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PROGRESS REPORT
ON THE
CANYON RESOURCES PROPERTY
(Long. $122^{\circ} 39'$, Lat. $53^{\circ} 07'$)
CARIBOO M.D.

Prepared on behalf of
CANYON RESOURCES LTD.

per
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by
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March 8, 1983.

SUMMARY

Canyon Resources Ltd., holds ~~the~~^{ten} placer leases covering the west bank of the Fraser River, and the River, about eleven miles upstream from the City of Quesnel. The leases cover the presumed trend of a Tertiary channel of the Fraser River which was mined for some time on the east bank at the Tertiary Mine, now inactive, and which has been developed on the Canyon Resources property by some 450 feet of lateral workings.

The operators have conducted a program which rehabilitated the workings and permitted extensive sampling of the original working faces. Access has been upgraded and a camp established. A B.C. Hydro line presently terminates about 1.5 km from the camp.

Results from the sampling program have demonstrated erratic gold distribution, with economic concentrations widespread at the working faces.

In order to further evaluate the potential, and to develop reserves, a small scale full face mining and washing project is recommended. Estimated costs for such testing are \$ 1,800 per day, or in excess of \$ 71,000 monthly when utilizing largely rental, or contracted, equipment.

It is believed that such an approach will provide sufficient information in a two to three month period to permit of a decision as to phasing in an economically sized producing mine.

Gold recovered during the test will defray a large portion of costs incurred.

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REFERENCES

- Lorimer, M.K. - Preliminary Report on the Canyon Resources Property. Private Report. 1981.
- Lorimer, M.K. - Engineering Report on the Canyon Resources Property. July 9, 1982.
- B.C. Department of Mines. - Bulletins No. 3 and No. II.
- B.C. Department of Mines. - Various issues of the Annual Report to the Minister of Mines. 1918-40.
- Canadian Institute of Mining & Metallurgy. - Bulletin of May, 1934. Tertiary Channels of the Fraser River, Cariboo.

PROGRESS REPORT
ON THE
CANYON RESOURCES PROPERTY
CARIBOO M. D.

INTRODUCTION

This report has been prepared at the request of Mr. E.J. Fowler for the purpose of setting out results from work undertaken during the 1982 season and making recommendations for the further development of the property.

It is based on a review of material set out in the Bibliography, personal communication with Mr. Fowler, and a visit to the property on February 17, 1983.

LOCATION

The Canyon Resources property is located on the west bank of the Fraser River, some 11 miles upstream from the City of Quesnel. It may be reached from the Blackwater Road via gravelled roads and trails, a total distance of about 13 miles from West Quesnel.

The claims appear on Ministry of Energy, Mines and Petroleum Resources staking location sheet designated 93G/2E, and have map coordinates Long. $122^{\circ} 39' W$, Lat. $53^{\circ} 07' N$.

PROPERTY

Canyon Resources presently holds two placer leases, P.M.L's IO50 and IO51, acquired from Mr. T. Wrixon on April 8.

1981. Records for these leases are on file in the office of the Gold Commissioner, Court House, Quesnel, B.C. The leases have been inspected in the field by the District Claims Inspector, Ministry of Mines, and are said to be in good order. They have not yet been legally surveyed, a procedure recommended for avoidance of any future title problems.

Additional placer leases with underlying mineral claims are presently being processed to provide further protection to the mineralized gravels and bedrock.

A mobile unit camp is located on a bench some 120' above river level, and the underground workings. The bench is populated with birch and lodgepole pine, with ample space for camp expansion and the construction of a processing facility - settling pond system to handle auriferous gravels mined.

ECONOMIC GEOLOGY

There is much evidence to support the premise that both the inactive Tertiary Mine on the east side of the Fraser River, and the Canyon Resources prospect on the west, are located in a common historic (Tertiary ?) channel of the Fraser River. Both areas of activity are concerned with cemented gravels of similar nature and appearance, with best reported gold values being on bedrock or in the few feet of gravel above the bedrock contact. Total width of channel, thickness of cemented gravel fill and depth from surface, source of contained gold, and distribution of gold today within this historic channel filling are beyond the scope of this report.

Though documentation is incomplete, the Tertiary

Mine is believed to have been active for many years, starting in 1917. Reported pay zones, or streaks, to 50 feet in width were accessed and mined from a main haulageway of more than 1,500 feet in length. Less pertinent data with reference to the Canyon Resources prospect has been found, but consensus indicates it to have been developed during the early 1930's, as the Tertiary Mine declined and became inactive.

In any case, the Canyon Prospect has obvious similarity to the Tertiary Mine, and should the development program extend the 'channel', there is good reason to believe that the gold content will persist.

SAMPLING

During the 1982 season, the operators cleaned and advanced faces A, B, C, D, and E, (see figure 3-A), an average of 2 feet, winning some 80 cubic yards of gravels. When washed underground, this gravel gave an average recovery in the order of 0.125 Troy ounces per cubic yard. On February 10, 1983, a four cubic yard composite sample from faces A, B, C & D was washed and yielded 10 dwt. 9 grns of gold, equivalent to 0.5187 Troy ounces total and an average of 0.129 Troy ounces per cubic yard. On February 17, 1983, the writer check sampled faces A, B, C, D, & E using a gold pan having diameters of 15" and 9", being 3" deep. With a one cubic foot box for calibration, 112 struck pans totalled a calculated cubic yard of swell-gravel. Results from this test panning were:

| <u>Face</u> | <u>Gold Rec'd, grns.</u> | <u>Equiv.-oz./cu.yd.</u> |
|-------------|--------------------------|--------------------------|
| A | 0.8 | 0.19 |
| B | 0.3 | 0.07 |

4.

| | | |
|----------------|---------|---------|
| C' plus C" (2) | 6.0 (2) | 0.7 (1) |
| D | 2.7 | 0.63 |
| E | 2.5 | 0.58 |

All samples were taken at the gravel - bedrock interface, with 6" - 8" of fractured bedrock and 10" - 12" of gravel above the contact. The mathematical average of the five samples is 0.442 oz./cu.yd. Assuming no value to the overlying 6.5' of gravel constituting the 8' mining face height, the calculated full face value would be 0.083 oz./cu.yd. Since full face bulk sampling gave values in the order of 0.125 oz./cu.yd., it would seem that, all things being equal, there are values in the gravels above the interface zone sampled.

All sampling to date indicates the necessity of full scale mining to provide production type results upon which to base future planning.

CURRENT STATUS

Historic work was from a southeasterly heading decline driven at -25° for 85 feet. A drift on the same heading has about 1.5' of bedrock at the face near the 320' mark. A further 40' of drift was apparently driven to follow the gravel - bedrock contact which is dropping, resulting in some 14" of water at the most advanced face. The water inflow is slow and readily handled with a small pump. Though the river level was at it's winter low when visited, there seems to be remarkably little seepage from the river through the cemented gravels, contact zone, or bedrock.

Development was apparently governed by gold values encountered, resulting in an irregularly stoped area mainly on

the left hand side of the main 7' high by 8' wide drift. Randomly located pillars, with occasional round native timber posts and caps, have successfully maintained the back to date. Minor sloughing and slabbing is noted where sandy lenses are incorporated in the cemented gravels. There is a notable amount of uncarbonized and non-indurated wood in the stoped area back.

Canyon Resources de-watered the workings and advanced sections of the mining face using an electrically powered chipper to free the cemented gravel and bedrock. A washbox and sluice, fed by conveyor belt, was assembled underground to process all gravels mined. Washed gravel was stacked in the stoped out area. Process water was recycled.

It is of interest that gravel mined is very clean, containing little clay. As well, concentrates evidenced garnet and (monazite ?), with little magnetite and little or no pyrite.

DISCUSSION

Mining for sampling by Canyon Resources has been essentially handwork, and has demonstrated erratic distribution of gold with values ranging up to economic. Results from larger samples have tended to show more uniform and better grade, an observation compatible with particle sizes recovered and the gold distribution in material mined.

It would seem therefore, that the logical procedure in further development and evaluation would be to initiate normal mining methods and practice for production testing and development of reserves. To this end, as set out in the Engin-

engineering Report of July 9, 1982, by M.K. Lorimer, P. Eng., the main drift should be advanced ahead along the presumed channel with close control over values contained in each round advanced. Concurrently, channel widths and contained values should be similarly determined from headings driven to left and right of the main drift.

Some consultation and experimentation with blast hole pattern and explosive loads is adviseable to ensure maximum decrepitation of the cemented gravel - sand channel filling, with minimum side wall and roof damage. Breakup of the matrix, with freeing of contained gold at the face, will much simplify handling and subsequent washing.

Such a program will necessitate repair and modification of the decline and main drift at the outset. An initial decision will be required as to utilization of trackless mining methods, conventional, or a combination of methods with incorporation of a conveyor system from bottom of the decline to wash plant location. For year round operation, all outside facilities, with the exception of the settling pond, will require housing.

Until adequate reserves have been established for a commitment to continuous production, the basic development program advanced by Mr. Lorimer in his Engineering Report would appear to be a best fit approach. It is, however, suggested that concurrently with the required underground modifications, the settling pond area be cleared and logged, and the impounding dam be constructed.

It should be noted that for the purposes of Govern-

mental administration the project will be classified an underground mine as opposed to a placer operation.

In initial planning for mining, an adequate ditch and sump system with preferably a submersible pump, will be necessary to keep working faces dry. Gold losses will be excessive if during mining and loading out the gravel is handled in the presence of water.

CONCLUSIONS

Results from testing by Canyon Resources have been adequate to warrant a substantial staged program designed to further evaluate the postulated channel and to establish reserves of auriferous gravel.

Geological and geophysical authorities should be consulted for applicability of these methods to more rapid and less costly determination of potential channel length, location and size.

The initial phase can probably be more effectively undertaken utilizing a majority of rental and/or contract equipment.

RECOMMENDATIONS

Pursuant to review of published information, discussion with Mr E. Fowler, the writer's relevant experience and on site observations, it is recommended as follows:

1. Update and revise as necessary, all submissions for Governmental licences and permits.
2. Prepare for, and expand campsite as required.
3. Arrange for, and acquire the requisite equipment and supplies.

4. With acquisition of appropriate permits, log and clear the tailings impoundment area, build retention dam.
Concurrently revise and repair the decline and main drift to accomodate a Scooptram.
5. Install fan and underground ventilation system, air, water, and water discharge lines.
6. Set up the wash plant and water supply system.
7. Set up air compressor, motor-generator, and install operation power lines.
8. Begin mining and washing. Ensure a clean up for each round advanced in order to obtain and map assay information. Utilize two wash plants if necessary.
9. Dependent upon results, make decision as to mining method and economic production rate. Begin permanizing and optimizing equipment and facilities.

ESTIMATED COSTS

There are too many variables and unknowns to establish firm costs at this point. Reliable rentals may not be available, thus affecting cost and scheduling.

However, assuming initially a one shift operation with supervisor, 2 miners and helpers, equipment operator, washplant operator and helper, with an engineer or geologist in charge, daily costs exclusive of equipment rentals will approximate \$ 1,800.

Handwritten notes:
 7,000 (supervisor)
 15,000 (2 miners and helpers)
 8,000 (equipment operator)
 6,000 (washplant operator and helper)
 5,000 (engineer or geologist)
 4,000 (washplant operator and helper)
 8,000 (engineer or geologist)

On the foregoing basis and a six day week, with rentals the daily cost may be in the order of \$ 2,800, or about \$ 71,000 per month plus freight, mobilization and contingencies.

A two or three month program should have a large measure of costs offset through the sale of gold recovered.

Respectfully submitted,

A. D. Tidsbury, P. Eng.

CERTIFICATE OF QUALIFICATIONS

I, Albert Daniel Tidsbury, of the City of Prince George, B.C., Mining Engineer, hereby certify:

1. That I am a practicing Mining Engineer resident at 719 Ayr Place, Prince George, B.C., V2M 6H7.
2. That I am a Graduate from the University of Alberta, in Edmonton, holding a degree - Bachelor of Applied Science in Mining Engineering - granted in 1950.
3. That I am a member of the Association of Professional Engineers of the Province of British Columbia.
4. That the following is a true record of my employment since graduation:
 - I950-52 Junior Engineer, COMINCO, Kimberley, B.C.
 - I952-57 Exploration Manager, Harvest Queen Mill & Elevator Company, Plainview, Texas.
 - I957-62 Production and Mechanical Engineer, British American Oil, Edmonton and Calgary.
 - I962-63 Exploration Manager, Cabeen Exploration, Calgary.
 - I963-66 Production and Construction Engineer, James A. Lewis Engineering Ltd., Calgary.
 - I966-69 Independent Mining Consultant.
 - I969-79 District Inspector and Resident Engineer, B.C. Ministry of Mines and Petroleum Resources, Prince George, B.C.
 - I979 Independent Mining Consultant.
5. That I have no direct or indirect interest in the securities relating to, or the properties themselves described herein.

Dated at Prince George, British Columbia, March 8, 1983.

A.D. Tidsbury, P. Eng.

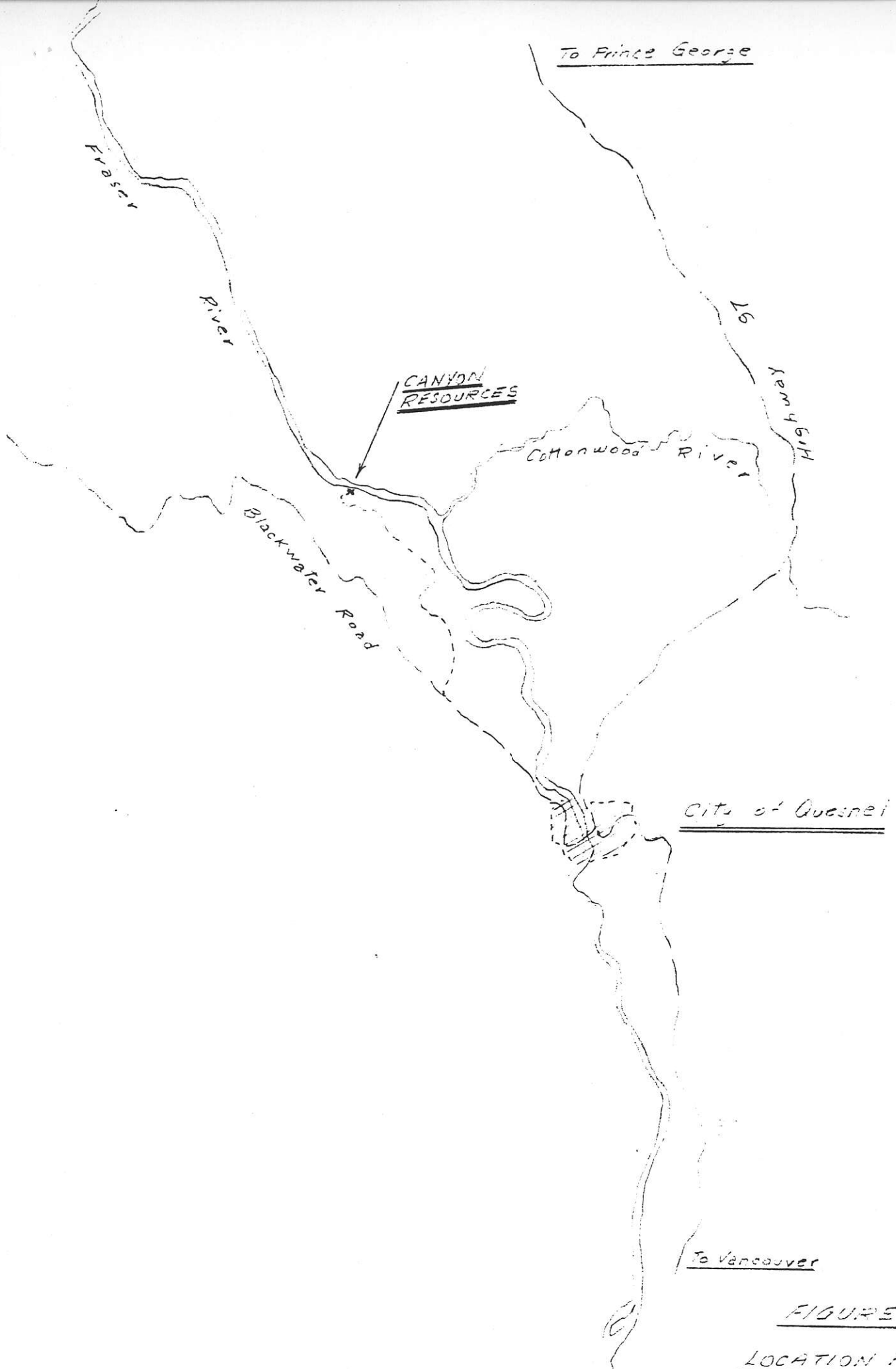


FIGURE 1.
LOCATION PLAT

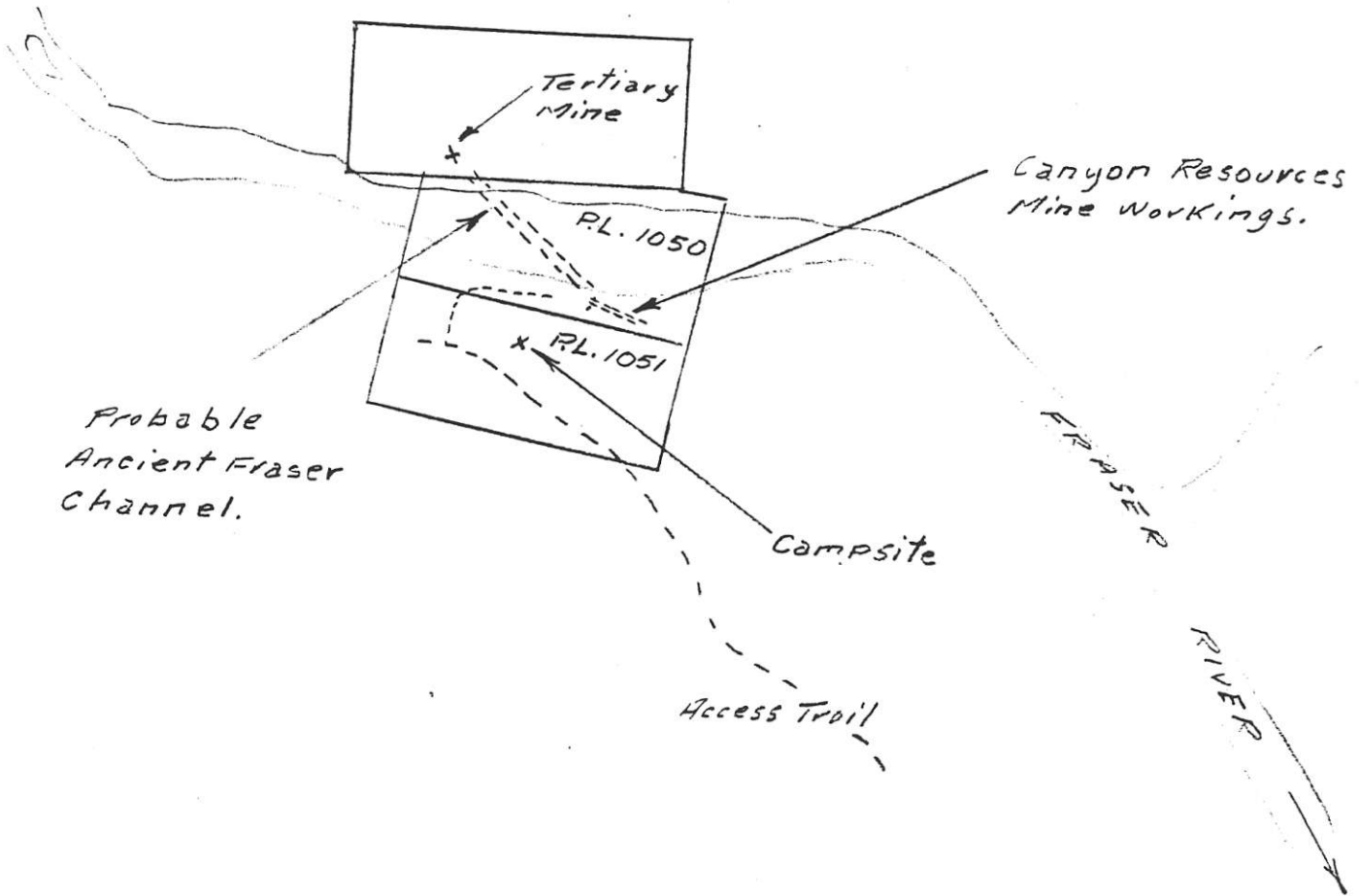
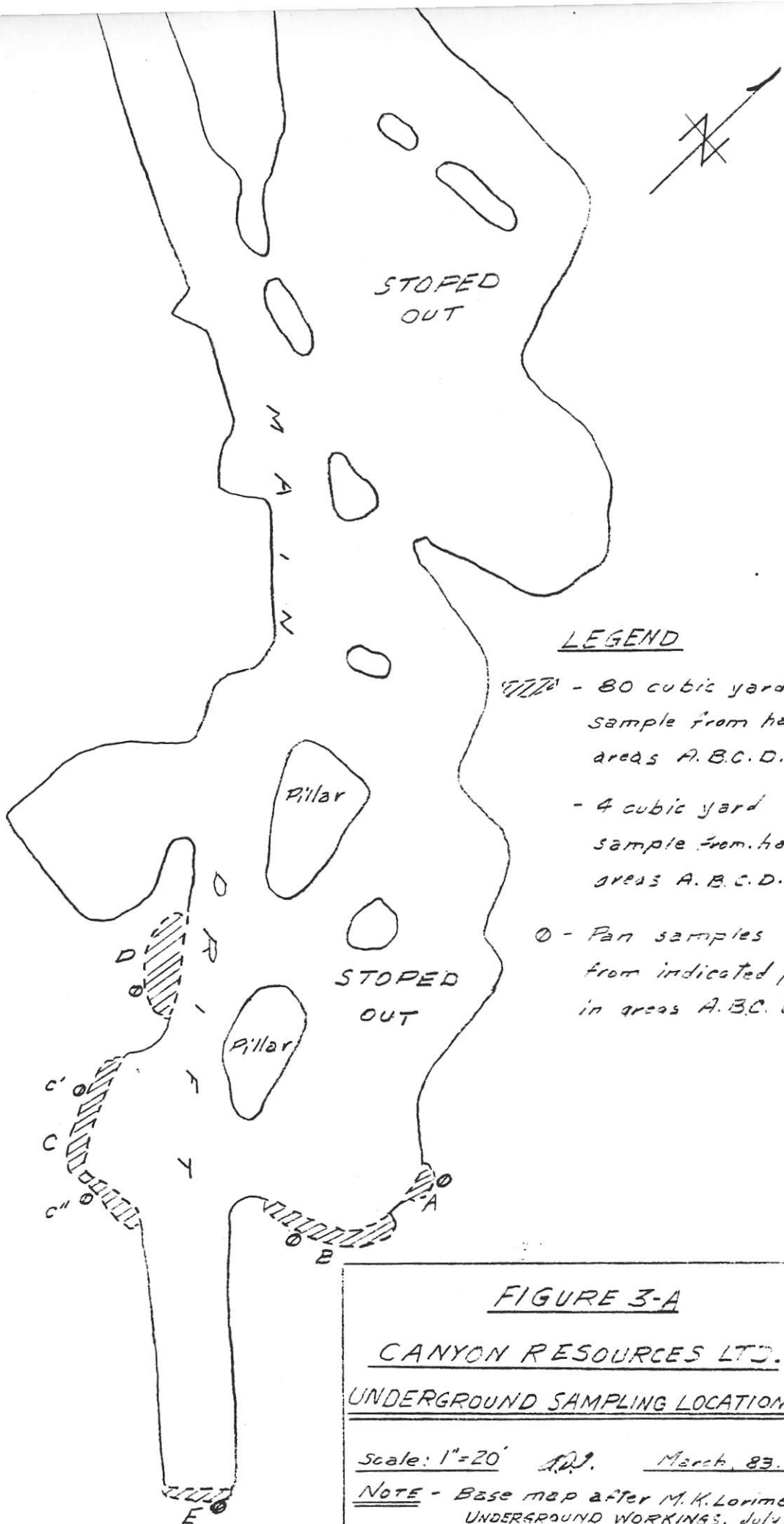


FIGURE 2.
CANYON RESOURCES LTD.
PROPERTY SKETCH
Not to Scale. *a.p.j.* March 83.



LEGEND

- 80 cubic yard sample from hatched areas A, B, C, D, E
- 4 cubic yard sample from hatched areas A, B, C, D.
- Pan samples from indicated point in areas A, B, C, D, E.

FIGURE 3-A
CANYON RESOURCES LTD.
UNDERGROUND SAMPLING LOCATIONS

Scale: 1"=20' S.P. March, 83.

NOTE - Base map after M.K. Lorimer
 UNDERGROUND WORKINGS, July '82.