

4412

GEOCHEMICAL REPORT
ON THE
MARY REYNOLDS SILVER PROSPECT
N.T.S. 92-I / 8W

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4412 MAP

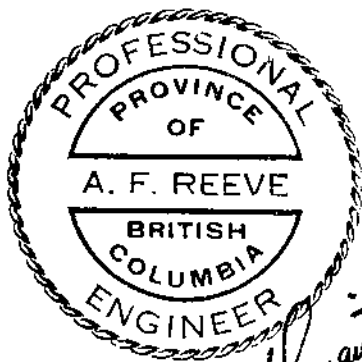
FOR

PINE VALLEY EXPLORERS LTD. (N.P.L.)

1925 2nd Avenue
MERRITT, B. C.

BY

Albert F. Reeve, P. Eng.,
Geological Engineer



per M. H. Langmuir P. Eng.

JUNE, 1973

CLAIMS:
LOCATION:
DATES:

ND 3, ARD 1 -5, ARD 1 FR.; PV 1 -3, PV 4 FR.; PV 5 -8
Three miles east of Stump Lake at 50° 20' N, 120° 20' W
June 10, 1972 to May 20, 1973

INTRODUCTION

This report has been prepared on behalf of Pine Valley Explorers Ltd. (N.P.L.) at the request of Mr. D. Faulkner, Pres.

It describes a geochemical survey carried out on certain ND, ARD, & PV mineral claims in the Nicola Mining Division.

The purpose of the survey was to prospect for buried silver-bearing veins that are known to occur on and adjacent to the claim group.

A location map, geochemical plan, and statement of survey costs is also included in the appendix.

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PROPERTY

The following mineral claims are those to which the survey described in this report is to be applied as assessment work.

<u>Claim Names</u>	<u>Record No.</u>	<u>Assessment Anniversary prior to work application</u>
ND 3	36903	May 24, 1973
ARD 1	40789	"
ARD 2	40790	"
ARD 3	40791	"
ARD 4	40792	"
ARD 5	40793	"
ARD 1 FR	40794	"
PV 1	40998	June 9, 1973
PV 2	40999	"
PV 3	41000	"
PV 4 FR	41001	"
PV 5	41002	"
PV 6	41003	"
PV 7	41004	"
PV 8	41005	"

LOCATION AND ACCESS

The Mary Reynolds prospect is 24 miles directly south of Kamloops, 3 miles east of Stump Lake, B. C., at about;

50° 20' North Latitude
120° 20' West Longitude
3,400' Above Sea Level

The claims can be reached by driving 29 miles NE of Merritt on Highway #5, then 3 miles ENE from a point near the south end of Stump Lake on the Peter Hope Lake road.

LOCAL GEOGRAPHY

Total topographic relief on the property is less than 1,000'. The rounded hills are wooded with open pine forest and thicker stands of jackpine and balsam at higher elevations.

The climate is moderate. Total annual precipitation is about 15".

Scott Creek crosses claims PV7, PV8 & Pv10 flowing westward into Stump Lake creek near the Merritt - Kamloops Highway.

BACKGROUND

The Mary Reynolds silver-gold veins were discovered by prospectors in the early 1880's. Prior to 1900 a number of shallow shafts, tunnels and trenches were excavated. Between 1889 and 1919, 131 tons of ore carrying about 50 oz/T silver was shipped to the Trail smelter. Additional exploration work was done between 1919 and 1930 but no shipments were made.

There are no available records which indicate that any substantial work was done between 1930 and December, 1966 when the property was acquired by Don Faulkner of Merritt, B. C. for Pine Valley Exploration Syndicate.

In early 1967 Pine Valley carried out stripping, road building and a small amount of drifting. Twenty tons of material averaging about 10 oz Ag/T were shipped to Trail.

In 1968 a small, open concentrating plant was built by Mr. Faulkner for Pine Valley at the Mary Reynolds portal.

BACKGROUND (cont'd)

This was dismantled in the spring of 1969. Since 1969 some trenching, linecutting and soil sampling has been done on the property.

The geochemical survey described in this report was carried out in 1972 & 1973.

G E O L O G Y

The geology of the Stump Lake Area is described on G.S.C. Map #8864 and Memoir #249 (1961) by W. E. Cockfield.

The western and central parts of the region are occupied by a NW trending belt of Triassic volcanic and sedimentary rocks (Nicola Group) intruded by felsic plutonic masses. Locally, these are important host rocks for copper sulphide mineralization.

In the vicinity of Swakum Mt. and Stump Lake, quartz and calcite vein deposits containing gold and silver occur in the Nicola Group.

In the Stump Lake Area there are nine known gold-silver prospects. The most important of these is the Stump Lake Mine which is located about two miles west of the Mary Reynolds prospect. It produced 77,605 tons of ore averaging .11 oz/T Au, 3.26 oz/T Ag, .026% Cu, 1.4% Pb and .24% Zn between 1916 and 1944.

GEOLOGY (cont'd)

The Mary Reynolds Property is underlain principally by massive to mildly foliated augite andesites of the Nicola Group.

The most important geological feature on the property is a northeast trending quartz-carbonate alteration zone which occupies the central part of mineral lease M20R. It has a maximum width of more than 150' and is at least 3,000' long. It appears to be a steeply dipping shear which has been bleached and silicified by hydrothermal activity. It is composed of green schist, fine-grained grey quartz, bleached remnants of andesite and limestone, and minor amounts of calcite and ferruginous carbonate accompanied by very sparse and irregular disseminations of pyrite, galena and sphalerite. The surface weathers to a light buff colour.

There are other similar zones on the property but they are not as well developed by prospect workings.

Silver and gold-bearing veins composed of quartz-calcite, galena, sphalerite and pyrite have been introduced into the alteration zone.

GEOLOGY (cont'd)

The most promising of these vein systems occur in the principal Mary Reynolds workings on M20R. They are developed more or less continuously along a strike length of about 320' by underground workings. The 85 level follows a vein 18" - 24" in thickness. A second sub-parallel vein to the west was cut by a stub cross-cut 30' from the portal. The stope above the 50 level has been mined to a width of 8'. On the same level, north of the shaft, there are two parallel veins 4' and 1 1/2' in thickness. The veins dip steeply, have a general NE trend and cut the alteration zone obliquely.

GEOCHEMICAL SURVEY

CONTROL GRID

The grid origin was established at the SE corner of the M20R mineral lease. From this point a base line was cut out 4500' North and 3000' South. East-west cross lines were then cut 300' apart from the base line.

A second North-South base line was cut at 15 W from L 30 + 00 S to L 60 + 00 S. East-West cross lines were then cut 300' apart from the 2nd base line. Stations were marked on all lines at 100' intervals by pickets and flagging tape. A total of 30 miles of grid lines were cut and chained.

SAMPLING PROCEDURE

Two hundred eighty eight soil samples were collected on cross lines 30 + 00 N, 75 + 00 N, 6 + 00 N, 0 + 00 N, 15 + 00 S, 30 + 00 S, and 45 + 00 S from the sites marked on Figure 2. The samples were taken by trowel and grub hoe, 4" to 6" below surface, from the B₁ soil horizon. They were packed in numbered, water resistant kraft envelopes and shipped to Bondar Clegg & Co. Ltd., in North Vancouver for Analysis.

ANALYSIS

Each sample was dried in infrared ovens, sieved to minus 80 mesh, and samples of 0.5 gr. weighed out.

For the lead and silver analyses, the samples were digested in LeFort aqua regia, bulked to 20% acid concentration and homogenized. Each was allowed to settle for one hour and analyzed by atomic absorption. Constant comparisons with both synthetic and matrix standards were made and the results were permanently recorded on chart paper.

For the mercury analyses the samples were digested in aqua regia and diluted. The mercury was reduced and pumped through a closed cell where it was measured by flameless atomic absorption. Constant comparisons with both synthetic and matrix standards were made and the results were permanently recorded on chart paper.

Lead and silver content was reported in parts per million and mercury in parts per billion.

RESULTS

Silver and lead values are recorded on the geochemical plan (Fig. 2) in parts per million at each sample site. Mercury content in parts per billion is shown on two profiles inserted on the plan.

Two hundred fifty five silver analyses (92% of total) were in the range of 0.2 to 0.8 parts per million, which probably represents a "background" population.

The remainder, twenty two analyses, ranged from 0.9 ppm to 4.9 ppm Ag and are classed as "anomalous" for the purpose of this survey.'

Similarly 23 lead values or 8% exceeded 20 ppm and for the purpose of the survey were classed as "anomalous". The highest lead analysis was 390 ppm.

RESULTS (cont'd)

Mercury determinations were made on only 22 samples. Profiles of mercury content of soil on L 6 + 00 N and L 0 + 00 show a broad positive feature (75-110 ppb mercury) which may reflect the NE trending alteration zone on the M20R mineral lease.

At 6 + 00 N, 1 + 00 W there is a very high Hg analysis of 430 ppb which is not explained.

The average content in soil of the 3 elements, according to Hawkes and Webb are as follows;

Silver	0.1 ppm
Lead	10 ppm
Mercury.	30-300 ppb

"Anomalous" lead and silver values are correlative at 16 sample sites.

INTERPRETATION OF RESULTS

The sampling pattern provides reconnaissance average of the survey area. For this reason only a generalized interpretation is possible.

Broad exploration targets are indicated as follows:

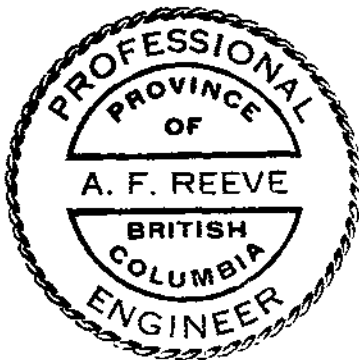
- a.) on the PV #1 claim and on the north part of PV #3
- b.) In the general vicinity of the SW corner of ARD #3 claim.
- c.) The north central part of the PV #9 claim.
- d.) On the north boundary of PV #2

Geochemical response to known mineralization was obtained in the following areas:

- near a prospect shaft on PV #11
- near the Johannesburg shaft PV #9
- near the Mary Reynolds and Gold Cup workings on the M20R lease and on the south boundary of PV #2 at its midpoint.

RECOMMENDATION

It is recommended that a detailed geological base map of the property be compiled before exploration work of any other type is undertaken.



Respectfully submitted,

A. F. Reeve
per Mr. M. H. [unclear] P. Eng.

A. F. Reeve, P. Eng.,

June, 1973

APPENDIX "A"

STATEMENT OF PERSONNEL

STATEMENT OF PERSONNEL

Don Faulkner	Merritt, B. C.	Linecutting Supervision	July, 1972 August, 1972 April, 1973 May, 1973
M. McGuire	Merritt, B. C.	Soil Sampling	April 16, 1973 to May 2, 1973
Buel Anderson	Merritt, B. C.	Linecutting	April, 1973
Loyd Brock	Merritt, B. C.	Linecutting	April, 1973
Henry Krause	Merritt, B. C.	Linecutting	April, 1973
David Stelmock	Merritt, B. C.	Linecutting	April, 1973

McGuire has had extensive experience in geochemical sampling. He has done this type of work for various exploration companies since 1956.

APPENDIX "B"

WRITERS CERTIFICATE OF QUALIFICATIONS

CORDILLERAN ENGINEERING LIMITED

MINERAL EXPLORATION
MANAGEMENT AND
ENGINEERING CONSULTANTS

1418-355 BURRARD STREET
VANCOUVER 1, B.C.
TELEPHONE (604) 681-8381

WRITER'S CERTIFICATE

I, Albert F. Reeve, of West Vancouver, B. C. hereby certify that:

1. I am a geological engineer employed by Cordilleran Engineering Limited, at 1418 - 355 Burrard St., Vancouver, B. C.
2. I am a graduate of the Provincial Institute of Mining, Haileybury, Ontario, 1958; and received a Bachelor of Science degree from Michigan College of Mining and Technology, Houghton, Michigan, 1961.
3. I am a certified member of the associations of professional engineers in the provinces of Ontario and British Columbia.
4. I am the author of this report which is based on field examinations of the Mary Reynolds silver prospect on September 12, 1972, and the results of a geochemical survey conducted by Mr. D. Faulkner in 1972 and 1973.

Albert F. Reeve, P. Eng.,
Geological Engineer

June, 1973
Vancouver, B. C.



APPENDIX "C"

STATUTORY DECLARATION OF EXPLORATION COSTS

Canada

APPENDIX "C"
In the Matter of

Province of British Columbia

To Wit:

A geochemical soil survey on the Mary Reynolds Silver Prospect on behalf of Pine Valley Explorers Ltd. (N.P.L.)

I, Donald Faulkner

, of the town

of Merritt

in the Province of

British Columbia

Do Solemnly Declare that linecutting and a geochemical soil survey were conducted on the mineral claims owned by Pine Valley Explorers Ltd. (N.P.L.) in the Nicola Mining Division, located 3 miles east of Stump Lake, during the period June 10, 1972 to May 2nd, 1973 and that the following expenses were incurred:

1.) Wages:

A.W. McGuire (Sampler)	
April 16-May 2nd (12 days at \$40/day)	\$480.00
B. Anderson, L. Brock, H. Krause,	
D. Stelmock, D. Faulkner (linecutters)	
July, August, 1972, April, 1973-30.5 miles	
@ \$100.00/mile	3050.00
	<u>3530.00</u>

2.) Vehicle rental on property	150.00
3.) Equipment, supplies	67.80
4.) Analyses, (Bondar Clegg & Co. Ltd.)	555.60
5.) Report, data compilation, draughting	200.00
6.) A.F. Reeve Geological Engineer @ \$150/day	425.00
Total	<u>4928.40</u>

And I make this solemn Declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath, and by virtue of the Canada Evidence Act.

Declared before me

at Merritt
in the Province of British Columbia

this 27th day of

June A.D. 1973

APPENDIX "D"

MAPS

FIGURE 1: Location Map

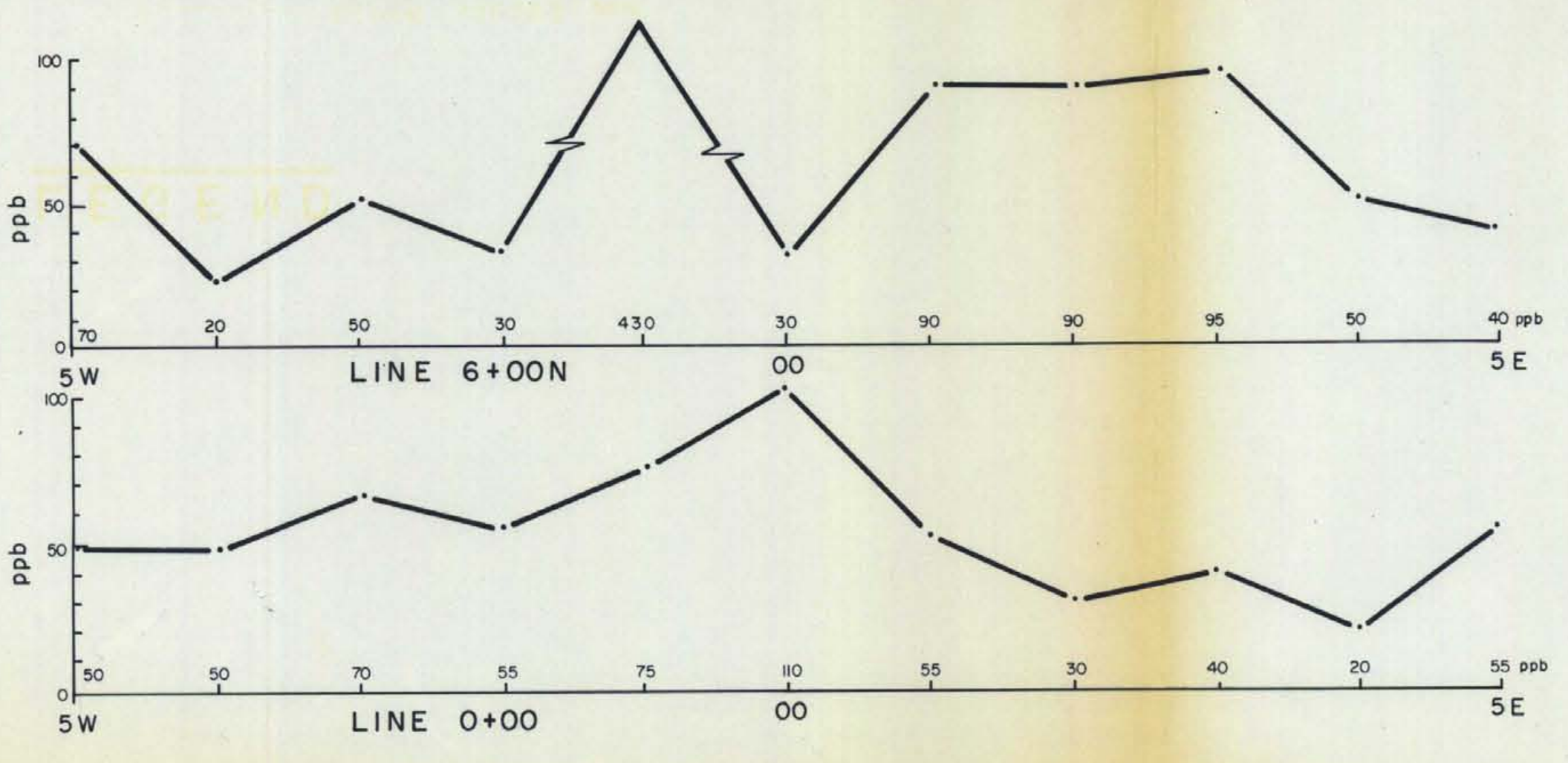
FIGURE 2: Geochemical Plan 1"=300'

60 W 57 W 54 W 51 W 48 W 45 W 42 W 39 W 36 W 33 W 30 W 27 W 24 W 21 W 18 W 15 W 12 W 9 W 6 W 3 W BL. 0+00 3 E 6 E 9 E 12 E 15 E 18 E 21 E 24 E 27 E 30 E

L 45+00 N
L 40+00 N
L 35+00 N
L 30+00 N
L 27+00 N
L 24+00 N
L 21+00 N
L 18+00 N
L 15+00 N
L 12+00 N
L 9+00 N
L 6+00 N
L 3+00 N
L 0+00
L 3+00 S
L 6+00 S
L 9+00 S
L 12+00 S
L 15+00 S
L 18+00 S
L 20+00 S
L 21+00 S
L 24+00 S
L 25+00 S
L 27+00 S
L 30+00 S



MERCURY PROFILES



LEGEND

- 0.6 — SILVER VALUES ppm.
- 0.7 — LEAD VALUES ppm.
- — "ANOMALOUS"
- — BACKGROUND
- — SAMPLE SITE
- — CLAIMS COVERED BY REPORT FOR ASSESSMENT PURPOSES

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 442 MAP #2

PINE VALLEY EXPLORERS LTD. (NPL)
MARY REYNOLDS SILVER PROSPECT
NICOLA MINING DIVISION, BRITISH COLUMBIA

GEOCHEMICAL PLAN
LEAD, SILVER & MERCURY CONTENT OF SOIL

PROFESSIONAL ENGINEER
M. LANGRISH
BRITISH COLUMBIA

PROFESSIONAL ENGINEER
A. F. REEVE
BRITISH COLUMBIA

SCALE IN FEET
0 300 600
DATE: JUNE 1, 1973

TO ACCOMPANY GEOCHEMICAL REPORT BY A.F. REEVE, DATED JUNE 1973