ASSESSMENT REPORT

GEOLOGY AND GEOCHEMISTRY of the BYRON 1 AND 2 CLAIMS

N.T.S. 93 L/ 15E

Omineca Mining Division British Columbia

Latitude 54 deg. 47.5' N Longitude 126 deg. 40.5' W

Report by: Del Myers
Project Geologist
Vern Seel

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Submitted: November 1985

Claims owned by: Noranda Exploration Company, Limited (No Personal Liability)

P.O. Box 2380 Vancouver, B.C.

Operated by: Noranda Exploration Co., Ltd. (NPL)

3A-1750 Quinn Street

Prince George, B.C.

GEOLOGICAL BRANCH ASSESSMENT REPORT

14,026

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SUMMARY

Reconnaisance geological mapping and soil sampling was done from 12 to 17 August 1985 on the Byron 1 and 2 claims. These claims are six kilometers NNW of Dome Mountain. They may contain extensions of precious metal-bearing, quartz veins found on Dome Mountain.

Ag, Cu, Pb, Zn, and As soil geochemical anomalies were found in about twenty different locations. Six Zn silt anomalies locate an area along the west boundary of the Byron 2 claim which has good potential for locating Zn mineralization. A hole drilled by Texasgulf around 1968 contained about 16 m of dacite tuff mineralized with sphalerite and galena. It lies about 500 m to the west.

The claims are underlain mainly by andestic tuffs and flows, dacite tuffs, and siltstones which appear to be interbedded. These rocks are similiar to Telkwa and Nilkitkwa Formation rocks studied in more detail at Dome Mountain by the authors.

No mineralization of value was found.

Further work on the soil and silt anomalies is recommended especially near the western boundary of the Byron 2 claim.

INTRODUCTION

PURPOSE

The purpose of this work was to begin evaluating the potential for economic, quartz vein-hosted, precious metal deposits occurring on the claims.

LOCATION AND ACCESS

The Byron claims are located thirty kilometers east of Smithers, B.C. and six kilometers NNW of Dome Mountain(Figure 1).

Access to the claims, which lie between Mount McKendrick and Dome Mountain, is easiest by helicopter from Smithers. The claims can be reached on foot from a four-wheel drive road which starts at the west end of McKendrick Pass and goes over the south side of Dome Mountain. The claims cover ground lying between 3900 and 5200 feet (1190 and 1585m) elevation. The claims are mainly covered by balsam forest.

A Bell 206 helicopter from Smithers was used to establish a fly-camp for two persons on the claims. This report covers reconnaissance work done from that camp on Byron Creek.

PROPERTY

The property consists of two claims as follows:

Type of				
Name	Record No.	Claim	<u>Units</u>	Record Date
Byron 1	6575	MC	14	17 Aug. 1984
Byron 2	6576	MC	12	17 Aug. 1984

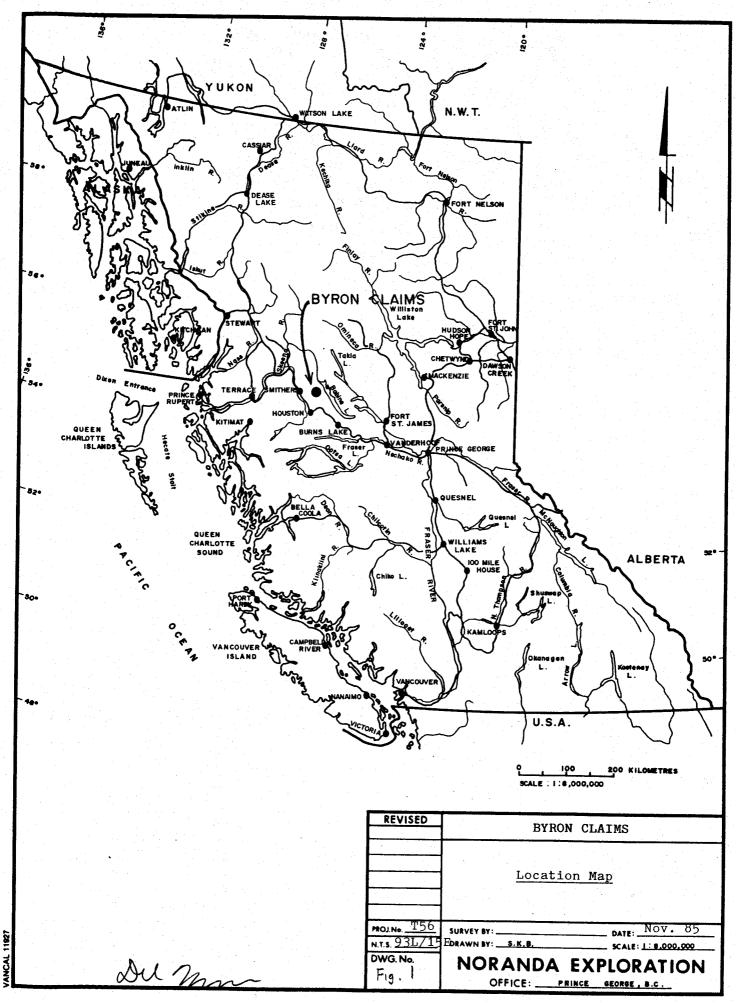
These claims were staked and are held by Noranda Exploration Company, Limited. The claims are shown in Figure 2.

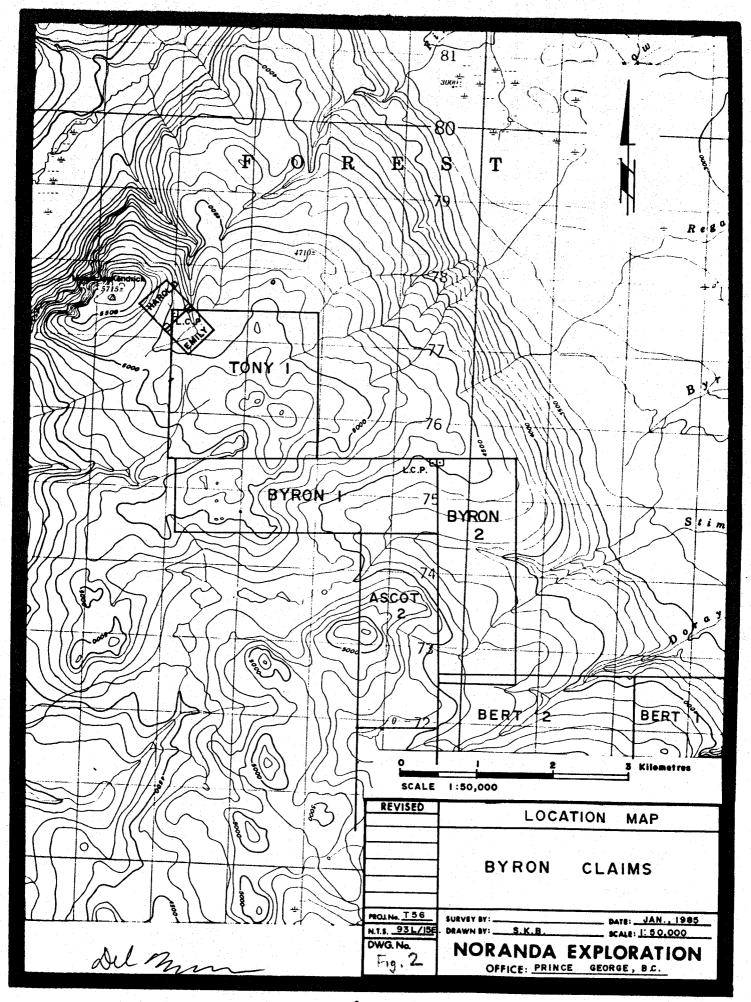
These claims are adjoined to the north by the Tony 1, Harold, and Emily claims which are held under option by Noranda. On the south claims covering most of Dome Mountain are under option to Noranda. The Ascot claims adjoin the Byron 1 and 2 to the southwest.

PREVIOUS WORK

The Mount McKendrick vein, 2 km north of the Byron 1 claim is mentioned by Robertson (1912).

Gold mineralization was discovered on Dome Mountain





soon afterwards as the earliest reference is Hoskins(1916).

Claims were staked on lead-zinc showings on a tributary of Canyon Creek in 1952. These showings were investigated in much greater detail by Texasgulf from 1966 to 1968. A massive pyrite lense was found in the same creek(Peatfield and Loudon, 1968).

The area covered by the Byron 1 and 2 claims is peripheral to all three previously mentioned areas. The claims lie between and along strike of the McKendrick vein and many of the numerous veins on Dome Mountain.

REGIONAL GEOLOGY

The Byron claims lie near the southern end of the Babine Mountains within the Intermontaine Belt of the Canadian Cordillera. The Skeena Arch, a broad structural high, which seperates the Bowser Basin from the Nechako Basin to the south, underlies the area.

According to Tipper and Richards(1976), the Dome Mountain area is underlain by Babine Shelf facies rocks of the Lower Jurassic Telkwa Formation volcanics and interbedded sediments. A black shale facies of the Lower Jurassic Nilkitkwa Formation overlies the Telkwa volcanics. This is overlain by the Red Tuff Member volcanics. Middle Jurassic Smithers Formation lithic sandstones and shales overlie the Red Tuff Member of the Nilkitkwa Formation.

The most recent geological map of the area(Tipper, 1976) shows the Byron claims to be underlain by Telkwa Formation, Red Tuff Member, and Smithers Formation rocks. Telkwa Formation is shown thrust over Smithers Formation in part of the claim area.

WORK UNDERTAKEN

The field work covered by this report was done from 12 to 17 August 1985. A total of 12 man-days of field work was done on the property during this period (Appendix 1: Summary of Personnal). Additional office work was done but is not included in the costs except for one man-day of report writing(Appendix 2: Statement of Cost).

A grid of flagged lines was establised over the claims using compass and topofil measurements. The legal corner post of the two claims was assigned the coordinates 10,000 m N, 10,000 m E. On the Byron 1 claim, eight one-kilometer lines were run true N-S, each 500 meters apart. Seven one-kilometer lines were run true E-W over the Byron 2 claim, each 500 meters apart(see figures 3-6). Stations were flagged at 50 meter intervals along these lines.

B-horizon soil samples were collected at an average depth of 20 cm using a prospectors grub hoe. S. Gairns collected 313 soil samples at 50 meter intervals along the lines. The samples were placed in kraft paper soil bags, air dried, then gas-oven dried, and shipped to our Vancouver Geochemical Laboratory. There the samples were analysed by methods described in Appendix 4 for Au, Ag, Cu, Pb, Zn, and As. The results are shown on Figures 3 to 5.

Stream sediment(silt) samples were collected by Seel and Gairns from all creeks draining the claims. Twenty-eight silts were collected and handled similiarly to the soil samples. Silt samples were analysed for the sames elements as soils. The analyses are listed on Figure 6.

Reconnaisance geological mapping of the claims was done on the same grid lines and along Byron and Stitson Creeks by V. Seel. Emphasis was placed on locating and sampling mineralization. Ten rock samples were collected for trace element analysis. This was done by Rossbacher Laboratory Ltd. in Vancouver by standard geochemical methods. These analyses are listed on Figure 6.

This field work was done under supervision of the senior author.

RESULTS

SOIL SURVEYS

A total of 313 B-horizon soil samples were taken at 50 m intervals on lines 500 m apart covering the property. The results of this work are shown on Figures 3 to 5.

Anomalous values were chosen for the B-horizon soils based on personal experience and are as follow:

Element	Anomalous Threshold	Number of Anomalous Samples
A	0.000	Dampica
Au	0.030 ppm	U
Ag	1.4	5
Cu	100	1
Pb	25	7
Zn	250	20
As	100	7

Anomalous samples are indicated by bold symbols on Figures 3 to 5.

Most of the anomalous soil samples are on the west half of the Byron 1 and the south half of the Byron 2 claims. Only one silver and one lead anomaly occur elsewhere on the claims.

The lack of gold and silver soil anomalies is a somewhat discouraging feature of the soil geochemistry results. The showings on the Ascot claims to the west are not especially gold or silver-rich, judging from analyses given by Price(1978).

Eleven samples were anomalous in two or more elements. These samples are from the following areas:

Byron 1 claim	Byron 2	claim
6500E, 9200N	7000N,	10300E
7500E, 9000N	7500N,	10250E
9550N		10750E
9600N	8000N,	10000E
9650N		10050E
		10100E

These anomalies are for Ag-As, Ag-Zn, As-Zn, As-Pb-Zn, Pb-Pb-Zn, and Cu-Pb-Zn. They should be followed-up by detailed soil sampling, prospecting, and mapping.

The remaining sixteen anomalous soil samples are anomalous for only one element. The more strongly

anomalous samples should also be followed up by further sampling. These are:

8000E, 9450N (As=330 ppm) 8500N, 10750E (Zn=520 ppm) 8500N, 11000E (Zn=630 ppm)

The remaining thirteen soil anomalies should be investigated on a lower priority basis.

Zinc anomalies are the most common. This probably reflects the presence of known Pb-Zn mineralization in the area and the mobility of Zn in surficial environments.

SILT SAMPLING

Twenty-eight silt (stream sediment) samples were taken on the Byron claims. Their locations are given on Figure 6 as are their analyses.

The only anomalous element in silt samples was zinc which was anomalous(>250 ppm) in seven of the samples. These seven samples came from two areas.

One sample(15957, Zn=280ppm) is on line 7000E at about 9200N. There are numerous, small, quartz veins mapped in the volcanics nearby.

The remaining six anomalous silt samples are all from an area centered on the west boundary of the Byron 2 claim at about 8000N. There are five soil anomalies at this location. Further west a hole drilled by Texasgulf encountered sphalerite and galena mineralization in dacitic tuff which Price(1978) resampled and obtained 0.67% Zn over 48 feet(14.6 m). Further work in this area appears warrented.

GEOLOGY

The Byron claims are underlain mainly by green and maroon andesitic tuffs and lapilli tuffs that probably belong to the Lower Jurassic Telkwa Formation. Some andesites appear to be flows as well. Dacitic tuffs and siltstones are the next most common rock types observed. The limited number of outcrops mapped makes it difficult to draw contacts between these lithologies. No contacts were mapped. The outcrop distribution suggests that the three main rock types are interbedded.

Texasgulf geologists have mapped some dioritic intrusives to the west but none were found on the Byron claims.

No significant mineralization was found. The most common mineralization seen was numerous narrow(<5 cm),

white, quartz veinlets without sulfides. These were most common on the western part of the Byron 1 claim. The veinlets occur in unaltered host rocks, mainly andesites. Some of the veinlets contained iron oxides and were geochemically anomalous in Cu and As(samples 15960, Cu=214 ppm, and 15962, As=170 ppm).

Fuch site was found in two outcrops in Byron Creek in dacitic rocks with quartz and carbonate veining, but a sample here was not anomalous(sample 92559).

An epidote-quartz-carbonate vein in a green, lapilli tuff was geochemically anomalous in Pb(sample 15971, Pb=46 ppm).

A pyritic siltstone as sampled in Byron Creek(sample 92558) but was not anomalous. A dacitic tuff containing about 1% disseminated pyrite was found in a small(<1 meter square) outcrop near 7650N, 10000E but was not sampled. This is from the area of Zn soil and silt anomalies. Outcrops of barren andesited tuff were found nearby. Further mapping and sampling in this area is warrented.

CONCLUSIONS

Twenty-seven soil samples were anomalous in one or more element(Ag, Cu, Pb, Zn, and As). The most interesting ten areas are listed and should be followed up first. The remaining anomalies should be followed up as lower priority targets. The soil results seem to reflect known Zn-Pb mineralization which occurs to the SW on the Ascot claims. It is low in precious metals where sampled.

Silt zinc anomalies are restricted to two areas. The most interesting is the area centered along the east boundary of the Byron 2 claim at about 8000 N.

The Byron claims appear to be underlain by Telkwa Formation volcanics. No significant mineralization was seen on the claims. From the description of mineralization found by Texasgulf (Peatfield and Louden, 1968) it seem possible that mineralization on the Ascot claims is hosted in the Nilkitkwa clastic sediments, carbonates, and felsic tuffs. It may indicate that this unit is weakly mineralized with base metals over a large area, however precious metal mineralization, as seen at the Forks on Dome Mountain, appears to be more localized.

RECOMMENDATIONS

Further soil geochemical sampling, prospecting, and mapping is recommended for the following areas of the Byron claims:

Danis	
Byron 1 claim	Byron 2 claim
6500E, 9200N	7000N, 10300E
7500E, 9000N	7500N, 10250E
9550N	10750E
9600N	8000N, 10000E
9650N	10050E
8000E, 9450N	10100E
	8500N, 10750E
	11000E

Eleven additional soil anomalies should be followed up on a lower priority basis. These anomalies are shown on Figures 3 to 5.

REFERENCES

- Hoskins, Stephen H., 1916. "Babine Range", in Annual Report of the Minister of Mines for . . 1915. Victoria, B.C., p. K77.
- Peatfield, G.R. and Louden, J.R., 1968. Geological Report, Dome Ascot Claim Group. Texasgulf Report.
- Price, Barry, 1978. Geological, Prospecting, Drilling Report - MS Claim. BCMEMPR Assessment Report 6784.
- Robertson, W.F., 1912. "Ste. Anne and St. Eugene Mineral Claims" in Annual Report of the Minister of Mines for 1911. Victoria, B.C., pp. K109-K110.
- Tipper, H.W. and Richards, T.A., 1976. Jurassic Stratigraphy and History of North Central British Columbia. GSC Bulletin 270. Ottawa, 73pp.
- Tipper, H.W., 1976. Geological Map Smithers(93L) Sheet. GSC Open File 351.

Summary of Personnel - Byron Claims

Name, Address	Position	Field Work
Stuart Gairns 3A-1750 Quinn St.	Geological Assistant	12-17 August 85
Prince George, B.C. V2N 1X3		
Vern Seel 3A-1750 Quinn St. Prince George, B.C.	Geologist	12-17 August 85
V2N 1X3		

Statement of Costs

Wages Number of days 12 Rate per day \$85.00 Dates 12-17 August 1985 Total wages \$1020.00 Food and Accomodation Number of days 12 Rate per day \$25.00 Dates 12-17 August 1985 Total food and accomodation 300.00 Transportation Number of days 0.8 hours Bell 206B copter Rate per hour \$501 w. fuel 12 August 1985 Total transportation 400.80 Analyses Elements analysed Au, Ag, Cu, Pb, Zn, As Cost per sample \$8.40 + \$2.00 extra for rock preparation Number of samples 313 soils + 28 silts + 10 rocks Total analyses 2968.40 Report Preparation 2 days at \$150 per day = 300.00 Total Cost \$4989.20 Cost of work on Byron 1 claim \$2686.49 Cost of work on Byron 2 claim \$2302.71 Total Cost \$4989.20 Cost of geological work 6 days at \$185.733/day = \$1114.40 Cost of soil survey 313 samples at \$10.59/sample = 3314.80 Cost of silt sampling 28 samples at \$20.00/sample = 560.00

Total Cost

\$4989.20

STATEMENT OF QUALIFICATIONS

- I, Delbert E. Myers, Jr., of the City of Prince George, Province of British Columbia, hereby certify that:
 - 1. I am a graduate of Pennsylvania State University with a Bachelor of Science degree in Geological Sciences (1970) and of the University of Toronto with a Master of Science degree in Geochemistry (1973).
 - 2. I have practised the profession of geology continuously since graduation.
 - I have been employed as a geologist by Noranda Exploration Company, Limited since June 1980.
 - 4. I am a founding member of the Association of Professional Engineers, Geologists, and Geophysicists of the N.W.T. and a fellow of the Geological Association of Canada.
 - 5. The information contained in this report is based on published and unpublished reports on the property and surrounding area, and on work done under my supervision in 1985.
 - 6. I have no interest in the property except as a small shareholder of Noranda Inc.

Dated at Prince George, B.C., this 12th day of November 1985.

Delbert E. Myers, Jr. Project Geologist

Noranda Exploration Company, Limited (No Personal Liability)

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STATEMENT OF QUALIFICATIONS

I, Vernon R. Seel, of the City of Prince George, Province of British Columbia, hereby certify that:

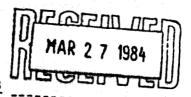
- 1. I am a graduate of the University of British Columbia, with a Bachelor of Science degree in Geological Sciences (1984).
- 2. I have practised the profession of geology since graduation.
- 3. I have been employed as a geologist by Noranda Exploration Company, Limited since September 1984.
- 4. The information contained in this report is based on published and unpublished reports on the property and surrounding area, and on work done under my supervision in 1985.
- 5. I have no interest in the property.

Dated at Prince George, B.C., this 12th day of November 1985.

Vernon R. Seel

Geologist

Noranda Exploration Company, Limited (No Personal Liability)



ANALYTICAL METHOD DESCRIPTIONS FOR GEOCHEMICAL ASSESSMENT REPORTS

The methods listed are presently applied to analyse geological materials by the Noranda Geochemical Laboratory at Vancouver.

Preparation of Samples

Sediments and soils are dried at approximately 80°C and sieved with a 80 mesh nylon screen. The -80 mesh (0.18 mm) fraction is used for geochemical analysis.

Rock specimens are pulverized to -120 mesh (0.13 mm). Heavy mineral fractions (panned samples * from constant volume), are analysed in its entirety, when it is to be determined for gold without further sample preparation.

Analysis of Samples

Decomposition of a 0.200 g sample is done with concentrated perchloric and nitric acid (3:1), digested for 5 hours at reflux temperature. Pulps of rock or core are weighed out at 0.4 g and chemical quantities are doubled relative to the above noted method for digestion.

The concentrations of Ag, Cd, Co, Cu, Fe, Mn, Mo, Ni, Pb, V and Zn can be determined directly from the digest (dissolution) with a conventional atomic absorption spectrometric procedure. A Varian-Techtron, Model AA-5 or Model AA-475 is used to measure elemental concentrations.

Blements Requiring Specific Decomposition Method:

Antimony - Sb: 0.2 g sample is attacked with 3.3 ml of 6% tartaric acid, 1.5 ml conc. hydrochloric acid and 0.5 ml of conc. nitric acid, then heated in a water bath for 3 hours at 95°C. Sb is determined directly from the dissolution with an AA-475 equipped with electrodeless discharge lamp (EDL).

Arsenic - As: 0.2 - 0.3 g sample is digested with 1.5 ml of perchloric 70% and 0.5 ml of conc. nitric acid. A Varian AA-475 equipped with an As-EDL is used to messure arsenic content in the digest.

Barium - Ba: 0.1 g sample digested overnight with conc. perchloric, nitric and hydrofluoric acid; Potassium chloride added to prevent ionization. Atomic absorption using a nitrous oxide-acetylene flame determines Ba from the aqueous solution.

Bismuth - Bi: 0.2 g - 0.3 g is digested with 2.0 ml of perchloric 70% and 1.0 ml of conc. nitric acid. Bismuth is determined directly from the digest with an AA-475 complete with EDL.

Gold - Au: 10.0 g sample is digested with aqua regia(1 part nitric and 3 parts hydrochloric acid). Gold is extracted with MIBK from the aqueous solution. AA is used to determine Au.

Magnesium - Mg: 0.05 - 0.10 g sample is digested with 4 ml perchloric/nitric acid (3:1). An aliquot is taken to reduce the concentration to within the

range of atomic absorption. The AA-475 with the use of a nitrous oxide flame determines Mg from the aqueous solution.

Tungsten - W: 1.0 g sample sintered with a carbonate flux and thereafter leached with water. The leachate is treated with potassium thiocyanate. The yellow tungsten thiocyanate is extracted into tri-n-butyl phosphate. This permits colourimetric comparison with standards to measure tungsten concentration.

Uranium - U: An aliquot from a perchloric-nitric decomposition, usually from the multi-element digestion, is buffered. The aqueous solution is exposed to laser light, and the luminescence of the uranyl ion is quantitatively measured on the UA-3 (Scintrex).

* N.B. If additional elemental determinations are required on panned samples, state this at the time of sample submission. Requests after gold determinations would be futile.

LOWEST VALUES REPORTED IN PPM

Ag - 0.2	Mn - 20	2n - 1	Au - 0.01
Cd - 0.2	Mo - 1	Sb - 1	W - 2
Co - 1	N1 - 1	As - 1	U - 0.1
Cu - 1	Pb - 1	Ba - 10	
Fe - 100	V - 10	Bi - 1	

EJvL/ie March 14, 1984

