# ASSESSMENT REPORT

ON

# EXPLORATION DURING 1984

ON THE

# DAVE PRICE PROPERTY

Omineca Mining Division

Latitude 57°18'N, Longitude 127°02'W

NTS 94E/6E

OWNER/OPERATOR:

Western Horizons Resources Ltd.

by

GOWER, THOMPSON & ASSOCIATES LTD.
New Westminster, B. C.

GEOLOGICAL BRANCH ASSESSMENT REPORT

December 22, 198 3, 386. Gower,

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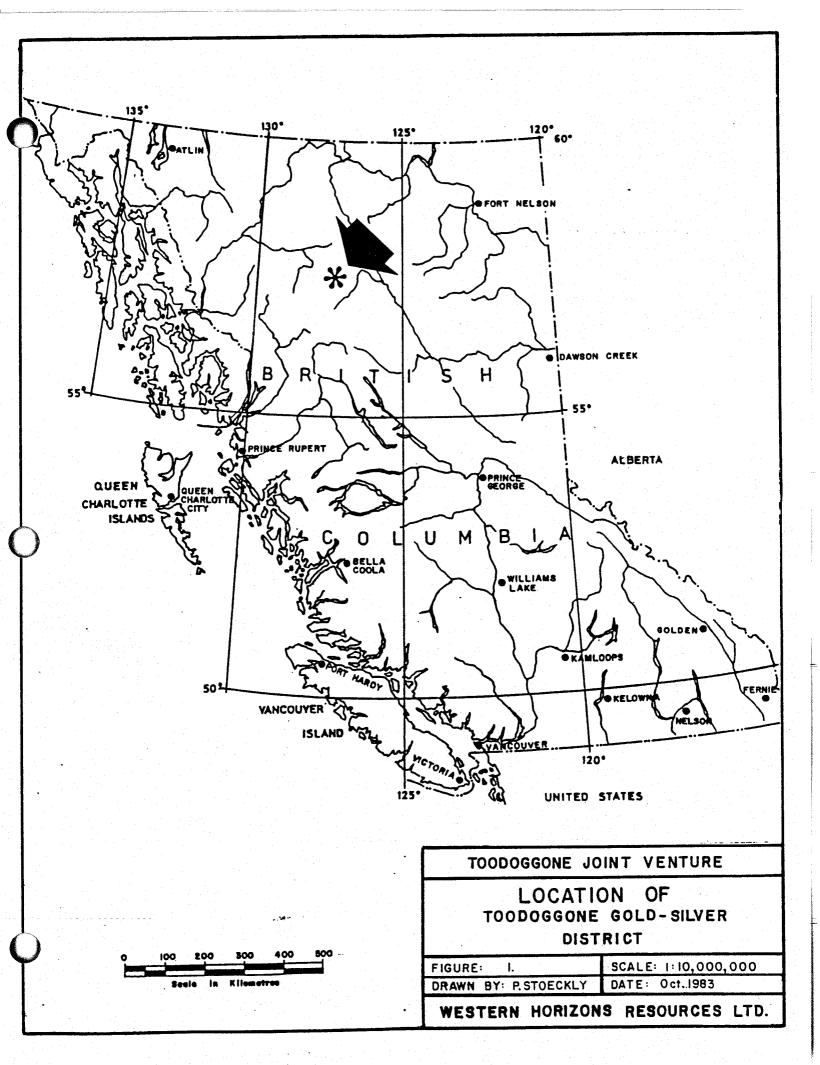
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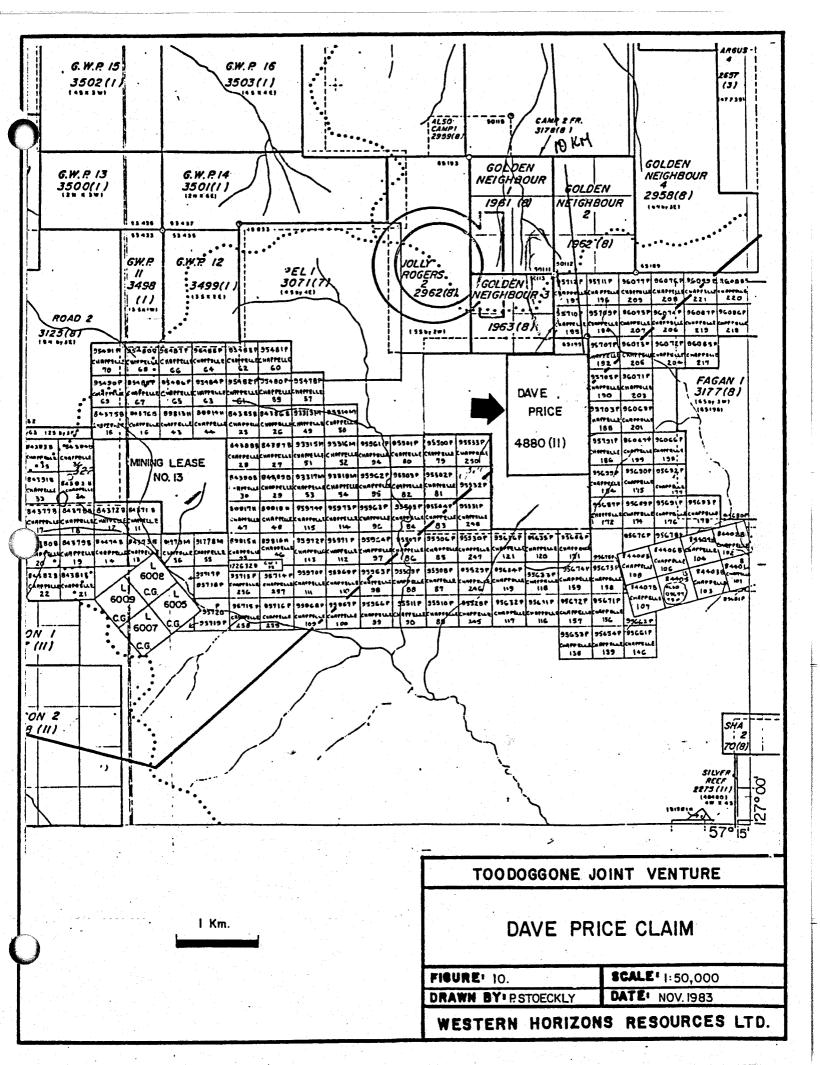
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#### LOCATION OF CLAIM

The Dave Price claim is located 11 kilometres north-northeast of the Sturdee airstrip. The property lies on the east side of Saunders Creek Pass between Elevations 1600 to 2100 metres in a drainage leading to Black Lake. The claim is in the Omineca Mining Division at Latitude 57°18'N, Longitude 127°02'W, NTS 94E/6E. (See Figures 2 and 3.) The property is accessible by helicopter from Sturdee airstrip.

#### CLAIM STATUS

A total of six (6) units comprise the Dave Price claim.

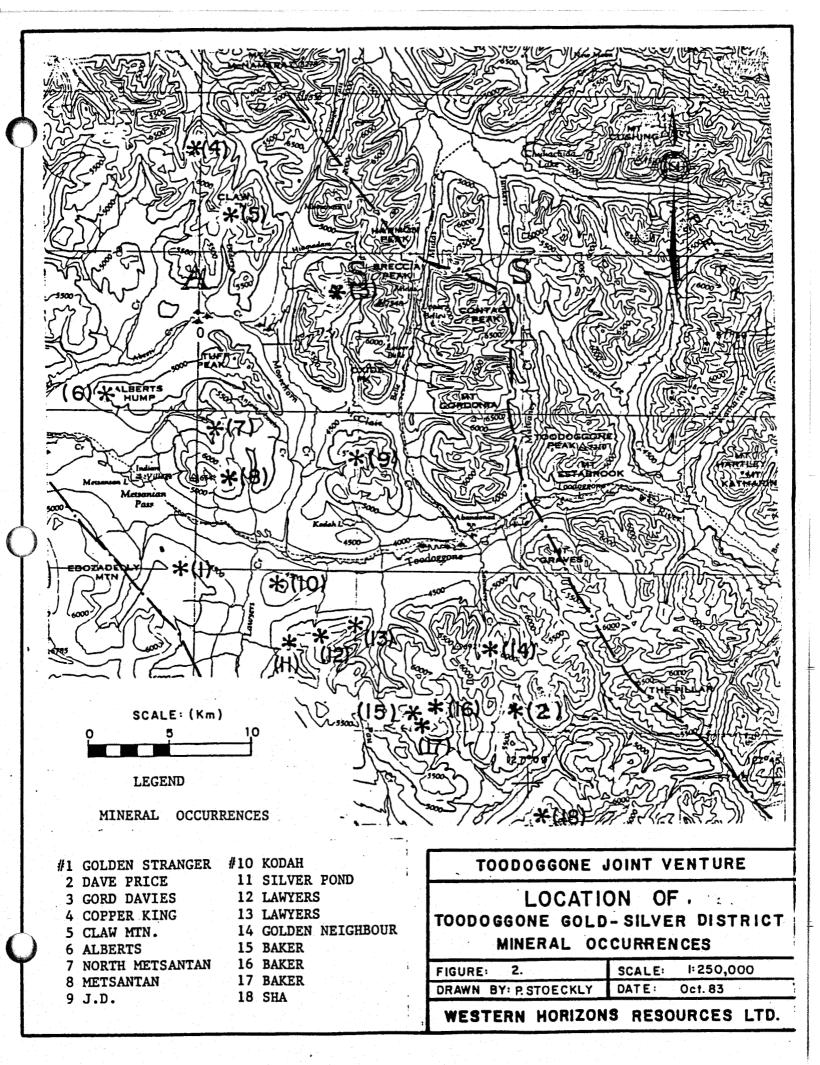
		TABLE I	
Claim	Units	Record No.	Anniversary Date
Dave Price	6	4880 (11)	November 3, 1983*

<sup>\*</sup>One year's assessment work is being applied to the Dave Price claim to extend the expiry date to November 3, 1987.

The legal corner post is located at 1,650 metres elevation, 13 kilometres south-southeast of the junction of Saunders Creek and the Toodoggone River. The Dave Price claim is owned by Western Horizons Resources Ltd.

## LOCATION OF TOODOGGONE GOLD-SILVER DISTRICT

The centre of the Toodoggone Gold-Silver District is located 300 kilometres north of Smithers, at Latitude 57°22.5'N and Longitude 127°15'W;



NTS 94E (See Figure 1). The area extends 90 kilometres northwesterly from Thutade Lake to north of Stikine River. The central portion of this belt is shown on Figure 2.

Access to the area is by fixed wing from Smithers to the Sturdee River airstrip, thence by road to the Baker and Lawyers properties, or by helicopter to other properties in the Toodoggone Gold-Silver District.

The Toodoggone Gold-Silver District lies at the east edge of the Intermontane Belt adjacent to the Omineca belt. An upland area, Elevation 2000 to 2300 metres (6500 to 7500 feet), is abundantly dissected by rivers and creeks heading in steep-walled cirques.

#### MINING HISTORY

Prospecting began in the Toodoggone District early in the 1930's and resulted in discovery of placer gold at Belle Creek. Although lead-zinc mineralization in skarn near the head of Thutade Lake was discovered and staked at this time by Cominco, the search for the lode gold source resulted in no significant discoveries. Chappelle (Baker Mine) was discovered by Kennco Explorations (Western) Ltd. in 1968 while searching for porphyry copper-molybdenum deposits in the general area. Other companies engaged in searching for porphyry deposits during the period 1970 to 1982 include Conwest Exploration Ltd., Cordilleran Engineering Ltd., Cominco and Texas Gulf. This activity by companies and individuals resulted in discovery of significant gold and silver mineralization at Lawyers, Claw Mtn, Metsantan, J. D. (McClair), Sha and Remess properties. These and other properties of note are shown on Figure 2.

The Baker Mine (Cappelle) was in production until early 1984 with initial reserves of 120,000 tons of 0.8 oz/ton Au, 15.0 oz/ton Ag. At the present time, S.E.R.E.M. is evaluating the Lawyers property for production with reserves of approximately 400,000 tons of 0.3 oz/ton Au and 4.0 oz/ton Ag.

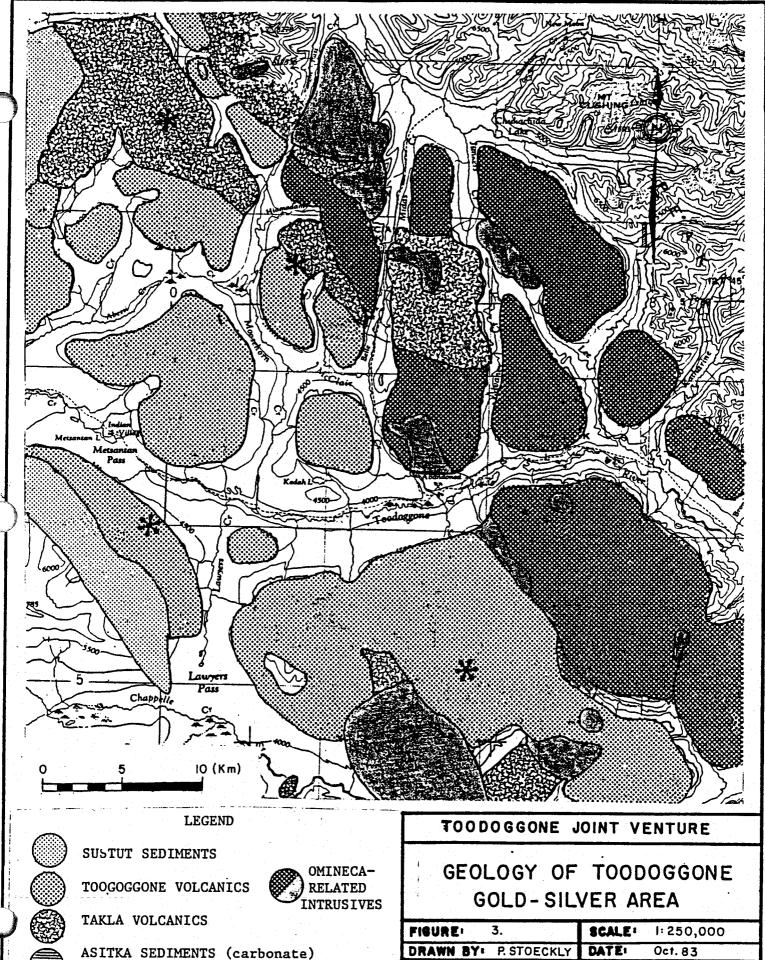
Exploration during the 1984 field season was carried out by S.E.R.E.M., Newmont, Kidd Creek (Texas Gulf), St. Joseph and Western Horizons. Total exploration expenditures of these companies in the Toodoggone area during 1984 are estimated to be 2.5 million dollars (\$2,500,000).

#### REGIONAL GEOLOGY

The Toodoggone District is underlain by a northwesterly belt 90 by 15 kilometres of paleozoic to tertiary sediments, volcanics and intrusives. Figure 3 shows that the Sustut Group (Upper Tertiary to Cretaceous) sediments, which form the west margin of the Toodoggone belt, unconformably overlie the Toodoggone volcanics (Hazelton Group, Lower Jurassic). To the east, and as fault blocks within Toodoggone volcanics, Takla Group (Upper Triassic) volcanics form a disrupted belt of faulted segments containing lesser fault blocks of Asitka (Permian) limestone. The Omineca intrusions form the east margin of the Toodoggone belt.

#### STRUCTURAL SETTING

The geological framework of the Toodoggone Gold-Silver camp is a result of comagmatic intrusive-volcanic-hydrothermal processes occurring along deep-seated northerly trending structural breaks during a 20-million-year period in upper Triassic to lower Jurassic time. Volcanism resulted in



WESTERN HORIZONS RESOURCES LTD.

deposition of a thick succession of Toodoggone volcanic rocks in a subaerial, perhaps partly shallow marine environment, on a "basement" of older Takla volcanics and Asitka sediments. Intrusive and hydrothermal systems associated with volcanism invaded these volcanic rocks along the same deep-seated and periodically reactivated structural breaks controlling volcanism. Stocks, dykes and sills of Omineca-related intrusions were thereby emplaced in Toodoggone volcanics and "basement" Takla-Asitka rocks. Linear zones of varied kinds and intensity of hydrothermal alteration, veining and mineralization, associated with emplacement of plutons, were also impressed at different structural levels in Toodoggone and older rocks.

Subsequently, the Toodoggone and earlier rocks were subjected to repeated and extensive normal block faulting from Jurassic to Tertiary time. Within these fault blocks, Toodoggone rocks display broad, open folds, commonly with dips less than 25 degrees.

Sustut Group sedimentary rocks unconformably overlie these earlier rocks and have relatively flat dips with few major structural disruptions.

## STRATIGRAPHY

# Asitka Group (Permian)

Asitka Group carbonates to greater than 150 metres thick are the oldest known rocks in the Toodoggone area. These rocks occur as fault blocks in association with Takla volcanics. In some areas, these limestones are associated with brecciated serpentinite. Skarn development near contacts with Omineca intrusions may contain garnet, magnetite, tremolite, galena and sphalerite and are hosts for some silver-lead-zinc deposits.

# Takla Group (Triassic)

Barr (1978) subdivides the Takla Group volcanics into four units at Chappelle property (Baker Mine) as follows:

- 1. Pyroclastic breccia
- 2. Dark grey porphyritic andesite
- 3. Fine grained andesite
- 4. Tremolite andesite porphyry

The Takla Group volcanics may include some local development of limestone.

# Hazelton Group (Jurassic) Toodoggone Volcanics

Toodoggone volcanics unconformably overlie Takla Group and consist of thick ashflow units succeeded by thin discontinuous and locally reworked ashflow material, volcanic breccias, and thin airfall tuffs.

Panteleyev (1983) divides the Toodoggone volcanics in the Toodoggone-Sturdee River area into six major units as follows:

Unit 6 - Grey dacite.

Unit 5 - Andesite and trachyandesite flows.

Unit 5 ai Pyroxene basalt intrusion.

Unit 5 a, b, c Basaltic sequence east of Saunders CreekWest Jock Creek fault system.

Unit 4 - Quartzose andesite poryclastic rocks.

Unit 3 - Andesite flows and tuffs.

Unit 2 - Andesite flows.

Unit 1 - Tuff and tuffaceous sandstone "redbeds".

Unit la Volcanic flow unit.

Moosehorn Creek - overlain by Unit 1.

Panteleyev states that collective radiometric dates from Toodoggone volcanics from this gold-silver belt indicates that these rocks were deposited over a 20-million-year period from approximately 180 to 200 Ma.

# Omineca Intrusions

The Omineca intrusions of Jurassic (and Cretaceous) age, with potassium-argon age determination 186 to 200+Ma, range in composition from granodiorite to quartz monzonite. Some syenomonzonite bodies and quartz-feldspar porphyry dykes may be feeders to the Toodoggone rocks. There is increasing evidence in support of Schoreter's contention that Omineca intrusions and Toodoggone volcanics may be comagnatic and coeval.

#### GEOLOGY OF THE DAVE PRICE PROPERTY

The regional geologic map GSC O.F. #483 shows that the Dave Price claim lies within a broad belt of Toodoggone volcanics. A possible disconformity occurs in the volcanic succession in the claims area.

Beneath the disconformity, the Toodoggone volcanics consist of porphyritic flow breccias which contain scattered small exotic lithic fragments. These rocks locally have primary hematitic fragments and matrix suggesting subaerial origin. The porphyritic flow breccias have undergone varied epidote-chlorite-pyrite alteration. At least four gossanous zones of brecciated quartz-sericite-pyrite hydrothermal alteration are evident on the Dave Price property. Siliceous breccias associated with a shear-fault system of unknown extent were also noted.

The volcanics above the apparent disconformity are composed of relatively unaltered porphyritic flow breccias of probable dacitic composition.

#### MINERAL POTENTIAL

The zones of siliceous-sericitic-pyritic alteration breccias and associated jarositic gossans probably represent high structural level hydrothermal centres. The size and configuration of these centres has not been determined. In addition, siliceous breccias were noted in association with linear shear-fault structures. These hydrothermal centres and silicified faults provide potential for significant mineralization.

#### PREVIOUS WORK

Anomalous gold values (20 ppb Au), from sampling programs reported in Assessment Report 8445 and 9425, are summarized on Figure 5. Gold values in soils range from 5 ppb to 250 ppb Au on the Dave Price property. A single high value of 1525 ppb Au from soil was obtained from sample site approximately 100 metres east of the Dave Price boundary.

Silt samples from within the claims gave values ranging from 5 to 55 ppb Au with the highest values occurring in the northeast corner of the claim group.

Two quartz-sericite breccia systems sampled previously gave values ranging from 0.1 to 1.7 ppm Ag, and 5 to 45 ppb Au with the higher values associated with the lower jarositic-quartz-sericite breccia system.

The property has not been mapped in detail, nor is the petrography and petrology well documented or understood.

#### PRESENT WORK

S. C. Gower, geologist, and E. M. Thompson spent two days (August 22 and 24, 1984) examining the property. Breccia were located and sampled with a view to determining the geological environment. Visual descriptions of the samples are included in this report.

# Detailed Sample Descriptions

- DP-84-010 Sample consists of brecciated, silicified feldspar porphyry which exhibits rebrecciation and clay alteration. Jarosite staining present along some fractures.
- DP-84-011 Sample consists of rebrecciated feldspar porphyry with infillings of quartz and pyrophyllite.
- DP-84-012 Sample consists of rebrecciated and silicified feldspar porphyry. Feldspar phenocrysts in porphyry altered to clay minerals. Siliceous boxwork present (skeletal texture).
- DP-84-013 Sample consists of banded quartz exhibiting bluish-grey margins and vuggy cores. Jarosite along fractures.
- DP-84-014 Sample consists of rebrecciated highly silicified feldspar porphyry. Jarosite staining in porous sections of rock.
- DP-84-015 Rebrecciated quartz-feldspar porphyry sericitized and silicified. Occasional vuggy cavities.

- DP-84-017 Sample consists of recemented brecciated quartz. Some surfaces stained with jarosite. Clast sizes range from 0.01 cm to 1.0 cm.
- DP-84-018 Fault gouge, minute included ground quartz fragments.
- DP-84-019 Sample consists of strongly silicifed and brecciated feldspar porphyry and associated fault gouge. Jarosite staining along some fractures.
- DP-84-020 Propyllitized and silicified feldspar porphyry breccia.

  Some talcose fault gouge surrounding fragments. Jarosite staining along fractures.
- DP-84-021 Strongly silicified feldspar porphyry refractured with siliceous overprint. Some fractures vuggy. Columnar jointing evident.
- DP-84-022 Massive fault breccia exposed in creek bed across a 6.0metre width. Fragments generally around 2-3 cm in width
  consisting of silicified and clay altered feldspar porphyry.

  Quartz-carbonate infillings around clasts. Some vuggy
  cavities filled with minute quartz crystals. Abundant
  oxidation, no visible sulphides. Jarosite, manganese,
  hematite present. Talcose fault gouge. Bluish-green
  clasts probably due to chlorite.

# Rock Geochemistry

# TABLE II

Sample No.	Mo ppm	Ag ppm	Au ppb	Sample Description
DP-84-010	10	<.02	10	Rebrecciated & jarositic, silicified feldspar porphyry breccia; clay altered.
DP-84-011	<1	<.02	<b>⋖</b> 5	Rebrecciated, silicified feldspar porphyry breccia.
DP-84-012	7	<.02	5	Silicified feldspar porphyry breccia.
DP-84-013	<1	<.02	<5	Banded quartz veins; bluish-green in colour.
DP-84-014	2	<.02	<.02	Silicified feldspar porphyry breccia; jarosite staining.
DP-84-015	6	<.02	< 5	Silicified feldspar porphyry breccia; occasional vuggy cavities.
DP-84-016	10	<.02	5	Silicified feldspar porphyry breccia with quartz infillings around clasts.
DP-84-017	<1	<.02	20	Rebrecciated & jarositic, silicified feldspar porphyry breccia.
DP-84-018	<.1	1.1	70	Fault gouge & very fine quartz fragments.
DP-84-019	<.1	<.02	20	Silicified feldspar porphyry breccia and fault gouge.
DP-84-020	ı	<.02	15	Silicified Feldspar porphyry breccia; clay altered.
DP-84-021	3	<.02	10	Strongly silicified feldspar porphyry breccia.
DP-84-022	51	<.02	120	Major fault breccia in creek bed. Approximately 6.0 metres in width. Abundant clay gouge and rock clasts.

#### CONCLUSIONS

Four zones of siliceious-sericitic-pyritic brecciated hydrothermal alteration and siliceous breccias associated with faults provide potential for significant mineralization and deserve further evaluation. The exposed structural level of these systems should be determined. Geological mapping, accompanied by sampling for assay, petrographic, mineralographic and fluid inclusion studies, are warranted to assess the potential of this property.

### RECOMMENDATIONS

A program of geologic mapping and sampling for assay, petrography, alteration and fluid inclusion studies is recommended. Trenching is required on the upper and lower quartz-sericite brecciated hydrothermally altered centres and on the quartz-breccia system associated with the shear-fault zone. Trenching will expose wider areas of these features, provide less-leached material for assays and petrographic studies, and afford better measurement of their attitude and lateral extent.

Stephen Clour

# Bondar-Cierg & Company Ltd. 130 Pembotion Ave. North Variouser, B.C. Canada V79 285 Phone (e0) 1985 desi Tele: 04-53269 WESTERN HORIZONS RESOURCES LTD. AR. STEPHEN BOWER GUER, THORPSON & ASSOC. 8360 - 522 7TH STREET, NEW WESTATIN. V3N 5T5

Geochemical Lab Report Bondar-Clegg & Company Ltd.

130 Pemoerton Ave. North Vancouver, B.C. Canada V7P 2R5 Phone: (604) 985-0681 Telex: 04-352667



Geochemical Lab Report

REPORT: 124-3831

FROM: WESTERN HORIZONS RESOURCES LTD.

DATE: 08-NOV-84 PROJECT: NONE GIVEN

SUBMITTED BY: UNKOWN

LOWER
ORDER ELEMENT DETECTION LIMIT EXTRACTION

UNAZ-UCI UAT EYTO

METHOD

SIZE FRACTION

SAMPLE TYPE

SAMPLE PREPARATIONS

01 Aq 02 Au

Αo

.2 PPM 5 PPB I PPM HNO3-HCL HOT EXTR FIRE-ASSAY HNO3-HCL HOT EXTR Atomic Absorption Fire Assau AA Atomic Absorption -100 -100

-100

VARIOUS SAMPLE T

CRUSH. PULVERIZE -100

DRY, SEIVE -80

REPORT COPIES TO: MR. KEN NORTHCOTE

MR. STEPHEN GOVER

INVOICE TO: MR. KEN NORTHCOTE

Bondar-Clegg & Company Ltd.

130 Pennberton Ave. North Vancouver, B.C. Canada V7P 2R5 Phone: (604) 985-0681 Telex: 04-352667



Geochemical Lab Report



REPORT; 124-3831				PROJECT: NONE GLYEN PAGE 1		
SAMPLE ELEMENT Humber units	Aq PPM	Au PPB	Mo PPN	NOTES		
S DP-84-018	1.1	70	<1			
R DP-84-001	17.0	(5	<1 ⋅			
R DP-84-002	3.7	<b>√</b> 5	<1 ·			
OP-84-003	50.0	30	41			
R DP-84-005	1.4	5	16			*
P-84-006	0.9	<b>(</b> 5	51			
P-84-007	0.4	⟨5	9			
P-84-010	(0.2	10	10			
P-84-011	⟨0.2	₹5	4			
t DP-84-012	⟨0.2	<b>(</b> 5	7			
P-84-013	(0.2	(5	<b>(1</b>			
OP-84-014	(0.2	(5	2			
DP-84-015	(0.2	₹5	6	· · ·		
CDP-84-016	(0.2	5	10			
P-84-017	⟨0.2	20	41			
<i>)</i> -84-019	<0.2	20	<b>41</b>			***************************************
09-84-020	⟨0.2	15	1			
DP-84-021	(0.2	10	3			
09-84-022	(0.2	120	51			
7 177						

# STATEMENT OF COSTS

	====	
TOTAL COSTS:	\$ 1,	,850
Support - 4 man-days @ \$25/day		100
Assays - 13 samples for Au, Ag, Mo		160
Fixed Wing Smithers/Sturdee - 2 trips @ \$375		750
Helicopter - 0.4 hours @ \$600/hr.		240
E. M. Thompson - August 22, 24, 1984 - 2 days @ \$1-0		200
S. C. Gower - August 22, 24, 1984 - 2 days @ \$200	\$	400

Stephen Clown

# STATEMENT OF QUALIFICATIONS

- I, STEPHEN C. GOWER, resident at 985 Gatensbury Street, Coquitlam,
   B. C., state that I received a B.Sc. in Geology from U.B.C. in
   1970.
- 2. I subsequently completed masters courses at U.B.C. in property evaluation and exploration.
- 3. I have been employed as a geologist by major mining companies during the period 1970-1982.
- 4. From 1982, to present, I have been employed by Gower, Thompson & Associates Ltd. as a consulting geologist.
- 5. During the past 15 years, I have spent approximately 8 field seasons exploring mineral properties in the Toodoggone District.

Stephen C. Gower

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