## CASAU EXPLORATION LTD.

## ASTRO RPOJECT <br> KEREMBOS-PENTICTON AREA, B.C. NTS 82E/4.5

EXCERPTS PROM TECHNICAL REPORTS
672470

## TABLE OF CONTENTS

Section I
Location MapTable of Geological Formations
Section II
Excerpts from Internal Petro Canada Reports F. Racicot; G. Salazar, P. Eng
Section III
(a) Technical Summary Petro-Canada Astro Claims
(b) Selected References from Petro Canada Reports
(c) Seven Mile High Resources Ltd. - News Releases
(d) The Dusty Mac Deposit

## Section I

## Location Map

Table of Geological Formations


F. RACICOT; G. SALAZAR, P. ENG.
TITLE: 1979 Program, Okanagan Properties
AUTHORS: Frank Racicot, Guillermo Salazar S., P.Eng. (B.C.)
DATE: Apri1, 1980
COMMODITIES: Uranium, Thorium
LOCATION: Area - Okanagan, South Central B.C.
Mining Division - Osoyoos
Coordinates - Lat. $49^{\circ} 11^{\prime} \mathrm{N}$ Long. $119^{\circ} 36^{\prime}$
N.T.S. - $82 \mathrm{E} / 4 \mathrm{E} \in \mathrm{G} 5 \mathrm{E} \mathrm{q} W$
OWNER: Petro-Canada Exploration Ltd.by acquisition and claim staking
WORKDESCRIBED: Geological mapping, geochemistry, ground scintillometry,ground magnetic surveys, reconnaissance prospecting,rotary drilling

## TABLE OF CONTENTS

## Page Nos.

SLMMARY ..... ii
CONCLUSIONS AND RECOMENDATIONS ..... iii
INTRODUCTION
Location and ^ccess ..... 1
History ..... 1
Claim Status and Problems ..... 2
Work Done in 1979 ..... 3
Logistics ..... 4
REGIONAL GEOLOGY
General Statement ..... 5
Geology ..... 5
DISCUSSION OF RESULTS
General Statcment ..... 10
Areas of Detailed Work ..... 11
Drilling Program ..... 15

## SUMMARY

This report covers work carried out during the 1979 field season on the Okanagan Uranium Project in Southern British Columbia. The initial stage consisted of establishing controlled grids in the Ian, Meyers Flat, Allen Grove and Farleigh Lake areas. A total of 185.9 km of grid were cut.

These areas were all geologically mapped at scales of 1:2500 and 1:5000. As well, magnetometer and radiometric surveys were conducted over them. Limited amounts of soil geochemical surveys over anomalous areas were also conducted.

Regional mapping and prospecting were carried out on the Allie, Cat, Micki and Mouse claims (Oliver area) and those Astro claims (referred to as the Yellow Lake area) are not covered by any of the grids.

The second stage consisted of thirteen rotary drill holes for a total of 7,195 feet, with a truck mounted TH1 60 rotary drill rig with a downhole hammer. None of the holes encountered radjoactivity.

In 1979, $\$ 227,000$ was spent, bringing our total costs in the area to $\$ 542,527$. Based on our 1979 ficld work land holdings were reduced from 861 units ( $53,188.3$ acres) to 412 units ( $25,453.7$ acres).

The property has reached the stage at which target and model drilling are required, and the following work is recommended:

1) A search for post-glacial uranium deposits at Meyers Flats and Marron Valley. Soil, overburden and swarm sampling with hand augers across these areas is required.
2) Drilling of five $100^{\prime}$ holes on specific targets at Farleigh lake and North Nllen Cirove.
3) Rotary drilling, at least twenty holes of at least 1000' depth are required to test the potential of the buried paleochannel (s) interpreted on the basis of our geological mapping and drilling to date. A target better than the one known to exist at Farleigh Lake at present is required to make this approach economically feasible.

The B.C. Government has shelved all the above recommendations until they decide what to do with the uranium known to exist in the Province.

## References

1. Bostock, H.S.: "'Keremeos, British Columbia"; Geological Survey of Canada, Map 341A, 1940.
2. .............. "Okanagan Falls, British Columbia"; Geological Survey of Canada, Map 627A, 1941.
3. .............. "Olallil, British Columbia"; Geological Survey of Canada, Map 628A, 1941 a.
4. Church, B.N.: "Geology of the White Lake Basin;

British Columbia Department of Mines and
Petroleum Resources", Bulletin 61, 1973.
5. ............... "Tertiary Stratigraphy and Resource Potential in South Central British Columbia" in: Contributions to Geological Fiejdwork, 1978
(B.C. Department of Mines publication)
6. ............. "Geology of the Penticton Tertiary Outlier" Preliminary Map 35. 1979.
7. Culbert, R. R. and Leighton, D. G: 'Uranium of Alkaline Waters - Okanagan Area, B.C." CIM. Bull. (May 1978) PP 103-110.
8. Little, H. W.: "Kettle River (West Half), British Columbia"; Geological Survey of Canada, Map 15-1961, 1961
9. Rowe, R. W.: "Report on the Geology and Geochemistry of the Allie, Micki, Cat, Mouse, Lan and Astro 1-46 Claims, Pacific Petroleums Ltd." Assessment Report, November, 1977
10. ............ "Supplementary Report on the Geochemistry of the Allie, Micki, Cat, Mouse, Ian and Astro 1-46 claims", March 1978
11. Salazar, S.. G: "Okanagan Uranium Program, White Lake Basin Asiro Claims, 1978 Field Season Report for Pacific Petroleums Ltd".

Location and Access

Map 79-OK-1 shows the general location of the claims within British Columbia and all major and minor access roads.

The property occurs in low mountainous terrain between the Similkameen drainage system on the west and the Okanagan Lake valley on the east. High elevations and north-facing slopes are forested, whereas low parts and south-facing slopes are open ranch and farm lands. Annual precipitation is only about 11 inches and temperatures in excess of 40 degrees Celsius are commonly recorded for short periods in midsummer. Many streams are active only during spring runoff. Several lakes and ponds in the area are stagnant or saline. Care must be taken to avoid the rattlesnakes that inhabit talus slopes and rocky ledges, especially in the Ian and Oliver areas.

## History

Numerous old trenches and mine workings are seen, especially in the Oliver area. Pacific Petrolcums Ltd. carried out regional reconnaissance mapping and geochemical surveying during 1977. Follow up of some of the anomalous results was carried out in two stages the following year.

The first stage of the 1978 season consisted of detailed geological mapping combined with soil, water and sediment geochemical sampling and with some instrument surveys. The second stage consisted of 5156' of diamond drilling.
B. D. Pearson staked the Allic, Cat, Micki, Mouse and lan claims (70 units) as a result of a reconnaissance geochemical survey for uranium. The property was purchased by Pacific Petroleums Ltd. early in 1977, who staked an additional 46 claims ( 674 unjts) known as the Astro claims. The land holdings were expanded in May, 1978 (Astro 47, 20 units), and again in December, 1978 (Astro 48 to Astro 56, 86 units), for a grand total of 861 units or $53,188.3$ acres.

## Claim Status and Land Problems

At present after abandoning, losing, or letting various claims lapse, we hold 412 units or $25,453.7$ acres in 33 claims. See Table 1 for specific details. The last two columns show the 'Number of Years'' and the "Due Date" applicable on approvals of two assessment reports.

Mr. R. Yorke Hardy contested our staking of claims Astro 1, 2, 33, 40-44 and 46 on the grounds that stakers could have done a better job. The Minister of Mines ruled against him as to Astro 1 and 33 and in his favor as to the rest on February 8, 1980. We decided not to contest this ruling. Mr. Ablett, though, has decided to suc the Crown from the position of a "concerned lirec Miner with a valid interest" and will keep us posted.

The B.C. Government imposed a seven year moratorium on uranium mining and exploration on February 27,1980 by Order in Council. It is still uncertain how this will affect our land holdings in B.C.

A payment of $\$ 2,000.00$ to the Rogers Hereford Ranch as settlement for charges of trespassing and "damages" while drilling DDH 785 within LI708 was necessary. Owners of this said ranch suggested that we pay $\$ 2,000.00$ per hole per day as toll for using their access roads into desired drill targets at North Allen Grove and Farleigh Lakes areas. As a result of this, no drilling was done. A misunderstanding with Mr. J. Menke, owner of L2531, also led to our inability to gain access into his property for drilling purposes. Access into these lots could be secured by using the 'Mines Right of Way Act" and our rights as holders of Frec Miner Certificates. The procedure involved, though, requires a minimum of six months' worth of planning and litigation.

## General Statement

The first geological survey of the area was conducted by Bostock (1940, 1941 and 1941a), followed by Little (1961), who was concerned chiefly with the structural aspects, and by Church $(1973,1978)$ who described the Tertiary rocks of a selected area in considerable detail. Pacific Petroleums Ltd. personnel carried out reconnaissance mapping and geochemical surveying in 1977, and the ensuing year followed up some of the anomalous areas with gridded detail geological mapping, geochemical (soil, water and stream sediment) and geophysical (scintillometric, magnetic and very.limited Induced Polarization) surveying. Drilling of the best targets, as well as for geological reconnaissance purposes, was carried out in the fall of 1978.

The 1979 program was similar to the previous one except there was no I.P. survey but there was additional reconnaissance mapping and prospecting in numerous areas. Scveral of the 13 rotary drill holes brought to light new and unsuspected geological data.

Map 79-OK-2 is a summary of the geological information accumulated to date.

## Geology

The area is underlain by a thick sequence of volcanic and sedimentary rocks deposited within the White Lake Basin, of early Eocene to Oligocene age, which was preserved from erosion by gravity faulting. The petrology and chemistry of these rocks have been described in detail by Dr. B. N. Church (4) and will not be discussed here.

The pre-Tertiary rocks forming the western and southern walls of the basin are Blind Creek Fomnation limestone, Old Tom Formation basaltic and andesitic greenstones, Shoemaker Formation tuffs and cherts and Kobau Group quartzites, quartz biotite gneisses and feldspathic gneisses, all of which were intruded by four distinctly different intrusive phases of Cretaceous•Jurassic age. Syenites and leucogranites are most common in the Oliver area whereas granites and granodiorites are prevalent around Farleigh Lake. Diorites, hornblendites and altered diorites are also common in the Orofino Mountain area immediately north of the Oliver Granites.

The Springbrook Formation (4A) of early to middle Eocene age, occurs at the bottem of the basin and is formed of pebbles, cobbles and boulders of variable composition and angularity within a uniform, medium to fine grained size, dark to light green sand. The longest exposure of this formation occurs along the eastern slopes of Keremeos Creek on the west side of the property. Fragments along this exposure are quite angular and consist of cherts and greenstone of the Old Tom and Shoemaker Formations cemented by dark green, strongly chloritized sands and silts. Dips of individual bed range from almost zero to about $20^{\circ}$ eastward, and its thickness is highly variable, with a maximum estimated thickness of about 800 fcet.

The Kettle River Formation ( 4 Aa ) conglomerate lies unconformably on top of the granitic intrusions and is exposed only in places in the northwest part of the basin. It is formed of well rounded granitic pebbles, cobbles and boulders. They range from 2 to 50 cm . (avg. 15 to 20) and are set in a groundnass of fine grained whitish green sand. A cobble of Yellow Lake phonolitic composition has been recognized within this formation in Farleigh Lake area.

The white ash of rhyolitic composition considered to be characteristic of this formation clscwhere in the Province was recognized in hole RDH 79-12. It is because of this hole also that the Kettle River Formation is tentatively considered to overlie the Springbrook. Formation.

This year, the term 'Rhyolite Complex" (4B) will be restricted to the devitrified, brownish colored, shattered rhyolite described in DDH 78-5 as "Dog's Breakfast" and will not include the phase termed porphyritic rhyolite by G. Nordin. DDH 78-5 and areas within its vicinity are the only places where this rock has been observed. Outcrops are characteristically shattered and brittle, and specimens break off outcrops with knife-sharp edges.. This rock may represent a dome feature and/or may be the lowermost unit of the Yellow Lake member.

The Marron Formation volcanics are subdivided in the following members: Yellow Lake, Kitley Lake, Kearns Creek, Nimpit Lake and Park Rill. It overlies the Springbrook and Kettle River Formations and the Rhyolite Complex.

The Yellow Lake Member (5A) is, in turn, subdivided into five units, which are:

- Chilled Phonolite (?) (5AA)
- Rhomb porphyry phonolite (5Aa)
- Sandy Tuff (5Ab)
- Coal partings (5Ac)
- Tuff and pink arkosic tuff (5Ad)
- Augite porphyry phonolite (5Ae)

Units SAa and $5 A e$ reflect the regional volcanic episode, while units $5 \mathrm{AA}, 5 \mathrm{Ab}, 5 \mathrm{Ac}$ and 5 Ad appear to have a much more limited areal extent. Also, a certain unexplained spatial relationship between the Rhyolite Complex and the latter rocks appears to exist.

The Chilled Phonolite (?) (SM) phase is seen cast of Farleigh Lake and north of DLH 78-5 and was referred to as porphyritic rhyolite in the 1978 report. Detailed investigation of an outcrop in Farleigh Lake (at F.L. grid stations $21+00 \mathrm{~N} / 2+10 \mathrm{E}$ ) brought up the fact that the feldspar. could indeed have a rhombic shape and be sanidine instead of plagioclase. This is interpreted to represent the potassium rich chilled phase of the phonolites occurring higher up the section, with the more typical anorthoclase rhombs with sanidine rims. It is also interpreted that the lack of anorthoclase cores is due to either crystal size and/or chilling (thus making the chilled margins more potassium rich that the rest of the flow). Dr. B. N. Church has confirmed the composition of the feldspars and the rock's textural similarity to the other phonolites but does not agree with the above ioterpretations.

The Sandy Tuff ( 5 Ab ) unit overlics the Rhyolitc Complex (4B), may be a rhyolitic crystal tuff and was referred to as "green tuffaceous sandstone" in 1978. The rock is usually light grey green in colour and shows a purplish red coloration when weathered. Grain size varies from silt size to coarse sand size and has some grains of magnetite and small augite phenocrysts ( $1-4 \mathrm{~mm}$ ) present. This unit is much softer than the overlying arkosic tuff and weathers recessively. Bedding is very gentle, about $10^{\circ}$ to the north or west; a crude graded bedding was observed in places.

The Coal Partings (SAc) are thin, to 5 cm thick but usually not more than $10-15 \mathrm{~mm}$ partings interlayered within the pink arkosic tuff unit (5Ad) and are usually highly radioactive (to $30,000 \mathrm{cpm}$ on TV-1A) due to accumulations of uranium and thorium. The area of DDH 78-5 appears to have more coal partings and carbonaceous trash in between tuffs over a greater stratigraphic thickness than anywhere else in the property.

Kitley Lake member trachytes and trachyandesites (5B) with characteristic plagioclase clusters and phenocrysts overlies the Yellow Lake phonolites. This member has been age dated at $51.6 \pm 1.8$ million years by B. N. Church (1973).

The Kearns Creek member basaltic andesite (5C) characteristically vesicular, conformably overlies the Kitley Lake member rocks. It is a dark brown rock with abundant pyroxene phenocrysts that weathers recessively into a light buff brown rock crowded with pyroxenes.

The Nimpit Lake member trachytes and trachyandesites (5D) conformably overlie the Kearns Creek member basaltic andesites and are 'commonly yellowish or cream coloured, non-vesicular and contain scattered small pyroxene phenocrysts and radiating plagioclase glomerophenocrysts" (Church, 1973) within a fine grained matrix.

The Park Rill member (5E) is formed of non-vesicular andesitic lavas, which are merocrystalline, generally massive and dark brown in color. This unit forms the uppermost unit of the Marron Formation.

The Marama Formation (6) overlies the Marron Formation unconformably and is composed predominantly of rhyolitic and rhyodacitic lavas and flow breccias, with a sedimentary section at the bottom.

The White Lake Formation (7) overlies the Marama Formation unconformably. It comprises a thick succession of lake and stream sediments and volcanic rocks and outcrop mainly within the grounds of the Astrogeophysical Observatory. RDH 79-5 encountered coal bearing brownish grey ashes that are tentatively correlated with this formation.

The Skaha Lake Formation (8) overlies the White Lake Formation unconformably. Its lower member comprises a basal breccia, an augite porphyry and granitic breccia and a fanglormerate while its upper member is made up of coarse clastic sediments.

## Areas of Detailed Work

## 1. Allen Grove Area

On the basis of our mapping it was concluded that parts of the western edge of the White Lake Basin were not as shallow dipping as elsewhere in the basin. None of the four holes drilled in this area encountered uranium mineralization. For further details see Appendix A for the 1979 property report for Astro 35, 36 and 48-56 claims.

## 2. Farleigh Lake Area

The 1979 geology is enclosed as Appendix B. The area that was mapped in detail by G. Nordin in 1978 at a scale of 1:2500 was re-mapped in 1979 and extended north. The most significant changes are that the Springbrook Conglomerate is now being referred to as the Kettle River Formation and the Feldspar Rhyolite Porphyry as Chilled phonolite (?).

The presence of thin carbonaceous seams at the top of the Kettle River conglomerate, within the arkosic tuff and at the base of the phonolites, indicates that the conditions necessary to produce them (i.e. swampy terrains, etc.) existed at sporadic intervals before, during and after the emplacement of the rhyolites. The importance of these carbonaceous seams is that they are radioactive, indicating that uranium was available to the system over these same conditions and time period. Similar carbonaceous seams at Brent Lake are reported to assay as high as $1-1 \frac{1}{2} \% \mathrm{U}_{3} \mathrm{O}_{8}$.

The radiometric survey confirmed much of what was reported last year (11). The most radioactive rocks are the arkosic tuffs. These rocks are outlined by anomalous spectrometer readings, immediately west of Farleigh Lake and also in the northeast area ( $0 \mathrm{~L} 20+00 \mathrm{~N}$, St. $6+75 \mathrm{E}$ ) of the grid where a small 50 metre knob of radioactive arkose was mapped in 1979. It is interesting to note that there is a 500 metre long weak radiometric anomaly lying roughly between the two known areas containing radioactive arkosic tuffs. This anomaly is in part underlain by outcrops of sandy tuff and in part above the base of the Yellow Lake phonolites. This may indicate that the areal extent of the arkosic tuff unit is greater than suspected.

The magnetometer survey outlined a north-trending low or series of lows that occur at or very near the lower contact of the Yellow Lake phonolites. This may represent a contact or fault between the sandy or arkosic tuffs and the phonolites.

The soil geochemistry survey covered a larger area in 1979 than 1978 and produced isolated anomalies. A soil sample taken over the arkosic knob at line $20+00 \mathrm{~N}$, Station $6+75 \mathrm{E}$ assayed 17 ppm U and 97 ppm Th. This is much higher than the high of 6.6 ppm U and 67 ppm Th from 1978. The 25 lake sediment samples did not contribute significantly to the overall geochemistry survey, except for the occasional high metal values.

## 3. Ian Area

This covers the Ian and Ian $1-3$ claims. The detall geology report covering this area is enclosed as Appendix C. This grid area is underlain by conglomerates of the Skaha Formation. Of all the soil samples taken, the highest values were from the northernmost line, where there was andosite conglomerate overlying andesite volcanics.

The spectrometer survey located one small high in the same general area as the geochemical high. Unfortunately both are rather weak and within the Geophysical Observatory. The magnetometer survey outlined a magnetic high on the east side of the grid. This high roughly trends northwesterly; following close to the cliff edge and approximately parallel to the "strip" of granite boulder conglomerate with limonitic oxides in the matrix.

A rotary drill hole (RDH 79-1) was drilled 80 metres north of Green Lake onto the southward extension of the "strip". Results were negative.
4. Meyers Flats Area

This area (Astro 32 claim) can be divided into two topographic areas and three geological environments. There is an east and west area of relief, separated by 'Meyers Flats'. The geology is discussed in further detail in Appendix D.

The radiometric survey indicated that the most radioactive rocks (twice background) were the granite and dacite gneiss, especially on line $58+400 \mathrm{~N}$. Despite the fact that the Spectra 44 spectrometer did not detect any significant radioactivity this does not eliminate their being any uranium on the property. Leighton $\&$ Associates (personal communication) have reported the presence of a non-radioactive post glacial uranium deposit immediately south of our claims with assays up to 3600 ppm uranium.

The magnetic survey outlined the southwest portion of the grid as having the highest magnetic character. The eastern edge of this "magnetic high" is roughly parallel to the flats and a north trending fault shown on the $1: 25,000$ regional geology map (Map 79-OK-2). The "magnetic high" stops at about $59+100 \mathrm{~N}$, which is where Orofino Creek drains into Meyers Flats. This indicates that Orofino Creek may well be a fault.

## 5. Oliver Area

The Oliver area consists of the Allie, Cat, Micki, Mouse and Astro 24 and 29 claims. Re-examination of this area was prompted by Leighton and $\Lambda$ ssociates offer to trade or joint venture the area. After 39 man days of work in the area, we concluded that the area was of no interest to us. It was recomended then that the property be returned to B. D. Pearson. See Appendix $E$ for the area report.
6. Yellow Lake Area

This arca basically includes all the remaining Astro claims within 5 km of the western edge of the basin. One of the main purposes of the mapping and prospecting was to confirm the reported geology and detect any uplifted blocks of Yellow Lake phonolites. The area in the south at the headwaters of Manuel Creek did have sone significant changes in terms of rock unit locations. Nlso on a road 1 km southwest of Twin Lakes some arkosic tuff similar to that at Farleigh Lake was located. Despite the effort to keep the traverses no further than 1 km apart, a few gaps in the reconnaissance mapping occurred. The ground has been retained until those areas can be checked. Map No. 79-0K-2 at $1: 25,000$ scale shows the updated geology and the location of the drillholes drilled on all Astro claims. Results of the drill program will be discussed in the following section. This work resulted in us letting over $50 \%$ of our land position revert to the Crown.

## Drilling Progriam

The drilling began on ^ugust 17, 1279 and ended on September 13, 1979. A total of 7,195' in thirteen holes was drilled by Alberta Southern Exploration Drilling Ltd. A TH-60 cyclone rotary drill rig with a 5-1/4" downhole hamer and drill-through casing was used. The holes were then probed with a gamma ray/neutron geophysical tool by Roke Oil Enterprises Ltd. of Calgary, Alberta. Total cost for the drilling and probing was $\$ 66,845.83$. The following table compares drilling and probing costs for every hole.

A detailed geological description of the chips was made (see Appendix F), and representative samples of the chips for each 10 foot interval were washed and glued to $8 \frac{1}{2}{ }^{\prime \prime} \times 1 l^{\prime \prime}$ sheets. Figure 79-OK-1 illustrates the method.

Drillhole 79-1 on the Ian grid hit basement recks (Old Tom Gneisses) at $320^{\prime}$ with negative results.

Four holes, 79-2 to 79-5 were drilled in the Marron Valley. Hole 79-2 was lost after encountering large bouldérs at $160^{\prime}$. The following two holes both encountered and stayed in Yellow Lake phonolites until their end at 500'. The most southerly hole, 79-5 was unusual for two reasons. Between . $60^{\prime}-160^{\prime}$ we encountered two thin (less than a foot) coal seams within White Lake ashes. The closest outcrop of these rocks is about 9 km to the southwest. Yellow Lake phonolites were encountered at $160^{\prime}$ but continucd only until $320^{\prime}$ after which there was $180^{\prime}$ of basalt (dyke?).

Drillholes 79-6 to 10 were drilled north of Yellow Lake to depths of either 500' or 900'. The first four holes here ended in Yellow Lake phonolites. Hole 79-10 encountered Yellow Lake phonolites to 620' and Springbrook conglomerate from 620' - 900'. There were no sediments or tuffs at the base of the Yellow Lake phonolites as in hole 78-3 drilled only 350 m to the west.

The last three holes were drilled between Twin Lakes and Keremeos Provincial Park. Hole 79-11 was collared in Kitley Lake trachytes and remained in them until $360^{\prime}$. Except for a $10^{\prime}$ dyke immediately following the trachyte, Yellow Lake phonolites prevailed until the end of the hole at $860^{\prime}$. This hole would have been drilled to $900^{\prime}$ if downhole problems had not occurred.

Drillhole 79-12, located about 3 km east of $79-11$ encountered Yellow Lake phonolite until 610' with some intravolcanic sediments in the lower section. There were a few coal particles at $480^{\prime}$. From 610' to the end of the hole at $900^{\prime}$ was mostly a white rhyolitic ash interpreted to be part of the Kettle River Formation.

The final hole, $79-13$, like $79-12$, was collared on a fault intercept within Yellow Lake volcanics. Unfortunately the hole was lost after $60^{\prime}$ because of large boulders.

None of the holes encountered any significant radioactivity.

Results of all drillholes are plotted on sections included with the volume of maps accompanying this report or on core logs in the appendix.

Dr. Trevor Lewis of the G.S.C. carried out detailed geothermal measurements in quite a few of our holes in the fall of 1979. He reports that the geothermal gradient in the White Lake Basin is the highest he has seen to date in B.C.

His most anomalous values are:

DDH 78-6: $\quad 51^{\circ} \mathrm{C} / \mathrm{Km}$ (Temperature is $24^{\circ} \mathrm{C}$ at the bottom of the hole) RDH 79-7: $\quad 60^{\circ} \mathrm{C} / \mathrm{Km}$
RDH 79-9: $\quad 70^{\circ} \mathrm{C} / \mathrm{Km}$
TITLE: 1979 Program, Astro Claims - Meyers Flats
CLAIM: Astro 32
AUTHOR: Hayden Brown
DATE: June 18, 1979
COMMODITIES: Uranium (?) Thorium (?)
LOCATION: Area Okanagan, South Central British ColumbiaMining Division - OsoyoosCoordinates - Lat $49^{\circ} 15^{\prime} \mathrm{N}$, Long $119^{\circ} 36^{\prime} \mathrm{W}$NTS - 82E/5 E
OWNER AND
OPERATOR: Petro-Canada Exploration Inc.
WORK
DESCRIBED: Geological mapping, geochemistry, ground scintillometry,ground magnetic surveys

## INTRODUCTION

Meyers Flat is located about 8.5 km south of Okanagan Falls. The claim block upon which the work was done is Astro 32. (UTM centre coordinates zone $11 \mathrm{U} 5458+500 \mathrm{~N} 3311+700 \mathrm{E}$ ). It is a rectangular claim 2 km E-W by $2.5 \mathrm{~km} \mathrm{~N}-\mathrm{S}$.

Access to the area is by the Green Lake road from Okanagan Falls. It cuts through the north end of the flat and joins with the White Lake road running $\mathrm{N}-\mathrm{S}$.

Topographically, Mayers Flats is situated in a wide shallow valley of 1500 feet elevation with hills rising up quite steeply all around to elevations of 2500 feet or higher.

The Flats can be divided into a north and a south block. The south block is mainly very dry range land and is used for cattle grazing. The north block has been subdivided into acreages on the east and west sides. The former is a small community. The central area is irrigated and is used to grow alfalfa.

WORK SUMMARY
Work began on May 27th and finished on June 13th. Hayden Brown, Harold Hopkins, Brenda Gregoire and Stuart Gormley did the work on the property.

## Man Days

| Type of Work | Senior | Junior | Total |
| :--- | :---: | :---: | ---: |
| Line Cutting (km) | 8 | 8 | 20.8 |
| Geology (km) | 7 | 7 |  |
| Magnetometer (km) | 9 |  | 27.9 |
| Scintillometer (km) |  | 9 | 27.9 |
| Total (km) | 24 | 24 | . |

## CHEMICAL SAMPLES



## Geology

Meyers Flat geology was limited to the outcrop in the hills surrounding the Flats because there is no outcrop in the Flats. We were able to break the area into four major groups and one minor group using
B.N. Church's mapping units, which are listed below:

3 - Cretaceous - Jurassic (Igneous intrusive rocks)
3Db - Alaskite
3Da - Granite

- Granite
$\left.\begin{array}{l}\text { 3Ab - Dacite Gnciss } \\ \text { 3Aa - 'Marble Cake'' }\end{array}\right\}$ - Hornblendite

2 - Triassic to Carboniferous
$\left.\begin{array}{l}\text { 2Ad - Tuff } \\ \text { 2Ac - Chert Breccia } \\ \text { 2Ab - Chert Gneiss } \\ \text { 2Aa - Chert }\end{array}\right\} \quad$ - Shocmaker Formation

1 - Carboniferous and Older (Kobau Group)
1A - Dacite and Granite - Vaseaux Formation

Greywacke

3Aa - 'Marble Cake" - This unit is found in the Southwest quadrant of the mapped area. This gneiss is composed of two major components. The first is a white color fine to medium grained 'granitic' type rock with quartz, plagioclase, orthoclase, biotite, and muscovite appearing in varying concentrations. This component in itself shows no gneissosity. The second coumonent is a very fine grained, dark, mafic rich rock and very hard.

These two components of the 'Marble Cake" unit appear together in most outcrops with no defined contact. Instead they are mixed 'together in large swirls with granitic veins often cutting the dark component.

The "Narble Cake" appears to have been deformed and fractured more than once because later quartz veins have been fractured and displaced and may be a sheeted schist equivalent to the Dacite gneiss or hornblendite.

The unit as a whole exhibits three joint directions. 1) Tabular 2) Azimuth $0^{\circ}$, dip $45^{\circ} \mathrm{W}$; exhibiting minor quartz veins, 3) Azimuth $90^{\circ}$, dip $45^{\circ} \mathrm{S}$; exhibiting major quartz veins (up to 1 m in thickness). The unit is often cut by minor random fractures that are commonly lined with secondary epidote.

The mafic component also contains varying concentrations of magnetite and at one outcrop $(57+600 \mathrm{~N} 317+400 \mathrm{E})$ we found almost pure magnetite.

3Ab - "Dacite Gneiss'". This unit appears in the southeast quadrant and exhibits fair to atrong gneissosity. It consists of quartz, plagioclase, orthoclase, hornblende, and biotite. Veins of granitic composition showing no gneissosity cut this rock.

3Da - "Granite". This unit is fine to medium grain size containing quartz, orthoclase, hornblende and biotite. ' It appears to have been intruded into unit 3 Ab and the contact is gradational exhibiting many small sills and dykes ( 11 cm to 60 cm in thickness). This unit has almost identical joint pattern to those of unit 3Aa except on a much more micro scale ( 100 Joints/m).

3Db - "Alaskite" - This unit is found in the southeast quadrant on a high relief knob. $(57+800 \mathrm{~N} 312+650 \mathrm{E})$. It is a coarse grained intrusion composed almost entirely of quartz and feldspar with no ferromagnesians. This unit has a weathered lime-green surface.

2Aa - "Chert" - This unit is found in the loorthwest quardrant in a mountain of approximately 2000 feet elevation. This mountain is all chert which varies a great deal in colour and texture. In places it can be a very classic example of chert. Pink, white or dull grey coloured. In other areas it is very clear and glassy, white or black and in places appears altered. Both types of chert are cut by 5 mm quartz veins.

Extreme weathering and jointing occurs throughout the unit. Jointing is in 3 directions 1) Tabular or slightly dipping 2) Azimuth $0^{\circ}$
3). Azimuth $90^{\circ}$; other directions were noted but are not common. Areas of this unit weathered red - brown along joints. Some local hematization was found.

2Ab - "Chert Gneiss" - This unit was found on top of the chert mountain. It is a small outcrop found in a depression which could be fault controlled. The unit seems to be a massive chert with dark mafic bands. The chert seems to have been stretched and folded and twisted all around. On the weathered surface the mafics have been eroded out leaving the stretched chert bands. Hematization occurred on the mafic bands.

2AC - "Chert Breccia" - This unit is found in the northwest Quadrant along the east face of the chert mountain. It is composed mainly of subangular to rounded chert fragments varying in size from 1 mm to 6 cm in diameter. The breccia is cemented together by siliceous chert or quartz. Formation of the breccia could be from a north trending fault running through the centre of the Flats which B. N. Church reported in his mapping of the arca.

There are two old prospecting workings within the breccia. We found blasts holes and pits approximately 3 m diameter and 6 m deep around hematized zones. A gossan sample was taken for assay. Prospecting was probably for gold.

1A - "Dacite and Granite" - This unit is found in the southeast quardrant, on line $57+600 \mathrm{~N}$, and is composed of two components. The first component is a fine grained dacite, which is almost entirely cut by granite dykes. The granite is fine grained and could be the same map unit as the 3Da.

2Ad - "Tuff" - This unit is very small in exposure and is found within the chert on line $60+000 \mathrm{~N} 310+700 \mathrm{E}$. Since it was a small outcrop, it is possible that it is an erratic or it could have been deposited in a depression which accounts for its still being in place. The unit is green with a fine grained groundmass with subrounded cyrstals of dark mafics.
"Creywacke" - This unit, found not far from the tuff, is a dark fine grained black greywacke which seems to have been metamorphosed to a schistose slate. Its formation is really unknown although it could have been a silt and from the deposition of the Tuff and silification of the cherts could produce the state which it is in.

Conclusion - Interesting Note

Meyers Flat has a unique groundwater system. There are three major wells in the area; one to the southeast for the community and the other two in the center of the north half of the flat and used for irrigation. Both are between $50^{\prime}-100^{\prime}$ deep. The two irrigation wells are pumping water 24 hours a day onto a $0.6 \mathrm{~km}^{2}$ field. That is hundreds of thousands of gallons a day and still the wells do not dry up. The community well, unlike the other two, is not as good and has to be watched so that it is not pumped dry.

The area, according to the topographic map, has three major streams running through it: Kearns Creek, Orofino Creek and Park Rill Creek. None of these streams are visible on the flats and must run underground. Because of the underground flowage, this could be some sort of old river channel running through the center of the flat. This channel could be an old palco-channel which is being looked for to support the paleo-channel model of the Okanagan area. On the south edge of our property in the Flats, Leighton and Associates located a post glacial uranium occurrence. They reported $3600 \mathrm{ppm} \mathrm{U}_{3} \mathrm{O}_{8}$ in the soil.

Section III
(a) Technical Summary Petro-Candad Astrol Cams
(b) Selected References from Petrol Canada Reports REFERENCES TO RHVOUTES, SUICIFICATION, HEMATITE AND PROSPECTOR PITS
(e) SEVEN Mile HIGH RESOUREES LTO

Vault Claims - News Releases
(d) THE DuSTYMAC DEPOSIT
TECHNYCAY SUMMARX
PYYRO-CAMADA ASTRO CLAIMS

Whita take Bamin Ared - Britidh Columbia

During the autumn of 1977 , In the course of regional geochemical recomnatggance for urantum, Aradford D. Poarson, a onnsulting ganlogist. from Richmond, B.C., detected the pressure of unualually high values of that element in soils and waters within and adjacent to volcanic rocks and intrustves of the Eocene White Lake Basin in the southern Okanagan valley. Pacific Petroleums Ltd. optioned 70 claims which Pearson had staked and expanded the group to 861 claim units. The group comprised most of the open ground in the triangle between Keremeos, Oli\}er and Kaleden peripheral to the White Lake Astrophysical Observatory, as Penticton Indian Reserve stretching north to

During the Following three field seasons, Pa申ific (later Petro-Canada Inc.) caryied sut detailed yeochemical ampliny of water, soil; ailt did rók within and around these claimg, ran variets of radiometric and magnetic studies and some induced polarization work, фarried out drililing to egtabliah stratigraphic relations, to depths of as much as 1,500 feet, and prepared a series of geological maps based on the distribution of outcrops within the area. Initial work wat directed py Dr. R.B. Rowe, who prepared detailed statigtical evaluations of all geochemical results, which involved analyses for uranium, copper, molybdenum, fluorine and pH. The analyses themselvas were carried out by Loring Laboratories of Calgary. The second and third field geasons were directed by $G$. \&alazar who transferred all analytical work to Minen Laboratories of North Vancouver. Analytical work was expanded to include thorium.

Mr. Salazar made single pracious metal analyoig in the course of his work. It was taken from an exposure of gossanous chert and assayed 54 ppm silver. No aspay was made for gold. The imposition of the uranium moratorium by the provincial government ended all further work program in the Okanagan, which by that time

Petro-Canada withdrew entirely from active mineral exploration in 1985. When the uxanium moratorium expired in February 1987, the company offered 1.ta propextiea to dovalopera who had expertide to furthor explora and to develop them for potentially economic targeta. Chief on the ligt were gold and silver.

Several blocks of ground within the White Lake Basin have attracted interest and have bean optioned since the ground becane open for work. The basin has had a history of production of precious metals, which haven risen markedly in value over the past few years. The Falrview Camp, owned by Comico and Aasarco, bounds the southern margin. The Dusty Mac deposit, just east of the south end of skaha Lake, was an open-pit silyer operation within White Lake volcanics. Preproduction resarves, as listed by Dr. B.N. Church of the B.C. Department of Mines, were 67,790 tons grading 0.23 oz . Au and 4.97 oz. Ag.

## TECHNICAL SUMMARX

PETRO-CANADA ASTRO CLAIMS
Page 2

There have been numerous small workings in o recently, Inco announced an intersection of rhyolitic tuffs just north of Okanagan Falls been announced since that time, at least one grade.

The resemblance to other nearby Eocene basine Republic graben in Washington, south of the poundary country, has produced gold at various periods since the turn of tho century. Veins occur in andesite flows, rhyodacite tuffs and associatad sediments close to the western fault boundary of the graben. Total production to 1967 is estimated to have exceeded $2,500,000$ tons and $\$ 50,000,000.00$ (much of it at $\$ 20.67$ $A u$ ), but records were not kept for much of the period. (Full, R.P, and Grantham, R.M., GratonmSales Volume, Ore Deposits of the United States 19331967, AIME)

The Chiwaukum graben near Wenatchee, Washington, hosts the new Cannon Mine of Breakwater Resources and Asamera Minerals Reserves at the commencement of production were listed as 5.2 million tons grading 0.214 oz Au and 0.40 oz. Ag. Mineralization is found within silfcified ledges of Eocene lake and stream sediments which contain intrusions of rhyodacite porphyry. (See L.E. Ott et al, Gold ' 86 Symposium Proceedings Volume, Toronto.)

Numernus structurnl, stratigtaphis and itthni these Eocene basins which obviously represent bets, especially since the use of large-scal heap-leaching techniques has revolutionized the extraction of very low grede, hitherto uneconomic deposits.

It is significant that the White Lake Basin was not been thoroughly explored for precious metals in the light of the recent remarkable advances in geophysical instrumentation and growing thooretical understanding of the mechanisms and chemistry of precious metal deposition. The alienation of much of the lands by the uranium moratorium during a major part of the period of high precious metals prices has cettainly been responsible for much of this neglect.

The association of gold with uranium and a number of base metals has been recognized in several world-class discoveries. The Olympic Dam copper-uranium-gold deposit in Australia may be one of the world's largest copper depogite Gold ogours in signifiommt. amount in the Jahiluks, cinff Lake and Collins Bay uranium deposits in the Allifator River and Athabasca Basin deposits.

These occurrences indicate the poasibility of certain comon factors in the transport and depositional mechanisms for uranium and precious metals, among them high oxygen fugacity, soluble sulfide complexes and low-salinity


* under Negatiation Juna $13 / 88$

```
267.5-418
DDH 78-5
FARLEkgh lakE
```

The following features are highlighted by this hole:

1) Strong weathering or flow of oxidizing water at the rhyolite breccia/Springbrook Conglomerate contact. If this is, in effect, a strongly weathered surface, the rhyolitic breccia complex becomes the lowermost unit of the Yellow Lake member.

The rhyolite complex, the upper unit of the Springbrook Formation, is a porphyritic rhyolite to rhyodacite flow unit with irregular rhyolite breccia flow tops extensively altered to jasper-hematite. The rhyodacite porphyry is light brown with $10 \%-2-3 \mathrm{~mm}$ light brown altered feldspars, with 2-5\% - 1 mm quartz grains in a light brown chilled aphanitic to glassy groundmass. On outcrop, the unit weathers to a bleached, highly broken rock with irregular zones of rhyolite breccia. In the main area of the grid the unit appears to be $30-40$ metres thick and appears to thicken to the northwest to 100 metres $(+)$.

### 2.1 SPRINGBROOK FORMATION; "Rhyolite Complex", Unit 4B

Sample 27; probably collected from the upper part of the "Rhyolite Complex", just below the base of the "Green Sandstone" unit.

Dense, hard, red-brown, brecciated, siliceous rock, probably rhyolite. In thin section the rock consists of fine, glassy, brecciated rock. The glassy material has probably been devitrified and the result is a felsitic texture. Scattered, fine, fragmentary feldspar euhedra and hematitic staining are also present.

The, characteristic high porosity of tuff and the instability of their components render them prone to alteration, Vitric groundmass material consisting of shards undergoes devitrifiction resulting in the formation of clay minerals and zeolites with silica. The release of silica at an early diagenetic stage probably forms chalcedony which results in the formation of a dense, cherty rock. Large pores in many of the rocks have been completely or partially, infilled with quartz aggregates.

Silicification, calcification and emplacement of iron may be the result of hydrothermal flooding of the porous volcaniclastic sediments. The selective passage of fluids along channels having high porosities appears unlikely in view of the universal high primary porosity of most of the samples of the coarse volcaniclastic group. However, it seems likely volume of min nt original porosities and would therefore control a greater volume of migrating fluids.


This year, the tern 'Rhyolite Complex"' (4B) will be restricted to the devitrified, brownish colored, shattered rhyolite described in DDA 78-5 as 'Dog's Breakfast" and will not include the phase termed porphyritic rhyolite by G. Nordin. DIII 78-5 and arcas within its vicinity are the only places where this rock has been observed. Outcrops are characteristically shattered and brittle, and specimens break off outcrops with knife-sharp edges. This rock may represent a dome feature and/or may be the lowermost unit of the Yellow Lake member.

The granitic boulder conglonerate outcrops on line $65+500 \mathrm{~N}$ from $313+200 \mathrm{E}$ to $312+700 \mathrm{E}$ form sub-parallel wall-like ridges 2 m to 4 m high and appears as follows:


The significance of the ridges is not known.

2Ac - "Chert Breccia" - This unit is found in the nortliwest Quadrant along the cast face of the chert mountain. It is composed mainly of subangular to rounded chert fragments varying in size from 1 mm to 6 cm in diameter. The breccia is cemented together by siliceous chert or quartz. Formation of the breccia could be from a north trending fault running through the centre of the liatt; which 13. N. Clurch reported in his mapping of the area.

There are two old prospecting workings within the breccia. We found blasts holes and pits approximately 3 m diameter and 6 m deep around hematized zones. A gossan sample was taken for assay. Prospecting was probably for gold.

Field observations indicate that the syenite was emplaced before the coarse grained granite. ^possible xenolith of syenite was found within the granite; also the sediments are in contact with the syenite in the southeast area as opposed to the granite. Bostock's proposed legend agrees with this obscrvation. Near where the sedipent/gneiss contacts with the syenite and granite, there are areas of intense silification and/or pyritization.

Several pyrite gossan zones were observed and one minor serpentine occurrence was found. Kallionetric background is low at around 2000 cpm .


SELEN Nisi MicaH Res LNC

$$
\begin{aligned}
& \text { LALa CLAIMS } \\
& \text { K'HITE LAtKE BAンIH }
\end{aligned}
$$



Seven Mile High Resources Inc
SVH
Box 11550, 1945-650 Georgia St W 669-0320
Vancouver BC Vo 4N7
Working capital as of 31 Oct 87: $\$ 32,000$ Shares issued: 2,524,394 Mar 31 close: $\$ 1.55$ Directors


Seven Mile High Resources Inc SVH Shares issued: 2,524,394 Jan 15 close: $\$ 0.90$ Mon 18 Jan 18 News Release

## Mr Maurice Hamelin reports:

The company has commenced the first phase of exploration on the Oxaline Lake property. The company's property adjoins the Pronto/Inco Soloman's Pillars prospect to the east with 91,000 tons of 0.25 oz gold per ton having been drill indicated. A major fault which is believed to have played a role in the development of Soloman's Pillars zone crosses the entire Seven Mile High property.
Line cutting and geological mapping was done in 1986. This program consists of a magnetometer and VLF survey where drill targets will be defined. The company will pay for this phase by the issuance of stock at an average price of $\$ 0.89$ per share for a total of $\mathbf{1 6 , 9 9 4}$ shares.
Metalore adjoins Seven Mile High Resources' property to the north. Matalore announced an important sold discovery in March, after completing several deep holes with very exciting
results of 0.47 oz gold/ton over 53.4 feet and later, of 0.74 ox sold/tion over 39.2 feet at depths in excess of 1,250 feet over a strike length of 500 feet.

Seven Mile High Resources Inc SVH
Shares issued: 2,524,394 Jan 29 close: \$0.95
Mon 1 Feb es s Mon 1 Feb 88 Delinquent Filer
The superintendent of brokers advises that the company is delinquent for Interim financial dated October 1937.

Seven Mile High Resources Inc SVH Shares issued: 2,524,394 Feb 3 close: $\mathbf{\$ 0 . 9 1}$ Thu 4 Feb 86 News Releaqe
Mr Maurice Hamelin reports:
Canadian Nickel Company Limited has exercised its option to acquire a $60 \%$ interest in Seven Mile's Vault claims.
Canico is the exploration subsidiary of Inco. Limited.
Early in 1986, Canico completed an option agreement with Seven Mile on the Vault property located in the Osoyous mining division near Okanagan Falls, BC. The agreement allowed Canico to earn a $00 \%$ interest in the property through a aeries of cash payments and work commitments totalling $\$ 100,000$ and $\$ 400,000$ respectively over a five-year period.
As of December 31 1987, Canico had spent $\$ 507,219$ on the Vault property.
The diamond drilling to date has outlined a large epithermal gold system over an area of 900 m (east-west) by 500 m (north-south). The system is open to the east and the south.
Some of the better intersections were:


Additional drilling is warranted to test the mineralization to the east and south of the present drilling and to do fill-in drilling in order to outline high grade lenses or shouts (the multistage quartz veins).

Seven Mile High Resources Inc
SVH
Shares issued: 2,524,394 Heb 3 close $\mathbf{\$ 0} \mathbf{3 0}$ Monsfobe Delinquent Filer
The superintendent of brokers advisee that the company is delinquent for interim financial dated October 1987.

Seven Mile High Resources Inc
SVH Shares issued: 2,524,394 Feb 10 clues: \$0.76 Wed 17 Feb 18 News Relecese
Mr Maurice Hamelin reports:
Seven Mile has elected to participate in the 1988 work program resulting in the formation of a joint venture between Canico and Seven Mile,
with Canico acting as operator.
A two phases, $14,000 \mathrm{~m}$ diamond drilling program estimated to cost 51.4 million is proposed fer 1988. The first phase will consist of $6,250 \mathrm{~m}$ of diamond drilling in areas of known mineralization and $1,750 \mathrm{~m}$ of reconnaleenate drilling to test other targets.
The program will be conducted with two contract drills over a three to four month period and began on February 151980.
The diamond drilling to dato has outlined a larne epithermal sold system over an area of 900 m (east-west) by 500 m (north-south). The ayotesh is open to the east and south. The beet values and the widest values occur where the vein cut a 600 100 m thick pyroclastic unit (the lower Manat formation). The highest gold values occur is multi-stage, banded quarts veins whee repetitive gold deposition hae increased grades.
Drilling results will follow when available.
$\begin{array}{lrr}\text { Seven Mile High Resources Inc } & \text { SVN } \\ \text { Shares issued: } \mathbf{2 , 5 2 4 , 3 0 4} & \text { Mar } 4 \text { close: } \mathbf{5 0 . 0 0} \\ \text { Mon } 7 \text { Mar } 08 & \text { Shares for Dwt }\end{array}$
The VSE has accepted for filing documentation with respect to the issuance of 16,994 shares at so. 89 per share to Murray Morrieqn to settle $\$ 15,124.78$ outstanding debt.

Seven Mile High Resources Inc
Shares Issued: $\mathbf{2 , 5 2 4 , 3 9 4}$ Mar 16 close: 81.18
Thu 17 Mar 28
News Retene
Mr Maurice Hamelin reports:
Drilling activity has increased on the Vault claims in southern BC. One drill ie presently om the fifth hole of the now program for 1004. Results of the first three holes will be releneed momentarily. The second drill hae commenced work and will be going to greater depths than formerly worked. Both drills will be fully engaged for the 1.5 million dollar program previously announced by the company and their partner Inca Cold.

Seven Mile High Resources Inc SVH Shares issued: 2,524,394 Mar 23 close: $\$ 1.5 \$$ Thu 24 Mar 85 Halt Trading
Effective at 10:42 am., March 23 1986, trading in the securities of the company was halted at the request of the company, pending $a$ announcement.
Members are prohibited from trading in the securities of the company during the period of the halt or until further notice.

Seven Mile High Resources Inc SVH Shares issued: 2,524,394 Mar 25 close: $\$ 1.42$ Mon 25 Mar 88 News Release

## Mr Maurice Hamelin reports:

Drill results of the first three holes of the Vault claims, BC have been received. The first hole (BH $72480,203 \mathrm{E} / 163 \mathrm{~S}$ ) was drilled to test the western extension of the main mineralize zone. No mineralization was found. The second hole (BH
$72421,632 \mathrm{~m} / 135 \mathrm{~N}$ ）wae drilled to teet the north vein at wreater depth．The vein was intersected as follow：

| WTHERECTION （PEET） | WIDTM <br> （TEET） | $\stackrel{\text { AU }}{\text { OZ/TON }}$ | $\stackrel{\text { AG }}{02 / T O N}$ |
| :---: | :---: | :---: | :---: |
| 548．95－651．24 | 2. | 0.774 | 0.9 |

Driling will continue on this vein for strike length．
（1） 72422

| $905.77-916.36$ | 11.28 | .187 | 0.638 |
| ---: | :--- | :--- | :--- |
| $1040.87-1086.99$ | 44.12 | .298 | 0.374 |
| $1001.07-1023.36$ | 28.97 | .438 | 0.52 |

Exdating reaults emanating from these holes further solidifies the expectations of the company and its partner，Inco Gold as to the merits of the Vault claims．Results of round the clock drilling will be released shortly as to holes 72423， 72424 and 72425.

Seven Mile High Resources Inc
SVH
Shares iseued： $\mathbf{2 , 5 2 4 , 3 9 4}$ Mar 25 close： $\mathbf{\$ 1 . 4 2}$

## Mon 28 Mar 88

 Resume TradingEffective at 8：30 a．m．，March 25 1988，trading in the shares of the company will resume，an ． announcement having been made．

Seven Mile High Resources Inc SVH
Sh．res issucd：2，524，394 Mar 30 close $\$ 1.52$


Seven Mile High Resourc es Inc
SVII
｜Shares issued 2，52．4．39．4 M．ir 25 close $\$ 1.12$ Mon 28 Mar 88 News Releane
Mr Mourior Hamelin reports．
（lill r．ands at the tirat there holes of the V．sult

 extension of the main mineralied ome NO minerallestion w．in found the necond hole（HH 72421，0．321／1．15N）w．is drilled to test the north vein it wroaterdepth The vein was intersected as follown

IIII 1：4：1

|  | wirril | All | AC． |
| :---: | :---: | :---: | :---: |
| （F1） | （FELT） | OZ．／TON | OZ ／TON |
| 64日．9，吅， 24 | 2．＇ | 0.774 | 0.94 |

Drilling will continue on this vein for strike Irnj；th

Bll 124？ 2

| 905.77 | 916.56 | 11.28 | .187 | 0.638 |
| ---: | ---: | ---: | ---: | ---: |
| 1040.87 | 1086.99 | 44.12 | .298 | 0.374 |
| $1 n .1$. |  |  |  |  |
| 1040.87 | $10: 1.16$ | 28.97 | .438 | 0.52 |

Fiosting iesults emomating from these holes further solidifies the expectations of the company and its partner．Inco Gold as to the merits of the Viault dlams Results of round the ，lock drilling will be rele．sed shortly is to holes


Seven Mile I ligh Resoure esise
SVH
Shores invied 2，524．30．4 Mar 25 close $\$ 142$

## Mon 2A Mar 月 $^{2}$

Resume Trading
Pffective it A 30 a m．March 25 IGRA，trading in the shares of the company will resume，an announcement having been made．

Shakwak Exploration Company limited SHA Shorres isisued 0，0\％0，092 Mar 25 close： 80,35 Mon 28 Mar AR

Private Placement
The VSE：has accepted for filing documentation with respect to a privale placement of 250,000 wh．aren at $\$ 0.10$ per ahorre to（lit）Financi．al Opportunities lidd with non－transferable share purchane warrants entiting the placee to purchase up to $2.50,000$ whares at $\$ 0.45$ per share for a one year period．
Canarim will receive $10 \%$ of the grone proceeds as a finderin fee

Seven Mile High Resourceu Inc
SVII
Sharebisbued 2，524，394 Apr7clube \＄170


Seven Miî́e Hixh Kesoourceol Ins
SVII
Shares issued $2,524,304$ Aprtilume \＄1 71 Tue 5 Apr 88 Newn Kelease

## Mr Maurice Hamelint reports

Resultis have been received from the lawt wa boreholes drilled．two of which were reconnaisbance holeb，from the Vault claims ievar Okanayan Fallb，BC．
Borehole $72 \$ 23 \mathrm{cut}$ the main sone at $1,017.11$ feet and interbected 1.25 teet allbaying $0.44 \mathrm{od} / \mathrm{mm}$ ． Borehole 72424 wab drilled on the northern structure；the best intervection absayyed 094 oe over 4.76 feet at 3805 feet．
Borehole 72426 wab drilled on the main structure；no assay values were greater than 0.03 oz／ton gold．
Reconnaiseance boreholes 72427 and 72428 were drilled loward the southern limite of the property．No mineralization wase encountered in these two holes．
Drilling，which has stopped for the Eabter break， will continue following the break

Seven Mile High Resources Inc
SVH
Shares isbued：2，524，394 Apr 7 ，lobe $\$ 178$ Fris Apr 88 News Kelease

## Mr Maurice Hamelin reporto

An axreement has been reached whereliy limen Ciold Company has akreed 10 c（ 1 Whmil 8000.000 for qualified expenditures in the incurred by Seven Mile in revpect of ltw $40 \%$ interebt in the Vault claime near Okanagan Fallb，BC：
Seven Mile will issue to Inco 400,000 units at $\$ 1.50$ per unit by way of private placement Each unit will consibt of one common share one non． eranblerable berieb A share pur，hase warrant and one non－iranoferable selies $H$ share purchose warrant Two weries A share purs hase warrants
will entille Inco to purchase one additional commun whore at $\$ 200$ for the asme period of one yout Ihe A and t warranto will be separate and ditilitit allid one A warrant cannot be combined with one 11 warrant to acquire an additional common share of Seven Mile．
The $\$ 00,000$ common shares comprising part of the unite will be issued on a flow through basis when Seven Mile has incurred $\$ 000,000$ of yualifird expendituret on the Vault claims． I＇rin erode realiced by Seven mile from the exercise of warrants will be added to the general working capital of Seven Mile．

Seven Mile Iligh Kewourcew Inc SVII Shares iusued：2，524，394 Apr 8 close $\$ 1.75$ Mon 11 Apr 8y Pool，Eucrow Release
The VSE：has approved 225，000 shares for release from escrow restrictions．

Seven Mile High Resources Inc SVH Sharebissurd 2，524，394．Apr 28 close $\$ 125$ Fil 29 Apr 88 Private Placement 400，000 unif flow－ihrough proposed
Mr Maurice Hamelin reports：
An agreement has been reached whereby Inco Gold Co has agreed to commit $\$ 600,000$ for qualified expenditures to be incurred by Seven Mile in respect of its $40 \%$ interest in the Vault claims near Okanagan Falls，BC．
Seven Mile will insue to Inco Cold Co 400,000 units at $\$ 1.50$ per unit by way of private placement．Each unit will consist of one common share，one non－transferable series $A$ share purchase warrant and one non－transferable series B share purchase warrant Two series A share purchase warrants will entitle Inco Gold （i）lo purt hase one additional common share of Seven Mile at $\$ 1.75$ for one year．Two series B share purchase warrants will entitle Inco Gold Ci）to purchase one addifional common share of Sirven Mile at $\$ 2.00$ for the same period of one year the series $A$ and series $B$ warrants will be meparate and distinct and one series $A$ warrant （annut the combined with one series B warrant to atquire an additional common share of Seven Mile
The $\mathbf{4 0 0 , 0 0 0}$ common shares comprising part of the units will be issued on a flow－through basis when Seven Mile has incurred $\$ 600,000$ of uualified expenditures on the Vault claims l＇renerds realized by Seven Mile from the exerctise of warrants will be added to the general working c．spital of Seven Mile

## Seven Mile IIIgh Kewourceu Inc <br> SVII

 Sharebissued: 2,541,388 May II (libe \$1 Is Thu 12 May 88Private Placemen
The VSE hab accepted for filing ducumematoon with respect to a private placement of $\$ 000.000$ shares, 300,000 of which are lluw lhrought al \$1 50 per bhare to lmo Ciold (impany wilh non" transferable serieb A warrants whinth entille the placee to purchabe up to 200,000 shares, 150,000 of which are llow through shares at $\$ 1.75$ per share and non-translerathe serim is warrants entitling the placee to purchase up 10200,000 shares. 150,000 of which are flow through at $\$ 200$ per share for one year

Seven Mile High Resources Inc
SVH
Shares issued: 2,541,388 May 19 close: $\$ 1.02$


Fut ther to the VSF notice dated May 11 1988, the company's shates to be purchabed alter exerase ot beres $A$ and 13 warrants are all ordenary common shores not flow through

Seven Mile High Resourcen Inc
Sharebissued $\mathbf{2 , 5 4 1 , 3 8 8}$ May 16 close: $\$ 115$
Tue 17 May 88
News Releabe
Mr Maurice Hamelon reporto
Complete assay results have been recieved for boreholes 72429 to 72433 inclusive. Three of the holes were reconnaissance holes in the southern end of the property $A_{b}$ was the case with previous holes in this area, no mineralization was tound I wo holes, 72430 and 72432 were drilled from the same bet-up
Burehole 72.433 was drilled on the main structure and produced the following results.

DEPTH(FT) WIDTH(FT) AU OZ/TON AG OZ/TON

| 935.5.943.5 | 9.6 | .24 | .43 |
| :--- | ---: | ---: | ---: |
| 935.9 .954 .0 | 22.1 | .14 | .11 |

More drilling results from the main structure are expected in the near future. Drilling will continue in the known mineralization area by tooth drills working 24 hours per day, for the puipuse of providing tonnage in that area of the property
the company will rele.tse drill rebultes ab promptly an porsitile

Seven Mile Ilogh Re'sources line SVII Shares issued 2,541,388 May loclobe \$1 15 Tue 17 May $88 \quad$ Private Placement

## Proceeds $s_{3}$ to be spent on Vault claims

Inco l.imited (N)

## Mr Maurice Hamelin reports:

The private placement with Inco Cold Company, d unit of Inco Limited, has been completed.
The private placement was for 400,000 units of shares and warrants at $\$ 1.50$ per unit for atotal of $\$ 000,000$ on a fluw-through babib. During the course of completion of documentation, the private placement was divided into 100,000 ordinary units and 300,000 flow -through units.
Seven Mile has received $\$ 150,000$ ( $\$ 1.501$ per unit) and has issued to Inco Cold Company 100,000 common shares, 100,000 beries $A$ warrants and 100,000 beries $\$$ warrants. Inco Cold Company has deposited $\$ 450,300(\$ 1501$ per unit) with Central Trust Company, as trustee Seven Mile will issue the 300,000 flow through units when Seven Mile hab incurred $\$ 4.50,300$ of yualified expernditures on ther Vatilt ( l.ams
I wo serres A warratits will entille linct (ould Company to purchabe ome additional common share of Seven Mile at $\$ 175$ until M.Iy 1219 HQ Two series 11 warrants will entitle Inco Cold
 share of Severil Mile at \$200 unlil May 21984 lionereds trom the excrise of wattants will the added to the kemer.ll working t.petal of sevien Mile.

Seven Mile Itigh Resources Ins:
SVII
Shares issued: $\mathbf{2 , 5 4 1 , 3 8 8}$ Jun 10 close $\$ 1.38$


## News Release . . . Assays af Vaulf property

Mr Maurue I Iamelin reports
Seven Mile Itixh anomuntes the latest dill hole rebults of the lyse work proxicm on its Vault (laim in ()kanagan lalls, BC webl of I'entution
All holes were drilled from north to suuth to test the main structure where gold values are prebent in quart/ veons culting shlicitied pyraclastics of the Euocene L.ower Maramat

| Holte | HED'T\| | WIDTH | All | Al: |
| :---: | :---: | :---: | :---: | :---: |
|  | (rtisit) | 1FIIT) | い\%/V | 1 $12 / \mathrm{T}$ |
| 12434 | 1.0月, В \| 211.0 | H. ${ }^{\text {a }}$ | 19.17 | 11.51 |
|  | 1.64 .151298 .4 | 11.6 | U. . 11 | 0. ${ }^{1} \cdot 1$, |
| * | 1127.61194 .1 | 61. 1 | 0.111 | 11. 12 |
|  | 1414.5-1429.9 | 1', 4 | 0.11 | 0.31 |
|  | 1,61.U 11,70.', | 1.' | 11.104 | 0.12 |

Horeholew 724.35 athd 724.87 were undercutu of Holeb'I2.22and 724.33 rebpealively Ihey out the underlywng unit and tailed to encounter signiticant gold values.
Burrholes 72434, 72436 and 72439 intersected the sluified and yuartz veined pyroclastic unit seviral time's at they went through a series of dowil taulted blocks
Horehole 72.138 was abandoned. Borehole 72439 wandilled from the bame set up at a different dip and returned the following intersections:

| DEPTH <br> (FEET) | WIDTH <br> (FEET) | AU <br> OZ/T | AG <br> OZ/T |
| :---: | :---: | :---: | :---: |
| 1049.2 .1126 .8 | 27.6 | 0.08 | 0.17 |
| 1178.5 .1191 .6 | 13.1 | 0.08 | 0.11 |
| $1132.8-1359.6$ | 6.8 | 0.09 | 0.12 |

Drilling is continuing using two machines Results will follow shortly

## 5

## ECONOMIC GEOLOGY

Traditionally the rocks of Tertiary basins of the southern interior of British Columbia have been known principally for their coal deposits. These rocks have also been noted for an abundance of zeolite minerals, some perlite, and opal and agate localities. However, in recent years, with the advent of advanced geochemical and geophysical methods of prospecting and precise methods of rock dating, it is now known that the Tertiary suite is important in the search for base metals. Tertiary uraniferous conglomerates have also recently attracted attention in southern British Columbia.
In the White Lake area a few small showings of terrimolybdite are reported in the granite slide breccia of the Skaha Formation north of Green Lake. However, the Dusty Mac gold-silver discovery east of Skaha Lake has been the most interesting recent discovery in the area.

## THE DUSTY MAC PROSPECT

The Dusty Mac prospect is located about 1 mile east of Okanagan Falls (Figs. 1.2 and 5.1). The deposir consists of a lens-like zone of silicified Eocene volcanic rocks and sedimentary debris containing minor disseminated pyrite and native silver. Also, some quartz veins on the jropp:rity carry minor bornite and chalcopyrite.
The host rocks belong to the White Lake Formation of the upper part of the local Tertiary section. These beds consist of light-coloured pyroclastic rocks, thick lahar deposits of feldspathic andesite, minor andesitic lavas, and some sandstones and carbonaceous shales. The older rocks in the immediate area belong to the Marama Formation comprising mainly massive rhyodacite lava well exposed on the high bluffs, known locally as Peach Cliff, overlooking the village of Okanagan Falls.
These units are on the south limb of a southeasterly trending syncline. The beds have variable dips ranging from about 30 to 55 degrees northeast. A strong cross-fracture system strikes about 010 degrees dipping about $\mathbf{8 0}$ degrees westerly almost perpendicular to the synclinal axis (Fig. 5.3).
In addition these rocks are cut by an important system of reverse faults. The system trends generally southeasterly, with interwoven easterly and southerly striking segments and splays. The direction and magnitude of movement on these faults are indicated at a number of points where large slices of Marama lava have been thrust outward and upward


Figure 5.1. Geology of the Dusty Mac prospect, Okanagan Falls.


Figure 5.2. Diamond-drill hole section, Dusty Mac Mines Ltd.
from the core of the syncline through several hundred feet of White Lake strata. As in the White Lake basin, reverse faulting is thought to be the result of concentric folding and accommodation of the stratigraphic pile to bedding plane slip.

At Dusty Mac, mineralization appears to be largely controlled by the fault system. Quartz. veins and gossans are present in or adjacent to most of the main faults.

The main mineralized zone, located in the east central part of the property, is a gently dipping lens of quartz breccia (Plate XVI) with varying admixtures of crushed andesite. The body is exposed over a length of about 700 feet striking roughly 140 degrees with a central cross-section width of about 160 feet and a maximum thickness of 30 feet. Surface sampling of this zone by the writer showed some disseminated native silver yielding erratic grades. Assays on five composite samples gave an average value of 0.47 ounce per ton gold and 11.3 ounces per ton silver and a range of 0.02 to 4.31 ounces per ton gold and 1 to 121.4 ounces per ton silver. A published statement by Dusty Mac Mines Ltd. indicates 67,790 tons of ore averaging 0.23 ounce per ton gold and 4.97 ounces per ton silver, according to calculations based on exploration up to December 1969.

A similar large lens of quartz breccia is located about 2,500 feet northwest of the ore zone. Preliminary testing of this body shows only a trace of gold and silver.

The large quartz breccia zones, including the main mineralized zone, are thought to be the result of the following events:
(1) Development of dilations in major shears.
(2) Filling of the dilations with quartz, accompanied by gold and silver mineralization.


Figure 5.3. Fracture frequency plot, Dusty Mac prospect.
(3) Late-stage movement in the shear zones resulting in brecciation of the quartz and intermixing of the quartz with crushed andesite wallrocks.

Work done on the property to the end of 1970 includes 52 diamond-drill holes totalling 7,610 feet, 101 percussion holes, 2 bulk samples, and 1 crosscut adit about 150 feet long.

REFERENCES: Geol. Surv., Canada, Map 627A, Okanagan Falls; B.C. Dept. of Mines \& Pet. Res., G.E.M., 1969, pp. 294-296; 1970, pp. 402-406.


