5127

HUDSON'S BAY OIL AND GAS COMPANY LIMITED

93G/IW

936/IW

REPORT ON LINE-CUTTING AND

WANDA NO. 1 GROUP by M.R. Hegge, P.Eng. August 21, 19/4

CLAIMS:

Wanda No's. 1-12, 17, 18, W.D. No's. 21, 23, 25, 28, 30, 32 and

W.H. No's. 1-6 Fr. claims.

LOCATION:

Cariboo Mining Division

Eight miles northeast of Quesnel, B.C. Latitude 53°01'N Longitude 122°20'W

DATES:

May 20 to 26, 1974

Department of

Mines and Petrolaum Resources

ASSESSMENT REPORT

No 5127

MAP

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- I Invoice of Costs Incurred for Line-cutting, Geochemical Soil Sample Collection and Analysis, contoured base map and airphoto mosaic.
- II Certification of Geochemical Sample Collectors
- III Outline of Analytical Procedure, Vancouver Geochemical Laboratories Ltd.

LIST OF ILLUSTRATIONS

DRAWING	TITLE	SCALE	
74 MM-1	# Location Map	1"=4 miles	5
-2	#2 Claim Map and Location of Grid System Geochemical Soil Survey	1"=400'	In pocket
-3	#3 Sample Sites	1"=400'	In pocket
-4	#4 Copper-in-Soil	1"=400'	In pocket
-5	#5 Molybdenum-in-Soil	1"=400'	In pocket
	#6 Zinc-in-Soil	1"=400'	In pocket
-6 -7	#7 Lead-in-Soil	1"=400'	In pocket
-8	#g Silver-in-Soil	1"=400'	In pocket

DOMINION OF CANADA:

PROVINCE OF BRITISH COLUMBIA.

To WIT:

In the Matter of Recording Assessment Work on the Wanda No. 1 Group(Wanda No.'s 1-12, 17, 18 W.D. No.s 21, 23, 25, 28, 30, 32 and W.H. No.'s 1-6 Fr. claims) Cariboo Mining Division, British Columbia.

1. M.R. Hegge

of P.O. Box 305, Fort Langley, B.C.

in the Province of British Columbia, do solemnly declare that During the period May 20th to 26th, 1974, that the following assessment work was conducted on the Wanda No. 1 Group:

1) Linecutting
1.14 miles of cut line @ \$150 per mile \$ 171.00

14.80 miles of blazed and flagged line

@ \$85 per mile 1,258.00

Geochemical Soil Sampling -

Preparation contoured base map & airphoto mosaic Collection of 366 samples @ \$2.50 per sample 915.00 Analysis of 366 samples @ \$3.05 per sample 1,119.10 Interpretation, reporting, supervision, drafting of maps 800.00

Total \$5,154.60

or, 25 years of assessable work.

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."

of Vancause, in the

Province of British Columbia, this 23

day of Quagust 1974 , A.D.

A Commissioner for taking Affidavits for British Columbia of A Notary Public in and for the Province of British Columbia.

Sub-mining Recorder

district a bay

STATEMENT OF COSTS INCURRED

1 Line-Cutting

Line-cutting was contracted to Kerr, Dawson & Associates Ltd., 9-219 Victoria Street, Kamloops, B.C. Grid layout was planned by the author.

Costs of line-cutting performed on the Wanda, W.D., and W.H. Fraction claims are as follows:

Picket lines
 1.14 miles @ \$150 per mile

\$ 171.00

2) Blazed and flagged lines 14.8 miles at \$85 per mile

1,258.00

Total

1,429.00

11 Geochemical Soil Survey

Collection of geochemical soil samples was contracted to Kerr, Dawson & Associates Ltd. Survey planning, supervision, and interpretation of results was conducted by the author.

A detailed explanation of the geochemical soil survey expenditures is given under the section titled "Soil Survey Field Work". In summary, the costs are as follows:

Preparation of contoured base map and airphoto mosaic		\$ 891.50
Collection of 366 samples at \$2.50 per sample		915.00
Chemical analysis of 366 samples at \$3.05 per sample		1,119.10
Planning, interpretation, reporting, drafting, and		800.00
supervision.	Total	3,725.60
	Collection of 366 samples at \$2.50 per sample Chemical analysis of 366 samples at \$3.05 per sample	Collection of 366 samples at \$2.50 per sample Chemical analysis of 366 samples at \$3.05 per sample Planning, interpretation, reporting, drafting, and

Grand total of line-cutting and geochemical soil surveys

\$<u>5,154.60</u>

or 25 years of work

111 List of Personnel:

Name	Position	Days on Project	Rate (includes Board and Room)
M.R. Hegge, P.Eng.	Supervisor, Reporter	May 17, 18 June 27,28,29,30	\$100/day
J. Bennett	Draftsman	June 25,26,27,28,29	\$40/day
John R. Kerr, P.Eng.	Field Work Supervisor	May 20,21,22,23,24,25 26	, \$84.73/day
J.M. Dawson, P.Eng.	Geologist	May 20,21,22,23,24,25 26	, \$84.73/day
J.E. Binnie	Field Assistant	May 20,21,22,23,24,25 26	, \$84.73/day
W. MacKay	Field Assistant	May 20,21,22,23,24,25	, \$84.73/day

LIST OF CLAIMS AND DISTRIBUTION OF WORK

WANDA NO. 1 GROUP

Claim Number	Record Number	Record Date	Years of Work Applied
Wanda No. 1	25301	July 24, 1961	1
2	25302	" 24, "	1
3	25303	" 24, "	1
4	25304	" 24, "	1
4 5 6	26573	June 21, 1963	
6	26574	" 21, "	
7	26575	" 21, "	
8	26576	" 21, "	
9	26662	August 5, 1963	1
10	26663	5, "	1
11	26664	" 5, "	1
12	26665	" 5, "	1
17	29761	May 17, 1965	i
18	29762	" 17, "	1
W.D. No. 21	33835	March 14, 1966	1
23	33837	" 14, "	1
25	33839	" 14, "	1
28	33842	" 14, "	1
30	33844	" 14, "	1
32	33846	" 14, "	1
W.H. No. 1 Fr.	71488	February 26, 1974	2
2 Fr.	71489	" 26, "	2
3 Fr.	71490	" 26, "	2 2 2
4 Fr.	71491	" 26, "	1
5 Fr.	71492	" 26, "	1
6 Fr.	71493	" 26, "	<u>1</u>
		× ×	Total 25 years

Total 25 years

INTRODUCTION:

General Statement

The Wanda No. 1 Group is comprised of the Wanda No's. 1-12, 17, 18, W.D. No's. 21, 23, 25, 28, 30, 32 and W.H. No's. 1-6 Fraction claims. The claims are owned by Mssrs. C. Fuller and S. Pearson of Quesnel, B.C. and are operated under option agreement by Hudson's Bay Oil and Gas Company Limited, North Vancouver, B.C. Copper showings on the property have been known since the 1920's and have been intermittently tested since then. Exploration work in 1974 consisted of line-cutting and a geochemical soil survey. Work was conducted under the general supervision of M.R. Hegge, P.Eng.

Location

The property is centred at Latitude 53°01'N, Longitude 122°20'W, approximately eight miles northeast of Quesnel, and is generally bounded by Mouse Mountain to the west, the Quesnel-Barkerville Highway to the south, and Thirteen Mile Lake to the southeast. (Dwg. 74 MM-1)

Access

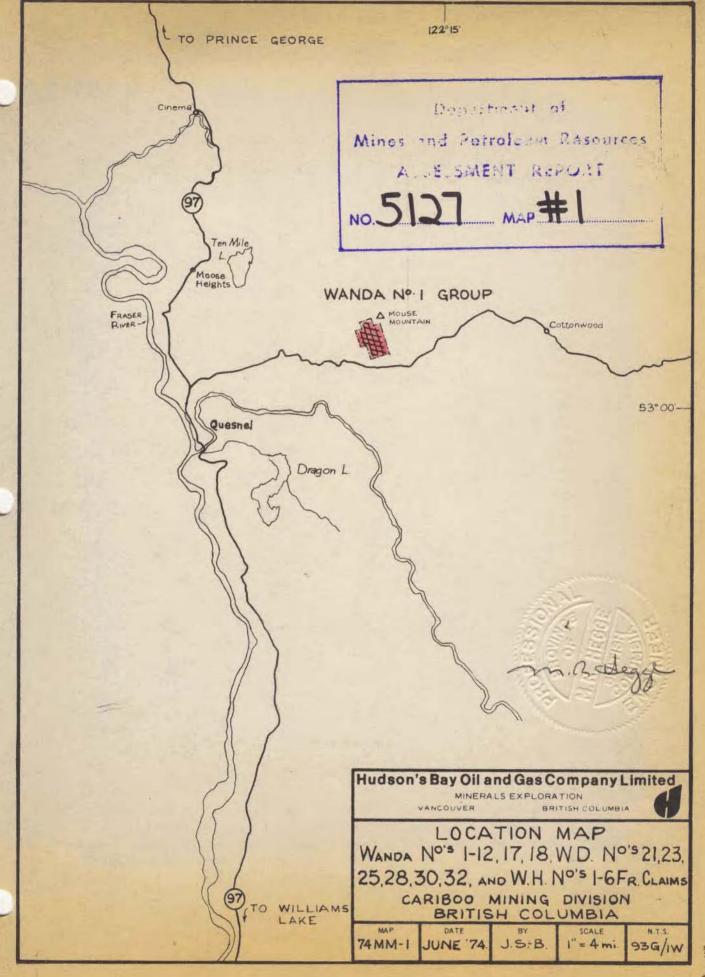
Access is via 1.1 miles of the old Barkerville road which turns off to the north approximately 7.6 miles along the Quesnel-Barkerville Highway. The property can be traversed by following numerous old logging roads, most of which are presently accessible only by foot.

Physiography Physical Physical

The claims are situated on the east flank of Mouse Mountain and along a north-south trending ridge system. (Dwg. 74 MM-2) Altitudes range from 2800' to 3300' above sea level.

The area appears to have been glaciated by both continental and valley glaciers, the former being the most prominent as attested by the prominent drumlins and other depositional features on the north part of the property. Outcrop is scarce and limited to ridge tops or deeply-incised creek valleys.

Drainage is moderately good for most of the area with the dominent flow direction being to the south. Open swamps and timbered marshy ground are relatively common in the overburden covered lower reaches at the north and east ends of the property.



Vegetation consists mostly of old stands of spruce, fir, pine, and birch, a good majority of which has been logged off. Undergrowth is moderately thick in logged areas and consists mostly of willow, alder and, in lower areas, growths of devils club. Thick, immature stands of jackpine commonly occur on the eastern part of the property.

LINECUTTING:

A grid system of cut and blazed lines was established for survey control of geochemical sampling and future exploration surveys. (Dwg. 74 MM-2) This consisted of 6000 feet of picket lines and 78,200 feet of blazed and flagged line. Compass and tape were utilized to establish direction and station intervals on the lines. Pickets marked with station coordinates were placed at 100 foot intervals along cut lines while stations along blazed lines were marked by flagging at similar intervals.

The north-south baseline (0+00W) was centred on a small hill east of Mouse Mountain. Blazed and flagged cross lines were located at 400 foot spacings along the baseline while tie-lines were established along the edges of the grid system to ensure proper location of the crosslines. The grid was also tied in with all prominent claim posts and topographic features to facilitate accurate plotting on a previously prepared l" = 400' base map with 25 foot topographic contours.

GEOCHEMICAL SOIL SURVEY:

Geochemical Environment

Soils developed in the area are mainly brown forest earths comprised of forest litter, then AH horizons and oxidized, medium brown subsoils derived from bedrock, till and, locally, fluvio-glacial sands and gravel. In places, incipient podzoliation is observed in till-derived soils although this is more common in areas of free, down-profile drainage such as soils derived from sands and gravels. Gleying is evident in water logged depressions which fringe lakes, intermittent creeks, and in open swamps or timbered marshy areas. These latter environments are prominent in the low-lying areas underlain by thick accumulations of till in the northeast part of the property.

Soil Survey Field Work

a) Control Survey Lines:

The newly established grid system was used for control of the soil sampling and provided efficient coverage of the area to be sampled, as well as conforming to the claim boundaries. A base map with scale 1"=400' was compiled for plotting the sample results.

b) Soil Sample Collection:

The samples were taken at 200 foot intervals along all grid lines. The location of the sample sites is shown on Dwg 74-MM-3. The top of the "B" (rusty) horizon was sampled where possible but exceptions were made near ridge tops where mostly "C" horizon material was obtained. No sites of gleying or high organic content were sampled.

The samples were collected by digging one or more small holes with a spade or trenching tool; by this means it was possible to observe the location of the "B" horizon. The actual soil sample was then obtained from the top of the "B" horizon with the tip of the spade or a small trowel.

A note was then taken of the grid location, the sample number, the depth to the top of the "B" horizon, and the degree of soil development.

c) Packaging:

The samples were placed in wet-strength 3 $1/2 \times 6 1/2$ Kraft paper envelopes on which the sample numbers had been marked. These were closed with a triangular triple fold. (The envelopes are not anomalous in trace metals.)

d) Sample Preparation:

The samples were dried in the open air for two to three days before shipment to Vancouver Geochemical Laboratories Ltd. in North Vancouver for further sample preparation and analysis. (See Appendix 111)

Analysis

The samples were analyzed by atomic absorption methods at Vancouver Geochemical Laboratories under the supervision of E. Agarwal, Chemist, Provincial Assayer. The analytical procedure is given in Appendix III.

<u>Interpretation</u>

Over most of the area, a good sample which was representative of the "B" horizon was obtained. Considering the lack of outcrop (less than five percent) at lower elevations and the degree of soil development, it appears that soil geochemistry is a valid and reliable exploration technique on the property.

Results for copper, zinc, and lead were analyzed statistically by both normal and cumulative frequency plots to determine metal thresholds. Molybdenum and silver thresholds were estimated by scanning the data and by comparison to other properties. Sample site notes were checked in the case of highly anomalous values which might represent possible organic accumulations of metal.

Mean background values were determined as 25 ppm Cu, 1 ppm Mo, 80 ppm Zn, 15 ppm Pb, and 0.5 ppm Ag. Sample stations that are considered to exhibit background metal values in soil are uncoloured (Dwg. 74 MM-4 to 8). Weakly anomalous metal values were determined to be 65 to 105 ppm for Cu, 3 to 5 ppm for Mo, 130 to 180 ppm for Zn, 25 to 40 ppm for Pb and 1.5 to 2.5 ppm for Ag; sample sites with these values are coloured yellow for ease of identification. Anomalous sample stations are coloured red.

Copper is found to occur as a weakly anomalous zone centred near 4+00N, 10+00W. Scattered single station anomalous values are located near the north end of Twelve Mile Lake where they are coincident with poor exposures of copper mineralized monzonite.

Single station anomalies for zinc are prevalent around the summit of Mouse Mountain (4+00N, 19+00W) and are peripheral to the weakly anomalous copper zone. Similarly, a weakly anomalous zone of Zn values partially surround the copper mineralization near Twelve Mile Lake. Further geophysical and geological investigation appear to be warranted in the two geochemically-indicated areas.

No definite zones of anomalous molybdenum, lead, or silver resulted from the survey.

M.R. Hegge, P.Eng. Project Geologist

North Vancouver, B.C. August 21, 1974.

MRH: kd1

APPENDIX II

JOHN R. KERR, P.ENG. GEOLOGICAL ENGINEER

9-219 VICTORIA STREET KAMLOOPS, B.C.

PHONE (604) 374-6427

WRITER'S CERTIFICATE

I, JOHN R. KERR, OF KAMLOOPS, B. C. HEREBY CERTIFY THAT:

- (1). I am a member of the Association of Professional Engineers of the Province of British Columbia, and a Fellow of the Geological Association of Canada.
- (2). I am employed by Kerr, Dawson and Associates Ltd., with my office at #9 - 219 Victoria Street, Kamloops, B. C.
- (3). I have practised as a geologist for 10 years since graduation from the University of British Columbia in 1964 with a B. A. Sc. in Geological Engineering.
- (4). I have no direct or indirect interest or holdings of securities of Hudson's Bay Oil and Gas Co. Ltd., or in the Mouse Mtn. claims described in this report.
- (5). The line cutting, grid establishment and soil sampling was completed May 20th. to May 26th., 1974, and was supervised directly by myself.
- (6). Employees engaged in work on this project were J. M. Dawson, P. Eng., J. E. Binnie, Sr. Field Assistant, W. MacKay, Field Assistant and myself.

John R. Kerr, P. Eng.,

GEOLOGIST

JOHN R. WERR

Kamloops, B. C., June, 1974. APPENDIX 1

KERR, DAWSON & ASSOCIATES LTD.

9 - 219 Victoria Street Kamloops, B.C. INVOICE # 119

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INVOICE TO	: Hudson's Bay Oil and Gas Co. Itd. 171 Pemberton Ave	·	
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FOR: Moune	atting and Grid Sampling	-	,
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1) BASI	E LINE (\$2+00N to 28+00S) - Power Saw		
	6000 ft. = 1.14 miles at 150.00/mi		\$ 171.00
-1			
100	D LINES	•	
	6S, 12S, 8S, 4S, 0, 4N, 8N, 12N, 16N & 201 O lines at 5000 ft. each	50,000 ft.	**
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120	08, 248, & 288		
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. Tie	e lines 20E and 30E (4800'each)	9,600 ft.	-,
	Total	78,200 ft.	
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2) SOTT	SAMPLING		*
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	approved for payment,	*	



VANGEOCHEM LAB LTD.

604-988-2172

1521 PEMBERTON AVE., NORTH VANCOUVER, B.C.

CANADA

IN ACCOUNT WITH:

Hudson's Bay Oil & Gas Co. Ltd. 171 Pemberton Avenue. North Vancouver, B.C. INVOICE: 2875

DATE: May 31, 1974

TERMS: NET 21 DAYS

1½% interest per month on overdue accounts

FOR REPORT

74-46-005 44-053

PROJECT:

ORDER NO.

366 geochem soil samples for preparation @ \$ 0.25 \$ 91.50 366 geochem analyses for Mo, Cu, Pb, Zn, Ag @ \$ 2.80 \$1027.60

Total \$1119.10

PACIFIC SURVEY CORPORATION

INVOICE

Formerly

LOCKWOOD SURVEY CORPORATION LTD.

1409 WEST PENDER STREET VANCOUVER, B. C., CANADA VO 254 TELEPHONE 683-6501

•	Hudson's Bay Oil & Gas Ltd., 171 Pemberton Avenue, North Vancouver, B.C. Attention: Mr. M.R. Hegge	YOUR ORDE	DB NO. 74-73
YTITKAU	DESCRIPTION	UNIT PRICE	E TOTAL
	To Completion -		
3 2 3	1) 1-inch equals 400 feet per mapping with a 25 foot con your area as outlined on supplied, Mouse Mountain, on P.S. 7708	ntour interval of the 1:50,000 map B.C., delivered	
		ump sum -	\$650.00
_	2) Featherpedge mosaic at an scale of 1-inch equals 400 above area, delivered on 1	O feet of the	
e.	5% Provincial Sai HBOG MINING LIMITED	230.0 to the sum - \$230.0 to the sum - \$230.0	50
	WESTERN DIVISION		\$241.50
	CHARGE TO: M 276 7076-9035-580	300.	\$891.50
	VERIFIED BY FINAL APPROVAL TERMS: NET CASH, INTEREST CHARGED ON OVE	<u> </u>	-16

APPENDIX III



VANGEOCHEM LAB LTD. 1521 PEMBERTON AVE., NORTH VANCOUVER, B.C., CANADA 604-988-2172

September 11, 1973

TO:

Hudson's Bay Oil and Gas Co. Ltd.

171 Pemberton Avenue North Vancouver, B. C.

FROM:

Mrs. Ena Agarwal, Chemist

Vangeochem Lab Ltd. 1521 Pemberton Avenue North Vancouver, B. C.

SUBJECT: Analytical procedure used to determine acid soluble copper, lead, zinc and silver in geochemical samples.

Method of Sample Preparation

- (a) Geochemical rock, soil, or silt samples were received in the laboratory in 8" x 13" plastic sample bags, or in $4\frac{1}{2}$ " x 9" cotton mailing bags, or in wet-strength $3\frac{1}{2}$ x $6\frac{1}{2}$ Kraft paper bags.
- (b) The wet samples were dried in a ventilated oven.
- (c) The dried soil and silt samples were sifted by using a shaking machine using an 80-mesh stain-less steel sieve. The plus 80-mesh fraction was rejected and the minus 80-mesh fraction was transferred into a new bag for analysis later.
- (d) The dried rock samples were crushed and pulverized to minus 80-mesh. The pulverized sample was then put in a new bag for later analysis.

continued

2. Methods of Digestion

- (a) 0.50 gram of the minus 80-mesh samples was used. Samples were weighed out by using a top-loading balance.
- (b) Samples were heated in a sand bath with nitric and perchloric acids (15% to 85% by volume of the concentrated acids respectively).
- (c) The digested samples were diluted with demineralized water to a fixed volume and shaken.

Method of Analysis

Copper, lead, zinc and silver analyses were determined by using a Techtron Atomic Absorption Spectrophotometer Model AA4 or Model AA5 with their respective hollow cathode lamp. The digested samples were aspirated directly into an air and acetylene flame. The results, in parts per million, were calculated by comparing a set of standards to calibrate the atomic absorption unit.

The analyses were supervised or determined by Mrs. Ena Agarwal or Mr. Laurie Nicol and their laboratory staff.

> Ena Agarwal, Chemist, Provincial Assayer

VANGEOCHEM LAB LTD.

EA:mb



VANGEOCHEM LAB LTD. 1521 PEMBERTON AVE., NORTH VANCOUVER, B.C., CANADA 604-988-2172

September 11, 1973

TO:

Hudson's Bay Oil and Gas Co. Ltd.

171 Pemberton Avenue North Vancouver, B. C.

FROM:

Mrs. Ena Agarwal, Chemist

Vangeochem Lab Ltd. 1521 Pemberton Avenue North Vancouver, B. C.

SUBJECT:

Analytical procedure used to determine acid soluble

molybdenum in geochemical samples.

Method of Sample Preparation

- (a) Geochemical rock, soil, or silt samples were received in the laboratory in 8" x 13" plastic sample bags, or in $4\frac{1}{2}$ " x 9" cotton mailing bags, or in wet-strength $3\frac{1}{2}$ x $6\frac{1}{2}$ Kraft paper bags.
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- (d) The dried rock samples were crushed and pulverized to minus 80-mesh. The pulverized sample was then put in a new bag for later analysis.

continued . . .

Methods of Digestion

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- (b) Samples were heated in a sand bath with nitric and perchloric acids (15% to 85% by volume of the concentrated acids respectively).
- (c) The digested samples were diluted with demineralized water to a fixed volume and shaken.

Method of Analysis

Molybdenum analyses were determined by using a Techtron Atomic Absorption Spectrophotometer Model AA5 with an Mo hollow cathode lamp. The digested samples were aspirated directly into a nitrous oxide and acetylene flame. The results, in parts per million, were calculated by comparing a set of standards to calibrate the atomic absorption unit.

The analyses were supervised or determined by Mrs. Ena Agarwal or Mr. Laurie Nicol and their laboratory staff.

> Ena Agarwal, Chemist, Provincial Assayer

VANGEOCHEM LAB LITD.

EA:mb

