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Knight file
cc D. Lawrie
March 3/77
823402

March 3, 1977

TO: W.M. SIROLA

FROM: J.C. LUND

SUBJECT: EXPLORATION REPORT FOR THE MONTH OF FEBRUARY 1977

General:

Road and drill site preparation was completed in January. Drilling started on February 2. Drill machine used is a modified BBS-1, drilling a BQW size hole.

Drilling:

Drilling to date:

Drill Hole	Location	Elevation	Depth Drilled
DDH 77 - 1	L 2160 N + 9.3 W	1424.96 (4675')	91.75 m
DDH 77 - 2	L 2160 N + 477 W	1335.04 (4380')	152.4 m
DDH 77 - 3	L 2160 N + 278 E	1455.46 (4775')	49.4 m
(Drilling on hole 77 - 3 still in progress)			
TOTAL drilling to February 28/77			293.55 m

Summary of Drill logs:

DDH 77 - 1 encountered basalt to a depth of approximately 33 meters then dark thinly bedded siltstone with interbedded sandstone to the bottom of the hole at 91.75 m. Between the overlying lavas and underlying siltstone is a few meters of volcanic breccia or agglomerate consisting of reddish to green in part vesicular volcanic fragments in dark green matrix. Pyrite occurs weakly in the sandstone units. Bitumen or Coaly carbonaceous material occurs in most sandstone units. Purpose of this drill hole was to test below the Western edge of the Basalt for possible pre-Miocene gravel filled channels.

The siltstones dip at about 70^{o} - 85^{o} to the core axis. These siltstone units probably contain tuffaceous material.

DDH 77 - 2 was collared in siltstone and continued in siltstone with interbedded sandstone, volcanic sandstone to about 146.3 m. The hole was bottomed in a pale green mottled altered basement rock at 152.4 m. The origin of this basement rock is uncertain but could be part of the Permian Cache Creek volcanic unit or altered monashee (?).

There is sufficient pyrite and coaly material to account for the I.P. anomaly. This hole was designed to test an I.P. anomaly.

Drill hole 77 - 3, now in progress, encountered O.B. to 1.8 meters, then continued in a fine dense black basalt with a greenish tint, suggesting partial serpentinization. At the end of the day shift on February 28 the drill was in this rock at 49.4 meters. There is a 10 meter section of brick red to dark reddish brown agglomerate at 23.61 meters.

Probe Results

DDH 77 - 1 and 77 - 2 were probed using the Noranda probe with negative results. Probing is slow because of constant drift and the need to stop and recalibrate. Apparently this problem becomes more acute when uranium or other radio-active elements are encountered.

Claim Staking

The following groups of claims were staked over areas of mapped Tertiary volcanic rocks in January and February:

Claim Name	No. of Units	Approximate Location
King 1	16	West and south-west of King Edward Lake.
2	18	
3	18	
4	12	
Crescent 4	16	19 - 20 Km south of Lavington adjacent to and west of the original Crescent Claim Group.
5	12	
Rod 3	20	Located N.E. of Postill Lake approximately 24 Km N.E. of Kelowna.
4	18	
5	18	
6	18	
Specs 1	20	Located East and N.E. of Ideal Lake. Approx. 27 Km E.N.E. of Kelowna
2	12	
3	10	
4	20	
5	20	
Knight 3	12	Expansion to west and north of the Knight 1 and 2 claim approx. 11 Km east of Rutland.
4	12	
5	20	
TOTAL UNITS	292	

Claim maps for these are being prepared by Amex Exploration Services Ltd. of Kamloops and will be sent to Kerr Addison in the first week of March.

Comments on Geology of the Knight Claim

The youngest unit is a fine dark flow banded basalt tentatively identified as Miocene in age. Although not obviously an olivine basalt, the basalt in Drill hole 77 - 3 is greenish in colour and possibly in part serpentinized. Flow banding in outcrop suggests a north easterly dip of about 7^{0}. To the west and presumably underlying the olivine (?) basalt is a non-olivine coarser grained basalt with scattered feldspar crystals and laths. These have also been tentatively identified as Miocene mainly because there does not appear to be an equivalent unit in the known Eocene.

At the base of the lower basalt is a few meters of volcanic breccia or agglomerate, reddish in colour and in part vesicular.

Underlying the basalt is an interbedded sequence of tuffaceous siltstones, siltstones quartz and quartz-feldspar sandstones, volcanic sandstones and arkosic sandstones with a coarse sandstone and conglomerate near its base sitting on a black mudstone (?). These rocks strike at about 100^{0} and dip southerly at 5^{0} to 15^{0}. Coal as thin seams and fragments occur in most sandstone units. It may comprise up to 20% of the sandstone over a few centimeters but would probably average between 3% and 5%. The sandstone would make up about 10% to 15% of the sedimentary sequence.

Pyrite, like the coal, is present in most sandstone beds generally less than 1% but occasionally would reach 5% over a few centimeters. It also occurs as fine laminae of massive pyrite (< 1 mm) along bedding planes in the fine banded siltstones. These rocks are probably part of the Kettle River formation of mid Eocene age.

The "basement" rock to the west at hole # 77 - 2 is a pale green mottled and very altered rock. This rock could be one of three units;

(a) altered Monashee gneiss;

(b) altered intrusive; or

(c) altered phase of Cache Creek volcanic rocks.

The lack of any micas leads me to believe it may be altered Cache Creek. Outcrops of similar rock occurs just south of L 360 N and at about 200 E.

From the evidence to date it would appear that the Kettle River formation forms an E.S.E. trending trough. Flow banding in the overlying basalt dips north easterly to east north easterly suggesting that it was deposited on an E.N.E. to N.E. facing pre-Miocene slope. Results of drilling in holes 77 - 3 and 77 - 4 should refute or confirm this paleoslope. If the paleoslope is confirmed then Daves Cr. is an expression of the present drainage as well as a pre-Miocene paleochannel. Whether or not it contains uranium of course remains to be seen.

John C. Lund