REPORT ON THE

SCOTT 1 - 24 and LUK 1 - 176

GROUPS OF MINERAL CLAIMS

ROSS RIVER AREA
YUKON TERRITORY

by

MACDONALD CONSULTANTS LTD.

September 9, 1966.

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Introduction

This report is an evaluation of the Scott 1 - 24 and Luk 1 - 38, Luk 41 - 56, 59 - 83, Luk 84 - 171 and Luk 172 - 176 groups of mineral claims in the Anvil district, Ross River area, Yukon Territory. It also assesses the exploration work performed to date and gives recommendations based thereon.

The report is based on a study of the regional geology and the geology of the Anvil district in particular published in reports of the Geological Survey of Canada, on papers and information made public by the local mining companies, the study of air photographs and on information obtained by the writer during his visits to the property. The writer visited the Luk group from 10th to the 18th of May, 1966 and the Scott group on the 8th and 13th of August, 1966.

Property

The Scott and the Luk groups of mineral claims are located in the Whitehorse Mining Division, Yukon Territory.

The claims are recorded at the Mining Recorder's office in Whitehorse as follows:

	Grant No.	Expiry Date
Scott 1 - 8 incl.	Y4985-Y4992	April 25, 1967
Scott 9 - 16 incl.	Y4993-Y4900	April 25, 1967
Scott 17 - 24 incl.	Y4901-Y4908	April 25, 1967
Luk 1 - 8	98388-98395	January 24, 1967
Luk 9 - 16	98396-98403	"
Luk 17 - 24	98404-98411	"
Luk 25 - 32	98557-98564	January 31, 1967
Luk 33 - 38 & 75	98422-98428	"
Luk 41 - 48	98429-98436	"
Luk 49 - 56	98437-98444	"
Luk 59 - 66	98445-98452	"
Luk 67 - 74	98453 - 98460	"
Luk 76 - 83	98461-98468	"
Luk 84 - 91	98469-98476	"

Claim Name	Grant No.	Expiry Date
Luk 92 - 99	98477-98486	January 31, 1967
Luk 100 - 107	99115-99122	February 14, 1967
Luk 108 - 115	98493-98500	January 31, 1967
Luk 116 - 123	98501-98508	"
Luk 124 - 131	98509-98516	"
Luk 132 - 139	98517-98524	"
Luk 140 - 147	98525-98532	"
Luk 148 - 155	98533-98540	"
Luk 156 - 163	98541-98548	"
Luk 164 - 171	98549-98556	"
Luk 172,174,176	Y5804-Y5806	May 18, 1967
Luk 173 & 175	Y5807-Y5808	"

All the claims have been transferred to Swim Lake Mines Ltd., 9-425 Howe Street, Vancouver, B.C. This company is the recorded owner of all above claims.

The Luk claims are in two groups. One continguous group (Luk 59-83) bounds Anvil Corporation's Beta group on the south and their Bea group to the north. The other contiguous group (Luk 1-18, 19-38, 41-56, 84-123, 124-171 and 172-176 all inclusive) bounds Anvil's Beta group on the north and west and their Dy group on the northeast.

The Luk 1-18 and 41-56 and 172-176 claims cover ground originally staked as the Bee group in January, 1966, but recording of the Bee claims was not allowed due to infractions of the Yukon Quartz Mining Act.

Location and Access

The property is in two separate groups of claims, the Scott 1-24 and the Luk groups of claims, approximately 20 miles apart, in the "Anvil District", Yukon Territory.

The mining camp extends for about 72 miles from Ross River along and mainly on the northeast side of Pelly River, reaching a maximum width of about 30 miles at a point some 24 miles downstream from Ross River. The Ross River settlement is about 125 miles northeast of Whitehorse by air.

The Scott 1 - 24 mineral claims on the upper part of Anvil Creek are located approximately 12 miles in a northeasterly direction from a point on the northeast bank of Pelly River, 52 miles in a straight line downstream from Ross River settlement.

The Luk groups of mineral claims are located mainly north of the upper part of Blind Creek and reach to the south side of Blind Creek with part of group Luk 41-56 and Luk 124-171. The claims Luk 59-83 are laying almost entirely on the south side of Blind Creek. Blind Creek itself is running into Pelly River approximately 30 miles downstream from Ross River settlement.

The ground inspection carried out by Archer, Cathro and Associates shows the Scott group further to the northeast than on the official claim location map and the Luk group turned out to contain a considerable amount of open fractions. References to claims in this report are made with regard to the true location as surveyed by Archer, Cathro and Associates.

Access to the area is gained by the old all-weather Canol Road built during World War II. The road starts from the Alaska Highway at Johnson's Crossing. The total distance by raod from Whitehorse to Ross River is 240 miles.

The system of winter roads, built by some of the mining companies in the area, provides access into the actual mining camps. Some of these roads will most probably be maintained passable for 4-wheel drive vehicles during the summer months, although it was observed by the writer that the piece of winter road along the north bank of Blind Creek in the immediate area of the Luk claims would require a considerable amount of cat work to make it passable even for 4-wheel drive vehicles after the damage done to the road during breakup.

A new all-weather gravel road, being started this summer and planned to be completed in 1967 will connect Ross River with Carmacks on the Whitehorse-Mayo highway. Fixed wing aircraft up to the size of a DC-3 are able to land on airstrips at Anvil's Faro and Ace properties,

the Vangorda property and Ross River, providing the ground conditions are good.

Smaller fixed wing aircraft and helicopters can land on the many small lakes in the area.

A helicopter landing place was cleared right beside the winter road leading through the immediate area of the Luk group on Anvil's ground about 1500' north of the north boundary of Luk 59-83 group.

"Rod Lake", at a distance of about one-half mile from the northeast boundary of the Scott group is serviceable for fixed wing aircraft for initial access.

The future economic aspect of the whole mining camp will depend largely on the construction of a railway to link the district with the "Whitepass and Yukon Route" from Whitehorse to Skagway, Alaska, and thereby connect it directly with a Pacific harbour.

Figure 2 is a current claim location map of the Anvil district. It cannot be quite up to date as the staking activity continues strongly in the area at the present time.

History

Apart from early prospecting for placer gold early in the century and reconnaissance work done by the Geological Survey of Canada in the thirties (J.R. Johnston, G.S.C. memoir 200, 1936) the area was dormant until the Canol Road, built during World War II, provided better access to the district.

No significant mineralization was found in the Ross River district until 1953 when Prospectors Airways found, and in the following two years proved up, the Vangorda deposit of 9,400,000 tons of ore grading 3.16% lead, 4.96% zinc, 0.27% copper and 1.76 ounces of silver per ton.

No additional tonnage or better grade ore was found during the following period. Further exploration seemed not to be feasible due to the low metal prices in the following years.

The above mentioned deposit is now controlled by Vangorda Mines Ltd., a subsidiary of Kerr Addison Mines Ltd.

Kerr Addison Mines Ltd. caused new interest in the district when it staked claims in the Swim Lake area and carried out a program of geophysical surveys in the fall of 1963.

Dynasty Exploration, formed in early 1964, and Kerr Addison conducted an extensive staking and exploration program during 1964. The results gained by Dynasty during the 1964 exploration season were encouraging enough to provide further financing to Dynasty by Cyprus Mines Corporation of Los Angeles in early 1965. Future joint operations by Dynasty and Cyprus became known as the Anvil project. Anvil Mining Corp. was formed in December, 1965. June 1965 brought the breakthrough for Dynasty when encouraging drill results from their Sea, Nasty, Cub and Beta anomalies were obtained and finally massive sulfides were intersected on the Faro anomaly.

The last official report released by Anvil to date states that its' Faro deposit contains "an indicated potential ore tonnage of thirty million tons with a probable average grade of 8-11% combined lead zinc with some silver mineralization". Also Kerr Addison obtained encouraging results during 1965 from their limited drill program and discovered "what appears to be a sizeable lead-zinc deposit by drilling a magnetic, E M and gravity anomaly zone west of Swim Lakes." (Dr. A. E. Aho, paper presented at the Second Natural Resources Conference, Whitehorse, Y.T. March, 1966)

Staking activity continues to be strong in the whole area with well over 10,000 claims recorded to date.

Geology

1. Regional

The Anvil district shows a striking resemblance to many other metallogenic provinces in North America and Europe.

This is not only the case for the actual Anvil district but for the

entire greater region.

A series of younger (cretaceous to tertiary) intrusions has come up along a regional zone of weakness - the strong Tintina Fault - which has been traced by a remarkable lineament for some 450 miles northwest, from the headwaters of Liard River to beyond the Alaskan border.

Every batholith in the chain of intrusions along the Tintina Fault and of approximately the same age represents the possibility for the existence of a mineralized halo in the surrounding host rock caused directly or indirectly by the intrusion. Whether this mineralization can be found in economic concentration depends on the local geological conditions of host rock, chemical composition of the intrusion, the stratigraphical thickness of overlaying formations at the time of the intrusion and the influence of temperature, pressure and timing.

Both the Tintina Fault with its parallel subsidiaries and the uplift by the intrusions caused a system of structural features which have a certain influence on the control of the mineral deposits although only a part of these structures and their influence have been established to date.

The regional geology of the Anvil district has been mapped and published by the Geological Survey of Canada on preliminary maps at a scale of one inch to four miles.

The granitic core of the Anvil batholith has intruded a series of banded quartzose granolites, green and purplish banded skarn, quartz sericite schist, hornfels and phyllite and some graphitic schist members all of Mississippian age.

The intrusion caused an uplift of the above formations which now, after erosion has taken place, flank the sides of the granitic core.

The G.S.C. report states, referring to this series: "unit 7 (see above) is several thousand feet thick. Near the granitic rocks the unit locally contains sulfide minerals. Unit 7 grades upward into material that is increasingly volcanic."

This formation domed up to an anticlinal structure, has been established as to be the favourable host rock for massive sulfide deposits, which does not mean that other formations do not have economic deposits, just because they have not been discovered to date.

Apart from the higher, granitic regions little outcrop is to be seen in the area which was heavily glaciated a pleistocene time, the slopes of the hills are covered by overburden and the valleys are filled with river gravel and/or unsorted glacial material.

2. The Luk groups of mineral claims

Map 13-1961, Tay River, Y.T., of the Geological Survey of Canada indicates that although much of the Luk 1-38 claims are underlain by granodiorite, the majority of the claims are likely underlain by the favourable schist, granolite, skarn-formation.

Outcrop in the area is not abundant and personal observations of the writer from the air and on the ground confirm the existence of glacial till covering most of the property.

Chlorite sericite schist outcrop was found by the writer close to the granite contact on Luk 5 and slightly north of a strong lineament which is expressed on the air photograph. The lineament was found on the ground on group Luk 1-18 on the NE side of the creek running over this group, represented by a deep cut in the overburden which is also to be seen on the air photograph. The outcropping schist mentioned above shows some steep dipping fracturing striking parallel to the lineament. This is evidence in favour of the interpretation of this lineament as representing a structural feature.

Overburden material examined on the NE side of the creek running over Luk 1 - 18 contains considerable more graphitic schist which was not found on the higher parts of the slope southeast of the creek

3. The Scott 1 - 24 mineral claims

The Scott Mineral Claims, staked over Anvil Creek and a N-S running

subsidiary, don't show any outcrop according to geological maps and air photographs.

The nearest outcrop to the south of the claim group is granitic about 3/4 of a mile in S-E direction from the S-E boundary of the claims on the slope of a hill at an elevation of approximately 4,000 feet. The greater part of the claim group is located on an elevation of 3,000 to 3,500 feet with its northwest bourdary reaching up to 4,000 feet elevation.

Outcrop of the favourable schist formation can be found to the north of the claim group. It is very unlikely that much bedrock can be seen below timberline which is at an elevation of 5,000'. The air photograph shows abundant outcrop above timberline.

Bedrock is covered by alluvial material in the actual area of the claim group which is overlaying most of the one mile wide bottom of the valley.

The contact between granite and the favourable schist formation is beyond the southeastern claim boundary and is to be located yet. Interpretation shows that the greatest part of the claim group is most likely underlain by the schist formation, depending on thickness of overburden and the alluvial material, bedrock topography and glacial erosion.

The valley of Anvil Creek is interpretated by local geologists as representing one of a whole series of northeast striking faults which are limited by the Tintina Fault and a more or less parallel fault on the northeast side of the Anvil batholith. The interpreted fault would run approximately through the centerline of the Scott group. The significance of this type of fault in the area is described in the next chapter.

4. Economic Geology

The most competent and short description of the economic geology in the Anvil district is given by Dr. A. E. Aho in a paper presented

at the second Natural Resources Conference in Whitehorse, Y.T., in March, 1966.

"The main known deposits occur as massive or near massive sulphide replacements in phyllite or schist which occur around parts of a broad but complex uplift some 60 miles long and 30 miles wide, here called the "Anvil District". This uplift is cut by a pattern of faults typical of vertical uplifts and bounded on the southwest by the regional Tintina fault trench along Pelly River. The deposits appear to be localized by the following factors:

a. Favourable horizons, usually graphitic, in schist (no known depth limitations).
b. Possible NW faults subsidiary to the main regional Tintina fault zone.
c. N-S to NNW fault and porphyry dike zones.
d. Proximity to NE striking fault zones.
e. General association with granitic porphyry, and perhaps the Anvil batholith (granitic).

The Scott mineral claims are:

a. Underlain by the favourable schist horizon.
b. In close proximity to the Anvil batholith.
c. The schist is apparently offset by a major NE trending fault interpreted as following the lower Anvil Creek valley.

The Luk group of mineral claims are:

a. Underlain by the favourable schist horizon.
b. In close proximity to the granodiorite contact.
c. A strong lineament, striking NE and probably representing a structural feature can be recognized on the air photographs of the center part of the property.

Exploration Techniques

The exploration technique proven to be successful in the district is a combination of conventional exploration and prospecting methods with airborne and ground geophysical methods and geochemical prospecting

whereby the sequence in which the different methods are applied is of greatest importance.

The area is susceptible to airborne magnetic and E M surveys, ground mag, E M and gravity surveys if the aim is directed towards massive sulphide ore bodies.

Geochemical prospecting by soilsampling is recommended in areas with light to moderate overburden. Stream silt samples do not always give relevant information.

Drilling of promising target areas is done by overburden and diamond drilling depending on the expected depth of the target and the kind of information made available by the different methods gives the best results.

Work Performed to Date

1. The Scott 1 - 24 Group of Claims

a) Airborne Geophysics

Following previous recommendations of this Company, Swim Lake Mines had an airborne combined E M and Mag survey done by Lockwood Survey Corporation. The final data reduction of this work has not been received yet. The preliminary results where interpreted independently by D. W. Smellie , P. Eng., Exploration Geophysics (Yukon) Ltd. and by Dr. P. H. Sevensma, Sevensma Consultants Ltd.

Photostatic copies of the interpretations by Mr. Smellie and Dr. Sevensma are attached to the report.

The airborne geophysical survey reached beyond the claim boundaries of the Scott group as shown on attached mapsheet, Fig No. This map also shows the E M anomalies as referred to in Dr. Sevensma's and Mr. Smellie's report respectively. It should be kept in mind though that this map is based on preliminary information only, received from Lockwood Survery Corporation.

b) Ground Inspection and Geochemical Reconnaissance

Archer, Cathro and Associates of Whitehorse, Y.T., were contracted to

carry out a program of ground inspection, tagging of the claimposts and geochemical reconnaissance work. Thereby the claim location lines where surveyed by compass and tape and the survey was tied in to prominent topographical features. The results where plotted on photomosaics of the area of the property. Soilsamples where taken along the claim location lines and tested for total heavy metal content in the field by cold extraction. Split samples were geochemically tested for Cu, Zn and Pb by the hot aqua regia method at the firm of Mr. Franklin Price, P. Eng. of Vancouver.

The geochemical response of the area must be classified as weak.

All the samples taken consisted of mainly clay material and organic matter and although liable to have metal ions bonded to them which are extractable by cold treatment only showed low results. In one instance, on the location line of Scott 13,14 and 15,16 the sample numbers A 131 to A 134, the total heavy metal values are slightly above background coinciding with slightly anomalous copper values of the hot aqua regia extraction. These samples where taken downhill from a weak E M anomaly on flight line 20, which according to the preliminary information is located on Scott #16.

The other weak E M anomalies on Scott 7 and 8 did not show any geochemical expression since the sample and claim location line is running on the uphill side of the anomalies.

The geochemical reconnaissance work was confined to the claim location lines. The E M anomalies beyond the claim boundaries were not tested geochemically.

c) Assessment of all information

The Scott 1 - 24 group of mineral claims is located in a geologically very favourable position with regard to the regional ore controls. (See also chapter "Economic Geology")

The airborne geophysical survey indicated a number of weak E M anomalies which warrant further follow up work on the ground, especially in view of the heavy overburden. The overburden was found to be quite heavy on the slopes as well as on the valley bottom which makes

the low ratio airborne anomalies geologically significant. It should be noted that a sulphide body which does not outcrop on bedrock underneath the overburden, will not give a geochemical anomaly.

Deeper impermeable layers of clay in the glacial till will also effect the seepage and capillarity water which cause the geochemical halo around a sulphide body.

Only one of the airborne E M anomalies on line 20 was tested properly by reconnaissance geochemical work and indicated a weak geochemical anomaly.

All the other airborne E M anomalies, within and beyond the claim boundaries follow a northeast to easterly trend, whereas the general strike direction of the schist formation in the area around the claim group is northwest dipping at 40-50° to the north.

Since the same trend of E M anomalies is observed in the bottom of the valley and on both the north western and eastern slopes of the valley, cutting across some of the subsidiary creeks (Scott 6 - 8) it is unlikely that this trend follows an old drainage channel in the bottom of the valley.

Geophysical ground work is therefore necessary to prove or disprove the significance of the weak airborne E M anomalies.

In order to increase the chances of success it is recommended that the ground beyond the claim boundaries of the Scott group that shows any airborne E M anomalies, be obtained by staking, option or purchase. Where feasible these anomalies should also be tested by more detailed geochemical work.

2. Luk Claims

a) Airborne Geophysics

The airborne E M and Mag survey was carried out in conjunction with the work on the Scott group.

The photomosaic was used by Lockwood Survey Corporation for navigation and the preliminary results were, as a result, very distorted. Lockwood Survey Corporation is presently reducing the data on a new photomosaic using the film of airphotos taken in conjunction with the airborne E M and mag survey for navigational controls. It is essential to know the correct location of the flight lines in relation to the ground before the results of the geophysical survey can be assessed with any degree of accuracy and in the work described below it is important to assure that the encountered anomalies are within the claim boundaries of Swim Lake Mine's ground before any follow up work is carried out.

b) Ground inspection and Geochemical Reconnaissance.

This work was also performed by Archer, Cathro and Associates of Whitehorse in the same manner as on the Scott group.

The attached map shows that the location of the claims differs considerably from the official claim map of the mining recorder in Whitehorse. The Luk 77-83 claims require further work to ensure their location.

The geochemical response to total heavy metals cold extraction and the hot aqua regia test for Cu, Pb and Zn was also weak with only erratic relative deviations.

As on the Scott group, the soilsampling was done at 400' intervals along the claim location lines for reconnaissance purposes only and samples were taken from all seepages and creekbeds on the location lines.

c) Assessment of all information

Although the geochemical results are not encouraging the area of the Luk claims should not be written off yet until the complete information of the airborne geophysical work has been received.

The favourable geological situation, the indication of weak E M anomalies in conjunction with fairly heavy overburden, a belt of E M anomalies on the neighbouring ground of Anvil's Beta group to the south and the fact that Kerr Addison Mines is drilling at the present time on their block of ground adjoining to the southeast of Luk 41 - 56

within the same geological formation, warrant further exploration on the Luk group. But in order to plan and recommend such exploration work it is necessary to have the complete information of the airborne geophysical work available and to correlate it with the boundaries of the claim group.

Recommendations

1. Scott 1 - 24 Group of Mineral Claims

It is recommended that the neighbouring ground to the southwest and northwest be acquired in order to cover the E M anomalies on flight lines 29 to 34.

Follow up the E M anomalies on Scott 7 and 8 by more detailed soilsampling and testing by the hot aqua regia method.

Estimated cost including assaying, transportation, wages, etc. $2,000.00

If the geochemical work shows some response and the rest of the anomalies beyond the claim boundaries are covered by claims owned by Swim Lake Mines, a program of ground geophysical follow-up work using a Turam E M unit and gravity should be laid out. The ground geophysical work should be done on lines at 400' intervals with readings every 100'. Approximately 20 line miles are required to cover all anomalies.

The estimated costs for such a program would be:

1.	Line cutting 20 line miles:	$ 2,400.00
	Helicopter:	600.00
2.	Ground E M with a Turam unit - 20 miles:	3,000.00
	Helicopter:	600.00
3.	If results of Turam Survey warrant Gravity survey - 20 miles:	3,400.00
4.	Geology and Engineering, Compilation of all results:	3,000.00
5.	Contingencies:	2,000.00
		$15,000.00

It is possible that a drilling target would emerge during the program in which case some of the expenditures would be cut short in favour

of the drilling.

2. Luk Group of Mineral Claims

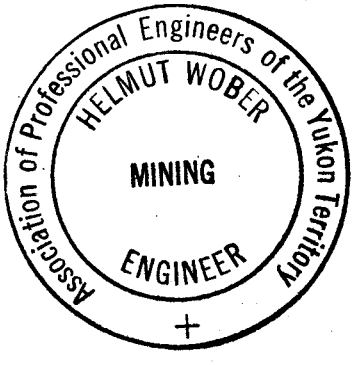
Leave dormant until correct and complete data of airborne geophysical work has been received.

Summary and Conclusion

Both the Scott and the Luk groups of mineral claims are located on favourable geological ground with regard to the regional ore controls of the Anvil district. Both are underlain by the favourable schist horizon, are close to the granodiorite contact and show structural features favouring ore deposition in the area.

The results of exploration work carried out so far, namely airborne geophysics and reconnaissance geochemical work indicate that the emphasis should be put on the Scott group at the present stage.

Further work will largely be influenced by the aquisition of the ground to the southwest and northwest of the Scott group and on the complete information about the airborne geophysical work on the Luk group.



Respectfully submitted,

MACDONALD CONSULTANTS LTD.

H. Wober, P. Eng. (Yukon)

Sample No.	Cu.	Pb.	Zn.
2647			
2656	8	10	66
2657	3	10	73
2658	7	20	66
2659	8	20	68
2680	9	12	74
2681	9	1	51
2682	16	20	59
2683	6	10	73
2684	4	1	60
2685	23	1	66
2686	29	1	55
2687	7	1	
2688	17	10	59
2689	7	1	24
2690	16	12	55
2691	19	1	55
2692	19	10	73
2693	13	10	44
2694	18	20	73
2695	19	10	73
2696	18	1	65
2697	10	1	53
2698	19	20	66
2699	32	10	95
2708	19	1	44
2709	27	10	73
2710	14	10	59
2711	6	20	73
2712	12	10	66
2713	9	10	59
2714	6	0	53
2715	4	0	35
2716	5	0	16
2717	2	1	20
2718	16	0	53
2719	6	15	45
2720	16	16	59
2734	5	0	11
2735	19	1	59
2736	5	1	53
2737	17	10	66
2738	3	1	53

Sample No.	Cu.	Pb.	Zn.
2739	7	0	66
2740	15	0	
2741	4	0	35
2742	7	1	66
2743	6	15	42
2744	4	0	24
2745	19	10	66
2746	21	20	61
2747	14	10	40
2748	6	1	29
2749	21	20	59
2750	7	15	66
2751	7	20	46
2753	4	1	53
2754	4	10	44
2755	8	1	66
2757	12	20	209
2759	7	1	24
2760	16	1	53
2761	19	1	66
2762	10	1	58
2763	10	1	88
2764	32	12	66
2765	8	1	73
2766	7	1	42
2767	5	1	45
2768	6	1	66
2770	-	-	-
2756	17	0	45
2701	8	10	40
2702	9	1	44
2703	35	1	88

MacDonald Consultants Ltd.

SWIM LAKE MINES

SCALE	
DRAWN	
DATE	19, 1, 67.
NO.	'Luk'

GEOCHEMICAL RESULTS

Sample No.	Cu.	Pb.	Zn.
2904	14	10	44
2905	8	1	55
2906	6	10	20
2907	25	20	51
2908	19	10	40
2909	8	1	18
2910	16	27	101
2911	32	80	20
2912	19	16	83
2913	16	15	59
2914	9	1	44
2915	14	20	101
2916	30	12	88
2918	14	1	66
2917	9	1	66
2919	20	20	79
2920	33	0	20
2950	3	1	20
2951	4	0	3
2952	4	1	18
2953	4	1	33
2954	5	0	55
2955	15	1	45
2956	14	20	57
2958	5	1	29
2959	3	10	2
2960	12	10	88
2961	14	1	60
2962	6	15	18
2963	3	1	29
2964	3	0	29
2965	27	18	13
2966	4	0	24
2967	14	10	66
2968	14	0	29
2969	9	12	41
2971	9	1	59
2973	8	15	48
2974	16	1	26
2975	27	10	33
2976	3	1	24
2977	3	1	42
2978	3	0	24
2979	6	0	11

Sample No.	Cu.	Pb.	Zn.
2980	14	20	60
2981	8	1	66
2982	5	1	62
2983	4	0	24
2985	5	0	37
2986	4	0	
2987	19	0	62
2988	9	12	125
2989	16	10	103
2990	16	30	73
2991	16	15	66
2992	7	22	48
2993	14	1	33
2994	3	1	
2995	8	10	66
2996	14	0	3
2997	21	10	73
2998	14	20	55
2999	18	50	59
2970	33	0	20
3000	11	1	51
3001	5	1	47
3003	20	75	195
3004	6	1	49
3005	11	15	69
3006	11	1	44
3007	11	1	47
3008	14	1	64
3009	23	15	69
3010	11	15	37
3011	17	15	88
3012	23	1	96
3013	17	15	84
3014	11	15	40

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SWIM LAKE MINES

SCALE	
DRAWN	
DATE	19,1,67
NO.	'LUK'

GEOCHEMICAL RESULTS

Sample No.	Cu.	Pb.	Zn.
3015	17	1	45
3016	17	0	68
3017	14	0	64
3018	23	0	77
3020	20	0	77
3021	27	15	176
3022	23	15	117
3023	27	15	117
3024	36	1	176
3025	17	1	55
3026	33	60	119
3027	26	40	62
3028	17	40	130
3029	10	1	24
3030	33	20	79
3031	46	40	100
3032	26	30	70
3033	26	20	76
3034	23	12	89
3035	33	16	70
3036	33	20	62
3037	23	40	119
3038	26	40	52
3039	93	40	19
3040	30	20	100
3041	23	16	79
3042	30	16	62
3043	23	26	79
3044	30	20	89
3045	23	12	62
3046	13	1	24
3047	26	12	70
3048	34	23	89
3049	13	16	62
3050	26	20	62
3051 A	20	0	88
3051 B	23	0	68
3052	26	0	103
3053	20	0	51
3054	29	0	110
3055	20	15	13
3056	26	25	57
3057	23	12	42
3058	17	12	70

Sample No.	Cu.	Pb.	Zn.
3059	33	1	19
3060	26	0	62
3061	36	0	76
3062	26	0	42
3063	36	12	76
3064	26	12	42
3065	36	12	100
3066	46	12	42
3067	36	1	62
3068	33	12	79
3069	39	12	62
3070	17	1	42
3071	16	0	24
3072	13	0	24
3073	36	12	76
3074	33	12	79
3075	39	0	76
3076	39	12	79
3077	13	1	24
3078	46	12	89
3079	36	12	42
3080	39	12	76
3082	36	1	51
3083	33	0	76
3100	26	0	62
3101	36	0	62
3102	33	1	76
3103	10	1	15
3104	13	20	51
3105	26	12	79
3106	26	12	36
3107	43	32	100
3108	36	20	71
3109	23	16	62

MacDonald Consultants Ltd.

SWIM LAKE MINES LTD.

SCALE		GEOCHEMICAL RESULTS
DRAWN		
DATE	19,1,67	
NO.	'Luk'	

Sample No.	Cu.	Pb.	Zn.
[illegible]	26	12	74
[illegible]	26	12	33
[illegible]	43	32	100
[illegible]	11	20	42
[illegible]	26	33	20
[illegible]	26	12	33
[illegible]	26	12	42
[illegible]	26	1	51
[illegible]	26	16	42
[illegible]	26	16	51
[illegible]	23	11	119
[illegible]	26	12	17
[illegible]	36	16	62
[illegible]	36	1	62
[illegible]	23	16	42
[illegible]	36	32	62
3126	26	0	62
3127	30	0	62
3128	33	1	76
3129	17	20	51
3130	9	12	21
[illegible]	17	1	51
[illegible]	15	15	42
[illegible]	5	20	31
3134	7	12	21
3135	2	0	42
3136	7	0	51
3137	17	12	42
3138	9	2	58
3139	12	12	51
3140	17	0	73
3141	7	20	20
3142	10	20	58
3143	12	20	94
3144	7	1	21
3145	6	1	51
[illegible]	15	20	81
[illegible]	15	1	42
[illegible]	12	20	42
[illegible]	10	22	35
[illegible]	10	20	73
3151	30	40	70
3152	26	40	51
[illegible]	30	32	42

Sample No.	Cu.	Pb.	Zn.
[illegible]	23	40	89
3155	30	40	70
3156	30	40	62
3157	17	16	241
3158	23	20	89
3159	23	40	70
3160	8	0	110
3161	20	1	86
3162	17	0	49
3163	17	0	59
3164	11	1	73
3165	11	1	59
3166	8	0	59
3167	11	1	73
3168	14	0	13
3169	20	0	73
3170	11	0	35
3171	17	0	49
3172	20	1	73
3173	11	0	86
3174	20	0	73
3176	17	0	59
3177	34	1	73
3178	22	2	51
3179	37	12	58
3180	17	10	31
3181	15	1	51
3182	22	14	73
3183	7	1	31
3184	9	10	42
3185	24	0	8
3186	21	0	60
3187	28	0	31
3188	13	0	35

MacDonald Consultants Ltd.

SWIM LAKE MINES

SCALE		GEOCHEMICAL RESULTS
DRAWN		
DATE	JAN. 67	
NO.	'LUK'	

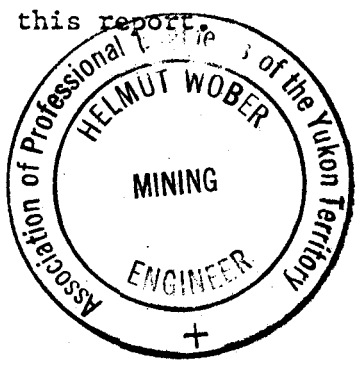
Sample No.	Cu.	Pb.	Zn.
3204	23	0	39
3205	29	0	41
3206	23	0	39
3207	5	1	21
3208	1	15	44
3209	14	15	15
3210	23	15	88
3211	14	1	62
3212	11	35	97
3213	20	15	110
3214	20	35	51
3215	23	0	97
3216	17	0	77
3217	17	1	77
3218	23	1	51
3219	17	15	77
3220	20	1	77
3221	17	1	77
3222	14	0	77
3223	20	1	64
3224	17	0	89
3225	23	15	64
3211	23	0	39
3212	17	0	88
3213	29	0	51
3214	20	0	37
3215	11	0	49
3216	5	0	49
3217	14	0	66
3218	23	0	99
3219	23	0	35
3220	5	0	141
3221	36	1	49
3222	23	0	35
3223	14	1	35
3224	17	1	66
3225	20	1	35

MacDonald Consultants Ltd.		
SWIM LAKE MINES		
SCALE		GEOCHEMICAL RESULTS
DRAWN		
DATE	19,1,67.	
NO.	'Luk'	

CERTIFICATE

I, Helmut Wober, with business and residential address in Vancouver, B.C. do hereby declare:

1. I am a consulting mining engineer.
2. I am a graduate of the Montanistische Hochschule Leoben, Austria, 1963.
3. I am a registered professional engineer in the Yukon and British Columbia.
4. I have gained experience in mining and exploration geology in positions of responsibility with Nordisk Mineselskab A/S in East Greenland in 1961 and 1962, with United Keno Hill Mines from 1964 to 1966. I held the position of Chief Mine Geologist with United Keno Hill Mines when I resigned to join MacDonald Consultants Ltd. in May 1966.
5. I have personally studied all available information on the geology of the area described.
6. I do not have, nor do I expect to have, any interest, direct or indirectly, in any properties referred to in this report.



Respectfully submitted,

H. Wober

H. Wober, P. Eng. (Yukon and B.C.)

SWIM LAKE MINES LIMITED.

Evaluation of airborne data, Luk & Scott Groups.
Anvil Range, Whitehorse M.D., Y.T.
August 6th, 1966.

1. Introduction.

The writer has been requested by A.MacDonald Consultants Ltd to evaluate briefly the results of an airborne survey carried out by the Lockwood Corporation helicopter method over the Luk and Scott Groups during July 1966. Preliminary maps only were used.

2. Luk Group.

Magnetics. The magnetic background is about 200 ɣ, with high readings to about 600 ɣ. The magnetic pattern indicates a N-S formational trend near the centre of the map area. Ground investigations will be required to determine whether the high magnetics are due to the presence of volcanic rocks.

Electro-magnetics. The coincident AM-EM anomalies on lines 36-40 are on another property and have therefor not been considered.

In the map area, the airborne EM responses are characterized by medium strength and low ratios.

Medium to high ratios are therefor the first targets of interest; the next best ones are those of high strength and with medium or even low ratios.

This EM pattern is suggestive of fairly deep overburden, say of the order of 50 to 100', and of mildly conductive rock formations.

EM anomalies are rated as follows:

1. Line 15, strength 60+ and ratio 3.8; line 16, 40+ and 3.5.
   Line 18, 100+ and 1.8
   Line 5 & 6, 80+ and 0.6 - 0.7.
2. Line 32, 20+ and 2.2, part of a limited trend.
   Line 25, 20+ and 4.0, part of a limited trend.

These five target areas are of special interest for geochemical investigation.

On the remainder of the property, wide-spaced geochemical reconnaissance for heavy metals is suggested, using the airborne data as a guide both to lay out the traverses and to assess geochemical highs.

3. Scott Group, 62° 30'N, 133° 30'W.

The relief of the magnetic fiels is weak, except for one small area to the East of the Scott Group. In this area, on line 13, the 700γ contour covers an area of about 1000' across, the general background being about 200-250γ.

From line 13 to line 38, the magnetic pattern suggests the presence of schists only, without volcanics or serpentines or other formations with an unusual high magnetite content.

Electromagnetics. The airborne EM suggests that a mildly conductive formation underlies the surveyed area. There are no citeria to assss possible overburden effects; the depth of overburden is estimated to be of the order of 100'.

Features of interest are as follows:

Line 13, A poor ratio (0.2) conductor is associated with the magnetic high. This feature is on ground held by another company.

Line 16. Some good-ration conductors of medium strength are located on this line, but the reliability of the data is in doubt, as the profile indicates instrument trouble. If the in-phase value of 80 and the ratios of from 3.5 to perfect (p) are correct, this warrants ground follow-up.

Except for the two lines noted, all other responses tend to fall into one of two groups.

A. Low strength (20-50 units) and good ratios (3 to perfect).

B. Medium strength (60-80 units) and low ratios (1 to 3).

As the overburden is likely to be deep, none of these responses can be written off as insignificant.

As well, it is by no means certain that a sulphide body in this district will always have a significant magnetic expression.

Omitting linss 13 and 16, the writer rates the EM anomalies as follows:

1. Lines 28,29 and 30, NW part, on valley slope, 40+ and 5.0.
   Line 24, 40+ and perfect (p).
2. Lines 36 and 37, 60+, ratios 2-3.
   Line 34, 40+, ratio 3.5, part of a limited trend.
3. Line 26, 60+, ratio 1.3.
   Line 20, 20+

These various zones warrant furhter investigation, especially by stream silt sampling and by soill sampling, as indicated by local conditions.

Respectfully submitted,

P.H. Sevensma Consultants Ltd.

Whitehorse, Y.T.
August 6, 1966.

P.O. BOX 2494

PHONE 667-2797

EXPLORATION GEOPHYSICS (Yukon) LTD.

WHITEHORSE, Y.T.

2 Aug. 1966

Archer and Cathro & Associates Ltd.
P.O. Box 1051
Whitehorse, Y.T.

SWIM LAKE MINES

PRELIMINARY MAGNETIC AND ELECTROMAGNETIC RESULTS

We have examined the magnetic and electromagnetic data from a helicopter-borne survey of this area performed by the Lockwood Survey Corporation. The survey was flown during July 1966 and the final maps are expected at a later date. Final interpretation will involve a more detailed examination.

The survey showed a number of electromagnetic anomalies and a magnetic pattern of low relief. The preliminary examination of the data disclosed a good-quality electromagnetic conductor on the LUK group, at L-38 (95) and L-37 (165). On the SCOTT group, a good-quality conductor appears at L-34 (2465). Both anomalies merit ground electromagnetic and magnetic investigation.

Yours very truly,

D.W. Smellie, P.Eng.
Director
Exploration Geophysics (Yukon) Ltd.

TELEPHONE: 681-7493

MacDONALD CONSULTANTS LTD.

SUITE 11 - 425 HOWE STREET, VANCOUVER 1, B.C.

November 17, 1966

Swim Lake Mines Ltd.
16-425 Howe Street
Vancouver 1, B. C.

Attention: Mr. Peter Heron, President

Re: Swim Lake Mines, Progress Report to November 15, 1966.

Dear Mr. Heron:

Exploration work on Swim Lake Mines Property has been resumed on Nov. 5, 1966 with the preparation of equipment and crews for a linecutting and ground EM and magnetic program on the Scott and NVL groups.

Property:

The grants for the mineral claims Scott 25, 29, 30 and 37 to 40 inclusive have been received.

A block of ground containing 72 claims named NVL 1-72 inclusive has been acquired by your Company. The additional Scott and part of the NVL claims cover ground on which geophysical anomalies were located by the airborne EM-survey. These anomalies were discussed earlier in Dr. P. Sevensma's report attached to the undersigned's report of September 9, 1966.

Geophysics:

The final data reduction of the airborne geophysical survey for the Scott, NVL and LUK groups of claims has now been received. The location of the EM anomalies is shown somewhat different from the preliminary maps. This is due to the fact that the actual flight lines could be better correlated with the ground from the air photographs taken simultaneously with the geophysical survey.

The EM-results indicate that the initial work should be conducted on the Scott and NVL groups.

Linecutting:

In addition to 5.9 miles of line cut previously on the Scott group, 14.9 line miles have been laid out on the Scott and NVL groups including the tie lines to be cut this fall and winter. Ground geophysics are to be carried

out over 12.1 miles of crosslines.

4.2 line miles were laid out over two small anomalies on the LUK group but this work should not be carried out until next spring because the severe winter weather by the time the linecutting on the Scott is completed will make operating very uneconomical.

Work Progress:

Mr. Colin Dyson, Geologist, was put in charge of the line cutting program on the Scott and NVL groups with two men to start and two to follow later this month. Mobilization of equipment, food and crew started on November 5th. Adverse weather conditions and heliocopter break downs slowed the mobilization down. The advance crew arrived on the property on November 9th, the last load of supplies was taken to the property on November 15th. The camp was set up for a complete crew of eight, including linecutters and geophysicists.

Actual line cutting started on November 10th, and the geophysical crew is expected to arrive on the property on November 20th.

Yours very truly,

MacDonald Consultants Ltd.

H. Wober, P. Eng.

HW/jc

December 14, 1966.

Mr. P. Keron, President,
Sudm Lake Mines Ltd.,
16 - 425 Howe St.,
Vancouver, B.C.

Re: Progress Report as of December 14, 1966.

In spite of severe weather conditions and low temperatures satisfactory progress was achieved on the linecutting on the Scott and NWL groups.

The additional linecutters went to the property on November 25th. All linecutting laid out as per progress report of November 17th was completed by December 8th.

On December 9th three of the linecutters left the property and the geophysical operator arrived. Mr. Colin Dyson and Mr. D. Balfour remained at the property to help carry out the geophysical survey.

Provided the presently mild weather lasts, the geophysical ground survey is expected to be finished by December 20th. Demobilization of camp and crew will then commence on December 17th.

Referring to our cost estimate to November 15th and to our report of September 9th, costs for the entire program of linecutting and ground geophysics are expected to stay within the budget estimated.

It should be noted that certain technical modifications of the program were made so that the different costs occur at different stages of work, but the total expenditures should remain the same.

Results from the ground magnetometer and electro-mag surveys are expected by the end of January.

Respectfully submitted,

MACDONALD CONSULTANTS LTD.

H. Hober, P. Eng.

HH/kt

January 9, 1967.

Swim Lake Mines Ltd.,
16 - 425 Howe St.,
Vancouver, B.C.

Re: Progress Report December, 1966.

All linecutting as laid out was completed on December 5th. Altogether a total of 26.4 line miles were cut including the tie-lines. 5.9 miles of line were cut in the Summer program and 20.5 line miles in the winter program.

The geophysical operator arrived on December 9th and the geophysical survey was started on December 11th.. ground geophysics was carried out over approximately 12 miles of crosslines, and this program was completed on December 16th.

Additionaly several soil samples for geochemical analysis were taken in areas of interest.

Demobilization of camp and crew was achieved on December 20th when transportation became available.

Yours very truly,

MACDONALD CONSULTANTS LTD.

C. V. Dyson

MAGNETIC and ELECTROMAGNETIC
GEOPHYSICAL SURVEYS.

SCOT and N V L mineral claim groups
DECEMBER, 1966.

- B Y -

EXPLORATIONS GEOPHYSICS (YUKON) LIMITED.

- F O R -

MacDONALD CONSULTANTS LTD.

SWIM LAKE MINES LTD.

I N T R O D U C T I O N:

Under an agreement between MacDonald Consultants Ltd and Exploration Geophysics (Yukon) Ltd, it was proposed that combined electromagnetic and magnetic ground geophysical surveys would be carried out over the N V L and Scott Mineral Claims of Swim Lake Mines Ltd. A total of five grids had been cut during 1966 and each of these were surveyed geophysically, the results of which are presented in this report.

L O C A T I O N and A C C E S S:

The Scott and N V L Claim groups are located in the Anvil - Ross Creek area some 10 miles northwest of the Faro Camp of Anvil Mining Corporation. Access to the claim groups for purposes of conducting the geophysical surveys, was made by helicopter from the settlement of Ross River.

M E T H O D of S U R V E Y

Instruments Used: For the magnetometer survey, a Jalander 46-65 magnetometer was used, the instrument is hand held and measures the vertical magnetic component by use of an oil-dampened fluxgate which automatically levels itself in the vertical direction. The range of this instrument is 10 to 250,000 gammas over five sensitivity ranges, the lowest being 10 gammas per scale division. The instrument is of light weight and readings can be obtained quickly, a conversion factor is necessary before gamma values can be determined.

For the electromagnetic survey, a Crone JEM dual frequency unit was employed. The Crone unit is of the inductive type and may be either used as a horizontal or vertical loop apparatus. Measurements are made of the resultant dip angle of the field and the width of null or out of phase component. It is designed to be operated with a maximum coil spread of 300 feet on frequencies of 480 and 1800 cycles per second with no interconnecting cables. The effective depth penetration is 300 feet for a horizontal conductor with maximum coil spread (no skin effect allowance)and 100 feet for a vert-ical conductor. The effective lateral coverage is a direct functionof the spread under ideal conditions. The equipment was chosen in order to give reliable infor-mation on the attitude and configuration of a conductor, the physical properties of the host rock,dimensions of the conductor and results free from error due to topographic relief.

S U R V E Y M E T H O D

Linecutting- All lines for each grid area had been prepared by the client before the electromagnetic and magnetic surveys commenced. Grids were each composed of a central base line with cross lines of 400 foot separation, each with 100 foot station intervals. Cross lines were apparently surveyed by picket and chain methods.

MAGNETOMETER SURVEY

Prior to the actual magnetometer survey, readings were taken along the central base line at cross line intersection points. These stations were looped and re-read every hour as a means of controlling drift and diurnal variations. With base stations of an established value serving as reference points for each cross line portion of the survey, a rapid and precise check was kept on magnetic variations and the entire survey was thus kept on a relativebasis during day to day operation. Each cross line was read with re-checks at the base station within every hour, this method provided an internal control for detecting diurnal and drift variations. The survey was done by one operator using the same instrument.

ELECTROMAGNETIC SURVEY

All surveys were run with horizontal loop configuration and 200 foot coil spacing in order that highest response could be obtained from flat-lying sulphide bodies. 1800 cycles per second readings were taken at each station, with 480 cycles per second duplication over areas of interest. The coil configuration was not adaptable to conditions of conductive overburden and maximum response from such was expected. All traverses were by the "in line method" and done on the same grid as the magnetometer survey. The two man EM crew did all their ground work in coincidence with the magnetometer crew.

TREATMENT of DATA

Magnetic Results:

Magentic results were corrected for diurnal and drift variations. The final gamma values were then plotted on a grid plan using scale of 400 feet to 1 inch. This data was then profiled and contoured where feasible. Field plots of this information were forwarded at the end of the survey for final plotting and examination. Magnetic data is presented in this report on such maps showing gamma values-profiles and contoured results (see Appendix).

Electromagnetic Results:

All results as derived in the field were plotted on a grid plan using s scale of 1 inch to 400 feet, high and low frequency results were profiled. Plots of readings and profiles at the end of the survey were forwarded for final plotting and compilation on grid plans similar to those used for the magnetic maps. Electromagnetic data is presented in this report with maps showing values-profiles (1800 and 480cps), at resultant dip angles for each individual grid plan.

GEOLOGY

No geologic information has been made available to aid in the interpretation of the geophysical results obtained. Geologic survey of Canada, Map 13-1961, Tay River area, as prepared by Roddick and Green,

is the only geologic information obtainable other than private reports of mining exploration companies in the area.

Generally the Scott and N V L claims would appear to be underlain by the quartz-sericite schists common to the Anvil area, porphyritic intrusives within the metamorphics are numerous throughout the schist belt and especially close to the batholith contacts.

GEOPHYSICAL OBSERVATIONS

Grid 1

Magnetic response is limited in the Grid 1 area, the only anomaly of note being a single line value at Line 28S-10E, where the magnetic peak is almost 400 gammas above background and the disturbance ccurs over a width of 300 feet. Also on line 28S at the baseline a weaker magnetic high of 200 gammas was recorded. From profile examination a magnetic trend strikes westerly between line 20S and 32S for approximately 1000 feet and is about 200 to 300 feet in width.

The electromagnetic results show negative high frequency resultant dip angles treading in a westerly direction from line 16S to line 28S, the high negative angle occurs at line 20S where a value of -7 degrees is reached at 7E. A few single line values over the grid are of irregular nature but not large enough to warrant investigation.

Grid 2

No results of any significance were obtained from the magnetic survey over this grid, electromagnetic results were also inconclusive.

Grid 3

A weak magnetic anomaly was noted on line 28N station 3E. The magnetic high is of about 150 gammas above background.

A conductive trend at the south end of the grid from line 12N to line 4N is apparant, a maximum negative resultant dip of -3 degrees is reached and a positive resultant dip of 6 degrees is attainted on line 4N.

Grid 4

No magnetic responseof anomalous value was obtained over this grid. Electromagnetic results are not conclusive but weak conductive responseis obtained over line 4S and 8S near the baseline.

Grid 5

No magnetic or electromagnetic response of significance was obtained over this grid.

GEOHYSICAL INTERPRETATION

Grid 1

Over line 28S the magnetic anomaly has no electromagnetic coincidence. The magnetic high would appear to be due to a dikelike structure dipping to the north with a 'top' within 100 feet of surface. The electromagnetic trend is displaced from the magnetics on line 28S, 24S, and 20S. This trend is significant of a shallow gently dipping conductor with an easterly plunge. On line 24S irregular electromagnetic response is coincident with magnetics between 2 and 6W. It is thought that the electromagnetic and magnetic responses are due to sheared intrusive basic formations.

Grid 2

No anomalous geologic structure or formations are evident from the geophysical results.

Grid 3

A single line magnetic anomaly over line 28N is typical of a shallow body with a gentle easterly dip, it is non-conductive and strike dimensions cannot be determined. The conductive trend striking south over lines 12N, 8N and 4N appear to be due to a near vertical structure that is plunging to the east.

Grid 4 and Grid 5

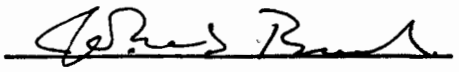
No anomalous geologic structure or formations are evident from the geophysical results.

C O N C L U S I O N S and R E C O M M E N D A T I O N S

From examination of the geophysical results alone it is concluded that evidence of electromagnetic and magnetic representation of sulphide bearing zones is not evident.

It is recommended that further work be done in the line of geochemical soil sampling over the anomalous areas noted in order that further support of economic possibilities as related to the geophysical results be obtained.

Respectfully Submitted:



John S. Brock
Geophysicist

SWIM LAKE MINES LIMITED

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    a) E M - PROFILES
    b) MAG - PROFILES
    c) MAG - CONTOURS
14. GROUND GEOPHYSICS - SCOTT - NVL GROUP GRID 5
    a) E M P PROFILES
    b) MAG - PROFILES
    c) MAG - CONTOURS

TELEPHONE: 681-7493

MacDONALD CONSULTANTS LTD.

SUITE 11 - 425 HOWE STREET, VANCOUVER 1, B.C.

IN THE MATTER OF SWIM LAKE MINES LIMITED AND
IN THE MATTER OF THE APPLICATION FOR CERTIFICATES
OF WORK FOR THE LUK, SCOTT AND NVL GROUPS OF
MINERAL CLAIMS.

AFFIDAVIT

I, Helmut Wober, of MacDonald Consultants Limited, 11-425 Howe Street, Vancouver B.C., hereby make oath and say as follows:

'Attached to this my affidavit are reports and statements of work and expenditures for such work, concerning the exploration program on the Luk, Scott and NVL group of claims during the 1966 season. I certify these to be true and accurate to the best of my knowledge and belief. '

Sworn before me at the city of Vancouver, B.C.
this 18th day of January, 1967.

A Commissioner for taking Oaths
in and for the Yukon Territory.

Helmut Wober