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PROSPECTING, GEOLOGICAL AND GEOCHEMICAL

ASSESSMENT REPORT

ON THE

DIADEM ONE, TWO, 3 AND 4 MINERAL CLAIMS



Field work conducted between October 20, 1987 and February 19, 1988

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SUMMARY

- The Diadem claims are located west of Mount Diadem near the headwaters of Lois River, 35 km east of Powell River townsite, 100 km northwest of Vancouver.
- (2) Access is by well maintained logging roads from Powell River to the subalpine slopes. Above timberline access is by helicopter or foot.
- (3) The claims were staked in October 1987 surrounding the Diadem claim (owned by Fury Exploration) and a claim owned by R. Schmidt.
- (4) The claims partially cover a belt of Jurassic volcanic and sedimentary rocks which exceeds 10.0 km in length and averages 2 km in width. These rocks are surrounded, intruded and variously metamorphosed by Cretaceous Coast Plutonic Complex intrusives.

The volcanics and sediments have been tilted to nearly vertical and strike in a north-northwesterly direction. Structural deformation has been intense.

- (5) Mineralization appears to be a remobilized volcanogenic model massive sulfide. Exploration has been carried out intermittently within the belt since the late 1920's. The best surface assays during 1949 yielded 6.1 feet averaging 0.18 oz/ton Au, 9.8 oz/ton Ag, 1.1% Cu, 5.6% Pb and 20.7% Zn over a strike length of 40 feet.
- (6) During 1983 and 1984, Anaconda Canada Exploration Ltd. undertook a program of mapping, sampling and geophysical surveying; culminated by 899 metres of diamond drilling in nine holes.
- (7) The present program consisted of prospecting, geological mapping and rock geochemical sampling. Follow-up work is required.

INTRODUCTION

The Diadem claims are located adjacent to Jervis Inlet, 35 km east-northeast of Powell River; 100 km northwest of Vancouver. Logging road access terminates 1.0 km south of the southernmost known surface showings.

The claims partially cover a belt of Jurassic volcanic and sedimentary rocks which exceeds 10.0 km in length and averages 2 km in width. These rocks are surrounded, intruded and variously metamorphosed by Cretaceous Coast Plutonic Complex intrusives.

The volcanics and sediments have been tilted to nearly vertical and strike in a north-northwesterly direction. Structural deformation has been intense.

Exploration has been carried out intermittently within the belt since the late 1920's. Prospecting, mapping, trenching, geophysics, minor drilling and driving of three short adits was performed on precious-base metal showings over a strike length of over 1,000 metres. The best surface assays from Cominco sampling during 1949 yielded 6.1 feet averaging 0.18 oz/ton Au, 9.8 oz/ton Ag, 1.1% Cu, 5.6% Pb and 20.7% Zn over a strike length of 40 feet.

During 1983 and 1984, Anaconda Canada Exploration Ltd. undertook a program of mapping, sampling and geophysical surveying; culminated by 899 metres of diamond drilling in nine holes.

The Anaconda geophysical surveys (EM, magnetics), outlined largely continuous anomalies over a northwest trending strike length of 3,000 metres; those anomalies being locally up to 300 metres in width.

The Anaconda diamond drilling, testing only 200 metres of strike length, defined the presence of a minimum of three steeply dipping en echelon precious-base metal zones up to 30 metres in width. The best intersection from this drilling yielded 4 metres averaging 10.5 oz/tonne Ag, 2.1% Cu, 7.9% Pb and 2.5% Zn.



Scale 1 17,500,000 approx.

COVENAN	IT RESOURC	ES LTD.		
DIADEM GROUP Diadem One, Two, 3.8.4				
LOCATION MAP				
n de	9y	H.T.S		
No and a comp	Date Dec. 1986	Figure		
MEDOUNCES LTD.	Solie see above			

Based on the results of their work, Anaconda geologists interpreted the preciousbase metal mineralization to represent syngenetic (volcanogenic?) sulfide horizons which had been remobilized. The metal ratios support a volcanogenic origin as similar ratios occur in deposits such as Britannia and Westmin's Buttle Lake ore zones.

Discontinuous but high-grade gold mineralization occurs towards the northern end of the property in narrow quartz veins associated with arsenopyrite and/or chalcopyrite, galena and sphalerite. Samples collected by Cominco in 1949 yielded 10.2 oz/ton Au, 5.2 oz/ton Ag across 6 inches for an exposed strike length of 30 feet. None of these showings have been tested by drilling.

This report documents work done in 1987 and 1988 on claims surrounding the main showings. These claims contain possible extensions along strike of the massive sulfide horizons. Future work on the claims will involve detailed mapping, trenching, rock and soil sampling, detailed geophysics and drilling to test the extensions of known mineralization.

LOCATION AND ACCESS

The Diadem claims are located approximately 35 km east-northeast of Powell River, B.C., just west of Jervis Inlet, at latitude 50° 00' N and longitude 124° 02' W (Figure 1). The terrain is extremely rugged and preciptious with relief ranging from sea level to over 1,700 metres. Exploration is mainly restricted to densely vegetated and talus covered portions of Lois and No Man's Creek valleys and to open alpine meadows at elevations above 1,200 metres. Heavy snow cover at higher elevations does not usually allow exploration activities to commence until mid-July.

The lower southern portion of the property is accessible by logging road which runs up the east side of Lois River (Figure 2). Helicopter support is needed for access to the northern claims.

CLAIM STATUS, LIST OF CLAIMS

The Diadem claims are wholly owned by Covenant Resources Ltd. by Bill of Sale recorded on September 1, 1988 as listed in Table 1 and illustrated on Figure 2.

TABLE 1

List of Claims

Claim Name	Record Number	Units	Size	Date Recorded	Anniversary Date*
Diadem One	2191	18	2N6E	October 1, 1987	October 1, 1989
Diadem Two	2192	18	2S6E	October 1, 1987	October 1, 1989
Diadem 3	2196	20	4N5₩	October 29, 1987	October 29, 1989
Diadem 4	2197	20	554W	October 29, 1987	October 29, 1989

*by application of assessment work discussed in this report

Parts of Diadem One and Two overlap pre-existing claims owned by Fury Explorations and R. Schimdt.

HISTORY

The Mt. Diadem area became known in 1928 when showings containing massive sulfides consisting of pyrite, pyrrhotite, chalcopyrite and sphalerite were discovered near the headwaters of No Man's Creek which empties into the Britain River some two miles upstream from its mouth. The Britain River empties into Jervis Inlet from the west at the head of Prince of Wales Reach. Both Britain River Mining Co. Ltd. and Mount Diadem Mines Ltd. staked claims north and west of Mt. Diadem. Numerous trenches were excavated where sulfide showing occurred in altered limestone and other sedimentary rocks. These sedimentary rocks are surrounded by intrusives of the Coast Plutonic Complex. Some adits were put in and work continued sporadically over the years.

The claims eventually lapsed and the ground was restaked by the International Nickel Mining Company of Canada Ltd. in 1947. These claims were optioned to Bralorne Mines Ltd. in 1949. Considerable work has been carried out since by various operators.



Geological mapping and limited diamond drilling was performed by Sphere Development Corp. in 1967. Sampling of old adits and trenches, which contained massive sphalerite, pyrrhotite and chalcopyrite mineralization was also performed at this time, the results of which are described by Cunningham-Dunlop (1971).

In 1970, Tiger Silver Mines Ltd. performed geophysical magnetometer and geochemical soil surveys (Buills, 1970). Some areas with anomalous Zn and Cu were outlined but no significant correlation was noted between the magnetic anomalies and areas of known mineralization.

Geological, electromagnetic and magnetic and soil geochemical surveys were performed for Brittain River Syndicate by Cunningham-Dunlop in 1971. Some new anomalous areas were discovered. Minor rock sampling was conducted by Fury Explorations in 1980 (Glass, 1980).

The ground eventually came to be owned by Fury Explorations Ltd. Mr. R. Schmidt holds the Fox claim adjoining to the north. Anaconda Ltd. optioned these claims in 1983 and conducted a diamond drilling program. Anaconda drilled nine holes for a total of 899 metres. Silver assays were guite high in some intersections.

After studying available data, Covenant Resources acquired by staking, nine Diadem claims (Diadem 1 to 9). These claims surround the Diadem claim held by Fury Exploration and the Fox claim held by Schmidt.

FIELD PROCEDURES

Prospecting traverses were plotted on the 1:50,000 scale topographic maps and later transferred to 1:5,000 enlargements. Sketch maps of variable scales were prepared for each prospecting traverses. Road intersections were valuable points of references at the lower elevations. Both prospecting and geological traverses were aided by hip chain measurements. Geological sketch maps were prepared from hip chain and compass measurements in conjunction with available 1:5,000 Anaconda mapping. The Anaconda mapping proved to be an accurate starting point for continued detail mapping.

REGIONAL GEOLOGY

The property lies within the Coast Plutonic Complex along its western boundary with the Insular Belt. The Coast Plutonic Complex consists mainly of quartz diorites, granodiorites, gneisses and migmatites enclosing numerous elongated, NW trending belts of volcanics and sediments.

The age of the intrusives in the southern part of the Coast Mountains ranges from 75 to 158 my (Price et. al., 1981), whereas pendant rocks are generally referred to as Jurassic. Greenschist and less commonly amphibolite grade metamorphic facies prevail in pendant rocks.

The Skwim Lake pendant is dominated by weakly metamorphosed clastic sediments and tuffs, with lesser amounts of volcanic flows and/or intrusives occupying the eastern (basal?) portion of the section. A more detailed study of the regional geology can be found in Bacon (1957), Figure 3.

The pendant rocks are believed to be, in part at least, Lower Jurassic in age, based on the presence of ammonites identified as Arnioceras Kwakiutiarus by H.W. Tipper of the Geological Survey of Canada. Faunal evidence suggests the Skwim Pendant stratigraphy to be time equivalent to the Bonanza Group of Vancouver Island (Ricco et. al., 1983).

All rock units are near vertical and strike in a north to northwest direction. Structural deformation has been intense with the early development of tight, steeply to moderately (60-20°) north plunging folds. These are characterized by the presence of a penetrative to fracture axial planar cleavage. Locally developed isoclinal folds may indicate an earlier period of folding. Late open style folds disrupt earlier phase folds and cleavages. Two shear directions predominate. One is sub-parallel to regional banding and is generally parallel to the penetrative foliation while a second set of shearing strikes 060° to 100° and is steeply dipping. Both appear to locally control zones of massive sulphide mineralization in the vicinities of the Upper and Lower Adits on the Fury claims (Ricco et. al., 1983). The degree of structural deformation and the lack of continuous marker horizons has led to difficulties in correlating and/or distinguishing between units of similar lithologies. Apparent rapid facies changes along strike also add to the complexity.

LOCAL GEOLOGY AND MINERALIZATION

The following rock units were recognized in the area covered by the Diadem group of claims, taken largely from Ricco et. al. (1983) and shown on Figure 4 and 5 (in pocket):

"Tuffaceous Sediments, Volcanic Flows and Intrusives (Unit 1)

The most westerly contact of the pendant is defined by a series of tuffaceous sandstones and siltstones and minor argillite (Unit 1). Andesitic flows, lapilli tuff and chlorite schist (Unit 1a) and massive diorite - andesite flows and/or intrusives (Unit 1b) are also noted within this sequence.

Intermediate Volcanic Tuffs, Flows and/or Intrusives (Unit 2)

Grey - green weathering chlorite rich tuff and tuffaceous sandstone siltstone, coarse lapilli tuff and chlorite feldspar gneiss dominate the eastern portion of the property. The chlorite rich lapilli tuffs are characterized by subangular to subrounded felsic fragments (1 mm - 2 cm) and rounded scoriaceous lapilli with chlorite rich rims, stretched out parallel to a pervasive mineral foliation defined by chlorite and chlorite - feldspar aggregates. The coarse lapilli units grade into a banded, fine grained tuffaceous siltstone - sandstone sequence indicating a fining to the west.

A series of well banded and interbedded tuffaceous sandstone -siltstone, argillite, felsic lapilli tuff and vesicular flows (Unit 2a) crops out to the east of unit 2 and locally is identified to the west. To the east if forms the core of an antiformal structure and is therefore believed to represent a transitional sequence between units 2 and 3.

To the east of units 2 and 2a massive diorite - andesite flows and intrusives (Unit 2b) forms prominent cliff exposures and locally have well developed volcanic features such as flow top breccias and vesicles, possibly indicating tops to the west. Farther to the east a 25 to 50 m thick sequence of pillowed andesite (Unit 2c) is intersected. This grades into more massive diorite along strike.



In the southern portion of the property, felsic volcanic flows (rhyolite to dacite) and breccias (Unit 2d) crop out along strike from the more intermediate flows of unit 2. Poor exposure in this area has made correlation of this unit tenuous.

Argillite (Unit 3)

Rust to black weathering, thin bedded to finely laminated argillite defines one to the key marker horizons on the property. It is locally graphitic and contains some carbonate and lapilli tuff interbeds. Shearing is abundant within this sequence of rocks and is characterized by graphite coated slickensides. Andesitic - basaltic vesicular flows and diorite - andesite flows and/or sills are also present (Unit 3a). Ammonites of possible Lower Jurassic age occur within this succession.

Well Banded Sediments and Tuffs (Unit 4)

This unit is characterized by a steeply dipping package of grey - green weathering, very well banded (< 1 - 5 cm) and interbedded argillite, siltstone, sandstone and black chert. Lesser amounts of lapilli tuff and carbonate interbeds, vesicular andesitic - basaltic flows and massive diorite - andesite flows and/or sills (Unit 4a) are also present. Where observed, graded bedding indicates a top? to the east. This is coincident with rarely observed flame and scour and fill structures, indicating tops to the east. Due to the lack of detailed structural control it is not certain if these beds are overturned or not.

Unit 4 successions grade into those of units 3 and 5 and therefore the contacts are only approximate. The contact zones are characterized by an increase in the amount of argillitic material as unit 3 is approached, a gradual increase in the amount of lapilli tuff and tuffaceous sandstone - siltstone towards the contact with unit 5, and an associated loss of the well banded nature.

Siliceous Argillite, Tuffaceous Siltstone, Chert and Lapilli Tuff (Unit 5)

This moderately bedded (<1 - 10 cm) sequence of rocks consists of siliceous argillite, tuffaceous siltstone-sandstone, black chert and minor lapilli tuff. It is tan to grey weathering and has locally developed a well banded appearance. Some sections of siliceous mudstone - tuff have a more massive appearance but may contain whispy laminations defined by thin discontinuous pyrrhotite and/or pyrite bands. Interbedded flows are represented by well foliated chlorite schists and less deformed diorite - andesite with fine grained vesicular tops and flow banded bases. More massive diorite bodies may represent sills and or dykes (Unit 5a) which locally cross-cut stratigraphy.

Andesitic Breccia (Unit 6)

The andesitic breccia is characterized by light green to white felsic fragments up to 1 - 2 cm in size within a dark green andesitic groundmass. The fragments are locally surrounded by chlorite rich rims. Fragments of argillite and/or mudstone have also been noted. This unit crops out in the southwest part of the property and a small remnant has been preserved along the Coast Plutonic contact to the west of Frozen Lake. Large blocks of angular float in the southern part of the Lois River Valley suggest large inaccessible cliff exposures are composed of this material. Poorly exposed outcrops of massive medium grained diorite within this package appear to conform to the regional trend and may represent flows and/or sill like bodies (Unit 6a).

Coast Plutonic (Unit 7)

The Coast Range Intrusives have been mapped as one single unit but distinctive rock types have been recognized. These include a feldspar rich diorite, quartz diorite and granite as determined by field observation alone. Textures range from fine grained and porphyritic near the pendant to massive, coarse grained bodies away from the contact. A detailed study of the Coast plutonics is presented by Bacon (1957)."

A review of previous reports and field observations in 1987 and 1988 indicate that the massive sulfide mineralization (Cu, Pb, Zn, Ag) occurs along a sheared argillite-chloritized volcanic contact. Diamond drilling has tested 175 metres of this contact. The Anaconda geologists believe that three zones were intersected (Ricco, 1984). However, the detail sections suggest that the North and Central Zones may represent one zone. The South Zone contains only one intersection (84-9) and the intersection in the most northerly drilled hole (84-7) may represent a new zone.

Central Zone

The best results were obtained from the Central Zone:

DDH 84	-3			(1988 Metal Prices)
4.0 m	2.14% Cu	7.92% Pb 2.45% Zn	11.56 opt Ag	Gross value \$259.76
or 12.0 m	0.79% Cu	2.74% Pb 1.61% Zn	4.34 opt Ag	Gross value \$104.87.

Diamond drill hole 84-4 which was drilled 20 metres down-dip of the previous hole intersected lower grade mineralization.

Diamond drill holes 84-8 and 1 tested the zone 25 m and 50 m to the south, respectively. DDH 84-1 was drilled closely to the dip of the structure and therefore intersected several widely spaced intersections. DDH 84-1 obtained a 10.9 m intersection which assayed the following:

DDH 84-1

10.9 m 0.60% Cu 0.39% Pb 0.84% Zn 0.75 opt Ag Gross value \$37.40.

DDH 84-9 may have intersected the Central Structure 75 m south of the intersections in 84-3 and 4. The intersection in 84-9 grade 1.6% Cu and 0.64 opt Ag across 0.8 metres.

DDH 84-5 and 6 intersected the Central Zone 25 m north of the high-grade intersection of 84-3. The intersections were narrow and uneconomic.

South Zone

The South Zone was intersected in 84-9 approximately 60 m below surface. The structure assayed the following:

DDH 84-9 2.7 m 0.27% Cu 3.24% Pb 1.47% Zn 3.21 opt Ag Gross value \$83.50 or 7.7 m 0.1% Cu 1.48% Pb 1.53% Zn 1.31 opt Ag Gross value \$48.21.

Upper and Lower Adits

Four chip assays from the Upper adit averaged a gross value of \$170.69 across 2.5 metres. The one assay chip from the Lower Adit indicates a gross value of \$191.24 across 2.5 metres. Refer to page 12 of Ricco etal (1983) "Geological, Geochemical and Geophysical Report" for assay details.

The mineralization in all the intersections occurs within the argillite unit. Structural deformation is intense. Magnetics indicate that the Coast Crystalline Complex contact is close to the mineralized horizon. Therefore, the massive sulphides could have been remobilized by tight isoclinal folding – shearing and metamorphism.

No evaluation was made of the gold arsenopyrite-bearing quartz veins in the No Mans Creek area.

Approximately, 250 metres southwest of the Legal Corner Post of Diadem 3 & 4 claims is the LR Showing which consists of sphalerite and chalcopyrite mineralization associated with a volcanic breccia containing felsic clasts within a more intermediate groundmass. A two metre sample taken by Anaconda (Ricco 1983, Page 13) averaged 2590 ppm Cu, 12 ppm Pb, > 10,000 ppm Zn, 2.2 ppm Ag.

GEOCHEMISTRY AND PROSPECTING

Rock samples were collected on prospecting and geological traverses as plotted on Figures 4&5 (in pocket). Several large, very rusty, iron-oxide stained zones were investigated north and south of the Legal Corner Post for Diadem 3 & 4. Other prospecting traverses were made from the central logging road. Samples 31033 to 31041 are located on Diadem 3 & 4 claims (refer to descriptions in Appendix V). Numerous quartz vein specimens in both float and outcrop were sent for analysis but returned low gold values with the exception of sample 31041 which assayed 1320 ppb Au and 1.95 ppm Ag.

On Diadem One and Two claims prospecting traverses were made around Skwim Lake and along the rusty exposures southeast of Skwim Lake. Very pyritic and abundant pyrrhotite were noted. Time did not allow an inspection of the reported gold-bearing quartz veins occurring in the northwest headwaters of No-Mans Creek.

CONCLUSIONS AND RECOMMENDATIONS

The area has the potential of hosting a volcanogenic massive sulfide deposit and auriferous quartz veins. The claims owned by Covenant Resources cover the possible extension of the main showings. Anaconda conducted the most recent comprehensive program which consisted of: diamond drilling (nine holes totalling 899 m), geophysical (magnetics, EM), and geochemical rock-soil-silt sampling.

The favourable indications are as follows:

- a geological setting indicating the potential for hosting a massive sulfide deposit
- massive sulfide showings and auriferous quartz veins
- strong mineralized structures (130 m strike, 300 m dip?)
- one "ore grade" drillcore intersection
- strong geophysical and geochemical responses demonstrating the potential for strike extension of the mineralized zones
- good accessibility; close to tidewater
- only a moderate amount of exploration has been conducted.

The unfavourable indications are as follows:

- most intersections are of subeconomic grade
- structure and metamorphism has severely complicated the continuity and grade of the sulfide bodies.

- the high grade intersection was not extended for 25 metres down-dip and therefore demonstrates the lenticular nature of the mineralization
- narrow ($\langle 4.0 m \rangle$) massive sulfide beds within the argillite unit
- mineralization may occur along more than one sedimentary-volcanic contact within the argillite unit
- the argillite may provide dilution problems during mining
- the steep terrain will make further exploration, particularly drilling expensive.

Future exploration programs should consist of the following elements:

- Survey drill hole locations, adits, trenches and tie in the established grid.
- Sample and map the Upper and Lower adits if accessible.
- Close spaced geophysics (geophysical mapping) may assist in defining the extensions of the favourable horizon(s).
- Rock geochemical sampling (lithogeochemistry) may assist in defining the extensions of favourable horizon(s).
- Detail stratigraphic and structural mapping (1:500 scale) of the showings.
- Test massive sulfide sample for metal recovery and geophysical susceptibility.
- South of section 9525 diamond drill testing between DDH 84-9 and the Lower adit.

- On section 9550N diamond drill test the Central and South structures.
- On section 9675N diamond drill test for the Central-North structure immediately west of the section baseline.
- On section 9700N diamond drill test the new structure within 84-7 and the mineralized structure in the Upper adit.
- Evaluate the auriferous quartz veins and massive sulfide showings outside of the Main Showing (drilled area).

Respectfully submitted, **1.1. Sbearer, M.Sc., FGAC** November 30, 1988

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APPENDIX 1

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STATEMENT OF COSTS

DIADEM CLAIMS

1987 - 1988

Field work conducted between October 20, 1987 and February 19, 1988

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STATEMENT OF COSTS

DIADEM CLAIMS

(as compiled by A.C. Freeze, FGAC, President, Covenant Resources Ltd.)

Wages and Benefits

J.T. Shearer, Geologist A.C. Freeze, Geologist W.L. Lennan, Geologist S.E. Angus, Prospector A.S. Hill, Geologist	3 days at \$300 per day 5½ days at \$300 per day 3 days at \$250 per day 4 days at \$150 per day 2 days at \$201 per day	\$ 900.00 1,650.00 750.00 600.00 402.00
Sub-total	17% mandays	4,302.00
Transportation		
Helicopter (Longbeach He Truck rental and gasoline, Radio rental (for logging r	licopters), 2.1 hours at \$557hr 5 days at \$80 per day oad travel)	1,155.00 400.00 92.75
Food and Accommodation		
Motel and food, 17% mand Field supplies	ays at \$33 per day	577.50 84.00
Analytical (Chemex Labs	Ltd.)	
11 rock samples at \$19.50	per sample (invoice 8727006)	214.50
Report Preparation		
Drafting, 24 hours at \$21 Report preparation Word Processing (On-Word Reproduction and xerox	per hour is), 4 hours at \$27/hour	504.00 400.00 108.00 <u>45.00</u>
GRAND TOTAL		<u>\$ 17,882.76</u> Hearin

APPENDIX II

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STATEMENT OF QUALIFICATIONS

J.T. SHEARER, M.Sc., FGAC

DIADEM CLAIMS

Field work conducted between October 20, 1987 and February 19, 1988

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STATEMENT OF QUALIFICATIONS

I, Johan T. Shearer of the City of Port Coquitlam, in the Province of British Columbia, do hereby certify:

- 1. I graduated in Honours Geology (B. Sc. 1973) from the University of British Columbia and the University of London, Imperial College, (M. Sc. 1977).
- 2. I have practised my profession as an Exploration Geologist continuously since graduation and have been employed by such mining companies as McIntyre Mines Ltd., J.C. Stephen Explorations Ltd., Carolin Mines Ltd. and TRM Engineering Ltd. I am presently employed by New Global Resources Ltd.
- 3. I am a fellow of the Geological Association of Canada. I am also a member of the Canadian Institute of Mining and Metallurgy, the Geological Society of London and the Mineralogical Association of Canada.
- 4. I have prospected, mapped geological features and supervised the geochemical sampling on the Diadem One, Two, 3 and 4 claims in October 1987 and February 1988. This report is an interpretation of the results.
- 5. I am director of Covenant Resources Ltd. and hold seed shares.

Dated at Vancouver, British Columbia

T. Shearer, M. Sc., F.G.A.C. November 30, 1988

APPENDIX III

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LIST OF PERSONNEL

AND DATES WORK

DIADEM CLAIMS

Field work conducted between October 20, 1987 and February 19, 1988

LIST OF PERSONNEL AND DATES WORKED

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Name	Position	Address	Dates Worked
A.C. Freeze	Geologist B.Sc. 1970	2891 W. 14th Ave. Vancouver, B.C. V6K 2X3	Oct 20(½), 22, 23, 1987 Feb 9(½), 10, 12, 15(½), 1988 5½ days total
J.T. Shearer	Geologist M.Sc. 1977	3832 St. Thomas St. Port Coquitlam, B.C. V3B 2Z1	Oct 20(%), 21(%), 1987 Feb 15(%), 16, 19(%), 1988 3 days total
W.L. Lennan	Geologist B.Sc. 1973	876 Lynwood Ave. Port Coquitlam, B.C. V3B 5W6	February 9(%), 10, 12, 15(%), 1988 3 days total
A.S. Hill	Geologist B.Sc. 1986	548 Beatty St. Vancouver, B.C. V6B 2L3	Feb 15(%), 16, 19(%), 1988 2 days total
S.E. Angus	Prospector 15 yrs experience	12474 Crescent Rd. Surrey, B.C.	Feb 9(%), 12, 15, 16, 19(%) 1988 4 days total

Total 17% mandays

APPENDIX IV

ANALYTICAL PROCEDURES AND ASSAY CERTIFICATES

DIADEM CLAIMS

Field work conducted between October 20, 1987 and February 19, 1988

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SAMPLE PREPARATION PROCEDURES

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Chemex Code	Procedure
201	SOIL OR SEDIMENT: Dry, sieve through -80 mesh screen
205	ROCK: Dry, crush in two stages, subsample and ring
207	ROCK OR CORE: Dry, crush entire sample in two stages using jaw and cone crushers, subsample and pulverize using rotary grinder. Screen sample to -140 mesh; examine screen for metallics. If gold assays are requested, metallics are analyzed separately. If metallics are not present the +140 mesh fraction is hand pulverized and homogenized with the original sample. As a final step all samples are homogenized prior to analysis.

214 No sample prep done. Samples received as pulp

PRECIOUS METAL ANALYSIS

ORE-GRADE ANALYSIS

If metric units (g/tonne) are preferred, use the codes in parentheses.

Chemex Code	Element(s)	Method	Detection Limit
398 (399)	Gold	Fire Assay, A.A. finish	0.002 oz/t

TRACE LEVEL ANALYSIS

Maximum value reported for all elements is 10,000 ppb.

Code	Element(s)	Sample Weight	Method	Detection Limit
100	Gold	10 grams	Fire Assay, A.A. finish	5 ppb
	New comb	ination: Gold, F Cheme	Platinum and Patladium x procedure code 1015	
	Fire assay (ICP - atomi	of a 20 gram sa c fluorescence	Imple, followed by analysis spectroscopy. (AFS)	using
		Gold Platinum	2 ppb 5 ppb	

2 ppb

Palladium



Chemex Labs Ltd.

Analytical Chemists # Geochemists # Registered Ansayers 213 BROOKSBANK AVF , NORTH VANCOUVER, BRITISH COLUMIIA, CANADA V7J-2CI

PHONE (6+4) 984-0221

O:NEW GLOBAL

726 - 815 W. HASTINGS ST. VANCOUVER, BC V6C 2Y4

* INVOICE NUMBER 18727006 *

	BILLING INFORMATION	CHEMEX CODE	ANALYSIS DESCRIPTIC)NN	SAMPLES ANALYZED	UNIT PRICE	AMOUNT
~~ `~	Date : 8-DEC-87 Project : COVENANT RES. P.O. # : NONE Account : EIJ	$ \begin{array}{r} 100 \\ 921 \\ 922 \\ 923 \\ 924 \\ 925 \\ 925 \\ 926 $	Au ppb Ai Ag Ag Ba Be Be	FA+AA % ppm ppm ppm ppm		_	
	Billing : For analysis performed on Certificate A8727006	927 - 928 - 929 - 930 - 931 - 932 -	Ca Cd Co Cr Cu Fe	ppm ppm ppm ppm ppm %			
	Terms : Net payment in 30 Days 1.5% per month (18% per annum) charged on overdue accounts.	933 - 951 - 934 - 935 - 936 - 937 -	Ga Hg K La Mg Mn	ppm ppm % ppm % ppm			
	Please remit payments to: CHEMEX LABS LTD.	939 - 940 - 941 - 942 -	Na Ni P Pb	ppm ppm ppm			
	212 Brooksbank Ave., North Vancouver, B.C. Canada V7J-2C1	943 - 952 - 944 - 945 - 946 -	Sb Se Sr Ti Tl	ppm ppm ppm % ppm			
\bigcirc		947 - 948 - 949 - 950 -	V W Zn	ppm ppm ppm	23	13.50	310.5(
		Sampie 205 - 238 -	preparation Rock/Core ICP aqua-r	and other charge - RING egia digestion	23. 23	3.00 0.00	69.0(0.0(
					Ťo	tal Cost 5	379.50
					TOTAL	PAYABLE \$	379.50

* *



Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers 212 BROOKSBANK AVE., NORTH VANCOUVER, BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

: NEW GLOBAL

726 - 815 W. HASTINGS ST. VANCOUVER, BC V6C 2Y4

* INVOICE NUMBER 18727007 *

* *

	BILLING INFORMATION	CHEMEX CODE	ANALYSIS DESCRIPTION	SAMPLES ANALYZED	UNIT PRICE	AMOUNT
	Date : 6-DEC-87 Project : COVENANT RES. P.O. # : Y Account : EIJ	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	Cu % Pb % Zn % Ag FA oz/T Au FA oz/T	ł	29.00	29.00
}	Billing : For analysis performed on Certificate A8727007	Sample 1 207 -	oreparation and other charg Assay - PULVERIZE	•s : 1	4.00	4.00
			<u></u>	То	tal Cost S	33.00
	Terms : Net payment in 30 Days 1.5% per month (18% per annum) charged on overdue accounts.			TOTAL	PAYABLE S	33.00
	1					
	Please remit payments to:					
	CHEMEX LABS LTD. 212 Brooksbank Ave., North Vancouver, B.C. Canada V7J-2C1					
)						

T 'EW GLOBAL



Chemex Labs Ltd Analytical Chemists • Geostremists • Registered Assayers 212 BROOKSBANK AVE., NORTH VANCOUVER, BRITISH COLUMBIA, GANADA V7J-2CI

PHONE (604) 984-0321

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726 - \$15 W. HASTINGS ST. VANCOUVER, BC V6C 2Y4 Project : COVENANT RES. Commets: CC: ART FREEZE **Page N 1-A Tot. Pa_b.s:1 Date : 8-DEC-87 Invoice # :1-8727006 P.O. # :NONE

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CERTIFICATE OF ANALYSIS A8727006

	SAMPLE DESCRIPTION	PREP CODE	Ан ррб Ранаа	A1 95	Aş ppm	As ppm	Ba ppm	Be	Bi ppm	Ca %	Cđ ppn	Co ppm	Cr ppm	Cu ppm	Fe H	Ga ppm	Hg ppm	K %	La ppm	Ме %	Ma ppm
	31016 F 31017 F 31018 F 31019 F 31020 F	205 238 205 238 205 238 205 238 205 238 205 238	20 5 < 5 < 5 < 5 < 5	2.32 1.41 1.14 0.80 2.91	< 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2	20 5 25 < 5 15	230 150 100 30 190	< 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5	< 2 < 2 2 < 2 < 2 < 2 < 2 < 2	0.90 0.29 0.20 0.32 1.37	0.5 0.5 0.5 0.5 0.5	26 14 15 12 18	68 46 149 61 221	39 28 85 121 57	4.53 3.30 2.06 2.75 3.09	< 10 < 10 < 10 < 10 < 10 < 10	< 1 < 1 < 1 < 1 < 1	0.51 0.23 0.31 0.18 0.35	20 20 20 10	0.98 0.67 0.21 0.68 1.23	\$62 410 107 163 328
	31021 F 31022 F 31030 P 31032 F 31033 F	205 238 205 238 205 238 205 238 205 238 205 238	45 < 5 350 30 < 5	4.82 2.59 1.13 0.57 0.04	<0.2 <0.2 0.4 1.0 0.2	50 30 15 5 40	40 390 < 10 10 < 10	< 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5	2 2 116 2 < 2	1.59 0.17 1.63 0.31 0.03	1.0 0.5 0.5 1.0 0.5	24 9 150 57 7	158 153 187 338 258	71 66 848 1070 82	5.00 1.98 9.29 5.80 0.77	< 10 < 10 < 10 < 10 < 10	<	0.05 1.06 < 0.01 0.04 < 0.01	10 20 < 10 < 10 < 10	2.66 0.69 0.09 0.15 0.01	461 121 106 75 30
ADEN MUNS	31034 F 31035 F 31036 F 31037 F 31038 F	205 238 205 238 205 238 205 238 205 238 205 238	< 5 15 < 5 10 10	0.03 1.37 0.93 1.82 0.38	< 0.2 39.2 6.0 6.8 5.4	5 85 50 < 5 10	< 10 10 10 30 < 10	< 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5	< 2 < 2 < 2 < 2 < 2 < 2 < 2 < 2	0.04 1.22 1.72 1.58 1.82	0.5 11.5 3.0 22.5 72.0	1 329 181 52 14	507 87 \$2 104 218	28 >10000 2200 4280 2380	0.77 >15.00 12.70 3.11 8.69	< 10 < 10 < 10 < 10 < 10	< 1 < 1 < 1 < 1 < 1	< 0.01 0.08 0.10 0.10 < 0.01	< 10 10 < 10 10 < 10	< 0.01 0.70 0.38 0.22 0.07	31: 932: 1040 301 430
4°6	31039 F 31040 F 31041 F 31043 F 31044 F	205 238 205 238 205 238 205 238 205 238 205 238 205 238	< 5 < 5 1320 60 10	0.54 0.29 1.95 2.02 4.61	0.2 < 0.2 0.8 2.0 < 0.2	< 5 < 5 >10000 885 105	10 < 10 360 40 630	< 0.5 < 0.5 < 0.5 < 0.5 < 0.5 < 0.5	< 2 2 4 < 2 < 2 < 2	0.30 0.16 0.95 2.17 2.92	1.0 70.0 >99.9 7.5 1.5	5 1 128 35 11	442 350 139 242 182	77 25 160 398 66	1.61 0.84 4.64 4.71 3.62	< 10 < 10 < 10 < 10 < 10 < 10	< 1 < 1 < 1 < 1	0.12 0.04 0.42 0.08 0.48	< 10 < 10 < 10 < 10 < 10 < 10	0.06 0.06 0.54 0.15 0.62	65. 103 346 260 279
	31045 F 31046 F 31047 F	205 238 205 238 205 238 205 238	10 90 65	5.35 0.28 0.18	< 0.2 0.2 0.8	40 15 30	230 10 < 10	< 0.5 0.5 < 0.5	< 2 130 82	3.77 0.05 0.03	2.0 1.0 0.5	12 1 1	281 322 304	82 15 14	3.90 0.95 0.77	< 10 < 10 < 10	< 1 < 1 < 1	0.22 0.07 0.04	< 10 < 10 < 10	0.45 0.03 0.01	168 225 73

CERTIFICATION :



Chemex Labs Ltd.

212 BROOKSBANK AVE., NORTH VANCOUVER, BRITISH COLUMBIA, CANADA V7J-2C1 PHONE (604) 944-0221 1 IEW GLOBAL

726 - \$15 W. HASTINGS ST. VANCOUVER, BC V6C 2Y4 Project : COVENANT RES. Comments: CC: ART FREEZE **Page N : 1-B Tot. Pages: 1 Date : \$-DEC-\$7 Invoice # : I-\$727006 P.O. # :NONE

CERTIFICATE OF ANALYSIS A8727006

SAMPLE DESCRIPTION	PREP CODE	Mo ppm	Na 95	Ni ppn	P ppm	Pb ppm	Sb ppm	Se ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W pgm	Za ppn	
31016 F 31017 F 31018 F	205 238 205 238 205 238	< 1 < 1 1	0.05 0.06 0.14	59 63 13	670 760 500	< 2 < 2 4	< 5 10 < 5	< 10 < 10 < 10	70 27 4 19	0.01 < 0.01 0.02	< 10 10 20	< 10 < 10 < 10	64 21 26	15 5 5	39 35 17	
31020 F	205 238	10	0.04	15	690 490	< 2	< 5	< 10	9 97	0.12 0.16	< 10	< 10 < 10	36 \$7	5	44 48	
31021 F 31022 F 31030 F	205 238 205 238 205 238	< 1 2 3	0.43 0.09 0.01	30 61 56	930 410 110	< 2 2 < 2	< 5 < 5 < 5	< 10 < 10 < 10	131 17 90	0.02 0.06 0.27	< 10 10 < 10	< 10 < 10 < 10	157 53 43	20 5 30	56 9 6	
31032 F 31033 F	205 238 205 238	2	0.04 0.01~	35 20	120	<u>< 2</u>	< 3	10 < 10	16	0.06 < 0.01	< 10	< 10 < 10	4	<u>20</u>	294	
31034 F 31035 F 31036 F 31037 F 31038 F	205 238 205 238 205 238 205 238 205 238 205 238	< 1 < 1 < 1 2 < 1	< 0.01 0.08 0.10 0.33 0.01	6 196 118 23 5	< 10 < 10 100 130 < 10	< 2 86 96 < 2 636	< s < s < s < s < s	< 10 50 30 10	1 4 13 17 121 12 4	< 0.01 0.07 0.07 0.17 < 0.01	< 10 < 10 < 10 < 10 < 10	< 10 < 10 < 10 < 10 < 10 < 10	1 26 23 36 32	< 5 135 55 35 50	28 843 186 2190 >10000	
31039 F 31040 F 31041 F 31043 F	205 238 205 238 205 238 205 238 205 238	7 1 < 1 2	0.01 0.03 0.25 .0.08	6 7 36 60	110 140 650 990	2 6 72 40	< 5 < 5 20 < 5	< 10 10 20 10	15 6 106 81	0.02 0.02 0.10 0.13	< 10 < 10 < 10 < 10 < 10	< 10 < 10 < 10 < 10 < 10	9 113 241 44	< 5 < 5 25	111 2120 28 50 408	
31044 F 31045 F 31046 F 31047 F	205 238 205 238 205 238 205 238	2 9470 1850	0.20 0.24 0.05 0.02	26 5 3	740 900 180 70	2 10 2 18	< 5 < 5 40 5	< 10 < 10 20 < 10	94 142 2 4 1 4	0.16 0.11 < 0.01 < 0.01	< 10 < 10 20 < 10	< 10 < 10 < 10 < 10	65 84 < 1 < 1	10 15 10 280	108 119 23 18	
											·	.,				

CERTIFICATION :

7 NEW GLOBAL



Chemex Labs Ltd.

212 BROOKSBANK AVE., NORTH VANCOUVER, BRITISH COLUMBIA, CANADA V7J-2CI PHONE (604) 984-0221 726 - \$15 W. HASTINGS ST. VANCOUVER, BC V6C 2Y4 Project : COVENANT RES. Comments: CC: ART FREEZE **Page N :1 Tot. I :1 Date : 6-DEC-87 Invoice #:I-8727007 P.O. # :Y

CERTIFICATE OF ANALYSIS A8727007

SAMPLE DESCRIPTION	PREP CODE	Си %	РЪ %	Zn %	Ag FA oz/T	Au FA oz/T			
31042 F	207	i.15	0.24	22.2	7.28	0.024			
				c.					
									, , ,
							1	12l1	,
	TIONS ARE		SUPERVISED	BY BC. CE	RTIFIED ASSA	.YERS	CERTIFICATION :	Alwar	tes

APPENDIX V

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ROCK DESCRIPTIONS

DIADEM CLAIMS

Field work conducted between October 20, 1987 and February 19, 1988

SAMPLES COLLECTED BY

A.C. FREEZE

DURING OCTOBER 1988

Sample

....

(1)	31033F	 grab qtz vein striking NW erratic thickness generally greater than 2 mm NNW strike some leached sulfides
(2)	31034F	 grab rusty qtz vein NE strike, 1 foot wide
(3)	31035F	 float Cu Zn in metavolcanic
(4)	31036F	 float Cu in metavolcanic
(5)	31037F	 float Cu Zn in metavolcanic
(6)	31038F	 float Cu Zn pyrite in epidotized qtz vein float
(7)	31039F	- float - barren qtz sample
(8)	31040F	 float qtz, graphite zinc sample
(9)	31041F	 float arsenopyrite in metasediment
(10)	31042F	 outcrop upper portal near old drill camp Cu Zn pyrite mineralization
(11)	31043F	 float pyrrhotite, arsenopyrite in metasediment



L	Ε	G	E	N	D	:	
$\overline{}$				<u> </u>			~

<u>C</u>	R	E	<u>T/</u>	<u> </u>	<u> </u>	<u>=(</u>	<u>)</u>	<u> </u>	<u>S</u> _	

COAST INTRUSIVES - diorite, quartz diorite, granite 7

CRETACEOUS TO LOWER JURASSIC

6	Andesiti motrix .
5	Siliceous
4	Banded interbeds and/or

itic breccia, intermediate to felsic fragments in an andesitic ...6a) massive diorite – andesite sills and/or flows and intrusives us argillite – siltstone,tuff,chert,minor lapilli tuff – wealkly laminated, banded.5a) massive diorite – andesite sills and/or flows d argillite,siltstone,sandstone,chert,minor lapilli tuff and carbonate eds. 40) andesitic - basattic vesicular flows and diorite-andesite flows r sills

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LOWER JURASSIC (SINEMURIAN) Argillite, thin bedded to finely laminated and locally graphitic, minor carbonate and lapilli tuff interbeds. 3a) andesitic - basaltic vesicular flows and diorite -andesite flows and/or sills Chlorite rich tuff with interbedded tuffaceous sandstone - siltstone and coarse lapilli tuff, chlorite - felspar gneiss. 2a) Interbedded and banded argillite, felsic lapilli tuff vesicular flows and tuffaceous sandstone - siltstone. 2b) massive diorite - andesite flows and intrusives. 2c) pillowed andesitic flows. 2d) felsic flows and/or breccia Tuffaceous sandstone-siltstone, minor argillite. Ia) andesitic flows, lapilli tuff and chlorite schist. Ib) massive diorite-andesite flows and/or intrusives

SYMBOLS

_____ Geological contact - known,approximate assumed

- Bedding/banding dipping,vertical
- Foliation / schistosity dipping , vertical
- Bedding tops upright, overturned
 - Lineation showing plunge
 - Minor fold showing plunge and vergence
 - Antiform/synform showing plunge
- Antiform/synform trace Antiform/synform trace-overturned
- \sim \sim \sim \sim Shear
- Outcrop () outcrop 1987-1988
 - Claim outline
- ▲ 31041 Rock sample location and sample number GEOLOGICAL BRANCH ASSESSMENT REPORT •• •• •• •• Prospecting troverse
 - Road

	<u>18,207</u> <u>50 100 200 300 400 500</u> METRES
	COVENANT RESOURCES LTD.
	Diadem Claims
	GEOLOGY MAP (North half)
(NEW GLOBAL THRESOURCES Scale I + 5000 Figure

JTS / ACF

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