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ENGINEERING REPORT
on the
CANYON RESOURCES LTD. PROPERTY
Cariboo M.D.

by

M.K. Lorimer, P.Eng.
9 July, 1982

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M. K. LORIMER, B.A.Sc., P.Eng.
CONSULTING MINING ENGINEER
3082 WEST 27TH AVENUE
VANCOUVER, B.C. V6L 1W5
TELEPHONE: 733-8244

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INTRODUCTION:

The following report is based on visits made by the writer to the described property in July, 1981, and June, 1982, and on a study of the reports listed in the Bibliography. It is an up-dating of a preliminary report by the writer dated 30 August, 1981.

LOCATION:

The Canyon Resources Ltd. property lies on the west bank of the Fraser River about 11 miles northwest of Quesnel. Thirteen miles of public and private roads give automobile access to the main workings on the river bank. Fig. 1.

The geographic location is N53°07', W122°39', the National Topographic System map area is 93G/2E and the Mining Division is Cariboo. The average elevation is about 1700 feet above sea level.

CLAIMS:

The property consists of two adjacent Placer Leases. Pertinent information obtained from the Vancouver Mining Recorder's office on 6 July, 1982, is tabulated below and the claim locations are shown on Fig. 2.

CLAIM	RECORD No.	TAG No.	EXPIRY DATE	OWNER
RIX 1	1050	495104M	24 May 85	Canyon Resources Ltd.
RIX 2	1051	495105M	24 May 85	Canyon Resources Ltd.

The claims were staked on 24 December, 1977, by T. Wrixon and acquired by Canyon Resources Ltd. on 8 April, 1981. The cover a cemented gravel bench into which an adit and a decline were driven many years ago.

The locations have been verified by the Claims Inspector. The writer also examined the initial and final posts. They appear to conform to the requirements of the Placer Mining Act and to be in approximately the described locations.

The area apparently has not been staked as a mineral claim. To forestall future problems this should be done.

TOPOGRAPHY:

The claims cover the river and a bench that rises abruptly from the river to a height of over 100 feet and then flattens out.

The area is thickly wooded with small lodgepole pines, alders and willows.

Rock outcrops are exposed along the river but elsewhere the bedrock is obscured by cemented gravels and other overburden materials.

GEOLOGY:

The rocks in the immediate area are mainly argillites having a southeasterly strike. Generally they dip about 45 degrees to the southwest but steep dips to the northeast are to be seen underground. Through these rocks a vaguely defined channel appears to run southeasterly and to slope gently in the same direction.

The chief geologic feature of interest is a body of cemented sands, gravels and boulders that appears to form the bench. A similar deposit to the northwest, on the other side of the river, indicates that the gravels are part of an old channel about 900 feet wide that was obliquely cut by the present river.

The gravels are well cemented and could almost be called conglomerate. They have resisted weathering and flooding over many years with remarkably little caving. Stratification is well developed indicating an alluvial origin. Boulders are generally less than 12 inches across and do not make up a large percentage of the material. There are frequent lenses of mixed clay and sand. Blackened tree trunks and branches are often embedded in the gravels.

Samples taken by the writer showed detectable gold over a horizontal range of 400 feet and a vertical range of 46 feet. Since narrow quartz veins in the argillites are reported to carry gold and pyrite (EMR 1933), it has been suggested that at least some of the gold is of local origin.

HISTORY:

The history of this property is not well documented. Undoubtedly it was prospected during and after the Fraser River gold rush but the main work seems to have been done during the 1930s. Since then the workings appear to have been pumped out and worked periodically. At one time track was installed and a winch used to haul cars to the portal.

Because the gravels on the other side of the river are believed to be part of the same structure, the history of this property is of interest. It was developed and exploited by the Tertiary Gravel Company which operated an underground placer mine for many years starting about 1917. Pay streaks up to 50 feet wide were followed by an adit 1500 feet long. Commercial values were mainly on bedrock.

The Canyon Resources claims were staked in 1977 and acquired by the Company in 1981. The workings were pumped out for a preliminary examination in July, 1981. They were pumped out again in June, 1982, when a survey was made by compass and tape, the bedrock was mapped and samples were taken for assay.

DEVELOPMENT:

The property has been developed by an adit about 20 feet above high water mark and by a decline about 8 feet above this mark. Fig. 3. The adit heads south-southeasterly for about 45 feet and has a 12-foot winze 9 feet back from the face. It was not developed as a working level.

The decline is collared about 75 feet east-southeast of the adit and descends in a southeasterly direction at minus 25 degrees (-47%) for about 85 feet. From this point a drift runs in the same direction for 360 feet. Several irregular rooms, chiefly on the left side, were excavated leaving random pillars for roof support. The last 40 feet of the main drift

were flooded at the time of examination. This portion appears to be a decline.

The main drift averages about 8 feet in width and 7 feet in height. Some timber was used but generally the cemented gravels formed a durable roof. Track, now in poor condition, was laid down the decline, along the main drift and into some of the rooms.

The foot of the decline is deep within the bedrock. As the drift runs southeasterly, the depth of bedrock showing in the walls gradually decreases to zero near the face. (See contours on Fig. 3). The rooms to the east have a gradual upward slope back towards the portal, conforming to the slope of the bedrock. As a result, the most northerly room is about four feet above the adjacent drift.

A road suitable for automobile traffic leads to the portals but there are no buildings or other facilities on the property.

SAMPLING:

Forty-six samples were taken from the locations shown on Fig. 4. They were cut vertically, usually a foot or so into the bedrock. Twelve samples were assayed by General Testing Laboratories of Vancouver, the remainder by Chemex Labs of North Vancouver. Copies of the Assay Certificates are attached as Appendices A and B.

From the assay data the ounces of gold per cubic yard of gravel and the values in Canadian dollars per cubic yard have been computed using a gold price of \$315US per ounce and an exchange rate of \$1.00CAN = \$0.77US and are tabulated below. A 10% reduction has been applied to compensate for boulders which were not included in submitted samples.

The values in ounces of gold per cubic yard of gravels are plotted on Fig. 4.

1.37

SAMPLE No.	WIDTH (ft.)	SAMPLE		GRAVELS	
		GOLD (oz/ton)	Less 10% (oz Au/ton)	GOLD (oz/cu vd)	VALUE (\$CAN/cu vd)
0342	4.0	0.0031	0.0028	0.0042	1.72
0343	4.5	0.0030	0.0027	0.0040	1.64
0344	3.5	0.0038	0.0034	0.0051	2.09
0345	1.0	0.0058	0.0052	0.0078	3.19
0346	6.0	0.0081	0.0073	0.0110	4.50
0347	6.0	0.0041	0.0037	0.0056	2.29
0348	6.0	0.0019	0.0017	0.0026	1.06
0349	5.0	0.0023	0.0021	0.0032	1.31
0350	5.0	0.0021	0.0019	0.0028	1.15
826	5.0	0.0023	0.0021	0.0032	1.31
827	5.0	0.0038	0.0034	0.0051	2.09
828	5.0	0.0027	0.0024	0.0036	1.47
87473	6.0	0.068	0.061	0.092	37.56
87474	5.0	0.003	0.003	0.0040	1.64
87475	6.0	0.003	0.003	0.004	1.64
87476	5.5	0.005	0.004	0.007	2.86
87477	5.0	0.005	0.004	0.007	2.86
87478	5.5	0.003	0.003	0.004	1.66
87479	5.5	0.003	0.003	0.004	1.64
87480	5.5	0.003	0.003	0.004	1.64
87481	6.0	0.003	0.003	0.004	1.64
87482	5.5	0.003	0.003	0.004	1.64
87483	5.0	0.028	0.025	0.038	15.55
87484	4.0	0.074	0.067	0.100	40.91
87485	6.0	0.003	0.003	0.004	1.64
87486	6.0	0.003	0.003	0.004	1.64
87487	6.0	0.003	0.003	0.004	1.64
87488	7.0	0.003	0.003	0.004	1.64
87489	6.0	0.066	0.059	0.089	36.41
87490	5.0	0.007	0.006	0.009	3.68
87491	6.0	0.003	0.003	0.004	1.64
87492	4.5	0.003	0.003	0.004	1.64
87493	5.0	0.005	0.004	0.007	2.86
87494	5.0	0.094	0.085	0.127	51.96
87495	5.0	0.003	0.003	0.004	1.64
87496	5.0	0.172	0.155	0.232	94.91
87497	5.5	0.003	0.003	0.004	1.64
87498	7.0	0.003	0.003	0.004	1.64
87499	5.5	0.102	0.092	0.138	56.46
87500	5.5	0.028	0.025	0.038	15.55
46051	3.0	0.005	0.004	0.007	2.86
46052	4.0	0.510	0.459	0.688	281.46
46053	3.0	0.006	0.005	0.008	3.27
46054	5.5	0.006	0.005	0.008	3.27
46055	3.0	0.003	0.003	0.004	1.64
46056	5.0	0.092	0.083	0.124	50.73

SUMMARY

Canyon Resources Ltd. holds two placer leases on the west bank of the Fraser River about 11 miles northwest of Quesnel.

The claims cover what has been interpreted as an ancient river channel that was later cut by the present river. Remnants of the old channel, now filled with cemented gravels, remain on either side. On the Canyon Resources Ltd. claims the gravels form a bench over 100 feet high.

The deposit on the other side of the river supported a mining operation for many years. Since the Canyon deposit is similar, it appears to be a favourable horizon for the deposition of gold in commercial quantities.

Former operators advanced the main heading nearly 450 feet and mined out several rooms. At least half the workings are in a shallow channel of unknown width.

Recent sampling has revealed gold, frequently in commercial amounts, throughout the workings and up to 46 feet above bedrock.

The property merits a bulk sampling programme.

It is recommended that the mine be rehabilitated and that equipment and facilities be obtained to carry out testing under field conditions.

The estimated cost, using rented equipment, is \$82,000 for a one-month programme or \$157,000 for three months.

achieved here, it will be necessary to use mechanical means such as a trommel or crusher.

For economical transportation of gravel a Scoop Tram is recommended. This equipment is self-loading, is flexible enough to get into rooms and around pillars, can negotiate grades as steep as 25 to 30 percent and can carry material from the face to the washing plant. On this property the existing track would have to be removed, the floor of the decline lowered from its present 47 percent to about 25 percent, new timber installed where necessary, and ventilation provided.

The minimum equipment required to carry out such a test should include: airleg drills, a compressor, a Scoop Tram, a fan, two pumps, an electric power plant, a fuel tank, a washing plant consisting of hopper, vibratory screens and sluice boxes, a pick-up truck and small tools. To this list must be added supplies such as drill steel, bits, air and water piping, ventilation tubing, powder, timber, fuel, etc., and facilities such as surface buildings and a powder magazine.

The minimum crew required per shift would be a foreman, a miner (more would be desirable to ensure an adequate flow of material to the plant), a trammer, a washing plant operator and a labourer.

Finally, before any work is undertaken the necessary government permits and licences will have to be obtained.

CONCLUSIONS:

The property covers a deposit of gold-bearing gravels that appears to be a continuation of the once-productive Tertiary Gravel Company channel across the Fraser River.

The presence of gold, often in commercial quantities, has been established over a horizontal and vertical range that indicates a large volume of gold-bearing material.

The property merits a bulk-sampling programme using production methods, and so organized that gold recovered can be applied against expenses.

RECOMMENDATIONS:

In accordance with the foregoing discussion and conclusions it is recommended that a bulk-sampling programme be undertaken as follows:

1. Procure necessary government permits and licences.
2. Prepare the surface area for traffic and installations.
3. Procure the equipment and supplies listed under "Discussion" above.
4. Erect one or more buildings to provide space for field office, concentrate storage and treatment, repair and maintenance facilities, lunch room, sanitary facilities, etc.
5. Build a powder magazine or procure a portable one.
6. Excavate settling ponds as directed by government officials.
7. Set up a washing plant.
8. Lower the floor of the decline to give a grade of about 25 percent.
9. Remove old pipe and track and retimber where necessary.
10. Install air and water pipes, mine discharge line and ventilation tubing.
11. Drill, blast and haul material to the washing plant, starting with the southeast face.
12. Make frequent checks of the gold recovery and use the information obtained to guide underground operations.
13. Experiment to determine the most efficient procedures.
14. If testing proves encouraging, plan on enlarging the operation to two or three shifts.

COSTS:

Firm costs are difficult to establish at this stage since there are several choices of equipment and procedures, and many unknowns.

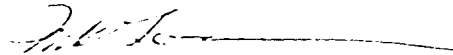
Purchasing new or reconditioned equipment and carrying out the preliminary work as outlined above would result in a start-up cost of about \$200,000.

If the equipment is obtained on rental-purchase agreements, the start-up cost would be about \$60,000. This approach seems to be the most logical.

With a small crew taking out three rounds a day, the cost of wages, fuel, powder and other supplies would be about \$1000 a day, or \$20,000 a month.

For a one-month programme the cost, with a 15 percent contingency allowance, is therefore estimated to be \$82,000.

For a three-month programme the estimated cost is \$157,000.



M.K. Lorimer, B.A.Sc., P.Eng.
9 July, 1982

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Tertiary
Gravel Co.

FRASER River

PL 1050

Air V. Line

PL 1051

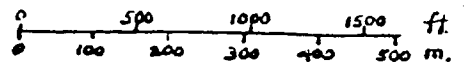
New. Ch. 117

Not surveyed - approximate only.

Fig 2 New Ch. 117

CANYON RESOURCES LTD.

PROPERTY-MAP



Drawn: M.K. Lorimer Aug 81