. 90	REVISED:	FIGURE: 1



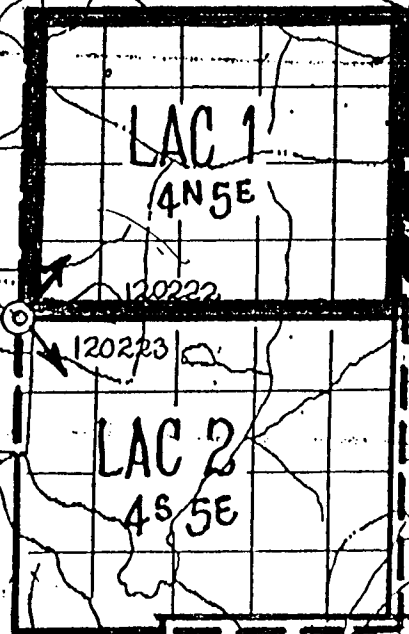
1110 9 MAR 23 '90 14:33 GOV'T AGENT SMITHERS 847-7232



LAKE #1

LAKE #2

Philip  
Lakes

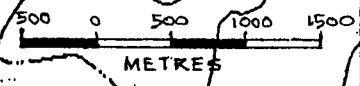


LAC 1  
4N5E

LAC 3  
6N3W

LAC 2  
4S5E

LAC 4  
2S6W



LONGITUDE  
123° 49' 38"

LATITUDE  
53° 04' 00"

112913  
107184

FRED 2  
1113

FRED 1  
1112

LAC CLAIMS

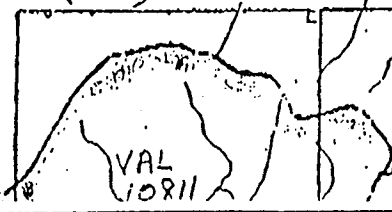
MT. MILLIGAN AREA

CLAIM MAP

OMINECA M.D. N.T.S.93 0/4W

Date: Feb. 1991 1:50,000

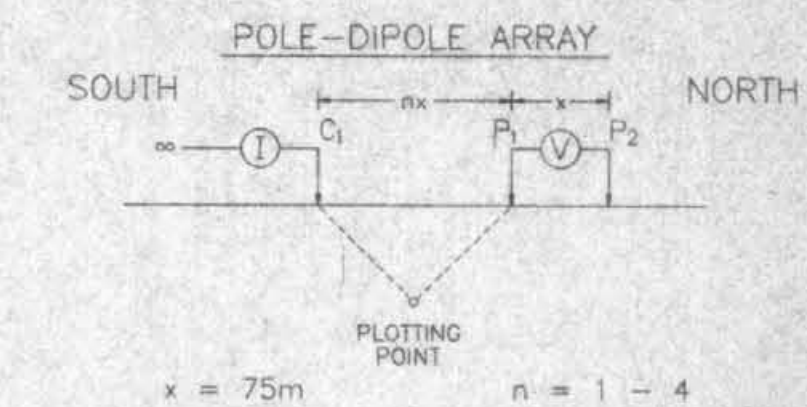
D.L.COOKE & ASST.LTD. Fig. 2



D.L. COOKE & ASSOCIATES  
LIMITED

PHILIP LAKES AREA  
LAC CLAIMS

LINE: 10000E



CURRENT ELECTRODE  $C_1$  SOUTH OF POTENTIAL DIPOLE  $P_1$

SURFACE PROJECTION OF ANOMALOUS ZONES

- DEFINITE
- PROBABLE
- POSSIBLE
- AT DEPTH

SCALE 1 : 3000

CONTOUR INTERVALS  
APP. CHARGEABILITY : 5.0 (msec)  
APP. RESISTIVITY : 50 (ohm-m)  
DATE SURVEYED: August 4, 1991  
Tx: Huntec MK2 Model 7500  
Rx: EDA IP-6

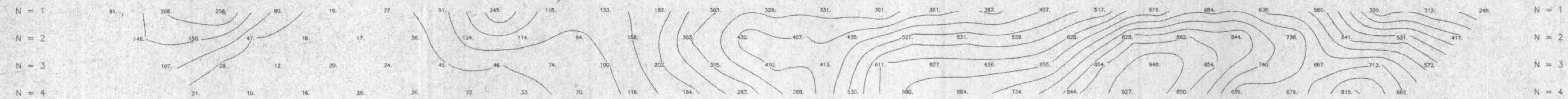
**LLOYD GEOPHYSICS INC.**  
INDUCED POLARIZATION SURVEY  
DRAWING NUMBER : 5

GEOLOGICAL BRANCH ASSESSMENT REPORT

22,357

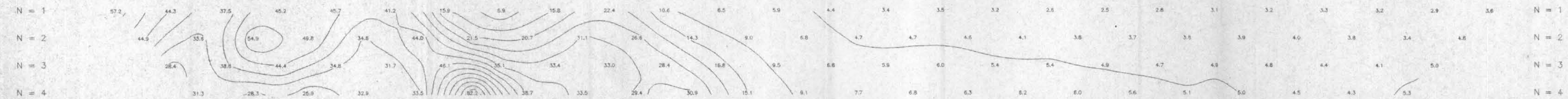
RESISTIVITY (OHM-M)

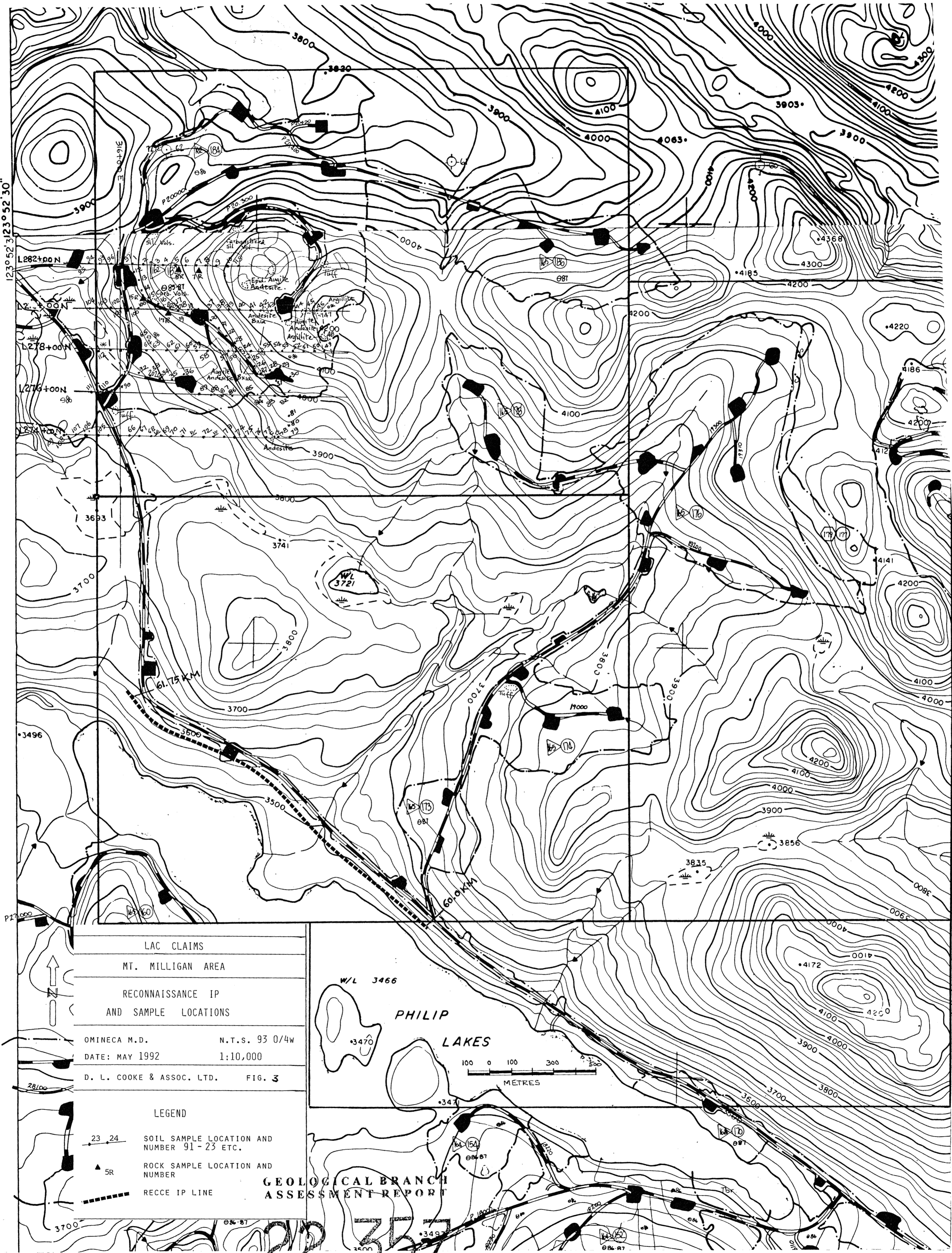
60000N 60075N 60150N 60225N 60300N 60375N 60450N 60525N 60600N 60675N 60750N 60825N 60900N 60975N 61050N 61125N 61200N 61275N 61350N 61425N 61500N 61575N 61650N 61725N 61800N 61875N



CHARGEABILITY (MSEC)

60000N 60075N 60150N 60225N 60300N 60375N 60450N 60525N 60600N 60675N 60750N 60825N 60900N 60975N 61050N 61125N 61200N 61275N 61350N 61425N 61500N 61575N 61650N 61725N 61800N 61875N





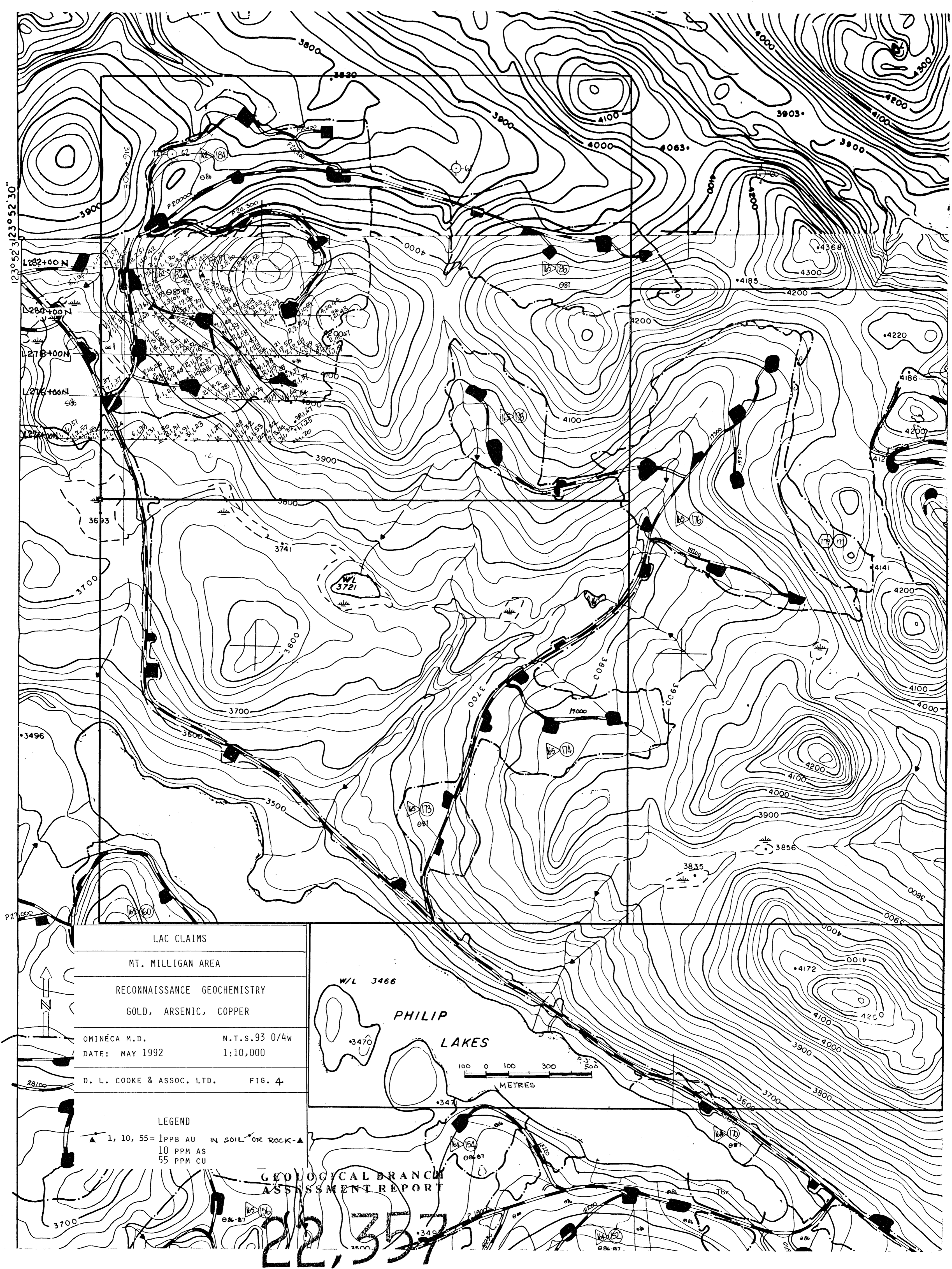
LAC CLAIMS  
 MT. MILLIGAN AREA  
 RECONNAISSANCE IP  
 AND SAMPLE LOCATIONS  
 OMINECA M.D. N.T.S. 93 0/4w  
 DATE: MAY 1992 1:10,000  
 D. L. COOKE & ASSOC. LTD. FIG. 3

LEGEND  
 23 24 SOIL SAMPLE LOCATION AND NUMBER 91 - 23 ETC.  
 ▲ 5R ROCK SAMPLE LOCATION AND NUMBER  
 --- RECCE IP LINE

W/L 3466  
 PHILIP LAKES  
 100 0 100 300 500  
 METRES

GEOLOGICAL BRANCH  
 ASSESSMENT REPORT

212,357



123° 52' 31.23" 52' 30"

L282+00N  
L280+00N  
L278+00N  
L276+00N  
L274+00N

LAC CLAIMS  
MT. MILLIGAN AREA  
RECONNAISSANCE GEOCHEMISTRY  
GOLD, ARSENIC, COPPER  
OMINÉCA M.D. N.T.S.93 0/4w  
DATE: MAY 1992 1:10,000  
D. L. COOKE & ASSOC. LTD. FIG. 4

LEGEND  
▲ 1, 10, 55 = 1PPB AU IN SOIL OR ROCK - ▲  
10 PPM AS  
55 PPM CU

W/L 3466  
PHILIP LAKES  
100 0 100 300 500  
METRES

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

212,357