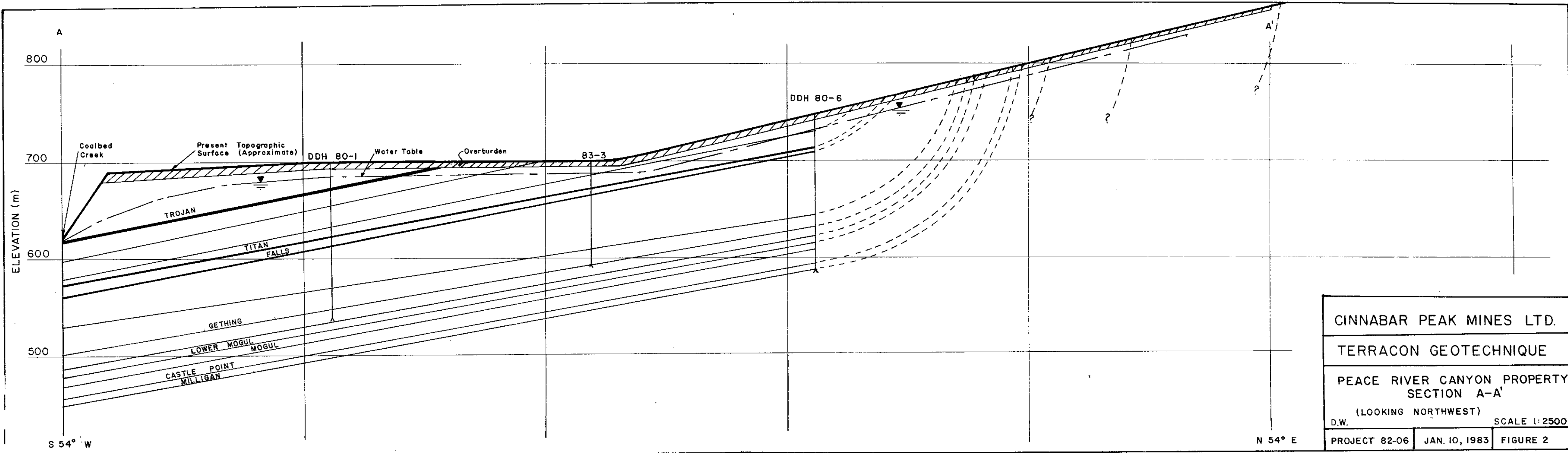
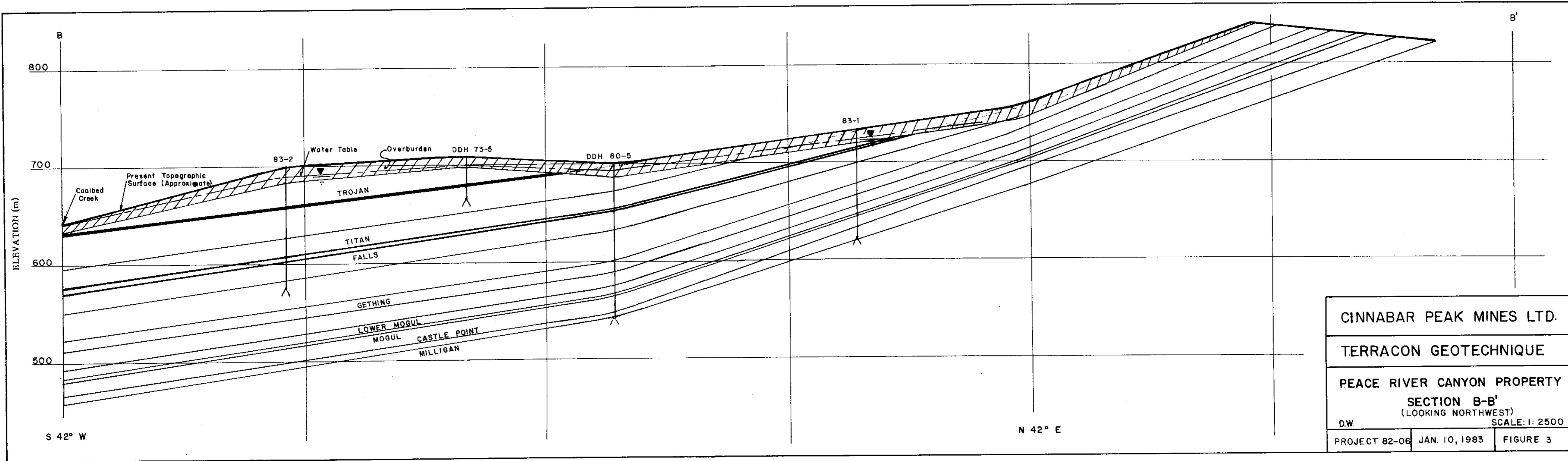
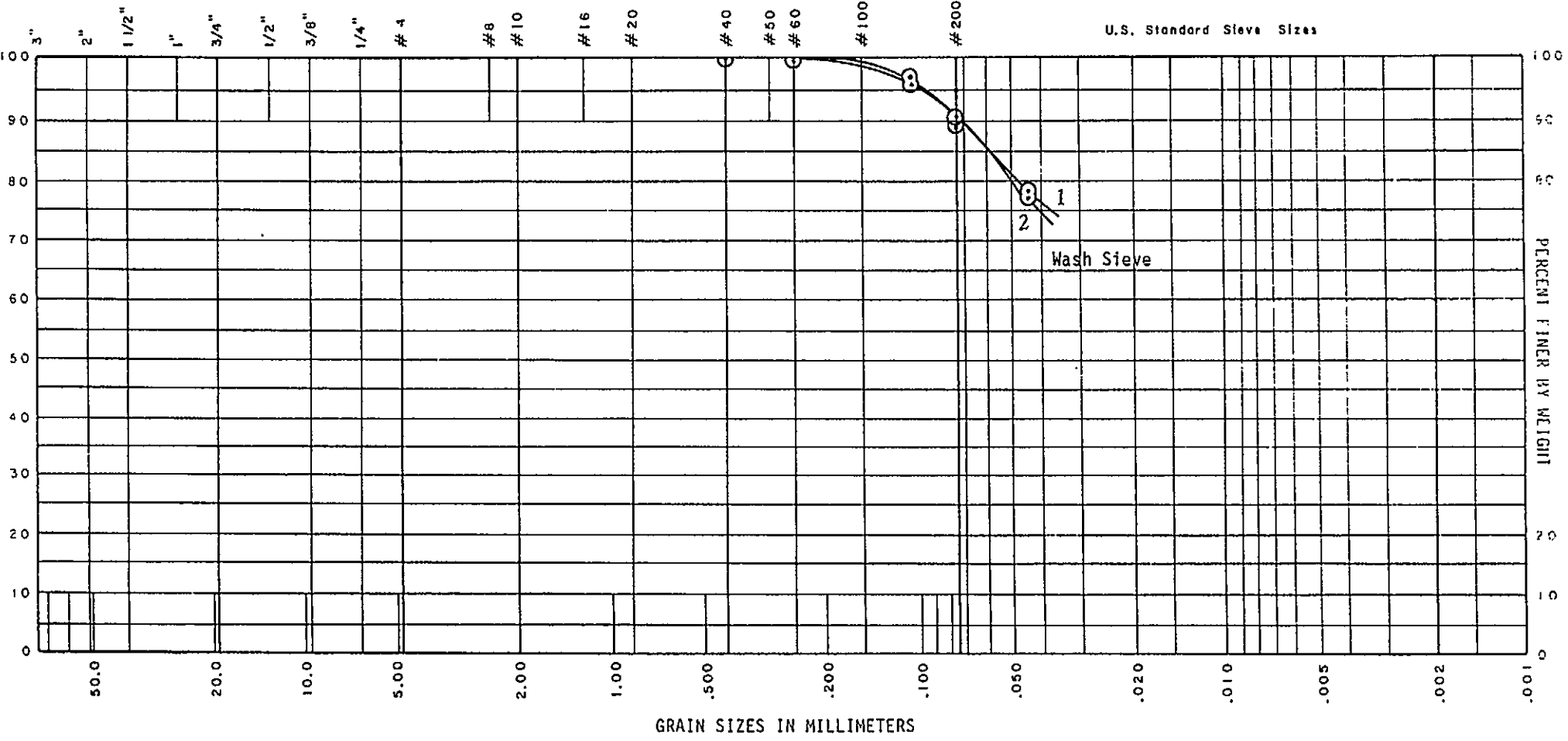


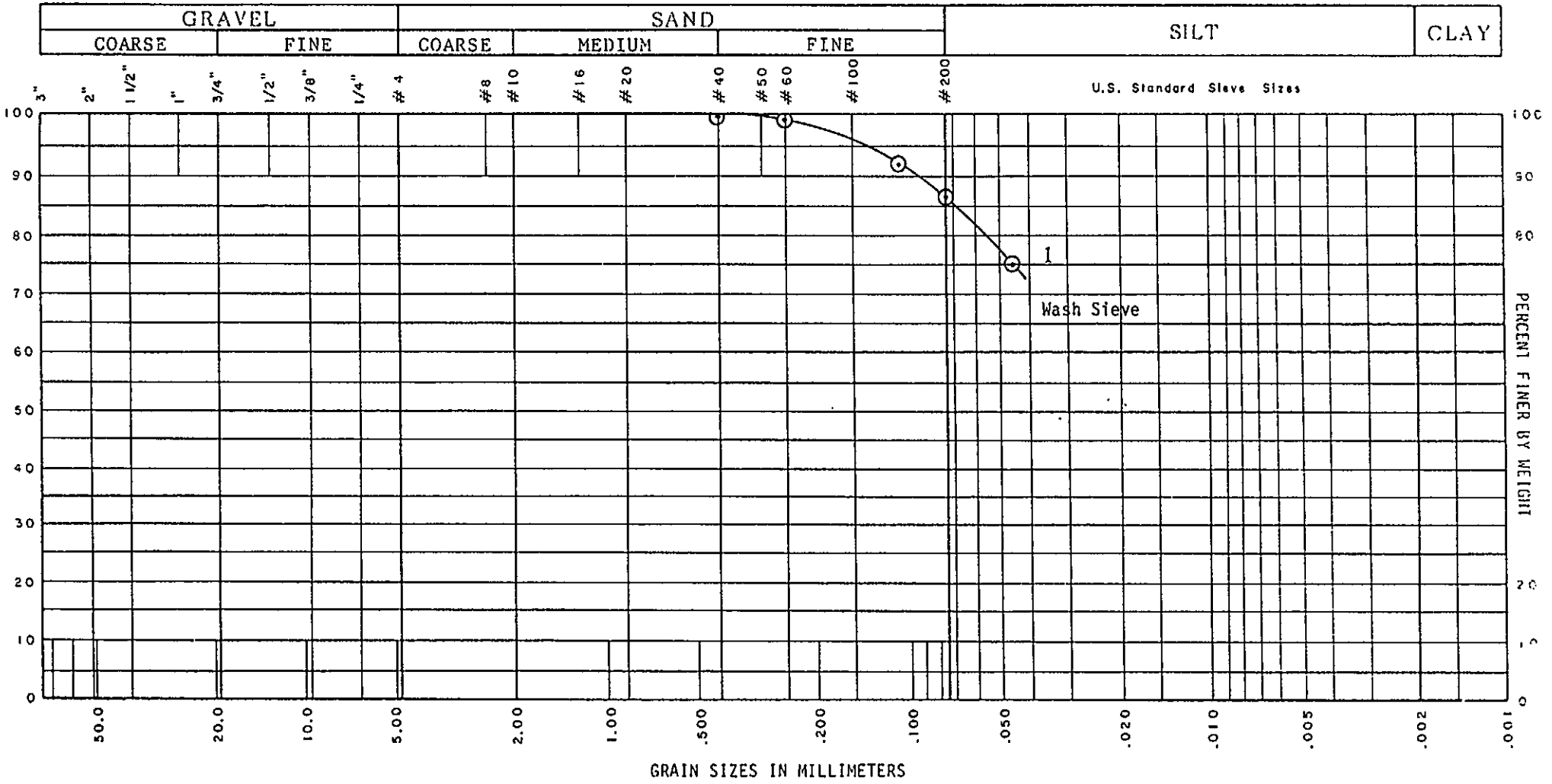
APPENDIX A
FIGURES






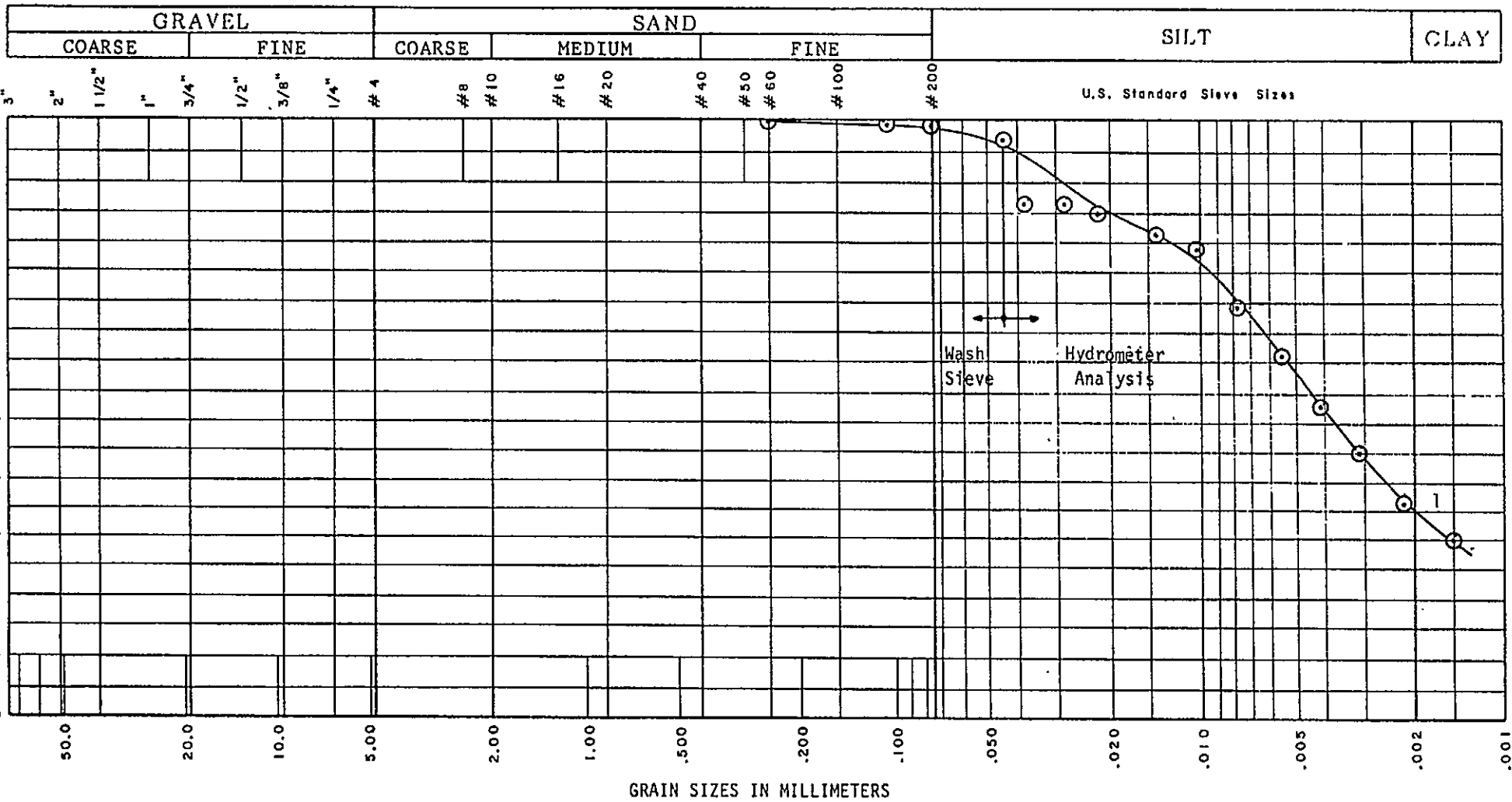
GRAVEL				SAND					SILT				CLAY
COARSE		FINE		COARSE	MEDIUM		FINE						






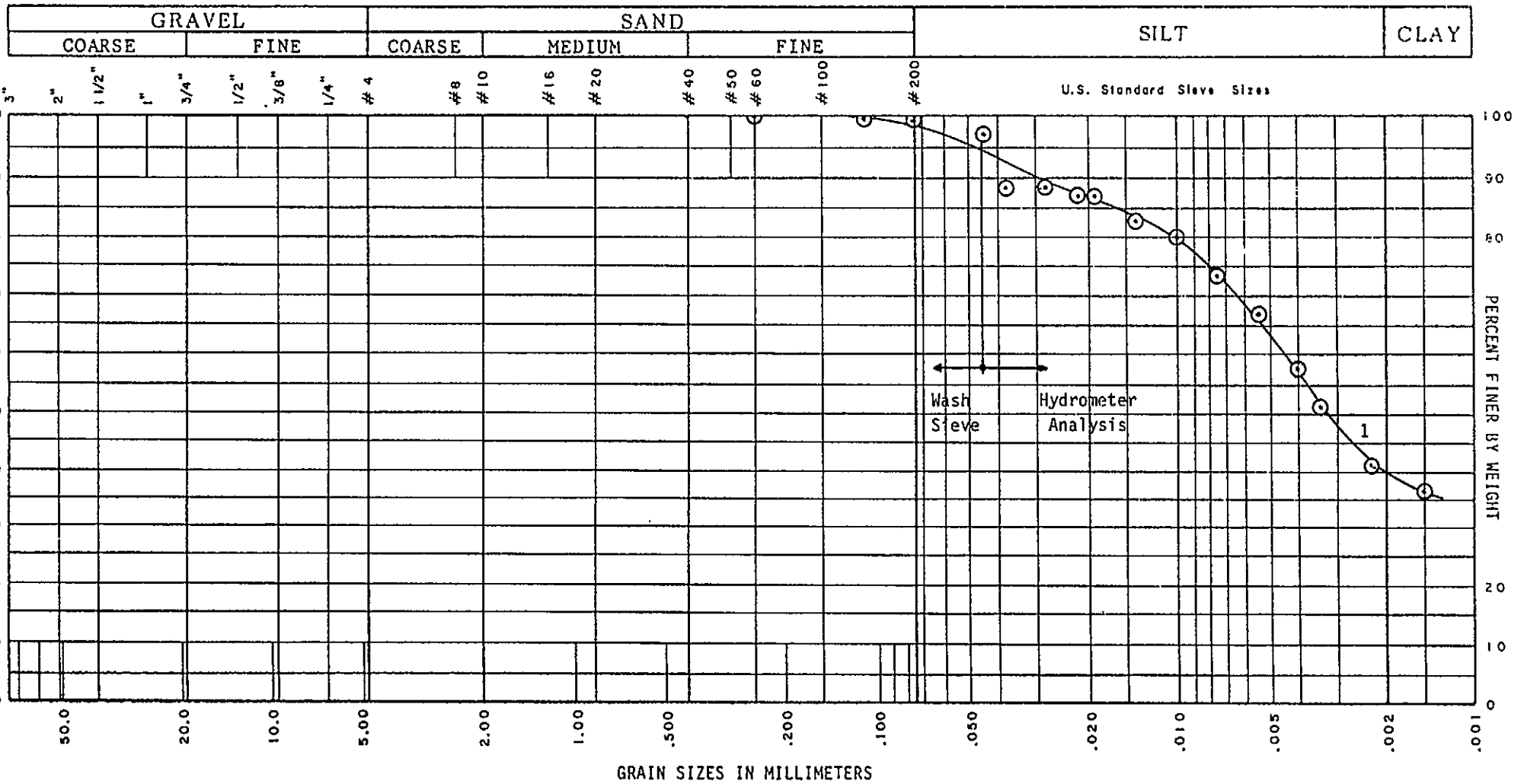
CURVE NO.	MATERIAL TYPE	SOIL CLASSIFICATION				U.S.C. Symbol	SIZE CHARACTERISTICS			
		Gravel	Sand	Silt	Clay					
1	83-5; 0.00 - 12.19 m.			EST	EST					
	Clayey Silt, Olive Gray		13%	70%	17%	CL				

1983 Plant Site Investigation Program of Peace River Canyon Property		
 TERRACON GEOTECHNIQUE LTD.		
Cinnabar Peak Mines Ltd. Edmonton, Alberta		
Dec. 21, 1983	Project 82-06	Fig. 5




CURVE NO.	MATERIAL TYPE	SOIL CLASSIFICATION				U.S.C. Symbol	SIZE CHARACTERISTICS			
		Gravel	Sand	Silt	Clay					
1	83-8; 0.00 - 5.49 m	--	2%	66%	34%	CL				
	Clayey Silt, Olive Gray									

1983 Plant Site Investigation Program of Peace River Canyon Property		
 TERRACON GEOTECHNIQUE LTD.		
Cinnabar Peak Mines Ltd. Edmonton, Alberta		
Dec. 21, 1983	Project 82-06	Fig. 6



CURVE NO.	MATERIAL TYPE	SOIL CLASSIFICATION				U.S.C. Symbol	SIZE CHARACTERISTICS			
		Gravel	Sand	Silt	Clay					
1	83-8; 5.49 - 6.71 m Clayey Silt, Dark Gray	--	1%	63%	38%	CL				

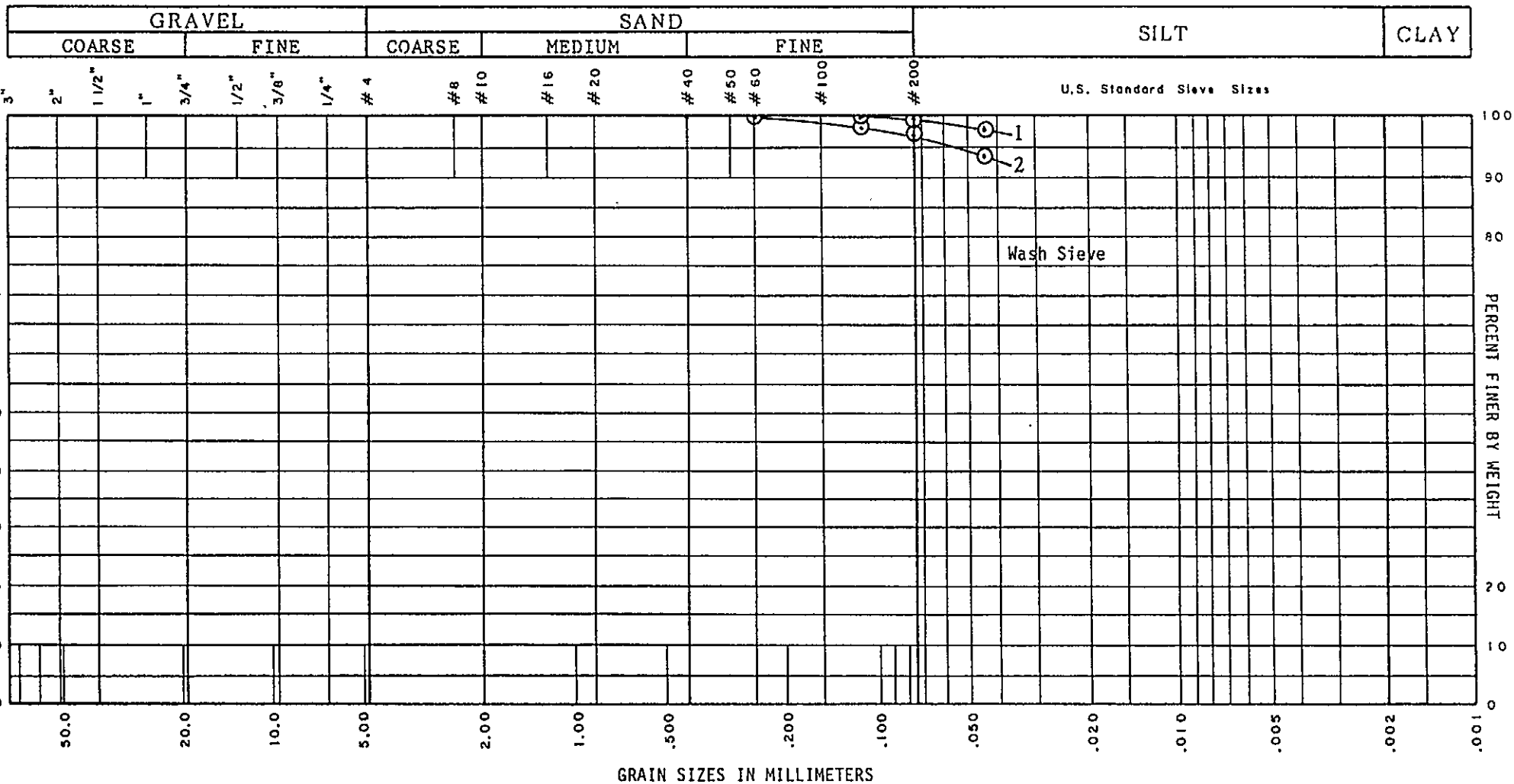
1983 Plant Site Investigation Program
of Peace River Canyon Property




TERRACON GEOTECHNIQUE LTD.

Cinnabar Peak Mines Ltd.
Edmonton, Alberta

Dec. 21, 1983	Project 82-06	Fig. 7
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CURVE NO.	MATERIAL TYPE	SOIL CLASSIFICATION				U.S.C. Symbol	SIZE CHARACTERISTICS		
		Gravel	Sand	Silt	Clay				
1	83-10; 0.00 - 5.49 m			Est	Est				
	Clayey Silt, Olive Gray	--	1%	64%	35%	CL			
2	83-10; 5.49 - 6.40 m			Est	Est				
	Clayey Silt, Dark Gray	--	3%	59%	38%	CL			

1983 Plant Site Investigation Program of Peace River Canyon Property		
 TERRACON GEOTECHNIQUE LTD.		
Cinnabar Peak Mines Ltd. Edmonton, Alberta		
Dec. 21, 1983	Project 82-06	Fig. 8

APPENDIX B
TABLES

TABLE 1 BOREHOLE DRILLING AND GEOPHYSICAL LOGGING SUMMARY

Hole Number	Total Depth (m)	Piezometer Tip Depth (m)	Casing Depth (m)	Geophysical Logging	Drilling Method	Sampling Interval (m)	Remarks
83-1	111.25	111.25	17.37	X	Rotary with water followed by hammer with air	3.05	Rotary drilling for first 61 m, the remainder with hammer
83-2	126.49	--	2.13	X	Down-hole hammer drill with high pressure air flush	3.05	30 m of piezometer tubing dropped accidentally into hole
83-3	111.25	--	6.10	--	Down-hole hammer drill with high pressure air flush	3.05	Abandoned due to gravel sloughing in at 21.34 m depth
83-4	15.24	12.19	--	X	Rotary drill with high pressure air flush	0.31	
83-5	12.19	--	--	--	Rotary drill with high pressure air flush	0.31	
83-6	1.52	--	--	--	Rotary drill with high pressure air flush	0.31	Dry peat overlying siltstone bedrock
83-7	12.19	9.14	--	X	Rotary drill with high pressure air flush	0.31	
83-8	7.62	3.05	--	X	Augered	0.91	
83-9	8.23	3.66	--	X	Augered	0.91	
83-10	6.40	2.74	--	X	Augered	0.91	
83-11	7.32	3.05	--	X	Augered	0.91	
TOTAL FOOTAGE	419.71						

TABLE 2 GEOPHYSICAL LOGGING SUITE SUMMARY

Geophysical Logs (a)	Gamma Ray	Neutron/ Neutron	Focussed Electric	Caliper	Bed Resolution Density	Long Spaced Density
Hole Number						
83-1 (b)	102.6 (c)	103.0	102.0	103.5	102.0	104.0 (c)
83-2 (b)	122.2 (c)	123.0	123.0	123.5	119.0	123.4 (c)
83-3	--	--	--	--	--	--
83-4 (d)	9.80	--	--	9.76	--	--
83-5 (d)	--	--	--	--	--	--
83-6 (d)	--	--	--	--	--	--
83-7 (d)	10.00	--	--	10.00	--	--
83-8 (d)	5.70	--	--	5.70	--	6.20 (e)
83-9 (d)	5.00	--	--	5.00	--	--
83-10 (d)	5.00	--	--	5.00	--	--
83-11 (d)	3.40	--	--	3.40	--	--

- NOTES: (a) Table indicates depths, in metres, to which each hole was logged.
 (b) Logs were plotted at 1:100 scale.
 (c) Log was also plotted at 1:20, in addition to the 1:100 scale plot.
 (d) Logs were plotted at 1:20 scale.
 (e) Density readings were linearized, then plotted by computer.

TABLE 3 SUMMARY OF COAL INTERSECTIONS

Hole Number	83-1 (a)			83-2 (a)			83-3 (b)		
Stratigraphic Intervals	Interval (m)			Interval (m)			Interval (m)		
	From	To	Thickness	From	To	Thickness	From	To	Thickness
Overburden	0.00	18.04	18.04	0.00	41.20	41.20	0.00	11.6	11.6
Seam # 1 Trojan				41.20	44.58	2.51*	11.6	12.2	0.6
Interseam				44.58	80.25	35.67	12.2	14.6	2.4
Seam # 2				80.25	80.72	0.47*	14.6	15.2	0.6
Interseam				80.72	91.88	9.16	15.2	26.8	11.6
Seam # 3 Titan	18.04	19.76	1.72*	91.88	93.92	1.48*	26.8	27.9	1.1
Interseam	19.76	20.44	0.68	93.92	96.66	2.74	27.9	31.1	3.2
Seam # 4 Falls	20.44	23.82	2.56*	96.66	99.20	1.95*	31.1	35.7	4.6
Interseam	23.82	42.96	19.14	99.20	117.64	18.44	35.7	90.8	55.1
Seam # 5	42.96	43.83	0.72*	117.64	117.96	0.32*	90.8	91.4	0.6
Interseam	43.83	85.96	42.13				91.4	94.5	3.1
Seam # 6 Gething	85.96	89.98	1.08*				94.5	96.6	2.1
Interseam	89.98	100.46	10.48				96.6	98.1	1.5
Seam # 7	100.46	101.23	0.67*				98.1	99.4	1.3

Total Coal Seam Thicknesses	6.75 m	6.73 m	10.9 m
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Notes: (a) Contacts taken from geophysical logs.
 (b) Contacts taken from geological logs.
 * Seam thickness less definable partings.

TABLE 4 SUMMARY OF LABORATORY TEST DATA WITH SELECTED GEOPHYSICAL DATA


HOLE NO.		83-4	83-5	83-6	83-7	83-8	83-9	83-10	83-11	AVG
Soil Type	Laboratory Tests									
Soil 1 Clayey Silt Olive Gray	Average Moisture Content	25.9	28.5	21.0	30.7	27.9	27.2	28.1	29.4	20.7
	Atterberg Limits	Plastic Limit				AVG 22.65				
		Liquid Limit					AVG 31.70			
	Geophysical Log Wet Density (gm/cc)					1.85				
Soil 2 Clayey Silt Dark Gray	Average Moisture Content	27.8				30.4	30.7	34.4	31.3	30.9
	Atterberg Limits	Plastic Limit				21.63				
		Liquid Limit					31.7			
	Geophysical Log Wet Density (gm/cc)					2.15				

APPENDIX C BOREHOLE GEOLOGICAL LOGS

Appendix C contains visual descriptions of the lithologies of grab samples taken at regular metric intervals. These samples are not necessarily representative of the borehole lithologies and were collected only as a supplement to the geophysical logs.

For holes 83-1 to 83-3, samples were collected at 3 m intervals from the mud/air return line. For holes 83-4 to 83-7 inclusive, the samples were collected from the air return line at 1 metre intervals. For holes 83-8 to 83-11 inclusive, samples at 1 metre intervals were taken from the auger flites. The auger samples are considered to be reasonably representative of the lithologies.

Geological Log Legend

Snst	Sandstone
SiSt	Siltstone
	Coal
Sh	Shale
Cl	Clay
Si	Silt
TpSl	Topsoil

HOLE NO. 83-1

Location: 11225 mE and 6975 mN
Inclination: Vertical
Azimuth: N.A.
Diameter: 5½" for 0 to 18m
4½" for 18m to T.D.
Collar Elevation: Ground Level @ ASL 704m

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client <u>Cinnabar Peak Mines Ltd.</u>	Contractor <u>Wonqwon Drilling Ltd.</u>	Total Depth <u>111.25 m</u>
Project <u>Peace Canyon Property</u>	Drilling Method <u>Rotary to 61 m</u>	Collar Elev. <u>2610 m</u>
Hole No <u>83-1</u>	Drilling Fluid <u>Water</u>	Coordinates (N/E)
Logged By <u>Dale Watson</u>	Date Started <u>Oct 10/83</u>	Casing Depth <u>18.1 m</u>
Sheet <u>1</u> Of <u>7</u>	Date Finished <u>Oct 31/83</u>	Hole Diameter <u>11.4 cm</u>

D E P T H (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer	Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²).	Atterberg Limits
0.00	Silty clay till, some sand and pebbles, yellowish gray, some carbonates present			Till		R				
3.0	Same as interval 0.0 - 3.0 m									
6.0	Same as interval 0.0 - 3.0 m									
9.0	Same as interval 0.0 - 3.0 m									
12.0	Same as interval 0.0 - 3.0 m									
15.0	Same as interval 0.0 - 3.0 m									
18.0				SiSt	17.2					

Remarks: R indicates grab sample taken at regular intervals. Lithological column shows lithological contacts corrected with geophysical logs. Checked and reviewed by L. Nichols.

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd. Project Peace Canyon Property Hole No 83-1 Logged By Dale Watson Sheet 2 of 7	Contractor Wonowon Drilling Ltd. Drilling Method Rotary to 61 m Drilling Fluid Water Date Started Oct 10/83 Date Finished Oct 31/83	Total Depth 111.25 m..... Collar Elev. 2610 m..... Coordinates (N/E) Casing Depth 18.1 m..... Hole Diameter ... 11.4 cm.....
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D E P T H (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer	Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration	Resistance	Moisture	Content %	Strength	Qu (Kg/cm ²)	Atterberg	Limits
18.0	Siltstone, black, some fine grained sandstone pebbles of various colours, some coal, carbonate cementing (Geophysical log indicates Titan seam from 18.07 to 19.62 m)			Silt	18.1	R								
				Silt	19.6									
21.0	Sandstone, fine grained, dark gray, mixed with black siltstone, few shale particles, some coal, carbonate cementing (Geophysical log indicates Falls seam 20.48 - 22.73 m) (Drillers log of coal interval 19.8 - 23.2 m)			Silt	20.5									
				Silt	22.7									
24.0	Siltstone, black, some fine grained, dark gray sandstone, carbonate cementing			Silt	23.6									
				Silt	24.0									
27.0	Same as interval 24.0 - 27.0 m													
30.0	Siltstone, black, some black shale, trace of fine grained, dark gray sandstone, carbonate cementing			Silt	29.9									
				Silt	30.9									
33.0	Siltstone, black, some shale, carbonate cementing			Silt	33.0									
				Silt	34.4									
36.0					36.0									

Remarks: R indicates grab samples taken at regular intervals. Lithological column shows lithological contacts corrected with geophysical logs. Checked and reviewed by L. Nichols.

TERRACON GEOTECHNIQUE LTD.

SITE INVESTIGATION BOREHOLE LOG

Client <u>Cinnabar Peak Mines Ltd.</u>	Contractor <u>Wonowon Drilling Ltd.</u>	Total Depth <u>111.25 m.</u>
Project <u>Peace Canyon Property</u>	Drilling Method <u>Rotary to 61 m.</u>	Collar Elev. <u>2610 m</u>
Hole No <u>83-1</u>	Drilling Fluid <u>Water</u>	Coordinates (N/E)
Logged By <u>Dale Watson</u>	Date Started <u>Oct. 10/83</u>	Casing Depth <u>18.1 m.</u>
Sheet <u>3</u> Of <u>7</u>	Date Finished <u>Oct. 31/83</u>	Hole Diameter <u>11.4 cm.</u>

DEPTH (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer	Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
36.0	Same as interval 33.0 - 36.0 m., with some fine grained, dark gray sandstone			Sh	36.8	R				
				SnSt						
39.0	Siltstone, black, some fine grained, dark gray sandstone, carbonate cementing				38.6					
				SiSt						
42.0	Siltstone, black, some dark brown and dark gray shale, carbonate cementing (Geophysical log indicates seam #5 from 43.0 to 43.83 m)				41.4					
					41.8					
						43.0				
						43.8				
45.0	Shale, dark brown, mixed with a black siltstone, some carbonate cementing				45.4					
					46.4					
48.0	Siltstone, black mixed with a fine grained, gray sandstone, some carbonate cementing				47.8					
					49.0					
51.0	Same as interval 48.0 - 51.0 m									
54.0										

Remarks: R indicates grab samples taken at regular intervals. Lithological column shows lithological contacts corrected with geophysical logs. Checked and reviewed by L. Nichols.

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd. Project Peace Canyon Property Hole No 83-1 Logged By Dale Watson Sheet 4 Of 7	Contractor Wonowon Drilling Ltd. Drilling Method Down Hole Hammer Drilling Fluid High Pressure Air Date Started Oct 10/83 Date Finished Oct 31/83	Total Depth 111.25 m Collar Elev. 2610 m Coordinates (N/E) Casing Depth 18.1 m Hole Diameter 11.4 cm
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D E P T H (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer	Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
54.0	Same as interval 48.0 - 51.0 m					R				
57.0	Sandstone, fine grained, light gray, some black siltstone, some carbonate cementing			SnSt	55.9					
60.0	Sandstone, fine grained, light gray, some black shale, some black siltstone, some carbonate cementing									
66.0	Shale, black, mixed with a dark gray siltstone, some fine grained, light gray sandstone, some coal, little carbonate cementing			Sh	65.4					
69.0	Siltstone, dark gray, some black shale, some coal, little carbonate cementing			SiSt	66.0					
72.0				SiSt	67.8					
				SiSt	68.3					
				Sh	70.0					
				SiSt	70.6					

Remarks: R indicates grab samples taken at regular intervals. Lithological column shows lithological contacts corrected with geophysical logs. Checked and reviewed by L. Nichols.

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd.	Contractor Wongwon Drilling Ltd.	Total Depth 111.25 m.....
Project .. Peace Canyon Property	Drilling Method Down Hole Hammer	Collar Elev. .. 2610 m.....
Hole No .. 83-1.....	Drilling Fluid High pressure air	Coordinates (N/E)
Logged By Dale Watson.....	Date Started .. Oct 10/83.....	Casing Depth 18.1 m.....
Sheet .. 5..... Of 7.....	Date Finished .. Oct 31/83.....	Hole Diameter ... 11.4 cm.....

DEPTH (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer	Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
72.0	Siltstone, black, some black shale and coal, trace of fine grained dark gray sandstone, little carbonate cementing			SiSt		R				
75.0	Same as interval 72.0 - 75.0 m with a trace of coal, some carbonate cementing			SiSt						
78.0	Same as interval 75.0 - 78.0 m			SiSt						
81.0	Sandstone, fine grained, dark gray, some black shale, some dark gray siltstone, trace of coal, some carbonate cementing			SnSt						
84.0	Siltstone, black mixed with a fine grained, dark gray sandstone, trace of black shale, some coal, some carbonate cementing			SiSt						
87.0	Siltstone, black, some fine grained, dark gray sandstone, some black shale, trace of coal, little carbonate cementing (Geophysical log indicates Gething seam from 86.00 - 89.96 m (three thin seams))			SiSt						
90.0				SiSt						

Remarks: R indicates grab samples taken at regular intervals. Lithological column shows lithological contacts corrected with geophysical logs. Checked and reviewed by L. Nichols.

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd.	Contractor Woodwon Drilling Ltd.	Total Depth 111.25 m.....
Project .. Peace Canyon Property	Drilling Method Down Hole Hammer	Collar Elev. .. 2610 m.....
Hole No .. 83-1.....	Drilling Fluid High pressure air	Coordinates (N/E)
Logged By Dale Watson.....	Date Started .. Oct. 10/83.....	Casing Depth 18.1 m.....
Sheet .. 6..... Of 7.....	Date Finished .. Oct. 31/83.....	Hole Diameter 11.4 cm.....

D E P T H (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer	Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
90.0	Shale, dark gray, some coal, some black siltstone, trace of fine grained dark gray sandstone, no carbonate cementing			Sh		R				
93.0		Shale, dark gray, mixed with a black siltstone, some coal, trace of fine grained, dark gray sandstone, no carbonate cementing		SiSt						
96.0	Siltstone, black, some fine grained dark gray sandstone, trace of coal, no carbonate cementing			SnSt						
99.0			Sandstone, fine grained, dark gray mixed with a dark gray shale, some coal, some black siltstone, no carbonate cementing (Geophysical log indicates seam #7. from 100.52 to 101.21 m)		SiSt					
102.0				Siltstone, black, mixed with a dark gray shale, some fine grained dark gray sandstone, no carbonate cementing		SiSt				

Remarks: R indicates grab samples taken at regular intervals. Lithological column shows lithological contacts corrected with geophysical logs. Checked and reviewed by L. Nichols.

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd.	Contractor Wopwop Drilling Ltd.	Total Depth 111.25 m.....
Project .. Peace Canyon Property	Drilling Method Down Hole Hammer	Collar Elev. 2610 m.....
Hole No .. 83-1.....	Drilling Fluid High pressure air	Coordinates (N/E)
Logged By Dale Watson.....	Date Started .. Oct 10/83.....	Casing Depth 18.1 m.....
Sheet .. 7..... Of .. 7.....	Date Finished .. Oct 31/83.....	Hole Diameter ... 11.4 cm.....

DEPTH (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
108.0	Same as interval 102.0 - 108.0 m								
	0.3 m Bentonitic clay layer				R				
	2.4 m 10/20 Frac sand layer								
111.0	1.5 m Piezometer tip								
111.25	Base cap								
	Tip depth: 111.25 m								
	End of Hole								
	End of Geophysical Log								

Remarks: R indicates grab samples taken at regular intervals. Lithological column shows lithological contacts corrected with geophysical logs. Checked and reviewed by L. Nichols.

HOLE NO. 83-2

Location: 10842 mE and 6579 mN
Inclination: Vertical
Azimuth: N.A.
Diameter: $5\frac{1}{2}$ " for 0 to 4m
 $4\frac{1}{2}$ " for 4m to T.D.
Collar Elevation: Ground Level @ ASL 707m

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client <u>Cinnabar Peak Mines Ltd.</u>	Contractor <u>Wonowon Drilling Ltd.</u>	Total Depth126.49.m.....
Project <u>Peace Canyon Property</u>	Drilling Method <u>Down Hole Hammer</u>	Collar Elev. <u>2320 m</u>
Hole No <u>83-2</u>	Drilling Fluid <u>High pressure air</u>	Coordinates (N/E)
Logged By <u>Dale Watson</u>	Date Started <u>Nov 1/83</u>	Casing Depth <u>2.1 m</u>
Sheet <u>1</u> Of <u>7</u>	Date Finished <u>Nov 15/83</u>	Hole Diameter <u>11.4 cm</u>

D E P T H (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
0.0	Siltstone, black, some particles of fine grained medium gray sandstone, dry sample, carbonate cementing		SiSt		R				
3.0	Same as interval 0.0 - 3.0 m		Sh	3.1					
			SiSt	3.7					
6.0	Shale, black, mixed with coal (in powdery form), dry sample, little carbonate cementing		Sh	6.5					
			SiSt	7.8					
9.0	Siltstone, dark gray, some fine grained medium gray sandstone, trace of coal, dry sample, carbonate cementing								
12.0	Siltstone, dark gray, some fine grained medium gray sandstone, dry sample, carbonate cementing								
15.0	Same as interval 12.0 - 15.0 m.		Sh	14.8					
			SiSt	16.2					
18.0				18.0					

Remarks: Lithological column indicates corrected lithological contacts using geophysical log.
R indicates grab samples taken at regular intervals. Checked and reviewed by L. Nichols.

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd.	Contractor Wonowon Drilling Ltd.	Total Depth126.49 m.....
Project ..Peace Canyon Property	Drilling Method ..Down Hole Hammer	Collar Elev. .2320 m.....
Hole No ..83-2.....	Drilling Fluid High pressure air	Coordinates (N/E)
Logged By Dale Watson.....	Date Started ..Nov.1/83.....	Casing Depth2.1 m.....
Sheet ..2..... Of7.....	Date Finished Nov.15/83.....	Hole Diameter ...11.4 cm.....

D E P T H (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
18.0	Sandstone, fine grained, medium gray, some dark gray siltstone, damp sample, carbonate cementing		SnSt	18.9	R				
			SiSt						
21.0	Same as interval 18.0 - 21.0 m								
24.0	Siltstone, dark gray, some black shale, damp sample, carbonate cementing								
27.0	Same as interval 24.0 - 27.0 m.								
30.0	Siltstone, black, dry sample, carbonate cementing								
33.0	Same as interval 30.0 - 33.0 m.								
36.0									

Remarks: Lithological column indicates corrected lithological contacts using geophysical log.
R indicates grab samples taken at regular intervals. Checked and reviewed by L. Nichols.

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd.	Contractor Wonowon Drilling Ltd.	Total Depth 126.49 m.....
Project .. Peace Canyon Property	Drilling Method .. Down Hole Hammer	Collar Elev. .. 2320 m
Hole No .. 83-2.....	Drilling Fluid .. High pressure air	Coordinates (N/E)
Logged By Dale Watson.....	Date Started .. Nov. 1/83.....	Casing Depth 2.1 m.....
Sheet .. 3..... Of 7.....	Date Finished .. Nov. 15/83.....	Hole Diameter ... 11.4 cm.....

DEPTH (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
36.0	Same as interval 30.0 - 33.0 m. with a trace of black shale		SiSt		R				
39.0	Same as interval 36.0 - 39.0 m with a trace of fine grained dark gray sandstone								
	(Geophysical log indicates Trojan seam from 41.20 - 44.57 m.)								
42.0	Siltstone, black, some coal (in ^{powder} powder form), trace of black shale, trace of fine grained dark gray sandstone, damp sample, carbonate cementing.		Sh	41.2					
	(Drillers log indicates coal interval from 45.1 - 45.7 m.)		Sh	42.0					
45.0	Siltstone, black, some black shale, few pieces of coal, damp sample, some carbonate cementing		Sh	45.4					
			SiSt						
			Sh	46.0					
			SiSt	47.6					
48.0	Same as interval 45.7 - 48.8 m., wet sample		Sh	49.0					
			SiSt						
51.0	Siltstone, black, trace of black shale, trace of fine grained dark gray sandstone, wet sample, carbonate cementing								
54.0									

Remarks: Lithological column indicates corrected lithological contacts using geophysical log.
R indicates grab samples taken at regular intervals. Checked and reviewed by L. Nichols.

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd.	Contractor Wonowon Drilling Ltd.	Total Depth126.49.m.....
Project ..Peace Canyon Property	Drilling Method ..Down Hole Hammer	Collar Elev. ..2320 m ..
Hole No ..83-2.....	Drilling Fluid High pressure air	Coordinates (N/E)
Logged By Dale Watson.....	Date Started ..Nov 1/83.....	Casing Depth2.1.m.....
Sheet ..4..... Of7.....	Date Finished ..Nov 15/83.....	Hole Diameter ...11.4.cm.....

D E P T H (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
54.0	Same as interval 51.0 - 54.0 m		SiSt		R				
57.0	Same as interval 51.0 - 54.0 m, with a few pieces of coal								
60.0	Siltstone, black, some black shale, few particles of fine grained dark gray sandstone, few pieces of coal, carbonate cementing		SiSt						
63.0	Missing								
66.0	Missing								
69.0	Siltstone, dark gray, some black siltstone, some dark gray shale, few pieces of coal, a single large piece of oxidized-red siltstone over surface, carbonate cementing		Sh						
72.0			SiSt						

Remarks: Lithological column indicates corrected lithological contacts using geophysical log.
R indicates grab samples taken at regular intervals. Checked and reviewed by L. Nichols.

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client <u>Cinnabar Peak Mines Ltd.</u>	Contractor <u>Wonwon Drilling Ltd.</u>	Total Depth 126.49 m.....
Project <u>Peace Canyon Property</u>	Drilling Method <u>Down Hole Hammer</u>	Collar Elev. <u>2320 m</u>
Hole No <u>83-2</u>	Drilling Fluid <u>High pressure air</u>	Coordinates (N/E)
Logged By <u>Dale Watson</u>	Date Started <u>Nov. 1/83</u>	Casing Depth <u>2.1 m</u>
Sheet <u>5</u> Of <u>7</u>	Date Finished <u>Nov. 15/83</u>	Hole Diameter <u>11.4 cm</u>

D E P T H (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
72.0	Same as interval 69.0 - 72.0 m.		■	72.3 72.6	R				
		SiSt							
75.0	Same as interval 69.0 - 72.0 m, trace of fine grained dark gray sandstone		■	74.8 75.2					
		SiSt							
78.0	Same as interval 69.0 - 72.0 m, mixed with a fine grained dark gray sandstone		■	77.9					
		SnSt							
81.0	Sandstone, fine grained, dark gray, some black shale, some dark gray siltstone, few pieces of coal, some carbonate cementing (Geophysical log indicates seam # 2 from 80.22 - 80.72 m)		■	80.3 80.7					
		SnSt							
84.0	Same as interval 81.0 - 84.0 m, with several pieces of siltstone oxidized to orange over surface		■	84.9					
		SiSt							
87.0	Siltstone, dark gray, some black shale, some fine grained black sandstone, some carbonate cementing		■	87.1					
		SiSt		87.7					
		SnSt		88.8					
90.0			■	89.4					
			SiSt						

Remarks: Lithological column indicates corrected lithological contacts using geophysical log.
R indicates grab samples taken at regular intervals. Checked and reviewed by L. Nichols.

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd.	Contractor Wopowon Drilling Ltd.	Total Depth 126.49 m.....
Project .. Peace Canyon Property	Drilling Method .. Down Hole Hammer	Collar Elev. .. 2320 m
Hole No .. 83-2	Drilling Fluid .. High pressure air	Coordinates (N/E)
Logged By Dale Watson	Date Started .. Nov. 1/83	Casing Depth 2.1 m.....
Sheet ... 6 Of 7	Date Finished .. Nov. 15/83	Hole Diameter ... 11.4 cm.....

D E P T H (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
90.0	Siltstone, black, some black shale, several pieces of siltstone oxidized red over surface, some carbonate cementing (Geophysical log indicates Titan seam from 91.90 - 93.90 m)		SiSt		R				
93.0	Siltstone, black to dark gray, some black shale, several pieces of fine grained dark gray sandstone, few pieces of coal, carbonate cementing		SiSt						
96.0	Siltstone, dark gray, some fine grained dark gray sandstone, some black shale, few pieces of coal, some carbonate cementing (Geophysical log indicates Falls seam from 96.68 - 99.18 m)		SiSt						
99.0	Missing		SiSt						
102.0	Missing								
105.0	Siltstone, dark gray, some black shale, no carbonate cementing		SiSt						
108.0			SiSt						

Remarks: Lithological column indicates corrected lithological contacts using geophysical log.
R indicates grab samples taken at regular intervals. Checked and reviewed by L. Nichols.

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd.	Contractor Wogowon Drilling Ltd.	Total Depth 126.49 m.....
Project Peace Canyon Property	Drilling Method ..Down Hole Hammer	Collar Elev. 2320 m
Hole No .. 83-2	Drilling Fluid High pressure air	Coordinates (N/E)
Logged By Dale Watson	Date Started .. Nov. 1/83	Casing Depth 2.1 m
Sheet .. 7 Of .. 7	Date Finished .. Nov. 15/83	Hole Diameter ... 11.4 cm

D E P T H (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
108.0	Same as interval 105.0 - 108.0 m		SiSt	108.5	R				
111.0	Siltstone, dark gray, some black shale, carbonate cementing		Sh	110.4					
				SiSt	111.2				
	(Geophysical log indicates seam #5 from 115.59 to 115.70 m)		SiSt	115.6					
				SiSt	115.7				
117.0	Shale, dark gray, some dark gray siltstone, little carbonate cementing		SiSt	116.6					
				SiSt	117.0				
120.0	Siltstone, dark gray, some dark gray shale, few pieces of fine grained dark gray sandstone								
122.6	End of Geophysical Log								
123.0	Same as interval 120.0 - 123.0 m								
126.0	End of hole at 126.49 m								

Remarks: Lithological column indicates corrected lithological contacts using geophysical log.
R indicates grab samples taken at regular intervals. Checked and reviewed by L. Nichols.

HOLE NO. 83-3

Location: 11025 mE and 6975 mN
Inclination: Vertical
Azimuth: N.A.
Diameter: 5½" for 0 to 3m
4½" for 3m to T.D.
Collar Elevation: Ground Level @ ASL 701m

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client <u>Cinnabar Peak Mines Ltd.</u>	Contractor <u>Wopowon Drilling Ltd.</u>	Total Depth <u>111.25 m</u>
Project <u>Peace Canyon Property</u>	Drilling Method <u>Down Hole Hammer</u>	Collar Elev. <u>2300 m</u>
Hole No <u>83-3</u>	Drilling Fluid <u>High pressure air</u>	Coordinates (N/E)
Logged By <u>Dale Watson</u>	Date Started <u>Nov. 16/83</u>	Casing Depth <u>6.1 m</u>
Sheet <u>1</u> Of <u>7</u>	Date Finished <u>Nov. 30/83</u>	Hole Diameter <u>11.4 cm</u>

D E P T H (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
0.0	Siltstone, dark gray, trace of black shale, dry sample, carbonate cementing				R				
3.0	Same as interval 0.0 - 3.0 m								
6.0	Same as interval 0.0 - 3.0 m								
9.0	Same as interval 0.0 - 3.0 m with a trace of coal (Drillers log indicates coal seam from 11.6 - 12.2 m)								
12.0	Coal mixed with a dark gray siltstone, damp sample (Drillers log indicates coal seam from 14.6 - 15.2 m)								
15.0	Siltstone, medium gray, some black siltstone, damp sample, little carbonate cementing								
18.0									

Remarks: R indicates grab samples taken at regular intervals from return air line.
Checked and reviewed by L. Nichols

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd.	Contractor Wonowon Drilling Ltd.	Total Depth 111.25 m
Project .. Peace Canyon Property	Drilling Method .. Down Hole Hammer	Collar Elev. .. 2300. m
Hole No .. 83-3	Drilling Fluid High pressure air	Coordinates (N/E)
Logged By Dale Watson	Date Started .. Nov. 16/83	Casing Depth 6.1 m
Sheet ... 2 Of ... 7	Date Finished Nov. 30/83	Hole Diameter ... 11.4 cm

DEPTH (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer	Installation	Lithological	Column	Unified Soil	Classification	Sampling	Method	Penetration	Resistance	Moisture	Content %	Strength	Qu (Kg/cm ²)	Atterberg	Limits
18.0								R									
21.0	Siltstone dark gray, some black shale, some black siltstone, few pieces of coal, wet sample, carbonate cementing																
24.0	Siltstone, dark gray, some black shale, some coal, wet sample, carbonate cementing (Drillers log indicates coal seam from 26.8 - 27.9 m)																
27.0	Coal, some black siltstone, some dark gray shale, carbonate cementing																
30.0	Coal, some black shale, some dark gray siltstone, carbonate cementing (Drillers log indicates coal seam from 31.1 - 35.7 m)																
33.0	Coal, some dark gray siltstone, trace of black shale, some carbonate cementing																
36.0																	

Remarks: R indicates grab samples taken at regular intervals from return air line.
Checked and reviewed by L. Nichols

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd.	Contractor Wonowon Drilling Ltd.	Total Depth 111.25 m
Project .. Peace Canyon Property	Drilling Method .. Down Hole Hammer	Collar Elev. 2300 m
Hole No .. 83-3	Drilling Fluid High pressure air	Coordinates (N/E)
Logged By Dale Watson	Date Started .. Nov 16/83	Casing Depth 6.1 m
Sheet .. 3 .. Of .. 7	Date Finished .. Nov 30/83	Hole Diameter ... 11.4 cm

D E P T H (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer	Installation	Lithological	Column	Unified Soil	Classification	Sampling	Method	Penetration	Resistance	Moisture	Content %	Strength	Qu (Kg/cm ²)	Atterberg	Limits
36.0	Shale, black, some dark gray siltstone, few pieces of coal (some powder), little carbonate cementing							R									
39.0	Same as interval 36.0 - 39.0 m																
42.0	Siltstone, dark gray, some black shale, few pieces of coal, no carbonate cementing																
45.0	Same as interval 42.0 - 45.0 m																
48.0	Same as interval 42.0 - 45.0 m																
51.0	Same as interval 42.0 - 45.0 m																
54.0																	

Remarks: R indicates grab samples taken at regular intervals from return air line.
Checked and reviewed by L. Nichols

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd.	Contractor Wonowon Drilling Ltd.	Total Depth 111.25 m
Project .. Peace Canyon Property	Drilling Method .. Down Hole Hammer	Collar Elev. 2300 m
Hole No .. 83-3	Drilling Fluid High pressure air	Coordinates (N/E)
Logged By Dale Watson	Date Started .. Nov. 16/83	Casing Depth 6.1 m
Sheet ... 4 Of 7	Date Finished Nov. 30/83	Hole Diameter ... 11.4 cm

D E P T H (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer	Installation	Lithological	Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
54.0	Same as interval 42.0 - 45.0 m						R				
57.0	Same as interval 42.0 - 45.0 m										
60.0	Sandstone, fine grained, medium gray, salt and pepper texture, some dark gray siltstone, few pieces of white feldspar, little carbonate cementing										
63.0	Siltstone, dark gray, some fine grained sandstone, trace of pieces of coal, no carbonate cementing										
66.0	Same as interval 63.0 - 66.0 m										
69.0	Sandstone, fine grained, dark gray, some dark gray siltstone, no carbonate cementing										
72.0											

Remarks: R indicates grab samples taken at regular intervals from return air line.
Checked and reviewed by L. Nichols

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd.	Contractor Wonowon Drilling Ltd.	Total Depth 111.25 m.....
Project .. Peace Canyon Property	Drilling Method .. Down Hole Hammer	Collar Elev. .. 2300 m.....
Hole No .. 83-3.....	Drilling Fluid High pressure air	Coordinates (N/E)
Logged By Dale Watson.....	Date Started .. Nov. 16/83.....	Casing Depth 6.1 m.....
Sheet ...5..... Of7.....	Date Finished ... Nov. 30/83.....	Hole Diameter ... 11.4 cm.....

D E P T H (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer	Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
72.0	Same as interval 69.0 - 72.0 m					R				
75.0	Siltstone, dark gray mixed with a dark gray fine grained sandstone, some black shale, a few pieces of coal, no carbonate cementing									
78.0	Shale, black mixed with a dark gray siltstone, some fine grained dark gray sandstone, no carbonate cementing									
81.0	Shale, black, some dark gray siltstone, trace of fine grained dark gray sandstone, no carbonate cementing									
84.0	Sandstone, fine grained, medium gray, salt and pepper texture, some black shale, a trace of dark gray siltstone, no carbonate cement									
87.0	Same as interval 84.0 - 87.0 m with some coal pieces									
90.0	(Drillers log indicates coal seam from 90.8 - 91.4 m)									

Remarks: R indicates grab samples taken at regular intervals from return air line.
Checked and reviewed by L. Nichols

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client <u>Cinnabar Peak Mines Ltd.</u>	Contractor <u>Wonowon Drilling Ltd.</u>	Total Depth <u>111.25 m</u>
Project <u>Peace Canyon Property</u>	Drilling Method <u>Down Hole Hammer</u>	Collar Elev. <u>2300 m</u>
Hole No <u>83-3</u>	Drilling Fluid <u>High pressure air</u>	Coordinates (N/E)
Logged By <u>Dale Watson</u>	Date Started <u>Nov. 16/83</u>	Casing Depth <u>6.1 m</u>
Sheet <u>6</u> Of <u>7</u>	Date Finished <u>Nov. 30/83</u>	Hole Diameter <u>11.4 cm</u>

DEPTH (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer	Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
90.0	Same as interval 87.0 - 90.0 m					R				
93.0	Same as interval 87.0 - 90.0 m									
96.0	(Drillers log indicates coal seam from 94.5 - 96.6 m) Same as interval 87.0 - 90.0 m									
99.0	(Drillers log indicates coal seam from 98.1 - 99.4 m) Same as interval 87.0 - 90.0 m									
102.0	Shale, black, some dark gray siltstone, no carbonate cementing									
105.0	Same as interval 102.0 - 105.0 m									
108.0										

Remarks: R indicates grab samples taken at regular intervals from return air line.
Checked and reviewed by L. Nichols

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd.	Contractor Wonowon Drilling Ltd.	Total Depth 111.25 m.....
Project .. Peace Canyon Property	Drilling Method .. Down Hole Hammer	Collar Elev. .. 2300 m.....
Hole No .. 83-3.....	Drilling Fluid High pressure air	Coordinates (N/E)
Logged By Dale Watson.....	Date Started .. Nov. 16/83.....	Casing Depth 6.1 m.....
Sheet ... 7..... Of ... 7.....	Date Finished ... Nov. 30/83.....	Hole Diameter ... 11.4 cm.....

D E P T H (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
108.0	Same as interval 102.0 - 105.0 m				R				
111.0 111.25	End of Hole								

Remarks: R indicates grab samples taken at regular intervals from return air line.
Checked and reviewed by L. Nichols

HOLE NO. 83-4

Location: 10366 mE and 6347 mN
Inclination: Vertical
Azimuth: N.A.
Diameter: 4½" for 0 to T.D.
Collar Elevation: Ground Level @ ASL 692m

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client <u>Cinnabar Peak Mines Ltd.</u>	Contractor <u>Wonowon Drilling Ltd.</u>	Total Depth <u>15.24 m</u>
Project <u>Peace River Canyon Coal</u>	Drilling Method <u>Rotary</u>	Collar Elev. <u>---</u>
Hole No <u>83-4</u>	Drilling Fluid <u>High pressure air</u>	Coordinates (N/E) <u>---</u>
Logged By <u>Dale Watson</u>	Date Started <u>Nov. 30/83</u>	Casing Depth <u>---</u>
Sheet <u>1</u> Of <u>4</u>	Date Finished <u>Nov. 30/83</u>	Hole Diameter <u>11.4 cm</u>

DEPTH (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer	Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
0.00	Clayey silt, some fine grained sand, few pockets of gray clay, overall colour is a light olive gray, loose soil consistency and unsaturated; carbonate content			CISi	CL	R		20.1		
0.30	Same as interval 0.0 - 0.30 m							22.9		
0.61	Same as interval 0.0 - 0.30 m							22.3		
0.91	Same as interval 0.0 - 0.30 m							26.2		
1.22	Same as interval 0.0 - 0.30 m							25.6		
1.52	Same as interval 0.0 - 0.30 m							20.3		
1.83	Same as interval 0.0 - 0.30 m							22.6		
2.13	Same as interval 0.0 - 0.30 m, saturated moisture content and friable consistency							25.9		
2.44	Same as interval 2.13 - 2.44 m							27.5		
2.74	Same as interval 2.13 - 2.44 m							26.7		
3.05	Same as interval 2.13 - 2.44 m							29.3		
3.35	Clayey silt, some fine sand, light olive gray, mottled with a dark olive gray, friable consistency, wet, carbonate content							29.3		
3.66	Same as interval 3.35 - 3.66 m							26.2		
3.96	Same as interval 3.35 - 3.66 m							30.0		
4.27										

Remarks: R indicates grab samples taken from air return line at regular intervals.
Log reviewed and checked by L. Nichols

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd.	Contractor Wonowon Drilling Ltd.	Total Depth 15.24 m
Project Peace River Canyon Coal	Drilling Method Rotary	Collar Elev. ---
Hole No 83-4	Drilling Fluid High pressure air	Coordinates (N/E) ---
Logged By Dale Watson	Date Started Nov. 30/83	Casing Depth ---
Sheet 2 Of 4	Date Finished Nov. 30/83	Hole Diameter 11.4 cm

D. E P T H (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer	Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
4.27	Same as interval 3.35 - 3.66 m, with a plastic consistency, dark olive gray							29.4		
4.57	Same as interval 4.27 - 4.57 m							29.0		
4.88	Same as interval 4.27 - 4.57 m							27.0		
5.18	Same as interval 4.27 - 4.57 m							25.8		
5.49	Missing							--		
5.79	Missing							--		
6.10	Same as interval 4.27 - 4.57 m							25.5		
6.40	Same as interval 4.27 - 4.57 m							26.9		
6.71	0.3 m Bentonitic clay layer									
7.01	Same as interval 4.27 - 4.57 m							26.1		
7.01	Clayey silt, some fine sand, dark olive gray with pockets of a dark gray silty clay containing large amounts of fine sand, stiff consistency							24.7		
7.32	Clayey silt, large amounts of fine sand, plastic consistency				C1Si CL			32.0		
7.62	Same as interval 7.32 - 7.62 m							28.3		
7.92	2.4 m 10-20 Frac sand layer									
8.23	Same as interval 7.32 - 7.62 m							28.3		
8.53	1.5 m Piezometer tip									
8.53	Same as interval 7.32 - 7.62 m							27.0		

Remarks: R indicates grab samples taken from air return line at regular intervals.
Log reviewed and checked by L. Nichols

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd.	Contractor Wonowon Drilling Ltd.	Total Depth ... 15.24 m
Project Peace River Canyon Coal	Drilling Method ... Rotary	Collar Elev. ...
Hole No 83-4	Drilling Fluid High pressure air	Coordinates (N/E) ...
Logged By Dale Watson	Date Started ... Nov. 30/83	Casing Depth ...
Sheet 3 Of 4	Date Finished ... Nov. 30/83	Hole Diameter ... 11.4 cm

D. E P T H (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength C_u (Kg/cm ²)	Atterberg Limits
8.84	Same as interval 7.32 - 7.62 m						27.0		
9.14	Same as interval 7.32 - 7.62 m								
9.45	Same as interval 7.32 - 7.62 m								
9.75	Same as interval 7.32 - 7.62 m						27.3		
10.67	Same as interval 7.32 - 7.62 m						31.9		
12.19	Same as interval 7.32 - 7.62 m						23.5		

Base cap
Tip depth: 9.14 m

Remarks: R indicates grab samples taken from air return line at regular intervals.
Logreviewed and checked by L. Nichols

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd.	Contractor Wonowon Drilling Ltd.	Total Depth 15.24 m
Project Peace River Canyon Coal	Drilling Method Rotary	Collar Elev. ---
Hole No 83-4	Drilling Fluid High pressure air	Coordinates (N/E) ---
Logged By Dale Watson	Date Started Nov. 30/83	Casing Depth ---
Sheet 4 of 4	Date Finished Nov. 30/83	Hole Diameter 11.4 cm

D. E P T H (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer	Installation	Lithological	Column	Unified Soil	Classification	Sampling	Method	Penetration	Resistance	Moisture	Content %	Strength	Qu (Kg/cm ²)	Atterberg	Limits
13.72	Same as interval 7.32 - 7.62 m												23.9				
15.24	End of Hole End of Sampling																

Remarks: R indicates grab samples taken from air return line at regular intervals.
Log reviewed and checked by L. Nichols

HOLE NO. 83-5

Location: 11970 mE and 6899 mN
Inclination: Vertical
Azimuth: N.A.
Diameter: $4\frac{1}{2}$ " for 0 to T.D.
Collar Elevation: Ground Level @ ASL 698m

TERRACON GEOTECHNIQUE LTD.

SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd.	Contractor Wonowon Drilling Ltd.	Total Depth ... 12.19 m.....
Project Peace River Canyon.....	Drilling Method Rotary.....	Collar Elev.
Hole No ... 83-5.....	Drilling Fluid High pressure air	Coordinates (N/E)
Logged By .. Dale Watson.....	Date Started ... Dec. 1/83.....	Casing Depth
Sheet 1..... Of ... 3.....	Date Finished .. Dec. 1/83.....	Hole Diameter ... 11.4 cm.....

DEPTH (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
0.00	Topsoil: high organic material content, black, some roots, few clumps of a light olive gray clay		TpSi		R		18.6		
0.30	Clayey silt, light olive gray, trace of fine grained sand, crumbly to loose consistency, damp, carbonate content		ClSi	CL			20.7		
0.61	Same as interval 0.30 - 0.61 m						22.4		
0.91	Same as interval 0.30 - 0.61 m						26.7		
1.22	Same as interval 0.30 - 0.61 m, with a friable consistency						28.0		
1.52	Same as interval 1.22 - 1.52 m, with a wet and stiff consistency						31.0		
1.83	Same as interval 1.52 - 1.83 m						33.8		
2.13	Same as interval 1.52 - 1.83 m						32.8		
2.44	Same as interval 1.52 - 1.83 m						34.5		
2.74	Same as interval 1.52 - 1.83 m with a plastic consistency						30.1		
3.05	Same as interval 2.74 - 3.05 m						28.1		
3.35	Same as interval 2.74 - 3.05 m						30.6		
3.66	Same as interval 2.74 - 3.05 m						33.8		

Remarks: R indicates grab samples taken from air return line
Log reviewed and checked by L. Nichols

TERRACON GEOTECHNIQUE LTD.

SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd.	Contractor Wopowon Drilling Ltd.	Total Depth ... 12.19 m.....
Project Peace River Canyon.....	Drilling Method .. Rotary.....	Collar Elev.
Hole No 83-5.....	Drilling Fluid High pressure air	Coordinates (N/E)
Logged By .. Dale Watson.....	Date Started ... Dec. 1/83.....	Casing Depth
Sheet .. 2..... Of ... 3.....	Date Finished .. Dec. 1/83.....	Hole Diameter 11.4 cm.....

DEPTH (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Q _b (Kg/cm ²)	Atterberg Limits
4.57	Same as interval 2.74 - 3.05 m						26.5		
6.10	Same as interval 2.74 - 3.05 m						30.0		

Remarks: R indicates grab samples taken from air return line
Log reviewed and checked by L. Nichols

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd.	Contractor Wonowon Drilling Ltd.	Total Depth ... 12.19 m.....
Project Peace River Canyon.....	Drilling Method .. Rotary.....	Collar Elev.
Hole No ... 83-5.....	Drilling Fluid High pressure air	Coordinates (N/E)
Logged By .. Dale Watson.....	Date Started ... Dec. 1/83.....	Casing Depth
Sheet .. 3..... Of ... 3.....	Date Finished .. Dec. 1/83.....	Hole Diameter ... 11.4 cm.....

D E P T H (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength C _u (Kg/cm ²)	Atterberg Limits
9.14	Same as interval 2.74 - 3.05 m						26.7		
12.19	End of Hole End of Sampling								

Remarks: R indicates grab samples taken from air return line
Log reviewed and checked by L. Nichols

HOLE NO. 83-6

Location: 11076 mE and 6372 mN
Inclination: Vertical
Azimuth: N.A.
Diameter: 4½" for 0 to T.D.
Collar Elevation: Ground Level @ ASL 680m

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd.	Contractor Wonowon Drilling Ltd.	Total Depth ... 1.68 m
Project Peace River Canyon	Drilling Method Rotary	Collar Elev. --
Hole No ... 83-6	Drilling Fluid High pressure air	Coordinates (N/E)
Logged By Dale Watson	Date Started .. Dec. 1/83	Casing Depth --
Sheet ... 1 Of ... 1	Date Finished Dec. 1/83	Hole Diameter ... 11.4 cm

DEPTH (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
0.00	Clayey silt, some fine grained sand, some organic matter, orangy-brown; dry, loose consistency, carbonate content		CISi	CL	R		20.7		
0.30	Clayey silt, some fine grained sand, dark olive gray, damp, loose consistency, carbonate content		CISi	CL			21.5		
0.61	Same as interval 0.30 - 0.61 m						21.4		
0.91	Same as interval 0.30 - 0.61 m						20.0		
1.22	Same as interval 0.30 - 0.61 m with some pebbles, some dark brown organic matter, dry, loose consistency, carbonate content						17.9		
1.52	Clay till, some silt, fine grained sand, gravel and pebbles and some dark brown organic matter; olive gray, dry, loose consistency, carbonate content						10.1		
1.68	Siltstone bedrock at 1.68 m, dark gray, carbonate content End of Hole at 1.68 m		SiSt						
	Note: Water table appears to be below the bedrock interface.								

Remarks: R indicates a grab sample taken at regular intervals from the air return line.
Log reviewed and checked by L. Nichols.

HOLE NO. 83-7

Location: 10640 mE and 5893 mN
Inclination: Vertical
Azimuth: N.A.
Diameter: 4½" for 0 to T.D.
Collar Elevation: Ground Level @ ASL 698m

SITE INVESTIGATION BOREHOLE LOG



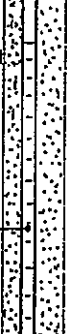
Client .Cinnabar Peak Mines Ltd.	Contractor Wopwop Drilling Ltd.	Total Depth ...10.97.m.....
Project .Peace River Canyon....	Drilling Method .Rotary.....	Collar Elev. --.....
Hole No83-7.....	Drilling Fluid High pressure air	Coordinates (N/E)
Logged By ..Dale Watson.....	Date Started ...Dec.1/83.....	Casing Depth --.....
Sheet .1..... Of ...3.....	Date Finished ..Dec.1/83.....	Hole Diameter11.4.cm....

D E P T H (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer	Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
0.00	Clayey silt, dark olive gray, damp, loose consistency, carbonate content			ClSi	CL	R		20.3		
0.30	Same as interval 0.0 - 0.30 m							22.7		
0.61	Same as interval 0.0 - 0.30 m with a wet moisture content and loose consistency							24.8		
0.91	Same as interval 0.61 - 0.91 m with a friable consistency							29.3		
1.22	Same as interval 0.91 - 1.22 m							28.0		
1.52	Same as interval 0.91 - 1.22 m							29.9		
1.83	Same as interval 0.91 - 1.22 m							31.5		
2.13	Same as interval 0.91 - 1.22 m, stiff consistency							29.8		
2.44	Same as interval 2.13 - 2.44 m							32.8		
2.74	Same as interval 2.13 - 2.44 m							29.2		
3.05	Same as interval 2.13 - 2.44 m							28.5		

Remarks: R indicates grab samples taken at regular intervals from the air return line.
Log reviewed and checked by L. Nichols.

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG


Client Cinnabar Peak Mines Ltd.	Contractor Wopowon Drilling Ltd.	Total Depth ... 10.97 m
Project Peace River Canyon	Drilling Method Rotary	Collar Elev.
Hole No ... 83-7	Drilling Fluid High pressure air	Coordinates (N/E)
Logged By Dale Watson	Date Started ... Dec. 1/83	Casing Depth
Sheet ... 2 ... Of ... 3	Date Finished ... Dec. 1/83	Hole Diameter ... 11.4 cm

D E P T H (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer	Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength	Q_u (Kg/cm ²)	Atterberg Limits
4.57	Same as interval 2.13 - 2.44 m							27.9			
6.10	Same as interval 2.13 - 2.44 m							36.1			
	0.3 m Bentonitic clay layer										
	2.4 m 10-20 Frac sand layer										
7.62	Same as interval 2.13 - 2.44 m, with streaks of black silt							30.8			
	1.5 m Piezometer tip										

Remarks: R indicates grab samples taken at regular intervals from the air return line.
Log reviewed and checked by L. Nichols.

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client <u>Cinnabar Peak Mines Ltd.</u>	Contractor <u>Wonowon Drilling Ltd.</u>	Total Depth ... <u>10.97 m</u>
Project <u>Peace River Canyon</u>	Drilling Method .. <u>Rotary</u>	Collar Elev.
Hole No ... <u>83-7</u>	Drilling Fluid <u>High pressure air</u>	Coordinates (N/E)
Logged By .. <u>Dale Watson</u>	Date Started ... <u>Dec. 1/83</u>	Casing Depth
Sheet ... <u>3</u> Of ... <u>3</u>	Date Finished .. <u>Dec. 1/83</u>	Hole Diameter <u>11.4 cm</u>

DEPTH (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
9.14	<p style="text-align: center;">Base cap Tip depth: 9.14 m</p> <p>Same as interval 7.62 - 9.14 m, with pockets of stiff, light yellowish-gray clayey silt</p>						31.5		
10.67	Same as interval 9.14 - 10.67 m with a very wet moisture content and plastic texture						34.9		
10.97	End of Hole								

Remarks: R indicates grab samples taken at regular intervals from the air return line.
Log reviewed and checked by L. Nichols.

HOLE NO. 83-8

Location: 11521 mE and 5153 mN
Inclination: Vertical
Azimuth: N.A.
Diameter: 9" for 0 to T.D.
Collar Elevation: Ground Level @ ASL 701m

TERRACON GEOTECHNIQUE LTD.

SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd.	Contractor Honowon Drilling Ltd.	Total Depth ...6.71m.....
Project Peace River Canyon.....	Drilling Method Solid Stem Auger	Collar Elev.
Hole No ...83-8.....	Drilling Fluid	Coordinates (N/E)
Logged By Dale Watson.....	Date Started ...Dec.1/83.....	Casing Depth
Sheet ..1..... Of ...2.....	Date Finished ..Dec.2/83.....	Hole Diameter22.9cm.....

D E P T H (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
0.00	Clayey silt, some fine grained sand, trace of organics, light olive gray, damp, loose consistency, carbonate content			CI Si	CL	R	27.2		
0.30	Same as interval 0.0 - 0.30 m						23.7		
0.61	Same as interval 0.0 - 0.30 m with a wet moisture content, friable consistency						27.2		P.L. 22.65
0.91	Same as interval 0.0 - 0.30 m with a wet moisture content, stiff consistency						27.9		& L.L. 31.70
1.22	Same as interval 0.91 - 1.22 m						28.9		
1.52	0.2 m Bentonitic clay layer						28.3		
1.83	Same as interval 0.91 - 1.22 m						28.9		
2.13	1.7 m 10-20 Frac sand layer						27.7		
2.44	Same as interval 0.91 - 1.22 m						28.3		
2.74	1.5 m Piezometric Tip						28.6		
3.05	Base cap						28.8		
3.35	Tip depth: 3.05 m						27.0		
3.66	Same as interval 0.91 - 1.22 m						28.1		
3.96	Same as interval 0.91 - 1.22 m						28.7		
4.27									

Remarks: R indicates grab sample taken at regular intervals from the auger flites.
Reviewed and checked by L. Nichols

TERRACON GEOPECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd.	Contractor Wonowon Drilling Ltd.	Total Depth ...6.71 m.....
Project Peace River Canyon.....	Drilling Method ..Solid Stem Auger	Collar Elev.
Hole No ... 83-8.....	Drilling Fluid ..	Coordinates (N/E)
Logged By ..Dale Watson.....	Date Started ...Dec.1/83.....	Casing Depth
Sheet ...2..... Of ...2.....	Date Finished ..Dec.2/83.....	Hole Diameter22.9 cm.....

DEPTH (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
4.27	Same as interval 0.91 - 1.22 m						28.7		
4.57	Same as interval 0.91 - 1.22 m						27.6		
4.88	Same as interval 0.91 - 1.22 m						27.9		
5.49	Clayey silt, some fine grained sand, dark gray, very wet, plastic consistency		CTSi	CL			29.9		P.L. 21.63 & L.L. 31.70
6.10	Same as interval 5.49 - 6.10 m						30.9		
6.71	End of Hole								

Remarks: R indicates grab sample taken at regular intervals from the auger flites.
Reviewed and checked by L. Nichols

HOLE NO. 83-9

Location: 11329 mE and 5674 mN
Inclination: Vertical
Azimuth: N.A.
Diameter: 9" for 0 to T.D.
Collar Elevation: Ground Level @ ASL 698m

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd.	Contractor Wonowon Drilling Ltd.	Total Depth 8.23 m.....
Project Peace River Canyon Property	Drilling Method Solid Stem Auger	Collar Elev.
Hole No 83-9	Drilling Fluid	Coordinates (N/E)
Logged By Dale Watson	Date Started Dec 2/83	Casing Depth
Sheet 1 Of 1	Date Finished Dec 2/83	Hole Diameter 22.9 cm.....

D E P T H (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
0.00	Clayey silt, some fine grained sand, medium olive gray, wet, friable consistency, carbonate content			CLSi	CL		22.9		
0.91	Same as interval 0.0 - 0.91 m, mottled with a dark gray clayey silt, stiff consistency						25.1		
	0.2 m Bentonitic clay layer								
	1.7 m 10-20 Frac sand layer								
1.83	Same as interval 0.91 - 1.83 m with a few pockets of medium grained sandstone, black with a salt and pepper texture; wet, stiff consistency						26.4		
2.74	Clayey silt, some fine grained sand, medium olive gray, very wet moisture content, plastic consistency						31.9		
	1.5 m Piezometer tip								
	Base cap								
3.66	Same as interval 2.74 - 3.66 m						28.5		
	Tip depth: 3.66 m								
4.57	Same as interval 2.74 - 3.66 m						28.4		
5.49	Clayey silt, some fine grained sand, dark gray, very wet, plastic consistency, carbonate content			CLSi	CL		29.4		
6.40	Same as interval 5.49 - 6.40 m						31.7		
7.32	Same as interval 5.49 - 6.40 m						31.2		
8.23	End of Hole								

Remarks: R indicates grab sample taken at regular intervals from the auger flites.
Reviewed and checked by L. Nichols

HOLE NO. 83-10

Location: 11512 mE and 5598 mN
Inclination: Vertical
Azimuth: N.A.
Diameter: 9" for 0 to T.D.
Collar Elevation: Ground Level @ ASL 698m

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd.	Contractor Wanawan Drilling Ltd.	Total Depth6.40 m.....
Project Peace River Canyon.....	Drilling Method Solid Stem Auger	Collar Elev. ??.....
Hole No ...83-10.....	Drilling Fluid??.....	Coordinates (N/E)
Logged By Dale Watson.....	Date Started ..Dec 2/83.....	Casing Depth??.....
Sheet1.. Of ..1.....	Date Finished ..Dec 2/83.....	Hole Diameter22.9 cm.....

D E P T H (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
0.00	Clayey silt, some fine grained sand, medium olive gray with streaks of dark gray, wet, stiff consistency, carbonate content			CISi	CL	R	26.8		
0.91	Same as interval 0.0 - 0.91 m						27.9		
1.83	Same as interval 0.0 - 0.91 m, very wet moisture content, stiff consistency						29.1		
2.74	Same as interval 1.83 - 2.74 m						33.2		
3.66	Same as interval 1.83 - 2.74 m						28.4		
4.57	0.2 m Bentonitic clay layer Clayey silt, some fine grained sand, dark gray, very wet, plastic consistency 1.7 m 10-20 Frac sand layer			CISi	CL		34.3		
5.49	1.5 m Piezometer tip Same as interval 4.57 - 5.49 m						34.5		
6.40	Base cap Tip depth: 6.10 m End of Hole								

Remarks: R indicates samples taken at regular intervals from auger flites.
 Log reviewed and checked by L. Nichols.

HOLE NO. 83-11

Location: 11100 mE and 5329 mN
Inclination: Vertical
Azimuth: N.A.
Diameter: 9" for 0 to T.D.
Collar Elevation: Ground Level @ ASL 701m

TERRACON GEOTECHNIQUE LTD.
SITE INVESTIGATION BOREHOLE LOG

Client Cinnabar Peak Mines Ltd.	Contractor Wonowon Drilling Ltd.	Total Depth 7.32 m.....
Project Peace River Canyon.....	Drilling Method Solid Stem Auger	Collar Elev.--.....
Hole No 83-11.....	Drilling Fluid--.....	Coordinates (N/E)
Logged By .. Dale Watson.....	Date Started .. Dec. 2/83.....	Casing Depth ..--.....
Sheet 1. Of ... 1.....	Date Finished .. Dec. 2/83.....	Hole Diameter 22.9 cm.....

D E P T H (m)	LITHOLOGICAL DESCRIPTION: Type of Material, Grain Size, Colour, Texture, Mineralogy, Bedding, Structure, Altered and Weathered Zones, Zone of Saturation, etc.	Piezometer Installation	Lithological Column	Unified Soil Classification	Sampling Method	Penetration Resistance	Moisture Content %	Strength Qu (Kg/cm ²)	Atterberg Limits
0.00	Organic topsoil, some roots, woodchips, some black silty clay, damp, loose consistency, no carbonate content			TpSl	R		66.9		
0.91	Clayey silt, some fine grained sand with some organics (black), medium olive gray, damp, friable consistency, carbonate content			CISi	CL		30.0		
	0.2 m Bentonitic clay layer								
1.83	1.7 m 10-20 Frac sand layer								
	Same as interval 0.91 - 1.83 m with no organics						26.7		
	1.5 m Piezometer tip								
2.74	Same as interval 0.91 - 1.83 m, wet moisture content and stiff consistency						29.6		
	Base cap								
	Tip depth: 3.05 m								
3.66	Same as interval 2.74 - 3.66 m						29.0		
4.57	Same as interval 2.74 - 3.66 m						31.8		
5.49	Clayey silt, some fine grained sand, dark gray, wet, plastic consistency, carbonate content			CISi	CL		30.0		
6.40	Same as interval 5.49 - 6.40 m						32.5		
7.32	End of Hole								

Remarks: R indicates sample taken at regular intervals from auger flites.
Log reviewed and checked by L. Nichols.



TR. Road River Canyon 83(3) (1)

Gamma Ray & Forward Electric Log.

BOREHOLE No. 8-3
CLIENT Mississippi Park Motel, Ltd.

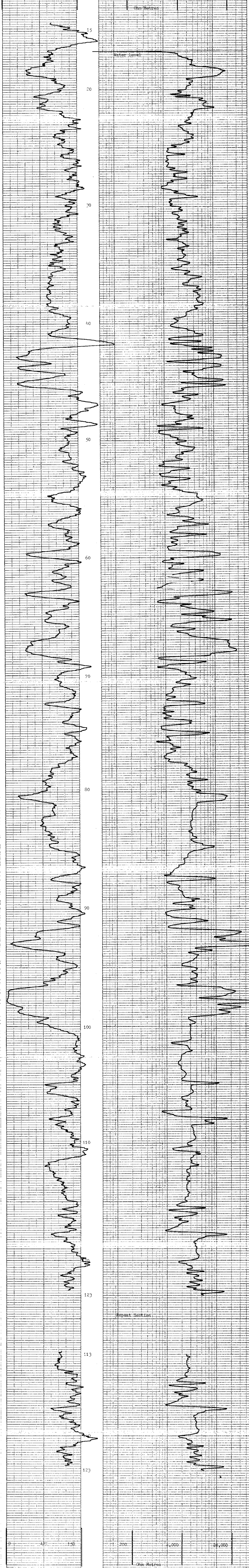
AREA No. 107-07-0
COUNTRY Canada
DATE LOGGED 4/18/53

BOREHOLE DATA REFER TO: Electricity LOG
OPERATION DATA REFER TO: 83(3) Y LOG

EQUIPMENT AND RECORDING DATA

LOG TYPING LOG SPEED REF. SPEED SCS. NORM. CA. COEFF.
1.0 1.0 1.0 1.0 1.0
REMARKS
579

Gamma Ray	DEPTH	Forward Electric
0	0	0
100	100	10,000



Gamma Ray	DEPTH	Forward Electric
0	0	0
100	100	10,000



BOREHOLE No. 8-3
CLIENT Mississippi Park Motel, Ltd.

AREA No. 107-07-0
COUNTRY Canada

PR - Peace River Canyon S3 (3A)



Gamma Ray & Neutron/Neutron Log

BOREHOLE 83-2

CLIENT Canadian Peak Mines Ltd.

AREA Mt. Johnson B-2

COUNTRY Canada

DATE LOGGED 20/Nov/73

BOREHOLE DATA refer to 1410 log

OPERATION DATA refer to 1410 log

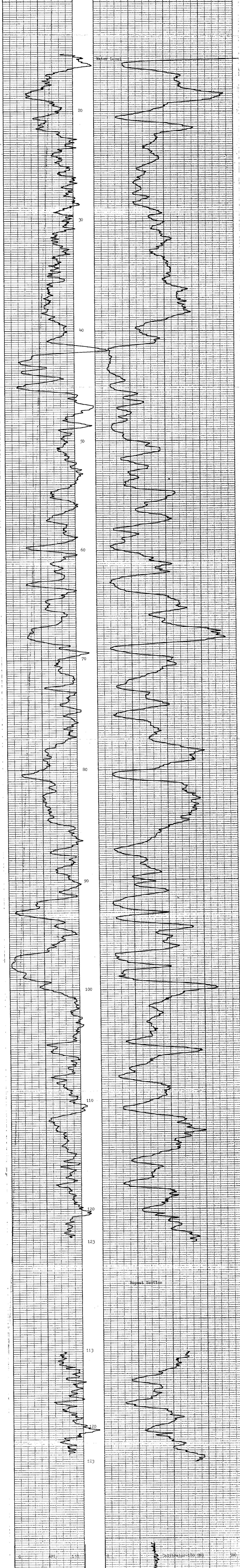
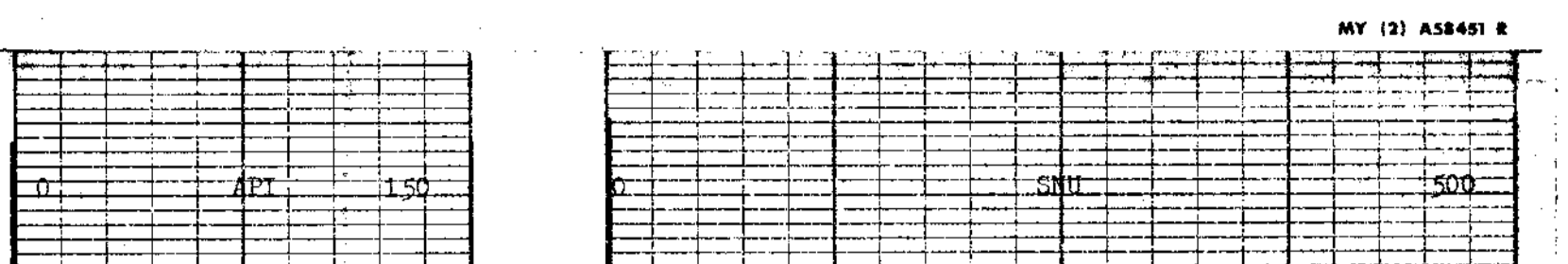
EQUIPMENT AND RECORDING DATA

LOG	TAPING	PANEL	CODE
1410	RECORD	1	NORM
1410	RECORD	2	NORM
1410	RECORD	3	NORM
1410	RECORD	4	NORM
1410	RECORD	5	NORM
1410	RECORD	6	NORM
1410	RECORD	7	NORM
1410	RECORD	8	NORM
1410	RECORD	9	NORM
1410	RECORD	10	NORM
1410	RECORD	11	NORM
1410	RECORD	12	NORM
1410	RECORD	13	NORM
1410	RECORD	14	NORM
1410	RECORD	15	NORM
1410	RECORD	16	NORM
1410	RECORD	17	NORM
1410	RECORD	18	NORM
1410	RECORD	19	NORM
1410	RECORD	20	NORM
1410	RECORD	21	NORM
1410	RECORD	22	NORM
1410	RECORD	23	NORM
1410	RECORD	24	NORM
1410	RECORD	25	NORM
1410	RECORD	26	NORM
1410	RECORD	27	NORM
1410	RECORD	28	NORM
1410	RECORD	29	NORM
1410	RECORD	30	NORM
1410	RECORD	31	NORM
1410	RECORD	32	NORM
1410	RECORD	33	NORM
1410	RECORD	34	NORM
1410	RECORD	35	NORM
1410	RECORD	36	NORM
1410	RECORD	37	NORM
1410	RECORD	38	NORM
1410	RECORD	39	NORM
1410	RECORD	40	NORM
1410	RECORD	41	NORM
1410	RECORD	42	NORM
1410	RECORD	43	NORM
1410	RECORD	44	NORM
1410	RECORD	45	NORM
1410	RECORD	46	NORM
1410	RECORD	47	NORM
1410	RECORD	48	NORM
1410	RECORD	49	NORM
1410	RECORD	50	NORM
1410	RECORD	51	NORM
1410	RECORD	52	NORM
1410	RECORD	53	NORM
1410	RECORD	54	NORM
1410	RECORD	55	NORM
1410	RECORD	56	NORM
1410	RECORD	57	NORM
1410	RECORD	58	NORM
1410	RECORD	59	NORM
1410	RECORD	60	NORM
1410	RECORD	61	NORM
1410	RECORD	62	NORM
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1410	RECORD	67	NORM
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1410	RECORD	69	NORM
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1410	RECORD	71	NORM
1410	RECORD	72	NORM
1410	RECORD	73	NORM
1410	RECORD	74	NORM
1410	RECORD	75	NORM
1410	RECORD	76	NORM
1410	RECORD	77	NORM
1410	RECORD	78	NORM
1410	RECORD	79	NORM
1410	RECORD	80	NORM
1410	RECORD	81	NORM
1410	RECORD	82	NORM
1410	RECORD	83	NORM
1410	RECORD	84	NORM
1410	RECORD	85	NORM
1410	RECORD	86	NORM
1410	RECORD	87	NORM
1410	RECORD	88	NORM
1410	RECORD	89	NORM
1410	RECORD	90	NORM
1410	RECORD	91	NORM
1410	RECORD	92	NORM
1410	RECORD	93	NORM
1410	RECORD	94	NORM
1410	RECORD	95	NORM
1410	RECORD	96	NORM
1410	RECORD	97	NORM
1410	RECORD	98	NORM
1410	RECORD	99	NORM
1410	RECORD	100	NORM

REMARKS

579

Gamma Ray	DEPTH	Neutron/Neutron
0	0	0
150	150	500



Gamma Ray	DEPTH	Neutron/Neutron
0	0	0
150	150	500



BOREHOLE _____ AREA _____
 CLIENT Canadian Peak Mines Ltd. COUNTRY Canada

72 Trace River Canyon #3(3)9 W1



Gamma Ray & Caliper Log

BOREHOLE 8-1
 CLIENT Cinnabar Peak Mines Ltd.

AREA Mt. Johnson B.C.
 COUNTRY Canada
 DATE LOGGED 30/Nov/73

DEPTH SCALE
 1:25

1 of 1 LOGS

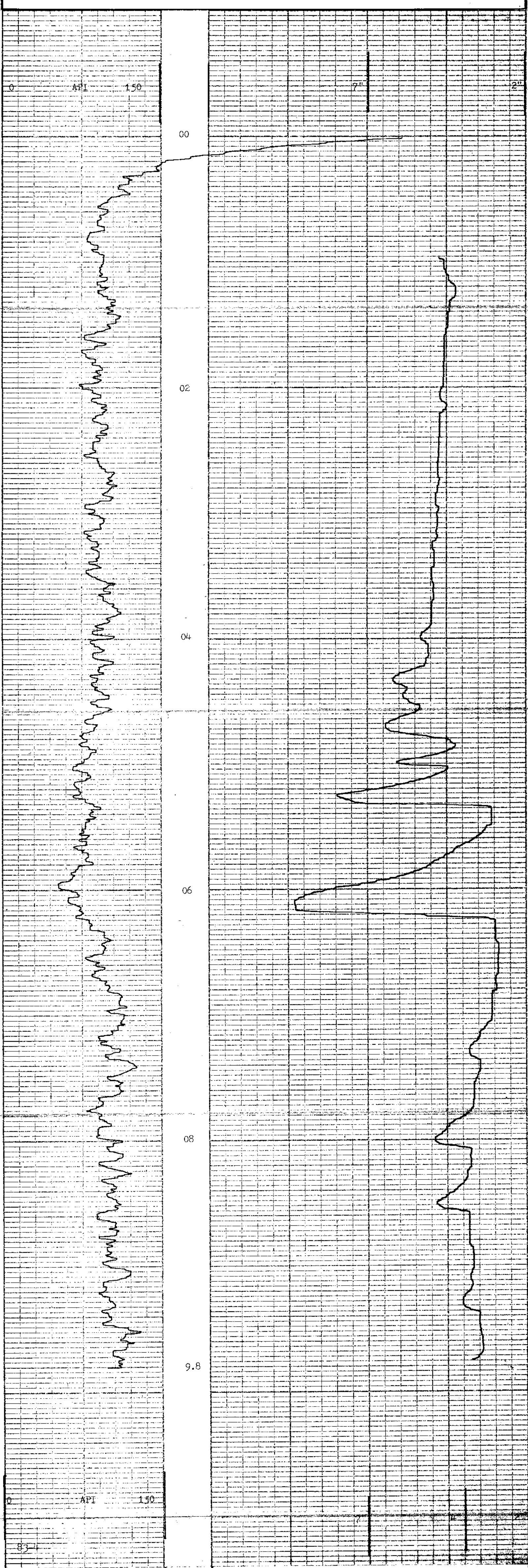
BOREHOLE DATA REFER TO LOG
 OPERATION DATA REFER TO LOG
 EQUIPMENT AND RECORDING DATA

LOG	TAPING	RECORDING	PANEL	CAL
	LOG	DIRECTOR	T & C	COEFF
	TAPED	SPEED	REPLAY	SECS
GR	2	1	1	1
CAL	2	1	1	1

REMARKS
 No water in hole

579

Gamma Ray	DEPTH	Caliper Log	2"
-----------	-------	-------------	----



Gamma Ray	DEPTH	Caliper Log	83"
-----------	-------	-------------	-----



BOREHOLE
 CLIENT Cinnabar Peak Mines Ltd.

AREA Mt. Johnson B.C.
 COUNTRY Canada



Gamma Ray & Caliper logs.

BOREHOLE 83-7

CLIENT Gimabhar Peak Mines Ltd.

AREA Mt. Johnson B.C.

COUNTRY Canada

DATE LOGGED 1/Dec/83

DEPTH SCALE 1:20

LOGS 1 OF 1

BOREHOLE DATA

REFER TO

LOG

OPERATION DATA

REFER TO

LOG

EQUIPMENT AND RECORDING DATA

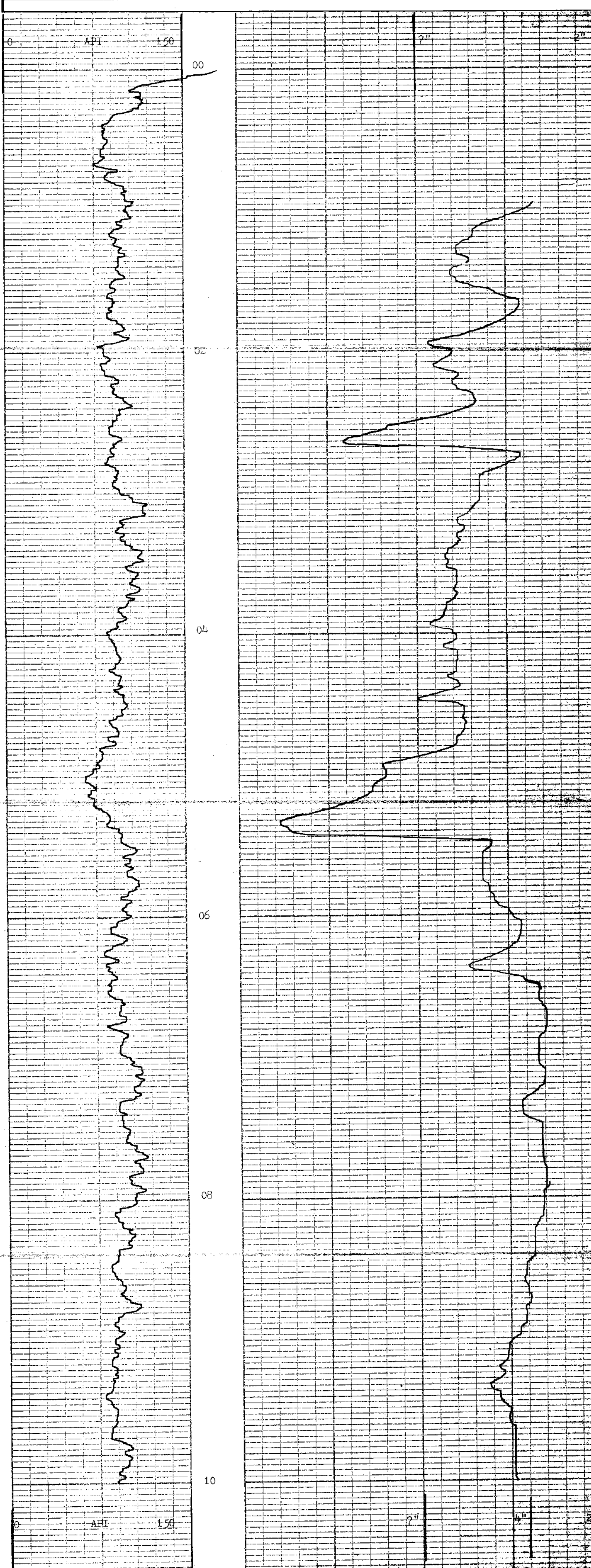
LOG	TAPING	RECORDING	PANEL	CAL			
	LOG TAPED	SPEED	I.C. SECS	COEFF			
G/R	Y	2m/m	D	2m/m	2	-	1.51
Cal	Y	2m/m	D	2m/m	1	-	-
		SONDE	LOGS	SOURCE			

REMARKS

Dir. 10-12.3m
 RPA 10-14.0m
 No water in hole.

579

Gamma Ray	DEPTH	Caliper Log
0	0	7" 2"



Gamma Ray	DEPTH	Caliper Log
0	0	7" 2"



BOREHOLE 83-7
 CLIENT Gimabhar Peak Mines Ltd.
 AREA Mt. Johnson B.C.
 COUNTRY Canada

PR - Peace River Canyon 83(3)A (1)



Jamma Hay & Calliper Log.

BOREHOLE 83-2

CLIENT Chumbar Peak Mine Ltd.

AREA Mt. Johnson B.C.

COUNTRY Canada

DATE LOGGED 1/20/63

DEPTH SCALE 1:100

1 OF 1 LOGS

BOREHOLE DATA REFER TO

579

OPERATION DATA REFER TO

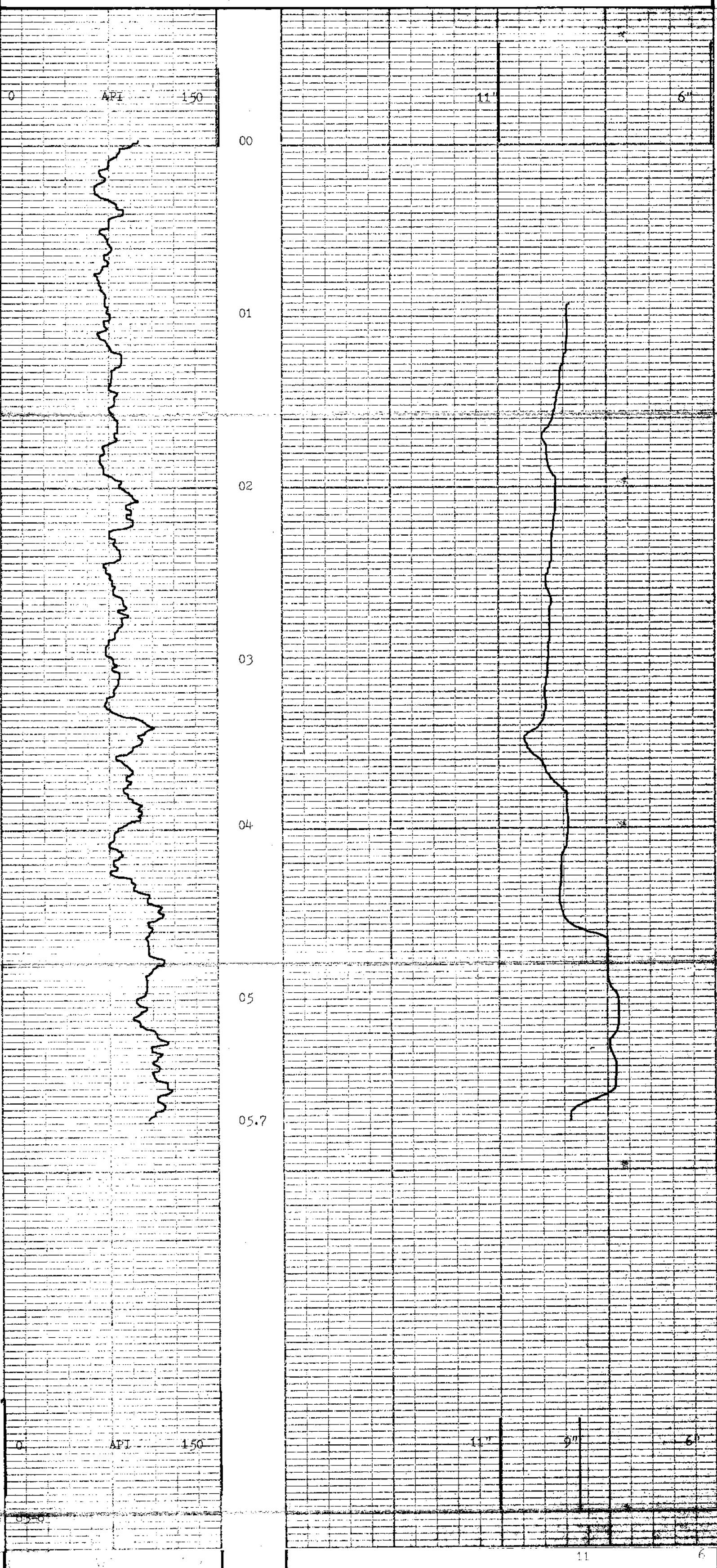
EQUIPMENT AND RECORDING DATA

LOG	TAPING	RECORDING	PANEL	CAL
	TAPED	SPEED	T.C	COEFF
		REPLAY	SECS	NORM
LOG	Y	D	1	1
CALL	Y	D	1	1

REMARKS

REPT. NO. 16.43
 REPT. DATE 1/20/63
 REPT. BY J. HAY

Jamma Hay	DEPTH	Caliper Log
0		6



Jamma Hay	DEPTH	Caliper Log
0		6

BOREHOLE 83-2
 CLIENT Chumbar Peak Mine Ltd.

AREA Mt. Johnson B.C.
 COUNTRY Canada





The Peace River Canyon 83(3)A

Garma Ray & Caliper Log.

BOREHOLE 83-9

CLIENT Cinnabar Peak Mines Ltd.

AREA Mt. Johnson B.C.

COUNTRY Canada

DATE LOGGED 2/Dec/83

DEPTH SCALE 1:20

1 OF 1 LOGS

BOREHOLE DATA

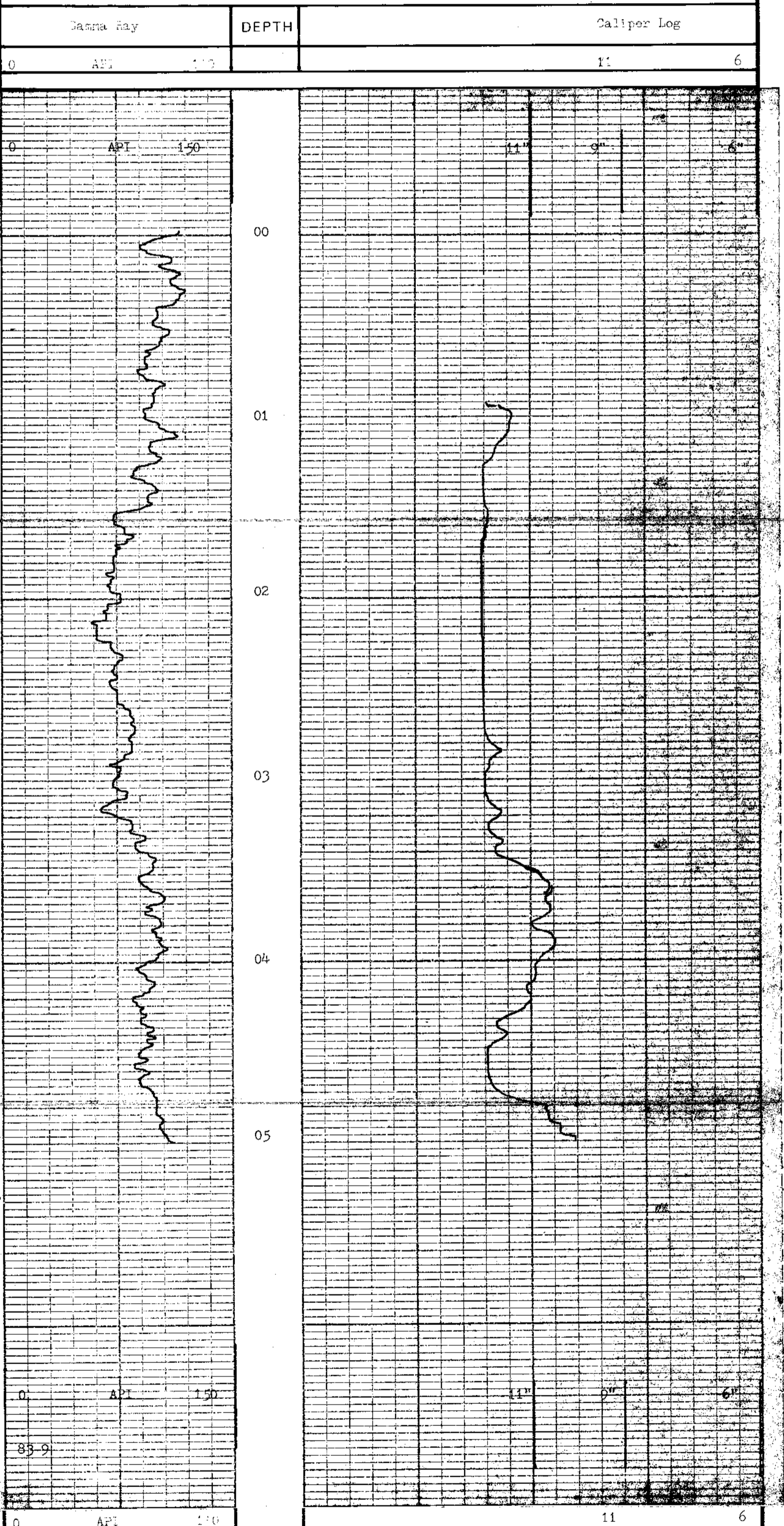
OPERATION DATA

EQUIPMENT AND RECORDING DATA

REFER TO 579 LOG

LOG	TAPING	RECORDING	PANEL	CAL
TAPED	SPEED	REEL	T.C. SECS	COEFF
Y	2m/m	D	2	NORM
Y	2m/m	D	1	-

REMARKS DJ- TD-16.7m
3P3 TD- 4.1m
Hole was without water



BOREHOLE 83-9
 CLIENT Cinnabar Peak Mines Ltd.
 AREA Mt. Johnson B.C.
 COUNTRY Canada



Fr. Peace River Canyon 83-10 * (1)

Gamma Ray & Caliper logs.

BOREHOLE 83-10

CLIENT Cinnabar Peak Mines Ltd.

DEPTH SCALE 1:20

AREA Mt. Johnson B.C.
COUNTRY Canada
DATE LOGGED 27/Dec/83

1 OF 1 LOGS

BOREHOLE DATA

REFER TO

LOG

OPERATION DATA

REFER TO

LOG

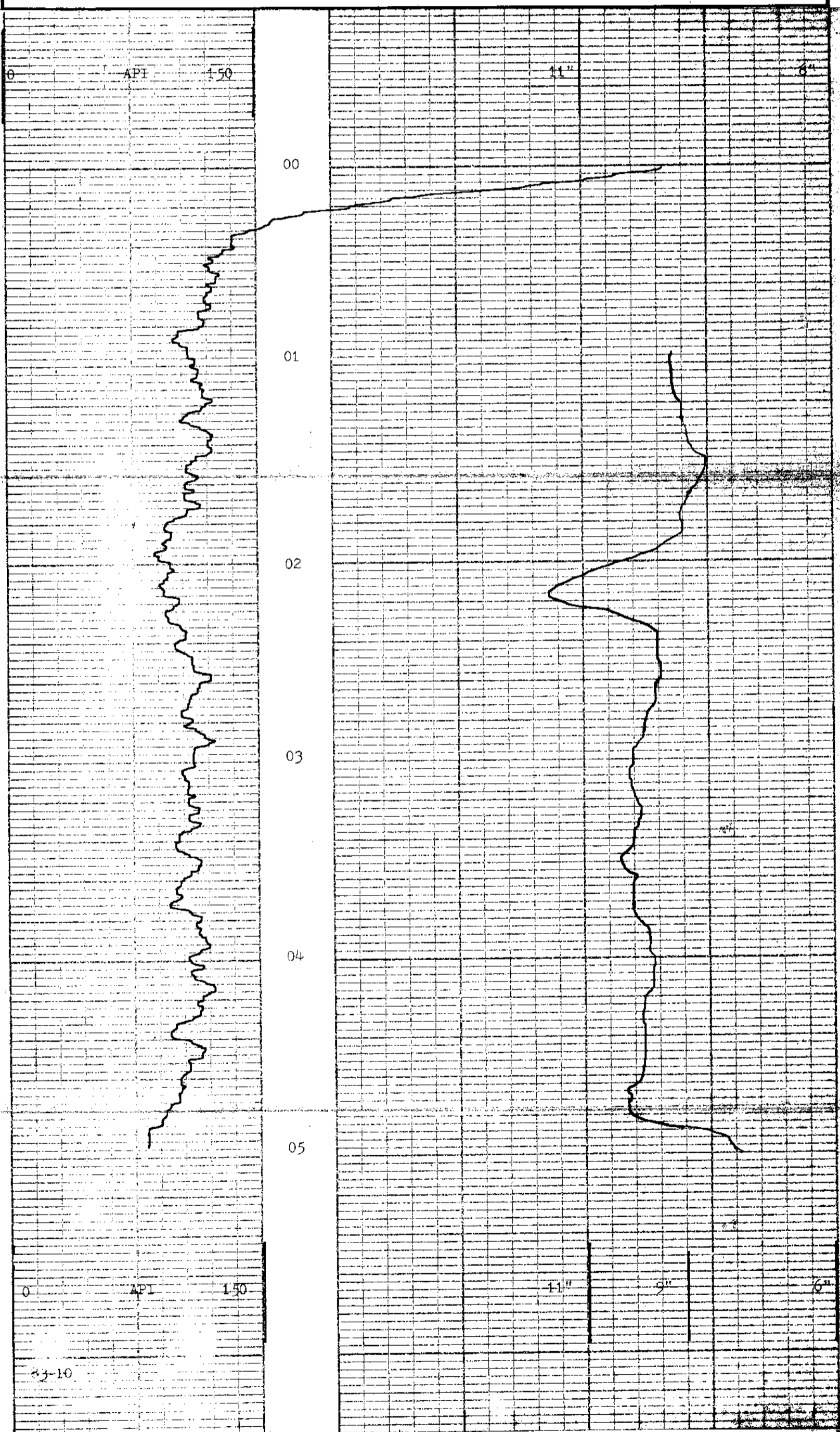
EQUIPMENT AND RECORDING DATA

LOG	TAPING	RECORDING	DIRECTOR	SPEED	REPLAY	SPEED	T.C.	NORM	CAL
LOG TAPED	RECORDING SPEED	DIRECTOR	SPEED	REPLAY	SPEED	T.C.	NORM	CAL	COEFF
a/r	Y	2m/m	D	2m/m	✓			1.64	
Cal	Y	2m/m	D	2m/m	1				

REMARKS

Gamma Ray & Caliper logs without wet-lab
579

Gamma Ray	DEPTH	Caliper
API		6"



Gamma Ray	DEPTH	Caliper
API		6"



BOREHOLE 83-10
 CLIENT Cinnabar Peak Mines Ltd.
 AREA Mt. Johnson B.C.
 COUNTRY Canada

Pr. Peace River Canyon 83(3)A * (1)



Gamma Ray & Caliper Logs.

BOREHOLE 83-11

CLIENT Cinnabar Peak Mines Ltd.

AREA Mt. Johnson R.C.

DEPTH SCALE 1:20

COUNTRY Canada

DATE LOGGED 2/Dec/83

1 OF 1 LOGS

BOREHOLE DATA

REFER TO LOG 579

OPERATION DATA

REFER TO LOG 579

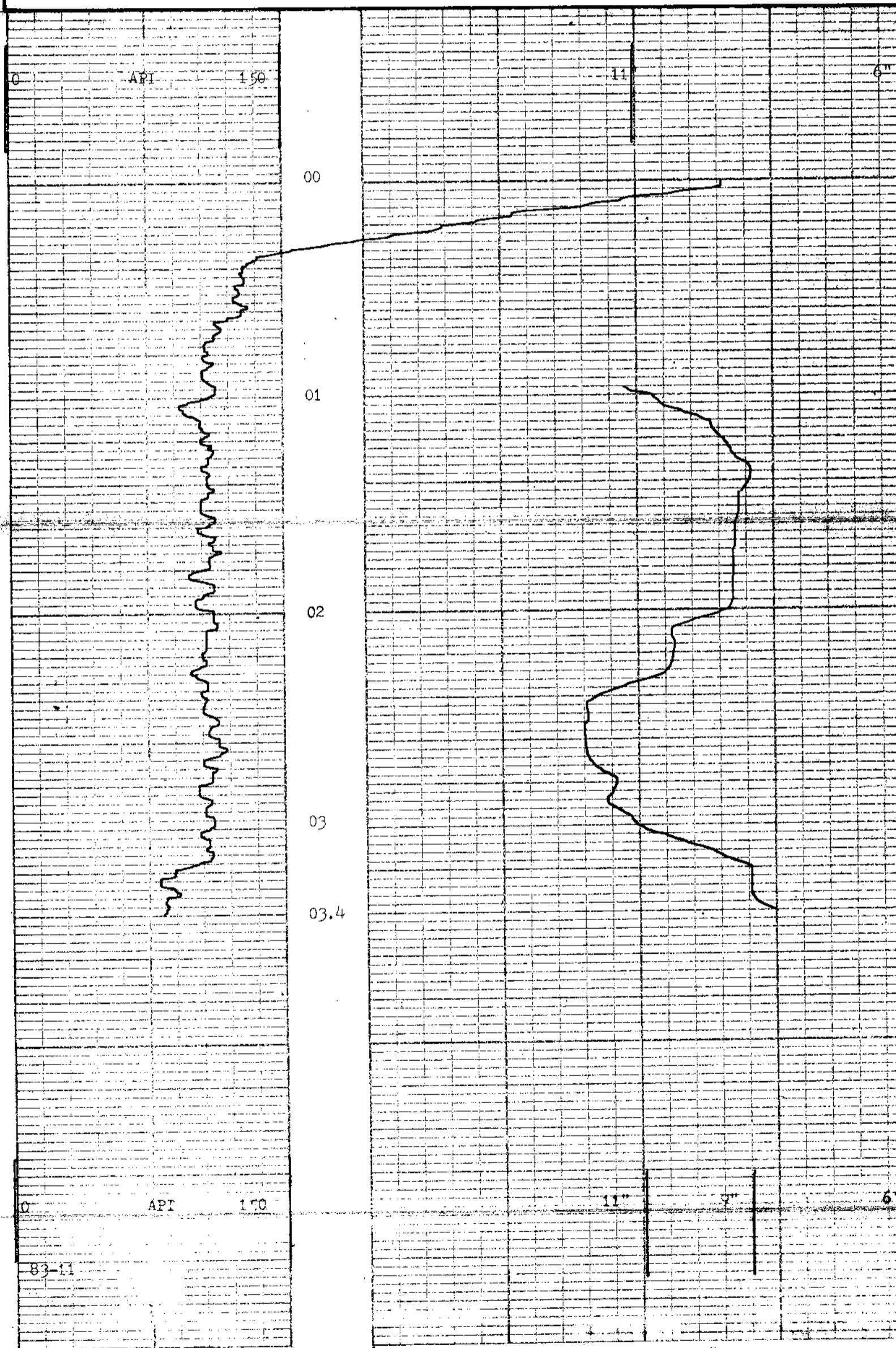
EQUIPMENT AND RECORDING DATA

LOG	LOG TAPED	TAPING		RECORDING		PANEL		CAL COEFF
		SPEED	REPLAY	SPEED	SECS	NORM		
G/R	Y	2m/m	D	2m/m	2	-	1.51	
CaI	Y	2m/m	D	2m/m	1	-		
		SONDE NO	16018	SOURCE				

REMARKS

DLR 10-0.3m
SPR 10-2.0m
Hole was without water.

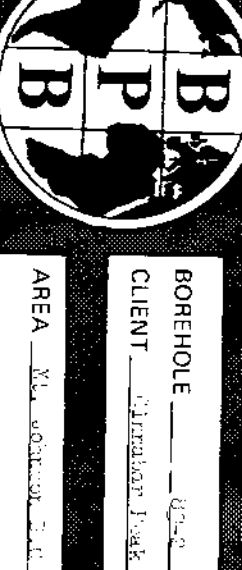
Gamma Ray	DEPTH	Caliper
6"		6"



Gamma Ray	DEPTH	Caliper
6"		6"



BOREHOLE 83-11
CLIENT Cinnabar Peak Mines Ltd.
AREA Mt. Johnson R.C.
COUNTRY Canada



COAL QUALITY LOG

BOREHOLE: _____ CLIENT: Shanghai Rock Mining Ltd.

AREA: Shanghai COUNTRY: China

DATE LOGGED: 2007/05/23 LOGS: 1-07

BOREHOLE DATA: REFER TO HOLE LOG
OPERATION DATA: REFER TO HOLE LOG
EQUIPMENT AND RECORDING DATA: _____

COAL COMBINATION: _____

LOG: _____

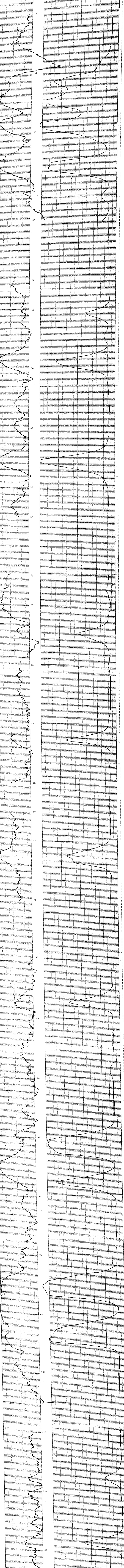
COAL TYPE: _____

COAL COMBINATION: _____

LOG SUITE: GAMMA RAY
AS DENSITY

REMARKS: 579

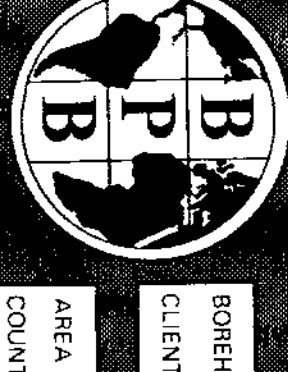
BPB COAL QUALITY LOG



COAL QUALITY LOG

BOREHOLE: _____ AREA: Shanghai

CLIENT: Shanghai Rock Mining Ltd. COUNTRY: China



212 Pace River, Columbia, SC 29204

LOG SITE
CALIPER
BR DENSITY

SONDE TYPE
COAL
COMBINATION
SONDE

SEAM THICKNESS LOG INTERVALS

SEAM THICKNESS LOG

BOREHOLE DATA
OPERATION DATA
EQUIPMENT AND RECORDING DATA
COAL COMBINATION SOND

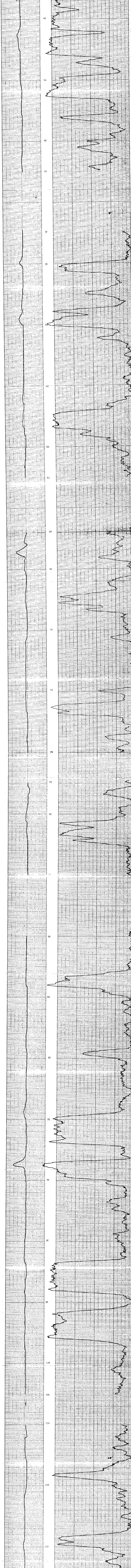
DATE LOGGED 02/14/2014

BOREHOLE
CLIENT
AREA
COUNTRY

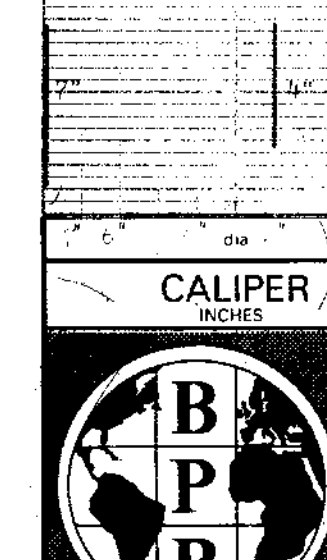
DATE LOGGED 02/14/2014

B P B SEAM THICKNESS LOG

CALIPER INCHES DEPTH BED RESOLUTION DENSITY

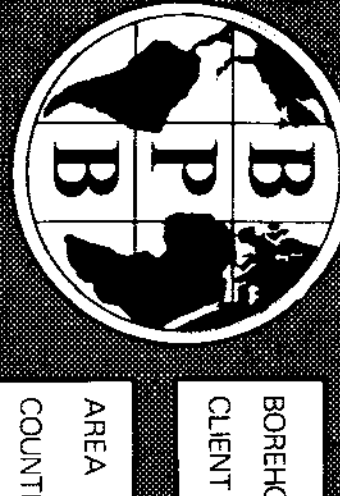


CALIPER INCHES DEPTH BED RESOLUTION DENSITY



BOREHOLE
CLIENT
SEAM THICKNESS LOG

AREA
COUNTRY



TR FINE RIVER CANAL SECTION (*)

BOREHOLE _____
 CLIENT Chesapeake Power, Mfg. and
 AREA St. Lawrence
 COUNTRY Dominica
 DATE LOGGED 2/24/73

REMANENTIAL DATA
 ELEVATION OF P.O. _____
 BRN _____
 DEPTH REACHED _____
 CASING SIZE 1 _____ 2 _____ 3 _____ 4 _____

COAL LITHOLOGY LOG
 REMANENTIAL DATA
 ELEVATION OF P.O. _____
 BRN _____
 DEPTH REACHED _____
 CASING SIZE 1 _____ 2 _____ 3 _____ 4 _____

SONDE TYPE _____
 COAL COMBINATION _____
 LOG SUITE _____
 GAMMA RAY _____
 U.S. DENSITY _____
 CALIPER _____

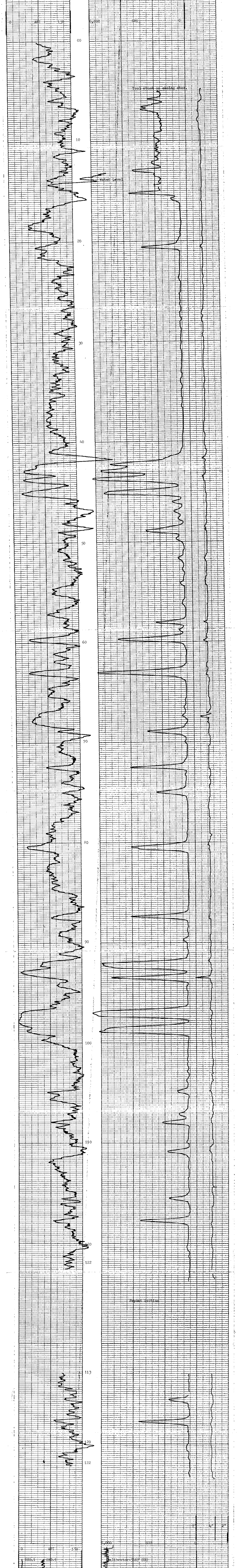
OPERATION DATA
 FIRST READING _____
 LAST READING _____
 INTERVAL LOGGED _____
 UNIT THICKNESS _____
 WITNESSES _____

WITNESSES _____

EQUIPMENT AND RECORDING DATA													
COAL COMBINATION SONDE 505													
LOG	SONDE	EQUIPMENT	SOURCE	CALIBRATOR	LOG TAPE	TAPING	RECORD SPEED	DIRECT REPLAY	PANEL	TC SECS	CAL COR	DEPTHS	SEAM LOG RUN
GAMMA RAY													
DENSITY													
CALIPER													
COAL QUALITY/SEAM THICKNESS LOG INTERVALS (Refer to relevant log)													
FROM													
TO													
INTERVAL													
ADDITIONAL SONDES RUN													
SONDE	LOG	GENERAL SCALE LOG	SCALE LOG	DETAIL LOG	REFER TO ADDITIONAL HEADINGS								
15													

BPB COAL LITHOLOGY LOG												
CALIBRATION DATA												
JIG No	367	VALUE	- @ 2" DIAM	JIG CAL DATE	7/5/71	JIG VALUE	667	SDU @	g/cm ³	ins	506	cps
JIG MARK SHOWN AT ABOVE VALUE	X	JIG No	365	SPAN	365	NORM	SDU	cps	ins	796	cps	

GAMMA RAY	DEPTH	BULK DENSITY	CALIPER
HOLE SIZE CORRECTION DATA			



GAMMA RAY	DEPTH	BULK DENSITY	CALIPER
COAL LITHOLOGY LOG			
BOREHOLE _____		AREA <u>St. Lawrence</u>	
CLIENT <u>Chesapeake Power, Mfg. and</u>		COUNTRY <u>Canada</u>	



TR. Peace River Canyon 83(3)A (1)



Gamma Ray & Neutron Log

BOREHOLE _____

CLIENT _____

AREA _____

COUNTRY _____

DATE LOGGED _____

BOREHOLE DATA REFER TO _____

OPERATION DATA REFER TO _____

EQUIPMENT AND RECORDING DATA

LOG # _____

LOG REFERENCE _____

LOG REVISION _____

LOG SCALE _____

LOG UNIT _____

LOG CORRECTION _____

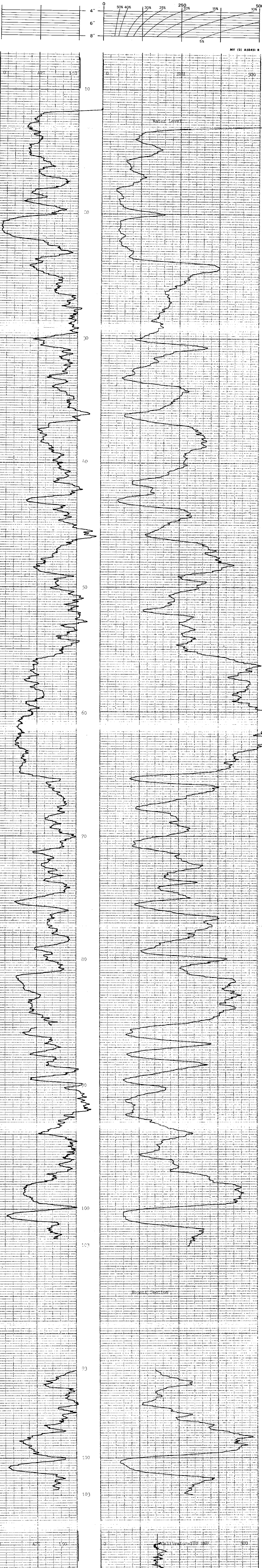
LOG SCALE _____

LOG UNIT _____

REMARKS

579

DEPTH	NEUTRON /N-COUNTS	GAMMA RAY
0		



DEPTH	NEUTRON /N-COUNTS	GAMMA RAY
0		

BPPB logo

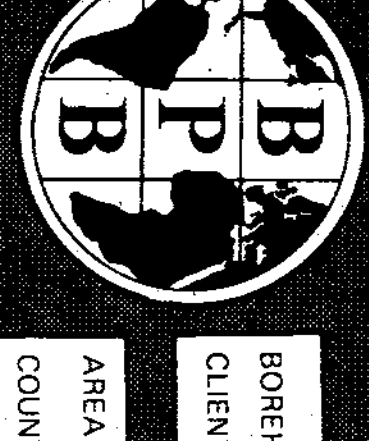
BOREHOLE _____

CLIENT _____

AREA _____

COUNTRY _____

R.R. Peace River Canyon (8302) 41)



BOREHOLE 83-1
CLIENT Canadian Peak Mines Ltd.
AREA Mt. Johnson S.C.
COUNTRY Canada
DATE LOGGED 25/Nov/73
DEPTH SCALE 1:20
OR. LOSS

BOREHOLE DATA REFER TO LITHOLOGY LOG
OPERATION DATA REFER TO LITHOLOGY LOG

EQUIPMENT AND RECORDING DATA

COAL QUALITY LOG

LOG

LOG TAPPING PANEL POSITION
 LOG NO. 1183 RECORDING SPEED 3000 CM/HR
 OPERATOR X 25/73 B 25/Nov/73
 L.S. OPERATOR X 25/73 B 25/Nov/73
 SOURCE SONDE AND CALIBRATION
 REFER TO LITHOLOGY LOG

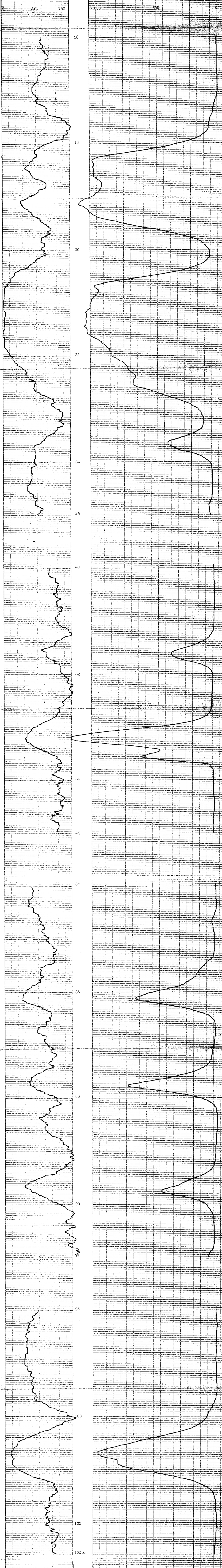
SONDE TYPE:
COAL COMBINATION SONDE

LOG SUITE:
 GAMMA RAY
 L.S. DENSITY

B P B COAL QUALITY LOG

GAMMA RAY	DEPTH	COAL BULK DENSITY
		g/cm ³

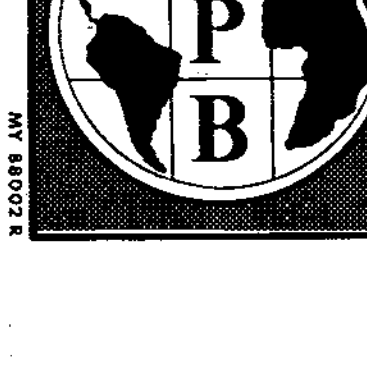
HOLE SIZE CORRECTION DATA	
2'	1.25
4'	1.3
6'	1.35
8'	1.4
	1.45
	1.5
	1.55
	1.6
	1.7
	1.8
	1.9
	2.0
	2.2
	2.4
	3.0



GAMMA RAY	DEPTH	COAL BULK DENSITY
		g/cm ³

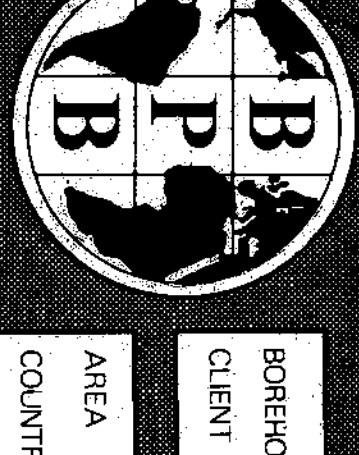
BOREHOLE 83-1
CLIENT Canadian Peak Mines Ltd.
AREA Mt. Johnson S.C.
COUNTRY Canada

COAL QUALITY LOG



100001 25

28-11-1983
 28-11-1983
 28-11-1983



COAL LITHOLOGY LOG

BOREHOLE DATA

BOREHOLE: 83-1
 CLIENT: Chamberlain Peak Mines
 AREA: Mt. Robinson B.C.
 COUNTRY: Canada
 DATE LOGGED: 29 Nov 83
 DEPTH SCALE: 100.1
 CALIBER: 1.07 - 2.005

BOREHOLE DATA

PERMANENT: 1
 ELEVATION OF P.D.: 878
 MAXIMUM DEPTH: 102.10m
 DEPTH REACHED: 102.10m
 CASING SIZE: 1 1/2" TO 1 3/4" TO 2" TO 2 1/2" TO 3" TO 4" TO 6" TO 8" TO 10" TO 12" TO 14" TO 16" TO 18" TO 20"

FLUID DATA

MAJOR: Water
 MINOR: 1.01 emu / cm
 LEVEL: 1.0m
 VISCOSITY: N/A
 POINT OF MEASUREMENT: N/A
 BIT: N/A

OPERATION DATA

FIRST READING: 112.5m
 LAST READING: 102.10m
 CASING LOGGED: 102.10m
 DN-THICK: No
 DN-THICK: No
 ENDUSER: M. S. J. Chamberlain
 WITNESS: J. M. J. J.

EQUIPMENT AND RECORDING DATA

LOG	EQUIPMENT	TAPING	PANEL	CALIBER	DEPTHS	SEAM LOG RUN
SONDE	SOURCE	LOG TAPED	RECORD SPEED	DIRECT REPLAY	SPEED	TC SECS
GAMMA RAY	367	Y	9m/m	D	9m/m	1
DENSITY	0338	Y	9m/m	D	9m/m	3
CALIPER	2" x 2"	Y	9m/m	C	9m/m	3

COAL QUALITY/SEAM THICKNESS LOG INTERVALS (Refer to relevant log)

FROM	TO	INTERVAL	INTERVAL TOTAL
102.6	94.0m	8.6m	25.0m
94.0	85.0m	9.0m	16.0m
85.0	76.0m	9.0m	25.0m

ADDITIONAL SONDES RUN

SONDE	LOG	GENERAL SCALE LOG	DETAIL SCALE LOG
032	F/3	100:1	
016	N/A	100:1	

REFER TO ADDITIONAL HEADINGS

BPB COAL LITHOLOGY LOG

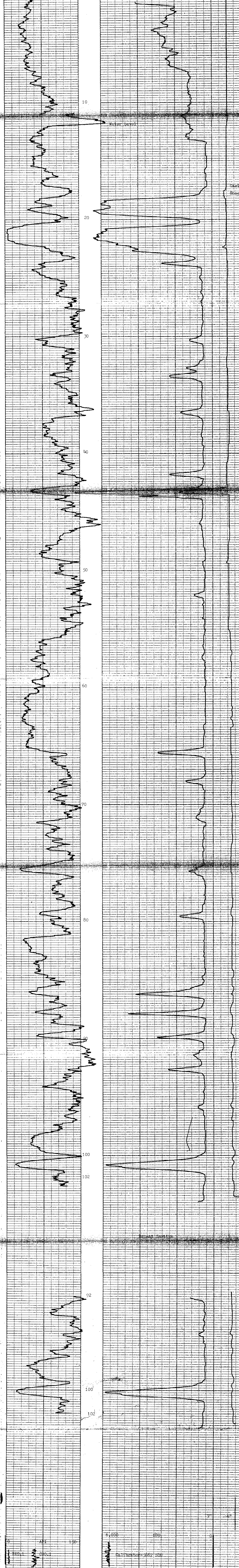
CALIBRATION DATA

JIG No: 037 VALUE: 1.0 @ 2" DIAM. JIG CAL DATE: 7/1/83 JIG VALUE: 0.667 SDU @ 1g/cm³ 7" ms / 7" cps
 JIG No: 038 VALUE: 1.0 @ 2" DIAM. JIG CAL DATE: 7/1/83 JIG VALUE: 0.667 SDU @ 1g/cm³ 7" ms / 7" cps

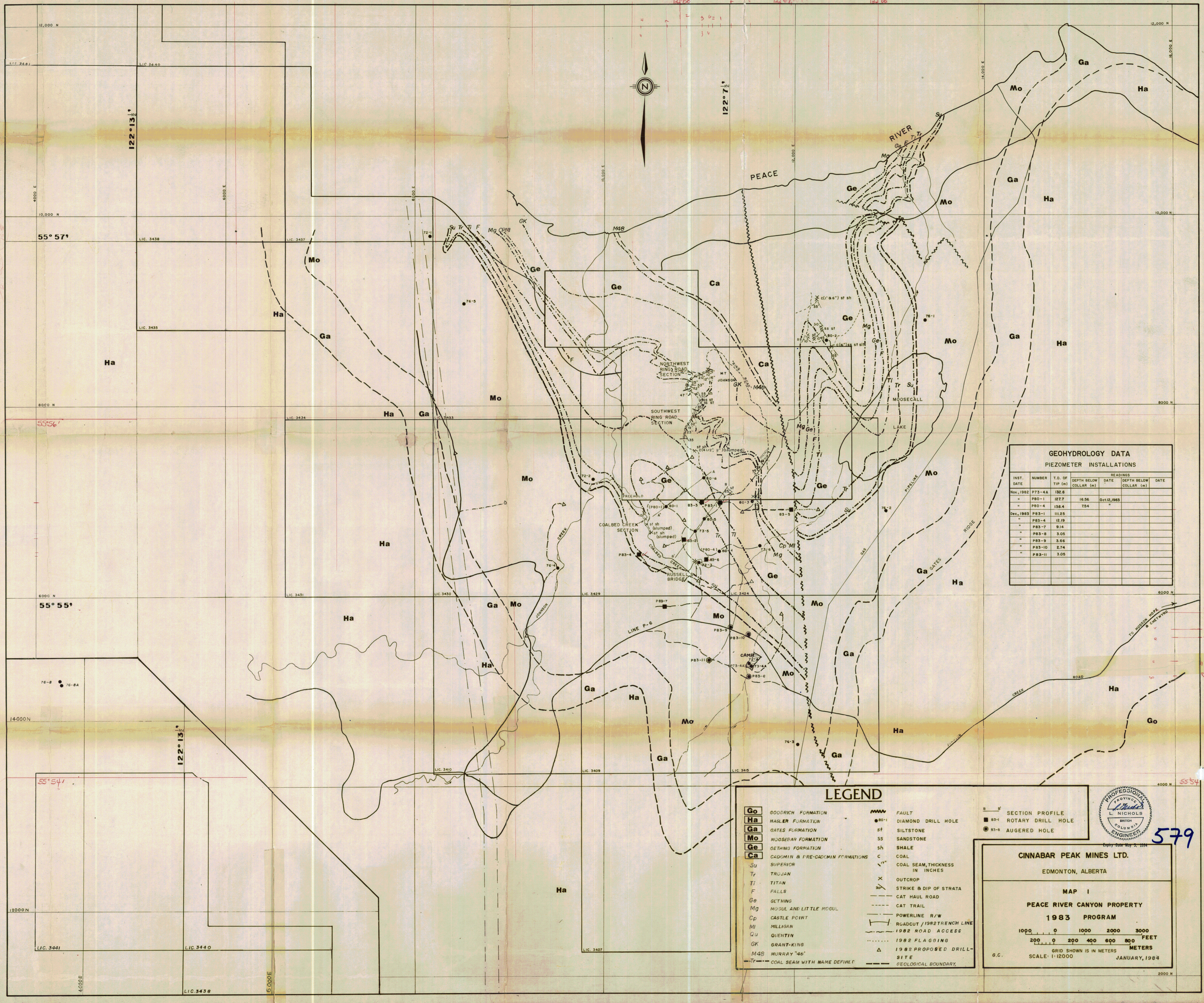
GAMMA RAY	DEPTH	BULK DENSITY	CALIPER
-----------	-------	--------------	---------

HOLE SIZE CORRECTION DATA

DEPTH	6000	SDU	6000	SDU
-------	------	-----	------	-----



GAMMA RAY	DEPTH	BULK DENSITY	CALIPER
-----------	-------	--------------	---------



**GEOHYDROLOGY DATA
PIEZOMETER INSTALLATIONS**

INST. DATE	NUMBER	T.O. OF TIP (m)	READINGS			
			DEPTH BELOW COLLAR (m)	DATE	DEPTH BELOW COLLAR (m)	DATE
Nov, 1982	P73-4A	132.6				
"	P80-1	127.7	16.56	Oct 12, 1983		
"	P80-4	136.4	7.54	"		
Dec, 1983	P83-1	111.25				
"	P83-4	12.19				
"	P83-7	9.14				
"	P83-8	3.05				
"	P83-9	3.66				
"	P83-10	2.74				
"	P83-11	3.05				

LEGEND

Go GOODRICH FORMATION	--- FAULT	--- SECTION PROFILE
Ha HASLER FORMATION	● 80-1 DIAMOND DRILL HOLE	■ 83-1 ROTARY DRILL HOLE
Ga GATES FORMATION	st SILTSTONE	○ 83-8 AUGERED HOLE
Mo MOOSEBAR FORMATION	ss SANDSTONE	
Ge GETHING FORMATION	sh SHALE	
Ca CADOMIN & PRE-CADOMIN FORMATIONS	c COAL	
Su SUPERIOR	C COAL SEAM, THICKNESS IN INCHES	
Tr TRUJAN	X OUTCROP	
Ti TITAN	30° STRIKE & DIP OF STRATA	
F FALLS	--- CAT HAUL ROAD	
Ge GETHING	--- CAT TRAIL	
Mg MOSUL AND LITTLE MOGUL	--- POWERLINE R/W	
Cp CASTLE POINT	--- ROADCUT / 1982 TRENCH LINE	
MI MILLISAN	--- 1982 ROAD ACCESS	
Qu QUENTIN	--- 1982 FLAGGING	
GK GRANT-KING	Δ 1982 PROPOSED DRILL SITE	
M48 MURRAY '48'	--- GEOLOGICAL BOUNDARY	
Tr COAL SEAM WITH NAME DEFINED		

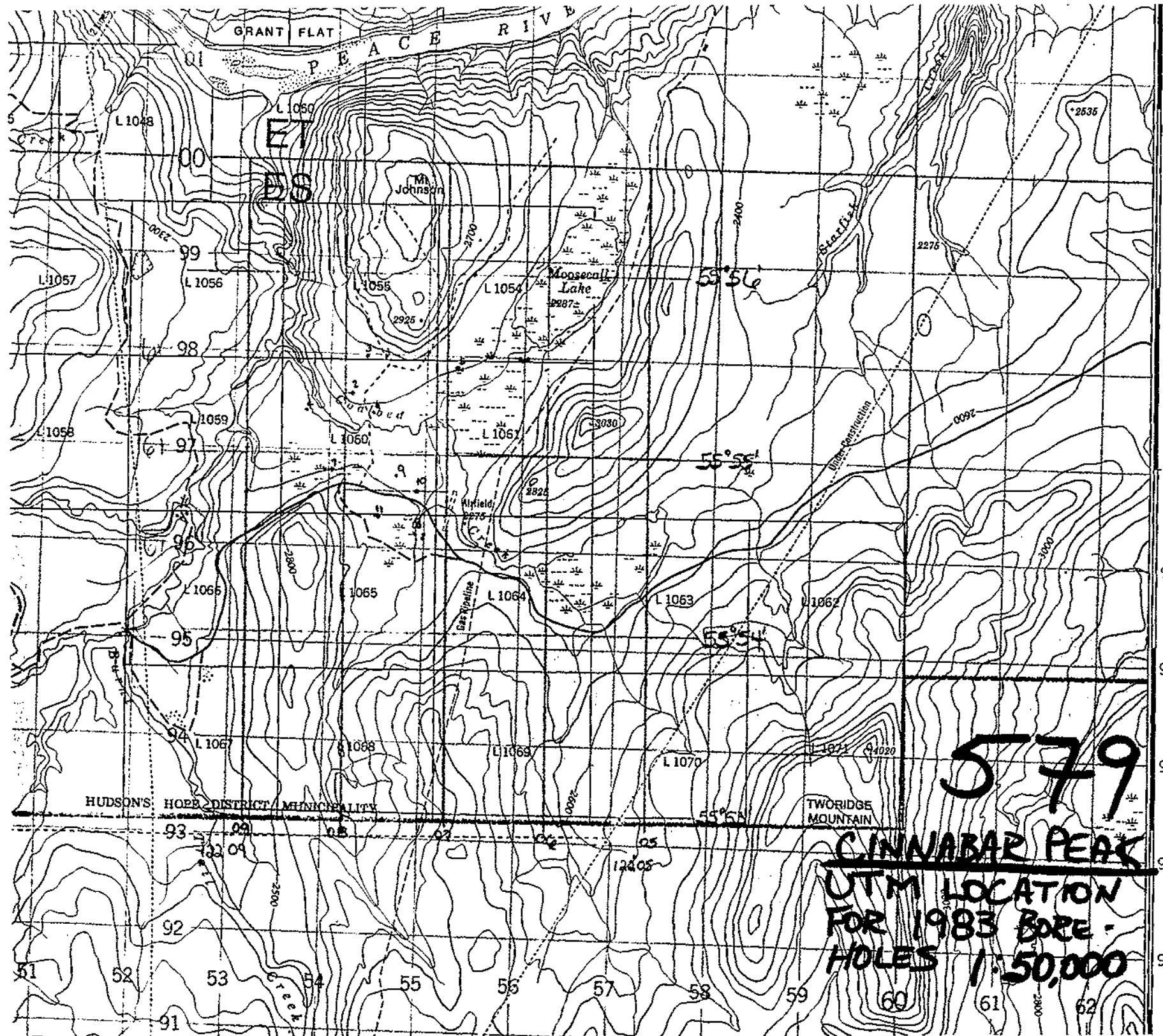
CINNABAR PEAK MINES LTD.
EDMONTON, ALBERTA

**MAP I
PEACE RIVER CANYON PROPERTY
1983 PROGRAM**

1000 0 1000 2000 3000
200 0 200 400 600 800 FEET
METERS

G.C. GRID SHOWN IS IN METERS
SCALE: 1:12000
JANUARY, 1984

PROFESSIONAL ENGINEER
L. NICHOLS
579



Surveyed Line
Tank
Water
Winter Road
For a complete glossary
Pour un glossaire

ABBREV

Aband	Aband
C	Ceme
CO	Count
E	Eleva
Fy	Ferry
IR	Indiar
H	Hospa
L	Lot
Micro	Micro
Mun	Munic
P	Post O
PH	Power
RCMP	Royal
Res	Reserv
Trans Sta	Transf
TFL	Tree F.

Use diagram APPROX
Annua
N'utiliser le diagram DÉCLINAR AU CE Variatio

ONE UNIVERSAL
QU/

83-1 554,575 E
6,197,975 N

83-2 554,225
6,197,600 N

83-3 554,375
6,197,975 N

83-4 553,750
6,197,425 N

83-5 555,300 E
6,197,875 N

83-6 554,450
6,197,400 N

83-7 554,025
6,196,800 N

83-8 554,950
6,196,150 N

83-9 554,700
6,196,750 N

83-10 554,925
6,196,150 N

83-11 554,525
6,196,325 N

2.4.9