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RE	PORT ON A GEOCH	EMICAL SURVEY	
CO	nducted by		I
VE	STOR EXPLORATION	NS LTD.	ļ
on	the		
CL	AIMS NORTH OF RE	DFERN LAKE,	
RC	BB LAKE AREA, B.C		
by			l
Α.	Rich, P.Geol.	<b>nh</b>	
Se	ptember, 1972	740	
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C.	intains Supplement ai	nd Addenda —	



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#### REPORT ON A GEOCHEMICAL SURVEY

conducted by

VESTOR EXPLORATIONS LTD.

on the

CLAIMS NORTH OF REDFERN LAKE,

ROBB LAKE AREA, B.C.

by

A. Rich, P.Geol. September, 1972

SUPPLEMENT dated October 19th, 1972

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Fossil Identifications, Nov 14,72, Dr. C.R. Stelck					

#### **SUMMARY**

The recent discovery by the Barrier Reef, Texas Gulf Sulfur, W.R. Grace Group of zinc lead mineralization in Middle Devonian carbonates and carbonate breccias in Northeastern B.C. has great regional significance. We, together with many other companies believe that there is a strong possibility that more deposits of this type will be discovered along the belt of Middle Devonian carbonates exposed in this region.

1

In late July, Vestor carried out a program of geochemical sampling of all those claims held north of Redfern Lake which are known to be directly underlain by carbonates. Also sampled was an area of about ten claims – the northeastern part of a large block held by the company south of Redfern Lake. It was decided to investigate only part of the company's holdings this season and the above areas were chosen mainly because of their ease of access.

Almost all of the geochemical samples taken were soils. They were analysed only for zinc. The area south of Redfern Lake showed no highly anomalous values (all less than 650 ppm Zn), but the overburden could be thick over most of the sample area. Results obtained from the samples taken north of Redfern Lake showed numerous values that must be considered highly anomalous. These values define a number of large continuous anomalies. This report pertains mostly to the latter results and their interpretation.

#### INTRODUCTION

Between June 30 and July 19, 1972, Vestor staked 245 claims in that area generally known as the Robb Lake Area, B.C.\* Vestor also owns a 50% interest in a further block of 40 claims which was staked by contract.

\*None of these claims were registered before July 14. This allows ample time to perform assessment work on the claims during the 1973 summer season.





The claims are in four blocks (Map 1). One block of 107 claims lies just northeast of Redfern Lake. A second block of 92 claims lies between Redfern Lake and the Sikanni Chief River. The third block lies 10 miles northwest of the Barrier-TGS discovery and south of the Sikanni Chief River. The block of 40 claims lies on the river and six miles northeast of the last group.

The first three blocks were staked by company geologists to cover Middle Devonian carbonates. The fourth (contracted) block is understood to be underlain by the same Formations.

#### ACCESS

Redfern Lake is easily accessible by float plane from Fort Nelson (110 miles), Fort St. John (130 miles) and MacKenzie (110 miles). The survey was carried out using a helicopter from a base camp on Redfern Lake. It is not difficult to reach the claims on foot from the Lake. Future programs may best be effected from small fly camps, which could be periodically serviced from Redfern Lake. There is a good seismic trail cut all the way to the Lake from the gas field about 30 miles to the east. Heavy equipment could be moved over this route during the winter months.

#### **GEOCHEMICAL SURVEY**

The main area sampled was the plateau on the western part of the claim block. The overburden here is thought to vary from a few to approximately 15 feet. A profile of the overburden revealed first a thin layer of organics, then a few (6) inches of clayey soil with numerous rock fragments; next a thick horizon consisting mainly of rock fragments and, finally a thin clayey layer with rock fragments above the bedrock. Only one complete profile was observed.

4



Location of Geochem Samples.

Most of the geochem samples were of soil at a depth of 4 – 6 inches. A few silts were taken where possible. A small proportion of the samples consisted of rock chips from outcrop, or where no soil had developed, rock fragments from overburden.

The samples were analysed by Loring Laboratories of Calgary. They were screened to  $-80^{\#}$  or, in the case of the rock samples, crushed to this size, digested in hot acid and the zinc determinations made by atomic absorption spectrometry.

The sample grid was approximately 500 by 700 feet (see map 3). The results of the analyses in ppm Zn are shown on map 5, and the values contoured on map 6.

#### GEOLOGY

During the course of the geochemical sampling a reconnaissance geological survey was made of the claim area. The area sampled for geochem is underlain almost entirely by limestones and dolomites of the Middle Devonian. According to Taylor and MacKenzie\* the carbonate sequence in this area consists principally of the two upper Formations, the Stone and the overlying Dunedin. The Stone Formation was not seen to outcrop within the boundary of the claims. The limestones appear to conformably contact the overlying Besa River shale. This must mean that the limestone outcrops on the claims are Dunedin Formation. The Stone Formation is probably exposed lower on the cliffs in the Besa River Valley.

The best outcrops are observed on the western ridge and on the eastern flank of the plateau. On the plateau proper there are few outcrops. Carbonates were the only rocks studied in any detail. They are for the most part only slightly argillaceous. They are frequently observed to be brecciated.

To the west the carbonates are structurally distorted and form a north-south trending ridge. They dip steeply to the west and appear to be thrust over by darker argillaceous carbonates of undetermined age, which lie almost horizontal.

On the plateau the dips are quite shallow (less than 15°), the strikes vary. On the overall scale, this area appears to be comparatively undisturbed.

\* Taylor, G.C. and MacKenzie, W.S., Devonian Stratigraphy of Northeastern B.C., G.S.C. Bull. 186, 1970.

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Map 5



Vestor Explorations Ltd. 8a Redfern Lake Claims B.C October - 1972

0 1,000 3,000ft

Only those soils in the southeast segment were analysed for lead.

+

A.Rich.



+



Map 7. Geochemical Contour Map-Lead in ppm.





On the eastern flank of the plateau, although the carbonate/shale contact seems to be conformable, major faulting and folding appear to have taken place in the carbonates. There appears to be considerable distortion in both rock types near the contact. The contact itself appears to dip quite steeply.

Intercalated shale lenses are observed at three locations, marked c, d and e on map 4. At c and d, the immediately overlying limestone is brecciated and the breccia is cemented with barite. At location e, barite filled breccia lies adjacent to the shale, but it is not known if this occurrence lies stratigraphically above or below the shale. The shales at d and e are dark brown to grey, at location c the shale is black and pyritic.

There are two other known mineral occurrences in the area, both of which contain barite. The claims staked by Barrier Reef to the southwest, show barite filling veins and breccias (location a, map 4). A half mile to the east (b), similar showings crop out on Vestor ground. The barite in these areas is observed to carry sporadically high percentages of galena. There are numerous small barite occurrences, particularly in the good outcrop on the western ridge. Fluorite has been reported from a number of locations near the west side of the plateau, none of the showings were observed however.

It should be noted that air photographs were not available from Victoria in time for the survey, nor have they been received up to the time of writing.

#### INTERPRETATION OF THE RESULTS

Based on the results, background for soils in this area is 80 – 140 ppm Zn. Areas (not single locations) containing soil values over 500 ppm Zn are considered anomalous. The areas within the 1,000 ppm Zn contour are considered quite strongly anomalous.

Map 6 was contoured somewhat conservatively, that is, the areas between the higher contours were minimized. The most obvious feature of this map is the long continuous anomaly striking northeast across the south central portion of the claims. Considering even the 1,000 ppm contour, this anomaly is over 7,000 feet in length and has an average width of over 500 feet. Considering the 500 ppm Zn contour, the anomaly achieves twice this width. It is little deflected by topography. This anomaly

10

is somewhat classic in that its boundary is sharply defined on the uphill side and somewhat diffuse on the downhill (the latter effect is best observed by contouring the 200 - 500 ppm values).

Due to the following:

- (i) the slope in the region of the anomaly is gentle
- (ii) the overburden is thought to be quite thin
- (iii) the clay and the high pH over the carbonates are both factors which serve to fix the zinc in the soil

it is reasonable to assume that the source of the anomaly is in the bedrock only a little uphill from the surface anomaly. On the basis of what is known of the geology, it is quite possible that the anomalous values all orginate from one carbonate horizon.

It is not proposed to discuss the other anomalies revealed during the course of the survey (not all of which are contoured on Map 6). It is felt that the size of these anomalies in comparison with the grid spacing, together with the lack of precise geological information, does not allow conclusions to be drawn at this stage. It is only conjectural to suggest that these other anomalies reflect high zinc values within the same horizon.

#### RECOMMENDATIONS

It is felt that further geochemical work in the region of the main anomaly would do This anomaly is of such strength and continuity as to little to improve upon it. warrant immediate drilling. Trenching is not recommended as it rarely obviates the need to drill. An IP survey could be considered.

i Anthony Rich, B.Sc., P.Geol.

September 8, 1972

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То:	VESTOR EXPLORATIONS LTD.
	# 1502 - 11111 - 87th Avenue
	EDMONTON, ALBERTA
	T6G 0X9
	ATTENTION: MR. A. RICH



File No.	5653	
Date	AUGUST 11,	1972
Samples	GEO CH	EMS

PAGE # 4

SAMPLE No.	PPM Zn	
	, , , , , , , , , , , , , , , , , , ,	
SOIL GEO CHEMS		
N-8-8	88	
N-8-9	81	
N-8-10	90	
N-8-11	50	
N-8-12	71	
N-8-15	31	
N-8-16	69	
N-8-17	84	
N-8-18	111	
N-8-19	95	
N-8-20	. 113	
N-8-30	49	
N-8-31	50	
N-8-32	67	
N-8-33	46	
N-9-2	. 190	
N-9-21	43	
N-9-22	57	
N-9-23	64	
N-9-24	69	
N-9-26	67	
P-1-1	113	
P-1-2	200	
P-1-3	195	
P-1-4	88	
P-1-5	120	
P-1-6	120	
P-1-7	111	
P-1-8	103	
P-1-9	73 71 76	
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· · · · · ·	ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES	

Rejects Retained one month.

Pulps Retained one month unless specific arrangements made in advance.

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T6G_0X9
ATTENTION: MR. A. RICH



File No.	5653
Date	AUGUST 11, 1972
Samples	GEO CHEMS

PAGE # 5

SAMPLE No.	PFM Zn
SOIL GEO CHEMS	
	106
P-2-1	200
P-2-3	02 02
P-2-5	00
P-2-7	130
P-2-10	/3
P-2-11	93
P-3-1	77
P-3-3	113
<b>P-3-5</b>	130
P-3-7	130
P-3-9	90
P-3-10	190
P-3-11	108
P-3-12	123
P-4-1	95
P-4-3	116
P-4-5	108
P-4-7	123
P-4-9	88
P-4-11	106
$P_{-4-13}$	64
P-5-1	130
P 5 - 2	190
I-J-2 D 5 2	106
F=J=J	111
	120
P=3=7	108
P-5-9	60
P-5-11	120
P-6-1	120
P-6-2	84 61 96: 1 /1 1°f
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	EDMONTON, ALBERTA
	T6G 0X9
	ATTENTION: MR. A. RICH
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File	No.	565	3		
Date		AUGUST 1	1,	1972	
Samp	oles	GEO	CF	IEMS	

PAGE # 6

SAMPLE No.	Zn
SOIL GEO CHEMS	
P-6-3	113
P-6-5	15
P-6-7	25
P-6-9	98
P-6-10	79
P-6-11	88
P-9-1	116
P-9-3	207
P-10-1	200
P-10-3	90
P-10-4	2450
P-11-1	195
P-11-3	103
P-11-4	98
P-12-1	283
P-12-3	224
P-12-4	277
P-12-5	270
P-20-1	212
P-20-3	130
P-20-5	130
P-20-7	185
P-20-9	235
P-20-10	241
P-20-11	309
P-21-1	303
P-21-3	126
<b>P-21-5</b>	120
P-21-7	116
P-21-9	126
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	EDMONTON, ALBERTA
	T <sub>6</sub> G 0x9
	ATTENTION: MR. A. RICH
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File	No.	56	653		
Date		AUGUST 1	1,	1972	
Samp	oles	GEC	) CH	IEMS	

PAGE # 7

SAMPLE No.	PPM Zn	
SOIL GEO CHEMS		
P-21-10	113	
P-21-11	400	
P-21-12	775	
P-21-13	1120	
P-22-1	1575	
P-22-2	1175	
P-22-3	605	
P-22-4	585	
P-22-5	775	
P-22-7	2325	
P-22-9	113	
P-22-11	120	
P-22-13	130	
P-23-1	290	
P-23-2	130	
P-23-3	259	
P-23-4	675	
P-23-5	259	
P-23-6	526	
P-23-7	800	
P-23-8	456	
P-23-9	106	
P-23-11	394	
P-23-13	120	
P-24-1	230	
P-24-2	69	
P-24-3	106	
P-24-4	126	
P-24-5	185	
P-24-6	195	
	I mereby Certify that the above results are those	
	ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES	

Rejects Retained one month.

Pulps Retained one month unless specific arrangements made in advance.

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То:	<pre>WESTOR EXPLORATIONS LTD. # 1502 - 11111 - 87th Avenue</pre>
	EDMONTON, ALBERTA
	T6G OX9
	ATTENTION: MR. A. RICH



File No.	5653
Date	AUGUST 11, 1972
Samples	GEO CHEMS

Ser tificate ASSAY

LORING LABORATORIES LTD.

PAGE # 8

SAMPLE No.	PPM Zn
SOIL GEO CHEMS	
P-28-1	15
P-28-2	252
P-28-3	230
P-28-4	400
P-29-2	545
P-30-1	62
P-30-3	_ 73
P-30-5	303
P-30-7	825
P-30-9	925
P-30-11	536
P-31-1	66
P-31-3	57
P-31-5	67
P-31-7	725
P-31-9	625
P-31-11	700
P-32-1	605
P-32-3	700
P-32-5	675
P-32-7	1545
P-32-9	103
P-33-1	378
P-33-2	303
P-33-4	1610
P-33-5	283
P-33-7	400
P-33-9	850
P-34-3	2// 1385
I - J4= J	I hereby Certify that the above results are those
	ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES

Rejects Retained one month.

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То:	VESTOR EXPLORATIONS LTD. # 1502 - 11111 - 87th Avenue
	EDMONTON, ALBERTA
	ATTENTION: MR. A. RICH

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File No.	5653
Date	AUGUST 11, 1972
Samples	GEO CHEMS

LORING LABORATORIES LTD.

PAGE # 9

SAMPLE No.	· PPM
Marina	
SOIL GEO CHEMS	
P-34-6	1450
P-34-7	259
P-34-8	140
P-34-9	700
P-34-10	2500
P-35-1	2770
P-35-3	850
P-35-5	364
P-35-7	247
P-35-8	400
P-35-9	252
P-35-10	252
P-36-1	190
P-36-2	290
P-36-3	329
P-36-4	259
P-36-5	150
<b>P-36-7</b>	170
P-36-9	117
P-37-1	295
P-37-3	155
<b>P-37-4</b>	212
P-37-5	117
P-37-6	322
<b>P-37-7</b>	218
P-37-8	515
P-37-9	175
P-40-1	364
P-40-3	507
P-40-4	
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F	EDMONTON, ALBERTA		Samples	GEO CHEMS
T	r6g 0x9	TD.	•	
A	ATTENTION: MR. A. RICH			

PAGE # 10

SAMPLE No.	PPM
SOTI CEO CUEMS	2n
SUIL GEO UNENS	
P-40-5	290
P-40-6	350
P-40-7	2325
P-40-8	825
P-40-9	560
P-40-10	650
P-40-11	500
P-40-12	950
P-40-13	875
P-40-15	303
P-40-16	295
P-40-20	217
P-40-21	170
P-41-1	500
P-41-2	322
P-41-3	545
P-41-4	675
P-41-5	605
P-41-6	81
P-41-7	259
P-41-8	364
P-41-9	585
P-41-12	500
P-41-14	625
P-41-16	315
P-41-19	409
P-41-20	140
P-42-00	1780
P-42-1	190
P-42-3	1000
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Licensed Assayer of British Columbia

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T6G 0X9	
ATTENTION: MR. A. RICH	

PAGE # 11

	DDM	
SAMPLE No.	Zn	
SOIL GEO CHEMS		<u></u>
P-42-4	548	
P-42-6	548	
P-42-7	650	
P-42-8	130	
P-42-9	750	
P-42-10	850	
P-42-11	1060	
P-42-12	473	
P-42-13	440	
P-42-14	515	
P-42-15	800	
P-42-16	560	
P-42-17	218	
P-42-18	400	
P-42-19	448	
P-42-20	103	
<u>P</u> -42-21	98	
P-42-22	315	
P-42-23	303	
P-43-00	309	
P-43-1	175	
P-43-4	165	
P-43-5	303	
P-43-6	95	
P-43-7	160	
P-43-8	500	
P-43-9	224	
P-43-10	175	
P-43-11	309	
P-43-12	93	
	I Hereby Certify that the above results are those	
	ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES	·

Rejects Retained one month.

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То:	VESTOR EXPLORATIONS LTD.
	# 1502 - 11111 - 87th Avenue
	EDMONTON, ALBERTA
	T6G 0X9
	ATTENTION: MR. A. RICH



File No.	50	553		<b></b>
Date	AUGUST	11,	1972	
Samples	GEO	CHEN	1S	

PAGE # 12

<b>S</b>	
SAMPLE No.	PPM
	<u>Zn</u>
SOIL GEO CHEM	S
P_/(3_13	109
$P_{43-13}$	175
P-43-14	625
P=70=1	025
P-70-3	/// /00
P-70-5	409
P-70-6	212
P-70-7	180
P-C-4	27
P-C-5	27
P-C-7	125
R - 1	295
R - 2	465
R - 3	515
R - 4	79
R - 5	84
R - 6	77
P-34-1	400
	J Hereby Certify that the above results are those
1	ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES
L	

**Rejects Retained one month.** 

Pulps Retained one month unless specific arrangements made in advance.

C L u Ć ol

ς ΄	
То:	VESTOR EXPLORATIONS LTD.
	# 1502 - 11111 - 87th Avenue
	EDMONTON, ALBERTA
	T6G OX9
	ATTENTION: MR. A. RICH

12 3



File No.	5653
Date	AUGUST 11, 1972
Samples	GEO CHEMS

LORING LABORATORIES LTD.

SAMPLE No.	PPM Zn
ROCK GEO CHEMS	
P-C-1	66
P-C-2	27
P-C-3	12
N-2-2	106
N-6-11	22
N-7-12	9
N-7-14	. 9
N-8-13	10
N-8-14	10
N-9-1	9
N-9-3	12
N-9-25	10
P-1-10	23
P-1-11	42
P-1-12	19
P-2-8	24
P-2-9	13
P-3-2	10
P-4-2	43
P-20-12	111
P-20-13	22
P-22-12	18
P-29-1	49
P-29-3	36
P-33-3	60
P-34-2	34
P-37-10	52
P-40-2	14
P-40-14A	86
	J Liereby Certify that the above results are those assays made by me upon the herein described samples

Rejects Retained one month.

Pulps Retained one month unless specific arrangements made in advance.

a Lime C.

1
To: VESTOR EXPLORATIONS LTD.
#1502 - 11111 - 87th Avenue
EDMONTON, ALBERTA
T6G OX9
ATTENTION: MR. A. RICH
***************************************



File No.		5653		
Date		AUGUST	11,	197:
Samples	GEO	CHEMS		<u>.</u> .

\$ <sup>\$</sup>	ASSAY	they want	
		ODIEC	Ι.,

SAMPLE No.	PPM Zn
ROCK GEO CHEMS	
P-40-14	79
P-40-17	12
P-40-18	22
P-40-19	15
P-41-10	64
P-41-11	12
P-41-13	3430
P-41-15	81
P-41-17	86
P-41-21	
P-42-00A	20
P-42-2	15
P-42-5	35
r-43-2 P-43-3	27
P=70=2	235
P=70=4	55
P-41-18	23
	I Bereby Certify that the above results are those
	ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES

Rejects Retained one month.

Pulps Retained one month unless specific arrangements made in advance.

CZ MUC Jac.C.

To:VESTOR EXPLORATIONS LTD.	
# 1502 - 11111 - 87th Avenue	
EDMONTON, ALBERTA	
ATTENTION: MR. A. RICH	

23
7

File No.	5740
DateA	ugust 30, 1972
Samples	SOIL GEO CHEMS



SAMPLE NO	PPM
Ortim EE Tro:	Zn
P-2-2	90
P-2-4	77
P-3-2	123
P-3-4	130
P-9-2	123
P-10-2	130
P-11-2	71
P-12-2	190
P-20-2	98
P-20-4	126
P-20-6	130
P-20-8	190
P-21-2	218
P-21-4	136
P-21-6	93
P-21-8	247
P-22-6	113
P-22-10	123
P-23-10	126
P-23-12	241
P-30-2	113
P-30-4	66
P-30-6	1385
P-30-8	1060
P-30-10	850
P-31-2	88
P-31-4	106
P-31-6	1475
P-31-8	315
P-31-10	335
P-32-2	309
P-32-4	356
-	I hereby Certify that the above results are those
	ASSAYS MADE BY ME LIPON THE HEREIN DESCRIBED SAMPLES
·	

Rejects Retained one month.

Pulps Retained one month unless specific arrangements made in advance.

lLme Daal

To: <u>VESTOR EXPLORATIONS LTD</u> . 24	File No	5740
# 1502 - 11111 - 87th Avenue	Date Au	soll CEO CHEMS
ATTENTION: MR. A. RICH	Samples	
"ificar		1. T. 20
St ASSAY or		

PAGE # 2

SAMPLE No.	PPM Zn
P-32-6	2590
P-32-8	66
P-32-10	34
P-33-6	548
P-33-8	1325
P-33-10	136
P-34-4	1780
<b>P-35-2</b>	2500
P-35-4	. 371
P-35-6	224
<b>P-36-6</b>	195
P-36-8	212
P-36-10	1295
P-0-0	95
<b>P-C-8</b>	. 825
<b>P-C-8</b> b	212
	J Mereby Certify that the above results are those assays made by me upon the herein described samples

Rejects Retained one month.

Pulps Retained one month unless specific arrangements made in advance.

CL Mrs Dack

Licensed Assayer of British Columbia

#### SUPPLEMENT

#### to

#### REPORT ON A GEOCHEMICAL SURVEY

#### conducted by

#### VESTOR EXPLORATIONS LTD.

on the

#### CLAIMS NORTH OF REDFERN LAKE

ROBB LAKE AREA, B.C. September, 1972

by

A. Rich, P.Geol.

October 19, 1972

The following is a short supplement to describe discoveries and the results of further geochemical analyses made on the property recently.

In late September and early October, two very brief trips were made to the property by helicopter. The first was aborted after only 10 minutes on the property due to high winds. The second trip was aborted after about  $1\frac{1}{2}$  hours due to rain and fog.

#### FIELD RESULTS

On the first trip only one stop was made about 300 feet southwest of P-35-1 and on the extreme southwest end of the geochemical anomaly, near the top of the east side of a deeply incised south-facing gully (location A). Mineralized float was found at this location. The float in this area consists of three main rock types; brown microcrystalline limestone; dark, argillaceous and platy limestone, and dark grey to black saccharoidal dolomite. It is the dolomite which is mineralized with sphalerite. The sphalerite is a uniform honey-yellow color and is disseminated in fine grains throughout the rock. It is difficult to identify in hand specimen. The dolomite contains some bitumen; it is porous and, in the specimen which has been cut for thin section, there appears to be an inverse correlation between porosity and mineralization. The more porous rock is more weathered and so it is assumed that the porosity is caused by partial leaching of the sphalerite. Some float was noted showing barite filling breccias and reefal material. The mineralization is further described under the thin section study.

It should be noted that although all the samples collected are float, all are presumed to have originated quite close by. All the boulders are angular inferring short distance of transport from source. There is considerable outcrop in the steep gully west of P-35-1. A very brief investigation of the north end of the gully revealed mostly dense dark limestones. The question arises as to the source of the dolomite. The float was found within the zinc anomaly and it is reasonable to assume that the type of mineralization, noted in float, caused the anomaly. There is a long hill to the north of the float location. The dolomite horizon probably subcrops on this hill and is therefore higher in the section than the limestones.

The second trip to the area was little more successful than the first with regard to the amount of time spent on the property. More of the same mineralized float was found near the southwest end of the anomaly. A knoll was investigated a few hundred feet to the south. The knoll consists almost entirely of quite pure barite. In some locations sparse galena was noted in the barite. It is estimated that the knoll alone contains several hundred thousands of tons of barite lying near surface in this area. The adjacent knoll to the east would appear from air photographs to consist of the same material.

A helicopter landing was made near station P-31-6. Float in this area is limestone. A few boulders contain barite. An unsuccessful attempt was made to locate the anomaly at stations P-35-10 and P-40-6. After a few minutes the trip was aborted due to weather.

#### **GEOCHEMICAL RESULTS**

All the soil samples from the southeast part of the map area were analysed for lead. Occasional samples were analysed for cadmium and spot checks were made for zinc. The zinc checks correlated remarkably well; in almost all cases the results were  $\pm 10\%$ . Some of the cadmium values are anomalous. The cadmium results are not plotted as they are too few in number to give a meaningful picture.

Many of the lead values are anomalous. The lead analyses in ppm are shown on Map 8 and these results are contoured on Map 7. Lead is, of course, less mobile than zinc in this environment. Background appears to be about 30-40 ppm Pb; values over 150 ppm are considered quite strongly anomalous.

The lead anomalies follow the same trend as the zinc. They are generally little removed from the zinc anomalies. The central part of the anomaly would appear to follow the strike of the carbonates more closely than does the zinc anomaly. One area of particular interest is the lead anomaly near station P-33-10 which has no corresponding zinc anomaly. However, it would appear to be on strike with the zinc anomaly to the northeast. As with the zinc, the lead anomalies are open to the southwest.

#### THIN SECTION STUDY

A thin section was made of relatively unleached mineralized dolomite. The results are summarized below:

- The sphalerite occurs as single and aggregate grains. In most cases it appears to replace dolomite grains. In places it occurs with fluorite as small fracture fillings and as vug fillings.
- Fluorite occurs as very fine fracture fillings and appears to have been introduced at almost the same time as the sphalerite. Small grains of sphalerite occur in the fluorite filled fractures. Small amounts of fluorite often occur with the sphalerite grains.
- 3. Alizarin staining revealed no calcite.
- 4. No barite is present within the main mass of mineralized dolomite.

#### ASSAYS

#### Three samples were assayed for zinc:

Initial sample - assayed to confirm presence of sphalerite
 Specimen from the leached rim of large mineralized rock sample
 Specimen, from apparently unleached centre of Sample 2
 (Assay certificates are not included as the results were obtained by telephone
 October 19th.)



#### PHOTOMICROGRAPHS

All taken on the scale:



General distribution of sphalerite in the dolomite (plain light)

Fine fluorite-sphalerite veins in dolomite (x-nicols)



1-



Same picture as above taken in plain light to show the sphalerite distribution.

#### CONCLUSIONS

The results obtained from such a short time on the property are, to say the least, very encouraging. Only two very restricted areas were checked, one of which yielded material which is well mineralized with sphalerite. The barite to the south may be important because of its frequent association with economic sulphides in other areas (Ireland, Nova Scotia etc.)

It is interesting to note that a rough calculation of the zinc contained in the soil alone, considering only that area contained within the 1,000 ppm contour on the main anomaly and assuming an average soil thickness of 10 feet is 5,000 tons. Such an anomaly must be caused by strong sulphide mineralization in the bedrock, such as that noted in float on the southwest end of the anomaly. The lead anomaly certainly cannot be accounted for by the sporadic galena noted in barite.

As only one specimen was studied in thin section, it does not seem reasonable at this time to draw any far reaching conclusions from the results.



A. Rich, B.Sc., P.Geol.

October 19th, 1972

- 29 -

Vestor Explorations Ltd. Redfern Lake Claims, B.G.

October 1972

3000 ft. 1000

A.Rich.

92 0,2 024

> 0 0 40 2' 0

> > 068 076

> > > 0 88

0

0

-+-

072 020 44 068 076 60 012 94 80 019 00 00 84 8- 020 0,2 0 0296 0 3 z 0 292 0 0 080 0,16 0 24 0/80 040 020 0,2 0 0 32 0 28 0 0 0 0 0 Geochemical Values of Lead in ppm. 0 02.0 0 84 04 012 -0 97

Map 8

#### RESULTS OF GEOCHEMICAL ANALYSIS

Sample No.	Zn	Pb	Cd	Sample No.	Zn	Pb	Cd
P-30-1	62	24	2.7	P-32-4		65	
2		12		5		50	
3		24		6		85	
4		40		7	1740	122	6.2
5	330	56	2.7	8		48	
6		100		9		47	
7		56		10 .		43	
8		116		P-33-1	380	117	1.8
9	1040	128	3.4	2		62	
.10		240		3		24	
11		152		4		274	×
P-31-1	54	20		5		129	
2	50	68		6	620	123	2.1
4		76	3.7	7		59	
5		60		8		203	
6		132		9		150	
7		94		10	160	234	1.8
8		80		P-34-1		92	
9		119		2		21	
10	360	156	2.2	3		38	
11		200		4	1800	221	5.6
P-32-1		137		5		95	
2		92		6		104	
3	820	172	4.5	7		89	

September 28th, 1972

All values in ppm.

Sample No.	Zn	Pb	Cd	Sample No.	Zn	Pb	Cd
P-34-8	130	52	4.1	P-37-7		24	
9		113		8		34	
10		96		9		39	
P-35-1		221		10	48	30	5.4
2		216		P-40-1		97	
3		106		2		21	
4	360	87	3.2	3		68	
5		123		4	<b>320</b> <sup>°</sup>	114	5.0
6		67		5		82	
7		39		6		64	
8	460	46	1.5	7		168	
9		60		8		104	
10		85		9		128	
P-36-1		46		10	740	84	.5
2	360	42	2.8	11		40	
3		43		12		92	
4		33		13		80	
5		25		14	66	26	5.3
6	180	68	3.6	14'A'		40	
7		39		15		148	
8		50		P-41-1		68	
9		32		2	360	84	3.2
10		203		3		44	
P-37-1	330	55	2.9	4		52	
2				5		40	
3		58		6	88	8	1.4
4		65		7		72	
5		39		8		48	
6	310	35	2.9	9		172	

- 32 -

Sample No.	Zn	Pb	Cd	Sample No.	Zn	Pb	Cd
P-41-10		8		P-43-3		2-	
11	17	2-	4.8	4		16	
12		160		5	•	28	
13		20		6	104	20	1.1
14		140		7		24	
15	78	26	4.4	8		112	
P-42-00		88		9		32	
00 'A'		2-		10		12	
1		76		11	340	72	2.3
2	22	4	4.8	12		24	
3		84		13		12	
4		68		14		32	
5		12			•		
6	640	180	3.0				
7		116					
8							
9		292					
10		296					
11		104					
12	500	120	2.5				
13		88					
14		112					
15		60					
16	760	186	3.6				
17		2-					
P-43-00		100					
1		24					
2	36	12	3.6				

- 33 -

#### ADDENDA to October 23rd. 1972

.

Assay Certificates for assays quoted	pg
in Supplement	345
Analyses of soils taken October 6th	36
Map showing location of soils	37
Analyses of float and chip samples taken during course of staking	38
Analysis of Barite from FOO claims	39
Cadmium analyses on a few soils from the north side of the claims	40

To: VESTOR EXPLORATIONS
#1502 - 11111 - 87th Ave.,
EDMONTON, Alta.

File No.	5898
Date	October 19, 1972
Samples	Chips

ŧ

ATTENTION: Mr. A. Rick

# St ASSAY or

LORING LABORATORIES LTD.

Assays reported in Supplement dated October 19th 1972

	%	%	
SAMPLE NO.	Zn	Gd	
Mineralized specimens collected at Location A October 6th, 1972			
V - RED - 1	14.24		
V - RED - 2	12.64	.04	
	J Merchy Certify Assays made by me upon t	THAT THE ABOVE RESULTS ARE THE HEREIN DESCRIBED SAMPLE	E THUSE S

Rejects Retained one month.

Pulps Retained one month unless specific arrangements made in advance.

C. L.D. er CC Charter



Date Reported: October 5, 1972

LABORATORY REPORT NUMBER: E72-821

#### VESTOR EXPLORATIONS LTD.

Kind of Sample: Ore

Date Sampled: October 2, 1972

Sample of float from cliff edge by T. Rich and Dave Stelck at Redfern Lake, B. C., West of P-36-10

Zinc: 3.8% (Weight)

To: VESTOR EXPLORATIONS
#1502 - 11111 - 87th Ave.
EDMONTON, Alta.



File No.	
Date	October 19, 1972
Samples	Soi1

ATTENTION: Mr. A. Rick

Servificate ASSAY

LORING LABORATORIES LTD.

SAMPLE No.	ppm Pb	ppm Zn	
Soils collected for 'check' purposes – October 6th,1972			
P - 32 - 6 - A	450	2120	
P - 32 - 6 - B	155	500	
P - 32 - 6 - C	145	371	
P - 32 - 6 - D	420	1700	
	I Tereby Ce assays made by me	rtify that the above resu Upon the herein described	JLTS ARE THOSE SAMPLES

Rejects Retained one month.

Pulps Retained one month unless specific arrangements made in advance.

EZ 1736 That it store



Location of Geochem Samples. showing locations of samples P-32-6-A-D

To: VESTOR EXPLORATIONS LTD.

# 1502 - 11111 - 87th Avenue EDMONTON, ALBERTA -----T6G 0X9

ATTENTION: MR. TONY RICH



File No.	<u>5530</u>
Date	JULY 10, 1972
Samples	GEO CHEMS

# St ASSAY LORING LABORATORIES LTD.

0×

SAMPLE No.		PPM Zn	PPM Pb	
	Float and chip samples taken fr the EGG and FOO claims duri the course of staking.	om ng	7	
KC 01		100		
KC 02		106		
кс 03		98		
HC 01		103		
HC 02 🦳		81		
HC 03 5		64		
CC 1 .≥		41	<del></del> .	
		43		
CC 3		42		
EC 2 :		100	•• =	
EC 3 ~		60		
<u>GC 01</u>				
D 99	<b>•</b>	283		
D 100		77 50		
D 103 U		50		
D 104		52		
D 105 -		38		
D 106		1000	33	
D 107 5		60		
D 107A O		00		
D 108		δ4 2020		
D 110		3220	28	
	I Herehu Certify assays made by me upon t	THAT THE ADOVE The Herein Descri	RESULTS ARE THOSE IBED SAMPLES	

Rejects Retained one month.

Pulps Retained one month unless specific arrangements mode in advance.

<u>C</u>

To:	VEST	DR	EXI	PLOI	RAT	TIONS	L]	MII	ED
*	1502		111	.11	<b></b>	87th	A٦	/enu	le
• • • •	EDMON	ITO	N,	ALI	BER	RTA			



File	No.	5530			
Date		JULY	10,	1972	
Samp	oles	BARI	ΓE		



SAMPLE NO	%	%	%	SULPHATE	TOTAL
	Ва	Ca	S.G.	% S	S
•					
SAMPLE # D-109	57.42	.18	4.3956	13.38	13.38
Barite from the FOO					
claims, Redfern Lake					
		NO C.	ARBONATES DE	TECTED.	
	7 Thereb	n Cer	tifn THAT THE	ABOVE RESULTS AR	E THOSE
	ASSAYS MADE	E BY ME U	IPON THE HEREI	N DESCRIBED SAMPLE	S

Rejects Retained one month.

Puips Retained one month unless specific arrangements made in advance.

ezimel Dace

To: VESTOR EXPLORATIONS,
#1502 - 11111-87th Ave.,
EDMONTON, Alta.

ATTN: Mr. A. Rick President

.



File	No.	5804
Date	Se	ptember 26, 1972
Sam	ples	Geo-Chems

ASSAY 0×

# LORING LABORATORIES LTD.

SAMPLE No	Cd
	<u>ppm</u>
	Cadmium analyses on a few high zinc soils which were taken from the north half of the claims.
P - 10 - 4	8
P - 22 - 1	2
P - 22 - 3	1
P - 22 - 4	2
P - 22 - 5	2
P - 22 - 7	1
P - 23 - 7	3
· · · · · · · · · · · · · · · · · · ·	I Thereby Certify that the above results are those
	ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES

Rejects Retained one month.

Pulps Retained one month unless specific arrangements made in advance.

cci colim

#### ADDITIONAL CONSIDERATIONS

#### REDFERN LAKE GEOCHEMICAL ANOMALY

#### Factual Considerations

- 1. Middle Devonian carbonates north of Redfern Lake are restricted to the large plateau, almost all of which is held by Vestor and Noranda. The west boundary of the plateau is a thrust fault which separates Ordovician and Silurian lithologies to the west from the Devonian carbonates of the plateau. The eastern edge of the plateau marks the boundary between the Devonian carbonates to the west and stratigraphically higher Besa River shales to the east. To the north of the plateau the Mid Devonian is largely eroded, however a few remants do exist on the tops of mountains.
- A generally coincident zinc-lead geochemical anomaly, 7500' x 1000', and a number of smaller sized anomalies occur in the SE sector of the plateau.
- 3. A number of pieces of dolomite float containing sphalerite mineralization and grading up to 14% zinc were found at the SW end of the large anomaly. Veins of barite occur in many of the mineralized float samples. Barite is also locally abundant in Mid Devonian carbonates elsewhere on the plateau.
- 4. It can be readily estimated that there are approximately 5,000 tons of zinc contained in the overburden within the anomalous areas in the SE part of the plateau, assuming the following:
  - A. That overburden averages 5' in thickness.
  - B. That the zinc concentrations gradually decrease to the base of the overburden where values are one-half those obtained in sampling near surface.

C. That the zinc threshold for soils in this area is 200 ppm.

#### Possible Sources or Causes of the Anomaly

- A soil concentration which is not the result of any concentrations of zinc or lead in bedrock or float, i.e. strictly an enrichment in overburden of trace amounts of metals contained in surrounding rocks.
- 2. Mineralized float transported as a glacial train from beyond the limits of the plateau.
- 3. A concentration of metals in bedrock within the confines of the plateau.

#### Analysis of Possible Causes of Anomaly

Possibility 1

A. Much of the anomalous area is topographically low. Runoff from surrounding higher areas could conceivably concentrate metals in overburden in these low areas. However, no anomalies exist in other similar topographic lows on the plateau.

B. Zinc soil concentrations are not uncommon, however lead soil concentrations are uncommon, particularly where the lead anomaly is almost coincident with the zinc. In addition some of the samples which were checked for cadmium were found to be anomalous. Normally an association of cadmium and zinc would only be expected in cases where the anomaly is caused by sulphide mineralization (sphalerite).

C. It is unlikely that numerous and wide spread values in excess of 2,000 ppm would be attained in a soil concentration.

D. Mineralized dolomite float found on the anomaly would suggest that the anomaly is caused by sulphides either in float or bedrock.

#### Possibility 2

A. A conservative estimate of the amount of zinc contained in the anomaly is 5000 tons as outlined above. Whatever the source of the zinc, it is likely that at least half was dispersed through runoff and is not trapped in the anomaly. Assuming 10,000 tons of zinc has been produced, half of which is trapped in the anomaly and assuming the anomaly is caused by mineralized glacial debris averaging 10% zinc, and assuming 20% of all the zinc in the debris was leached, to produce the anomaly, it would require 500,000 tons of 10% mineralized debris to produce 10,000 tons of zinc metal. This 500,000 tons would constitute 6% of the total amount of overburden in the anomalous area. It follows that if 6% of the overburden is mineralized, the source of the mineralized debris must be local, i.e. within the plateau.

B. Mineralized float has been found within the anomaly and conceivably it could have been transported a considerable distance. If this mineralized carbonate float is not derived from the plateau, the only alternative carbonate source, bearing in mind the directions of glacial transport, is the Ordovician – Silurian west of the plateau. It is most logical that the float is Devonian and has been derived from the plateau for the following reasons:- If the float is Ordovician or Silurian, the minimum distance of transport is 2 miles. With this distance of transport, it is highly unlikely that mineralized float would constitute as much as 6% of the total overburden in the anomalous area.
 It is still more unlikely that such a quantity of mineralized glacial debris would be deposited on the plateau in such a manner as to produce distinct and smooth anomalies.

2. Much of the mineralized float is associated with barite which is particularly abundant in Mid Devonian carbonates of the plateau.

3. All the mineralized float is quite angular suggestive of a local source.

#### Possibility 3 and Conclusion

On the basis of the foregoing arguments, it appears almost certain that the anomaly is caused by sulphide mineralization. Also it is almost certain that the sulphides are local and occur in Devonian carbonate rocks on the plateau.

J. A.Greig, B.Sc., M.Sc. November 10th, 1972

To: VESTOR EXPLORATIONS,
#1502 - 11111-87th Ave.,
EDMONTON, Alberta

ATTENTION: Mr. A. Rick



File No	5970
Date	November 1, 1972
Samples	Rock Geo-chem

Ser ASSAY \*\*

LORING LABORATORIES LTD.

SAMPLE No.	ppm Zn
	Specimens taken by J. A. Greig on October 28th, 1972. The limestone samples were taken from various locations on the claims. QTZ 2 was a specimen of dolomite, extensively replaced by quartz and containing very small light rusty patches. Any sphalerite which may have been present appears to be leached from this specimen. It was taken from the top of the west side of the gully about 700' west of location A - (1,000feet west of station P-35-1).
LST - 1	59
LST - 2	28
lst - 5	19
QTZ - 2	35,100
	7 Baraby Martify that the apove desults are those
	J HEREDE CETTLE THAT THE ABOVE RESULTS ARE THOSE ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES

Rejects Retained one month.

Pulps Retained one month unless specific arrangements made in advance.

e L'mie al con - 1. L.

DEPARTMENT OF GEOLOGY



- 46 -

THE UNIVERSITY OF ALBERTA EDMONTON 7, CANADA

Tuesday November 14th, 1972.

Tony Rich, Esq., Vestor Explorations Limited, #1502 - 11111-87 Avenue, Edmonton, Alberta

Dear Tony,

I have looked at your fossils from Northeastern British Columbia from the Redfern Lake area and the identifications are as follows (The first number is the University of Alberta accession number on each specimen).

- 2276 a. (your collection VI) Favosites alpenensis - lower Givetian this would be early Pine Point in position. Dunedin Formation
- 2276 b. (your collection V3 Misc.) Thamnopora limitaris (= Favosites limitaris) Givetian, Reef wall facies. Dunedin Formation
- 2276 c. (your collection V2) Thamnopora limitaris (= Favosites limitaris) Givetian, Reef wall facies, Dunedin Formation
- 2276 d. (your collection P42:00 Stringocephalus axius Crickmay Geranocephalus inopinus Crickmay Thamnopora Lower Givetian, Dunedin Formation (This is low in the Pine Point equivalent)
- 2276 e. (your collection P2) Thamnopora Amphipora Actinostroma (s.l.) Givetian, Reef wall facies
- 2276 f. (your collection P43-3a-b) Thamnopora Amphipora Stromatoporoid (indet) M. Devonian (Reef wall facies)
- 2276 g. (your collection P43-16) Stringocephalus cf. fontanus Veevers Mid Givetian, Dunedin Formation about Mid Pine Point position

To: Tony Rich

- 2276 h. (your collection N4-9 Nordling Creek)
  Stromatoporoid (indet)
  Fish-bone
  Westerna sp.
  Pleurotomaria s.l. (Trepospira?)
  Paleozygopleura sp.
  late Sil M. Devonian
- 2276 j. (your collection A-24) Stringocephalus cf fontanus Veevers Mid Givetian
- 2276 k. (your collection Head of Nordling Creek) Crinoid stems Favosites alpensis Atrypa cf. andersonensis Warrenella praekirki Johnson Parapholidostrophia sp. Productella sp. Lower Givetian (near base) This is the lowest zone of the Givetian

This is obviously the Dunedin formation in this area projecting up into the Besa River shales in an expression of reefing that seems here to run from about earliest Givetian to about Mid Givetian or to put it in the classic stratigraphy it is a lower Pine Point reefing entirely pre-Presquile reefing.

Yours truly,

On Tulch

C.R. Stelck, Department of Geology

Most of the fossil locations are shown on the following map. The last three collections were taken from the company's claims to the south of Redfern Lake.

crs/amcc

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