

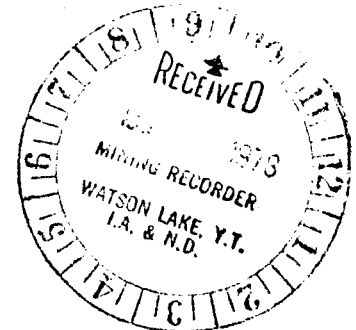
CORDILLERAN ENGINEERING LIMITED

MINERAL EXPLORATION
MANAGEMENT AND
ENGINEERING CONSULTANTS

1418 - 355 BURRARD STREET
VANCOUVER, B. C.
V 6 C 2 G 8
TELEPHONE (604) 681 - 8381

March 17, 1978

Mr. V. W. Johanson
Mining Recorder
Watson Lake Mining District
Watson Lake, Y.T.




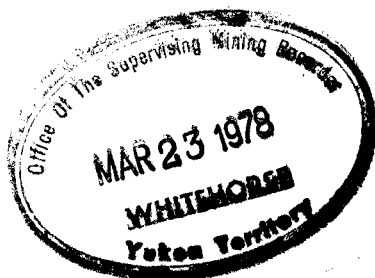
Dear Sir:

In reply to your letter of Feb. 7, the chips from the rotary drill hole on the Jason 179 mineral claim are stored on the property.

Yours very truly

CORDILLERAN ENGINEERING LIMITED


O. S. Hairsine



*Jason # 8, 196199
105-0-1*

CORDILLERAN ENGINEERING LIMITED - DIAMOND DRILL RECORD

HOLE No. CLAIM PROPERTY JASON PAGE No. 1 of
 CORE SIZE BQ, NQ, HQ AZIMUTH ELEV. COLLAR LOGGED BY
 ANGLE of HOLE TOTAL DEPTH NORTHING DATE BEGUN FINISHED
 SECTION % RECOVERY EASTING CORE STORED AT

732170

SECTION	COLOUR	BEDDING	MINERAL	TEXTURE	FRACTURING	LITHOLOGY	GEOLOGY	COMMENTS: SCALE, STICK UP, ACID TEST, CASING LEFT, OVERBURDEN, CONTRACTOR, ETC.,	% CORE RECOVERED	SAMPLE INTERVAL # NUMBER	ASSAYS										
											DESCRIPTIVE	GEOLOGY									
0																					
10						b b c c	Barite Chert	% OF ROCK TYPES													
20						c c a a b b	Argillite Siliceous Argillite Graphitic Argillite	i) Note % predominate rock type ① and of interbedded rock type ② in the interval ii) Note % of major and minor constituents in both rocks ① and ②.													
30						b b b b	Baritic Argillite Limestone														
40						x x x x x x	Limy Argillite Tuff: composition Tuffaceous Argillite	i) o - crystal lithic ii) x - crystal iii) Δ - Rhyolitic													
50						Δ Δ Δ Δ Δ Δ	Silt silty Argillite Volcanic Breccia Argillite Breccia	(rhyolitic) Show % Vol. of Arg in each - note degree of roundness or angularity of fragments & average size, composition of matrix													
60						Δ Δ Δ Δ Δ Δ	Rhyolite														
70						Sand Pyrite Sphalerite Galena Barite Hematite	Note % Note mode: massive bedded laminated nodular Yes disseminated													
80						Laminated < 0.2" Thin bedded .2" - 2" Medium bedded 2" - 1.5' Thick bedded > 1.5'														
90						Flow bedding Cleavage Fracture Fault Graphite														
100																				

G. S. A. COLOUR CHART

Δ = Breccia

ID 10000

G.S.A. COLOUR CHART

CORDILLERAN ENGINEERING LIMITED — DIAMOND DRILL RECORD

091287

HOLE No: 76-11	CLAIM: JASON 55	PROPERTY: West Jason	OVERBURDEN: 5'	PAGE No 1	of 5
ELEVATION: 4180	SECTION:	DATE STARTED: 16/8/76-D.	CONTRACTOR: Caron	LOGGED BY: M.H. SAIBUING 771	
NORTHING: 981,055	INCLINATION: 55(?)	DATE FINISHED: 22/8/76-D.	CORE SIZE: BQ	SCALE: 1" = 20'	
EASTING: 207,896	AZIMUTH: 0°	TOTAL DEPTH: 465'	% CORE RECOVERY:	CORE STORED AT: Whitehorse	

SECTION	COLOUR	BEDDING	MINERAL	TEXTURE	FRACTURING	LITHOLOGY	GEOLOGY	% CORE RECOVERED	SAMPLE INTERVAL	NUMBER	ESTIMATED GRADE	ASSAYS		
												%	%	%
												COMMENTS:		
<p style="text-align: center;">Acid Tests - 100' - 53 200' - 45° 300' - 35° 400' - 30°</p>														
DESCRIPTIVE GEOLOGY														
0														
5							UNIT B' 5'-370' OVERBURDEN.							
10	N-1		P ₅	Δ	35°		Black, thinly bedded Argillite containing 5% thin, interbedded layers of light brown to black tuff up to 0.2" thick. Tuff layers are of rhyolitic crystal-lithic composition. Up to 5% pyrite (with some pyrite-hematite sections) occurs as layers, generally < 0.1" thick, along bedding and cross fracturing and as fine disseminations. Concentrations of pyrite are associated with tuff layers.							
20			P ₅	Δ	35°		Local weak brecciation (24-25.5, 30-31, 35-36) with angular fragments disrupts both tuff and pyrite layers. This represents slumps and/or rip ups. Widely spaced slaty cleavage at 35° contains carbonaceous and graphitic material. Cleavage strikes at approx. 55° from the strike of the bedding.							
30	N-1		P ₅	Δ	35°		Argillite breccia zone at 10'-20.5' contains up to 10% subrounded fragments of rhyolite, strongly sheared at 25° to 50°.							
40	N-1		P ₅	Δ	35°		Weak argillite breccia zones at 54-54.5, 63.5-64.5, 65-66. Tuffaceous content increases up to 15% in local breccias at 78-79, 85-85.5, 91.5-92, 113.5-114.							
50			P ₅	Δ	35°		At 79, isolated tuff bands increase up to 0.5" but generally remain 0.1"-0.2".							
60	N-1		P ₅	Δ	35°		Pyrite may occur in ellipsoid modules, elongated parallel to bedding, and in hairline fractures cross cutting bedding, tuff layers and pyrite along bedding. 64-102' increased up to 10% then decreasing to 5%. Increased limonite staining within this section in tuff bands, fractures and cleavage. Also, raggy limonitic boxwork (0.1') occurs in brecciated tuff.							
70			P ₁₀	Δ	30°									
80			P ₁₀	Δ	35°									
90	N-1		P ₁₀	Δ	35°									

CORDILLERAN ENGINEERING LIMITED — DIAMOND DRILL RECORD

HOLE No. 76-11

CLAIM: JASON 55

PROPERTY: West Jason

PAGE No. 3 of 5

SECTION	COLOUR	BEDDING	MINERAL	TEXTURE	FRACTURING	LITHOLOGY	GEOLOGY	COMMENTS:	% CORE RECOVERED	SAMPLE INTERVAL & NUMBER	ESTIMATED GRADE	ASSAYS					
												%	%	%			
												DESCRIPTIVE GEOLOGY					
220																	
230	N-1 to																
240	N-5																
250																	
260																	
270																	
280	N-1 to																
290	N-5																
300																	
310																	
320																	
330																	

SECTION 190 To 370 CONTINUED:

287.2-287.5, 289.5-300, 307-308, 311-312, 314-320, 321-322, 339.5-339.8, 366-366.5, 368.5-369

- Breccias contain 20-50% rhyolite, 15-25% arg., 30-60% tuff (principally crystal lithic). Fragments are sub-angular to rounded. Highly siliceous sections, black, cherty at 225-235, 258-269, 271-276 quartz veinlets 209-212. Graphitic sections at 184, 191, 216-219, 243-250, 261-262, 274-276. Pyrite content in breccias varies 5%-15%, mostly within rhyolite fragments, but also in fracture fillings and disseminated in the argillite. Averages 5% in argillite tuff sections. "Nodules" and rounded lenses up to 1" associated with tuff layers common signs of soft sediment deformation, rip-up clasts and slump breccias content beds locally. Section very similar to 132-146.5.

- section 300-307, thinly laminated xal lithic tuff with 15% angular rhyolite and interbedded thin arg. Pyrite bedded: 5-10%.

- Graphite (carbonaceous) on cleavage, bedding, fractures at 283-284, 292-293, 347-353.

- section 322-333.7. finely banded argillite with up to 20% black tuff layers, frequently graded, pyrite increases up to 15%; 331-333.5 is siliceous, brown mineral at 333 - thin qtz veinlets.
 - section 333.7-335.1, light coloured, very fine grained siliceous rhyolite, lithic(?) contains 2-5% pyrite. Pos Rx to zinc test, 10% qtz stringers.
 - section 335.8-336.5, crystal lithic tuff bedded, up to 20% pyrite throughout.

CORDILLERAN ENGINEERING LIMITED — DIAMOND DRILL RECORD

HOLE No. 76-11

CLAIM: JASON 55

PROPERTY: WEST JASON

PAGE No. 4 of 5

SECTION	COLOUR	BEDDING	MINERAL	TEXTURE	FRACTURING	LITHOLOGY GEOLOGY	COMMENTS:	% CORE RECOVERED	SAMPLE INTERVAL	B NUMBER	ESTIMATED GRADE	ASSAYS				
												% Zn	% Pb	Ag		
340																
350																
360																
370							Units 2 and 3A									
380							<p><u>SECTION 370 TO 403.5: CORE BADLY BROKEN UP.</u> Alternating black tuff bands; tuff-angillite layers and tuff by as follows: 371-378: Tuff breccia of black lithic tuff, highly porous with 15% rounded, light grey, pyritized rhyolite fragments (av. 2.3", exceptionally up to 2"); ang. fragments, 15-30% containing bands of pyritized tuff. Overall pyrite 2-5% disseminated in matrix, in tuff and in rhyolite. 378-383: Black porous, lithic tuff (60%) containing bands (40%) of ang. and pyritized xal lithic tuff. (5% pyrite overall). 383-387: Black xal lithic tuff, slightly lighter grey. 387-395: Black lithic tuff as for 378-383. 395-396: Grey xal lithic tuff containing 5% each fine ang and rhyolite fragments, subangular, 5% pyrite throughout. 396-403.5: Black lithic tuff; 396-399 mostly bx of 20% subrounded pyritized rhyolite fragments, 20% ang. frags, 40% lithic tuff and 20% tuff matrix; Pyrite 5-10% overall. 399-403.5 black, xal lithic tuff with 5% disseminated pyrite and occasional pyrite bands along bedding. 403'-454' ORE ZONE Section 403.5 to 414: Very siliceous, thinly banded rhyolite, occasional .1"-.2" quartz bands with 20% interbeds of black porous tuff, pyrite layers 0.05" to 0.005" thick; up to 15% locally. appears cherty in places, grey black. Pinky siliceous sphalerite present with minor galena & pyrite, alternating bands at 413.414. (Ba?) Section 414-420: Trace of core recovered; siliceous, banded brown & white tuff with fine grey galena and pink, brown layers of sphalerite (and Barite?) up to 0.1". Section 420-429: Core lost. Sludge only recovered. Section 429-454: Very low recovery. Submassive layers (0.2" or less) of 70% pyrite, 5% galena and 25% grey brown tuff (probably containing sphalerite). Vuggy, appears brecciated. Distorted bands and layers interbedding with barite (?) and pinky-tan, earthy sphalerite. Signs of slumping and soft sediment deformation throughout. Bottom 6" is v. fine ly banded black barite (25%) pyrite (30%) tuff (20%) and scale. below</p>									
390																
400																
410									7951							
									403-408	7.59	6.25	1.34	0.07			
									7952							
									408-413	5.28	3.64	1.64	0.04			
									7953							
									413-420	16.34	10.68	5.66	0.06			
									7954							
									420-429	9.01	6.31	1.70	0.02			
									7955							
									429-434	4.90	3.56	1.34	0.05			
									7956							
									434-439	5.15	3.85	1.30	0.05			
									7957							
									439-444	7.02	6.61	0.41	0.06			
									7958							
									444-449	7.88	7.30	0.58	0.055			
									7959							
									449-454	9.16	8.40	0.76	0.07			
									7960							
									454-459	3.23	3.13	0.10	0.045			

CORDILLERAN ENGINEERING LIMITED — DIAMOND DRILL RECORD

HOLE No. 76-12

CLAIM: Jason 50

PROPERTY: WEST JASON

PAGE No. 2 of 5

SECTION	COLOUR	BEDDING	MINERAL	TEXTURE	FRACTURING	LITHOLOGY	COMMENTS:	% CORE RECOVERED	SAMPLE INTERVAL & NUMBER	ESTIMATED GRADE	ASSAYS		
											%	%	%
100							DESCRIPTIVE GEOLOGY						
110	N4					▲	<p><u>Section 55'-118'</u> continued: Pyrite occurs as discrete euhedral crystals in fractures and matrix, as elongated nodules or in rhyolite fragments; locally up to 10%, overall approximately 2%</p>						
120	N1 N2					▲	<p><u>Section 118-162': Unit 3A?</u> Interlayered bands of bedded argillite/tuff with sections of rhyolite-tuff-argillite breccia. Section shows considerable rip-ups, swilling and local slump distortion. Clasts may be composed of breccia, interbedded tuff/argillite or argillite and may be up to 3". Breccia layers at 122, 125.5-128.5, 129-131, 132-133, 142-143, 153, 155-160. Clasts up to 3" av. 0.1" are angular to subrounded. Rhyolite 50-75%, Tuff 25-45%, Argillite-Tuff 5-25%. Bedded argillite/tuff is moderately siliceous, even to distorted bedded layers of <0.05" to 3" of black carbonaceous argillite, slightly pyritized, and black to dark grey porous tuff, frequently with 1-2% euhedral pyrite along bedding planes.</p>						
130						▲	<p>Pyrite occurs in rhyolite fragments, along tuff bedding, disseminated in matrix, tuff and argillite and in fractures; average 1-2% locally higher in breccias. Galena and sphalerite occur up to 1% locally within the breccias. Straw coloured sphalerite surrounds some fragments, finely disseminated in breccia matrix and in tuff fragments. Galena is mainly in rhyolite fragments and quartz veinlets.</p>						
140	N1 N2					▲	<p><u>Section 162'-207.5'. Unit 3B</u> Bedded grey to black tuff with bands of black porous tuff and argillite, medium to thinly bedded. Carbonaceous beds showing slumping, local brecciation and rip-ups; 171-172, 179-182.5, 186-192, 193-194, 199-201. Coarse tuff layers (agglomerate ??) show angular fragments up to 0.3" generally lighter grey, with 50-75% rhyolite fragments, 5-10% argillite and the balance tuff. These show overturned graded bedding as at 164-171, 181-183, 194-198.</p>						
150						▲	<p>Pyrite forms along bedding of porous tuff, in quartz veins, as disseminations in tuff beds, as discrete euhedral crystals from 1-3%. White quartz veins cut core axis at 25-30°, commonly 3"-3". Generally mineralized with pyrite, sphalerite and galena. (162, 167, 169, 173-174, 175-176, 178-178.5, 201-204, 205.5-207).</p>						
160	N3 N5					▲	<p>Straw coloured sphalerite and galena occur in quartz veins throughout and locally as discrete discontinuous veinlets, and within the tuff matrix as at 187, 194-198, 204-205.5. Locally up to 5% total sulphides overall interval.</p>						
170						▲							
180	N3 N5					▲							
190						▲							
200	N1 N2					▲	<p><u>Section 207.5'-354': Unit 3B</u> Inter-layered, thinly bedded black argillites and tuffs; bed 0.5"-1.5". Moderately siliceous. Pyrite occurs on bedding planes of porous tuff and</p>						
210						▲							

CORDILLERAN ENGINEERING LIMITED — DIAMOND DRILL RECORD

HOLE No. 76-12

CLAIM: Jason 50

PROPERTY: West Jason

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SECTION	COLOUR	BEDDING	MINERAL	TEXTURE	FRACTURING	LITHOLOGY GEOLOGY	COMMENTS:	% CORE RECOVERED	SAMPLE INTERVAL & NUMBER	ESTIMATED % GRADE <small>Combined Pb-Zn</small>	ASSAYS		
											% Zn	% Pb	% OZ/T Ag.
340	N1 To	50	P ₂	35			<p>Section 207.5 to 354: cont'd. Interlayered thinly bedded black argillites and tuffs. 370-380 shows rip-up clasts and local slump brecciation.</p> <p>Section 354 to 413: Unit 3A Interlayered breccias and tuff-argillite beds: Breccia fragments are subangular to rounded, up to 1.5" average 0.2" of rhyolite (25%), argillite (25%), tuff (30%), matrix 20% of black tuff, carbonaceous, porous. Breccia sections 354-369, 365-369, 376.8-377.7, 378.5-379.5, 380-381, 381.5-384, 385.5-402, 405-413. Section becomes increasingly siliceous from 405; rhyolite up to 60% locally. White quartz veining up to 1" at 405-407, 409.</p> <p>Tuff sections between breccias may be strongly pyritic: 375-375.2 (30%); 384-384.5 (20%). Tuff may be highly porous, frequently limonite stained on bedding, cleavage and irregular fracture zones. Some boxwork. Less than 15% of the tuff sections between breccias are bedded argillite.</p> <p>Pyrite occurs in rhyolite fragments, matrix and discrete agglomerations up to 2" in breccias - average 5%, locally 10%. Trace amounts of straw coloured sphalerite (?) found in breccias.</p>						
350	N2												
360	N1 To N4	70	P ₃	60									
370		70	P ₅										
380		60											
390	N1 To N4		P ₅	55									
400		55											
410		45	P ₅										
420	N15 To N7	70	P ₁ S G B	7				413' - 478' ORE ZONE					
430		70						<p>Section 413 To 444.3' Laminated to thin bedded finely banded white barite, pink to tan sphalerite with fine interlayers of galena (?) and pyrite. Beds are less than 0.05" to 1.5". Sphalerite bands are pinkish grey 5YR 8/1. Interbands of dark grey to black tuff, generally porous, which may contain black cherty inclusions or layers (up to 2") and trace amounts of pyrite. Overall, approximately 20% of section is composed of tuff layers. Bands of barite-sphalerite show very slight irregular wavy contorting, occasional fractures offset up to 0.2".</p>					
440	N5 To	65	P ₁ S G B	15									
450	N7	70											
								408-413 - 5					
								4554	0.05	0.04	0.01	0.04	
								413-425 - 2	7.04	6.28	0.76	0.075	
								415-420 - 5	7.49	7.16	0.33	0.02	
								4556	5.90	5.68	0.22	0.01	
								420-425 - 5	3.88	3.20	0.68	0.01	
								4557	4.32	3.22	1.10	0.01	
								425-430 - 5	5.17	4.36	0.81	0.01	
								4558	3.57	2.80	0.77	0.01	
								430-435 - 5	3.95	3.12	0.83	0.01	
								4559	3.82	3.06	0.76	0.01	
								435-440 - 5	4.02	3.00	1.12	0.01	
								4560					
								440-445 - 5					
								4561					
								445-450 - 5					
								4562					
								450-455 - 5					
								4563					
								455-460 - 5					

CORDILLERAN ENGINEERING LIMITED — DIAMOND DRILL RECORD

HOLE No. 76-12

CLAIM: Jason 50

PROPERTY: West Jason

PAGE No 5 of 5

SECTION	COLOUR	BEDDING	MINERAL	TEXTURE	FRACTURING	LITHOLOGY GEOLOGY	COMMENTS:	% CORE RECOVERED	SAMPLE INTERVAL & NUMBER	ESTIMATED % GRADE <small>combined Pb-Zn</small>	ASSAYS		
											%	%	%
											Zn	Pb	oz/T Ag
DESCRIPTIVE GEOLOGY													
460	N5	70	P ₃	P ₃	Δ	15	Section 413 to 444.3' cont'd: Banded Barite-Sphalerite plus tuff.		460-465 5	4.19	3.90	0.29	0.015
	N3	70	P ₃	P ₃	Δ	15	Section 464.3' to 473.3'; Breccia, of 2-1" to 1" fragments: up to 60% grey rhyolite, 5-10% argillite, 20-40% crystallitic and little tuff. Less than 5% very fine euhedral pyrite mainly in tuff bands minor amounts in rhyolite. Banded dark grey tuff 467.5 to 469. Quartz stringers 0.1" to 0.4" at 473'.		4565 465-470 5	0.19	0.12	0.07	0.02
470	N5	55	P ₃	P ₃	Δ	15	Section 473.3 to 478': Banded barite-sphalerite as for 413-464.3' with 40% interbeds of dark grey and black cherty tuff (3" to 4.2"). Breccia at 476.8 to 477.1 of rhyolite (50%) tuff (40%) argillite (10%) containing 1-2% euhedral galena. Quartz (2") stringers in siliceous tuff at 477.1-477.5. Pyrite 1-2% flanking tuff layers. Galena up to 10% locally at 473.3' (with red-brown sphalerite) and 475.5-477.		4566 470-475 5	6.32	4.76	1.56	0.05
480	N5	55	P ₃	P ₃	Δ	15	Section 478' to 492': Unit 3A Breccia bands (85%) inter-layered with black lithic tuff (cherty) and bedded porous grey tuff. Breccias contain 60-70% light grey rhyolite (1" to 2"), occasionally pyritized, 5-10% black argillite (1" to 2") and 20-40% grey and black crystallitic tuff. Pyrite 2-5% disseminated in matrix, on bedding, and as discrete clasts and rounded nodules up to 0.4". At 484.2 to 485.5 up to 2% each sphalerite (?) and galena disseminated in porous, bedded tuff with 2-10% banded pyrite. 491.5-492. more siliceous, quartz stringers with trace galena, 2% pyrite and up to 5% disseminated red brown sphalerite.		4567 475-478 3	10.58	7.08	3.50	0.12
	N2	60	P ₃	P ₃	Δ	45			4568 478-483 5	1.27	1.02	0.25	0.02
490	N5	70	P ₃	P ₃	Δ	45			4569 483-488 5	1.96	1.72	0.22	0.03
							492 - END OF HOLE.		4570				

CORDILLERAN ENGINEERING LIMITED - DIAMOND DRILL RECORD

HOLE No. 76-13A CLAIM Jason 55 PROPERTY West Jason PAGE No. 1 of 3
 CORE SIZE NQ - BQ AZIMUTH 0° ELEV. COLLAR 3941 LOGGED BY M.H. SANGUINETTI
 ANGLE of HOLE -50° TOTAL DEPTH 297' NORTHING 981,037 DATE BEGUN 5/9/76 FINISHED 10/9/76
 SECTION % RECOVERY 61.4 EASTING 207,038 CORE STORED AT WHITE HORSE

SECTION	COLOUR	BEDDING	MINERAL	TEXTURE	FRACTURING	LITHOLOGY	GEOLOGY	% CORE RECOVERED	SAMPLE INTERVAL	NUMBER	ASSAYS					ppm		
											COMMENTS: SCALE 1"=20' STICKUP 2.0'	CONTRACTOR: CARON OVERBURDEN: 58'	% Combined	% Zn	% Pb		oz/tm	% Ba
OVERBURDEN																		
60	N1								58.0									
60	N1							7.7	19327		6.67	6.45	0.22	0.02	0.71	90		
70	N3							25.0	19328		9.63	8.05	0.58	0.04	1.75	73		
70	N3							5.0	19329		5.64	5.50	0.14	0.04	0.36	112		
80	N1							2.1	19330		0.23	0.18	<0.05					
80	N1								78.0									
80	N1							SLUDGE	19331		0.31	0.26	<0.05	0.04	0.95	92		
90	N1								88.0									
90	N1							SLUDGE	19332		0.12	0.07	<0.05					
100									98.0									

COMMENTS: SCALE 1"=20'
 STICKUP 2.0'
 CONTRACTOR: CARON
 OVERBURDEN: 58'
 ACID TESTS (TRUE)
 COLLAR 100' 50'
 200' 50'
 START WITH NQ, REDUCED
 TO BQ AT 78'

Section 58-73: ORE ZONE
 Thinly bedded to laminated dark grey argillaceous tuff-barite-pyrite-sphalerite interbedded with black, slightly porous tuff. Up to 10% pyrite occurs as laminations and less than 1% fine cubical crystals disseminated in tuff. Sphalerite (?) is very pale earthy brown mixed with white barite. Fractures and cleavages covered with unidentified white/blue coating.

UNIT 3A
Section 73-80: Black porous tuff, carbonaceous seams(?), Core badly fractured, bedding and cleavage indistinct. White coating on fractures. Appears like pumice.

Section 80-114: UNIT 3A
 Sludge (Sand?) - containing 10-15% quartz, 10% pyrite, 1-2% limonite, and 20% grey mud(?), 50% black argillaceous tuff(?) and up to 10% unidentified white minerals.

CORDILLERAN ENGINEERING LIMITED - DIAMOND DRILL RECORD

HOLE No. 76-14

CLAIM: Jason 55

PROPERTY: West Jason

PAGE No. 3

of 3

SECTION	COLOUR	BEDDING	MINERAL	TEXTURE	FRACTURING	LITHOLOGY	GEOLOGY	COMMENTS:	% CORE RECOVERED	SAMPLE INTERVAL & NUMBER	ASSAYS						
											% Combined Pb/Zn	% Zn	% Pb	oz/T Ag	% Ba		
220	N1		P					Section 105.5-235 cont'd:		"S denotes sludge							
230	N2	45						235'-270' ORE ZONE									
240	5y 3/1	80	UBD			SLUDGE		Section 235-240: SLUDGE: Black argillite, tuff, quartz, barite, pyrite, sphalerite.	0.8'	4571 235-240 S	11.74	9.52	0.25	2.22	0.10	0.34	0.02
250	5y 3/1		UBD			SLUDGE		Section 240-245: SLUDGE: as above; 0.8' core recovered. "Black argillite with 30% lamellar barite xals, 10% bedded barite-pyrite-sphalerite, 10% disseminated pyrite. Quartz veinlets parallel core axis. Massive pyrite in crystal clusters (some radiating) with interstitial barite, sphalerite, galena. Last 3" is massive barite-sphalerite-pyrite matrix with disseminated white barite crystal clusters and angular fragments of black chert or volcanic."	16 %	4572 240-245 S	8.03	6.84	0.27	1.78	0.07	0.22	0.01
260	5y 4/1		UBD			SLUDGE		Section 245-250: SLUDGE: as above; 0.4' core recovered. "massive, vuggy, botryoidal masses of crystalline pyrite with minor interstitial barite-sphalerite, galena - another variety is massive bedded barite with pyrite and sphalerite. The pyrite may be zoned with radiating crystal growth around an angular barite-sphalerite fragment."	8 %	4575 245-250 S	8.44	7.72	0.25	1.27	0.07	0.20	0.01
270	5YR 6/1		S					Section 250-259: Laminated barite-pyrite-luffaceous argillite-sphalerite; brecciated and badly distorted. Submassive aggregations crystalline pyrite 250-253; up to 25% locally. Argillite content increases with depth. Sphalerite pinkish brown and earthy, locally up to 30%, very thinly bedded. Possible fault 256-259.	76 %	4577 250-255 S	10.39	4.12	0.19	1.21	0.10	0.08	0.01
280	N3	35	S					Section 259-269: Laminated black tuffaceous argillite (70%) with barite (10%), pyrite (10%) and light pinkish brown sphalerite (5-10%); in places faulted and submassive pyrite increases locally up to 25%. Tuff frequently porous. At 260' vuggy quartz veinlet with euhedral (red brown sphalerite crystals. Unidentified white and yellow-brown coating (talc?) on bedding and fractures of argillaceous tuff.	2.8'	4578 255-259 S	9.65	6.00	0.16	1.46	0.11	0.24	0.01
290			P					Section 269-335: UNIT 3A Black, thin bedded, pyritized argillaceous tuff. Interbedded black porous tuff with 20-45% carbonaceous argillite. Quartz stringers irregularly cutting bedding 269-275 and in slump breccia 295-296. Rock very finely bedded and fractured (cleavage?) between 301 & 335 with solid tuffaceous sections between. Pyrite occurs as fine disseminations of <1% throughout, with submassive layers of 2"-4" in porous tuff layers at 283, 292, 295, 304, 310, 320, 322, 326, 334 and irregularly along bedding.	70 %	4579 259-260 S	5.39	3.34	0.14	0.35	0.06	0.18	0.01
300			P						40%	4580 260-264 S	6.74	6.24	0.28	0.50	0.16	0.30	0.01
310			P						80 %	4581 264-270 S	6.74	6.24	0.28	0.50	0.16	0.30	0.01
320			P							40%	4582 269-274		0.21	0.05			
330			P						28%	19326 274-279		<0.05	<0.05				
335								335: End of hole. Casing pulled.									

NOTE: % COMBINED Pb/Zn CALCULATED BY USING FOOTAGE OF CORE REPRESENTED IN A GIVEN INTERVAL AND USING SLUDGE ASSAY TO REPRESENT REMAINDER OF INTERVAL

CORDILLERAN ENGINEERING LIMITED - DIAMOND DRILL RECORD

HOLE No. 76-15

CLAIM: Jason 55

PROPERTY: West Jason

PAGE No. 4 of 5

SECTION	COLOUR	BEDDING	MINERAL	TEXTURE	FRACTURING	LITHOLOGY	GEOLOGY	COMMENTS:	% CORE RECOVERED	SAMPLE INTERVAL	B NUMBER	ASSAYS						
												Zn/Pb	Zn	Pb				
																	%	%
340	N2 To N3		P ₂	Δ	20'	▲		Section 294-348.5 cont'd. Rhyolite-tuff-argillite Breccia										
350		75				x		UNIT 3A										
360	N1 To N2		P ₂			x		Section 348.5-401.5 Argillaceous Tuff, moderately siliceous. Pyrite overall averages 1-2%, with 2-5% in thin crystal lentic tuff beds up to 2" thick and along bedding. Intergrowed 1-3" quartz veinlets containing light brown boxwork with trace amounts of sphalerite (?) or zeolite (??). Minor unidentified white coatings on argillaceous fractures. Graphite in moderate amounts mainly on fractures and bedding.										
370		60			60'	x												
380		55			40'	x												
390	N1 To N2		P ₂		45'	g												
400		55				x		UNIT 3A										
410	N1 To N4		P ₂₋₅	Δ		x		Section 401.5-409: Rhyolite-tuff-argillite breccia containing .05-2" subrounded angular clasts of light grey pyritized rhyolite (25-45%), grey to black tuff and argillaceous tuff (25-60%); black argillite and tuffaceous argillite (10-35%), fine grey or black matrix (20-40%). Proportion of matrix increases with depth; size of fragments increases proportionally through section. Pyrite averages 2-5% principally in rhyolite clasts but also within argillite matrix and locally in short 1"-2" tuff bands (5-25%). Thin irregular quartz veinlets 406-409. Pyrite may form snow-crust in minute examples showing overturned bedding. (also sphalerite??)		420.0								
420	N1		P ₅		60'	g			56.5	10544		20.10	20.05	20.05				
430		35'	S ₂	Δ		x		Section 409-516: Black carbonaceous tuffaceous argillite, showing local brecciation and pyritization (413, 416). Fault(?) 409-411 with graphite, gouge, carbonaceous material. Pyrite overall approx. 5%, locally 20% in tuff and breccias, principally occurring as fine disseminations and on bedding.										
440			P ₅			x			24.0	10548		0.70	0.65	0.05				
450	N1		S ₂	Δ		g		Sludge (black sand) 416.5-420, 443-448, 449-451, 452.5-454, 459-461, 463-465, 468, 477, 488-491, 495-496, 499-504. Sludge from 443-465 contains 20-25% quartz, 10% pyrite, 60% black tuff-argillite, 10% unidentified white & grey minerals. Sludge from 468 on contains 10-20% quartz, 2-5% pyrite, 60-75% black tuff-argillite and 5-10% unidentified minerals.		428.5		2.28	2.45	0.65				
			P ₅			x			50.0	428.5		0.70	0.35	40.05				
			P ₅			x			50.0	428.5		5.76	5.70	0.06				
			P ₅			x			24.0	10548		0.70	0.65	0.05				
			P ₅			x			40.0	438.0		0.70	0.65	0.05				
			P ₅			x			44.0	443.0								
			P ₅			x			SLUDGE	10550		1.73	1.50	0.23				
			P ₅			x			86.0	448.0		1.52	1.23	0.29				
			P ₅			x			51.3	19302		1.94	1.78	0.16				

MINERALIZED
ZONE - PROBABLY
NOT OF ZONE
(424-468)

CORDILLERAN ENGINEERING LIMITED - DIAMOND DRILL RECORD

HOLE No. 76-16 CLAIM Jason 5.5 PROPERTY West Jason PAGE No. 1 of 4
 CORE SIZE NQ AZIMUTH 0° ELEV. COLLAR 3809 LOGGED BY M. H. SANGUINETTI
 ANGLE of HOLE -50 TOTAL DEPTH 401 NORTHING 980.899 DATE BEGUN 24/9/76^D FINISHED 27/9/76^D
 SECTION % RECOVERY 78.6 EASTING 206.393 CORE STORED AT WHITEHORSE

SECTION	COLOUR	BEDDING	MINERAL	TEXTURE	FRACTURING	LITHOLOGY	COMMENTS: SCALE 1"=20' STICKUP 2.5'		CONTRACTOR: CARON OVERBURDEN: 32'	% CORE RECOVERED	SAMPLE INTERVAL # NUMBER	ASSAYS						
							ACID TESTS (TRUE) COLLAR 52° 300 36° 100 46° 400 28° 200 -					DESCRIPTIVE	GEOLOGY					
0							OVER BURDEN											
10																		
20																		
30																		
32		40°					UNIT 1B (32-74.) UNIT 3A (74-148) Section 32-401: Tuffaceous argillite - showing signs of considerable slump brecciation from 32-145'. Contains narrow bands of rhyolite-tuff-argillite breccias at 43-44', 49-49.5', 54.5-58.5', 60-61, 73-74, 118-118.5, 120-122, 124-126. Clasts are generally subrounded and range up to 1.5". Composition is variable; rhyolite clasts (10-40%) are light grey and generally pyritized; tuff and argillite (each 25-60%) contain 2-5% pyrite; matrix is generally black and carbonaceous, containing 1-2% pyrite with graphite on all fracture faces.											
40	N1	R	P.S	Δ	20°	x												
50	N2	R	P.S	Δ	15°	x												
60		55°																
70		59°																
80	N1	R	P.S	Δ	15°	x												
90	N2	R	P.S	Δ	15°	x												
		55°																
		59°																
		65°																
		55°																
		40°																

Pyrite content averages 2-5% overall as euhedral disseminations in argillite and tuff but is also concentrated along bedding planes and fractures and in crystal lithic tuff bands of 1"-4" thickness, and in rhyolite fragments in breccias.

Minor amounts of sphalerite noted in fractured breccia matrix 120.5-122 and within a clast as bedded sphalerite (?) at 123.

CORDILLERAN ENGINEERING LIMITED - DIAMOND DRILL RECORD

HOLE No. 76-19 CLAIM JASON 49 PROPERTY WEST JASON PAGE No. 1 of 4
 CORE SIZE NØ AZIMUTH 0° ELEV. COLLAR ~ 4550 LOGGED BY M. H. SANGUINETTI
 ANGLE of HOLE -50° TOTAL DEPTH 428' NORTHING ~ 983,800 DATE BEGUN 4/10/76^N FINISHED 7/10/76^N
 SECTION % RECOVERY 71.3% EASTING ~ 208,800 CORE STORED AT Whitehorse

SECTION	COLOUR	BEDDING	MINERAL	TEXTURE	FRACTURING	LITHOLOGY	GEOLOGY	COMMENTS: SCALE 1"=20' : CONTRACTOR: CARON		% CORE RECOVERED	SAMPLE INTERVAL 8 NUMBER	ASSAYS						
								STICKUP 2.5' OVERBURDEN : 22'										
								ACID TESTS (TRUE)										
0																		
10																		
20																		
30		15°																
40	N1	05°																
50	N2																	
60		20°																
70	N1	25°																
80	N2																	
90		25°																
100		20°																
120		20°																

COMMENTS: SCALE 1"=20' : CONTRACTOR: CARON
 STICKUP 2.5' OVERBURDEN : 22'
 ACID TESTS (TRUE)
 200' - 39.5°
 300' - 32.5°
 428' - 27°

DESCRIPTIVE GEOLOGY

OVER BURDEN

UNIT 3A

Section 22-428: Black argillaceous tuff: thinly bedded argillaceous bands (20%) and porous, pumaceous and crystal-lithic and crystal tuff beds. Hole is drilled steeply to the bedding but crosses considerable slump brecciation, swirling and distortion. Weathering, brecciation and limonite staining to 55' core well fractured at low angle to core axis resulting in elongated fragments and "shards". White and blue coating frequent on cleavage, fractures and bedding, except where stained by limonite. Bedding is generally thin but becomes laminated over short 6"-6' sections throughout. Relief noted by the porous beds of black pumaceous tuff and crystal lithic tuff contrasted to the more argillaceous beds. Occasionally argillaceous and tuffaceous sections grade into "silty" indistinct beds. Prominent slump breccias 43-46, 61-62, 65-111, 126-128, 146-151, 175-177, 194-196, 218-219, 352-356. Graphite common on fractures, faults, cleavage and lining clasts within slump breccias (esp. in fault/fracture zones 253-260, 279-291, 345-348, 353-355, 366-369, 389-390, 396-398). Highly carbonaceous throughout the bottom 150'.

CORDILLERAN ENGINEERING LIMITED - DIAMOND DRILL RECORD

HOLE No. 76-20 CLAIM PROPERTY WEST JASON PAGE No. 1 of 1
 CORE SIZE HQ AZIMUTH 0° ELEV. COLLAR ns. 4100 LOGGED BY M.H. SANGUINETTI
 ANGLE of HOLE -49°30' TOTAL DEPTH 121.92 m NORTHING ns. 980.550 DATE BEGUN 25/10/76 FINISHED 28/10/76
 SECTION % RECOVERY 90.3 EASTING ns. 922.800 CORE STORED AT WHITEHORSE
ns. Not Surveyed

COMMENTS: SCALE 1:250 CONTRACTOR: LONGYEAR
 STICK UP 1M OVERBURDEN: 5.5m

ACID TEST (TRUE)
 31.7 46° 121.96 40°
 64.0 45°
 91.4 42°30'

% CORE RECOVERED	SAMPLE INTERVAL	NUMBER	ASSAYS		
			% combined Zn/Pb	% Zn	% Pb

DESCRIPTIVE GEOLOGY

OVERBURDEN

UNIT 1B?

section 6.90 - 30.10: Thinly bedded black argillaceous tuff with medium grey fine-grained crystal lithic tuff in equal proportions. Hole is drilled at a flat angle to the bedding (aprox 05-25°). Considerable swirling, rip up clasts, and submarine depositional characteristics noted on contacts between beds. Beds vary from laminated to 2cm thick and are cyclic; frequently with a silty argillaceous tuff bed between carbonaceous argillaceous tuff and crystal lithic tuff beds.

Graphite common between beds.

Top of hole 6.90 to 7.92. Sheared at 55°.

chaotic slump breccia 14.20-14.35, 17.96-18.00

Minor amounts of red brown sphalerite at 10.13 in 35° fracture filling with minor quartz, straw coloured sphalerite and pyrite, sub-parallel to bedding.

Quartz veinlets 28.7 - 28.96.

Pyrite content averages 3% in crystal tuff bands, fractures and fine disseminations in argillaceous tuff.

96	29.0 19347 30.0	0.18	0.12	0.06
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NOTE: METRIC SCALE

SECTION	COLOUR	BEDDING	MINERAL	TEXTURE	FRACTURING	LITHOLOGY GEOLOGY
0						
6.90		25°	P ₃		55°	
10	N1	15°	S		45°	
15	N2	25°	P ₃		40°	
20		3°	P ₃		30°	
25	N1	15°	P ₃		50°	
30	N2	10°	Q		50°	

NOTES:

Total Caron Footage 1975: 2,271'
 Total Caron Footage 1976: 5,111'
 Total Longyear Footage 1976: 1,984'
 GRAND TOTAL 9,366'

CORDILLERAN ENGINEERING LIMITED

DIAMOND DRILL SUMMARY RECORD

PROJECT - OJV - Macmillan Pass. 1975, 1976

LEGEND

NC - No Core
 L - Logged
 W - Core in Whitehorse
 P - Core on Property
 LY - Longyear
 C - Caron
 S - Surveyed Hole
 NS - Not Surveyed

01287

HOLE No.	NORTHING	EASTING	ELEVATION	SECTION	INCLINATION	AZIMUTH	OVERBURDEN	CLAIM	% RECOVERY	DATE STARTED	DATE FINISHED	REMARKS	TOTAL DEPTH	TOTAL FOOTAGE
75-1 C	22,981,370	208,518	S 4251		-90°	-	26'	JASON 57				BQ	102 W	
75-2 C	981,370	208,518	S 4251		-50°	E	40'	" 57				BQ	385 W	
75-3 C	981,370	208,518	S 4251		-50°	N	61'	" 57				BQ	L 176 W	
75-4 C	981,625	208,505	S 4282		-50°	S	119'	" 57				BQ	L 222 W	
75-5 C	981,792	208,499	S 4314		-50°	S	10'	" 57				BQ	L 462 W	
75-6 C	981,362	209,678	S 4141		-50°	N 45° E	67'	" 59	36.4			BQ	L 386 W	
75-7 C	981,431	209,505	S 4173		-50°	S 45° W	75'	" 59	28.0			BQ	L 538 W	2,271'
76-8 C	984,969	201,270	S 3974		-90°	-	46'	" 17		July 12 D	July 29 D	BQ	L 1151 W	
76-9 C	990,560	208,363	S 4097		-50°	W	60'	" 57		Aug. 1 D	Aug. 2 N	BQ Lost	- 60 NC	
76-9A C	980,560	208,363	S 4097		-50°	W	78'	" 57		Aug. 3 D	Aug. 7 D	BQ	L 280 W	
76-10 C	980,545	208,783	S 4090		-50°	E	72'	" 57		Aug. 9 D	Aug. 15 D	BQ	L 437 W	
76-11 C	981,055	207,896	S 4180		-50°	N	10'	" 57	86.8	Aug. 16 D	Aug. 22 N	BQ	L 465 W	
76-12 C	982,012	208,958	S 4317		-50°	S	14'	" 50	79.8	Aug. 24 D	Aug. 31 D	BQ	L 492 W	
76-13 C	981,037	207,038	S 3941		-50°	N	58'	" 55		Sept. 3 D	Sept. 4 N	NQ Lost Casing Broken	- 58 NC	
76-13A C	981,037	207,038	S 3941		-50°	N	58'	" 55	61.4	Sept. 5 D	Sept. 10 N	NQ Lost Rods Broken	L 302 W	
76-14 C	980,891	207,035	S 3917		-50°	N	56'	" 55	61.9	Sept. 11 N	Sept. 15 N	NQ	L 335 W	
76-15 C	980,625	206,397	S 3799		-50°	N	43'	" 55	75.7	Sept. 17 N	Sept. 23 D	NQ	L 516 W	
76-16 C	980,899	206,393	S 3809		-50°	N	32'	" 55	78.6	Sept. 24 D	Sept. 27 D	NQ Casing Left in Hole	L 401 W	
76-17 LY	985,450	201,850	NS 3850		-90°	-	25' 7.65 M	" 17	79.1	Sept. 24 D	Oct. 18 N	NQ Could Not Continue	L 1584 W (0-900 P) 482.80 M	
76-18 C	984,100	208,700	NS 4550		-50°	S	28' 8.53 M	" 49	33.9	Sept. 30 D	Oct. 3 N	NQ Lost Sand	L 186 W	
76-19 C	983,800	208,800	NS 4550		-50°	N	22' 6.70 M	" 49	71.3	Oct. 4 N	Oct. 7 N	NQ	L 428 W	
76-20 LY	980,550	208,600	NS 4100		-50°	N	18' 5.49 M	" 57	90.3	Oct. 25 D	Oct. 28 N	HQ Casing Left in Hole	L 400 W 121.92 M	7,095'

1975

1976

cont.