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PROSPECTUS

of

NORCAN MINES LTD. (N.P.L.)

No securities commission or similar authority in Canada has in any way passed upon the merits of the securities offered hereunder and any representation to the contrary is an offence.

Purchase of the securities offered by this prospectus must be considered a speculation.

NOVEMBER, 1966

PROPERTY FILE

0931068-05

R E P O R T

HOWSON BASIN CLAIMS

NORCAN MINES LTD. (N.P.L.)

SMITHERS DISTRICT

OMINECA MINING DIVISION

BRITISH COLUMBIA

Submitted to: NORCAN MINES LTD. (N.P.L.)
675 West Hastings Street
Vancouver, B.C.

Vancouver, B.C.
October 12, 1966

S. J. Hunter, P.Eng.,
Consulting Mining Engineer.

INTRODUCTION

An examination was made of the Howson Basin Property of Norcan Mines Ltd. (N.P.L.) over the period of September 29, 30, 1966 by S. J. Hunter, P. Eng., Consulting Mining Engineer, accompanied by Mr. W. Thomson of Norcan Mines Ltd.

Purpose of the examination was to inspect the work done to date on the claims and to evaluate results of the current programme in order to formulate a continuing programme of exploration and development.

The information obtained from this examination, including a review of the geophysical surveys of C. B. Selmsler, P. Eng., and Sulmac Explorations Ltd., the soil sample surveys conducted by W. Thomson, a review of a property examination report by W. Stevenson, P. Eng., and of the bulldozer trenching programme and diamond drilling results to date, form the basis for the report submitted herewith.

SUMMARY AND RECOMMENDATIONS

The Howson Basin Property of Norcan Mines Ltd. (N.P.L.) is composed of 197 located claims and 35 fractions situated in the Omineca Mining division, a distance of 25 miles west of Smithers, B.C. Access is simply accomplished by helicopter from Smithers.

During the season of 1966 a varied and aggressive exploration programme has been pursued with encouraging results in an area where copper-silver mineralization was indicated by former exploration developments on several groups of crown grants including the War Eagle, Santa Maria, Duchess and Evening Groups.

The programme was expedited as follows:-

1. A survey was made of the entire claim area, and 40 fractional fill-in claims were recorded.
2. A detailed aerial electromagnetic traverse was run over the property by Geo. Cal Limited using a helicopter, and 25 anomalous sections were noted including the former crown grant showings.
3. The decision was made to concentrate on the Santa Maria and War Eagle areas and subsequently an induced polarization survey was conducted over these sections by Sulmac Explorations Ltd. to indicate a major anomaly and three minor anomalies on the War Eagle and a

major anomaly and three minor anomalies on the Santa Maria.

4. Paralleling the above mentioned work, ground electromagnetic and self potential surveys were conducted by Geo. Cal Limited over the War Eagle and Santa Maria zones and results confirmed the induced polarization anomalies.
5. Extensive soil sampling was undertaken on a 200 foot line grid over the War Eagle and Santa Maria areas with positive results over the anomalous sections previously outlined by geophysics. A 2000 foot by 6000 foot grid was run over the War Eagle and 540 samples were taken. A similar 2600 foot by 8000 foot grid was laid out over the Santa Maria and 450 samples were gathered.
6. Two bulldozers were walked into the property from the Telkwa River Road, a distance of nine miles and were then employed on trenching the War Eagle and Santa Maria areas. Three trenches were excavated on the War Eagle for a total distance of 2500 feet and an estimated 8000 yards of material removed. Eight trenches were completed on the Santa Maria for a distance of 4700 feet and an estimated 22,000 yards of overburden removed.

7. A diamond drill contract was signed with Canadian Longyear for 3000 feet of drilling which is currently in progress on the Santa Maria zone. Results have presently been received from two drill holes which were collared to intersect the zone from west to east at an angle of 45 degrees.
8. Geological mapping was carried out over the trenched areas and over the War Eagle and Joker sections.

The results of the programme to date have indicated the following general information:-

- a. The Howson Basin Property has an extensive area within which worthwhile targets have been evidenced for exploration and over which past exploration has confirmed commercial mineralization from actual development work.
- b. In particular, the Santa Maria area has indicated two parallel mineral structures separated by a porphyry dyke and with an apparent strike length of 2000 feet inferred from trenching. Preliminary drill indications of depth range to 200 feet in the section drilled to date. Mineralization from the trenching indicates vein shear structure wherein there

are high grade silver and copper content ranging to 18 ounces and 8.5 percent respectively. Averaged trench assay results are as follows on assay information available:-

Foot Wall Vein

<u>Trench</u>	<u>Width (ft.)</u>	<u>Ag (ozs.)</u>	<u>Cu(%)</u>
1	63	0.50	0.58
2	70	0.29	0.69
3	32	1.77	0.29
4	20	0.24	0.31

Hanging Wall Vein

<u>Trench</u>	<u>Width (ft.)</u>	<u>Ag (ozs.)</u>	<u>Cu(%)</u>
2	20	0.23	0.71
3	12	0.82	3.35
4	8	1.81	4.54

Recovery of core for assay from the diamond drill holes has been very low through the ore intersections and yet is very encouraging.

Preliminary results are tabulated below:-

<u>Drill Hole</u>	<u>Intersection (ft.)</u>	<u>Ag (ozs.)</u>	<u>Cu(%)</u>
No. 5	70 to 80	0.30	0.62
		0.80	2.74
		4.20	10.73
	90 to 100	0.19	0.51

<u>Drill Hole</u>	<u>Intersection (ft.)</u>	<u>Ag (ozs.)</u>	<u>Cu(%)</u>
No. 6	150 to 176	0.51	1.75
		0.37	1.40
		0.41	1.05
		0.25	0.44
		2.00	2.78
		0.58	0.84
		0.48	0.82
		3.70	2.24
	360 to 390	0.13	0.59
		0.04	0.16
		0.04	0.28

Mineralization consists of chalcopyrite with pyrite.

The silver mineral is unknown.

- c. The War Eagle has evidenced anomalies in two distinct areas a distance of 2000 feet apart. On the west side two minor anomalies occur separated by 1000 feet and both have good surface indication of chalcopyrite mineralization which was exposed by bulldozer trenching. On the east end and exposed in two main stream canyons is an extensive gossan area which has dimensions roughly of 1000 feet by 1400 feet. This zone has yielded unusually high results in IP - up to 55 milliseconds - and in geochem readings - up to 1500 ppm. in copper. A grab sample in one section of the creek canyon yielded an impressive silicified pyritic rock which assayed 0.4% copper.
- d. The property has additionally strongly mineralized zones in the Duchess and Evening areas which have been confirmed by electromagnetic work and have yet

to be assessed in a preliminary assessment. The property has already extensive underground development completed by previous owners.

- e. The Howson Basin Property has a zinc deposit which was tested superficially by a previous developer. This has yet to be assessed.
- f. Preliminary assessment of the access to the property has indicated a relatively short section of road, 9 miles, can be constructed at low cost.

In view of the generally favourable and encouraging results of the programme to date the following exploration is recommended:

1. Continue to diamond drill the Santa Maria along strike with holes at 200 foot centres for 1200 feet to the extent of 3000 feet of drilling.
2. Following preliminary sampling for control, diamond drill the War Eagle's large gossan anomaly to the east to the extent of 2000 feet of drilling.
3. Complete a preliminary access road to the property from the Telkwa River.
4. Advance an access road to the Duchess and perform preliminary trench evaluation.
5. Complete a further 5 trenches on the Santa Maria to the north and south.
6. Gather a bulk sample for preliminary test metallurgy.
7. Winterize the camps.

A sum in the estimated amount of \$157,000 will be required to complete the above phase of the programme.

Vancouver, B.C.
October 19, 1966.

"S. J. Hunter"
S. J. Hunter, P.Eng.,
Consulting Mining Engineer.

GENERAL CONDITIONSLocation

Latitude 54^o27' North

Longitude 127^o25' West

The Howson Basin property of Norcan Mines Ltd. (N.P.L.) is located in central British Columbia a distance of 25 miles west of the town of Smithers.

The area is in the Telkwa mountain district wherein drainage is to the east through the Telkwa River Valley.

Accessibility

Presently, a logging road is serviceable westward along the Telkwa River to within 9 miles of the project. Supplies are being trucked to this point from whence the helicopter transports supplies the remaining distance.

The community of Smithers is serviced by Canadian National Railways and also by daily DC-3 service of Canadian Pacific Airlines. Paved Provincial Highway Number 16 passes through Smithers. Helicopters of Okanagan Helicopters are permanently based at Smithers.

The deep sea port of Kitimat lies 65 miles to the southwest.

Topography and Surface Features

The Howson Basin district is essentially mountainous with gentle slopes rising from Mooseskin Johnny Lake on the east to the perimeter of the peaks which ring the Howson Creek on the west border of the claims.

The property is dissected in a north-east direction by the valley of Howson Creek.

Elevations range from 3500 feet A.S.L. in the valley to 6250 feet A.S.L. on the mountain crests to the north-west.

Climate

The climate is temperate in character with heavy precipitation.

Temperatures are not extreme in winter; however, snow depths range to 10 feet.

The summer season extends from May to October.

Outside work in the form of mine development could be conducted on a year round basis. The slopes of the mountains facing Howson Creek could be slide slopes in winter so that caution must be used in winter travel and in vital camp locations.

Water and Timber

Water and timber are in abundant supply in the area of the claims.

Timberline extends above 500 feet.

Facilities

A tent camp has been erected on the Santa Maria to accommodate a 12 man crew. A British Columbia Telephone Company radio telephone installation at the site provides simple, clear communications to any part of the Province at all times.

The town of Smithers has complete service facilities in numerous hotels, stores and supply shops.

It is anticipated that the Peace River Power Lines as well as the gas trunk line of Westcoast Gas Transmission will pass through the Telkwa River Valley adjacent to the claim area.

The former camp and plant are completely destroyed on the Santa Maria and Duchess.

History of the Area

The Howson Basin area was first explored for possibilities of gold occurrence prior to the turn of the century.

Over the period of 1900 to 1910 with the advent of the Grand Trunk Pacific Railway, a renewed search was initiated in the Smithers area for base metal deposits with resulting finds of copper-silver in the Howson Basin, of copper-silver in the Hunter Basin and of copper-silver-lead-zinc on Hudson Bay Mountain at Smithers.

The Telkwa Mining, Milling and Development Company was organized to exploit the Howson Basin area and eventually considerable trenching and development work was carried out on the Santa Maria, Duchess, War Eagle and Evening claim groups. The Jefferson-Dockrill Syndicate from Telkwa built a road into the basin in conjunction with the Provincial Government in 1916, and extracted 239 tons of high grade silver-copper ore from a shaft development on the Santa Maria vein.

The Consolidated Mining and Smelting Company conducted an underground exploration of the Duchess zone in 1928-29 and completed 926 feet of lineal development on two horizons. They drifted through high grade chalcopryrite vein structure in an effort to reach the contact of a porphyry dyke with the andesites to investigate possibilities of economic mineralization on the contact. The drive did not reach its objective when work stopped in the 1929 recession.

The Kennecott Copper Company investigated the Howson Basin area in 1952 and did considerable trenching on an outcrop containing zinc metals located on the west side of the basin. Work was terminated with zinc price decline.

Properties and Ownership

The following located claims and fractions are owned by Norcan Mines Ltd. (N.P.L.) and are recorded in the Omineca Mining Division at Smithers:

<u>Mineral Claims</u>		<u>Fractional Mineral Claims</u>	
<u>Claims</u>	<u>Nos.</u>	<u>Fractions</u>	<u>Nos.</u>
Joker	1-16	PR's	1, 5, 7, 35, 44, 45, 46, 67
Finn	1-2		71, 73, 76, 79, 80
PR	1-128		81, 85, 86, 89, 92, 94
SQ	1, 17-52		108, 110, 126
		SQ's	7, 9, 23, 35, 39, 43, 119, 125, 128, 1, 3, 5
Cary	<u>1-14</u>		<u>12</u>
Totals	197		35

General Geological Features

The geology of the Howson Basin is described in detail in Geological Survey Memoir 223 and acknowledgement is made of extracts from this publication in this report.

As described by W. W. Leach from his geological mapping of the district in 1906-10, the Howson Basin area comprises volcanics and sediments of the Hazelton Group of Upper Jurassic Age. To the west of the basin is a plug of Upper Cretaceous Intrusives of the Coast Range Batholith, consisting of granodiorite, granite, diorite and rhyolite, which have injected frequent dykelets into the volcanics. Leach has divided the rocks in the area into 4 groups, 2 of which occur in the Howson Basin, namely, porphyritic rocks and the eruptives. The porphyry series consist of tuffs, andesites and agglomerates which vary in colour from red to green, and are significant in that most of the mineral

zones in the area occur in them. The eruptives mainly comprise syenite porphyry and appear to have some relationship to mineral deposition in that most ore occurrences are in the vicinity of the dykes.

Mr. W. G. Stevenson, P. Eng., spent some time mapping the property in 1966 and has made the following observations - "a syncline bisects the property along Howson Creek from southwest to northwest. Strong faulting was observed parallel to this syncline and closely associated with it. A subsidiary pattern of east-west, northwest-southeast and north-south faulting was recognized and mapped. Mineralization was essentially iron sulfide and iron oxide with variable amounts of copper "and" appears to be associated with silicification and quartz veining. Mineralization occurs in conjunction with supordinate faults and fissures."

"The most abundant rock type on the property is volcanic which is strongly altered with epidote and chlorite. The intrusives have a predominant trend of N 70° E with dip to the north. Layering in the volcanics is north-south in attitude with dip to the east."

Locally on the Santa Maria zone, as evidenced from the trenching and drilling, a series of north-south striking volcanic tuffs and breccias are intruded by a rhyolite porphyry dyke which has intrusions of granite and aplite, and which has a north-south strike and near vertical attitude. On both sides

of the dyke the volcanics are highly silicified and sheared and herein mineralization occurs.

Exploration Programme to Date

An extensive exploration programme has been conducted throughout the summer season of 1966 and continuing.

The programme has involved the following campaigns:-

1. A survey of the property to completely assess the claim staking and any fractions created.
2. A complete survey of the claim area using helicopter borne electromagnetic equipment.
3. An induced polarization survey of the War Eagle and Santa Maria.
4. An electromagnetic ground survey of the War Eagle and Santa Maria.
5. A self potential survey of the War Eagle and Santa Maria.
6. A soil sampling assessment of the entire War Eagle and Santa Maria zones.
7. Bulldozer trenching of the War Eagle west section of the Santa Maria using a D-7 and D-9.
8. Geological mapping of the Santa Maria and War Eagle through to the Joker Group.
9. Diamond drilling of the Santa Maria zone.

The programme yielded fruitful results in that the following evolved:-

- a. A total of 25 anomalies were indicated on the property by the aerial electromagnetic survey and most were confirmed by the presence of sulfides in old trenches and workings.
- b. The geophysical and geochemical results outlined the extent and the direction and attitude of the anomalies.
- c. Three minor anomalies were confirmed by geophysics and geochemistry on the War Eagle and a major anomaly of dimensions 1600 feet by 1000 feet was indicated to the east section, whereon an extensive surface gossan occurs. The gossan on examination contains five grains of pyrite with accompanying chalcopyrite. A grab sample assayed 0.4% copper.
- d. Three minor anomalies and a major anomaly were likewise indicated on the Santa Maria to confirm the extensive trenching and shaft work in this area.
- e. Further areas of interest were indicated in a large gossan outcrop on the Joker Group, and the Duchess and Evening zones indicated strong continuity.
- f. The volcanics attendant to the dykes have the ability to yield commercial metal concentrations in silver and copper.

In particular the Santa Maria soil sampling gave soil sampling highs of 6000 ppm. in copper, which was verified by means of the induced polarization survey to indicate readings in the order of 6 milliseconds. Follow-up trenching using bulldozers to cut the trenches at 200 foot intervals uncovered two parallel vein systems separated by a porphyry dyke. Trenching exposed the structure over 2000 feet of strike length with widths ranging from 8 to 70 feet. The preliminary drill holes have confirmed mineralization to depths of 250 feet.

On the War Eagle, a major mineralized shear zone occurs at the intersection of east-west and north-south shears. Induced polarization readings in the locality reached a high of 55.2 milliseconds over this zone. Soil sample highs ranged to 1500 ppm. Considering the steep bluffs in this area it is doubtful if cat trenching is useful or necessary in this area since the bulk of the gossan zones are exposed in the creek valleys for sampling.

On the west end of the War Eagle two anomalies have been trenched to expose interesting vein material.

Mineralization

Whereas mineralization on the War Eagle appears to indicate disseminated chalcopyrite in silicified pyrite structures, mineral content on the Santa Maria occurs in rich vein structures with massive chalcopyrite and chalcocite and occurs as well in shears where broad disseminations are found.

In places the silver fraction rises to 18 ozs. and in other places the copper content rises to 8.5%. A narrow enriched section occurs on the hanging wall and on the footwall of the dyke. The footwall segment widens in places to form lower grade deposits.

Samples from the trenches averaged as listed below:-

Foot Wall Vein

<u>Trench</u>	<u>Width (ft.)</u>	<u>Ag (ozs.)</u>	<u>Cu(%)</u>
1	63	0.50	0.58
2	70	0.29	0.69
3	32	1.77	0.29
4	20	0.24	0.31

Hanging Wall Vein

<u>Trench</u>	<u>Width (ft.)</u>	<u>Ag (ozs.)</u>	<u>Cu(%)</u>
2	20	0.23	0.71
3	12	0.82	3.35
4	8	1.81	4.54

Assay samples from the diamond drill holes 5 and 6 were as follows:

<u>Drill Hole</u>	<u>Intersection (ft.)</u>	<u>Ag (ozs.)</u>	<u>Cu(%)</u>
No. 5	70 to 80	0.30	0.62
		0.80	2.74
		4.20	10.73
	90 to 100	0.19	0.51

<u>Drill Hole</u>	<u>Intersection (ft.)</u>	<u>Ag (ozs.)</u>	<u>Cu(%)</u>
No. 6	150 to 176	0.51	1.75
		0.37	1.40
		0.41	1.05
		0.25	0.44
		2.00	2.78
		0.58	0.84
		0.48	0.82
		3.70	2.24
	360 to 390	0.13	0.59
		0.04	0.16
		0.04	0.28

A considerable detailed investigation is still necessary to evaluate the Santa Maria; nonetheless, preliminary results indicate commercial vein structure on the hanging wall vein and possibilities for low grade tonnage on the footwall.

Exploration Possibilities

There are in fact five further areas which show promise of worthwhile mineralization and should be tested in a preliminary fashion before any detailed analysis is made of any one target.

1. War Eagle
2. Duchess
3. Evening
4. Joker
5. South S.Q.

The objective would be to define in a general manner any mineralized structure which has the potential to make commercial ore. In other words, both vein structures and low grade porphyry deposits are attractive in this area.

Recommended Work Programme

The programme recommended will involve a continuation of activities without any seasonal stoppage.

The task will be to develop prime targets through a programme of preliminary evaluation or elimination.

Finally, the prime targets must be detailed for their possibilities. This report deals with the first phase of the preliminary assessment of the Santa Maria, War Eagle and Duchess.

- a. Set up a winter camp.
- b. Establish a winter tote road access.
- c. Continue to trench the Santa Maria to north and south at 200 foot centres, and detail sample mineral exposures and map.
- d. Establish winter tote road access to the Duchess - Evening area and proceed to trench the Duchess West zone.
- e. Continue to drill the Santa Maria structure at 200 foot intervals for a further 1200 feet of strike length to the extent of 3000 feet of drilling.
- f. Sample the War Eagle by surface hand trenches and, after establishing control, test drill to the extent of 2000 feet.
- g. Send out preliminary core samples for test metallurgy.

ESTIMATED COSTS

Conditions:

Crew - 1 Geologist
 1 Assistant
 1 Surveyor Sampler
 6 Diamond drillers
 1 Cook
 1 Cat Operator
 1 Camp help

Equipment - rental bulldozers

Drilling - contracted

Time - 4 months

1. Winterize Camp		\$ 2,000.00
2. 4 x 4 Vehicle		6,000.00
3. Crew Wages -		
Geologist	-	\$ 800.00
Assistant	-	600.00
Surveyor	-	600.00
Cook	-	500.00
Camp help	-	<u>500.00</u>
		\$3,000.00 - for
		4 mos. 12,000.00
4. Camp Operations -		
10 men at \$5.00 per day for 120 days		6,000.00
5. Administration -		
Office	-	\$ 700.00
Tel and Tel	-	200.00
Assays	-	600.00
Travel	-	<u>500.00</u>
		\$2,000.00 - for
		4 mos. 8,000.00

6.	Diamond Drilling 5000 feet at \$10.00 per foot	\$50,000.00
7.	Bulldozer for trenching D9 - 300 hrs. at \$38.00 - \$11,400.00 D7 - 360 hrs. at \$27.00 - <u>9,720.00</u>	21,120.00
8.	Helicopter Support 12 hrs. per month x 4 months x \$140.00	6,720.00
9.	Road Allowance 9 miles at \$1,600.00 per mile	14,400.00
10.	Metallurgical Test Work, Consulting fees, Engineering	10,000.00
11.	Access Maintenance	<u>10,000.00</u>
	Estimated Total	\$146,240.00
	Allowance	<u>10,760.00</u>
	Estimated Financial Requirement	<u><u>\$157,000.00</u></u>

GENERAL STATEMENT AND CONCLUSION

Norcan Mines Ltd. (N.P.L.) from the evidence of information gained in the past months of exploration on the Howson Basin Property have adequate justification in the author's firm opinion to warrant the programme recommended in this report and the financial requirements thereto.

From the assay evidence of silver-copper mineralization in the drill cores and trenches and development openings, there is every reason to indicate that commercial vein deposits will develop.

October 20, 1966
Vancouver, B. C.

"S.J. Hunter"
S. J. Hunter, P. Eng.
Consulting Mining Engineer

Addendum

Subsequent to the examination of the properties described in my report of October 12, 1966, a review was made of the work completed and a phased segment of the programme was drawn up as is described in the following.

The work accomplished includes the following:

1. Step out diamond drill holes 9 and 10 have been completed with good ore grade intersections, 500 feet south of drill hole number 6 on the Santa Maria Zone.
2. Further detail bulldozer trenching has been completed on the Santa Maria Zone.
3. A road entry has been made by bulldozer into the War Eagle Zone.
4. Trenching has started on the War Eagle.
5. A bulldozer has been working on the access road to the property and at present has completed approximately 50% of the route.
6. The access route to the Evening - Duchess Zone has been walked by foot and assessed for a start later in the season.

In view of the above results, the following phase of the programme is recommended:

1. Continue to trench and sample the Wai Eagle.
2. Complete the access road.
3. Establish the access road to the Duchess - Evening Areas.
4. Continue to trench the Santa Maria Zone and sample.

Estimated Costs

Camp	
6 men at \$5.00 per day for 30 days	\$ 900
Wages	
4 men for 1 month	2,600
Helicopter Support	1,000
Access Road to Duchess - Evening	7,000
Access Road to Property	6,000
Trenching	9,000
Administration	<u>1,000</u>
Total Estimated Cost	\$27,500

November 10, 1966
Vancouver, B. C.

"S. J. Hunter"
S. J. Hunter, P. Eng.
Consulting Mining Engineer

C E R T I F I C A T I O N

I, Stanley John Hunter, of Vancouver, British Columbia, do hereby certify that:

1. I am a Consulting Mining Engineer with residence at 6476 Churchill Street, Vancouver, B. C.
2. I am a Registered Professional Engineer in the Provinces of British Columbia and Ontario.
3. I am a graduate of the University of British Columbia in Mining Engineering and have practised my profession for 18 years.
4. I am not a vendor, member of the Board of Directors, or a regular employee of Norcan Mines Ltd. (N.P.L.) to whom this report is directed.
5. I have no interest, direct or indirect, in the properties or securities of Norcan Mines Ltd. (N.P.L.) nor do I expect to have any such interest.
6. The information contained in this report was obtained from an examination of Norcan Mines Ltd. (N.P.L.) Howson Basin Property over the period September 29 & 30, 1966 and from a study of reports of the Geological Survey of Canada and of other engineers' reports on the property.

Vancouver, B.C.
October 20, 1966.

"S. J. Hunter"
S. J. Hunter, P.Eng.
Consulting Mining Engineer