50°, 117° S.E

KLYCEPTOR GEOPHYSICAL REPORT NO.A-67-119
TK Claims Group
117° W - 50° N
4 1/2 miles southwest of Gerrard, B. C.
C. Jontz
June 10, 1967 to July 24, 1967

D. L. Hings, P. Eng. 82 K/6W

OWNER - T. KINGSBERRY

1190

1190

This is report no. A-67-119 for
C. Jontz in the area of
Gerrard, B. C.
June 10, 1967 to July 26, 1967.

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PLAN

KLYCEPTOR SURVEYS LIMITED,
250 N. Grosvenor Ave.,
N. Burnaby, B. C.
298-9619

KSL KLYCEPTOR SURVEYS LTD.

ORIGINATORS OF GEOELECTROMAGNETIC SURVEYS BY AIR

CUSTOM GEOPHYSICAL AIR-GROUND SURVEYS

July 26, 1967.

KLYCEPTOR GEOPHYSICAL SURVEY NO. A-67-119 DATED JUNE 10, 1967 TO JULY 24, 1967. THE SURVEY COVERS THE TK CLAIMS GROUP OVER THE SLOPES OF THE TENDERFOOT LAKE VALLEY 4 1/2 MILES SOUTHWEST OF GERRARD, B. C. LONGTITUDE 117° WEST LATITUDE 50° NORTH.

CONTRACTOR C. Jontz

SURVEYED AREA

The survey includes 16 southwest northeast traverse lines with an average length of 9,000 feet spaced at 500 foot intervals. The survey crosses a valley extending approximately north and south, from Tenderfoot Lake across the ice fields and south over the drainage from the ice fields. The area has no roads and is extremely mountainous. Anomalous reference should be made from our drawing No. A-67-119.

PURPOSE

The survey was conducted to determine the anomalous features responsive to the Klyceptor Airborne instrumentation, when traversed by helicopter at regular intervals at an elevation, wherever possible, not over 300 feet above the local terrain.

INSTRUMENTATION

The survey was conducted with a two component Klyceptor Magnetometer Sensor mounted on a helicopter for continuously recording the south to north sequential line response to determine the sub-structure features.

Specifically the Klyceptor Magnetometer Sensor Head is composed of two klystron 10 centimeter tubes, These tubes are utilized in patented circuits to render magnetic external fields. The tubes are mounted in a temperature stable container at an angle of 90° to one an other and are suspended by a dampened gimbal.

The earth's magnetic field changes encountered in flight, modulate two carriers in accordance with their positioning to the X and Y components of the earth's magnetic field. Level is maintained by the gimbal and the direction of flight traversed determines the setting of the gimbal relative to magnetic north.

The responsive characteristics are relatively flat from 20 seconds per cycle to 10cycles per second. This broadband performance plus phase discrimination permits anomaly signature identification and duplication over linear strikes occuring from fractures, etc. All data storage is syncronized on tape.

PRESENTATION

Anomalous recorded features are represented in block form in respect to their locations along the flight line, the anomalous time component becomes the width of the block, relative to the scale of the plan and the height of the block indicates the strength of the anomaly in the scale of gammas. The anomalous indications are derived directly from our anolog computer.

The height of the 'inphase' anomalous features in excess of 500 gammas, generally speaking, when grouped on adjacent lines, become areal anomalies. Strong readings when grouped are frequently symbolic of the existence of sulphides, whereas the broad but weaker isolated readings more generally depict deep bedding non-conformities and the section of a fractured interface.

An east west section showing the anomalous readings and the interpreted sub-surface anomalous interface is shown in the section drawing A-67-119.

RESULTS

Reference Plan No. A-67-119

The location of the plan A-67-119 is best accomplished by locating Tenderfoot Lake and the ice fields to the south then follow out the drainage system as indicated.

The linear anomalies signified by the letter L, in general, follow the bedding strike and represent the interface of formation changes. Cross fracturing and faulting is signified by the letter F and their importance is relative to the strength and extent of the anomaly.

F1 signifies the most extensive fracture encountered and this combined with the L1A and L1B form the principle anomalies of the A1 zone, representing the most interesting geophysical response of the survey. The ice fields have a masking influence on the measurements, and the extention of L4 might continue southward to L6. Some of the stronger anomalies on the west middle portion of the survey are probably created by sharp mountain peaks, and therefore should not be proportionately evaluated with the anomalies further down the slopes. Topographical features such as steep water courses and ridges, etc. must be considered as possible anomalous sources, and the errosional trends along the peaks will produce anomalies conforming to beddings such as L2.

SUMMARY

From the reconnaissance geophysical standpoint the area within Z1 shows the most promise of the survey which combines the linear anomalies L1A, L1B, F1, F4 and L5.

In the south the L9 strike shows a substantial signature and warrants investigation. Linear strikes bordering the ice fields may continue under the ice but respond poorly to natural earth currents.

Surface detail geophysical and geological investigation should be confined to the above anomalies.

KLYCEPTOR SURVEYS LTD.

D. L. Hings, P. Eng.
Consulting Geophysicist.

July 26, 1967.

A STATEMENT OF COSTS FOR AIRBORNE GEOPHYSICAL SURVEY COVERING THE TK CLAIMS, SW OF GERRARD, B. C. BY KLYCEPTOR SURVEYS LIMITED. JUNE 10, 1967 TO JULY 26, 1967.

KLYCEPTOR CHARGES

Survey Crew, 2 men:

D. A. Saare, Surveyor	4 1/2 days @ $35.00 =	$157.50	
L. Sadler, Assistant	3 days @ $25.00 =	75.00	
		$232.50	
Plus 100% Overhead of $157.50 (Surveyor)		157.50	
			$ 390.00
Equipment Rental of Survey Airborne Instruments and Computer A $5.00 per Survey mile			
Approximately 30 miles @ $5.00 per mile			150.00
Operational and Travel Costs			
Transportation @ 10¢ per mile 800 miles	$ 80.00		
Living Cost 6 man days @ $15.00 per day	90.00		
	$170.00		170.00
Data Processing D. A. Cramer & K. Richardson, Plotting and Drawing Plans			
10 days @ $35.00 per day	$350.00		
Plus 100% Overhead	350.00		
	$700.00		700.00
Interpretation and Drawing up Final Report Consulting Geophysicist D. L. Hings, P. Eng. 3 days @ $75.00	$225.00		225.00
	KLYCEPTOR TOTAL		$1,635.00

July 26, 1967.

A STATEMENT OF COSTS FOR AIRBORNE GEOPHYSICAL SURVEY COVERING THE TK CLAIMS, SW OF GERRARD, B. C. BY KLYCEPTOR SURVEYS LIMITED. JUNE 10, 1967 TO JULY 26, 1967.

KLYCEPTOR CHARGES

Survey Crew, 2 men:

D. A. Saare, Surveyor	4 1/2 days
L. Sadler, Assistant	3 days

Equipment Rental of Survey Airborne Instruments and Computer

Approximately 30 miles

Operational and Travel Costs

Transportation 800 miles
Living Cost 6 man days

Data Processing D. A. Cramer & K. Richardson, Plotting and Drawing Plans
10 days

Interpretation and Drawing up Final Report
Consulting Geophysicist
D. L. Hings, P. Eng.
3 days

KLYCEPTOR SURVEYS LTD. TOTAL $2,500.00

Names and addresses of people employed to work on Report No. A-67-119.

D. A. Saare	- 2101 Lorraine Street, Coquitlam, B. C.
L. Sadler	- Hay River, N. W. T.
D. L. Hings	- 250 N. Grosvenor Avenue, N. Burnaby, B. C.
D. A. Cramer	- 202 N. Grosvenor Avenue, N. Burnaby, B. C.
K. Richardson	- 6890 Frederick Street, Burnaby, B. C.

GEOLOGICAL CONSULTANT:-
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943-3987

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BOX 553
BLAIRMORE, ALBERTA

GEOLOGICAL INTERPRETATION OF KLYCEPTOR GEOPHYSICAL REPORT NO.A-67-119, AIRBORNE GEOPHYSICAL SURVEY OF THE TK GROUP TENDERFOOT GLACIER KASLO M.D., B.C.

INTRODUCTION:

The survey was flown at a 500' spacing, in a N-S direction. A large portion of the area is overlain by ice. The surveyed area is in a trough, bordered by sedimentaries of the Badshot Formation to the west, and Milford metasedimentaries to the east. The Kuskanax batholith, intruding the Milford Group on its eastern edge, was not in the area surveyed. However, dykes, sills and minor apophyses intrude, in a westerly direction, the Milford and Badshot sedimentaries, and a large ultra-basic body lying between these formations. The ultra-basic body is overlain by the Tenderfoot Glacier.

Two helicopters were used in the survey. These machines aided in the distribution of ground control personnel.

GEOLOGICAL INTERPRETATION:

The lines marked "L1 - L9" are the probable boundaries of the ultra-basic body. Lines F1 - F9 are dyke and vein structures cross-cutting the ultra-basic body. Both sets of lines are the trace of interfacies of between rocks of either different ages, different compositions, or dislocations of the same rock types. All the "F" lines can be considered intrusion features, either faults or fissures filled by electro-magnetically susceptible minerals; or dykes, highly mineralized by iron sulfides and other magnetic metals.

It is probable that line F9 is the only dyke. Ground observation indicated that southerly of Tenderfoot Lake some very large quartz veins existed. The veins have been traced across the valley, and appear to originate in the vicinity of the Kuskanax batholith, about 8000' southeasterly of the Lake. These veins may be highly mineralized at some depth below surface. Much gossan was observed, and numerous localities showed psuedomorphs of silver sulfides. Investigation of these veins, below weathering, may disclose considerable silver and associated sulfide mineralization.

The lines marked "L" show the east and west contacts of the ultra-basic body. However, several (syenite) granite sills intrude the contact zone between the ultra-basic body and the Badshot Formation. These sills, or dykes are probably expressed by lines L1A, L1B, L7 and L8. Lines L4, L3, L5, L2, L6, and L9 are the actual east and west contact zones.

Z1 is the only anomalous area picked out. This zone is the horizontal trace of the south end of the ultra-basic body. The anomaly covers an area where the glacier terminates, immediately north of a sudden drop in elevation. This 3000' escarpment is the north wall of a cirque, formerly occupied by a glacier, which formed the headwaters of Poplar Creek. It is estimated that the anomaly represents, in vertical section, a downward depth of over 5000' of ultra-basic rock. The ultra-basic is not visible in the escarpment, partly because rubble and talus obscure the bottom, and partly because it has been faulted. Line F1 is the probable trace of a major fault, which moved the southern portion of the ultra-basic body downwards and to the west.

Line L1B represents a vertical vein known to carry abundant ruby silver. This vein is visible on the west edge of the escarpment. (See previous report by the writer.)

SUMMARY:

The geophysical survey indicates an area of numerous interfacies from about 6000 south to 18000 south. These interfacies are probably fault, fissure and contact zones. The region northwesterly of the TK Group is also an area of numerous tectonic deformities. And, in this area, as in the TK Group, some of the faults and fissures are filled by veins carrying as high as 70 ounces silver per ton.

The writer therefore suggests that more detailed exploration of the surveyed area may disclose substantial occurrences of valuable silver mineralization. The ultra-basic body should be explored for silver and copper. It is also suggested that, since float carrying nickel sulfides was recently found in the region, the ultra-basic body might carry commercial quantities of nickel.

Respectfully submitted,

Robert Steiner

Robert Steiner, P. Geol.

0+00 | 20+00E | 40+00E | 60+00E | 80+00E | 100+00E

40+00N

20+00N

0+00

20+00S

40+00S

60+00S

80+00S

100+00S

120+00S

140+00S

160+00S

180+00S

200+00S

TENDERFOOT LAKE

ICE FIELDS

L4 F9 L2 F5 L3 F2 L1A F4 L5 N1 L1B F1 F3 F6 L6 L7 F7 L9 F8 L8

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KLYCEPTOR GEOPHYSICAL SURVEY

TK GROUP GERRARD, B.C.

CONTR:- MR. C. JONTZ

JULY 1967 SCALE:-1" = 1000' DWG. NO.:- A-67-119

APPROVED

NOTE:-

- LINEAR ANOMALY
- ANOMALOUS ZONE
- FRACTURE STRIKES
- FLIGHT LINES (FLOWN SOUTH TO NORTH)
- CREEK
- ICE FIELDS

1500 1000 500 0 GAMMAS

1190

0+00 | 20+00E | 40+00E | 60+00E | 80+00E | 100+00E

DAC

0+00 20+00E 40+00E 60+00E 80+00E 100+00E

40+00N 20+00N 0+00 20+00S 40+00S 60+00S 80+00S 100+00S 120+00S 140+00S 160+00S 180+00S 200+00S

TENDERFOOT LAKE

T1 T2 T3 T4

TK1 TK2 TK3 TK4 TK5 TK6 TK7 TK8 TK9 TK10 TK11 TK12 TK13 TK14 TK15 TK16 TK17 TK18 TK19 TK20 TK21 TK22 TK23 TK24 TK25 TK26 TK27 TK28 TK29 TK30 TK31 TK32 TK33 TK34 TK35 TK36 TK37 TK38 TK39 TK40

ICE FIELDS

L1 L1A L1B L2 L3 L4 L5 L6 L7 L8 L9

F1 F2 F3 F4 F5 F6 F7 F8 F9

NOTE:-

LINEAR ANOMALY

ANOMALOUS ZONE

FRACTURE STRIKES

FLIGHT LINES (FLOWN SOUTH TO NORTH)

CREEK — CLAIM LINE ● CLAIM POST

ICE FIELDS

1500 1000 500 0 GAMMAS

KLYCEPTOR GEOPHYSICAL SURVEY

TK GROUP GERRARD, B.C.

CONTR:- MR. C. JONTZ

JULY 1967 SCALE:-1" = 1000' DWG.NO.:- A-67-119

APPROVED

REVISED FEB. 8, 1968.

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